

**MECHANISATION
IN PADDY CULTIVATION: ATTITUDE OF
LABOURERS, FARMERS AND UNIONS**

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By

DR. MOHAMED KUTTY KAKKAKUNNAN

Associate Professor

Department of Commerce

N A M College Kallikkandy

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MECHANISATION IN PADDY CULTIVATION: ATTITUDE OF LABOURERS, FARMERS AND UNIONS

EXECUTIVE SUMMARY

Introduction

Kerala produces only less than 20 percent of its rice requirements and depends other states for its food requirements. The area under paddy cultivation and paddy production are declining continuously. In the year 1975-76, the area under paddy cultivation was 8.85 lakh hectares and production was 13.65 lakh tones, while the area declined to mere 2.08 lakh hectares and production decline to 5.69 lakh tones in 2011-12; a drop of more than 75 percent in area and 58 percent in the production occurred within a period of less than 40 years. Changes in cropping pattern and conversion of paddy fields for commercial and non-commercial purposes are the reasons for the decline.

Farmers' loath paddy cultivation due to its uneconomical nature - high cost of cultivation and very low paddy price. Appropriate strategy is to be chalked out to make paddy cultivation economical and viable. Since paddy farming is labour intensive and labour cost constitutes the major element of cost, the appropriate strategy will be one, which controls and minimises the labour cost and increases paddy productivity. Thus, mechanisation and modernisation of paddy cultivation is the appropriate strategy for increasing paddy production.

Kerala has almost all the infrastructural facilities required for far mechanisation. But, the state could not achieve much progress in mechanisation when compared to other states. The reasons behind the underachievement need be ascertained. Since, the state has all the essentials for mechanisation; the attitude of people of the state becomes important. Thus, the study was conducted to ascertain the attitude of labourers, farmers and trade unions towards paddy mechanisation, with the following specific objectives:-

- To contextualise the ongoing mechanisation process in the paddy fields of the study areas.
- To identify the determinants and constraints of mechanisation in paddy cultivation.
- To analyse and evaluate the attitude of labourers, farmers and unions towards mechanisation process in rice cultivation.
- To analyse the impact of mechanisation upon the wage rates, employment (loss/gain) and worker collectivity.

The study was conducted in five different places of Kuzhalmannam grama panchayat of Palakkad district and Nannamukku grama panchayat of Malappuram district, selected on the basis of area of paddy cultivation.

Primary data required for the study was collected from fifty farmers and fifty labourers from each of these panchayats by using structured interview schedule. Data related with trade unions was collected from ten leaders of three trade unions actively present in the areas of study. In addition to the primary data secondary data were also extensively used.

The data collected were analysed and interpreted with the help of statistical tools and techniques. For analysis and interpretation software like Microsoft Excel and SPSS are used. For presentation purposes, tables, charts, diagrams etc have used.

The study is presented in the form of a report divided into nine chapters, the first chapter deals with introduction, the second with literature review, the third with methodology of the study. The fourth chapter discusses some important matters of concerns of paddy cultivation like decline in the area under paddy cultivation, paddy production, rocketing wage rates, and agricultural workers trade union activities. The fifth, sixth and seventh chapters deal with analysis and interpretation of data, the eighth presents results and discussions and the ninth summarised the study with suggestions.

Major findings and their implications

Farmers

- Average age of farmers in Nannamukku panchayat is 58.46 and Kuzhalmannam panchayat is 54.86 years. This shows that the farmers are aged persons, youth does not prefer farming and there are chances of extinction of paddy cultivation if youth follow the same attitude in future also.
- Among the farmers sixty percent in Nannamukku panchayat and seventy four percent in Kuzhalmannam panchayat have other non-farming jobs also. Thus, majority of the farmers have non-farming income. For many farmers paddy farming is a secondary job due to the limited income from farming, and they are compelled to undertake other jobs. Thus, many do not give adequate attention to paddy cultivation, which can be one of the reasons for low yield in their farms.
- Farmers face several problems. Lack of availability of workers, high wage rates, high input costs and lack of availability machineries and equipments on time are the major problems faced by the farmers of these panchayats. These problems create inertia about paddy farming and compel farmers to shift away from paddy farming, or to leave their land uncultivated. Unless these problems are adequately addressed and solved, paddy farming may disappear from the state.
- All the farmers in both the panchayat mentioned that MNREGP scheme has adversely affected availability of farm workers. Further, farmers in Nannamukku panchayat are worried on the assimilation of the work culture of the MNREGP to the paddy fields also.
- In Nannamukku panchayat, Bengali migrants are the major source labour. However, these migrants are not paid the same wages that is paid to the natives. They are negatively discriminated in wage payment and provision of working conditions.
- The data show that 80 percent farmers in Nannamukku panchayat and 86 percent farmers in Kuzhalmannam panchayat are members in farmers unions. These unions can be effectively utilised for maximising paddy cultivation and production in the state.

- Farmers in Kuzhalmannam have to face resistance of farm workers and their union against mechanisation. But, at present, at present they are free to use any kind of farm machineries, and do not face any opposition from workers or from their unions. But, there was no agitation or opposition in Nannamukku panchayat.
- Paddy cultivation in leased land is popular in Nannamukku panchayat. This has reduced the chance of keeping the land uncultivated due to absence of males or responsible persons to conduct farm in the land possessed by households. But it is not so popular in Kuzhalmannam panchayat.
- All the farmers in both the panchayats have positive attitude towards farm mechanisation. All of them use and prefer farm machineries over labourers. But lack of availability on time and high rental charges, and features of land are the major constraints they face. Farmers in Nannamukku show more interest and favourable attitude than that of the farmers of Kuzhalmannam panchayat.

Labourers

- Average age of farm workers in Nannamukku panchayat is 54 years and that of Kuzhalmannam panchayat is 51 years. Further, more than two third of the workers have an experience of more than 40 years. This shows that majority of them have entered in to the labour market at their early years itself. This is an indicator of the ageing and worn-out farm labour force, and, young generation are not coming forward to undertake farm jobs.
- All the farm workers belong to the back ward communities. In Nannamukku panchayat 56 percent and in Kuzhalmannam 78 percent belong to the Scheduled Caste and Scheduled Tribe communities and the remaining belongs to Other Backward communities.
- Considerable reduction has taken place in the average number of farm working days for both men and women in the study areas. Reduction of working days is more among the females than males. Lack of availability of sufficient work compel farm workers to leave farm jobs and the youth

to seek non-farming jobs. This is one of the reasons for increase in the scarcity of farm labourers.

- Reduction in non-farm employment of female workers is noticed in Kuzhalmannam panchayat, but no considerable reduction has taken place in the average number of non-farm working days for male workers. Thus, women labourers are gradually excluding from the labour market of Kerala.
- In Nannamukku panchayat, non-farm working days of both male and female workers have declined considerably. This reduction can be due to the increased presence of interstate migrants in the panchayat, who undertake both farm and nonfarm jobs in this area.
- Average number of total working days has also declined considerably in the study areas. The study is about farm workers, who are aged and less-skilled. Employers prefer young to their non-farm activities. Reduction in farm activities and rejection of the aged farm workers from non-farm activities are the reasons for the reduction in average number of total working days. In Nannamukku panchayat in addition to these, presence of migrants, who are ready to work at lower wages, has also resulted in reduction in the average number of working days.
- All the female workers in both the panchayat and five male workers in Nannamukku panchayat and seven male workers in Kuzhalmannam panchayat are members of MNREGP. Employment under MNREGP Scheme has helped them to compensate the loss of employment and reduction in number of days worked.
- The wage rates of all categories of workers in the study area have increased for more than 250 percent within a period of 10 years.
- In Kuzhalmannam panchayat, the average wage rate of male farm workers is Rs.450 and that of females is Rs.200. While in Nannamukku average wage rates of male farm workers is Rs. 550 and that of females is Rs. 450. There is no difference in the average wage rates of males for non-farm work. At the same time, female in Nannamukku receive Rs. 450 and in Kuzhalmannam receive on an average Rs 350 for non-farm work. Thus,

there is regional difference in the wage rates of farm workers and female workers.

- In both the panchayats, the effective working time has been reduced by adjusting the starting time and ending time of the work. Ten years ago, the workers in both the panchayats started their work around 7.30 am and continued the work up to five pm. But at present, workers in the study areas start work around nine in the morning and stop the work around four in the evening.
- More than one-half of the workers in Nannamukku panchayat have been satisfied with their farm jobs, but the percentage of workers in Kuzhalmannam, who are satisfied with their farm job, is very low. None of the workers in both the panchayats are satisfied in their farm wages. This dissatisfaction pushes away workers from farm jobs and lead to scarcity of farm labourers.
- Most of the workers are members of trade unions. The percentage of trade union members among the farm workers is more in Kuzhalmannam when compared to that of Nannamukku panchayat. But, the number of workers who regularly participate in union activities is very limited. Many of them participate in union activities, only, if they have sufficient time. This shows the declining interest of workers in union and union activities.
- Three male farm workers in each of these two panchayats know operations of farm machineries- tractor and power tiller. At the same time, two male workers in Nannamukku panchayat wish to learn operations of different farm machineries, three females workers from both of the panchayats wish to learn operations of transplanter. This shows the changing attitude of farm workers towards and their increasing interest in farm machines.
- All the female workers in the both the panchayats, 80 percent of male workers in the Kuzhalmannam and 47 percent male workers in Nannamukku claimed that they have lost farm jobs due to farm mechanisation. This shows that mechanisation has resulted in job loss of workers. The loss is more severe among the female than that of males.

- Many of the workers - both males and females are not willing to participate in a strike against mechanisation in the future. More than 50 percent of them did not disclose their readiness to participate in strikes or agitations against mechanisation.
- According to the workers, in the present labour market conditions, it is very difficult to oppose or strike against mechanisation. This is an indicator of positive attitude among the workers towards mechanisation. Thus, farmers will not find any difficulty in mechanisation and the government and other authorities may chalk out appropriate policies and programmes for intensive mechanisation of farming.
- Parents of all the workers are / were farm workers. At the same only negligible number of workers' sons and daughters have entered into farm jobs. This indicates that the generation of farm workers is going to an end or facing extinction, and in future, without mechanisation farming operations will be difficult.
- Nearly two third of the workers possess only less than 10 cents of land. They are one of the socially and economically backward groups in the society.
- Eight workers in Nannamukku panchayat and one worker in Kuzhalmannam panchayat conduct paddy cultivation in leased land. Among the eight works four workers have leased two to five acres of land for cultivation. This shows the prevalence of absentee land lordism in the state and the possibility of success of lease-farming, which needs encouragement.
- Overall attitude of workers towards mechanisation is favourable. But, more rigorous test shows that they follow indifferent attitude (neither positive nor negative) towards mechanisation.
- The negative impact of mechanisation is more on females than males. They have lost more jobs than that of males. Thus, attitude of male workers towards mechanisation is more favourable than that of females.
- Workers of Nannamukku panchayat are more favourable towards mechanisation than that of workers of Kuzhalmannam panchayat. This is due to the increased availability of non-farm employment and higher

wage rates when compared to their counterpart in Kuzhalmannam panchayat.

Trade Union Leaders

- Nine out of ten leaders interviewed were above 50 years of age. Similarly, fifty percent of the leaders belong to Scheduled Caste and Scheduled Tribe communities and the remaining to Other Backward Communities. This is a reflection of the group they represent.
- All the leaders, in addition to the leadership of the trade union, hold key positions in their mother political parties. Trade union leadership to them is an assignment of party activity. Trade union activities are a larger part of the political agenda to gain support of people.
- One of the leaders is an Ex-military man, possessing five acres of land and is a good farmer also. Two more leaders in Kuzhalmannam panchayat possess one-half acre of land. All the three leaders use tractors for ploughing and combine harvester for harvesting and post-harvesting operations. This shows that many among the trade union leaders are still outsiders.
- All the leaders, without any difference in their political outlook, strongly believe and unanimously agree that paddy cultivation in Kerala is uneconomical and farmers are not getting due reward for their efforts and investments. This is a change in the attitudes of trade unions and positive outlook of the leaders towards farmers and farming activities. This change in attitude will be helpful in the farm mechanisation and modernization.
- According to the leaders increased wages is not, but the increased cost of other inputs is, the cause for increased cost of cultivation. Trade union leaders do not have the opinion that the wage rate of Kerala is not high, but they hold that drudgery in farm job is more than that of any other jobs, and thus, the farm workers should get fair wages.
- According to the leaders, lack of availability of sufficient employment is the major problem faced by farm workers in the present day. Decline in area under paddy, mechanisation etc are the reasons for decline in employment opportunities.

- At present trade unions' strikes are not meant for increasing wages or for providing better working conditions and status or against mechanisation, but for controlling the prices of farm inputs and of essential commodities or to increase the benefits under social security schemes. Further, strikes are also not against farmers or employers. The orientation of strikes has been changed. Ultimate benefits of many strikes will also be available to the farmers, who were, in the past considered as, the exploiters and enemies of the workers.
- The leaders as office bearers of local bodies and self governments have taken initiatives to acquire farm machineries and to train workers to operate these machines. Since, the leaders, who have to oppose mechanisation and opposed mechanisation in the past, themselves are coming forward for mechanisation is a positive change. By providing training to the farm workers, they are trying to minimise the possible loss of employment to the farm workers.
- Many leaders wish to organise self-help groups and co-operatives societies for providing custom hire services of farm machineries with operators, but, due to the seasonal nature of farming, they foresee the demand for such service will be limited to the peak seasons and during the off-peak seasons the workers and machineries have to remain idle, and thus, will be non-viable.
- All these show that, at present trade unions support mechanisation – in the word of union leaders “need-based mechanisation” which “helps to reduce the drudgery of farm work and workers and to increase their productivity”.

Conclusion

It is concluded that the attitude of farmers, labourers and unions is favourable towards farm mechanisation. Mechanisation has resulted in the reduction of employment opportunities of farm workers. But, scarcity of labourers, high wage rates, availability of sufficient non-farm employment, uneconomical nature of paddy cultivation, decline in the interest among the

workers to union activities and strikes etc. has resulted to change attitude of workers and their unions towards paddy mechanisation.

Suggestions

- Provide more training in operations of farm machineries to both the workers and farmers. Thus, both may operate the machines whenever, the need arises and enhance their income.
- Acquire farm machineries by the local self governments according to the need and viability, and provide these machineries at reduced charges to the farmers. Since training has been given to the farmers, they can also use the machine without difficulty.
- Maintain the farm machineries and equipments acquired by these LSGs properly. At present many LSGs have purchased and possess a lot of farm machineries but are remaining idle either due to lack of viability or suitability of the machine to the area or due to lack of proper repairs and maintenance.
- Appoint qualified and trained staff permanently to maintain such machineries. One of the major reasons for lack of proper maintenance and upkeep of such machineries is the lack of permanent staff responsible for the proper maintenance of the machineries.
- Provide financial assistance at concessional rates to farmers and workers either individually or collectivity formed by them to acquire farm machineries.
- Create awareness about the use of farm machines among the students and youth. Encourage youth to undertake mechanised farm operations.
- Promote and encourage enterprises that provide farm machineries on custom hire basis.
- Promote and encourage self help groups of farm workers, train them in the operations of modern farm machineries and help them to acquire modern farm machineries.
- Strengthen and empower *padashekhara samithis*, provide more funds for their working, and appropriate machineries and equipment suitable to the area (*padashekharam*).

- Efforts of staff in agriculture offices (Krishi Bhavan) cannot be forgotten in farm mechanisation. Success of farm mechanisation depends upon the integration and co-ordination agricultural office and farmers.
- Ensure a fair rate of return to the investments and efforts of farmers, by increasing the support price of paddy, subsidising the cost of inputs.
- Ensure quality of imported farm machineries, after sale service and sufficient availability of spare parts at fair rates.
- More research shall be undertaken to develop machineries appropriate to the needs of the state and the region. Many of the farm machineries are developed in western countries, Japan, Korea, China, etc. They frequently fail to work in our fields and, thus, more repairs and maintenance is required. Increased repair and maintenance cost make these machines uneconomical.

Who have to Implement?

Many of the above suggestions can be implemented by grama panchayats/ block panchayats / district panchayats. Agriculture department has to take the lead. Krishi Vigjana Kendras (KVKs), Agricultural Universities and other institutions established for the furtherance of agriculture have to take special efforts and collaborate with other institutions and establishments in these endeavours. The Labour Department with co-operation of other departments may implement training programmes, conduct seminars and workshops for workers and union leaders on problems and prospects of farm mechanisation, interfere in the recruitment policies and practices followed by the LSGs in the appointment of operators of farm machineries owned by them and promote research and development programmes on various aspects of farm mechanisation. All these requires whole-hearted support and assistance of central and state governments.

MECHANISATION IN PADDY CULTIVATION: ATTITUDE OF LABOURERS, FARMERS AND UNIONS

Chapter 1

INTRODUCTION

Rice cultivation is one of the important economic activities of Keralites. It provides staple food to the people as well as cattle, raw materials to industries and employment to a large number of people in the state. Culture of Keralites, their festivals and socio-economic life itself is rooted on it. But due to several reasons paddy cultivation in the state is fast dying. The area under cultivation as well as rice production is diminishing each year at an alarming rate. High cost of cultivation, lack of availability of workers on time, conversion of land for non-farm and commercial activities, climatic changes, marketing and processing problems, availability of processed rice at comparatively low prices, small size of holdings, lack of adequate mechanisation and modernization etc., has made farming uneconomical and less attractive to the farmers. Boosting up of rice production to meet the growing requirements of people of Kerala is essential. But, several factors adversely affect rice cultivation. Of these, high cost of production and lack of availability of labourers on time are the most crucial. Thus, for enhancing rice production, steps to reduce cost and to ensure availability workers on time is essential. Mechanisation and modernisation of paddy cultivation can be considered as a step to achieve this objective.

However, mechanisation and modernisation of paddy cultivation is determined and controlled by several socio-economic and political factors. Availability of suitable machineries and equipments, capital, sufficient repairs and maintenance facilities, infrastructural and irrigational facilities for the use of these machines, size and nature of land holdings and skilled labour to operate these machines and equipments are the physical factors. These physical factors can be created through proper planning and organisation. Most important is the social and political factors which are mainly based on the social and psychological features of

different stakeholders of paddy farming. Farmers, agricultural labourers, trade unions and the entire society itself, form part of the stakeholders of paddy cultivation. Their attitude and perceptions determine the level of mechanisation and modernisation. Since, farmers and labourers directly involve in the production activities and take decisions concerned various aspects of production such as what to produce, when to produce and how to produce etc, their attitudes play the most important role.

Attitude is an important concept that is often used to understand and predict people's reaction to an object or change and how their behaviour can be influenced. It is a mental and neural state of readiness, organised through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations to which it is related. It can be a learned orientation, or disposition, toward an object or situation, which provides a tendency to respond favourably or unfavourably to the object or situation. Attitude of people towards a particular aspect, thing, or object, or phenomenon can be measured and studied through attitude scales. These scale attempts to determine what an individual believes, perceives or feels. An individual's attitudes towards himself, others, different activities, institutions, and situations can be measured. There are different methods to measure attitudes. Out of these methods, due to the easiness in construction and reliability, Likert Scale developed by Rensis Likert in 1932 is the most widely use.

Mechanisation is a broad term, interpreted by experts in different ways. These interpretations vary on the basis of the context of interpretation i.e the period and region. Thus, the meaning of mechanisation in the recent days will be entirely different from that of the earlier years of this century. According to Verma, S.R. (2008, p.133), Agricultural mechanisation implies the use of various power sources and improved farm tools and equipment, with a view to reduce the drudgery of the human beings and draught animals, enhance the cropping intensity, precision and timelines of efficiency of utilisation of various crop inputs and reduce the losses at different stages of crop production.

According to Morris (1980), agricultural mechanisation, in the broadest sense, is to do with implements, machines and power sources. In economic terms mechanisation involves injecting extra capital into the farming system mainly with

a view to increasing labour's capacity to do work defined in terms of quantity and/or quality of output per worker. The potential benefits of mechanisation to the farmer are reduced drudgery, increased returns and reduced costs (quoted by Ahamed P, 1993). Further, Ahamed P (1993), defined farm mechanisation as the "use of hand tools for manual operation, implements drawn by draft animals, machines operated by mechanical powers for doing various agricultural operations like land preparations, planting, intercultural application of fertilizers and plant protection chemical, irrigation, harvesting and post harvest operations".

Thus, we can see mechanisation means usage of a small hoe to large combine harvesters; small sprayer to aerial operations in farm operations. However, "definitions of agricultural mechanisation are not straightforward, and they also make the development of suitable indicators a difficult task, and have their strengths and weaknesses, as well as their associated measurement problems" Stephen Biggs, et.al (2011)". Thus, for the purpose of this study, mechanisation, we mean "the use of tractors, power tillers, transplanters and combine harvesters in paddy fields of Kerala, which affect worker and workers productivity". These machines are machines commonly used in the paddy fields of Kerala. Thus, we have taken these machines only into consideration.

The history of agricultural mechanisation starts from the emergence of human civilisation itself. Different kinds of simple tools were used in the ancient past. But the first pervasive mechanisation of agriculture came with the introduction of the plough, powered by animals. It was invented in ancient Mesopotamia. However, current mechanised agriculture includes the use of tractors, trucks, combine harvesters, airplanes (crop dusters), helicopters, and other vehicles. Modern farms even sometimes use computers in conjunction with satellite imagery and GPS guidance to increase yields (Annelie Koleman, 2013).

Agricultural mechanisation helps in increasing production, productivity and profitability in agriculture by achieving timeliness in farm operations, bringing precision in metering and placement of inputs, reducing available input losses, increasing utilisation efficiency of costly inputs (seed, chemical, fertilizer, irrigation, water etc.), reducing unit cost of produce, enhancing profitability and

competitiveness in the cost of operation. It also helps in the conservation of the produce and by-products from qualitative and quantitative damages; enables value addition and establishment of agro processing enterprises for additional income and employment generation from farm produce. It is one of the important inputs to usher in all round development of the economy. Efficient machinery helps in increasing productivity by about 30 percent and enables the farmer to increase crop intensity. (Farm Machinery and Primary Processing <https://www.nabard.org/english/farmmachinery.aspx>.)

Earlier, it was considered that mechanisation creates unemployment. However, this myth has been broken now and it has been observed that, agricultural mechanisation besides increasing production and productivity, generates income and employment opportunities also. Several studies conducted in different parts of India have shown that mechanisation has helped in increasing production, productivity, generation of income and employment (ibid).

Kerala has a long history of strong and militant trade unionism and collective bargaining power (Thampy MM, 1999). Thus, the producers and farmers cannot take and implement unilateral production decisions. Any decision that affects workers is strongly opposed by trade unions. Mechanisation of farming in the earlier days was strongly opposed and hindered by the trade unions in Kerala (Jose George 1984, Kannan KP 1988, 1998, Prakash BA, 1999) and have a decisive role in determining the future of mechanisation in the paddy fields of Kerala. However, recently, their lethargy and employer and employee disputes have reduced (Shaji Francis, 1990; Thampy MM 1999, Malayala Manorama, October, 7, 2013) and have realised the need for mechanisation in paddy cultivation.

In Kerala, up to 1970s labour supply was abundant, farmers could complete farming operations on time without difficulty and then the attempt from the part of farmers to mechanise their farm had created problems in various parts of the state (Kannan, 1998). But, today, the labour market conditions have changed too much and employers who require manual labourers find it difficult to get sufficient workers (Sukumaran Nair, MK,1999) and such demand is met by the migrant

workers from the neighbouring states like Tamil Nadu and Andhra Pradesh and far eastern states like West Bengal, Assam etc. (Mohamed Kutty, 2007). Increased wage rates and other input costs, scarcity of farm labourers to complete operations on time, and lack of fair prices for paddy etc., has created inertia among the paddy cultivators and they have either shifted the paddy farms for cultivation of other crops requiring less labour (Sukumaran Nair, M K, 1999; Jayan Jose Thomas, 2011; Kannan and Pushpangadan 1990, Nair and Vineetha Menon, 1995) or leave the land uncultivated. Increasing paddy production is the need of the hour for which mechanisation and modernisation is essential. However, what hinders mechanisation of paddy farm in Kerala is a matter of concern.

The study tries to answer the question, by evaluating the attitudes of different stake holders of rice cultivation - the workers, farmers and their unions. In addition to the evaluation of attitudes of workers, farmers and unions, towards mechanisation, the study analyses the recruitment patterns, wage and job satisfaction, working conditions and involvement in trade union activities also.

1.1 The Problem

The total area under paddy cultivation is declining over years. During the year 1961-'62, was 7.53 lakh hectares and in 1975-'76 it was 8.76 lakh hectares. But during the year 2010-11, the area declined to 2.13 hectars and in 2011-12, it further declined to 208 hectares. Correlated with the decline in the area, total production also declined to the bottom level. The area under cultivation has reached to 2.29 lakhs hectares and in 2010-11 it further declined to. On comparing with the year 1975-76, area of paddy cultivation has decreased by 76% during the year 2011-12 and on comparing with 2001-02, the area under paddy cultivation has decreased by 35% during the year 2011-12. Further, Keralites require about 40 lakh tons of rice each year, but produces only about 5.69 lakh tons. Thus, the state has to import large quantity and depends other states for food. If the declining trend in the area cultivation and production of rice is continued, this dependency will increase in future and may worsen the situation. (just 15 percent of its requirements Economic Review 2010)

Rice cultivation is labour intensive. Of the total cost of cultivation, labour cost forms an important element. Thus, any effort to reduce cost of production or cultivation shall be concentrated on labour saving or labour cost reducing methods. Further, a major problem faced by the farmers is the lack of availability of the right kind of workers at right time to complete the operations at right time. Many reasons are there for shortage of labourers. Since most of the agricultural operations are to be carried on in open farms and fields, direct exposure to sunlight and other weather conditions make farm work more difficult and tiresome to the workers. In other words, the drudgery of farm works is more when compared to other non-farm employment. In addition to this, the seasonal nature of farm work, farm workers do not get regular work throughout the year. Prior to the land reforms era, farm labourers were more or less dependents of farm households and during the off seasons, the framers provided them work and livelihood. Destruction of this, paternal-dependent relationship has adversely affected the workers. Thus, they have to remain unemployed for a major part of the year (during the off-seasons). In addition to these distracting factors, educational and economic development of the traditional labour supplying communities, migration and emigration, availability of non-farm high wage employment, negative attitude of Keralites towards manual and blue collar jobs etc., also led to shifting of farm workers to new pasture grounds getting employment of perennial in nature and high wages. All these created short supply or scarcity of farm workers and high wage rates in Kerala. Consequently, farmers find it difficult to complete operations on time and have to pay high wage rates.

Table 1.1
Rice Production in Kerala and India from 2002-11

Year	Area (Hectors)		Production (MT)		Productivity (Kg/HA)	
	Kerala	India	Kerala	India	Kerala	India
2002-03	313	40410	689	75720	2218	1874
2005-06	276	44258	630	91790	2285	2074
2008-09	234	45600	590	99400	2520	2177
2009-10	234	41920	598	89090	2557	2125
2010-11	213	42560	522	95330	2452	2239
2011-12	208	--	569	--	2733	--

Source: Economic Reviews of various years

In addition to the scarcity of farm labour and high wage rates, the costs of all farm inputs have increased too much. The support price of paddy in Kerala is Rs. 17 per kilogram (currently, it is Rs. 18 per kilogram). But the average cost of production is Rupees 22 per kilogram. Thus, a farmer incurs a loss of Rs. 5 per kilograms of rice produced by him (Malayala Manorama daily, 21-09-2012). Thanks to the procurement by SUPPLYCO, the scheme implemented by government for procuring rice directly from farmers. When the SUPPLYCO entered into the market private traders began to purchase paddy from the cultivators by offering higher prices than that offered by SUPPLYCO and thus in this year (2013) many cultivators could get better prices(on an average Rs. 22 per kilo gram of paddy). Before implementation of this scheme farmers faced problems of marketing also. They were unscrupulously exploited by the private traders by resorting to malpractices, not paying fair prices to the paddy by manipulating weights and the market itself. Thus, increased costs and low prices for paddy had resulted in making paddy farming uneconomical.

In addition to the economic loss, a farmer is subject to different kinds of stress and strains in connection with the completions of farm operation on time, climatic conditions, pests and insect infections, and yield. These increase the psychic costs also. Thus, myriads of problems, altogether compel the farmer to leave his farm land either leave the land barren or to use the land for other farm and non-farm purposes. This, ultimately results in decline in the area under paddy and paddy production in Kerala.

Our major aim or concern is in increasing the paddy production and to make our state self-sufficient in rice or to minimise the external dependence. This can be attained by making paddy cultivation a profitable venture, which is possible only through mechanisation and modernisation paddy cultivation.

Mechanisation and modernisation of agriculture require infrastructural facilities like rural electrification, better road connectivity, facilities for repair and service of farm machineries and equipments, better and cheaper financial helps and incentives as well as trained manpower. It requires structural changes in the

existing agricultural systems and practices. These changes are, however, resisted by various factors, including labourers and their unions. Being the major source of employment and income to the labourers in Kerala, fear of loss of employment due to mechanisation had created apprehensions and consequent resistances from the part of labourers and their unions against mechanisation. In a state like Kerala, where people are highly educated, politically more conscious, with strong trade unions and rulers pro-labour attitudes and policies, mechanisation and modernisation that adversely affect labour is a very difficult task. In the past, several agitations and protests had to be faced by farmers who have tried to introduce mechanisation in their fields.

However, in addition to the protection of current employment, trade unions also play an important role in the development of attitudes, abilities and competencies of their members and the society. Unions can provide education and training to the workers to improve abilities, competencies of their members to fit to the labour market requirements and to improve their quality of work life and standard of living. Thus, trade unions can play an important role in mechanisation and modernisation of rice farming also. But how far they have succeeded is a question to be answered.

Further, at present, socio-economic and labour market conditions of Kerala have undergone tremendous changes. Short-supply of farm and manual labour, high wage rates, sufficient non-farm sector employment opportunities, emigration and large inflow of migrants etc., are some of the features of the labour market of Kerala. In these changed labour market conditions, whether the labourers and their unions follow the same old policies and attitudes or changed or not, is another question to be answered.

Above all, it is the farmers or cultivators, who have to introduce mechanisation in agriculture. Their attitude and perceptions are the most significant in this change process. Considering the importance of mechanisation in agriculture, attitude of different stake holders becomes the problem. Thus, the core problem behind the present study is the attitudes of labourers, farmers and unions towards mechanisation in paddy fields. It tries to answer whether the attitude of

labourers, farmers, and unions in this changed scenario is favourable or unfavourable to mechanisation.

1.2 Scope and Importance

The study is an attempt to analyse and evaluate the attitude of labourers, farmers and unions towards mechanisation in the paddy fields of the two district of Kerala. It tries to examine the factors responsible for shaping their attitudes they maintain towards mechanisation. Attitude of persons towards a change process depends upon the effects of the process that actually exerts upon them or perceived by them. The extent of mechanisation in rice cultivation, its impact upon the workers, adjustments made by them to adapt to the changed situations, their attitudes towards mechanisation are the major areas of concern of the study.

An individual labourer cannot influence or determine the direction of change. It is through their collectivity or unions they exert influence. Thus, trade unions also come under the purview of the present study. Evaluation of the attitude of workers and their union leaders will not unveil the whole picture. The problem is to be analysed from another the angle; of farmers or employers who introduce the changes and face the reactions or challenges. In this way, farmers or employers also come under the framework of the present study.

Spatially, the study is limited to Malappuram and Palakkad districts of Kerala state. Palakkad district, known as the 'granary of the state' occupies the top position (41%) in rice production in the state. At the same time, its area under cultivation is declining annually. But in the case of Malappuram district, the area under cultivation shows an increase of 111 hectors and production by 1177 metric tons in the year 2010-11. Even though these two districts lay adjacent, they show wide difference in socio-economic, political and demographic features. The Palakkad-Malappuram corridor is the most migration-prone area in the state, but in different directions. Palakkad stands in front of other districts in Kerala in the matter of out-migration, while Malappuram stands first in case of emigration. These movements have made considerable impact upon the economy and society of these districts, especially in labour markets. Further, politics which determine

the type, nature and activities of trade union is also entirely different in these two districts. Palakkad is famous for leftist movements, while Malappuram is not so. Differences in the socio-economic and demographic factors affect attitudes, approaches and preferences of people as well as their groups. Through a comparative study of the attitudes of labour towards mechanisation will help to identify how the various socio-economic and demographic factors affect change processes in the society. Specifically, the area is limited to two Grama Panchayats, one each from these two district, (namely Nannamukku Panchayat in Malappuram District and Kuzhalmannam Panchayat in Palakkad district) - the panchayats having the largest area under paddy cultivation in respective district as per agricultural statistics 2011.

In addition to analysing and evaluating the attitudes of different stake holders in mechanisation of agriculture, the study analyses, the recruitment practices, wage and compensation structure, working conditions, job and wage satisfaction of farm workers and their trade union attachments, it is an enquiry into the rice farming from the angle of human resources management. Thus, the scope and nature of the study is very wide and is interdisciplinary in nature.

1.3 Significance of the Study

Continuous decline in the area under paddy cultivation, lack of food security and self-sufficiency are major concerns of Kerala. The state is not producing even one-fourth of its rice requirements. Its external dependence for food creates several problems and it is widening day by day. Keralites give importance to cash and commercial crops, food grains production is not a major concern. Various reasons for such a pathetic condition have discussed earlier.

In order to achieve self-sufficiency in food grain and to achieve food security, area under paddy and production should be increased by enhancing the profitability and viability of rice farming through mechanisation and modernisation. But, the state of Kerala could not achieve much progress in this area, due to several constraints. An important constraint faced by farmers of the earlier days was the oppositions and objections created by workers and their

unions. The earlier attempts to introduce tractors and combine harvesters were blocked by farm workers and their unions. Such policies and attitudes of trade unions and leaders in the previous decades have made Kerala notorious for labour militancy and trade union activism. Strikes conducted by labourers are interpreted or misinterpreted in different ways - in many cases against the interest of the state.

But now the situations have changed too much, remarkable changes have taken place in the socio-economic and demographic as well as labour market conditions of the state. Labour scarcity, sufficient employment opportunities in farm and non-farm sectors, better wages and better working conditions, less working time, lack of exploitation, large scale interstate in-migration etc., are some of the present features of the labour market of Kerala. These, changes have reflected in the policies and attitudes of trade unions also. Then, it becomes necessary to ascertain the attitudes and policies of workers as well as trade unions towards mechanisation. It helps to change the old concepts and to eliminate misunderstandings about Kerala, its workers, work culture and unions, which remain unchanged among the minds of the general public and investors.

In addition to the evaluation of the attitudinal changes among the farm workers, farmers and union leaders, the study also looks into the recruitment practices, wage rates, working conditions, trade union attachment of workers, job and wage satisfaction etc. This helps in understanding the labour market conditions and quality of work life of farm workers in Kerala.

Thus, findings of the study will be helpful in framing appropriate policies and programmes related with paddy cultivation, farm mechanisation, training and development programmes of farm and related work force.

1.4 Objectives

The major objective of the study is to analyse and evaluate the changes in the attitudes of labourers, farmers and their unions towards mechanisation in paddy cultivation in the changed labour market conditions. Its specific objectives are:-

1. To contextualise the ongoing mechanisation process in the paddy fields of the study areas.
2. To identify the determinants and constraints of mechanisation in paddy cultivation.
3. To analyse and evaluate the attitude of labourers, farmers and unions towards mechanisation process in rice cultivation.
4. To analyse the impact of mechanisation upon the wage rates, employment (loss/gain) and worker collectivity.

1.5 Main Research Questions

Kerala has well-developed infrastructural facilities and basic amenities required for mechanisation and modernisation of agriculture. Further, literacy rate of farmers is also high when compared to other states. This helps to provide necessary education and training to them for mechanisation and modernisation. Inflow of funds from NRIs leads to create surplus funds with the banks which they can easily extend as financial help to the farmers for purchasing tractors, power tillers and other tools and equipments. In addition to these, existence of a well-developed transportation system provides mechanism for repair and maintenance of farm machines and equipments. Even if Kerala possesses all the requirements for mechanisation in agriculture, it has not succeeded in it. Thus “what hinders mechanisation of rice cultivation in Kerala?” is the major question. This question leads to several other questions such as-

1. Is (was) it the attitude of labourers, farmers or union that hinders mechanisation in rice cultivation in the study areas?
2. Did (will) mechanisation adversely affect the labourers and employment opportunities in a state like Kerala?
3. What were (will be) the reactions of the workers and their union towards mechanisation of paddy cultivation?
4. Is there any attitudinal change among the labourers and their unions towards mechanisation process in paddy cultivation?

The study tries to answer these questions in detail.

1.6 Limitations of the Study

The study suffers from a large number of limitations. The first and foremost important limitation is the lack of time and resources. Since the scope and nature of the study is very wide, sufficient time must be availed. Since, the study is to be completed within a short span of time, many important matters like; the evaluation of past trade union activities, strikes of farm workers, history of farm mechanisation and opposition in Kerala, etc could not be properly documented. However, all possible steps and efforts have taken to minimise the limitation.

In this study, the term mechanisation is narrowly defined and considers only the impact of tractors, power tillers, transplanners, and combine harvesters. Other machines and techniques like weeder, seed drills, etc are not considered for the study. However, these are not at all used in the study area.

Since, the study deals with the area under cultivation, production, income and expenditure etc., of farmers and workers there are chances for withholding facts and truths or misrepresenting facts and truths by exaggerating the costs and losses and understating incomes and gains.

Further, many of the information collected are related with past that too five and ten years ago. Thus, there are chances for forgetting such information and the information provided by them may not be accurate.

In addition to these specific limitations, this study suffers from most of the limitations inherent to a social survey type research.

1.7 Presentation of the Study

The study is presented in the form of a report divided into different nine chapters as required and according to convenience. For presentation purposes appropriate tables, graphs, diagrams and charts etc., are also used.

The first chapter deals with introduction, scope and importance, objectives and limitations of the study.

The second chapter provides summary of previous literature and the third chapter discusses the methodology followed for completing the study.

The fourth chapter deals with important matters of concerns of paddy cultivation in Kerala, like declining area under paddy cultivation and paddy production, increasing wage rates and also provides a general idea about trade union activities in Kerala.

The fifth, sixth and seventh chapters deal with analysis and interpretation of the primary data collected from farmers, labourers and trade union leaders. The fifth chapter deals with farmers, sixth with details of workers, and the seventh with trade unions and leaders.

Eighth chapter deals with summary and discussion based on the analysis and interpretation of the data.

The last chapter (ninth) provides summary, findings, suggestions and conclusion of the study.

Chapter 2

LITERATURE REVIEW

Mechanisation in paddy cultivation is not a novel problem. Since the emergence of paddy cultivation itself, this problem has been in existence. Many attempts have been made in different parts of the world to conceptualise and discuss different aspects of mechanisation from the angle of different stake holders. In addition to mechanisation, myriads of factors affect paddy cultivation and yield, and these factors play respective roles in shaping up of the attitude of different stake holders of paddy cultivation towards the mechanisation process. In order to understand these factors, their respective roles and effects, and to guide further enquiries, existing literature will be very useful. In this part, a review of some of the important earlier studies that affect paddy cultivation, mechanisation and attitude of different stake holders is made so as to provide a firm basis for the proposed study. The review is discussed under different headings, but due to overlapping nature, a particular work may be quoted under different headings also.

2.1 Agricultural and Labour Relations

The relationship between different stake holders in agriculture, such as the land owners, tenants, farmers and workers is an important factor that determines the quantity and quality of agricultural production, agricultural productivity, income and employment patterns as well as standard of living of people and influence the attitude of farmers, workers and other stakeholders in paddy cultivation.

Considering these, Martin Adams (2004), has mentioned that secure access to land is a precondition for sustainable agriculture, economic growth and poverty reduction. According to him, land reforms implemented in different part of the world, including Kerala, are impeded by politicians and officials for their vested interests. He recommended to lift the ban on land leasing prevailing in different states of India, and to take legislative and other measures to encourage lease farming since it arming enhances economic efficiency and equity among

small-scale farmers and may help them to acquire the land through the surplus created by farming.

According to John Harriss, et al's (2010) still land lordism prevail in Iruvelpattu village of Tamil Nadu, and the landlords have succeeded in evading the land reform laws through benami transactions and they acquire more land through purchase from indebted small farmers.

Oommen MA (1993) has critically reviewed the implementation and benefits of land reforms in Kerala. According to him, Kerala Land Reforms (Amendment) Act, 1969, implemented with effect from 1st January, 1970 has made far reaching abrupt changes in agrarian relations, and socio-economic and political conditions of Kerala than that of any other states in India; but the loopholes in the Act has hindered the transfer of land to the class of 'sturdy cultivating peasantry' and to an extent it has helped in the emergence and growth of capitalist farming instead of erstwhile feudal landlordism. According to him, these changes in the agrarian relations have not led to improvement of productivity even if all the economic condition were favourable for improvement of productivity. Ramakumar R. (2006), based on case study of Morazha desam in the Malabar region of Kerala, also argued that the land reform measures initiated by the government of Kerala in 1956-57 and consequent public action has resulted in far reaching agrarian changes and socio-economic improvements in the village elimination of various kinds of socio-economic exploitations of the working class.

Bhaskar, B.R.P (2008) is also of the opinion that Kerala's land reform was not as successful as claimed to be. According to him, even though, the domination of landlords had weakened and tenants had gained security, the landless had not got land and productivity had not grown.

While discussing the reasons for decline in the area under paddy and paddy production in Kerala, similar argument is made by Balakrishnan, Pulapre (2002). According to him even if Kerala has succeeded in agrarian reforms, it has not succeeded in enhancing paddy cultivation and productivity. Nikhil Raj and PA

Azeez (2009) also hold the same opinion. According to them, land reforms and redistribution of land has revolutionised the social set of the state, at the same time, it has led to reduction in the size of farms and farm income.

Nair, K.N and Vineetha Menon, (2005) by examining some of the micro-level studies on tenancy in Kerala, opined that, in Kerala, where farming is more or less considered as a depressed industry, a large part of cultivable land remain unutilised or underutilised, there are ample scope for promoting tenancy farming, especially through the formation of self help groups and other forms of group farming activities. Similarly, Joseph A. Thomas and Thomas TA (1999) also stated that, tenancy system which was abolished with the land reforms in Kerala has been re-emerged. But the new tenancy system is entirely different from that of the pre-land reform era and today it is completely based on pure market consideration and land is considered as a productive asset, and rent is to be paid for its uses, which vary with size, cost of the land and accessibility. Since tenancy is prohibited, the terms and conditions of such contracts cannot be legally enforceable.

Omana Cheriyan (2004) argues that, after a few years of the Land Ceiling Act of 1969, absentee land holders have emerged in Kerala, which has helped in the formation of the 'lessee development model', in increasing production and productivity, and opening up of new employment avenues in the agricultural sector and further, cultivation on leased land has become a wide spread phenomenon throughout the state.

2.2 Rice Cultivation - Problems and Prospects

Rice production is the major concern of the present study, since, it being the staple food of millions of people in the world and fodder to the cattle, each and every element of rice cultivation has become a major focus of several studies. However, in this part, we are discussing only some of the important studies that deal with paddy cultivation in the state of Kerala, especially, those deals with decline in area under paddy and paddy production.

George P .S and Chandan Mukhejee (1986) have conducted a detailed study on paddy cultivation in Kerala with the objective of analysing the trends and variations in area, yield and production of rice during different seasons in the important rice growing districts, and to ascertain the factors influencing changes in area, yield and production. According to them, uneconomical nature of paddy cultivation due to high wage rates and low price for paddy has generated negative attitude among the farmers towards paddy farming. They stated that rice production in the state can be increased through better irrigational facilities, use of HYV, consolidation of holdings and price incentives; but it is difficult to increase the area under paddy cultivation.

Similarly, Kannan K. P. (2000) while examining the question of food security vis-à-vis food availability and self sufficiency in production in Kerala found that due to high wage rates and other input costs, lack of fair prices for products resulted in changes in cropping pattern in the state and more and more farmers shift land out of rice to more remunerative less labour absorbing crops leading to a decline in the area under rice cultivation.

Joseph Tharamangalam (2002) has stated that in Kerala, food –grains production is only a minor activity, and production and consumption of food grain is completely unrelated. According to him, most of the farmers do not directly engage in farm activities and majority of them have non-farm income also, especially in the form of remittances. Shortage of farm labourers in the midst of unemployment shows that these jobs are not economically ‘worthwhile’ and such jobs, being low-status and physically irksome, are not considered as ‘culturally desirable options’ by Keralites.

According to Nikhil Raj and Azeez PA (2009) several socio-economic reasons like small size of land holdings, labour scarcity, high wage rates, globalisation and consequent price changes and cropping patterns, conversion of land for non-farm activities and infra-structural development, high rate of

urbanisation and real estate business etc are the reasons for decline in the area of paddy fields and production. But, they also maintain that adoption of mechanisation and modernisation will improve in the rice productivity.

Pulapre Balakrishnan, (2002) stated that the trend in rice production in Kerala is the result of economic development and openness of its economy. It is the result of the phenomenon called “Dutch-disease”.

Pushpangadan, K. (1988) claimed that Kerala’s agricultural growth has been stagnated during the 1970s’ especially that of food crops like rice and tapioca. In another study by Kannan K.P and Pushpangadan K. (1988), accounted price and non-price factors, lack of irrigation and land development activities as well as environmental degradation for stagnation in agriculture. They argued that, for economic growth of the state, agricultural growth is essential which can be achieved through intensification of cultivation giving emphasis to productivity.

According to Kannan K P and Pushpangadan K (1990) the yield stagnation in agriculture is all pervasive, although yield of paddy has increased during the period under their study; it was due to marginal land going out of cultivation. Further, they argued that, there is technological stagnation throughout Kerala’s agriculture since mid-seventies and making technical change must be the most important component of the strategy adopted for agricultural development.

But, according to Thomas, P.M. (1999) agriculture in Kerala agriculture had exhibited signs of recovery during the 1980’s, followed by decline in the beginning of 1990’s. He stated that agriculture in Kerala faces severe problems such as low profitability, increase in wages and other input costs, shortage farm labourers, abnormal increase in land prices and conversion of land for other crops.

Ninan K.N (1986) in a comparative study of rice and tapioca cultivation conducted in Thiruvananthapuram and Kollam districts of Kerala, found that rice require more labour and timely operations and thus, tapioca is more profitable than rice.

Jeemol Unni's (1981) study was related with the shift in cropping pattern of Kerala during the period 1960-61 to 1978-79. According to her during this period, there was significant change in the cropping pattern, from rice to coconut.

According to Oommen M A (1993), the cropping pattern of Kerala needs changes to avail the comparative advantage considering land productivity and net income criteria. Accordingly, there is ample scope for substituting paddy by sugar cane, tapioca by other crops and extending the area under cultivation of rubber, tobacco, cardamom, cashew nut etc.

Gopinath C and Sundaresan (1990) have conducted a study to assess the changes in the cropping pattern, its nature, reasons and its impact upon employment in the districts of Thiruvananthapuram and Malappuram. According to them both the district show the same cropping pattern changes, paddy fields are converted to cash crops and thus, has led to reduction in employment opportunities to farm workers. The surplus labour so created has turned to off-farm activities. In Thiruvananthapuram the labour has shifted to traditional activities like loading, brick making etc. but in Malappuram district, the shift is to trade, commerce and transport services. Even though cropping pattern changes have led to decline demand for farm labour, the demand for labour in off-farm has tremendously increased.

Panikar, P.G.K's (1981) study in Palakkad and Kuttanadu found that though HYVs were in use in the state for one and half decades, they are adopted in only about one-third of the total cultivated area. According to him, insignificant difference in the yield and wide variation in the yield of HYV is the reason for low adoption of these varieties in the state.

According to Jayan Jose Thomas (2011), severe scarcity of labourers and high wage rates of labourers, low price of paddy accompanied by increase in land prices and of other inputs have resulted in changes in cropping pattern and conversion of land for construction purposes in Palakkad district, leading to decline in area under paddy. According to him, for further improvement in

cultivation proper mechanisation and adoption modern technologies, high yielding varieties and increase in irrigation facilities is necessary. Shri Dwara, M (2012) also accounted the same reasons for reduction in the paddy cultivation and production in Malampuzha grama panchayat of Palakkad district.

Pushpangadan K (1992) has stated that for increasing the area under cultivation and paddy production cost reducing innovation in production technology is essential.

Leena Kumari, S (2012) discussed some of the major economic and technical issues related with rice production in Kerala. According to her reduction in area due large scale conversion of paddy lands is the major reason for decline in paddy production in the state. High incidence of pests' and. diseases, uncertain climatic conditions and escalating cost of production discourage farmers from cultivation.

According to Sajeena (2012), adoption of appropriate farm technologies and implementation through group farming in Nedumbassery grama panchayat to expand the area under paddy cultivation since 2002-03 was successful in controlling and reducing the conversion of paddy lands, protecting the existing paddy area and to bring more fallow land under cultivation.

Thomas,P M (2002) conducted a micro level study in Ramankari village Kuttanad taluk, focusing on the contemporary problems and issues related to paddy cultivation found that paddy cultivation is not uneconomical and on an average farmers earn a profit of 53.52 percent.

In addition to these specifically mentioned studies several other studies have also tried to analyse the trends in the cropping patterns and to evaluate the reasons for changes in the cropping patterns. All these show that, paddy cultivation has become uneconomical due to several socio-economic conditions, especially, high labour cost and scarcity of labour. Thus, farmers are compelled to shift to

more profitable, less labour required perennial crops. This has led to decline both land under paddy cultivation and production of paddy.

2.3.1 Mechanisation in General

Mechanisation in paddy farming is a matter serious discussion in the past and present. Several studies have discussed the success, level and pattern of mechanisation in different regions. In this part we examine some of the studies which discuss few general studies dealing with mechanisation.

According to Prof. Dr. S. M. Iqbal Hossain, the basic principle of agricultural mechanization is that the changes should be meaningful i.e., the introduction of a mechanical aid should fulfil the cultural, employment, humane, timeliness and production needs of the farmer and society as a whole, as well as the economic conditions. Meaningful mechanization includes then anything from the improvement of the hoe to the introduction of large power units and equipment depending on the time, place and the related conditions.

Akimi Fujimoto (1974), in his study of paddy cultivation in Malaysia discussed the relationship between low productivity of rice farming and the quality of human resources engaged in farming activities. According to him, the quality of the labour force plays a crucial role in transformation of the farming system i.e., farm modernisation and mechanisation.

According to Stephen Biggs et al (2011), though the debates on the role of farm mechanisation have more or less faded away in the early 1990s, but still there is ample scope for discussion, but in changed dimensions. According to them, small Chinese-made low-cost diesel engines have helped a lot in the farm mechanisation processes in Bangladesh, Sri Lanka and Nepal; though India is the largest producer of producer of 4WTs in the world, she lag behind Bangladesh and Sri Lanka in farm mechanisation process and wide regional disparities can also be seen in India.

DARE/ICAR ANNUAL REPORT 2011–12 states that, even though farm mechanisation has played a crucial role in improving agricultural production as well as productivity, individual ownership by small and marginal farmers is uneconomical. Further, continued shrinkage in average farm size leads to increased practicing of custom hiring of farm machinery in the country.

According to Gyanendra Singh (2008), at present, equipments for tillage, sowing, irrigation, plant protection and threshing have been widely accepted by the farmers and even farmers with small holdings utilise many improved farm equipment through custom hiring to ensure timeliness of farming operations. Further, the present trend in agricultural mechanisation is for high capacity machines through custom hiring and for contractual field operations inputs.

But, Akila N and Chander M's (2009) study found that majority of the farmers (89 percent) had favourable attitude towards utilisation of draught bullocks and the farmers by and large still depend on bullocks for certain farm operations and they strongly believe that nothing could replace the performance of the bullocks.

According to the NABARD report (1995), despite of the less favourable conditions like small size of operational holdings, resistance from labour union etc., there has been an increased demand for farm machineries such as small tractors and power tillers in the major rice growing districts of Kerala State. Aravindan's (2001) report also shows that fully mechanised farming is becoming a hit among Kerala farmers.

Prasidha P (2006) in her study to analyse the role played by the gender in rice cultivation, union participation, attitude towards farm mechanisation and time spend by the farm labourers in Kunnathukal and Karode Panchayats of Thiruvananthapuram district found that political and union participation is more among the males than females and majority of male workers show favourable attitude towards farm mechanisation, while that of females' is not so favourable.

S.Sajeena, P.V.Habeeburrahman, J.Deepa and Bena Pathrose (2010) discussed the success story of farm mechanisation in Malappuram district, where production and area under paddy cultivation is constantly declining due to various socio-economic reasons. According to them, in the district, in the recent years, there is an increasing trend in the area under cultivation and paddy production due to the interventions like farm mechanisation, high yielding varieties etc. Mohammed Ansal Babu (2012) also claimed that total paddy mechanisation (food army security) Angadippuram grama Panchayat in Malappuram District has helped to increase the area under paddy cultivation and reduce the area of barren land in the panchayat.

2.3.2 Need and Benefits of Mechanisation

Several factors call for mechanisation in farming that brings different kinds of benefits to farmers and other stake holders of paddy cultivation. In this part, we discuss the literatures dealing with the need or the factors that compelled or warranted adoption of mechanised farming and consequent benefits, in addition to the reduction in drudgery and increase in productivity and farm income, which we have already discussed in earlier part of this section.

According to Thilakrathna H.M. And Thilkarthna I.G. (2013), shortage of manual labour and drudgery of farm work necessitated farm mechanisation in Sri Lanka, which was restricted by several socio-economic reasons. They argued that, selective farm mechanisation which maintains proper balance between labour availability and need of machines for timely completion, has taken place in the country. They also stated that the prevailing commercialisation of agriculture would require more labour saving machines and appropriate mechanisation would reduce environments hazards.

Pathiraja et al, (2010), stated that increased labour cost and shortage of both skilled and unskilled labour have become a major issue in Sri Lanka also. According to him innovative mechanisation and adoption of technology are

essential to reduce the dependence on manual labour and for saving the farming operations. For this purpose attitudinal change is essential.

Kyu-Hong Choi and Sukwan Kang (2002), stated that decline in the population of farm areas and consequent increase in the demand for farm labourers, ageing population, increase in the farm size and wage rates were the major driving forces of farm mechanisation in Korea.

According to Shankar Bennur (2011), migration of farm workers to the works under the Mahatma Gandhi National Rural Employment Guarantee Act has reduced availability of farm workers in Tamil Nadu and Andhra Pradesh, which required increased adoption of farm machines and equipments.

According to Mokot Hoki (1977), for commercial farming and marketing of rice, post harvest mechanisation is essential to handle large quantities and to maintain high quality.

Marrit Van den Berg, M. et al's (2011) study shows that economic development in china has opened up new opportunities for farmers, and increased availability of land on rental basis. To facilitate farming in large sized farm-lands mechanisation is essential.

Das. F.C (2011) claimed that, Mechanisation is needed to raise farm productivity, increase cropping intensity, to increase effectiveness of various farm operations, to reduce drudgery of farm operations and to reduce the cost of rice farming. It is the only solution to the ever increasing problem of labour shortage and escalating wages.

According to, Rana Kapoor (2010), though India has achieved self sufficiency in food grain production, for further increase in agricultural production, focus on improving mechanisation is required, which facilitate for timely, precise and scientific farm operations, increase in labour efficiency and lead to significant improvement in farm productivity. Similar opinion is also made by Dr. Md.

Shirazul Islam. According to him, even if Bangladesh has achieved self-sufficiency in food grain production, it has to increase production to meet the requirements of ever growing population, and it could be achieved only through faster farm mechanisation by replacing traditional inefficient agricultural tools and equipments.

Ghaffar Chaudhry, M., and Zakir Hussain's (1986) study on the impact of mechanisation on agricultural development in Pakistan found that, mechanisation is a response to the water and labour scarcity and has led to considerable improvement in the country's productive capacity, reduction in operating costs.

According to Tewari V.K. et al's (2013), the second Indian green revolution requires farm mechanisation, since farm mechanisation enhances production, productivity, reduces drudgery of farm work. Lack of proper mechanisation is the major reasons for delay in paddy cultivation.

Sajeena, S., et al (2010) while discussing the success story of farm mechanisation in Malappuram district, reiterated the need for mechanisation in the district, where production and area under paddy cultivation is constantly declining due to various reasons labour shortage, high wage rates, conversion paddy land for construction activities etc. The same opinion is also expressed by Mohamed Ansal Babu (2012). According to him to mechanisation is essential to bring back the framers who have left farming due to high labour cost and labour scarcity.

Oduori M.F., (2013) has mentioned that developed countries promote farm mechanisation to save the scarce and expensive labour; but in under developed countries, it is to make the farm work less difficult and drudgery so that the increasing attitude of young people to shun farm employment could be curbed and sufficient labour force, especially able-bodied young persons, can be attracted and made available for farm work.

According to Kamal Karunagoda (2004), farm mechanization and institutional changes related to land and labour are necessary to mitigate the negative influence of rising wage rates on domestic agriculture and to increase in labour productivity.

Thus, almost all studies point out mechanisation is adopted for the purpose of overcoming the various problems associated with labour, to reduce drudgery of farm work, to reduce cost of cultivation, to increase crop intensity, and to ensure efficient and effective use of various farm inputs and to improve farm productivity.

2.3.3 Impact of Mechanisation upon Workers

Workers are one of the important groups of stakeholders in agriculture. Mechanisation is, generally, considered as supplant to human labour and, thus, surely affect the wage rates and employment opportunities of, at least, existing farm labourers. Thus, in many parts of the world including Kerala, workers and trade unions have strongly opposed mechanisation. However, many studies have found contradictory results and experts have conflicting opinions on the effect of mechanisation upon workers.

According to Joppich, W. G. (1957), though mechanisation reduces the drudgery of farm work and it will aggravate the problem of rural unemployment. John Harriss et. al's (2010) study on Iruvelpattu village of Tamil Nadu shows that extensive mechanisation in paddy cultivation in the village has led to reduction of employment to the workers, where as to the farmers, it is the result of lack of availability of workers. Raj Vir Singh and Singh, L. R's (1980) study in W. Uttar Pradesh also found that the use of human labour per acre decreased with an increase in mechanisation in sugar cane and wheat farming especially in land preparation, irrigation, threshing and winnowing operations, further, bullock labour decreased to an even greater extent. According to them there exists a competitive relationship between machine and labour use.

Billing and Singh (1970) has found that adoption of machines and improved technologies in Punjab has resulted in reduction of human labour

employment to the tune of 11.5 per cent compared to that of conventional farming. According to Rukmini Shrinivasan (2012), mechanisation in wheat cultivation has adversely affected employment opportunities of migrant workers in Punjab.

Glenn A. Zepp's (1973) study about mechanical harvesting of tomato Florida, disclosed that growers consider mechanisation as a hedge against labour problems and mechanisation has adversely affected labourers by reducing opportunities, earnings and they are compelled to acquire new job skill to adapt mechanisation process. Further, Rahman M. S et al's (2011) study in three northern districts of Bangladesh during the period of 2009-10, found that family labour is mostly affected by mechanisation.

But, Ashok Maggu (1982) has criticised the conventional belief that tractorisation in developing societies with surplus agricultural labour would lead to greater unemployment. According to him tractorisation leads to replacement of bullock power, not labour power, and it is essential for bringing to fruition productivity increasing innovations in India. According to Rana Kapoor (2010), farm mechanisation replaces animal labour and creates different streams of employment related to handling of farm machines, thus, increases rural employment and leads to rural prosperity. Ghaffar Chaudhry, M., and Zakir Hussain's (1986) has also argued that farm mechanisation will not lead to replace labour but will create more demand for labour. Similarly, the study conducted by NABARD Evaluation Study Series (1995) in Palakkad and Ernakulum districts of Kerala also shows that introduction of tractors and power tillers had resulted in creation of additional employment.

Similarly, Verma, S.R (2008) claimed that farm mechanisation will not lead to reduction in the employment opportunities, but it offers more non-farm employment. Iqbal Hossain, S. M., also argues that that mechanisation will not displace labour or lead to unemployment rather through mechanisation the labour employment particularly for paid employment is enhanced by way of increase in cropped area handling of more products, expansion of marketing infrastructure etc.

According to Reiko Ohki (1983), mechanisation in rice cultivation still require manual labour in the care of crops (fertilization, irrigation, pest control and weeding etc.) and mechanisation has increased the requirement of qualitative and skilled labour for systematic, careful observation, judgement and decision making

Mohammed Ansal Babu (2012), while evaluating the effectiveness and impact of training programme for rural women in operating farm machineries conducted in Angadippuram panchayat of Malappuram district found that training in mechanised farming has helped farm workers in increasing their employment opportunities, income, and standard of living. But, the major problem faced by these trained farm workers is the lack of availability of adequate farm machineries. Similar is the case of “Krishi Sahayi”, the groups of female workers who have got training in farm machine operations from KVK Thavanur, Malappuram. The training in farm mechanisation and farm operations with help of machines has helped them to increase their income, improve their social status and standard of living.

Willis Peterson and Yoav Kislev's (1986) study on the usage mechanical cotton harvester revealed that it is not the new mechanical technology that pushes labour out of agriculture; but it is the higher wages in non-farm occupations that pull labour out of agriculture.

Many studies show that mechanisation helps to efficient and effective use of scarce labour to more productive purposes. According to Oduori M.F (2013), even though, mechanisation is a replacement of labour with machines; it is the replacement of labour with capital also. Developed countries promote farm mechanisation to save the scarce and expensive labour; but in under developed countries, it is to make the farm work less difficult and drudgery so that the increasing attitude of young people to shun farm employment could be curbed and sufficient labour force can be made available for farm work. According to Kenji Kenneth Oshiro (1982), farm mechanisation in Japan helped to release male workers from farm work enabling them to undertake non-farm work and to

increase their household income; in the case of female workers, it enabled them to involve more time up on their family matters.

Almost all studies dealing with mechanisation unanimously converge on the fact that mechanisation reduces the drudgery of farm work. Remesan, R. et al's (2007) and Bini Sam, (2012) study on the usage of different kinds of weeders found that usage of weeder reduced the work load and drudgery of women labourers in rice farming operation and helped in increasing their income and employment opportunities by using women friendly equipment. The study also found that the energy cost of manual weeding is more than that of the rotary weeding. The studies conducted by Tewari et al V.K (2013), Mathias Fru Fonteh (2010), Mohammed Ansal Babu, (2012), Joppich, W. G. (1957) S. Sajeena, et al, have stated that that mechanisation reduces the drudgery of different farm works.

Thus, there are differences in opinion among the experts on the effect of mechanisation upon workers. many argue that mechanisation adversely affect workers, reduce their employment opportunities and wages by replacing labour with machines and many others claim that mechanisation will not adversely affect labourers, instead, it enhances employment opportunities through increasing cropping intensity, area under cultivation and creates additional indirect employment. Further, mechanisation helps in enhancing agricultural productivity, which in turn leads to increase wages and income of workers and consequently their standard of living also. But its effect on the reduction of the drudgery of farm is undisputed.

.2.3.4 Impact of Mechanisation upon Productivity and Income

Studies dealing with mechanisation, through comparative study of mechanised and non-mechanised farming system, have arrived at the conclusion that mechanisation will lead to increase productivity and income.

According to Rajendra Upreti (2010), mechanisation combined with improved crop management through the System of Rice Intensification (SRI) has resulted in increase productivity (55 percent), reduce cost of production (27 percent), decline in labour requirements (60 percent) the time required for completing main rice farming activities (70 percent) and increase in profit (36 percent) in Nepal.

Kok Kam Sang (1983) claimed that, in Malaysia the introduction of appropriate mechanisation technologies has resulted in continuous annual double cropping and high yields.

Rahman, M. S, et al's (2011) study in three northern districts of Bangladesh has found that in mechanised farms labour requirement is less than that of traditional farms; yield of wheat in mechanised farms (2.65 t/ha) is higher than that of (2.57 t/ha) traditional non-mechanised farms and profitability is also higher in such farms.

According to Nongluck Jongsuwat (1980), mechanisation in Thailand paddy cultivation has increased labour productivity by 4.5 per cent per during the study period 1950-75, and an equal rate of growth in land-labour ratio and land productivity. He argues that, the higher level of farm mechanisation helped farmers to cultivate greater amount of land, and the degree of mechanisation was higher in regions where wage rate is more and there is a direct relationship between the labour cost and farm mechanisation.

Similar conclusion has been arrived at by many studies. According to Joppich W. G. (1957), mechanisation leads to increased yield, saves land and helps to add more land under cultivation, and ultimately lead to reduced cost of farming, enhanced income of farmers and increased food supply to the nation. Gyanendra Singh (2008) has stated that farm mechanisation helps in effective utilisation of inputs to increase the productivity of land and labour. Oduori M.F (2013) has also stated that mechanisation reduces drudgery of farm works, enables to complete

farming operations on time, increases labour productivity, make farm more economical, and attract able-bodied young to the farm work.

The study conducted by NABARD Evaluation Study Series (1995) shows that introduction of tractors and power tillers had resulted in increased cropping intensity, incremental income and creation of additional employment.

Ashok Maggu (1982) argues that, tractorisation is essential for bringing to fruition productivity increasing innovations in India. Remesan, R. et al (2011) argued that using mechanical weeding implements reduces cost of weeding by four to eight times than that of hand weeding.

Mathias Fru Fonteh's (2010) study on mechanisation Ghana and Mali found that mechanisation in these countries has led to improve agriculture. According to Aravindan (2001), mechanised farming reduces cost of farming too much and helps to make farming a profitable venture. Verma, S.R. (2008) stated that mechanisation helps to improve crop productivity, enhance income and economic upliftment of rural community by enabling precision and timeliness in farming operations and reducing cost. Similarly, the report in THE HINDU daily, dated, 28-01- 2013, claims that paddy productivity can be increased by using mechanised transplanting, which is a boon to the farmers who faces the challenges of scarcity of labour and ever increasing prices of farm input.

But, Glenn A. Zepp (1973) by evaluating the comparative profitability of hand picking and mechanical harvesting of tomatoes has found that hand picking involves only variable costs while mechanical harvesting involves fixed cost also, and thus, in case of crop failure the farmers has to incur more loss in mechanised farming.

Thus, from the above discussion, it could be concluded that mechanisation reduces labour cost, helps inefficient and effective use of farm inputs, to complete farming operations on time, to increase cropping intensity and brings more area

under farming. All these help to increase farm productivity and income of farmers as well as that of workers and help in the economic development of the country.

2.3.5 Constraints to Mechanisation

Mechanisation, as seen above is a solution to various problems and challenges faced by farmers and workers. It helps them in completing the farm operations on time, reduces dependence on labourers, saves them from the ever increasing wages, reduces costs to cultivation and to increase productivity and profit, and brings peace in their minds. But, it is not a simple and smooth process. The process faces several hindrances, difficulties and challenges. These challenges differ from place to place and time to time and crop to crop.

According to Ahamed P (1993), small size of farm, lack of irrigation, fragmentation, unevenness, low cropping intensity, lack of conveyance facilities, low economic status, lack of co-operation among farmers, lack of awareness or knowledge, workers opposition, negative attitude towards mechanisation, high operation cost, lack of mechanical skill, lack of availability on time, high rent etc are the major constraints in farm mechanisation in Kerala.

Similarly, according to Balachnadr Pillai, G (2004), inadequate custom hire facilities, lack of credit facilities and high capital cost of implements, small farm size, high cost of operations, non-availability of suitable implements and spare parts, inadequate repair facilities, complexity of machine technology, low profitability of rice cultivation, lack of skilled operators lack of awareness opposition from farm labourers etc are the major constraints in farm mechanisation in Kerala.

Experiences of KVK, “Promotion of Farm Mechanisation in Malappuram District Through Women Empowerment” shows that predominance of small and marginal farms, fragmentation of land holdings, non-availability of suitable equipments, lack of trained farm machine operators, lack of training facilities for operating farm machines, insufficiency of private and public custom hire services,

and inadequacy of repairs and service facilities are the major constraints in mechanisation.

According to Kannan, K. P (1998), Trade unions could prevent mechanisation and technological improvement in the existing production milieu to protect the current employment, better working conditions and highest wage rates among the Indian states.

According to Das, F.C (2012), though a lot of improved farm implements and machinery have been designed and developed, very few of these are used by farmers due to lack of awareness, lack of availability of machines, limited usage of farm implements, lack of irrigation, small and fragmented holdings, lack of accessibility, poor road and infra structure facilities, lack of credit facilities, lack of proper custom hire facilities etc.

Similarly, according to Rana Kapoor (2010), farm mechanisation in India has not reached in its optimum level due to highly diverse farm size and soil types, seasonal nature and climatic conditions, lack of irrigation facilities, lack of extension services and knowledge to select appropriate farm machinery and lack of capital. According to Joppich W. G. (1957), in India, where majority of farmer are small holders farm machines are beyond of their financial reach.

According to Gyanendra Singh (2008), lack of reliability and quality of agricultural machinery, lack of availability of products, spare parts and after sales-services in close proximity, lack of availability of bank credit, and lack of effective consumer protection in rural areas for redressal of cases of product problems are the major constraints farm mechanisation faced in the present days.

Akimi Fujimoto (1974), in his study of paddy cultivation in Malaysia found that illiteracy is a major constraint in mechanisation and modernisation of farming activities. According to Rasouli, F.et al (2009), small farm size and fragmentation of holdings are the main constraints on farm mechanization of sunflower farming

in Iran. Rahman M. S et al's study in three northern districts of Bangladesh shows that high price of power tiller parts is the major problems of mechanisation.

2.3.6 Requirements for Improving Mechanisation

According to Mathias Fru Fonteh's (2010), for effective implementation of mechanisation, there should be a holistic approach with the involvement of the various stakeholders both inside and outside the agricultural sector.

According to Kok Kam Sang (2011), adoption of mechanisation technology requires the close cooperation between machinery suppliers or operators and large-scale paddy cultivation can be made profitable through the combination of efficient farm management system, mechanisation and proper farm infrastructure design.

According to Tewari V.K. et al (2013), for effective implementation of mechanisation programme, proper mechanisation planning that considers divergent aspects of mechanisation, its impact on agricultural production, cost of cultivation, deployment of animate and mechanical power and other economic advantage is required.

According to Das, F.C. (2012), training and extension activities, promotion and encouragement of private entrepreneurs and NGOs in manufacture and provision service of farm machines, creation proper financing and insurance facilities etc., are essential for success of farm mechanisation.

According to Bini Sam (2012), most of the technologies developed for agricultural operations are for large scale farming and gender biased, that can be operated by men only. However, at present more and more women labourers are coming forward for undertaking mechanised farming operations, there is a need to consider the ergonomic aspect of the women folk while designing the machines, and thus, there is an urgent need for re-designing the machines to suit to the small farmers as well as the ergonomic aspect of women .

2.3.7 Negative Impact of Mechanisation

Prof. Ping Chang (2007) argues that mechanisation and intensification of the traditional tillage-based system of agriculture leads to several adverse impacts on soil systems. According to him, tillage leave the soil bare when it is pulverised excessively and exposed to wind and rain, most of the rainwater then runs off the land, carrying precious topsoil with it and results in significant soil erosion and degradation. Crop yields in these soils are lower than those in protected soils.

Spoor, G., et al (2001) argues that extensive farm mechanisation and soil-handling practices in recent years have placed increasing pressure on the soil environment, with soil structural problems tending to become more severe and deep-seated. The previous approaches to soil management, based primarily on reclamation methods are rapidly becoming inappropriate, and thus, require change towards more preventive management, which require combined effort of farmers, manufacturers and researchers.

2.4 Farm Employment and Wages Rates

Paddy cultivation is a labour intensive and seasonal activity. In addition to the climatic and other requirements, its success depends upon the availability cheap labour to complete various farm processes on time. Wages form a major part of cost of cultivation and farmers require a fair return on their investment and efforts. Experts recommend mechanisation as a solution to the scarcity of farm labourers and escalating wage rates. There exists a positive correlation between employment, general wage level and level of mechanisation. In this part, we discuss some important works on employment and wage rates in India.

Rajesh Shukla and Ishan Bakshi (2011), based on analysis of NSS data from the employment and unemployment surveys, claimed that there exists wage-based inequality, inter-state imbalances, and the inequality is worsening in many states. According to them, the rural wages in the South Indian states have grown at a higher rate than that of the remaining states and a there is a negative correlation between growth rate of wages and poverty.

Santosh Mehrotra et al, (2013), stated that the latest data relating to employment and unemployment (NSSO 2011-12) shows a reversal of joblessness with a significant increase in non-agricultural employment. According to them, during the period 2005-2010, about 14 million workers have shifted from agriculture to services and industry; an absolute decline in the number of workers in agriculture for the first time in the history of independent India.

According to Vinoj Abraham (2013), the reason for decline in labour participation of women in India is the withdrawal of women from paid labour and their confinement to unpaid domestic labour due to upward social mobility due to growing income.

Similar opinion is also expressed by Mridul Eapen (2004). According to her, withdrawal of women from the labour force is more or less voluntary, at the same time agriculture related activities continue to be women's dominant occupation and women in Kerala enjoy the highest rates of wages among Indian states.

Thresia, C.U's (2004) study of women agricultural workers in Kodumba village of Palakkad district shows that women agricultural workers do not get sufficient work and they remain unemployed or underemployed for a major part of the year, whose is the major source of income is farm wages. Thus, most of them need to seek alternate employment for their livelihood.

The same observation is also made by Nisha N, (2008). According to her, women labourers in Palakkad district have to remain unemployed for more than one-half of the year and during these days, many workers find employment in MNREGP, others in construction activities and still some others migrate to the neighbouring villages for employment.

In his study on the labour market conditions, practices and agrarian relationships that were prevalent in the Kuttanadu region of Kerala, Shaji Francis (1990) accounted supply side factors for the problem of shortage of farm labourers in the region.

But, according to Sukumaran Nair M.K. (1999), both demand and supply side factors are responsible for the paradoxical situation i.e., severe shortage of labourers in the midst mass unemployment and high wage rates. Similarly, Thomas P.M (1999), has also explained the various demand and supply factors that led to widen the gap between demand and supply of agricultural labour in Kerala and increase in wage rates.

According to Sanjeeb Mukherjee (2011), schemes like Mahatma Gandhi National Rural Employment Guarantee Act, has led to labour scarcity, increase in the wage rates in rural India and decline in the margins of farmers compelling farmers to mechanise almost all farming operations, and to improve turnover of farm machine manufacturers.

Erlend Berg et al's (2012) study on the effects of the National Rural Employment Guarantee (NREG) on agricultural wages found that NREG programme has led to boost rural agricultural wages in India.

In a similar study by Nair K. N., et al (2009) in three Grama Panchayats of Kasaragod District, have found that majority of the workers in NREGP are young who are either unskilled or are unwilling to work in farm due to low wages or drudgery and the programme has adversely affected availability of farm workers to complete operations on time.

Leela Gulati (1976) on the basis of data drawn from various rounds of National sample survey concluded that in India, there exist different form of wage and job discriminations against women and due to this an average female farm worker earns less than half of what an average male works earns during the year.

According to Jose A.V (1978), while studying the wage rates, in addition to the demand and market factors, factors like caste system, system of bonded labour, indebtedness etc., shall also be considered.

According to Yoshifumi Usami (2011), real wage rates (at 1986–87 prices) for agricultural labour have increased substantially since 2007-08, but the period, 1999–2007

had witnessed a stagnation or slight declining for major farm operations, which according to him, is “the period in which the Indian economy as a whole grew rapidly was a period that was extremely unfavourable for agricultural labourers”.

Rajula Shanthi, T. (2009) evaluated the comparative efficiency of female workers in Kollam district of Kerala and Kanyakumari district of Tamil Nadu. The study revealed significant difference between the women agricultural labourers of Kerala and Tamil Nadu with respect to their overall labour efficiency level. According to her, the difference was mainly due to labour attachment practices and increasing demand for non-agricultural works.

2.5 Trade Unionism in Kerala

Strong and militant trade unionism is an important feature of the state of Kerala. Several studies dealing with origin, growth and impact of the trade unions and unionism up on the socio-economic and political conditions of Kerala have been made. Some of the important studies are reviewed here.

Jose A. V (1980) has provided a historical perspective on the agricultural labour class formation in the state of Kerala by analysing various socio-economic and political factors that led to the far reaching changes in agricultural land and labour relations and the rise of casual labour within agriculture. According to him, these trade union movements and their collective bargaining power have played a very crucial role in improving the terms and conditions of employment of agricultural labourers in the state.

According to Thampy M.M (1997), Kerala’s labour is highly organised; in the past industrial disputes were rampant and industrial sector was highly prone to conflicts. Trade unionism has resulted in higher wages without increasing, which together lack of industrial peace has created a 'phobia' or ‘high psychic cost’ among the investors, which discourage fresh investment and for increased shifting of industrial units to the neighbouring states.

But, according to Shaji Francis's (1990), the lethargy in labour movements and declining trend in the trade union militancy in Kuttanadu region of Kerala. According to him, the reason for such a demeanour of trade unions is the interest of a class of small peasants who have emerged from the ranks of the labourers themselves.

Kannan, K.P., (1998) has critically evaluated the political economy of labour and development by examining the roles played by labour unions, state, and capital in the past. According to him, mighty bargaining power and access to the governmental policy formulating mechanism due to high level mobilisation and organisation, trade unions could prevent mechanisation and technological improvement in the existing production milieu to protect the current employment, better working conditions and highest wage rates among the Indian states. This resulted in far reaching changes in the cropping pattern; shifting from high labour intensive rice cultivation to low-labour absorbing crops like coconut, areca nut, rubber etc and consequent, reduction in the area under paddy. He also added that, the short sighted strategy adopted by trade unions in Kerala has adversely affected its development process, not only in agriculture but also in industry and other sectors also.

Pushpangadan K (1992) attempted to evaluate the impact of trade union upon the agricultural wage rates in Kerala and explained reasons for increase in the land yield in the wake of stagnation in paddy yield. According to him, even though wage rate is determined by the demand-supply forces, in Kerala union is the most influencing factor of the wage rate; the wage rate increases at a higher rate than that of productivity, making labour the most expensive input.

According to Jose A.V (1976), emergence of militant and strong trade unionism among the agricultural labourers in Kuttanadu and Palakkad region can be linked to the institutional and technological changes, including mechanisation associated with the penetration of capitalism into the traditional agriculture, which lead to differentiation and polarisation among the class forces. According to him,

these changes led to the deterioration of income and employment opportunities among the landless labourers and undermined the traditional labour relations, which along with the able and pioneering and leaders and political support led to the emergence of trade unions in Kuttanadu in early forties and in Palakkad in the mid-sixties.

Narayanan N.C. (2003) based on study in Kuttanadu, analysed the political dimensions of “save rice filed agitation” conducted by trade unions in Kerala and its impact on land use argued that the erstwhile conflicting interests of farmer and labour has come to an end due to the socio-economic transformations that have taken place in the society and such struggles have become ‘mostly self-serving agendas for certain political institutions to play-out their historical roles in the society.

In addition to these, several other studies have made on the subject trade unionism, trade union activism, impact of trade unionism on the socio-economic development of the state.

Thus, from the discussion and review of literatures, it can be seen that several studies have been made both in regional, national and international level that deals with mechanisation and its different aspects. But a comprehensive study that touches the attitude of farmers, labourers and trade union has not been yet made. This study focuses on the attitude of the inevitable groups of stakeholders of rice farming and touches almost all aspects of faming from the view point of different disciplines. This is the unique feature of this study, and it examines the changing and emerging patterns of recruitment process, labour relations, compensation, wage and job satisfaction and the concern of labourers, farmers and unions in the unpredictable changes that have taken place in the labour market of Kerala.

Chapter 3

METHODOLOGY

In accordance with the objectives, the methodology followed in the study is summarised under the following heads.

3.1 Data Sources

Data is the foundation upon which the entire research structure is constructed. The study is descriptive in design and it has made use of both primary and secondary data.

3.1.1. Primary Data

The study describes the present attitude of different stakeholders of paddy cultivation towards farm mechanisation. The universe of the study consists of the farmers, labourers and trade union leaders who are directly involved in paddy cultivation. They are the major sources of primary data. The unit of study is the individual farmer, worker and the union leader.

3.1.2 Secondary Data

In addition to the primary data, the study has made use of several secondary data related to the trends in the area under paddy cultivation, paddy production, wage rates for different categories of farm workers, prices of different inputs, price of paddy etc. The data sources are, Economic Reviews of Government of Kerala, Indian Labour Journal, newspapers, magazines and journals, previous research studies – both published and unpublished, and other related materials available from different sources, including internet. Records of Agricultural Offices, both at panchayat level and district level were used.

3.2 Locale of the Study

The study was conducted in two grama panchayats of Kerala - the Nannamukku Panchayat of Malappuram district and Kuzhalmannam (Coyalmannom) Panchayat of Palakkad district. Palakkad is famous for paddy cultivation and is known as the 'granary of Kerala'. Among the districts in Kerala, Palakkad stands first in area under paddy and paddy production. Similarly, though Malappuram stands behind in paddy cultivation, the area under paddy and paddy production has increased in Malappuram District. (Agricultural Statistics 2011, Department of Economics and Statistics, Govt. of Kerala).

From these two districts, two development blocks (one block from each district) were selected on the basis of area under paddy cultivation. Thus, Kuzhalmannam block from Palakkad District and Perumpadappu block from Malappuram District were selected. From these blocks, again on the basis of area, one grama panchayat each were selected. Thus, Nannamukku grama panchayat from Perumpadappu block and Kuzhalmannam grama panchayat from Kuzhalmannam block were selected for study. Both these panchayats stand top both in area under paddy cultivation and paddy production as per the Agricultural Statistics (2011) Government of Kerala. In the year 2012-13 also, these grama panchayats hold the first place in area under paddy and paddy production in respective districts. A short profile of these two grama panchayats is given below.

3.2.1 Nannamukku Panchayat

Nannamukku Panchayat lies in the southernmost part of Malappuram district. The Panchayat is situated in Perumpadappu Block of Ponnani Taluk and is famous for paddy cultivation and paddy production. Paddy fields in this panchayat are part of Thrissur Kole land. Productivity is one of the highest in Kerala. In 2012-13, Krishi Bhavan (Agriculture Office) belonging to this panchayat has got award for producing largest quantity of rice in the district in the year 2012-13. In this panchayat, all possible farm operations are mechanised and the farmers are interested in innovative methods. There are four tractors and 15 power tillers in this panchayat.

As per 2001 census (the latest data available at present), the Panchayat had a total population of 26699 persons, with 12470 males and 14199 females. The panchayat has total workers of 6734 persons. Of these 5394 were males and 1340 were females. Out of the total workers 4300 male workers and 820 females were main (5120 persons) workers and 1614 were marginal workers. Among the marginal workers 1094 were males and 520 were females. Further, there were 595 main cultivators, of these 481 were males and 114 were females. Similarly, there were 133 marginal farmers including 91 males and 42 females. The number of marginal agricultural workers in this panchayat as per 2001 census was 538 persons, with 375 males and 163 females. There were 415, marginal agricultural labourers. Out of them, 231 were males and 184 were females.

However, records of Agriculture Office (Krishi Bhavan) show that in the year 2012-13, there were 5172 cultivators in Nannamukku panchayat, of these 4600 were small, 560 were marginal and 12 were large cultivators.

3.2.1.2 Places of Data Collection

Primary data required for the study were collected from farmers and labourers of different Kole Padavu (Padashekhara samithis). Out of the 16 Kole padavu committees five major Kole padavu were selected for the study. These Kole Padavu were (i). Thuruthummal Kole Padavu (ii) Neelayil Kole Padavu (iii) Kolothumpadam Kole padavu (iv) Kadukatty Kole padavu and (v) Koolanpadavu.

3.2.2 Kuzhalmannam Panchayat

Kuzhalmannam panchayat lies in the eastern side of Palakkad District. Agriculture, especially, paddy cultivation is the major economic activity of the people. In the earlier days, agriculture was carried on depending upon the monsoons. But, water availability through irrigation facilities of Malampuzha dam has helped to reduce the dependence on climate and increase in paddy production. In addition to rice, coconut, banana, vegetables and other different types of crops are also cultivated. There were 25292 persons (12311 males and 12981 females) in this panchayat as per

the 2001 census. The records Agriculture Office (Krishi Bhavan) of the panchayat shows that there are 75 large farmers, 1424 marginal farmers and 828 small farmers.

3.2.2.1 Area under Paddy Cultivation

Total area of the panchayat is 30.62 sq kilometres. Of these 700 hectares of land is barren or uncultivable and 886 hectares of land is under other crops. As mentioned, paddy cultivation is the important economic activity of people of this panchayat. Two crops (viripu and mundakan) of rice are grown in this panchayat. Rice productivity is comparatively higher in this district and average productivity per hectare is 4800 kg.

3.2.2.2 Places of data collection

For data collection, five different regions or places having the largest area under paddy cultivation were selected on the basis of information obtained from Agriculture Office of Kuzhalmannam. These five places are (i). Kannanur, (ii). Kalappetty (iii) Kollyamkinar (iv) Poopullikad and (v) Manjadi. For these five different places 10 workers and 10 farmers were taken for the study.

3.3 Sampling

The study identified three groups of people – the workers, farmers and trade union leaders, for primary data collection. Since it was very difficult to collect data from all the individuals, it was decided to select a sample of 50 labourers and 50 framers from each of the two grama panchayats and 10 trade union leaders.

For selecting the sample of labourers and farmers, multi-stage sampling technique was employed. In the first stage, two districts (Palakkad and Malappuram) were selected. In the second stage, two development blocks (one-each from the districts – Kuzhalmannam from Palakkad and Perumpadappu from Malappuram) were selected on the basis of area under paddy cultivation. In the third stage, two grama panchayats (Kuzhalmannam panchayat from Kuzhalmannam Block and Nannamukku panchayat from Perupadappu Block) were selected on the basis of area under paddy

cultivation. In the fourth stage, these grama panchayats were divided into different regions and from these regions five regions were again selected as the study area. From each of these regions, 10 farmers and 10 workers were taken as samples for the study. Thus, the study consists of 50 labourers and 50 farmers from each of the grama panchayats totalling to 100 farmers and 100 workers.

Farmers for the study, irrespective of their sex, were approached on the basis of names obtained from the office bearers of Kole padavu / padashekahram committees, who can provide sufficient information regarding farming and mechanisation. However, for interviewing labourers convenience of the interviewer was the major concern. Further, it was difficult to give equal importance to male and female labourers, and since majority of the paddy farm workers are females, 35 female workers and 15 male workers were interviewed from each of the panchayat for the study.

For the purpose of interviewing trade union leaders, importance was given to the unions, which are active in the respective panchayats. Thus, special consideration was given to Kerala State Karshaka Thozilali Union (KSKTU). In this, case their local, block/district level and state level leaders were interviewed. However in the case of other unions, KSKTF and DKTF either state or regional level leaders were interviewed who were identified through 'snow-ball' sampling technique. Six leaders of KSKTU and two each from KSKTF and DKTF were interviewed for the study.

3.4 Tools for Data Collection

For the purpose collecting data pre-tested, structured interview schedules were used. Separate interview schedules were constructed for labourers and farmers. The schedules contained questions to elicit responses to meet the requirements and objectives of the study. (see Appendix)

In order to evaluate the attitude of respondents towards farm mechanisation, Likerts' Summative Scaling Technique with seven point scales was employed.

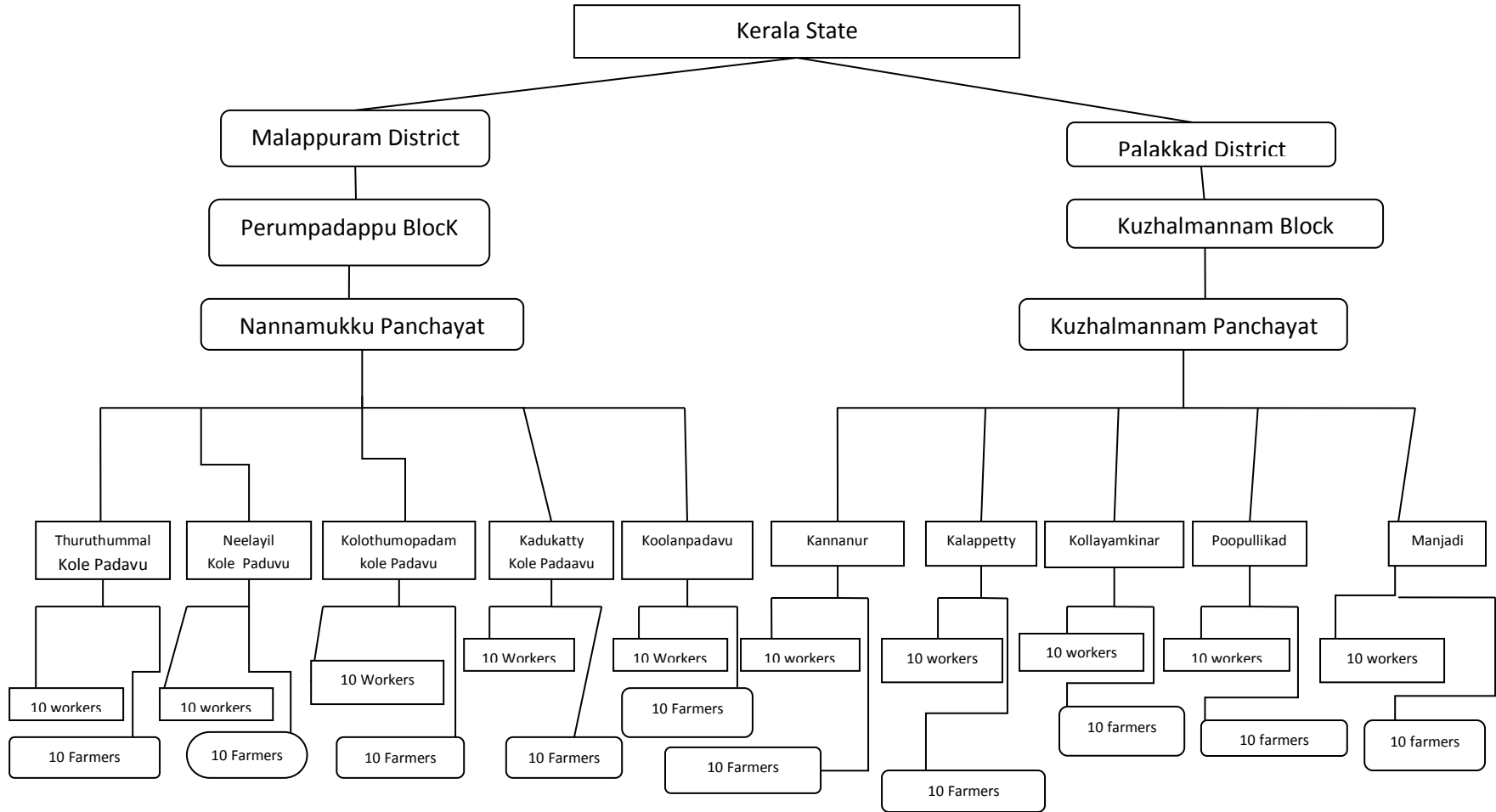
However, for collecting data from trade union leaders, open-ended interview schedules were used.

3.5 Tools for Analysis and Interpretation

For the purpose of interpretation and drawing meaningful conclusions, the data are analysed by using various mathematical and statistical tools and techniques. Since, simple mathematical and statistical tools like, percentages, ratios, averages, standard deviations, correlation and regression etc. are found to be sufficient for analytical purposes, they are extensively used.

For measuring attitudes, seven point scales with values varying from one to seven was used. In these statements, for the most favourable response was given the value of seven and least favourable response was given the value of one. For the purpose of measuring attitude of different groups of respondents, mean score values, standard deviation and t- Test for Equality of Means are used. For the purpose of analysis of data statistical packages like Microsoft Excel and “SPSS” are used.

Fig. 3.1 Diagrammatic Representation of Sample Design



Chapter 4

PADDY CULTIVATION IN KERALA – MATTERS OF CONCERN

Rice is the staple food of Kerala. Rice cultivation is a traditional occupation and one of the major economic activities of Keralites. Lush green paddy fields can be seen in almost all villages of the state. Rice accounts for nearly 95 percent of the total amount of food grains produced within the State (The Hindu, 27-06-2012). It is extensively cultivated in all the districts of the Kerala having a unique three-season pattern viz autumn or Kharif crop (April/May to September/October known as), winter or Rabi crop (September / October to December/January known as) and summer crop (December/ /January to March/April). Being a major source of employment and food for both human beings and animals, rice occupies a prominent place in the society and economy of the state. In this chapter we discuss, the declining area of rice cultivation and production, agricultural wage rates and agricultural workers union, which are of the serious matters of concern in mechanisation and paddy cultivation in Kerala.

4. 1 Area under Paddy Cultivation

Even though rice cultivation occupies prominent place in society and economy of Kerala, it is in a depressed state and paddy farms are fast disappearing from the state. The area under paddy cultivation and production is declining continuously year after year. It is a major concern in a ‘food deficient’ state like Kerala. Efforts to sustain paddy cultivation are proving futile. Kerala is the only state that has witnessed area under paddy farming falling continuously. The following table and figure (Table 4.1 and Fig.iv.i) shows the declining trend of area under paddy and paddy production in Kerala.

Table 4.1
Area under Paddy, Production and Productivity of Paddy in Kerala

Years	Area (Lakh ha)	Production (Lakh tones)	Productivity (Kg)
1975-76	8.85	13.65	1540
1990-91	5.59	10.87	1940
2001-02	3.22	7.03	2182
2010-11	2.13	5.23	2452
2011-12	2.08	5.69	2733

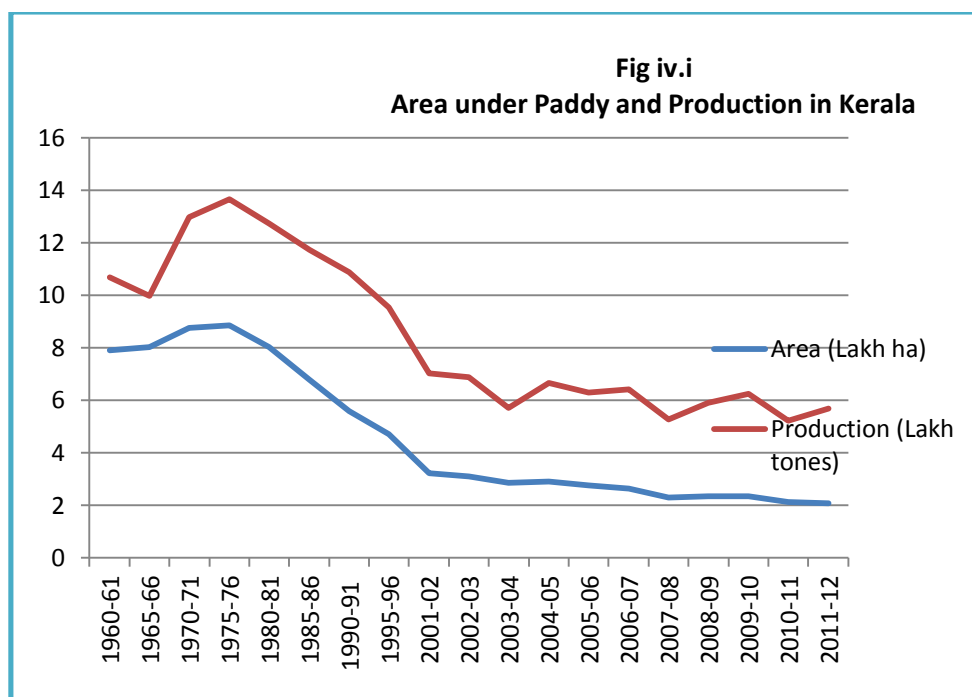
Source: (1). 1975-76 to 2009-10 Leena Kumari, S. Status Paper on Rice in Kerala, Rice Knowledge Management Portal (RKMP) <http://www.rkmp.co.in>

(2). 2010 -11 and 2011-12 Economic Review 2013.

The above table shows that total area under paddy cultivation in Kerala, in the year 1975-76, the year in which the area under paddy cultivation recorded the highest figure. Since then the area started to decline; in the year 1990-91 the area under paddy cultivation was 5.59 lakh hectares or a decline of 37 percent over that of 1975-76. In the year 2001-02 the area further declined to 3.22 lakh hectares or, it was only 36 percent of the area of 1975-76. Thus, within a period of 25 years, the area under paddy cultivation in the state declined by 64 percent. The area under cultivation of paddy in the year 2010-11 was only 2.13 lakh hectares, which accounts to 24 percent of the area of 1975-7. In the year 2011-12 also the area under cultivation further declined to mere 2.08 hectares, which accounts for 23 percent of the area under cultivation in the year 1975-76. Thus, within a period of less than 40 years of time, the area under paddy cultivation has declined by 6.67 lakh hectares or there was more than 75 percent decline in the area. On an average 0.19 lakh hectares per year was shifted from paddy cultivation for other purposes.

There are several reasons for the declining trend in the area of rice cultivation. The major cause is the lack of profitability of rice cultivation as an occupation. Farmers find it difficult to balance the cost of cultivation of paddy and revenue derived there from. Further, increased labour cost, lack of availability of workers on time, severe climatic variations, increased demand for land for housing and commercial purpose and consequent increase in the price of land, emergence of real estate mafia the negative attitude of the young generation towards farming and they prefer to put the land barren than cultivating it, inability to mechanise

farm operations due to small size and fragmented holdings etc. However, in the in 1970s and 80s it was a strategy of farmers to resist workers union to shift away from labour intensive crop rice to other less labour requiring crops like tapioca, rubber, areca nut etc. (Narayanan,2002, p. 22). Whatever, be the reasons, the decline in the area cultivated is a serious matter of concern.



4. 2 Paddy Production in Kerala

As mentioned, rice is the staple food of Keralites and no remarkable changes have taken place in the food habits of Keralites. Keralites annually require more than more than 40 lakh tonnes of rice (Nair, 2004; Economic Review 2010) to feed more than 33.38 million people. Kerala has a long history of food grains deficit, especially in rice. In 1956, the State of Kerala was an acutely food deficit region with 7.59 lakh hectares of land under food crops. The per capita availability of rice was only 182 grams against the minimum requirement of 330 grams. Deficit in rice has increased steadily in the State from 45 per cent to 85 per cent between 1957 and 2008. At present the state is producing only less than 15 per cent of its rice requirements and more than 80 percent the requirements are imported from other states (Economic Review 2010). This frequently creates wide

variation in supply and prices of rice and serious problems to the state. Further, area under paddy cultivation is declining continuously widening the gulf between demand and production of food grains.

The table and figure given in the previous pages (Table 4.1 and Fig iv.i) also highlight the total paddy production in the state during the period 1975-76 to 2011-12. As the table shows, the quantity of paddy production in the year 1975-76 was 13.65 lakh tones. Then accompanied by the decline in the area of area under paddy cultivation the quantity also declined. In the year 1990-91 the quantity of production was 10.87 tones. The rate of decline in production began to speed up from the year 1990-91 onwards. In 2001-02 the total production was declined to 7.03 lakh tones or a decline of 6.62 lakh tones (48 percent) when compared to the production of the year 1975-76. In the year 2011-12, the quantity of paddy production in the state was only 5.69 tons or 42 percent of the production of the year 1975-76. Within the 36 years, the quantity of production has declined by 7.96 lakh tones or by 58 percent, marking an average annual decline of 0.22 lakh tones. It is important to note that the decline takes place in a state, which is not self-sufficient in food; widening the gap between production of rice and demand for rice leading to increase the external dependence for food grains.

Now it is necessary to examine the reasons for the declining trend in area under paddy cultivation and paddy production. The major reason for the decline in the area under rice paddy cultivation and rice production is the uneconomical nature of paddy farming and various other problems faced by the paddy farmers. Several studies (George and Mukherjee 1986; Kannan and Pushpangadan 1988, Pushpangadan 1994, Kannan K.P 1998, 2000, Harilal K.N. 2000, Nayayanan N.C 2003; Nikhil Raj and Azeez PA 2009; S. Leena Kumari 2011, Jayan Jose Thomas, 2011, etc) have explained the reasons for decline in the area under paddy cultivation. Accordingly, increased labour requirement for paddy cultivation, severe labour shortage during the peak seasons and inability to complete farm operations on time, high wage rates, increase in the prices of farm inputs, low productivity marketing problems and low price for paddy etc make paddy farming less profitable or uneconomical. In addition to these, climatic variation, high incidence of pests and diseases, lack of irrigation facilities in certain areas, increase

in the prices of other crops, increase in land prices and conversion of paddy fields for other crops and commercial activities etc are the major reasons cited by these studies. Thus, there are several socio-economic reasons behind the decline area under paddy cultivation and paddy production in Kerala.

4.3 Agricultural Wage Rates in Kerala

Rice cultivation is labour intensive and around 50 - 70 percent of the total cost of cultivation is the labour cost. From nursery preparation to harvesting and post-harvest operations, paddy cultivation requires large number of both skilled and unskilled labourers. For sowing, ploughing, pesticide application etc. require skilled labourers. Lack of availability of labourers on time and high wage rates are the two important problems faced by the rice cultivators of Kerala and a major reason for decline in the area under paddy cultivation, changes in crop patterns and reduction in the paddy production.

Severe scarcity of farm and manual labourers in the midst of mass unemployment and high wage rates is a paradoxical feature of the labour market of Kerala (Sukumaran Nair MK, 1999). Many experts (Shaji Francis, 1990; Kannan K.P, 1998; Jayan Thomas 2011) have accounted socio-economic, political and education developments that have taken place during the post-independence era, especially, after the formation of state for such a paradoxical situation in the labour market of Kerala.

In addition to the scarcity of labourers, another important problem is the high wage rates of farm workers. Amongst states, Kerala had the highest average daily wage rates in almost all the occupations (Labour Bureau, 2011). Strong unionisation and consequent collective bargaining power in Kerala is considered to be the most important factor for this highest wages (Vyas, 1979, Nair, 1982: Kannan KP 1988, Jose AV 1990, Krishna T.N. 1991, Pushpangadan K, 1992). According to Krishnan (1991), in addition to the trade unions effect, the perceived notions regarding the standard of living, social stigma on those who work for wages lower than the prevailing rates, minimum wage legislation, and the constraints that the nature of work and the labour market institutions put on

employers, etc are also the reasons for higher wages and scarcity of labour. Further, unionisation has also helped in eliminating regional imbalances in wages or to reduce regional wage differentials (Nair, 1982). Paddy cultivation, as mentioned, is a labour intensive and more than 86 percent of the labour requirement is met through hired labour. Thus wage rate becomes a decisive factor in paddy cultivation.

4.3.1 Average Wage Rates of Male Farm Workers in Kerala

When compared to other states in India, the wage rates of Kerala is two to three times more than that of other states in India. Further, the wage rate is also growing at a faster rate in Kerala. In this part a comparison of wage rates of Kerala is compared with that of the national level.

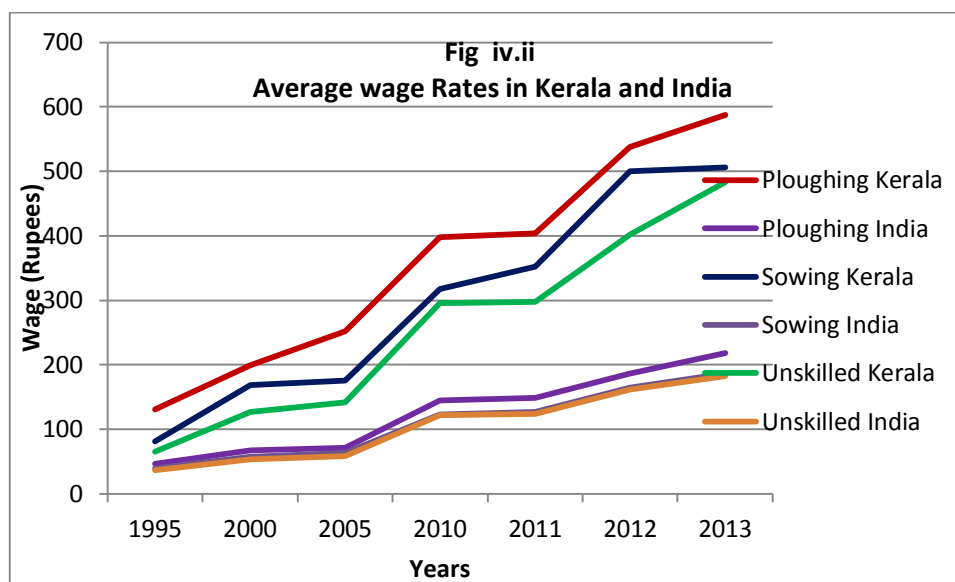
Table 4.2
Average Wage Rates Male Farm Workers in Kerala and All India

Year	Ploughing		Sowing		Unskilled	
	Kerala	India	Kerala	India	Kerala	India
1995	130.34	46.69	81.29	39.26	64.80	36.08
2000	199.60	66.75	168.47	57.09	126.94	53.04
2005	252.21	71.58	175.84	63.17	141.50	58.04
2010	397.58	144.78	317.81	123.02	295.50	121.84
2011	403.76	148.16	352.53	127.21	298.00	124.09
2012	537.67	186.48	500.00	164.28	402.00	161.07
2013	587.87	218.41	505.60	186.71	482.89	182.53

Source: Yoshifumi Usami, collected and compiled by him from Indian Labour Journals, used by permission

The above table shows the money wages of different categories of male farm workers for various years. From Table 4.2 and chart given in the next page (Fig iv.ii), it can be understood that in the year 1995, a worker engaged in ploughing earned wages of Rs. 130 per day, while the All India average was only Rs. 47, which was Rs. 83 less than that of the wage rate of Kerala. In other words, the wage rate of Kerala was 2.77 times higher than that of the national average. In the year 2000, the difference between the wage rates was Rs. 133 and in 2005, it was Rs. 181. In the year 2010, a worker in Kerala received Rs. 398 which was Rs. 252 more than or 2.74 times higher than that of the national average. The difference between the wage rates of Kerala for ploughing and the national average

widened further in the years 2011 and 2012. In the year 2013, average money wages for ploughing in Kerala is Rs. 588, while the national average is only 218. In this year, the wage rate of Kerala is Rs. 370 more or 2.7 times higher than that of All India average. Thus it could be rightly said that wage rate in Kerala for ploughing operation is higher among other Indian states.



However, when we consider growth rate of wages ploughers workers, All India average shows a slight higher rate of growth, 364 percent during the period 1995-2013, and that of Kerala is only 352 percent. Average annual growth at the national level is 20.2 and in Kerala it is 19.55. This is due to the fact that, ploughing as a farm job has been vanished, and at present tractors and power tillers are extensively used for ploughing. Even though the growth rate of wages for ploughing in Kerala is lower, a workers based on national level average has to work for more than two days to earn one day's wages of a worker in Kerala.

The table and diagram (Table 4.2 and Fig iv.ii) also show the wage rates of male workers engaged on sowing. As per the table, in the year 1995 a male worker engaged in sowing received Rs. 81 per day as wages, but the national level average was only Rs. 39, a difference of Rs.42 or in Kerala's wage rate was 2.08 times higher than that of the national level average. In the year 2000, the difference increased to Rs.111, in the year 2005 it again increased to Rs. 113 and in the year

2010 the difference further increased to Rs.195. In the year 2012, the wage rate in Kerala was Rs. 336 more than that of the national average. In the year 2013, wage rate of male workers engaged in sowing earned Rs. 506 while the national average is only 187. In this year, the wage rate of Kerala was Rs.318 more or 2.7 times higher than that of the All India average. Thus, in the case of workers engaged in sowing, workers in Kerala earned much more than that at the national level. The wage rate of Kerala has increased by 525 percent during the period 1995-2013, marking an annual increase of 29 percent while the growth rate at the national level was only 379 percent and average annual growth rate was only 21 percent.

As per the above table and figure (Table 4.2 and Fig iv.ii), wage rate of unskilled male far workers was Rs.65 per day during the year 1995 and that of the national level average was Rs. 36. In 1995 an unskilled worker in Kerala earned Rs.29 more than that of the All India average and the wage rate was 1.81 time higher than that of the country level average. In the year 2000 wages in the state was Rs.73 more (2.4 times) more than that of the country level average, in the year 2005 the difference increased to Rs. 84 ((2.44 times higher), in 2010 the difference further increased to 174 (2.43 times higher) and the difference again increased to Rs. 241 in the year 2012. During the year 2103, average wage rate of unskilled male workers in Kerala was Rs. 483 and that of the national level average was 183 only. An unskilled male worker in Kerala earned wages 2.64 times higher than that at the All India average.

When, the growth rate of wages of unskilled workers during the period under study is analysed, it can be observed that the wage rates in Kerala has increased by 643 percent with an average annual growth rate of 36 percent. At the national level the growth rate of wages for this category of workers was only 408 percent and the average annual growth rate was only 23 percent. Thus, it can be said that the wage rate for unskilled male workers also has increased at a higher rate in Kerala when compared to that of the national average growth rate.

4.3.2 Average Wage Rates of Female Farm Workers in Kerala

Most of the paddy farm operations are performed by female workers. They perform the labour intensive operations of rice cultivation. Operations like transplanting, weeding, harvesting and post-harvesting operations are mainly performed by the female workers. This part discusses the money wage rates of female paddy farm workers.

Table 4.3
Average Wages of Different Categories of
Female Farm Workers in Kerala and All India

Year	Weeding		Transplanting		Harvesting		Unskilled	
	Kerala	India	Kerala	India	Kerala	India	Kerala	India
1995	46.93	29.18	47.28	29.87	45.58	30.92	46.36	27.64
2000	103.93	41.18	94.37	44.71	86.09	44.48	86.36	39.41
2005	102.33	44.92	98.94	48.13	95.25	47.10	99.55	43.64
2010	173.14	95.92	175.69	103.71	181.40	101.95	209.50	92.87
2011	177.48	97.39	176.85	107.94	181.40	102.76	209.50	94.89
2012	278.30	130.83	260.22	133.85	251.98	135.68	266.00	123.25
2013	333.96	151.11	316.23	158.40	298.75	158.08	344.00	138.84

Source: Yoshifumi Usami, collected and compiled by him from Indian labour Journals, used by permission

As per the table (Table 4.3), money wages of female workers engaged in weeding earned Rs. 47 per day in Kerala but the national average was only Rs. 29. This shows the wage rate of Kerala is Rs. 21 more or 1.62 times higher than that of the national average. In 2000, the difference in the wage rates increased to Rs. 63; while it decreased to Rs. 57 in 2005. In 2005 the wage rate of Kerala was Rupees 173 and the all India average was Rs. 96, showing a difference of Rs. 77. This difference increased to Rs. 148 in the year 2012. In the year 2013 the wage rates of female workers in weeding earned to the tune of Rs.334 per day in Kerala while the national level average was only Rs. 151. There was a difference of Rs 183 in the earnings per day. In this year, female workers' earning engaged in weeding was 2.21 times higher than that of the national average. This shows that the wage rate for weeding is much higher in Kerala, when compare to that of the national average. The growth rate of wages of this category of workers during 1995-2003 in Kerala was 611 percent and the average annual growth rate was 34 percent. The growth rate at the national level was only 421 percent and the average annual

growth rate was only 23.37 percent. This shows that not only the wage rate is high in Kerala, but also the growth rate of wages is also high.

Table 4.3 also shows that, the wage rate of female transplanting workers in Kerala in the year 1995 was Rs. 47 and the all India average rate was only Rs. 30. There was a difference of Rs.17 in the wage rate of Kerala and national level average. This difference increased to Rs. 47 within five years (2000) and to Rs. 51 in 2005. In 2010, the wage rates for transplanting in Kerala was Rs. 176 which was Rs.72 more (1.69 times higher) than that of the national level average. In 2013, the female worker's wage rate for transplanting was Rs. 316 per day and the all India level average was only Rs. 158. The difference in the wage level during this year increased to Rs. 158. In other words to earn one day's wages earned by a female worker engaged in transplanting in Kerala, two days' work has to be done at the national level average. The growth rate of this category of workers in Kerala during the period 1995-2013 was 572 percent, marking an average annual growth rate of 32 percent. At the same time, the growth rate of the national average was 427 percent and average annual growth rate was 24 percent.

Similar features are observed in the case of wage rates of female workers engaged in harvesting operations also. Wage rate in Kerala for females in harvesting operations in the year 1995 was Rs. 46 and the national average was Rs. 31. The difference in the wage rates was Rs. 15 and it increased in the subsequent years. In the year 2000, the difference increased to Rs. 42; in 2005 to Rs. 48 and to Rs. 80 in the year 2010. In the year 2013, average wage of female for harvesting operation was Rs. 299 in Kerala and the national average was only Rs. 158. The difference in the wage rates during this year was Rs. 141. In other words, the wage rate of Kerala during this year was 1.89 times higher than the all India average. The increase in difference in the wage rate indicates the rate of growth of wages is higher in Kerala. The growth rate of wages of female harvesting workers during the period 1995-2013 in Kerala was 550 percent and the average annual growth rate was 31 percent. The growth rate of this category of workers at all India level was only 410 percent and the average annual growth rate was 23 percent.

The table (Table 4.3) further shows the wage rates of unskilled female workers. As per the table, wage rate of unskilled female workers in Kerala in the

year 1995 was Rs.46 and the national average was Rs. 28. Wage rate of the state during this year was 1.64 times higher than the country level average. The difference in the wage rates was Rs. 47 in 2000; it increased to 56 in 2005 and to Rs. 117 in the year 2010. In the year 2013 wage rate of unskilled female workers in Kerala was Rs.344 and the all India average was 139. Kerala's wage rate was Rs. 205 more or 2.47 time higher than that of the national level average. The widening gap between the wage rates shows the higher growth rate of wage in Kerala. The growth rate of wages of unskilled female workers in Kerala during the period under analysis was 648 percent and the average annual growth rate was, 36 percent. At the same time, the growth rate of the national level average was 396 percent and the average annual growth rate was only 22 percent.

Thus, it could be concluded that the female farm workers in Kerala receive much better wages when compared to that of their counterparts in other state. Workers working at the national level average wage rates have to work for more time and days to earn the same wages that earner by workers in Kerala. The growth rate of wages of female workers in Kerala is also higher than the national level average. But when compared to the difference in the wage rates of male workers and their national average and difference of the wage rates of Kerala and their national level average, the difference in the wage rates of male is much more than that of the difference in the wage rates of females. This can be due to increased demand for male workers in Kerala for both farm and non-farm activities, especially construction, which faces severe, short supply of male workers due to out-migration and emigration of males and other socio-economic factors.

Even though, the agricultural labour force in Kerala enjoy better wages, better working conditions, and better living standards when compared to that of their counterparts in other states of India, some experts have raised doubts over their efficiency and productivity (Indira Devi, 2012, Kannan KP 2000). Further, Those farmers who continue paddy farming has begun to use and prefer family labour, machines and chemicals and other labour saving techniques to mitigate the labour scarcity and high wage rates. Consequently, the share of animal and human

labour got reduced (Indira Devi, 2012), leading to a decline in the availability of employment to the remaining farm workers in the state.

Thus, it could be concluded that high wage rates, scarcity of farm labourers have resulted in the reduction in the paddy farming area, shift in the cropping patterns, adoption of labour saving techniques and methods for farming, mechanisation and reduction in the employment opportunities of the remaining farm workers.

4.4 Trade Unionism among Agricultural Workers

Existence of strong and militant trade unionism is one of the important features of the state of Kerala. Conflicting opinions are held by experts regarding the role played by the trade union in the industrial and economic development of Kerala, especially in attracting investment and growth of modern types of industrial enterprises and as a reason for growing unemployment in the state.

The history of trade union movement in Kerala, spread over several regions and sectors, is closely related with the political movement in the state. The trade unions had played an important role in the political movement for freedom and a responsible government (Sathyaseelan, C, 2011, p. 52). Trade unionism in Kerala, as elsewhere in the world, was the result of endless, age-old miseries and agonies that the working class had to suffer for a long period. Several studies and literature (Kannan KP, 1988, 1998, Jose AV1978, Joseph Tharmangalam, Jose George, 1984, Thampy MM, 1990, Patrick Heller, 1999 et.al), narrating the socio-economic, political and religious conditions of the working class as well as exploitations they were suffer to are available. They were more or less slave whom the owners could buy or sell and paddy cultivation system, in those days, was more or less akin to agrestic serfdom than capitalism. In addition to the social and economic discriminations several kinds of extractions were made from their earnings. Women labourers were sexually exploited and those who question the authority of landowners were punished.

In the evolution and growth of trade unionism in Kerala, agrarian and land relations have played a prominent role. In Kerala, in those days, a three-tier system

of land tenure was in existence, the top layer was *janmis* (land lords) represented by the Brahmins; the second layer occupied by *kanamdars* –holder of higher level tenancy rights held by the Nairs and in the bottom level, holders of *verumpattom* (simple lease) stood. Most of them were Ezhava and Syrian Christian. (Jose George, 1984, p. 23). The agricultural workers have no any right on the land, even in the hutment they dwelled. The advent of British rule and reforms led to far reaching changes in agrarian and land relations in different ways in different part of Kerala, especially in Kuttanad and emergence of powerful tenants and an independent peasantry. (Thampy MM, 1990, p. 25). These independent farmers adopted capitalist form of cultivation and brought out major changes in the hither to practiced feudal or semi-feudal systems. It led to development of wage labour, direct exchange of labour power for money as a free commodity. Prior to that, attached labour system was in existence.

The benefits of improvement in land tenure and increased production etc., however, did not reach to the agricultural workers. Penetration of capitalist farming and consequent changes in the farmer-worker relations deprived the workers certain benefits they availed earlier like homesteads, credit facilities etc. Their socio-economic condition remained more or less the same without any change. At the same time, people in the higher strata enjoyed the benefits of economic development and their exploitation of the working class continued. (Jose George, 1984).

As mentioned, several social and religious restrictions were imposed on the backward classes, including Ezhava community. They were denied of social equity, freedom of worship, and had to keep distance from the land lords and high caste people. Further, they had to use suppressive languages and could not question or oppose the employer, land lord etc. During this period, several social reform movements emerged, especially among the lower castes, which questioned the domination of the upper caste communities. Sreenaraya Dharma Paripalana Samgham (SNDP) and Pulaya Maha Sabha (PMS) are examples of such reform movements, formed for this purpose. These social reform movements have played an important role in the unionisation of agricultural workers.

Peasant movements, trade union movements among the industrial workers and success stories of their struggles made by these movements have provided stimuli for the origin and growth of agricultural labour movement in Kerala. Further, the emergence of left wing and radical leaders has provided further impetus in organising and strengthening the movement, by providing leadership and encouragement.

Though the trade union movement in Kerala has a fairly long history of growth and struggle, there is some obscurity regarding the origin of the trade union movement in the state. (Thampy MM, 1997, p. 52). Similarly, there are differences in opinion among the experts regarding the exact origin of the first agricultural workers' union (Jose George, 1984). However, they agree that, it was in the year 1940 the first trade union of agricultural workers was formed and registered. According to Kannan KP (1988), "a union of agricultural labourers was formed with a small membership, largely of Ezhava agricultural labourers, in 1939 in Kainakari village. Thus, it could be said that, the first agricultural workers union in Kerala was the Thiruvithamcore Karshaka Thozhilali union, (Travancore Agricultural Workers Union), TKTU with head quarters at Mancombu, in Kuttanadu Taluk (Jose Gerorge, 1984).

Weakening of feudal set up and emergence of capitalist form of agriculture and the prevailing tenure system in Kuttandu resulted in the polarisation of land owning class and agricultural workers. High price of paddy during the Second World War encouraged to improve production of rice and maximise profit though better use of resources, adoption of modern techniques and mechanisation, by creating additional facilities etc. Further, to take advantage of high price of paddy and to maximise profits, cultivators resorted to pay wages in cash, aggravating the condition of agricultural workers. Attached labourers deprived of the previous benefits and the system itself decayed. Advancement of mechanisation gradually gave place to casual workers and money wages. Their age-old misery along with the new developments compelled them to organize and collectively struggle for the betterment of their conditions. This was also the time of gathering momentum of left movement in Kerala, the leftist leaders also provided leadership to the organisation and trade union activists from nearby industrial areas encouraged the

movement to organize the agricultural workers under the banner of the TKTU (Jose George, 1984)

Since its inception onwards, TKTU had conducted several strikes in different years for the purpose of fixation of working hours, use of standard measures of paying wages in kind, interval for lunch etc. Success of the earlier strikes conducted by the union boosted the morale of agricultural workers and helped in spreading the union activities into the different part of the state.

To resist the challenges created by the workers' union and to protect interests of cultivators, they too formed their own union. These land lords, who were economically, socially and politically strong, tried to resist the strikes and militant activities of workers mainly by influencing the administrative machinery and, often through organised physical resistance.

Political mobilisation of the workers helped to ensure unity among all agricultural labourers and also to consolidate the organised movements (Kannan KP, 1988, p.245). However, the activities of agricultural workers union were hampered by the ban imposed after the Punnapra-Vayalar upheaval, which was lifted in 1951 and the union resumed activities from 1952 onwards. In 1953 the union was re-registered by affiliating to the All India Trade Union Congress (AITUC) (Jose George, 1984, p.45). In 1954, the Congress party organised Thiruchochi Karshaka Thozhilali Samgham with head quarters at Mancombu and affiliated it to INTUC.

Formation of the Communist Ministry in 1957 further strengthened the labour movement (Kannan KP, 1988) and the workers with increased strength and courage began to assert their rights and privileges. Failure of economic and social sanctions by farmers to retaliate the workers, they began to concentrate more on negotiations and conciliatory methods (Jose George, *ibid*, p.49). Government also encouraged this through enactment of legislations. Government, further, took certain policy decisions beneficial to the workers, such as the Hutment Dwelling Right, declaration of minimum wages and Prevention of Eviction Act.

The split in the communist party was another turning point in the history of TKTU. The CPI (M) faction got major control over the union. The TKTU was mainly concentrated in Travancore region and was a wing of Kerala Karshaka Samgham (peasants' organisation). In Malabar region, the Karshaka Samgham mainly represented small and marginal farmers. Since, the workers could not benefit from the developmental measures like 'package deals' and the newly emerged tenant-turned-cultivators find it difficult to work along with the workers both felt the need for a separate organisation for workers. Consequently in 1968, Kerala State Karshaka Thozhilali Union (KSKTU) was formed, with head quarters at Alappuzha. The CPI formed, Kerala Karshaka Thozhilali Federation in 1968 and affiliated it to the Bharatiya Khet Mazdoor Union (BKMU), the Congress Party formed its own union in 1973 named Deseeya Karshaka Thozhilali Federation (DKTF). In addition to these major unions, there are several other workers union formed by state level political parties in Kerala.

4.4.1 Opposition against Mechanisation

Protection of employment and income of the existing members is one of the important objectives of trade unions. For this purpose they are ready to go to any extremes and may engage in militant activities also. This is not an exception the agricultural workers union in Kerala also. The union in order to protect income and employment of their members, several strikes have conducted in different parts of the state against tractors, threshers, harvesters and combine harvesters.

In 1950s there were attempts to introduce tractors in the fields of Kuttanad and the workers had resisted such an attempt by the farmers. The first tractor was introduced in Kuttanad in 1954 by a small number of farmers. Due to the stiff resistance from labourers unions the matter was left to the IRC and the IRC banned renting of tractors in 1959. But the workers union demanded a complete ban of tractors and threatened to forcibly plough fields manually and demanded monetary compensation for tractor ploughing. The matter was discussed in the IRC meeting but both the involved parties were not ready to yield. The workers began to agitate and after deliberations, in 1962 the IRC decided to allow tractor owners to plough

their own land with their own tractors. But considering the benefits of ploughing with animals and the employment it provided to workers, the Committee suggested that the use of tractors should be avoided. The committee also directed to ploughers to plough the land properly and on this expectation it was decided to discourage the introduction of tractors in Kuttanad. In 1964, large farmers again tried to use tractors, Kuttanad Uzhavu Thozhilali Union (ploughers Union- a wing of KSKTU) started militant resistance and picketed the farmers, burnt tractors and resorted to other Luddite type militant actions. The matter again come before the IRC and after prolonged negotiations, in 1969, the cultivators agreed to employ plough men to plough their land at least twice before the cultivation of each crop, whether or not they use tractors. Even after this agreement farmers cannot make progress due to stiff resistance from workers (Jose George 1984, Patrick Heller 1999; Kannan KP, 1988, 1998; Jose AV, 1979). It was also decided to pay financial compensation to the ploughmen through social tax on mechanisation to be borne by farmers. Use of tractor increased productivity and reduced overall compensation even after paying compensation.

In 1977, the IRC brought forward a plan of compromise with the intention of increasing overall production and to encourage double cropping. Considering the additional employment created by the second crop, union agreed to allow full use of tractors for the second crop. The IRC played active roles in implementing the compromise and settling disputes by making local adjustments. In 1983, labour department was granted permission to fix and enforce compensatory payment to ploughmen denied work after three consecutive years of employment and the department annually revised wages of ploughmen. Farmers continued to pay compensation to the ploughmen.

In late 1980s, development of rental market to tractors and introduction and encouragement of group farming scheme was a turning point in the use of tractors and alleviation of opposition against the use of tractors. Now the committees of group farming were allowed to contract tractor use for the entire *padashekhar* (group farms) or purchase tractors with government subsidies (Patrick Heller, 1999). This helped to extensive introduction of tractors in Kuttanad. Introduction

of tractors in Kuttanad is considered to be victory of land owners against labourers, (Kannan KP, 1988), but it was based on both implicit and explicit compromise between the farmers and workers (Patrick Heller, 1999). This can be considered as a succeeding step towards farm mechanisation Kerala.

The land owners tried to use labour-saving machines like transplanters, harvesters, threshers, etc, and succeed in the areas where the union was not so strong and could not succeed in those areas where the union was strong. The use of thresher created problems again in Kuttanad. The IRC had to interfere in this conflict also. After repeated discussions, in 1991, the union accepted introduction of threshers in those areas where there is short supply of labour for harvesting operations (ibid). In Palakkad, another important rice producing district in Kerala too had to face strikes against tractorisation (Kannan KP, 1988). Thus, in the earlier days, there were stiff opposition from workers and their unions against mechanisation in the paddy farms of Kerala.

Another important strike conducted by KSKTU, which have attracted criticism from different corners is the Save Rice Field Agitation (*Vettinirathal samaram*). As one of the important strategy of farmers to resist trade union activity among the workers in 1980s was the shifting away from labour intensive rice cultivation (Narayanan, p.22). Later on seeing conversion of land being profitable, the process become widespread and the number of labour days generated in rice began to decline, leading to serious job losses for the lowest classes particularly for women (ibid, p 24). It is estimated that around 35 million man-days by mid-seventies and early 80s and around 50 million man-days by mid-nineties had been lost due to conversion of land (Kannan, 1998, p 14). Considering the job loss and to protect the remaining rice farms, KSKTU mobilised workers against conversion from 1982 to 1996. Demonstrations in front of government offices did not create much response either from the government or farmers. Consequently, in 1997, "Save Rice Field Agitation" (popularly known as *vettinirathal samaram*) was started. It was more or less Luddite type agitation by the agricultural labourers destroying crops and assets in the converted fields (ibid, p 6).

However, during the SRFA days, CPIM was in power and hence could not afford to let the agitation continued fearing the negative responses in the political realm (ibid, p 28). Thus, the Chief Minister of Kerala, in 25th August, 1997, convened an all-party meeting with the KSKTU representatives to discuss the matter, and a commission was constituted to study the problems of rice cultivation. In the ensuing year's budget more benefits were proclaimed for rice. However, even now rice filed conversions continues without any control.

4.4.2 Gains from Unionisation

The unionisation and politicisation of the agricultural workers and various struggles conducted by them in Kerala have brought about several radical changes in the socio-economic and political conditions of the state. Increased wages and highest wage rates among the Indian states, reduced working time, protection of employment, compensation in case of loss of employment or retrenchment of permanent workers, enactment of several legislations to protect interests of workers and ensuring several social security and welfare measures, land reforms and consequent entitlement to occupy land in possession etc., are some of the important economic impact of unionisation (Jose George, 1984, Kannan, 1988, Patrick Heller 1999, Jose AV,).

Further, unionisation has resulted in improving the social and political status of agricultural workers. The traditional master-slave or patron-client relationship was replaced by employer-employee relationship and the attached labour system is replaced by independent, free-floating casual labour system (Jose George, 1984). It helped them in overcoming social oppressions and the elimination of various form of indignities, which they had to face for a long time. At present in the case of Kerala, it is difficult to see social indignities experienced by agricultural workers and other labourers (Kannan KP, 1988). It helped to gain social equity and equality, and elimination of caste and class differentials and helped to create working class consciousness instead of caste consciousness among the workers. The situations have so much changed that farmers, in late sixties and seventies had to go union offices to inform them the date of harvesting and

requesting them to limit the number of workers for that operation. At the same time, prior to that, farmers themselves decided who and how many should participate in harvesting. Thus, it could be said that workers have gained a lot from the unionisation.

4.4.3 Present Trend

Contemporary unionism is far different from what it was in the earlier days. There has emerged now a growing gap between the leadership and the rank and file. The spirit of evangelism, sacrifice and service that the older generation of leadership had shown has now been replaced by a measure of irresponsibility, disloyalty and petty graft of the younger generation. The political misadventures of a few leaders have further harmed the interests of steady union growth. There is also a moral degradation on the part of the working class. Respect for authority and conscious need for discipline are fast losing in importance. Class consciousness is not strong as it was in the earlier years. While the union leadership is engaged in direct negotiations with the employer, the so-called irresponsible elements among the workers launch direct action in defiance of the leadership. The union members are reluctant to attend union meetings and participate in its deliberations. They are more concerned about maximizing their economic gains. (Sathyaseelan, C, 2011, p. 52)

Further, at present, the labour relations climate in Kerala is showing visible improvements (Shaji Francis, 1990, Thampy MM, 1997, p.165). The number of strikes and lockouts has been reduced to the minimum. Trade union and political leaders have realised the need for inevitability of industrial peace and better employer-employee relations for the economic development of the state. According to Mr M.K. Premachandran, former MP, in Kerala “there is no trade union militancy; instead there is only trade union awareness. This should not stand in the way of investment in the State. He was of the view that no industry should be given a free hand to run its business since this will create a dangerous trend as there will be exploitation of labour”. (The Hindu Businessline November 21, 2005)

At present trade unions in Kerala give importance to “enhance productivity without following any restrictive practices”. K. Chandran Pillai, former Member of Parliament and state secretary of CPM-affiliated CITU, has “made it clear to the union members that productivity and profitability should be their prime concern. We cannot allow continuation of old restrictive practices. In this world of competition when the private sector goes by productivity mantra, workers in the public sector cannot ignore this.” (<http://ntui.org.in>)

Further, in the case of agricultural workers unions, their orientation of strike has been changed. At present they are not demanding wage increase, reduction of working time, complaining against exploitation, drudgery of farm work, do not oppose mechanisation and demand job security etc. At present their demands are to increase the welfare fund benefits, to increase the pension, to fix and provide salary to the agricultural and pay a minimum salary of Rs.10000 per month by the government (Discussion with Velayudhan Vallikkuunnu, Vice President, KSKTU). According to him one of the important reasons for scarcity of agricultural labourers is the lack of continuity in employment and income due to seasonal nature of paddy cultivation and decrease in the area and paddy production. It could be stated that Kerala’s trade unions have become far less combative in recent times and they have change a lot in their perception and attitude towards strikes and other militant activities.

Chapter 5

PADDY FARMERS AND FARM MECHANISATION

Farmers play the most important role in paddy cultivation. It is the farmers who produce the rice required for millions of people by bearing all the risks and uncertainties. They as the producers invest the required capital, organise men, materials, machines and other inputs and put all efforts in the paddy production activities. They are the persons to decide everything related with their farm operations. Farmers may own land or may lease land and carry of farming activities. However, they invest the required amount and bear the risk involved in farming. Agriculture in Kerala (India too) is based on climate and the risk in agriculture varies directly with the variation in climatic conditions. Further, in addition to the scarcity of labour and high wage rates, other input costs are also increasing at an alarming rate. Thus, paddy farming has become more or less uneconomical and non-viable. Consequently, many paddy farmers had shifted away from paddy farming to other crops and many leave their land barren without cultivation or convert their land for commercial and residential purposes. Consequently, paddy production in Kerala has reached at the minimum level.

At present, paddy farming (farmers also) survives on the basis of various incentives provided and promotional activities undertaken by governments. It is the farmers who adopt innovative and modern techniques for increasing paddy production. By producing food required to support millions people and fodder to cattle, farmers play an active role in our economy and society too. Their worries and concerns need to be considered more than that of any other socio-economic groups. In this part we discuss the socio-economic conditions of farmers and farming and view mechanisation form the corner of farmers in the study area - Kuzhalmannam panchayat in Palakkad district and Nannamukku panchayat in Malappuram district.

5.1 Socio Demographic Profile of farmers

Socio-demographic profiles like age, religion, caste, sex, etc., of a person or a group of person determine the characteristic features of the persons or the group. Income, employment and other economic activities, attitudes, aptitude etc., are

based on the socio-demographic factors. The socio-demographic profile of the sample of farmers in the study areas are given in the following table.

Table 5.1
Socio-Demographic Features of the Farmers

Age	Nannamukku		Kuzhalmannam	
	Persons	Percent	Persons	Percent
31- 40	2	4	3	6
41-50	10	20	14	28
51-60	13	26	18	36
61-70	17	34	12	24
71 above	8	16	3	6
Average age		58.46		54.86
Religion				
Hindus	21	42	46	96
Muslims	28	56	3	6
Christians	1	2	1	2
Caste composition				
Forward	7	14	8	16
Backward	42	82	35	70
Ezhava	14	28	33	66
Mopla/Muslim	28	56	3	6
Scheduled caste and Scheduled Tribes	1	2	8	16
Educational qualification				
Illiterate	3	6	0	0
Primary	21	42	12	24
Secondary	22	44	24	48
Higher secondary	3	6	9	18
Degree and other	1	2	5	10
Experience in farming				
Up to 10	2	4	6	12
11 to 20	5	10	11	22
21-30	18	36	13	26
31-40	14	28	12	24
41-50	8	16	5	10
51 above	3	6	3	6
Average	31.4		24.62	
Other jobs				
Yes	30	60	37	74
No	20	40	13	26
Occupation of father				
Farming	48	96	47	47
Non-farming	2	4	3	6
	50	100	50	100

Source: Survey data

5.1.1 Age

The table (Table 5.1) shows that there are no farmers in the sample below 30 years of age, only two farmers in Nannamukku panchayat and four farmers in Kuzhalmannam are in the age group of 30 to 40 years. More than three-fourth of the farmers are above 50 years old and eight farmers in Nannamukku and three farmers in Kuzhalmannam are above 70 years old. Average age of farmers in the sample is 58.46 in Nannamukku panchayat and 54.86 years in Kuzhalmannam panchayat.

5.1.2 Religion and caste composition

According to the study, 42 percent farmers in Nannamukku panchayat are Hindus, 56 percent are Muslims and one farmer (2 percent) is Christian. In Kuzhalmannam panchayat, 96 percent farmers are Hindus, six percent are Muslims and one farmer (two percent) is Christian.

Further, as per the Table 5.1, in Nannamukku panchayat, 14 percent of the farmers belong to the forward castes, 14 percent belong to Ezhava community, 56 percent belong to Mopla/Muslim community and one farmer belong to the SC/ST community. While in Kuzhalmannam, 16 farmers belong to the forward communities, 66 percent to the Ezhava community, 6 percent to Mopla/Muslim community and 16 percent belong to the Scheduled castes and Scheduled Tribes.

5.1.3 Educational Qualification

As per the Table-5.1, three farmers (six percent) in Nannamukku panchayat are illiterates, 36 percent possess only primary education, 44 percent possess secondary education, six percent possess higher secondary education and one farmer possesses degree education. In Kuzhalmannam panchayat, there are no illiterate farmers. Among the farmers in Kuzhalmannam, 24 percent possess primary education, 48 percent possess secondary education, 18 percent have higher secondary education and 10 percent have degree or higher qualifications.

5.1.4 Employment and Experience

At present, most of the farmers find it difficult to survive with the income from agriculture alone. Further, farming is seasonal. Thus, farmers engage in other

activities also. The study shows that, 60 percent farmers in Nannamukku panchayat and 74 percent farmers in Kuzhalmannam panchayat undertake other non-farming jobs also. Thus, majority of the farmers have non-farming income also.

The table (Table 5.1) also shows that parents of 96 percent of farmers in Nannamukku and that of 94 percent of farmers in Kuzhalmannam were farmers and these farmers traditionally belonged to farming families. Thus, only three farmers in Nannamukku and two farmers in Kuzhalmannam are new entrants into the field of paddy cultivation.

It is only two farmers in Nannamukku panchayat and six farmers (12 percent) in Kuzhalmannam, who have less than 10 years experience. While more than three-fourth of the farmers in the sample have more than 20 years farming experience. There are three farmers each in both the panchayats having experience of more than 50 years. Farmers in Nannamukku panchayat have an average experience of 31.4 years and Kuzhalmannam have average experience of 24.62 years.

5.2 Area Cultivated By the Farmers

We have seen in chapter III that decline in the area of cultivation is a major problem and matter of concern in the state of Kerala. Discussions with the farmers show that at present more and more farmers are interested to cultivate rice in more areas. Analysis of the area cultivated by the farmers shows that many of them have increased the area under cultivation of rice in the recent years.

As per the Table 5.2 given in the next page, the area under cultivation of 16 percent farmers in Nannamukku during the period under study was less than one acre. In the previous 18 percent farmers and five years ago 16 percent of farmers cultivated paddy in less than one acre. Similarly, the area of cultivation of one-fourth of the farmers during the year was one to two acres and that of nearly one-third was two to five acres. At the same time, 10 percent farmers cultivated in 5 to 10 acres and 16 percent cultivated in more than 10 acres. However, it is important to note that number of farmers in the sample who have cultivated more than 10 acres of land has increased over the years under study.

Table 5.2
Area under Paddy Cultivation by the Farmers

Area (Acres)	Nannamukku						Kuzhalmannam					
	2012-13		2011-12		Five years ago		2012-13		2011-12		Five years ago	
	Number of farmers	Percent	Number of farmers	Percent	Number of farmers	Percent	Number of farmers	Percent	Number of farmers	Percent	Number of farmers	Percent
Less than 1	8	16	9	18	8	16	4	8	5	10	6	12
1- 2	13	26	12	24	16	32	18	36	18	36	13	26
2-5	16	32	18	36	18	36	22	44	22	44	24	48
5-10	5	10	5	10	3	6	3	6	3	6	3	6
Above 10	8	16	6	12	5	10	3	6	2	4	4	8
Total	50	100	50	100	50	100	50	100	50	100	50	100
Average	5.20		4.82		3.79		2.83		2.66		3.34	
Standard deviation	7.99		8.21		4.92		2.39		2.34		3.48	

Source: Survey data

In Kuzhalmannam panchayat, there were only 16 farmers whose area of cultivation was less than one acre. At the same time the area of cultivation of 36 percent was one to two acres and that of 44 percent was two to five acres. Similarly, there were only three farmers (six percent) who cultivated paddy in more than 10 acres. The table shows that when compared to the previous years, the number and percentage of farmers who cultivate paddy in more than two acres shows a declining trend.

The average area cultivated by farmers in Nannamukku panchayat during the 2012-13 was 5.20 acres this was more than that of the 2011-12 and that of five years ago. In the year 2011-12, the average area cultivated was 4.82 and that five years ago was 4.92 acres. These shows, the cultivating farmers, in this panchayat are increasing their area under cultivation. However, this increase in the area by cultivators is not by acquiring more land but by taking lease from other dormant farmers, who leave their land without cultivating paddy.

At the same time average area cultivated by farmers in Kuzhalmannam panchayat during 2012-13 was 2.83 acres and five years ago it was 3.48 acres. Thus, there is decline in the average area cultivated by farmers in Kuzhalmannam panchayat. Further, the average area cultivated in Kuzhalmannam panchayat is only less than 50 percent of the average area cultivated by farmers in Nannamukku panchayat.

5.2.1 Cultivation in Leased Land

Many studies have found that lease farming, which was banned with the implementation of land reforms, is re-emerging in Kerala. In the previous paragraph we have seen that the percentage of farmers cultivating paddy in more than 10 acres shows an increasing trend in Nannamukku panchayat. These farmers are cultivating paddy in the leased land. They lease the land from the owners who level their land and cultivate the land by paying rent. At present the amount of rent varies from Rs. 8000 to 10000 per acre.

Table 5.3
Number of Cultivating Farmers in Leased Land
And Area of Land Leased for Cultivation of Rice

Area	Nannamukku			Kuzhalmannam		
	2012-2013	2011-2012	Five years ago	2012-2013	2011-2012	Five years ago
1 - 2	2	2	1	0	0	2
2 - 5	2	3	2	1	1	0
5 - 10	3	3	1	1	0	0
Above 10	3	3	3	1	0	0

Source: Survey data

From the table (Table 5.3), it can be understood that the number of farmers who cultivate on leased land and the area under leased system shows an increasing trend in Nannamukku panchayat. As mentioned earlier, in Nannamukku panchayat, many of the adult members of the family have emigrated to gulf countries for employment, and the remaining female members in such households find it difficult to conduct farming operations. Thus, they give their land for cultivation and in turn they get up to 80 *paras* (1 para is approximately equal to 8 kg of paddy) of paddy or cash up to Rs. 10000 if paddy is not required, depending upon the quality of the field. Farmers said that the rent in two year ago was only less than Rs. 5000, now it is increasing at higher rates due to the demand for land lease for cultivation of paddy.

At the same time, in Kuzhalmannam panchayat, the land lease system remains without change over the years under study. Thus, it can be assumed that land lease system is not so popular in this panchayat.

5.3 Difficulties Faced as a Farmer

Farmers face many difficulties. They are the investors in the production process and are the risk bearers. The problems and difficulties faced by the farmers create among them inertia towards farming and many of them are compelled to leave paddy farming. The intensity of problems varies from region to region and even within fields of the same region, and persons to person. Three major problems faced by the farmers in the sample are given in Table 5.4

Table 5.4
Important Difficulties Faced By the Paddy Farmers

Problems	Nannamukku		Kuzhalmannam	
	Persons	Percent	Persons	Percent
1. Lack of availability of workers, High wage rates and high input costs	5	10	5	10
2. Lack of availability of workers, high input costs and low price for paddy	8	16	3	6
3. Lack of availability of workers, High input costs and lack of availability machineries and equipments on time	20	40		
4. Lack of availability of workers, Lack of availability of machineries and Infrastructural facilities	5	10		
5. High wages, low price for paddy High input costs	5	10		
6, high wages, high input costs and Lack of availability of machineries and equipments on time	5	10		
7. High input cost, high rental charges and Low price for paddy			8	16
8. High input costs, low price for paddy and Lack of availability of machineries on time			8	16
9. High input cost, low price for paddy, Uncertain climatic and irrigation problems			11	22
10. Lack of availability of workers, High input costs and irrigation problems			11	22
No Problems	2	4	4	8
Total	50	100	50	100

Source: Survey data

According to the Table 5.4, almost all farmers face the problems of lack availability of workers, high wages and high input costs. Another important problem cited by the farmers is the low price for paddy. Thus, high wages rates, high input costs and low price for paddy are the major economic problems faced

by the farmers. These three constitute the elements of cost and revenue of farming. On account of low price for paddy, paddy farmers do not get adequate and fair prices for their produces and efforts, at the same time, increased wage rates and increased input costs result in increased cost of production. Consequently, farming becomes uneconomical or the farmer incurs huge loss.

In addition to these three major problems, lack of availability of machineries and equipments on time, high rental charges are the two other problems. Farmers have to complete farm operations on time, for which both men and machines shall be available. If these are not available on time, he cannot complete farm operations on time. One of the important reasons for using machines in farms is to reduce wage cost. But, increased rental cost of machines results in increased cost of production. Thus, basic objective mechanisation is nullified by the high rental charges.

Further, problems faced by farmers include, uncertain climatic conditions, lack of irrigation facilities, and problems of infrastructural facilities in Nannamukku panchayat. In addition to these there are several other problems, which are not accounted.

However, two farmers in Nannamukku panchayat and four farmers in Kuzhalmannam panchayat mentioned that they do not face any problem.

5.4 Habit of Working along with the Workers

In the olden days, farming job was considered to be inferior and thus, farmers and land lords kept away from farms and farming jobs. All the jobs were carried on their workers. But, at present due to high wage rates and scarcity of labourers, attitudes of farmers towards farming jobs too have changed. Further, decline the size of land holding and consequent decline in income can also be considered as a reason for such a change.

The study found that 72 percent farmers in Nannamukku panchayat and 74 percent farmers in Kuzhalmannam panchayat work along with their workers and do various farm operations. Similarly family members of 24 percent of farmers in Nannamukku panchayat and 36 percent of farmers in Kuzhalmannam panchayat

also undertake farming jobs or help farmers in their farm activities. Thus, majority of the farmers have left the concept of “gentleman farmer”.

5.5 Difficulty in Getting the Required Number of Workers

All the farmers in both the panchayats mentioned that they face extreme difficulties in getting the required number of employees. Among the farmers of Nannamukku panchayat 34 percent and 14 percent among the Kuzhalmannam panchayat have mentioned that they have incurred losses in the past due to inability to complete farm operations on time due to lack of availability of workers. Further four farmers in Nannamukku panchayat had left land without farming in certain years in the past due to lack of availability of workers.

Further six farmers (12 percent) in Nannamukku and 12 farmers (24 percent) in Kuzhalmannam had shifted away from paddy cultivation to other crops. At present in Kuzhalmannam panchayat many paddy fields are used for cultivation of vegetable, banana, ginger etc.

5.6 Effect of NREGP

All the farmers in both the panchayat mentioned that MNREGP scheme has adversely affected availability of farm workers. According to the farmers in Kuzhalmannam panchayat, farm workers prefer MNREGP jobs than farm jobs. Thus, on those days when MNREGP work is available workers do not turn to farm work. It is important to note that, the wages under MNREGP Scheme is Rs. 184, but average farm wages for female workers in Kuzhalmannam panchayat is only Rs. 200. Since, there is no significant difference between the farm wages and MNREGP wages, farm workers prefer MNREGP jobs. However, Sri. Shyamalan, vice president of Kuzhalmannam panchayat mentioned that, while planning and implementing MNREGP jobs, special care is to be taken that both do not coincide.

According to farmers in Nannamukku panchayat, not only the MNREGP scheme has adversely affected availability of farm workers but also it has adversely affected the work culture of workers also. According to them, there is no need for working in MNREGP. It is only a time pass activity and the workers spent most their time in chatting, sitting idle and doing simple jobs. At present, workers follow the same attitude in farm work also. Thus, sufficient work is not done in the

farm. They remain idle in the farm and kill time as in the case of MNREGP work. It is important to note that in Nannamukku panchayat, average wages for female is Rs. 350. At the same time they are getting only Rs. 184 under MNREGP.

5.7 Recruitment Practices

Since, farm work is of casual in nature and the farmers do not have permanent workers, the required number of workers is to be hired from open labour market. All farmers in Kuzhalmannam panchayat directly hire workers from the labour market squares or visit the labour households and engage them for work. If more number of workers are necessary, eg for transplanting, he asks one or two workers (generally to the senior worker) to bring the required number of workers on the days of work.

In Nannamukku panchayat 32 percent farmers directly hire from the open labour market squares, and the remaining (68 percent) hire from the open labour and make use of service of agents. In Nannamukku panchayat, Bengali migrants are the main source of farm labour. For the purpose of hiring them in large numbers, service of agents are utilised by the farmers.

Among the farmers in both the panchayats, 52 percent mentioned that they enter into contract with the works before engaging them for the work. Wages, working conditions, completion of work etc, form part of the contract. Similarly on an average farmer in Nannamukku panchayat has to wait for five days for workers and in Kuzhalmannam, they have to wait on an average for four days.

5.8 Permanent Workers

Among the farmers in Nannamukku, two have permanent workers and in Kuzhalmannam three farmers have permanent workers. But, none of the farmers pay wages to the permanent workers at the prevailing market wage rates. They are paid less than that paid to temporary or casual workers working for them. As far as the workers concerned, they have permanent jobs and income also. Thus, they are not bothered about low wages. Further, they get additional benefits also.

5.9 Migrant Workers

Scarcity of manual workers and high wage rates have resulted in large inflow of migrant workers into Kerala. Estimates show that there are 25 lakhs migrant workers in Kerala. These migrant workers are mainly concentrated in construction activities. But in rural areas, they undertake almost all kinds of manual work.

In Kuzhalmannam, there were no migrant workers engaged in farm activities. At the same time, in Nannamukku, Bengali migrants are the major source of farm labour. In Bengal, rice is an important crop and thus, Bengali workers are experienced in farm operations. They undertake almost all farm operations in and around this area. They undertake transplanting and harvesting operations on contract basis at lower costs. Their wage rate is also low when compared to that of the native workers.

5.10 Preference for Workers

At present, all the farmers in Nannamukku mentioned that all of them hire Bengali or Tamil migrants for farm operations and, further, data shows that nearly 85 percent of the farm jobs in this panchayat are performed by the Bengali migrants.

However, 78 percent of farmers prefer native workers due to neatness, perfectness and effectiveness of operations. According to them, works done by natives are more perfect and precise than that performed by the Bengalis. At the same time those who prefer migrant works mentioned that lower wages, availability at any time and not particular about food and working conditions as the reasons for their preference. Further, 74 percent of the workers mentioned that the migrant workers work for more time than that of the native workers.

5.10.1 Unequal Wages but Equal Treatment

Generally, migrants are considered as outsiders and employers as well as native workers maintain step-mother attitude towards them. Migrants are paid lesser wages and are provided poorer working conditions than that of native workers. All the 50 farmers in the sample in Nannamukku panchayat disclosed

that they do not pay equal wages to the migrant workers and native workers. Among the farmers, 10 percent mentioned lack of perfectness or completeness of the job performed by the migrants as the reason for paying low wages; 24 percent of the farmer mentioned that the migrants are ready to work at lower wages and the remaining farmers mentioned that, the workers are ready to work at lower wages and they lack skill and efficiency or their job is not perfect and complete when compared to that of natives workers. Thus, it could be said that to the migrants in this panchayat are paid at lower rates when compared to that of the native workers.

At the same time, similar working conditions (88 percent) and food (100 percent) are provided to both the native workers and migrant workers. However, farmers mentioned that, since migrants are not particular about food, and working conditions employing migrants are easier than employing native workers.

Further, all the farmers mentioned that, there was no any opposition either from the part of native workers or from trade unions against employing migrant workers. According to them, those who oppose migrant workers should bring sufficient workers, and then they can oppose migrants.

5.11 Membership in Farmers Associations or Unions

Associations and unions are formed to protect and promote interests through collective bargaining. In Kerala, almost all persons are organised in one way or other. Similarly, farmers too have organised and farmers associations (*karshaka samgham*) are stronger organisations in Kerala. Further, almost all political parties in Kerala have their own farmers' associations or unions. In the study areas, two farmers associations are strong and active. Other organisations are not present in these areas. The data show that 80 percent farmers in Nannamukku panchayat and 86 percent farmers in Kuzhalmannam panchayat are members in farmers unions. Purposes behind joining the farmers association is given in Table 5.5 given in the next page.

According to the table (Table 5.5), it could be understood that the major reason for joining the farmers union is the farmers' political affrications. Since these farmers associations are formed by political parties as a part of their agenda to strengthen their party, followers of the party deliberately join the unions. Thus,

64 percent farmers in Nannamukku and 70 percent farmers in Kuzhalmannam joined the union on the basis of their political affiliation and solidarity among the farmers in only a secondary reason for joining unions. Co-operative banks are managed by the body elected (even though political neutrality is a co-operative principle) on the basis of political affiliations. To get loans from these banks recommendation of the leader of the political party which rules the bank or membership in the political party is considered as essential. Thus, one farmer in Nannamukku and two farmers in Kuzhalmannam has joined farmers unions for the purpose of getting loans from the co-operative banks. Pressure of friends is another reason cited by few farmers in both the panchayats. Thus, political affiliation is the basic reason for joining farmers association.

Table 5.5
Reasons for Joining Farmers Associations

Purposes/Reasons	Nannamukku		Kuzhalmannam	
	Persons	Percent	Persons	Percent
1. Solidarity among the farmers	4	8	2	4
2. Political affiliation and solidarity	32	64	35	70
3. To get loan from co-op bank	1	2	2	4
4. Pressure of friends	3	6	4	8
Non-members	10	20	7	14
Total	50	100	50	100

Source: Survey data

Lack of interest, lack of time, political interference etc are the major reasons cited by the farmers for not joining in the union.

5.11.1 Level of Participation in the Activities of Farmers Unions

Mere membership in the union is not a factor to determine one's affiliation with the union. Participation in union activities is important. The data shows that 35 farmers in Nannamukku panchayat and 15 farmers in Kuzhalmannam regularly pay subscriptions and fee as decided by the union. Further, 10 farmers in Nannamukku panchayat and seven farmers in Kuzhalmannam panchayat actively participate in almost all activities organised by their union at the regional and district level. The remaining (30 farmers in Nannamukku and 34 farmers in Kuzhalmannam) participate in union activities only if there is time.

According to 50 percent of the farmers in Nannamukku panchayat and 38 percent farmers in Kuzhalmannam panchayat, farmers associations are beneficial and their unions are working for improving the socio-economic conditions of farmers. The rest of the members do not think so. Further, 56 percent of the farmers in Nannamukku panchayat and 34 farmers in Kuzhalmannam believe that membership in the union has led to or has helped to improve their knowledge in farming operations.

However, it is only two farmers in Nannamukku panchayat and three farmers in Kuzhalmannam panchayat claimed that their unions could or can resist the collective bargaining power of the union of workers. At the same time all the members of farmers union believe that their union could influence the policy decisions of government and government at different times have given importance to their interest while taking policy decisions.

5.11.2 Membership in *Padashekhara Samithi*

Padashekhara samithi is a collectivity of farmers in a particular area, organised by under the auspicious of Agricultural Offices (*Krishi Bhavan*). The major purpose of the *samithi* is to provide for better farming through collective action. The *samithi* takes initiative for providing better inputs to its members; undertake irrigational facilities, and helps in marketing paddy. A well organised *samithi* can provide all kinds of help to individual farmers and can improve paddy productivity in its area and has an important role to play in mechanisation. The *samithi* is more or less acts as group farming, conduct and co-ordinate farming activities of the farmers and promotes co-operation among the farmers coming under the area of the *samithi*. All the farmers will be members of *padashekhara samithi*. This section deals with the evaluation of the perceptions of farmers about the *samithi*.

All the members are satisfied with the working of the *samithi*. They are of the opinion that membership in the *samithi* has helped to increase farming knowledge, increasing production and productivity, and existence of the *samithi* is essential for paddy cultivation.

According to them, since the *samithi* helps the farmers and paddy production, the activities of the *samithi* is to be improved. For this more funds should be provided by the government. At present government does not provide funds for working of the *samithi*. The funds required for working are collected from the members on the basis of land. Expenses are met out of the fund. However, farmers said that, at present government has decided to provide Rs. 200 per acre for working of the *samithi*. According to them, it is also not sufficient and the amount shall be increased.

5.12 Mechanisation

Mechanisation is the core of the study. The decision to mechanise the farm or not is to be taken by the farmer. Thus his attitude towards mechanisation is very important. As mentioned earlier, farmers need to maximise their earnings. For this purpose they try their maximum to reduce cost of cultivation. One of the reason for increased cost of cultivation is the increased wage rates and other input costs. Since, more than 25 percent of the total cost of cultivation is the labour cost, reduction of wage cost leads to increase profit of the cultivator. Similarly one of the major problems faced by farmers in Kerala is the scarcity of labourers. Mechanisation helps to reduce labour cost and to solve problems related with scarcity of labour. This part deals with the opinion, perceptions and attitude of farmers towards farm mechanisation.

5.12.1 Popular Farm Machineries in the Study Area

All famers in the study area at present use different types of farm machineries and equipments. The important machineries used by the farmers of Nannamukku panchayat include power tiller and combined harvester. Here tractor is not used due to the specific feature of the land. In this panchayat, tillage operations and harvesting and post harvesting operations are fully mechanised. For tillage purposes, power tiller is used and for harvesting and post-harvesting operations combine harvesters are used. Transplanter is not popular. It is also not widely used. In this year, in one or two group farms (*padashekaharam*) they are going to use transplanter on experimental basis. Thus, seed preparations,

transplanting, weeding, and plant protection operations are manually performed, and the farmers prefer human power for these operations.

In Kuzhalmannam panchayat also all farmers use farm machineries and equipment. Tractors and combine harvesters are the commonly used farm machineries in the panchayat. Farmers in this panchayat has begun to use tractors at an early stage itself and had to face strong opposition against tractors from the workers and their unions (interview with Sri. Ponmala, Vice President KSKTU Kuzhalmannam and Standing Committee Chairman of Kuzhalmannam grama panchayat). Later on by paying compensation to the permanent workers the tractors were used (interview with Sri K. Chenthamara, a farmer in Kuzhalmannam). As in the case of Nannamukku panchayat, here also transplanter is not popular and is not used at present. However, in the neighbouring panchayats, farmers have started using transplanter also.

5.12.3 Reasons for Use and Preference of Machines

Farmers have started to change the methods of cultivation so far practiced by mechanising all the possible operations. What prompted them for such a change is a matter of concern. Reasons for their adoption and preference of farm machineries are given in table (Table 5.6) given in the next page.

Table 5.6
Reasons for Use and Preference of Farm Machineries

Reasons	Nannamukku		Kuzhalmannam	
	Persons	Percent	Persons	Percent
Reduced cost of cultivation	4	8	7	14
Can complete operations on time	10	20	18	36
Reduced dependence on workers			10	20
Reduces cost of cultivation and can complete operations on time	10	20	10	20
Reduces cost and reduces the dependence on workers	26	52	5	10
Reduces cost and dependence on workers	50	100	50	100

Source: Survey data

The table (Table 5.6) shows that there are many reasons for preference and usage of machines by farmers. Reduction of cost alone is the reason mentioned by eight percent farmers in Nannamukku panchayat and 14 percent farmers in Kuzhalmannam panchayat. Possibility to complete operation on time is the major

reason for 20 percent farmers in Nannamukku and 36 percent farmers in Kuzhalmannam panchayat. Reduction of dependence on workers is the major reason for 20 percent farmers in Kuzhalmannam panchayat. Reduced cost of cultivation and the possibility to complete farming on time are the reasons for 20 percent farmers in each of these two panchayats. Reduced cost and dependence on workers are the reasons for 52 percent farmers in Nannamukku panchayat and 10 percent farmers in Kuzhalmannam panchayat. Thus, a farmer uses and prefers farm machineries due to more than one reasons.

5.12.4 Ownership of Machinery

In the Nannamukku grama panchayat one farmer owns power tiller and a karshaka samithi (Cherunelli karshaka samithi) owns a power tiller and a transplanter. In Kuzhalmannam panchayat three farmers own tractors and a farmer owns a power tiller. Since motor, pump sets, sprayers, dusters, and such other small implements are outside the scope of this study, they are not considered.

While discussing about ownership of farm machines, a farmer in Kuzhalmannam mentioned that, he is willing to purchase a tractor. But no drivers are available at present. According to him, a broker in farm machines (connecting the farmer with the owner of tractor or other machines) gets commission more than that of a tractor driver without doing anything. He need not stain on his cloths or no need to do any work. He has to simply connect the tractor driver or owner of tractor with the farmer. Then why he has to drive tractor, stain his cloths? He earns income without any difficulty. This shows that at present, it is difficult to get trained and skilled workers also. It is very important to note that, at present many able bodied young persons are working as middlemen in various fields and earn good income also.

Lack of funds is a major constraint in purchasing farm machineries by the farmers; eight farmers (16 percent) in Nannamukku and 12 farmers (24 percent) in Kuzhalmannam expressed their readiness to purchase farm machineries, if government provides them the required loan.

5.12.5 Difficulties or Constraints in the Use of Farm Machineries

Farmers face different difficulties or constraints in using farm machineries. Several factors hinder use of machines and equipments in paddy cultivation. The most important constraints faced by farmer in the study are in farm mechanisation are given below.

Table 5.7
Constraints in Farm Mechanisation

Constraints	Nannamukku		Kuzhalmannam	
	Persons	Percent	Persons	Percent
1. Lack of availability on time, High hiring charges, and feature of land	25	50	--	--
2. High hiring charges, low price for Paddy and lack of availability on time	10	20	10	20
3. Small holdings, high hiring charges Low price for paddy	5	10	25	50
4. Small holdings, diversified machinery Requirements, and high hiring charges	5	10	10	20
5. No difficulties	5	10	5	10
Total	50	100	50	100

Source: Survey data

From Table 5.7, it could be understood that, major constraints faced by 50 percent of the farmers in Nannamukku panchayat is lack of availability on timer, high hiring charges and specific feature of the land. The kole land in Nannamukku panchayat is not suitable for ploughing by tractors. Thus, they have to depend on power tillers for tillage purposes. Power tillers are not so fast tractors. This is the feature of the land that hinders mechanisation. Similarly, in certain place of the panchayat, the mud is so deep. In such deep places, the farmers said that using transplanter is also difficult.

High hiring charges and low price for paddy reduce the profit of farmers. However, they have no other alternative to minimise costs further. But what they require is to minimise the hire charges by providing farm machineries through agricultural offices, panchayats and other local self government institutions.

Small holdings also create problems. But at presents through the efforts of *padashekhara samtihis*, *karshaka samithis* etc., all farm operations are co-

ordinated. Such co-ordination of farm operations help and promote farm mechanisation in small holdings too. Thus, many farmers in the sample have mentioned that they do not face any difficulties in farm mechanisation.

5.12.6 Opposition against Farm Mechanisation

Interviews and discussions with farmers, workers and trade unions leaders of Nannamukku panchayat shows that there were no oppositions or agitations against farm mechanisation in the past in this panchayat. Thus, farmers could introduce and use appropriate machines without any difficulty.

But, interviews with Sri. Ponmala, President of KSKTU, Kuzhalmannam, Sri. Kuppan, Area Secretary KSKTU, and for Block President Kuzhalmannam Block Panchayat, and Sri. Mohan Das, KSKTF, Kuzhalmannam and Standing Committee Chairman, Kuzhalmannam Block Panchayat etc., show that farmers have to face strong oppositions from workers and unions against introduction of tractors in 1960s and 70s. They mentioned that workers have picketed tractors and farms where tractor was used for ploughing. Even the workers have tried to burn the tractor also. Due to opposition from workers, the first attempt to introduce tractor was given up by farmers. Then later on by paying compensation to the workers, farmers began to use tractors. But introduction of harvesters, threshers, winnowers, combine harvester or transplanter etc have not face opposition from the part workers or unions in this panchayat.

5.12.7 Knowledge of Operation of Farm Machineries

In Nannamukku panchayat eight farmers three farmer know tractor driving and six farmers know operation of power tillers. But in Kuzhalmannam panchayat, 12 farmers know tractor driving and power tiller operation also.

5.12.8 Farmers Attitude towards Mechanisation

Farmers have an important role in mechanisation of paddy cultivation. They are the investors of funds, undertakes the risks and uncertainties involved in paddy cultivation. They as the investor need to maximise their profit. But, high wage rates and other input costs, low prices for paddy make paddy farming uneconomical and less attractive. In addition to the lack of profitability, scarcity of

workers creates serious problems to them in completing farm operations on time. If farm operations are not completed on time, their loss will be increased and they have to loss their investments. Thus, many farmers have already left and many are leaving farming by converting their paddy fields for non-farm activities. The alternative before them is to mechanise their farms. However, their decision to mechanise depends upon several factors, like availability of capital, facility of custom hire services, infrastructural facilities, resistance of workers and their union etc. Whatever be the factors affecting mechanisation, attitude towards mechanisation is the most important.

Evaluation of attitude of farmers towards farm mechanisation is one of the major objectives of the study. As mentioned in Chapter III, Likert's Summative Scaling Technique is used for measuring farmers' attitude also. For this purpose, the questionnaire executed among the farmers contained 15 statements, with seven point scale. Their possible responses were given ranks or values as shown in the brackets-

Positive statements- Strongly Agree (7); Moderately Agree (6); Agree (5); Neither Agree nor Disagree (4); Disagree (3); Moderately Disagree (2) and Strongly Disagree (1).

Negative Statements – Strongly Agree (1); Moderately Agree (2); Agree (3); Neither Agree nor Disagree (4); Disagree (5); Moderately Disagree (6) and Strongly disagree (7).

On the basis of the mean score obtained and standard deviation, it is possible to say whether, the groups of farmers agree with the statements or not. Since, in this seven point scale the neutral value is four, the mean score for each statement can be taken as four and the calculated mean score is compared with four. If the mean score of the group to the statement is more than four, the group agrees with the statement and if it is less than four, the group does not agree with the statement.

Summary of tests conducted for measuring the attitude of farmers is shown in Table 5.8 (a), 5.8 (b), 5.9(a) and 5.9(b). Since, there are 15 statements with

seven point values, the mean value will be 4 for each statement and for 15 statements, the total mean value will be 60 and based on this mean value, as in the case of evaluation of the attitude of labourers, farmers attitude can be evaluated.

5.12.9 Responses of farmers to the Statements for measuring attitudes

As said, for the purpose of evaluating attitude of farmers, 15 statements were given and their responses were recorded. Summary of the analysis of responses of these statements are given Appendix VIII. The table shows the responses of farmers to the statements put before them as a part of the study for evaluation of their attitude towards mechanisation. The table shows that, most of the farmers have agreed that, mechanisation has helped them to reduce cost of cultivation. There is only one farmer in Nannamukku panchayat and eight farmers in Kuzhalmannam panchayat who do not agree with this statement. At the same time, many farmers in the sample do not agree that mechanisation leads to increase productivity. This shows that in the case of these farmers mechanisation has not led to increase in productivity. However, all of them agree that mechanisation has reduced the problems of shortage of farm labourers. Similarly all the farmers excepting three farmers in Kuzhalmannam panchayat agree that, mechanisation helps them to complete farm operations on time and to increase profit of farming.

Farmers are of the opinions that mechanisation has resulted in reducing the employment opportunities of farm workers. Similarly all the farmers, except two in Nannamukku and seven in Kuzhalmannam are of the opinion that without mechanisation carrying on farming is impossible at present; they mentioned that if there is no mechanisation, they would have stopped farming already. Thus, mechanisation has helped to withhold farmers in farm activities. They are also of the opinion that mechanisation helps to utilise various farm inputs efficiently and effectively.

They also agreed that mechanisation has helped to increase the working and living conditions of farm workers and have reduced drudgery of farm work and that of farm workers. Similarly farmers are of the opinion that mechanisation has motivated them and their families to acquire new skill in the operation of farm machineries. Similarly, their response regarding the support extended by workers and their unions is also good. Most of them agreed that, at present workers and

trade unions support farm mechanisation. They agreed that considering the difficulty involved in controlling and managing the present farm workers, it is better to use machines at higher rate than that paid to farm workers. They also expressed their readiness to increase the level of mechanisation and extensive use of farm machines in their field.

Thus, analysis of the above statements shows the positive attitude of farmers towards farm works. They are ready to extent the use of machinery in the future period also. Further, they have experienced the benefits of farm mechanisation; as it reduces cost and increases profit, reduce dependence on works and minimises the shortage of farm workers, helps them to complete paddy cultivation on time.

5.12.10 Overall Attitude

With the help analysis of the responses of farmers, now it is possible to evaluate the attitude of farmers towards mechanisation. Tables (Table 5.8 (a) and (b)), given in the next page show the overall attitude of 100 farmers in the sample.

Table 5.8 (a)
Analytical Table Showing Mean Score and Standard Deviation

Attitude	N	Range	Mini- mum	Maxi- mum	Sum	Mean	Std. Devi- ation	Vari- ance
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
Valid N (listwise)	100	28	63	91	7289	72.89	5.475	29.978

Source: Survey data

Table 5-8 (b)
Analytical Table (One-sample Test)

One-Sample Test						
Attitude	Test value = 60					
	t	df	Sig. (2- tailed)	Mean Difference	95% Confidence Interval of the Difference	
	23.543	99	0.000	12.890	Lower 11.80	Upper 13.98

Source: Survey data

As there are 15 statements in the seven point attitude scale, the expected score for neutral attitude will be 60. But here the average score of the 100 farmers taken together in this study is 72.89. The mean test shows that there exists

significant difference in hypothetical mean value = 60. Further, the p value is 0.000. This also indicated that there exist significant difference between the expected mean score and the observed means score. Hence we can conclude that overall attitude of farmers towards mechanisation is positive.

Instead of making comment based on mean score value alone, more rigorous test can be conducted by adding standard deviation of the sample with the mean value and then making comparison with the observed mean score. In this case also, the mean score of the group is above ($60+5.475 < 72.89$) and thus, it could be stated that, farmers show keen interest and favourable attitude towards farm mechanisation.

5.12.11 Inter-regional differences

The attitudinal difference between the farmers of Nannamukku panchayat and Kuzhalmannam panchayat was also ascertained. The result of the analyses is given in the following tables (Table 5.9 (a) and Table 5.9 (b)).

Table 5.9 (a)

Mean and Standard Deviation of the Responses of Farmers

Attitude	Panchayats	N	Mean	Std. Deviation	Std. Error Mean
	Nannamukku	50	50	69.82	3.354
Kuzhalmannam	50	50	75.96	5.485	

Source: Survey data

Table 5.9 (b)

Independent Samples Test for analysing inter-regional difference

		Levene's Test for Equality of Variances		t-Test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Attitude	Equal variances assumed	9.792	.002	-6.753	98	.000	-6.140	.909	-7.944	-4.336
	Equal variances not assumed			-6.753	81.160	.000	-6.140	.909	-7.949	-4.331

Source: Survey data

The above tables (Table 5.9 (a) and (b)) provide information about attitude of farmers in the two panchayats under study towards paddy farm mechanisation process. The mean score of attitude of farmers towards mechanisation in Kuzhalmannam panchayat is 69.82 and that of Nannamukku panchayat is 75.96. The p-value of difference of means is 0.000. Thus, it can be concluded that there exists significant difference in the attitude of farmers in these two panchayats towards mechanisation in paddy cultivation. Since the mean score of the attitude of farmers in Nannamukku panchayat is more than that of Kuzhalmannam panchayat, it can be rightly said that, the attitudes of farmers of Nannamukku panchayat is more favourable than that of the farmers in Kuzhalmannam panchayat.

5.13. Conclusion

In this chapter we discussed the socio-demographic profile of farmers, area cultivated by them, problems faced in paddy farming and constraints in mechanised farming, and the attitude of farmers towards paddy mechanisation in the two panchayats under study – Kuzhalmannam and Nannamukku panchayats.

This chapter highlighted that majority of farmers in these two panchayats are aged, with average age more than 50 years and have experience of farming for more than 25 years. Majority of them know other jobs and have other income sources also. Lack of availability of farm workers, high input costs and low price for the paddy are the major problems faced by the paddy farmers of these panchayats. Lack of availability of farm machineries on time, high hire charges and features of the land are the major constraints in paddy mechanisation.

The study shows that majority of farmers work with the farm workers and workers are hired from the open labour market. In Nannamukku panchayat migrant Bengali labourers are the main source of labourers. Farmers do not pay equal wages to migrant workers and local workers for the same jobs, but no differentiation is made in food and provision of other working conditions. All the farmers are of the opinion that MNREGP has adversely affected labour supply. Further, another important threat faced by the farmers of Nannamukku panchayat is the adoption of the work culture of MNREGP to the paddy fields also.

The average area of individual cultivation is 5.08 acres in Nannamukku and 2.39 acres in Kuzhalmannam panchayat. In Nannamukku panchayat several farmers take land on lease for paddy cultivation from the absentee land owners who are in gulf countries or land owners who are not willing to cultivate in their farms. In Kuzhalmannam paddy cultivation in leased land is not familiar as that Nannamukku panchayat.

All the farmers in these two panchayats use and prefer farm machineries. In Kuzhalmannam panchayat farmers had to face strikes and agitations of works and their unions against farm mechanisation in the earlier days. But at present they are of the opinion that workers and unions support mechanisation. Farmers in both the panchayats show favourable attitude towards farm mechanisation. However, when compared to the attitude of farmers in Kuzhalmannam panchayat farmers in Nannamukku show more interest and attitude in paddy farm mechanisation. Thus, it could be concluded that paddy farming is not uneconomical; mechanisation has made it an economical and profitable activity.

Chapter 6

FARM WORKERS AND MECHANISATION

Paddy cultivation is labour intensive. Large number of workers is required for cultivation of paddy. As mentioned in chapter 4, one of the major reasons cited for decline in area under paddy cultivation and total paddy production is the scarcity of labourers and high wage rates. Due to increased labour costs and cost of other inputs paddy cultivation has become uneconomical. Further, Kerala is a food deficient state, which produces only less than 20 percent of its food requirements and the balance is imported from other states. Increasing food grains production, especially, rice is the need of the hour. To achieve this objective, paddy cultivation has to become profitable and viable, and cost of cultivation shall be minimised. Since, labour cost constitutes a major portion of the total cost cultivation, possible efforts are to be made to reduce the cost of labour, which can be attained by the use of labour saving machines and techniques.

Since, millions of people in Kerala depend on agricultural work, extensive use of machines will create problems of unemployment and underemployment. Thus, up to the beginning of this century, mechanisation in paddy cultivation was strongly opposed by workers and trade unions in Kerala. Those days were the days of mass unemployment and underemployment, alternative employment opportunities were limited and exclusion of a group of workers from the sector in which they engaged, brings them unemployment and they find it extremely difficult to earn their livelihood. But, at present situations have changed too much. Scarcity of manual labourers poses problems to the farmers to complete farming operations on time and, thus, several farmers have left paddy cultivation either by shifting to other less labour requiring crops or leaving their land barren. Labourers are important constituents of paddy production. Their behaviour and attitude influence paddy cultivation than any other elements.

From the above discussion, it can be understood that, socio-economic situations have changed too much, and mechanisation is essential for paddy cultivation. Since, the labourers and their union had opposed mechanisation in the earlier days, it is imperative to analyse the present attitude of workers in the changed condition of Kerala for the sake of transformation of paddy cultivation. In

this chapter, we discuss the labour related aspects of paddy cultivation and paddy farm mechanisation, based on data collected from 50 workers each interviewed from the study area (Kuzhalmannam panchayat in Palakkad and Nannamukku panchayat in, Malappuram district).

6.1 Socio- Demographic Profile of the workers

Socio demographic profile is an important factor that determines the characteristic features of the work force. In a country like India, where the labour market is segregated on the basis of castes and social classes, socio-demographic profile determines the supply of labour force. Minor changes in the socio-demographic profile of the workers may lead to far reaching changes in the labour market conditions. Thus, a study which deals with workers should consider the socio-demographic profile of the workers. Female labour is very important in paddy cultivation. In India, transplanting, weeding, harvesting and post-harvesting operations are mainly performed by women workers. Thus, in this study 35 females from each of the panchayat and similarly, 15 male workers have been interview for the study.

6.1.1 Age Structure of the Workers

Age is an important factor that determines the quantity and quality of labour force. The age composition of the workers in this study is shown in the following table (Table 6.1).

Table 6.1
Age Structure of the Workers

Age group	Kuzhalmannam		Nannamukku	
	Persons	percentage	Persons	percentage
35 -40	2	4	nil	
41-45	5	10	5	10
46-50	16	32	5	10
51-55	11	22	14	28
56-60	9	18	9	18
61-65	4	8	12	24
above 65	3	6	5	10
Total	50	100	50	100
Average age	51 years		54 years	

Source: Survey Data

From Table 6.1, it can be understood that all the workers in Kuzhalmannam panchayat are above 35 years of age and in Nannamukku panchayat are above 40

years. Workers in Nannamukku are elder than that of Kuzhalmannam panchayat. Average age of farm workers in Kuzhalmannam is 51 years, which is less than that of Nannamukku panchayat (54 years). This shows that farm workers in the study are old aged, and the new generations or younger people are coming forward for farming operations.

6.1.2 Religion and Caste Composition

Religion and caste composition is important in a country like India where occupation is determined by birth and caste. Further, attitude and belief of people also determine the quantity and quality of work done by them, which up to an extent depends upon the religion of the workers. Different socio-economic variables of the workers are given in the table given below.

Table 6.2
Socio-Demographic Feature of the Workers

Religion	Kuzhalmannam		Nannamukku	
	Persons	Percentage	Persons	Percentage
Hindus	48	96	47	94
Muslims	-	-	3	6
Christ	2	4	0	6
Caste compositions				
Forward	-	-	-	-
Other Backward Caste	11	22	22	44
Ezhava	11	22	19	38
Muslim/Mopla	-	-	3	6
Scheduled caste/Tribe	39	78	28	56
Cheruman	10	20	21	42
Panan	17	34	4	8
Kanakkan	13	26	3	6
Educational qualification				
Illiterate	15	30	15	30
Primary	23	46	22	44
Secondary	11	22	13	26
Higher secondary	1	2	-	-
Marital status				
Married	46	92	43	86
Unmarried	2	4	1	2
Widow/widower	2	4	6	12

Source: Survey Data

The table (Table 6.2) shows that 96 percent of workers in Kuzhalmannam and 94 percent of workers in the Nannamukku panchayat are Hindus. There are no

Muslim workers in Kuzhalmannam panchayat and no Christian workers in Nannamukku panchayat.

Table 6.2 further shows that, 78 percent of the workers in Kuzhalmannam belong to the scheduled caste and tribes. Among them 20 percent belong to the Cheruaman caste, 34 percent belong to Panan caste and 26 percent belong to the Kanakkan caste. In Kuzhalmannam, 22 percent of the workers belong to Ezhava caste. Thus, all of the agricultural workers in the sample are backward communities and none is there in the sample belonging to the forward community in Kuzhalmannam panchayat.

Caste composition of Nannamukku panchayat is also not different from that of the Kuzhalmannam panchayat. The data shows that 44 percent belong to the backward communities, and 56 percent belong to the scheduled castes and scheduled tribe communities. Among the backward, Ezhava constitute 38 percent and Mopla /Muslim constitute 6 percent. Similarly, among the scheduled castes and tribes, 42 percent belong to Cheruman caste, eight percent to Panan caste and six percent to the Kanakkan caste. In this panchayat among the agricultural workers, Ezhava also possess an important position. As in the case of Kuzhalmannam panchayat, all of the workers belong to the backward castes and scheduled castes and tribes, none belong to the forward castes.

6.1.3 Educational Qualification

The table (Table 6.2) further shows that, 30 percent of workers in both the panchayats are illiterates, 46 percent of the Kuzhalmannam panchayat and 44 percent of workers in Nannamukku panchayat possess only primary education. Similarly, among the workers in Kuzhalmannam panchayat 22 percent and in Nannamukku 26 percent possess secondary education. Further, there is a worker in Kuzhalmannam having higher secondary educational qualification. Thus, it could be concluded that, majority of the agricultural workers possess only less educational qualification.

6.2 Other jobs and experiences

Agricultural work is seasonal in nature. Thus most of the agricultural workers undertake other jobs also. The study found that (Table 6.3) 92 percent of

the workers in Kuzhalmannam panchayat and all the workers in Nannamukku panchayat know and undertake other jobs also. The three workers in Kuzhalmannam panchayat who do not undertake any other job at present are old age persons.

Table 6.3
Employment and Experiences of the Workers

	Kuzhalmannam		Nannamukku	
	Persons	percentage	Persons	percentage
Yes	46	92	50	100
No	4	8	0	0
Experience in farm operations				
Up to 10	1	2	0	0
11 to 20	7	14	5	10
21 to 30	13	26	6	12
31-to 40	13	26	25	50
41 to 50	13	26	8	16
51 and above	3	6	6	12

Source: Survey Data

Experience of the workers in agricultural work is also given in Table 6.3 given above. The table shows that all workers except one in Kuzhalmannam panchayat have more than 10 years' experience. In Kuzhalmannam panchayat more than 85 percent (42 persons) of the workers have more than 20 years experience. Similarly, nearly one-third of them have more than 40 years experience and three workers have more than 50 years experience in agricultural filed.

In Nannamukku panchayat, more than three-fourth of the workers have more than 30 year experience. Further, among them six workers are working in paddy fields for more than 50 years. This shows that, agricultural workers in the two panchayats have started their farming job since their childhood or adolescence itself. In those days, family income was very limited and schooling system, especially among the scheduled casts, tribes and other backward communities, was not so popular. Poverty among these families had compelled them to start work in their childhood or adolescent stage itself.

6.3 Number of Days Worked in Different Years

Agricultural work is seasonal. Farm workers do not get work though out the year. Thus, they undertake other non-farm occupations also. Further, farmers in

Kerala say that they find it difficult to get the adequate number of workers to carry on farming operation son time. Similarly, farm workers claim that they do not get sufficient work due to mechanisation in farming. The truth behind these mutually contradictory claims needs to be ascertained. Analyses of the number of days worked in each category of different types of farm operations also help to ascertain the impact of mechanisation upon the jobs of farm works and the recent trends in the availability of farm employment to the workers.

6.3.1 Nannamukku Panchayat

The table given in Appendix I at the end shows the different categories work and the number of days employed by workers in different years. According to the table, at present ploughing operation in Nannamukku panchayat is completely performed by power tillers/tractors. Ten years ago three workers in the sample had performed ploughing and in those he received Rs. 300 per day.

At present land preparation is carried on male workers in Nannamukku panchayat. During the current year 15 men in the sample have got employment on an average for 18 days. In Nannamukku panchayat only one crop is done. In this cropping season, a worker is employed for an average 18 days at an average wages of Rs. 525. Five years ago also, the same workers got employment for an average 18 days and the average wage rate was Rs. 310. Howe ever, 10 years ago, average days of employment was only 15 and the wage rate was Rs. 150. Thus, the wage rate within 10 years has increased three fold. Ten years ago female workers were also engaged in other land preparations. At present they are not engaged in land preparations. They were the helpers to the male workers. Since, at present sufficient migrant workers are available and the female workers are aged, no farmer will employ female workers for other land preparations.

Sowing is also done by male workers. There are four male workers in this sample who undertake sowing. Since it is kind of skilled work, all male workers will not perform sowing. During the current year four male workers engaged in sowing for six days at an average wages of Rs. 550 per day. There is no significant reduction in the number of days worked in sowing during the current year, or the previous years under study.

Transplanting and weeding are the specialised jobs of women in the study areas. Generally male workers do not undertake these activities. During the current year all the female workers have engaged in transplanting. On an average these females have worked for thirteen days during the current year at an average wage of Rs.350. five year ago, they had got employment for 20 days and the average wage was Rs.215. Similarly, ten years ago, they were employed on average for 25 days and their average wages was Rs. 100. This shows that their wage rate has increased by more than three times, but the number of days employed by them has declined considerably.

The reduction in the number of days employed in transplanting process is not due to mechanisation or adoption of new techniques, but it is due to the inflow of interstate in-migrants from West Bengal. They undertake transplanting on contract basis and farmers find it easy to engage them. The farmers need not bother about the working conditions or amenities etc of the workers. At present farmers in Nannamukku prefer migrants over native workers.

Another important farming operation is weeding. This is also done by female workers. During the current year, all the females in the sample in Nannamukku panchayat has worked on an average for eight days at an average wage of Rs. 350 in weeding. Five years ago, they have got work on an average for 13 days and ten years ago they got work for 16 days on an average. Further, their average wage rate five years ago was Rs. 205 and that of ten years ago it was Rs 100. As in the case of transplanting, their wage rate has increased, but number of days employed has decline. The decline in weeding operation is not due to mechanisation or due to interstate migrants. But it is due to the extensive use of weedicides by the farmers.

Fertiliser application is done by male workers. As helpers to them, females are also engaged. During the current year, the entire male works in the sample have undertaken fertiliser application. On an average they have worked for eight days and their average wage rate was Rs. 550. Five year ago their wage rate was Rs.310 and ten years ago it was Rs. 150. Considerable increase has taken place in their wage rates. But, ten years ago, they were engaged for 15 days in a season, but during the current year the number of days engaged has declined to eight. Major

reason for this is the migrant workers and some of the farmers have started to do certain simple jobs by themselves. Similar trend can also be seen in the case of females engage as helpers to the male engaged in fertiliser application.

Plant protection operation is a dangerous operation. All the workers will not perform this job. Since, it is dangerous, it fetches high wages with less working time. From the table, it can be seen that only eight male workers have undertaken plant protection operation during the current year and their average wages was Rs. 825. The table (Appendix I) also shows that there is no considerable decrease in the number of days engaged by these workers.

Harvesting and post-harvesting operation is one of the operations which provided employment to a large number of workers, especially women. In the olden days, workers eagerly waited for harvesting operations and it was the festive days of the farm workers. They worked for hours even too late in the night without any rest. Appendix I further show that, during the current year, or five years ago no worker was engaged for harvesting or post harvesting operations like threshing, winnowing etc. at present all these activities are mechanically performed by combine harvesters. Ten years ago all the female workers have worked on an average for 26 days in harvesting and post harvesting operations. These employment provided them necessary food grain or rice for the whole year. Thus, emergence of combine harvester has resulted in the reduction of employment and was a serious blow to the existing farm labourers who continue their traditional farming job.

Processing of hay and hay bailing was yet another important job to the workers. Five years ago 10 male workers on an average has worked for one week and females for eight days in hay processing. Ten years ago, twelve male workers were engaged on an average for eight days and female workers 15 days in processing hay. But emergence of hay bailer in the last year has resulted in the loss of hay processing and bailing job also. Thus, it could be stated that mechanisation of farm operations has resulted in the reduction of employment and income to the workers.

6.3.2 Kuzhalmannam Panchayat

In Kuzhalmannam panchayat, annually two crops are cultivated. Thus, there will be considerable difference in the number of working days in Nannamukku panchayat and Kuzhalmannam panchayat. As in the case of Nannamukku panchayat, in Kuzhalmannam panchayat also ploughing operations are completely mechanised and in performed by tractors. However, ten year ago two male workers in the sample had performed ploughing and they got employment on an average for ten 10 days. It is important to note that tractor was popular in Palakkad for more than half a century.

For other land preparation activities both men and women are employed in this area. During the current year, 12 male workers and seven female workers have engaged on an average for 19 and 6 days respectively. Average wage rate of male was Rs. 450 and that of female was Rs. 200. In this operation females are the helpers of male workers. Ten year ago average wages of males was Rs. 90 and that of females was Rs. 90. Considerable increase has taken place in the wags rates, but at the same time decline in the number of days over the years can be noticed.

In Kuzhalmannam panchayat the first crop (viripu), is generally sown. Sowing is done by male workers. During the current year, seven male workers on an average have worked for 8 days and their average wage rate was Rs.500. As in the case of other categories of employment, average wage rate has increased and the average number of days engaged by the workers have decline considerably.

Transplanting is done by female workers. During the current year, all the female workers in the sample have engaged in transplanting on an average for seventeen days. Their average wage rate for the year was Rs. 200. At the same time, five years ago they were engaged on an average for 21 days and 10 years ago for 30 days per year. This shows that, there is decline in the number of days engaged by the female workers in transplanting work. One of the major reason for the decline in the number of days worked is the reduction in the area of paddy cultivation and changes in cropping pattern.

Similar is the case of weeding. It is performed entirely by women folk. During the current year, on an average they have worked for 10 days, five and ten

years ago, they had worked on average for 25 days. Trends in the wage rate are similar to other farming operations. When compared to the previous years under study, the major reason for reduction in the number of days employed is the extensive use of weedicieds.

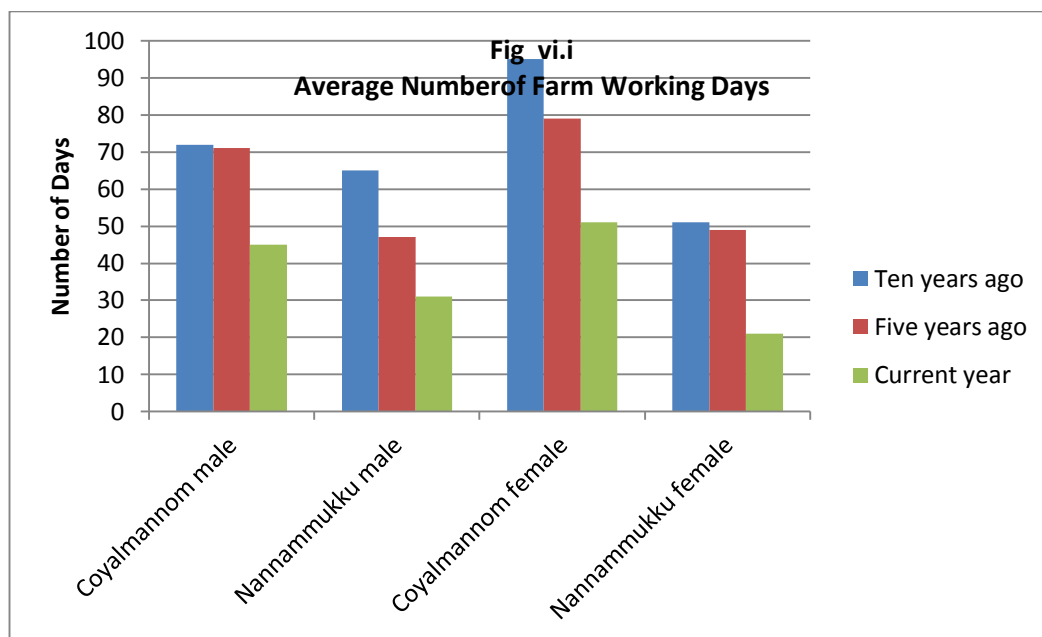
Harvesting and post-harvesting operations are other important tasks, requiring large number of workers. The table shows that 28 females in the current year have undertaken harvesting and post-harvesting operation on an average for seven days. Average wages rate was Rs. 300 per days. The wage is paid in kind, two *paras* for a female worker for one day. In this panchayat also combine harvester is popular and harvesting and post-harvesting operations are more or less mechanised. However, in case of emergencies and to gather hay for a few days to the cattle, manual harvesting is done. Hence manual harvesting is not common. However, it can be noticed that in the previous years, the workers had got employment for more number of days; ten year ago they had received employment on an average for 33 days a year. It is also important to note that n these days, harvester and combine harvester were gathering popularity in this region.

Hay bailing and hay processing is another important job. However, in the last year hay bailer was introduced in this area. Hay bailer is used for bailing hay in the second crop (mundakan), thus, workers have lost the job f hay bailing. However, they got employment in the processing of hay in the first crop. Thus, it could be stated that mechanisation had resulted in the decline of employment opportunities to the farm workers.

6.4 Average Number of Farm Working Days

The table (given in Appendix II) the figure (Fig vi-i) show the average number of farm working days over different years. Data shows that, the average number of working days for males in Nannamukku panchayat in the current year was 31 days and that of females was 21 while five years ago they got employment for 47 days and 49 days respectively. Similarly the average number of farm working days ten years ago was 65 for males and 51 for females. This shows that in the case of males within 10 years, average days of employment has been declined by 34 days (50 percent) or their average working days has been declined to one-half of that of ten year ago. In the case of females, their working days

within ten years has been declined by 30 days (59 percent). Thus, at present they are not engaged for more than one-half of that of ten years ago.

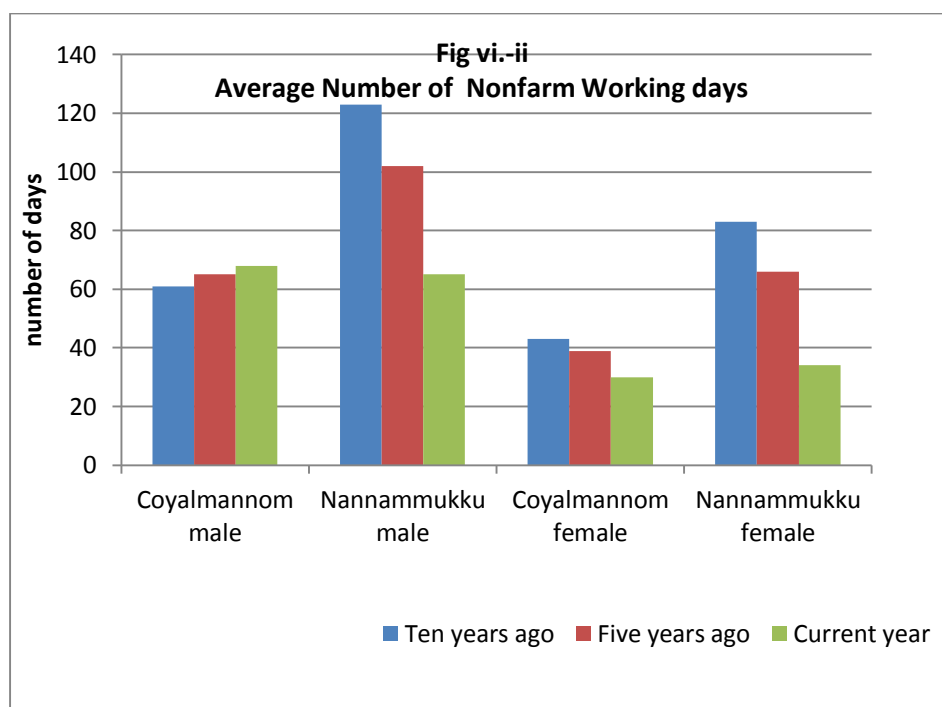


Average number of farm working days of males in Kuzhalmannam panchayat in the current year was 45 and that females was 51 days. Five years ago they were engaged for an average for 71 and 79 days respectively. Similarly, 10 years ago they had received employment for 72 and 95 days respectively. This shows that there is a decline in the average number of farm working days of males by 27(38 percent) days and that of females by 95 days (53 percent). Thus, more employment loss is to the female workers. They have lost most of the working days in harvesting, and nearly whole of the weeding and are just losing the transplanting job also.

6.5 Average Number of Non-Farm Working Days

As mentioned, farm job is seasonal in nature, thus, all of the farm workers engage in nonfarm work also. The table given in Appendix II and figure (Fig vi-ii) shows the average number of non-farm working days of the sample workers. From data, it can be understood that males in Nannamukku panchayat, during the current year, have engaged on an average for 65 days in nonfarm activities and females for 34 days; 10 years ago they had engaged on an average for 123 days and 83 days respectively. Thus, within ten years, they had lost on an average 58 days (47 percent) and females 49 days (59 percent). Thus, women have lost more working

days. The reason for decline of non-farm job can be due to the age preference of the employers and presence of migrants, who engage in almost all activities, especially the unskilled formerly done by females in the area.

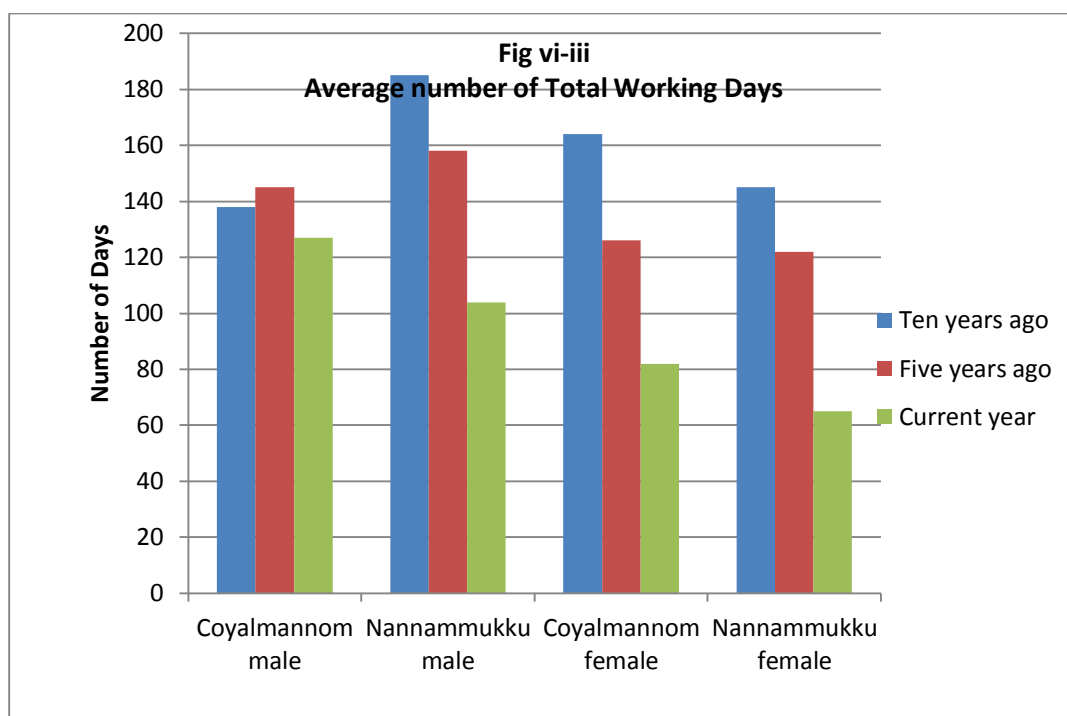


In Kuzhalmannam panchayat average number of non-farm working days for males in the current year was 68 and for females was 30 days. Five years ago, their average number of non-farm working days was 65 and 39 days respectively. Similarly, 10 year ago they got non-farm employment on an average for 61 and 43 days respectively. This shows that in the case of males of Kuzhalmannam panchayat, actually, the average number of non-farm farm working days for men has increased by seven days, while that of female had declined by 13 days. In Kuzhalmannam panchayat migrant workers can be seen only in construction activities that too in limited numbers. They could not be seen engaged in skilled and unskilled activities, generally performed by native workers. This can be the reasons for increased availability of non-farm employment to the male workers. The reduction in the number of non-farm working days of the female can be due to the age preference of the employers.

6.6 Average Number of Total Working Days

We have seen that a farm workers in the study area are engaged in both farm and nonfarm activities. Thus, their total number of working days needs to be

ascertained. The table and figure (Appendix II and Fig vi.iii) show that there is a considerable reduction in the average number of total days employed by the farm workers in these regions.



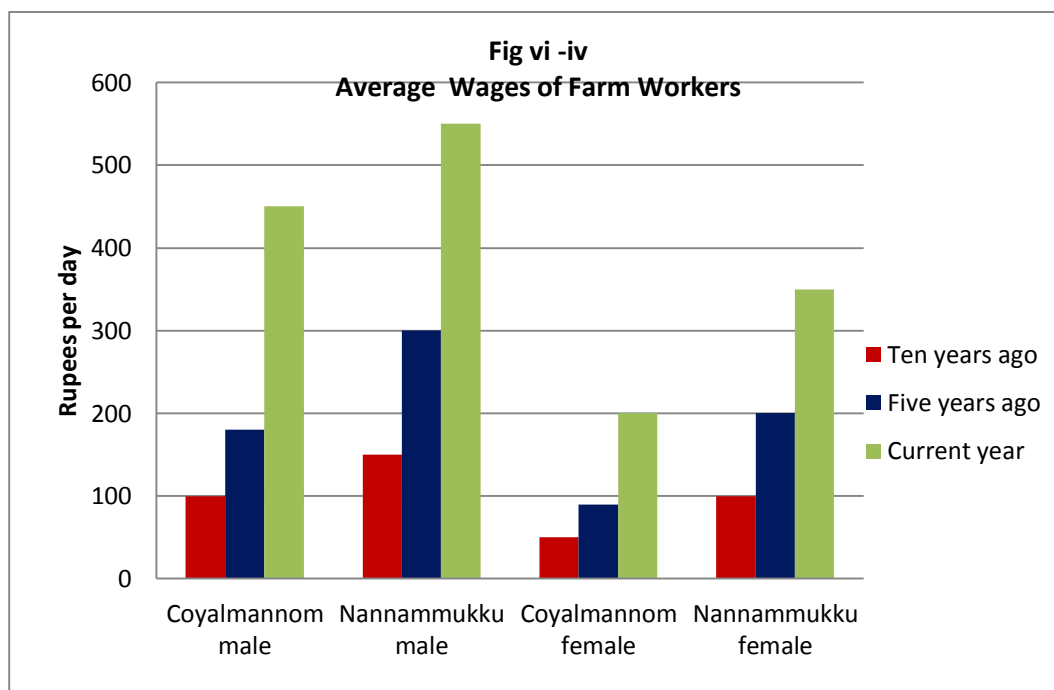
As per the table given in Appendix II, and the chart (Fig vi.iii) average number of total working days for men in Nannamukku panchayat during the current year was 104 and that of females was 65 days, while five years ago they were engaged for 158 and 122 days respectively. Similarly, ten year ago, male workers had got employment on an average for 185 days and females for 145 days. This shows that, availability of employment has been declined by 81 days (44 percent) for males and 80 days (55 percent) for females. The decline was more in the case of females than that of males. The decline is due to the combined effect of mechanisation and migrants workers.

In Kuzhalmannam panchayat average total number of working days for men during the current year was 127 and that of females was 82 days. Five years ago they had got employment on an average for 145 days and 126 days respectively. While ten years ago average number of total working days for male workers was 138 and that of females was 164 days. This when compared to that of the current year, it could be said that male workers employment has been declined only by 11 days, while that of female has declined considerably, by 50 percent. At

present the females are engaged only for one-half of the days that they have engaged in ten years ago. A major reason for such a decline is the reduction in the number of farm working days.

6.7 Average Farm Wages per Day

Considerable wage differences can be seen among different regions and between male and female in the same region. The data shows that average farm wages per day for males in Nannamukku panchayat during the current year is Rs. 550, while that of Kuzhalmannam panchayat is only Rs. 450. Such a difference can be seen throughout the stud period. Similarly, average farm wages of females in Nannamukku panchayat is Rs. 350, while that of Kuzhalmannam is only Rs. 200, which was the prevailing wages for female in Nannamukku panchayat five years ago. Thus, it could be said that wage rates of farm workers in Nannamukku is more than that Kuzhalmannam panchayat.



Similar is the case of non-farm wages also. But no considerable difference can be seen in the wages of paid for male workers for farm and non-farm activities. On an average they are paid Rs. 550 in Nannamukku and Rs. 450 in Kuzhalmannam panchayat – the same wage rate for both activities. But in the case of females, in Nannamukku they are paid Rs. 450 for nonfarm activities and Rs.350 for farm activities. Similarly, in Kuzhalmannam panchayat, females are

paid Rs.350 for non-farm jobs and Rs. 200 for farm jobs. The reasons behind this differentiation need to be ascertained.

6.8 Impact of Mahatma Gandhi National Rural Employment Guarantee Programme (MNREGP)

MNREGP is a programme for the purpose of providing at least 100 days employment to the rural folk. Since farm work is seasonal and it is declining, MNREGP is a blessing to the farm workers. In the study area all female workers in the sample and seven male workers (47 percent) in Kuzhalmannam and five male workers in (33.33 percent) Nannamukku panchayat are members of MNREGP Scheme. On average, female workers in Kuzhalmannam have worked for 67 days and males for 37 days. Similarly, in Nannamukku panchayat, on average, females have worked under the scheme for 61 days and males on for 35 days. This shows that, there is no significant difference between the average number of working days under this scheme between females of these two panchayats and that of males of these two panchayats. However, it is important to note that, in Nannamukku a female farm worker receives Rs. 350 per day, which is just double that of MNREGP wage rate. But in the case of female workers in Kuzhalmannam panchayat, average wage rate is only Rs. 200 per day which is not much higher than that of MNREGP wage. Thus, many female workers in Kuzhalmannam panchayat have disclosed their preference for MNREGP over farm work.

The total number of average working days for female in Nannamukku panchayat including the working days under MNREGP is 110 and that of male is 120. In Kuzhalmannam panchayat the average number of total working days including the working days under MNREGP for males is 158 and for females is 149 days. Thus, it could be stated that, even though wage under MNREGP is lower than that of farm work, the scheme has helped the farm workers to find alternative employment during lean seasons.

The male farm workers in Nannamukku panchayat are against MNREGP scheme. Because majority of the jobs performed by them earlier days are at present performed by the female workers of the MNRGP. Since, wage rates of male workers in this panchayat is above Rs. 550 per day and payment for the MNREGP workers will be made by the government, employers prefer MNREGP workers

over male workers. This has resulted in decline of employment to male works in this area and resentment over MNREGP Scheme also.

6.9 Reasons for Decline in the Number of Working Days

From the previous discussion, it could be understood that there is constant decline in the number of days worked by the farm workers. The reasons cited by workers for decline in working days are given in the following table (Table 6.4).

Table 6.4
Reasons for Non- Availability of Work

	Nannamukku		Kuzhalmannam	
Reduction in area	Nil	0	6	12
Mechanisation	5	10	16	32
Bengali migrants	25	50	0	0
Mechanization and migrants	20	40	0	0
Reduction in area and mechanization	0	0	28	56
Total	50	100	50	100

Source: Survey Data

As per the above table, according to 12 percent workers the major reason for reduction in employment in their region (Kuzhalmannam) is decline in the area of paddy cultivation. At the same time, according to 10 percent workers in Nannamukku panchayat and 32 percent workers in Kuzhalmannam panchayat mechanisation is the major reason for decline in their employment. Similarly 50 percent workers in Nannamukku panchayat mentioned that major reason for reduction in employment in their area is the presence of Bengali migrants, who steal away their jobs. Further, 40 percent workers in Nannamukku also mentioned that both mechanisation and Bengali migrants have resulted in the decline of their employment opportunities. At the same time, 56 percent workers in Kuzhalmannam panchayat believe that reduction in area of cultivation and mechanisation are the reasons for decline in employment opportunities in their area. Thus, the workers feel that mechanisation has adversely affected them and has resulted in decline of employment.

Discussion with the workers in Nannamukku panchayat, revealed the worries of native workers about the inflow of Bengali migrants. These Bengali migrants undertake almost all farming operations, including transplanting and harvesting, on contract basis at reduced rates, and complete the operations as early

as possible to pocket the contract amount. They are also not concerned about food and working conditions. Further, they work at reduced wages also. A male Bengali worker works for Rs. 450 per day which is equal to the daily wages of female workers in Nannamukku. Thus, farmers and employers prefer them, and Bengali migrants have become nightmare of native workers especially female workers.

6.10 Availability of Job during the Peak Season

Data shows that, in the current year, 10 male workers (67 percent) and 15 female workers (43) percent has received work an all days during the peak agricultural season in Nannamukku. Five year ago, 10 male workers and 20 female workers(37 percent) had engaged for all days in the peak season and ten year ago, 10 males and 25(71 percent) had received work an all days.

Similar is the case of Kuzhalmannam panchayat also. Ten years ago, all the male workers and 25 female workers (71 percent) had engaged on all days during the peak season. At the same time, no female workers are engaged on all days in the current year, and only 10 male workers have got engagement on all days. This shows that there is constant decline in the availability of employment to the farm workers and peak farming season is also not an exception to this.

6.11 Starting and Ending Time of Work

Considerable difference can be seen in the present working time and that of the past. The data shows that at present average starting time farm jobs in Nannamukku panchayat is 8.45 am, five years ago it was 8 am and ten years ago the work was started at 7.30 am. Similarly there are changes in the ending time also. At present farm workers stop their works at 4 pm, while five years ago they continued the work up to 4.30 pm and ten year ago they worked up to 5 p.m.

Similar decline can also be observed in Kuzhalmannam panchayat also. At preset the average starting time of farm work in Kuzhalmannam panchayat is 8.45 am, five years ago it was 8.15 am and ten years ago the starting time was 7.45 am. Similarly, the ending time has also decline. At present works stop their farming

work at 4 pm, five year ago they stopped work at 4.30 am ten years ago, they had continued their work up to 5 pm. Thus, at present the effective working time of farm workers have decreased much h when compared to that of five or ten years ago.

In Nannamukku panchayat, at present non-farm work gets started at 8.30 am, five year ago it was started at 8 am. At present the work is continued up to 4.30 pm and ten year ago the work was continued up to 5 pm. In Kuzhalmannam panchayat also there was a reduction of 1.30 hours in the effective working time due to the changes in the starting and ending time.

6.12 Overtime and Overtime Wages

At present no farm workers in Nannamukku or Kuzhalmannam undertake overtime work. Ten years ago few workers had the habit of doing overtime work. For the overtime work male workers received Rs 25 and female received on an average Rs. 15 as overtime wages. However, at present if, necessary workers undertake overtime job and male workers receive on an average Rs.100 and female Rs. 80 as overtime wages for nonfarm activities.

6.13 Gifts and Presents in Addition to Usual Wages

At present no farm works get gifts or presents in addition to their wages from their employers. Ten years ago, many workers in Nannamukku and Kuzhalmannam panchayat had received gifts in the form of paddy from their employers' in addition to their wages at the time of harvesting and post-harvesting operations.

6.14 Laziness among the workers

Data shows that only three male workers and five female workers in the Nannamukku are ready to work on all days. All the workers require at least one days leave. Further, 10 male workers and 5 female workers in Nannamukku mentioned that they remain idle for some days in a month even if sufficient employment is available. In Kuzhalmannam panchayat, six male workers and two

female workers are ready to work on all days. But all of them require one day's leave. Further, 10 male workers and 7 female works mentioned that they will remain idle for some days even if sufficient work is available. Thus, it could be mentioned that among the farm workers also there some lazy fellows.

6.15 Wage satisfaction

Table given in Appendix III shows the wage satisfaction level of the workers. According to the table, none of the workers is satisfied with their present farm wages. When compared to the wage satisfaction of level of previous years, the workers are becoming more and more dissatisfied in their present wages. In Nannamukku panchayat, at present, nine male workers and eight female workers are highly dissatisfied in their present farm wages. At the same time, at present in Kuzhalmannam panchayat, seven male workers and 25 female workers are highly dissatisfied in their farm wages. Thus, it could be mentioned that, when compare to the wage satisfaction level of farm workers of Nannamukku, farm workers of Kuzhalmannam are more dissatisfied with their farm wages.

According to Appendix III, nine male workers and 25 female workers in Nannamukku panchayat, their present farm wage is sufficient to meet their family's day-to-day expenses. While, three male workers and three female workers need to borrow for meeting their family's day-to-day-expenses. Similarly, five male workers in Kuzhalmannam mentioned that their farm wage is sufficient to meet their family's day-tot-day expenses. At the same time three male workers and five female workers need to borrow in addition to their farm wages to meet family's day-to-day expenses.

6.15.1 Wage Satisfaction Level of Nonfarm Employment

Workers in both the panchayats receive better wages for nonfarm than farm work. Thus, they are not much dissatisfied in their nonfarm wages. The table shows that two male workers and seven female workers are satisfied with their present farm wages. But majority of the workers in Nannamukku are neither satisfied nor dissatisfied with their present non-farm wages.

Non-farm wage rates of both males and female in Kuzhalmannam panchayat is lesser than that of Nannamukku panchayat. Thus, workers in this panchayat are not so satisfied in their nonfarm wages as that of Nannamukku panchayat. All the workers in the Kuzhalmannam panchayat are dissatisfied in their nonfarm wages also.

Four male workers and 28 female workers (64 percent workers) mentioned that their nonfarm wages is sufficient to meet their family's day to day expenses, while three male workers and three female workers have to borrow money in addition to the non-farm income to meet their family's day to day expenses.

Thus, it could be concluded that it is human nature not to satisfy with his income. He desires to get more wages and more income. The sufficiency and insufficiency of wages to meet the family's day to day expenses also depends upon several factor like the consumption patterns, family size etc.

6.15.2 Wages When Compared to the Time Spend and Drudgery of the Work

Generally, wages are the compensation for the workers who spend their time and energy. Thus, wage rates should be fair and adequate and should consider the time spend by the workers and the difficulty or drudgery involved in the work. According to the study, 11 male works and 21 female workers in the Nannamukku panchayat mentioned that, their wages is when compared to the time spend by them on farm work. At the same time, four male workers and 14 female workers are of the opinion that they receive fair wages for the time spent by them. Similar opinion is held about the wages the drudgery of far work is considered. According to 12 male workers and 26 female workers in the same panchayat, the wages they receive is too less when compared to the drudgery involved in the farm operations. At the same time, three male workers and nine female workers mentioned that their wage is more or less equal to the difficulty involved in the work rendered by them.

According to eight male workers (53 percent) and 21 female workers (60 percent), of Nannamukku panchayat, their farm non-farm wage is more or less equal to the time spent by them on the job. At the same time, when drudgery is considered, majority of the workers said that their wage is not sufficient to compensate to the drudgery involved in the non-farm works. In other words, 80

percent (12 persons) of the males and 75 percent (26 persons) females are of the opinion that their wages is not sufficient when the drudgery of the work is considered. However, there are workers having the opposite opinion also.

All the workers both male and female, in the Kuzhalmannam panchayat mentioned that their wages when compared to their working time and drudgery of the work is less than what they ought to be received. At this juncture, it is important to note that always, the wage rate for farm operations in Nannamukku panchayat is Rupees one hundred to Rupees two hundred more than that of Kuzhalmannam panchayat. Thus, workers in Kuzhalmannam panchayat are less satisfied with their wages when compared to that of Nannamukku panchayat.

Since, the wage rate of non-farm work in Kuzhalmannam panchayat is more than that of farm work, and non-farm working time and drudgery involved in non-farm work is comparatively lesser than that of farm operations, 26 female (74 percent) workers and 40 percent (6 persons) male workers mentioned that their wages is more or less equal to the drudgery involved in the work and time spent by them. This is their opinion about the wage rates of previous years also.

Thus, as a conclusion, it could be said that, many of the workers consider that they are not receiving sufficient or fair wages when their working time and drudgery involved in the work, both farm and non-farm work is taken into account. However, it important to note that, in addition to the working time and drudgery, wage rate of a particular job is determined by many other factors.

6.15.3 Mode and Medium of Payment of Wages

In the earlier days, farm workers were paid in kind or a portion of the crop was paid as wages. The portion or share of kind (paddy) varied from place to place, regions to region and status of the workers. Several agitations and strikes have been conducted by workers and trade unions for increasing the quantity or ratio of wage payment in kind and to increase the amount of wages payable to the workers (See Jose, AV, 1979, Kannan, 1988, 1998, Patrick Heller, 1998 George Thomas, 1984).

Due to the influence of trade union activities and socio-economic development taken place in the state, now the quantity or share or the amount of

wage payment is not a matter of concern. In chapter four we have seen that, among other states of India, Kerala has the highest wage rates and steadily it is increasing.

The old system of payment in kind for work has become obsolete and is now almost disappeared. Almost all categories of farm workers are now paid wages in cash. At the same time, in Kuzhalmannam, for harvesting, wages are paid in kind. A female harvester is entitled to two *paras* of rice per day for harvesting. Harvesting operation here includes harvesting, carrying the sheaf to the farmer's home, threshing and winnowing. At present this two '*paras*' of rice fetches to Rupees 350. Thus, at present there is no the question of proportion or '*pathom*'. Since harvesting yields better wages, workers are interested in harvesting paddy. However, all the farmers will not resort to or a farmer will not harvest his entire paddy manually. Manual harvesting is very rare. It is done in case of scarcity of hay to the cattle owned by the farmer or when mechanical harvesting is too difficult.

But, in Nannamukku panchayat there is no the question of payment of wages in kind. All payments of wages are made in cash.

Further, all of the workers in the sample mentioned that the changes in the mode of payment were favourable to them and according to 78 percent of workers in Nannamukku panchayat and 92 percent (46 persons) in Kuzhalmannam panchayat their union was responsible for the favourable changes in the mode of payment.

6.16 Farm Job Satisfaction

Job satisfaction improves productivity and loyalty of workers. It boosts up the morale of workers and is an intrinsic motivator of workers. Both economic and non-economic factors influence job satisfaction level of employees. The study found that 15 female (43 percent) workers and 10 male workers (66.67 percent) in Nannamukku panchayat are satisfied with the present farming job. Nearness to home, facility to work along with friends and relatives, better employer-employee relationships, and possibility to conduct own-farming along with job etc. are the reasons cited by the workers for their satisfaction.

At the same time, reduction in employment opportunity, lack of availability of sufficient job, drudgery, inferior status, low wages and benefits etc., are the major reasons for dissatisfaction of the workers in Nannamukku panchayat.

When compared to the job satisfaction level of the workers of Nannamukku panchayat, workers in Kuzhalmannam are less satisfied in their job. It is only three female workers (8.57 percent) and three male workers (20 percent) of this panchayat are satisfied in their present farming job. Reasons for satisfaction of females are “nearness to homes, while two men like the farming job due to less working time and the due to chance for conducting own farming.

Major reasons for reduced job satisfaction are low wages, drudgery, bad working conditions, inferior status, lack of availability of continuous job etc are the major reasons cited by the workers.

6.16.1 Non-Farm Job satisfaction

Since, the workers do not get sufficient farm jobs; they undertake several kinds of non-farm jobs. In Nannamukku all the workers perform different kinds of non-farm work. Data shows that, wages and working conditions of non-farm work is better than those of farm work. In addition to these, availability of sufficient works throughout the year adds attraction to the nonfarm work and, at present, the younger generation prefer non-farm work over farm work.

According to the data, 17 female workers (49 percent) and 7 male workers (47 percent) are satisfied with their present non-farming job also. This, when compared to the satisfaction level of male workers of farm jobs is less satisfactory, but in case of males, it is higher. Better wages, better working conditions, less working hours, easy nature, and better status are the reasons for their satisfaction.

At the same time, distance from home, more hours of work, impossibility to conduct own farming etc., are the reason for their dissatisfaction.

In Kuzhalmannam panchayat, 14 male workers (40 percent) and eight male (53.33 percent) workers are satisfied with their present nonfarm jobs. Better wages, better working conditions, easy nature of the job, power and prestige etc., are the major reasons for their satisfaction. At the same time more than one- half fo the

females and 7 (47 per cent) of the female are not satisfied with their nonfarm jobs. Low wages, difficulty. Bad working conditions, more hours of work, more hours of work and inability to carry on own farm, etc are the reasons for dissatisfaction.

6.17 Trade Union Membership and Involvement in Union Activities

In Kerala, strong trade union activities can be seen among the farm workers. Trade unions of farm workers are the prominent wing of the federations of trade unions formed by different political parties. Strong and militant trade union activism followed by workers unions in the earlier days are the major reasons for the socio-economic development of the farm workers and has played an important role in the elimination of various kinds of socio-economic exploitations of the farm workers and the lower caste people by the farmers and land lords. Palakkad district was one of the strongholds of militant trade unionism in Kerala (see chapter 3). But Malappuram district is not so. In this district, instead of the workers problems and exploitation, the problem of tenant farmers and peasants were important. Majority of farmers were small and marginal farmers who carry on the land leased by them, who work with their family members and outside workers were less when compared to that of Palakkad. Thus, farm workers union was not gathered momentum in this district as that of Palakkad or Alappuzha districts of Kerala.

In the study areas i.e., Nannamukku panchayat of Malappuram district and Kuzhalmannam panchayat of Palakkad district, KSKTU (Kerala State Karshaka Thozhilali Union) is more active than other unions. Most of the farm workers in these two panchayats are members of this union.

The study found that 94 percent (47 persons) workers of Kuzhalmannam panchayat and 26 female workers and all the male workers (82 percent) in Nannamukku panchayat are members of trade unions. This shows that when compared to Kuzhalmannam panchayat, fewer workers are members in trade unions in Nannamukku panchayat.

6.17.1 Reasons for Joining Trade Unions

Trade unions are formed for the purpose of protecting the interests of members. The basic purpose of an individual behind joining trade union will be to

ensure solidarity among the workers and to protect their employment related interests. Now we can evaluate the reasons behind joining trade union by the farm workers of the study area

Table 6.5
Reasons for Joining Trade Unions

Reasons	Kuzhalmannam		Nannamukku	
	Persons	Percent	Persons	Percent
Political attachment	5	10	5	10
Get membership in welfare fund	17	34	13	26
Political attachment and pressure of friends and relatives	3	6	4	8
Political attachment and to get membership in welfare fund	15	30	12	24
Political attachment and solidarity among the workers	7	14	7	14
Non-members	3	6	9	18
Total	50	100	50	100

Source: Survey Data

From the table given below (Table 6.5), it could be understood that there are many purposes behind joining and continuing membership the trade unions. Out of these political attachment and to get membership in welfare fund are the two major reasons mentioned by the members of trade unions in these tow panchayats. The single most important reason for continuing membership in trade unions is to maintain membership in the social welfare funds. To many members interviewed, trade union membership means membership in the social welfare fund. It is also important to note that one of the important reasons for the formation of trade unions by the political parties is to strengthen their party set up through organising different groups of people engaged in different activities and having different socio-economic interests. Reasons for joining trade union

6.17.2 Payment of Subscriptions

Involvement and loyalty in trade union activities of members can be evaluated on the basis of payment of subscriptions and membership fee. Accordingly, 18 females (51 percent) and 7 males (47 percent) workers in Kuzhalmannam pay subscriptions regularly as prescribed by their unions. But it is only two female workers and 5 male workers, who pay regularly the subscriptions as prescribed by their union in Nannamukku panchayat. This shows that in Nannamukku members' attachment with the union is not as strong as that of Kuzhalmannam panchayat.

6.17.3 Participation in Meetings and Other Activities Sponsored By the Unions

Another method for evaluation of attachment of members is the level of participation in meetings, conferences, strikes and other activities sponsored by their unions. The study found that (Table 4-6), two male workers in Nannamukku panchayat participated regularly in all the meetings conducted by their union. Further, five male workers and five female workers often participate in the meetings and conferences, while, three male workers and 20 female workers attend all meetings and conferences, if they have sufficient time. At the same time, six female workers rarely attend meetings and conferences and other such activities sponsored or conducted by their union.

Table 6.6
Level of Participation in Meetings and Conferences

	Kuzhalmannam	Nannamukku
Regularly	10 (20)	2(4)
Often	19(38)	10(20)
Rare	5(10)	6(16)
When there is time	13(26)	23(46)
Not members	3(6)	9(18)

Source: Survey Data

In Kuzhalmannam panchayat, 10 workers (20 percent) regularly attend meetings and conferences conducted by the unions. Similarly, 38 percent participate often in the meetings and 26 percent participate in all the meetings, if they have time. At the same time, five workers' (10 percent) participation in union meetings is very rare. Comparison of the level of participation by the union members of these two panchayats in their meeting show low level participation in Nannamukku panchayat.

6.17.4 Level of Participation in the Recent Strikes and Other Activities

In order to ascertain members' involvement in union activities, another question regarding their level of participation in strikes or other activities sponsored by the unions either at the regional level or district level within one year was asked. Their responses are summarised in the table (Table 6.7) given below.

As Table 6.7 shows, five male and five female workers in Kuzhalmannam panchayat have participated in almost all strikes and other activities like picketing, dharna, etc conducted by their union either at local level or at district levels. Similarly, nine male workers and 23 female workers participate in such activities, if they have sufficient time. At the same time, there in one male worked and four female workers who participation is based on the merit of the problem.

Table 6.7
Level of Participation Strikes and Other Activities

	Kuzhalmannam		Nannamukku	
	Male	Female	Male	Female
Participation in strikes and other activities	5	5	2	2
All strikers and activities	5	5	2	2
Based on merit of the problem	1	4	None	None
If there is time	9	23	8	19
	15	32	8	21

Source; Survey Data

In Nannamukku panchayat, four workers, participate in almost all strikes and activities, while eight male works and 19 female workers participate if they have time to participate in such activities. Thus, we can see the participation level of union workers in Nannamukku panchayat is far lower than that of Kuzhalmannam panchayat.

6.17.5 History of Participation in Various Strikes

Enquiry was also made about the participation and involvement of strikes for common causes of farm labourers conducted by the union in earlier periods in these regions.

Table 6.8
History of Participation in Strikes

	Kuzhalmannam		Nannamukku	
	Male	Female	Male	Female
Participation In Various Strikes Conducted By Unions				
Strikes For Increasing Wages / Mode of Payment of Wages	10	14	None	None
Strikes For Reduction of Working Time	7	12	Non	None
Strikes Against Mechanization	2	4	None	None
Strikes For Protection of Rice Field (Vettinirathal)	None	None	None	None
Strikes For Implementation of Land Reforms	2	4	None	None

Source: Survey Data

The table (Table 6.8) shows that, 10 male workers and 14 female workers (46 percent) in Kuzhalmannam panchayat had participated in the strikes for increasing wages or to change the mode payment of wages. Similarly, seven male workers and 12 female workers (38 percent) had participated in the strikes for reducing working time; two male workers and four female also have the memory of participating in the strikes against tractor in their regions and six workers (12 percent) had participated in the strikes conducted by their unions for land reforms. But none of them have participated in the strikes for protection of rice fields (vetinirathal samamram)

At the same time, there are no workers in Nannamukku panchayat who had participated in strikes for increasing wages or for changing the mode payment of wages or against mechanisation. Since, paddy fields in this area belong to the Kole lands, conversion of land for other purposes is difficult, thus, there was no need organising a strike for the protection rice fields. Thus, it could be mentioned that the workers of Nannamukku panchayat had no memory of participating in the local level or regional level strikes for common causes.

6.17.7 Justification of Strikes Organised by the Union

As members of the union and since many had participated in different strikes conducted by their unions, it was asked that, in the changed circumstance in Kerala, whether, they can justify the strikes conducted by their union or participated by them.

Table 6.9
Opinion about the Past Strikes

Justification of the strikes	Kuzhalmannam		Nannamukku	
	Male	Female	Male	Female
All strikes are justifiable	7	10	4	8
Majority were right/ justifiable	8	12	7	10
No commands		10	4	10
Non-members		3		9
Total	15	35	15	26

Source; Survey Data

The study found that (Table 6.9) 34 percent of the sample in the Kuzhalmannam panchayat mentioned that all strikes conducted by their unions were right or justifiable or appropriate to the situation when the strikes were

conducted. Similarly, 40 percent of them mentioned that majority of the strikes were right or justifiable and 20 percent, all of them are females mentioned that they have no commands over the question of appropriateness of strikes conducted by their union in the past.

The workers in Nannamukku panchayat, even though they had not participated in the strikes, 24 percent believe that all the strikes conducted by their union were appropriate to the situations prevailing at that time. Similarly 34 percent believe that majority of the strikes were right and 28 percent of the workers did not divulge their opinion. Thus, it could be stated that, in the changed situation too, the works believe that their trade union activities in the past were right, and these activities have resulted in their socio-economic advancement.

6.17.8 Desire to Continue Membership in the Union

An enquiry about their future desire to take part in the union activities and continuation of membership was also made. Accordingly, it was found that, 25 female members and 10 male members (70 percent of the workers) in Kuzhalmannam panchayat wish to continue their membership in future also. Further, 13 female and 10 male members (46 percent) stated that they will remain in the same union, even if it stands against their individual economic interest. This shows the belief of the workers in their present union and leadership.

In Nannamukku panchayat, 20 female workers and 12 male workers (64 percent) mentioned that they wish to continue membership in the union. Further, eight male workers and 12 female workers added that they will continue their membership in the same union even if the union stands against their personal economic interest. These discussions reveal that many of the workers still strictly hold their union as a part of their life.

6.17.9 Reasons for Not Taking Membership in Trade Unions

It has been seen that, 3 workers in Kuzhalmannam and nine workers in Nannamukku are not members of any trade union. Major reasons cited by them for not joining in the trade union are lack of interest (3 workers), lack of time (3 workers) and political reasons (4workers). Since in these two panchayats, the only active unions are the KSKTU (sponsored by CPIM) and DKTF (sponsored by

Congress), workers belonging to other parties find it difficult to join these unions due to their political rivalry.

6.18 Mechanisation

The present study is concerned with evaluation of the attitude of different stakeholders of paddy cultivation towards mechanisation of farm operations. We have dealt in the earlier chapters the meaning, impact and effects of mechanisation by reviewing earlier studies. In this part, we deal with different aspects of mechanisation and attitude of workers towards mechanisation of the study area. At this juncture, it is also important to note that, in this study for the purpose of limiting the scope we consider only tractor, power tiller, and combine harvester, which are commonly used machines in the paddy fields of Kerala.

6.18.1 Knowledge of Operating Machines

Tractor and other machines were in use in Kerala for the last 70 years or more. There was sufficient time for the workers to learn operations of different machines. Knowledge of operations of farm machines is a direct measure of the attitude of workers towards mechanisation. A person having a favourable attitude towards a particular machine or equipment will surely try to learn its operation. However, it depends upon a lot of variables and circumstances in which or under which the machine is used, complexity of its operation, and faculty to learn operations etc.

The study found that three male farm workers in each of these two panchayats know operation of farm machineries. Two of them in each panchayat know the operations of power tillers and one each in both the panchayats knows operations of both tractors and tillers. All these persons have learned operation by working as assistant or helper of the main operators of these machines.

Further, two male workers in Nannamukku panchayat wish to learn operations of different farm machineries, three female workers from both of the panchayats wish to learn operations of transplanter. This shows the changing attitude of farm workers towards farm machines.

6.18.2 Loss of Employment Due to Mechanisation

One of the important allegations against farm machineries is that, mechanisation leads to unemployment among the farm workers. It is sure that machines are used to replace human labour and animal labour, and the replacement of human labour will lead to loss of employment to the existing workers. If alternative employment opportunities have not been created, mechanisation will result in growth of unemployment. Thus, workers and trade union strongly oppose mechanisation. In our state also, up to 1990s, every attempt from the part of farmers to introduce tractors and other machines were opposed by trade unions and workers in Kerala and several strikes were also conducted against mechanisation. We have also seen that in Kuzhalmannam panchayat also strikes have been conducted against the use of tractors. A discussion with the workers regarding the loss of employment and its aftermath is given below (Table 6.10)

Table 6.10
Alternatives to the Job Loss Due to Past Mechanisation

	Kuzhalmannam		Nannamukku	
	male	female	male	female
Remain unemployed and went for non-farm job in the village	8	25	2	30
Went for non-farm job and undertook farming taken on lease	2	-	3	0
Migrated to other parts of the state for employment	2	-	2	0
Migrated to other state/countries	1	-	1	0
Remain unemployed	-	10	-	5

Source: Survey Data

All the female workers and 12 male workers in the Kuzhalmannam panchayat have mentioned that they have lost employment due to mechanisation in the past. Similarly, all of the workers, without any distinction between male and female mentioned that their parents and relatives working in paddy fields also have lost jobs due to mechanisation. According to them, tractor have led to loss of workers engaged in ploughing and other land preparation operations, combine harvester has resulted in large scale employment loss to the female workers; who eagerly wait for harvesting period to earn their livelihood for the whole year. Another important threat by the workers is extended use of weedicides in the study areas. It has resulted in the reduction of employment in weeding. Now, the workers

in Kuzhalmannam panchayat are worried about the extensive use of transplanters, which gathers popularity currently in this region. According to the workers, at present they are getting a few days work in transplanting, that will be lost if transplanter gather popularity and its extensive use in the area. This shows that, mechanisation has adversely affected farm workers and has resulted in employment loss to the workers. The extent of work loss we have discussed in the earlier part of this chapter.

Similar opinion is also made by the workers of Nannamukku panchayat. According to seven male workers and all the female workers, they have lost jobs due to tractors, power tillers and combine harvesters. They are very much concerned about the combine harvester, which has reduced employment opportunities of the female workers to the bottom level. Further, extended use of the weedicide has also adversely affected the employment opportunities of female workers. At the same time, eight male workers in the panchayat have mentioned that mechanisation has not resulted in job loss to them. Further, all the workers have mentioned that their parents and relatives also have lost job due to mechanisation in the paddy fields in the area.

From the discussion, it is clear that mechanisation in farm operation has resulted in job loss to the farm workers. They have to face the difficult situation as shown in Table 6.10. The table shows that 66 percent workers in Kuzhalmannam panchayat and 64 percent workers in Nannamukku panchayat went for non-farm works and in those days, when non-farm works were not available, they remained unemployed. Similarly, two workers in Kuzhalmannam and three workers in Nannamukku went for non-farm work and undertook land on lease for paddy and other cultivations. Further, three each male workers from these panchayats migrated to other states or countries and ten female works in Kuzhalmannam and five female workers in Nannamukku remained unemployed. Thus, it could be understood that many of the workers have to remain unemployed due to farm mechanisation in these two panchayats.

6.18.3 Readiness to Conduct Strike at Present and in Future

Socio-economic and labour market conditions of Kerala have been changed too much. The age old miseries and socio-economic exploitation of the labouring

class by employers and land lords have been completely disappeared and have become past history. At present, farmers and employers find it difficult to get adequate number of workers at the prevailing wage rates. Severe scarcity of manual workers and high wage rates in the midst of mass unemployment are two outstanding features of the labour market of Kerala. Large inflow interstate migrants to meet the ever-growing demand for manual workers is yet another important feature of the labour market of Kerala. Thus, the loss of employment, reduction in employment opportunities, reduction income and employment of workers, etc are obsolete slogan in Kerala. Further, we have seen that, young people are not coming forward to undertake farming jobs and the average age of farm workers is above 50 years. By the end of this generation of farm workers, there will be no a class of workers to be called as farm workers. Thus, at present and in future, farm mechanisation is essential. However, the opinion of the existing worker is very important, because they are the people to strike as workers and as the union members.

Table 6.11
Reasons for Not Opposing Farm Mechanisation

	Kuzhalmannam		Nannamukku	
	Male	Female	Male	Female
Without mechanisation rice farming cannot survive and difficult nature of farming operation	4	20	3	15
Sufficient nonfarm employment is available	11	5	8	13
Lack of availability of farm workers		10	4	7
Total	15	35	15	35

Source: Survey Data

All the workers in both the panchayat mentioned that due to reasons mentioned in the table given above, it is very difficult to oppose farm mechanisation in the present situation in Kerala. From the table (Table 6.11) it can be understood that, workers too have understood the labour market conditions of Kerala. According to them (48 percent in Kuzhalmannam and 36 percent in Nannamukku), for survival of paddy cultivation and due to the difficult nature of farm operations mechanisation is essential. According to 32 percent workers in Kuzhalmannam panchayat and 42 percent workers in Nannamukku panchayat sufficient nonfarm employment is available, loss of farm employment will not create any problems to them. Similarly more than 20 per cent workers in both the

panchayat know that, actually, there is lack of availability of farm workers in Kerala. This shows that their lack of readiness to oppose or strike against mechanisation.

Table 6.12
Opinion about the Readiness to Strike in Future

	Kuzhalmannam		Nannamukku	
	Male	Female	Male	Female
Yes	7	10	7	5
No	6	14	4	14
undecided	2	11	4	16
Total	15	35	15	35

Source: Survey Data

Discussion with them also shows that majority of them are reluctant to strike in future also. Their opinion regarding their readiness to strike in future is given in the Table 6.12.

From the table (Table 6.12), it could be understood that 34 percent of workers in Kuzhalmannam and 24 workers in Nannamukku are ready to participate in strikes against mechanisation, if necessary. At the same time 40 percent of workers in Kuzhalmannam and 36 percent workers in Nannamukku are not ready to participate in strikes. Further, 26 percent workers in Kuzhalmannam and 40 percent workers in Nannamukku are undecided whether to participate or not to participate in future strikes against mechanisation. Further, the workers also expressed their readiness to co-operate with the farmers in future for the purpose increasing productivity and production of paddy.

6.18.4 Attitude of Workers towards Mechanisation

The core concern of the study is to evaluate attitude of different stakeholders of paddy cultivation towards farm mechanisation. As we have stated, attitude is an important concept that is often used to understand and predict people's reaction to an object or change and how their behaviour can be influenced. It is a mental and neural state of readiness, organised through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations to which it is related. It can be a learned orientation, or disposition,

toward an object or situation, which provides a tendency to respond favourably or unfavourably to the object or situation.

Workers are an important part of the production process, especially in labour intensive method of production process. Mechanisation is generally, adopted to replace labour by capital, for the purpose increasing productivity, cost reduction and profit maximisation. Earlier we have discussed the need for paddy farm mechanisation, especially, in a state like a food-deficient Kerala, which faces severe shortage and high wage rates of farm workers and declining trend in the area under paddy cultivation and production. But, again, in a state like Kerala with strong and militant trade unions and collective bargaining power, with earlier history of defeating the initiatives of farmers and land lords to mechanise farm possess special concerns. In this, state, it was difficult to introduce a change that may adversely affect the workers.

However, conditions have changed too much. Sufficient employment opportunities with better wages with best working conditions are available to those willing to work and the state faces too much scarcity in manual and farm labourers. Further, a large number of interstate migrants work and earn better wages and income from Kerala. Thus, at present loss of employment and income by replacement of workers by machineries is not a problem.

Changes in the socio-economic and political conditions will result in changes in values, attitudes and perceptions of the people and society. Workers, being a part of the society, considerable changes will have taken places in their attitudes also towards, employers, fellow works, trade unions etc. this section deals with the attitude of the farm workers towards farm mechanisation in the state in the changed socio-economic and labour market conditions.

6.18.5 Tools for Measuring Attitude of Workers

As it is stated in Chapter I, attitude of people towards a particular aspect, thing, or object, or phenomenon can be measured and studied through attitude scales. These scale attempts to determine what an individual believes, perceives or feels. There are different methods of measure attitudes. Out of these the most

widely used method of scaling in the social sciences today is the Likert Scale developed by Rensis Likert in 1932, due to the easiness in construction and reliability.

In this study also, Likert's Summative Scaling Techniques has been used for measuring the attitude of workers. Seven point scales were used to measure attitude of workers and farmers. Questionnaire executed among the workers included 12 statements, containing both positive and negative statements. Values or ranks of their possible responses and basis for measuring and interpreting the attitude is same as mentioned in Chapter 5, for measuring the attitude of farmers. Thus, it is not repeated here.

6.18.6 Workers Responses

For the purpose of ascertaining the attitude of workers, twelve statements were given. Their views on the statement are recoded and analysed. Summary of their responses to these statement are given in Appendix VIII.

It can be seen from the table, that most of the workers (93 percent) believe that mechanization has resulted in the reduction of their employment opportunities. Significant difference cannot be noticed among the views of workers in these two different panchayats. At the same time, most of the workers in Nannamukku panchayat do not believe that mechanization has resulted in reducing their wage rates. But, majority of the workers in Kuzhalmannam panchayat believe that mechanisation has resulted in reducing their wage rates. We have seen that the wage rates of Nannamukku panchayat is Rs. 100 to Rs. 200 more than the wage rates of Kuzhalmannam panchayat. This difference in the wage rate can be the reason for such a belief.

At the same time majority of the workers under study believe that mechanisation has resulted in reducing the drudgery of farm work. But, some workers believe that mechanisation has not only resulted in reducing the drudgery, but the employment opportunity itself has reduced. At the same time, we can see that, they agree that mechanisation helps in completing the farm operations on time.

Their opinion regarding the role of mechanisation in reducing the cost of cultivation is mixed. More than 50 percent of workers in both the panchayats believe that mechanisation has resulted in cost reduction and increasing the profit of farmers. However, many of them do not believe that mechanisation has resulted in improving the working condition of farm workers. Similarly, majority of them do not agree that mechanisation requires more chemical and thus, it is harmful to the workers. At the same time 58 percent workers in Kuzhalmannam moderately agreed with this statement. According to them, mechanised farming requires more chemical and thus, it is harmful to the workers.

Similarly, more than 50 percent of workers in both the panchayats expressed their disagreement regarding the statement that, at present, workers support mechanisation. This shows that, at present too, in the changed socio-economic conditions too, farm workers view mechanisation as an enemy of the workers. At this juncture, it is important that, majority of the farm workers are aged, they have lost employment and faced difficulties due to mechanisation in the past. To such, workers supporting mechanisation will be a difficult task.

It is important to note that 36 percent of the workers in Kuzhalmannam agreed to the statement that at present trade unions support mechanisation without considering the workers. Similarly, 60 percent of the works in this panchayat kept distance from responding either negatively or positively to this statement, they neither agreed to the statement nor disagreed. As we have seen that, in the past many of these workers and their unions have strongly opposed and fought against mechanisation in this panchayat, and many of the workers have directly taken part in the strikes and agitations. Many of them, at present too engage in farming activities. Introduction of new machines and wide spread use of machines without any resistance from trade unions might have paved way to maintain such a belief among the farm workers in Kuzhalmannam panchayat. But in Nannamukku panchayat workers do not believe that trade unions support mechanisation by forgetting them. Further, we have seen that workers in this panchayat have not taken part in strikes and agitations against mechanisation in the past or witnessed strikes against mechanisation. But at present, they are worried about the migrant Bengali workers.

The last two statements are meant to evaluate the attitude of workers towards future mechanisation process. The workers agreed that farm workers must learn operations of farm machines and for that the government should take initiative. At present there is increased demand for training in farm machineries and equipments, especially from among the female workers. Many local self governments at different levels have taken initiative for providing training programme in the operations of farm machineries to reduce the scarcity of farm workers and to facilitate more and more mechanisation in farm operations.

6.18.7 Overall Attitude

Based the analysis of the above statements (Appendix VIII) now, it is possible to measure and evaluate the overall attitude of workers towards mechanisation.

Since there are 12 statements and the mean score (value) of each statement is four, a worker shows favourable attitude when his mean score for the statement is more than four. Hus, his overall attitude towards mechanisation can be measure by comparing total calculated mean with the expected mean score ($12 \times 4 = 48$). He shows favourable attitude towards mechanisation if his total mean score is above 48 (12×4). However, for measuring the exact attitude, standard deviation is generally added with the mean score. If the means score is above this sum (mean score + standard deviation) the worker is said to possess favourable attitude towards mechanisation. If a workers' sum is above, the mean score but is below the sum so obtained by adding the mean score and standard deviation, the worker's attitude is neither positive nor negative, he is said to be indifferent. (Mean Score \pm standard deviation). If his score mean is below the Mean Score \pm Standard Deviation; he is said to possess negative attitude towards mechanisation process.

Similarly, overall attitude of the group can be ascertained by comparing the total means score of the group with the expected means score. If the observed means score is more than the expected mean score of the group, it can be rightly said that the group favours mechanisation and vice versa. The following table shows summary of analysis conducted for this purpose.

Table 6.13 (a)
Summarized Statistical Analysis Statement

	N	Range	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance
Attitude	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Valid N (listwise)	100 100	21	40	61	4918	49.18	.433	4.331 18.755

Table 6.13 (b)
Summarized Statistical Analysis Statement

Attitude	Test value = 48				
	t	df	Sig. (2-tailed)	Mean difference	95% Confidence Interval of the Difference
	2.725	99	.008	1.180	Lower .32 Upper 2.04

Source: Survey Data

The tables (Table 6.13(a) and (b)) show that, the mean score of the 100 workers of both the panchayats taken together is 49.18 and the standard deviation is 4.331. As there are 12 items in the seven point attitude scale the expected score for neutral attitude is 48. But here the average score is 49.18. The mean test shows that there exists significant difference in hypothetical mean value=48 with p-value 0.008. Thus, at present, workers attitude towards mechanisation is positive or favourable. However, when we conduct more rigorous test of measuring attitude by adding the standard deviation with the mean hypothetical value we get 52.331 (48+4.331) and the mean score of the sample is only 49.18, it can be said that the attitude of workers as a whole towards mechanisation is neither favourable nor unfavourable.

6.18.8 Gender difference in attitude

We have seen that female workers are the most affected group of workers due to farm mechanisation than male workers. Then it becomes imperative to ascertain the attitudinal difference between male and female workers toward farm mechanisation process. The following tables show the summary of analysis conducted for this purpose

Table 6.14 (a)
Mean and Standard Deviation of Male and Female Farm Workers

Gender	N	Mean	Std. Deviation	Std. Error Mean
Male	30	52.40	4.515	.824
Female	70	47.80	3.450	.412

Source: Survey Data

Table 6.14 (b)
Table Showing the t- Test for Equality of Means

Attitude	Levene's Test for Equality of Variances		t- Test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	5.278	.024	5.553	98	.000	4.600	.828	2.956	6.244
Equal variances not assumed			4.991	44.165	.000	4.600	.922	2.743	6.457

Source: Survey Data

Tables 6.14 (a) and (b) shows that, the mean score of attitude of Male towards mechanisation is 52.40 and that of Female is 47.80., the p-value of difference of means is 0.000. Thus, we can say that there exists significant difference in attitude of male and female workers on mechanisation. Further, it can be seen that male workers show more favourable or positive attitude towards mechanisation, than that of female workers. As mentioned earlier, farm mechanisation has seriously affected female workers than that of males. Further, sufficient employment opportunities are available to the male workers when compared to the female workers. These can be reasons for their increased resentment towards farm mechanisation.

6.18.9 Inter Regional Difference in Workers Attitude

In chapter I, it was mentioned that, even though the districts of Malappuram and Palakkad lie adjacent, both possess different socio-economical and political characteristic features. These characteristic features will affect their attitudes and perceptions also. Further, Palakkad district is a strong hold of left

political parties, while Malappuram district is that of right wing political parties. This political difference will surely influenced the workers attitude also. However, farm workers as a class will be class conscious. Thus, it is essential to know whether there is any significant difference between the attitude of farm workers of Nannamukku panchayat (Malappuram district) and that of the workers of Kuzhalmannam panchayat (Palakkad district). Summary of the tests conducted to ascertain and evaluate the difference, if any, is given in Tables 6.18(a) and (b).

Table 6.15 (a)
Mean Score and Standard Deviation of Kuzhalmannam and Nannamukku Panchayats

Attitude	Panchayats		N	Mean	Std. deviation	Std. Error Mean
	Kuzhalmannam		50	48.40	4.412	.624
	Nannamukku		50	49.96	4.145	.586

Source: Survey Data

Table 6.15 (b)
Table showing summary of t-Test for Equality of Means of farm workers of Kuzhalmannam and Nannamukku panchayats

Attitude	Levene's Test for Equality of Variances		t- Test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	.016	.898	-1.822	98	.071	-1.560	.856	-3.259	.139
Equal variances not assumed			-1.822	97.620	.072	-1.560	.856	-3.259	.139

Source: Survey Data

Tables 6.15 (a) and (b) highlight that the mean score of attitude of workers of Kuzhalmannam towards farm mechanisation is 48.40 and that of Nannamukku is 49.96. Further, the p-value of difference of means is 0.71. This shows that there exists significant difference in attitude of workers of these two panchayats towards farm mechanisation. Since the mean score of workers of Nannamukku is higher (49.96) than that of the workers in Kuzhalmannam (48.40) , we can conclude that the workers of Nannamukku panchayat (Malappuram district) shows more favourable attitude towards farm mechanization, when compared to that of the workers of Kuzhalmannam panchayat (Palakkad district).

The reason for such a favourable attitude among the workers of Nannamukku is the availability of non-farm employment to the workers. In Nannamukku only one crop is possible. It provides work to the farm workers only for a few days, maximum 60 days in a season. During the off-peak seasons, the workers engage in different works. Thus, loss of work due to mechanisation will not affect seriously the workers of Nannamukku panchayat when compared to the workers of Kuzhalmannam, where two crops are possible and workers mainly depend on farm work for their livelihood. In addition to the availability of non-farm employment, both farm wages and nonfarm wages in Nannamukku panchayat are better than that of Kuzhalmannam panchayat. Thus, the workers of Nannamukku are not concerned so much about farm mechanisation when compared to that of farm workers in Kuzhalmannam panchayat.

6.19 Employment Pattern of Workers' Family

One of the important reasons for labour shortage in paddy cultivation in Kerala is due to the attitude of younger generation towards farming jobs. Further, socio economic development of the traditional labour supplying communities has also led to labour shortage. Table given in Appendix VI shows the occupation of parents and other members in the worker families.

From the table (Appendix VI), it could be understood that parents of all the workers in Kuzhalmannam panchayat are/ were agricultural labourers. Similarly, husbands of 69 female workers and wives of 67 workers are also agricultural labourers. But it is only four workers' (eight percent) first son and 2 workers' second son is employed in agriculture. Thus, 92 workers' sons are working in non-farm sectors, like construction, transportation, business government service, private firms, and other employment. Similar is the case of daughters of the agricultural workers. It is only six workers first daughter and only one worker's second daughter is employed in agriculture. Thus, it could be state that, most of children of farm workers of Kuzhalmannam panchayat have shifted away from agriculture to other employments.

The employment pattern of families of Nannamukku panchayat is also not different from that of Kuzhalmannam panchayat. As the table given in Appendix

VI shows, parents of all the workers are/were agricultural labourers. But, only husbands of 14 female workers (40percent) are agricultural labours, while 60 percent of the husbands are employed in non-farm sectors. Similarly, only seven male workers' wives are employed in agriculture and the remaining are employed in other sectors. This shows that from the present generation itself, the shifting away from farm jobs has begun. Similarly, it is only seven workers' first sons have entered in to the occupation their parents. None of the second sons have selected their parents' occupation. Similar trend can be seen in the case of daughters of agricultural workers also. First daughter of seven farm workers and second daughter of three workers' have entered into their parents' occupation. All the other workers' children have opted jobs other than that of their parents. In other words, they have left farming job and are at present employed in construction, transportation, business, government service, private firms, and other activities.

Thus, it could be re-iterated that, new generation of workers are not coming forward to undertake farming jobs as their occupation. They prefer to work in construction, business transportation and other sectors. It is also important to note that, the wages or salaries and working conditions in these different sectors, where the new generation employed is less than that of the agricultural job. Even then they are not willing to work in farm sector. It is due to the attitude of the youth and also the society, who consider farm employment as inferior job and farm workers as the lowest class people. This attitude should be changed, then only sufficient younger generation will come forward and the scarcity of labourers in the midst of mass employment could be reduced.

6.21 Land holding pattern of the workers

Agricultural labourers were one of the underprivileged classes in the society in the earlier days. They were more or less like slaves and did not possess any right in land. They lived in the lands of their land lords. However, Land reform implemented in Kerala brought some changes in the land holding patterns. Land ownership pattern of the agricultural labourers in given in the following table.

Table 6.16
Land Holding Pattern of the Farm Workers

Area (cents)	Kuzhalmannam		Nannamukku	
	No of workers	Percentage	No of workers	Percentage
Less than five	8	16	13	26
5 -10	20	40	18	36
10-20	16	32	14	28
20-50	4	8	3	6
50 and above	2	4	2	4
Total	50	100	50	100

Source: Survey Data

From the above table (Table 6.16), it can be understood that 16 percent of workers in Kuzhalmannam panchayat and 26 percent of workers in Nannamukku possess only less than five cents of land. Similarly, 40 percent of workers in Kuzhalmannam and 36 percent workers in Nannamukku possess only five to ten cents of land. At the same time, 32 percent of the workers in Kuzhalmannam and 28 percent workers in Nannamukku possess 20 to 50 cents of land, and two workers each in these panchayats possess more than 50 cents of land. Thus, it could be said that land holdings of majority of the workers is less than 10 cents. When land holding patterns of these two panchayats are considered, it can be seen that workers in Kuzhalmannam panchayat possess more land than that of Nannamukku panchayat.

Table 6.17
Area under Paddy Cultivation
(Number of Workers)

Area (Acres)	Kuzhalmannam		Nannamukku	
	owned	leased	Owned	Leased
Less than 0.50	2	0	2	0
0.50 to 1	1	1	2	2
1 - 2	0	0	0	2
2-5	0	0	0	4

Source: Survey Data

The table given above (Table 6.17) shows the area of paddy cultivated by the farm workers. According to the table, two workers in both the panchayat have cultivated rice in less than 50 cents owned by them. Similarly, one worker in Kuzhalmannam and two workers in Nannamukku cultivate paddy in 50 cents to one acres of land, owned by them, and two workers in Nannamukku in land taken on lease. Similarly, two workers in Nannamukku panchayat cultivate paddy in one to two acres of land and another four workers in two to five acres of land taken on

lease. This shows that workers in Nannamukku panchayat, when compared to their counterparts in Kuzhalmannam cultivate paddy in more area taken on lease. However, for cultivation purpose, they make use of tractors and combine harvesters and minimize the use of outside family labour. They perform almost all tasks by themselves or with the help of their family members to maximize their income. This shows that workers also, like farmers prefer machines over manual labour.

6.22 Conclusion

This chapter was devoted to the workers and mechanisation. In this chapter, we discussed the socio-demographic features of the workers, their employment and income patterns, wage structure, trade union attachment, job and wage satisfaction, and attitude towards farm mechanisation. As a part of the study, 35 female works from each of the panchayats and 15 male workers from each of the panchayats were interviewed.

Based on the data collected from primary sources through interviews, this chapter highlighted that the average age of farm workers in these two panchayats are above 50 years old, many of them have worked for more than 50 years in paddy cultivation and majority of them are experienced in non-farm jobs also. Majority of the workers belong to the scheduled casts and tribes and other backward communities.

The wage rates of both male and female workers in both the panchayats have increased over years but the number of working days is continuously declining year after year. During the year 2012-13, male in the Nannamukku panchayat has got only 31 farm working days and female has got only 21 farm working days. In Kuzhalmannam panchayat, male workers have work for an average 45 days and females for 51 working days. In addition to the farm work, all of them have undertaken non-farm also. Further, all the female farm workers are members of MNREGP and on average female workers have worked for more than 61 days under this scheme. According to the workers, reduction in area and

mechanisation are the major reason for decline in the number of working days. But Nannamukku panchayat the workers are worried about the Bengalis migrants workers; at present employers prefer them due to low wages. ‘

Average wages for male farm workers in Nannammukku is Rs.550 and that of females is Rs. 350. But female workers get Rs. 450 per day for nonfarm works in this panchayat. At the same time average wage rate of male farm works in Kuzhalmannam panchayat is Rs. 450 and that of female is only Rs. 200. For non-farm work female employees get Rs.350 per day.

Workers are not satisfied in their work and wages. Almost all employees belong to a particular trade union. Many of the workers had been taken part in strikes and agitations conducted by their unions, and some of the workers had also participated in the strikes conducted against farm mechanisation in Kuzhalmannam panchayat. But, at present the workers loyalty and attachment with union and level of participation in union activities seems to be declining. Many of them responded that they participate in union activities, only, if they have sufficient time.

Analysis shows that they have neither positive nor negative attitude towards mechanisation at present. However, males have more favourable attitude than females and workers in Nannamukku panchayat have more favourable attitude than that of workers in Kuzhalmannam panchayat. Thus, it could be concluded that at present neither the workers oppose nor favour mechanisation in paddy cultivation. However, in the earlier periods they had opposed and shown negative attitude towards mechanisation, their opposition has alleviated and they have reached in a stage in which they nether neither oppose nor favour mechanisation. However, many workers are interested in mechanisation and they agreed to the opinion that the farm workers have to learn operations of farm machineries and the government has provide necessary training facilities to the works to operate farm machineries.

Chapter 7

TRADE UNIONS IN KERALA AND FARM MECHANISATION

As mentioned in Chapter 4, Kerala is a state with strong trade unionism and collective bargaining power even among unorganized workers. Consequently among the Indian states, wage rate of Kerala is the highest and workers enjoy better working and living conditions, without any difference in organised or unorganised sector. However, experts differ in their opinions regarding the roles played by trade unions in the industrial and economic development of the state. Also, we discussed in the same chapter the nature of oppositions, resistances and strikes conducted by union against mechanisation in paddy cultivation, and understood that it was very difficult to mechanise paddy farming operations in those says.

Trade unions undertake many strategies to protect of current employment and income of their members, including militant activities. Since millions of agricultural workers depended paddy cultivation from the immemorial past onwards and lack of alternative employment opportunities and income for livelihood, agricultural workers in Kerala and their union have strongly opposed mechanisation in the past. Even they have resorted burning of tractors (Luddite type) and other assets of farmers to resist mechanisation to protect employment opportunities.

But at present, the socio-economic and political situations of Kerala are not the same as that of 1960s or 70s. Several paradigm changes have taken place in Kerala. At present farmers, even by paying highest rates of wages among Indian states, face it difficult to carry on farming operation on time due to the severe scarcity of labourers. Unwillingness among the young people to undertake farm jobs and manual jobs, increased employment opportunities in non-farm sectors especially in construction and service sectors, socio-economic development of the traditional farm labour supplying downtrodden communities, increased income of poor households to due to emigration and economic development etc., have adversely affected supply of farm labourers. Workers from Kerala are not

sufficient to meet the demand for manual workers in Kerala. The increased demand for labourer is met by the large number of migrants from other states.

Thus, at present, decline in employment opportunities and / or wage rates due to mechanisation is not a problem and unions' obligation to protect employment and income has become claptrap, especially in the case of farm workers of Kerala. Further, trade unions, being a wing of large political system, have social responsibility to consider needs of people at large and have to change accordingly by saying goodbye to the age-old, obsolete policies and attitudes. At present Kerala, facing severe deficit in food grains and other essential commodities need increased food grain production. It is the duty of trade unions to adjust with the needs of the society. Thus, attitudinal changes are essential. The question that, whether the farm workers' union still follow their age-old policies towards mechanisation or not creates problem. Answering this question is an important objective of the present study. Thus, as a part of the study, 10 leaders of important trade unions, active in the study area were personally interviewed. Among them, six leaders belong to KSKTU affiliated to All India Agricultural Workers Union (CPIM), and two each belonged to DKTU affiliated under Deseeya Karshaka Thozhilali Federation (Congress) and Kerala State Karshsaka Thozhilali Federation affiliated to Bharathiya Khet Mazdoor Union (CPI). Findings of interviews and discussions are summarised in this chapter.

7.1 Socio-Demographic Profile of the Leaders

All the leaders, excluding one are above 50 years of age. Similarly, all of them belonged to Hindu religion. Fifty percent of the leaders belong to SC/ST community and the remaining to Ezhava (OBC). Eight of them possess secondary educational qualification, one possesses diploma and the other has only primary education. All of them, in addition to the leadership of the trade union, hold key positions in their mother political parties. At present three of them are members of grama panchayat, two are members of development block, one is the president of Service Co-operative bank, and one was former block panchayat president also. Further, four of them are directors of different types of co-operative societies.

One of the leaders is an Ex-military man, possessing five acres of land and is a good farmer also. Two more leaders in Coyalmannom panchayat possess one-half acre of land. All the three leaders use tractors for ploughing and combine harvester for harvesting and post-harvesting operations. All these leaders are full time politicians and social workers also. However, of these two leaders, when I went to interview were in their small farms engaged in their own work. This shows that majority of the leaders who I did interview were not actual farm workers.

7.2 Opinion about the Economic and General Conditions of Rice Cultivation

Every Trade union has an important role in the survival, growth and development of the industry to which it belongs. For this purpose, union leaders collect valid information and they analyse each and every element that affect or may affect the industry, for benefit of their union members. Opinion of union leaders about the general economic conditions, profitability and viability of paddy cultivation in Kerala is worthwhile.

All the leaders, without any difference in their political outlook, strongly believe and unanimously agree that paddy cultivation in Kerala is uneconomical and farmers are not getting due reward for their efforts and investments. According to them, high wages or increased labour cost is not the reason for the low profitability or incurring loss. But the increased cost of other inputs such as fertilisers, pesticides, insecticides, seeds etc., is the major reason for making paddy cultivation uneconomical. Further, they argue that, farm work is very difficult, thus, the workers should get better wages. According to them, to make paddy farming economical, the support price for paddy should be increased and the inputs costs shall be reduced. For this purpose government has to provide more subsidies to various farm inputs. They also suggested that, the government should invest more capital in paddy cultivation and motivate farmers in increasing food grains production. Further, regular income should be guaranteed to the farm workers to ensure regular availability of farm workers.

7.3 Opinion Regarding Scarcity of Labour

According to the leaders scarcity of farm workers in Kerala is a reality. Farmers do not get the sufficient number of workers to complete their farming

operations on time. They also agreed that, if operations are not completed on time, farmers have to incur huge loss. They also agree that, at present, it is very difficult to complete farm operations by entirely depending on farm workers. Thus, all of them agreed that, mechanisation is a solution to the labour scarcity. But, certain conditions are laid down by the leader on mechanisation, which will be discussed later on in this chapter. All of them agreed that, considering the present scarcity of labour, mechanisation is good and it can increase paddy production in Kerala and may help in reducing the conversion of land to an extent.

While discussing the reasons for scarcity of labour the leaders mentioned that the young generation is not willing to do farm jobs. Major reason for the aversion of farm job and opting for non-farm job is not the drudgery or low wages of farm jobs. But, according to Velayudhan Vallikkunnu, State Vice President of KSKTU, lack of permanency of employment and regular income to the farm workers is the major reason for the negative attitude of the young generation towards farm jobs. Paddy cultivation is seasonal and thus, employment is also seasonal. Further, due to the conversion of paddy fields for different purposes, the area under paddy cultivation is constantly declining. Thus, workers are not getting enough employment during the peak agricultural seasons too. Further, introduction of machinery, especially, combine harvester has reduced lucrative employment (harvesting) to the farm workers, especially, females. Consequently, farm workers remain unemployed during the off-seasons and underemployed during the peak agricultural seasons. Thus, many of the able bodied young people withdrew from farming job to find employment in other sectors, especially construction, which offer them regular employment and income.

Thus, according to him, if it is possible to ensure and provide regular employment and income to the farm workers, there will be no scarcity of farm workers in Kerala. For this, he quoted examples of farming corporations and state farms owned by the Government of Kerala and that of MNREGP also. There is no scarcity of labourers in state farms. The workers in state farms perform the same tasks performed by other farm workers. Since, workers in the state farms get monthly salary, regular income and permanency of jobs; they are ready to do farm jobs. Similarly, workers prefer to go MNREGP work, because, it guarantees them

work and earnings for the prescribed days. Keralites prefer salaried jobs, even if the remuneration and benefits is less.

He also, mentioned that, the present demand of their union is that the government shall provide a monthly salary of Rs. 10,000 to every farm worker. For this purpose appropriate contributions can be collected from the farmers on the basis of the area of cultivation/yield/land ownership. Further, all other benefits, including maternity benefits, available to a salaried worker (organised sector), shall also be provided to the farm workers by the government. There shall be appropriate uniform also to the farm workers. Thus, according to him, by guaranteeing permanent income, benefits and status more workers can be attracted to farm jobs and the scarcity of labourers could be minimised. For this purpose, governments' interference is essentials in a country like India, to feed millions of people by providing adequate food.

Another important reason for scarcity of farm labourers is the attitude of people and society towards farm work and farm labourers. People consider farm work as an indecent job and all agricultural workers, without any difference in their social identity, are the people in the lowest strata. The society provides only inferior status to the farm workers. This attitude of the society has to be changed for this purpose awareness shall be created about the decency of farm jobs and importance and farm workers' contributions to the society.

7.4 Problems faced by the Present farm workers

Majority of the leaders are of the view that at present farm workers in Kerala do not face the problems of low wages, more working time, and exploitation. According to them, people of Kerala are well aware of the socio-economic situations of the present day world. Thus, there is no need for wage bargaining; problems of non-payment or under payment of wages or retrenchment etc are that of the olden days. The age-old *janmi* system, attached labour system etc. also have ended. Workers are free to undertake any work and for anybody. Further, they are also well aware of their rights and power and thus, there is no exploitation also. Three leaders mentioned that at present agricultural workers do not face any labour related problem.

But, six leaders mentioned that, lack of availability of sufficient job is the major problem faced by the workers. Due to shrinkage in the cultivating area and mechanisation, even during the peak agricultural seasons, sufficient jobs are not available to the workers. At present, a female farm worker receives only 12-15 days jobs in an agricultural season. Male workers condition is also not different. Thus, there is widespread unemployment and underemployment among the farm workers.

The leader in Nannammukku panchayat mentioned that migrants from West Bengal and Tamil Nadu pose problems to the workers in the area. They undertake farming operations, especially operations requiring large number of workers like transplanting, harvesting etc on contract basis per acre, comparatively at lower prices than that of the natives do. This has adversely affected employment opportunities of farm workers.

Thus, it could be said that, at present farm workers do not possess serious problems like low wages, socio-economic exploitations and dependence as that of earlier days.

7.5 Reasons for Reduction in the Area of Cultivation

Different groups of stake holders do have their opinions regarding a phenomenon, which will be entirely different from other groups, because each group views the phenomenon according to their views and interests. Discussions with the leaders regarding the decline in the area show that the major reason is the uneconomical nature of paddy cultivation in the state. Since we have already discussed the reasons for low profit or incurring loss in paddy cultivation in this chapter itself, it is not repeated here.

The second important reason cited by majority of the leaders, which has gathered momentum recently, is the large scale reclamation and conversion of farm land for commercial and residential constrictions, and the emergence of the real estate mafia. According to the leaders, this is the most important threat faced by paddy cultivation in the present days in Kerala.

Thus, according to the trade union leaders also, uneconomical nature of paddy cultivation and conversion paddy fields for other purposes are the major reasons for decline in the area under paddy.

7.6 Changing Orientation of Strikes

In chapter 4, we have briefly discussed the reasons, nature and orientation of strikes. From that, it could be understood that, in those days, majority of the strikes were against land-owners, against socio-economic exploitations, low wages, poor working conditions, mechanisation, for implementation of land reforms etc. Many of these strikes were more or less militant in nature and had resulted in loss of life and assets of both the farmers and workers as well government officials including police men. However, if we analyse the recent trends in the strikes and demands of trade unions, it could be understood that, there is a paradigm shift in the nature and direction of strikes. The table given in Appendix XI shows the reasons for strikes conducted by the trade unions whose leaders were interviewed for the study.

From the table given in Appendix XI, it could be understood that during the last ten years no trade unions has conducted strikes for increasing wages, reducing working time, changes in the mode of payment, denial of work, against mechanisation or against migrant workers. But at the same time it could be understood that almost all unions, except DKTF, had conducted strikes with all of the above demands before ten year ago. Thus, it could be said that, workers in the paddy fields get adequate wages, enjoy better working conditions and mechanisation in paddy fields and migrants are not problem to the workers.

At the same time, demands for their recent strikes (within ten years) were to control the increase in the prices of essential commodities and farm inputs, for increasing the social security benefits and measures as well as for protection of paddy fields. This shows that agricultural workers in Kerala, at present get adequate wages, enjoy better working conditions, and farm mechanisation and migrant workers is not serious problems to them.

Majority of the leaders mentioned that, the socio-economic conditions of Kerala has much changed, *janmi* system has been abandoned altogether, and

people are aware of the present labour market conditions and they do pay at least the prevailing wages without any hesitation or even more and better working conditions are also provided. There is no need to bargain for the prevailing wage rates. Workers wage rates get their wages revised annually and automatically. The standard working time of each category of workers for the day or standard work for the day in different regions or locality is also almost set at consensus and has been evolved over period of time. A worker is expected to work for the standard time and to do the standard work, without any external compulsion or even supervision. The employees in Kerala enjoy better wages and working conditions when compared to the rest of India. Thus, there is no need for strikes and agitations for increasing wages and improving the working conditions.

At present their demand are broad-based and inclusive. Unions consider the economic problems of the society as their own and conduct strikes for the problems faced by the society as a whole. Further, their strike for controlling or against increase in the prices of farm inputs is actually beneficial to their employers, who in the erstwhile days were considered as their enemies and exploiters. Further, their strike for protection of paddy fields, basically, it is meant to protect their employment, but actually helps in maintaining the ecological balance and protection of environment.

Thus, at present views and outlooks of farm workers have broadened, and now they are not only class conscious but also conscious of the problems of the entire society.

7.7 Mechanisation

Ascertaining the attitudinal changes among the trade unions of Kerala towards mechanisation in paddy fields is the major objective of the study. We have seen that, attitude of unions toward mechanisation was not favourable in the earlier days. They had opposed mechanisation strongly by resorting to militant agitation and activities for the purpose of protecting their existing employment and income. But at present, the socio-economic and labour market conditions of Kerala have changed too much warranting a total change in their policies, agendas and programmes. In this part we discuss the present attitude of trade unions towards mechanisation in paddy fields based on the discussions with the leaders.

7.7.1 Participation of the Leader in Strikes against Mechanisation

We have seen that in late 1950s, itself, tractors were introduced in Kerala, and unions had opposed it. These agitations were continued and farmers in many areas had to give up the use of tractors and other machines due to the resistance of farm workers in the past. Since many of the leaders are above fifty years of age, it would be interesting to evaluate their participation in these strikes.

Interview with the leaders show that, two leaders in Palakkad district belonging to the left wing had participated in strikes against tractor in the olden days as workers of the union and not as a leaders. But they cannot remember the exact year. As a part of strike, they have picketed the tractors, farms where tractors were used, and even have tried to burn tractor in farm (interview with Ponmala, Vice President, KSKTU, Coyalmannom Panchayat and State Committee member; Kuppan K., President Coyalmannom Area Committee and District Committee member of KSKTU). But, they cannot remember the exact year in which, the strike was conducted, they mentioned it can be on 1974-75. Later on the problem was solved by paying compensation to the permanent workers who have lost employment.

But, at the same time, leaders in Malappuram district have not taken part in strikes against mechanisation and the incidence of strikes against tractors or other farm machineries was not so extensive in this district as that of Palakkad. It could be due to the fact that majority of the farms in this district were owned by *janmies* and landlords, but it was operated by small and marginal peasants, who performed almost all farming jobs themselves with the help of their family members. Employment of outside labourers in large numbers was limited. Since these peasant farmers were the workers also, they knew the problems of farm workers and drudgery of farm work.

7.7.2 Loss of Employment and Reduction Wage Rate due to Mechanisation

One of the important objections levelled against mechanisation is that it leads to reduction of employment and wage rates of farm workers. it is sure that, machines are meant to replace the labourers, and farm mechanisation, at least temporarily will lead to job loss and wage reduction. According to the leaders, in

those days, the only available employment in the villages was the farm work. The farmers to maximise their profit and to reduce the number of workers tried to use tractors and other labour saving machines. This has led to loss of employment to several workers in their regions. Loss of employment and impossibility of getting another employment was a major problem faced by workers in those days.

Further, one-half of the union leaders are of the opinion that mechanisation has resulted in reduction of farm wages of workers. According to them, machines reduce employment opportunities of workers and for subsistence they are compelled to work at lower wages. One of the reasons for low wages for females in Kuzhalmannam area is an example for this. Thus, the major objective opposing mechanisation was to protect employment and income of the existing workers.

7.7.3 Opposition in the Present Labour Market Condition

The present socio-economic and labour market conditions of Kerala have changed too much. As mentioned earlier, Severe scarcity of manual workers, especially farm workers, high wage rates, better working and living conditions, lesser working time, strong collective bargaining power, availability of sufficient non-farm employment, large scale in-migration of workers from neighbouring and distant states like, Tamil Nadu, West Bengal, Assam etc., are some of the changes when compared to that of the earlier periods and with other states in India. One of the most important difficulties faced by farmers in Kerala and a major reason for reduction of area under paddy and paddy production is the scarcity of farm labourers to complete farming operations on time. Considering such a situation, their present attitude is very important.

All the leaders except one from the KSKTU mentioned that, it is very difficult to oppose farm mechanisation in such a situation. All the leaders who favour mechanisation in the present situation mentioned that, since sufficient workers are not available to farm work, without farm mechanisation paddy cannot survive. At the same time, one leader of DKTF mentioned that, it is not their policy to strike against mechanisation. Thus, at present, most of the leaders have felt the need for mechanisation.

7.7.8 Opinion about the Past Strikes

Mechanisation was opposed on the proposition that, it leads to reduce employment opportunities and wage rates of workers. But at present, workers are not available to complete farm operations, mechanisation has not led to reduce employment opportunities or wage rates of workers. Thus, the proposition was wrong, and strike conducted on the basis of the wrong proposition also becomes wrong. Thus, a question about the righteousness of past strikes against mechanisation arises. Answer of the leaders was that, at the time of doing the strike, it was right, because, the strike was conducted or mechanisation was opposed at a time, when millions of workers depended on farm jobs alone and there were no alternative employment opportunities. If their employment is lost, the loser will have to suffer the most, the union had to protect them and union opposed or conducted strikes for the purpose of protecting such workers. In future many things may happen, and it is difficult to predict the future. Their question was that, if the past trend of employment continues even today, or suppose, if it worsens, what will happen in our society? Thus, according to them, strikes conducted in the past were right.

7.7.9 Opposition or Possibility of Strikes in Future

Even if, at present, union leaders favour mechanisation, there are chances for opposition in future. Thus a question about the possibility of conducting strikes in future by their unions was put forward. All the trade union leaders, except KSKTU mentioned that they will not conduct strikes against mechanisation in future. But the answer of KSKTU leaders was that they are undecided, and thus, it is difficult to say now. This indicates that there are chances for opposition and strike against mechanisation in future also. But, if the present trend in the labour market continues, the chance for a strike against mechanisation is very limited.

Further, two of the leaders mentioned that, at present, members' interest in union activities, strikes etc have reduced. At present many join the union for the purpose of getting benefits and membership in the welfare fund. Their loyalty and attachment with the union and leaders is more or less casual, many members have dual membership and their level of participation in union activities is the minimum. Thus, the possibility of conducting strikes and success of strikes in

future is a doubtful matter. However, leaders of KSKTU mentioned that there are no changes in the level of participation of members in union activities and attitude of members towards strikes.

7.8 Supports for Mechanisation

For the success of mechanisation in paddy farming whole-hearted support of trade unions is essential. Thus, the question, “whether you support mechanisation or not” was asked to each leader. It was a difficult question to answer to some of the leaders, especially belonging to KSKTU. In the case of leaders belonging to other trade unions, it was not difficult to answer, and their answer was straight forward, that they support paddy mechanisation in the present labour market situation in Kerala. However, from their responses, it could be interpreted that, they too support paddy mechanisation.

But, before going into the discussions in the interviews, the following statement given by left wing leaders are very important.

“Our state is facing 50 percent deficit in food grain production. It is impossible to blindly oppose attempts of the government, when it tries to eliminate food deficiency through various measures like mechanisation. If opposes, it means to blindly oppose the attempts made by the government to eliminate food deficiency. At the same time, supporting mechanisation whole-heartedly means to blindly support the loss of employment to the workers. At present farm workers get work only for three to four months in a year. With the earnings of these three or four months, they have to complete a year with too much difficulty. At present all the farm activities have been mechanised. Machines are used of harvesting, tractors are used for ploughing and machines are also used for winnowing. If it is contemplated to increase the difficulty of farm workers, through extensive farm mechanisation, it cannot be supported. At this time, when workers strongly oppose automation, it is impossible to the farm workers not to oppose farm mechanisation without any control or limits. Due to the emergence of these farm machines, the poverty of farm workers has been increased too much. It is sure that, due to mechanisation unemployment among the farm workers are increasing” Achuthanandan VS (2010, pp 20-21), *Kerala Vikasana Sankalpangal*, DC Books, Kottayam, Kerala.

Sri. Velayudhan Vallikkunnu, (State Vice-President KSKTU), also stated that, they are not against farm mechanisation. They support farm mechanisation if it reduces drudgery of the farm work and of workers and improves their productivity. If these conditions fulfil, they support farm machines, and thus, as mentioned by Sri. Achuthanandan VS., they do not favour or support extensive mechanisation that reduces employment opportunities and income of farm workers and increase their misery.

According to the state leaders of KSKTU, for the purpose of withholding the workers in farm work mechanisation is essential, at the same time mechanisation shall not scare away them to leave the job due to loss of jobs or income. For the purpose of keeping them in farm jobs, the workers shall be given training in the operation of farm machines. The leaders re-iterated that they favour need-based mechanisation and do not favour or support mechanisation that leads to the elimination of the farm labourers. (Malayala Manorama, online, October 7, 2013. <http://www.malayalam.yahoo.com>)

From the above, statements it could be concluded that at present, the intensity of opposition against mechanisation from the part of KSKTU has subsided and they also support farm mechanisation in the prevailing situation of Kerala.

7.9 Setting Up of Self Help Groups Co-Operative Societies and Brigade for Farm Machine Operation

From the above discussion, it can be understood that the objections against mechanisation from trade unions and workers have alleviated too much. At present they too support farm mechanisation and have realised the need (need-based) for farm mechanisation in the present situation of Kerala. Since the trade unions are also meant to improve the knowledge, skill and ability of their member through proper education and training, again certain question arises.

1. Why can't the unions give training to their members in farm machine operations and form a "brigade"?

2. Why can't they collaborate with the Krishi Vigjana Kendras (KVKs) or with Agricultural University or other organisations for providing training in farm machine operations?
3. Why can't they form a self help group or a co-operative society of workers engaged in providing machines on custom hire basis along with operators?

Responses to the first two questions were positive and encouraging. Almost all leaders have such plans in their mind and have taken steps too. Many of these leaders are members of grama panchayats or block panchayats or district panchayats and are social workers also. Instead of forming such groups based on trade union membership, they have formed or taken initiative to form groups, especially of females, known by different names, such as “brigades”, “*senas*”, “labour banks” etc., in respective grama panchayats or blocks panchayats or district panchayats by providing the workers sufficient training in farm machines’ operations with help and support of KVKs, Agricultural University etc. Such groups have been found successful and, thus, more and more panchayats, at the three-tier system are planning for acquisition of modern farm machineries and to give training to the farm workers on them. Thus, it could be stated that instead of forming groups directly based on trade union membership and identity, they have indirectly formed groups of their members and have provided them necessary training on farm machine operation.

Answer to the third question was that, since, agriculture is seasonal the demand for farm machines will also be seasonal and there will be wide variations also. Huge capital investment is required for certain kinds of farm machines, like combine harvester. During the off-season these costly machines have to remain idle and maintenance will be a difficult task. Further, cost of repairs and maintenance of farm machines is high and after sale service of many machines is also of poor quality. It is also difficult to transport certain farm machines from one place to another according to the seasonal demand. Thus, according to them formation of self help groups or co-operative societies for providing farm machines on custom hire basis along with the service of operators is a risky affair. It may be difficult to get a fair rate of return on the huge capital invested on such machines. Further, many block panchayats, district panchayat, KVKs etc are providing such machines on rental basis along with the service of operators. Thus, they foresee

non-profitability and non-viability for such ventures. Otherwise, they would have initiated such endeavours.

7.10 Conclusion

The socio-economic and working conditions of agricultural workers in Kerala were very pathetic and they were subject different kinds of exploitation. Their age-old misery and exploitation by land lords and farmers resulted in their unionisation. At present, strong trade unionism exist in Kerala, especially among the farm labourers. Almost all political parties in Kerala have their own farm labourers' wing. Unionisation and consequent collective bargaining power has helped the workers to get better wages, working conditions and working time more or less equal to that of organised sector workers, and complete elimination of exploitations. Attitude of trade unions form an important decisive factor in farm mechanisation in Kerala. For the purpose of protecting employment and income of the farm workers, trade unions in Kerala has strongly opposed mechanisation in 1960s and 70s. This agitation has resulted in the elimination wide spread use of tractors in different part of the state. Introduction of combine harvester has also faced resistance of unions in certain parts of the state. Later on farmers began to use these machineries by paying compensation to the permanent workers.

Changes in the socio-economic and labour market conditions have reflected in changes in the attitude of trade unions also. Severe scarcity of farm labourers, lack of availability of manual labourers, growing lethargy of young towards farm and manual jobs, increased wage rates and farm input costs, reduction in area under paddy cultivation and production etc., have led to a rethinking on the policies, attitudes, programmes and agendas of trade unions. At present, trade unions in Kerala do not oppose mechanisation, but converge on the need for mechanisation. They have started to support farm mechanisation and consider mechanisation as the need of the hour. Further, many of the past and present union leaders are Presidents or office bearers or members of local self governments. As policy decisions makers, they have taken initiative to provide training for farm workers in the operation of farm machineries. Necessary funds have also been earmarked by them for providing the training and purchasing farm machineries. At present many grama panchayats, block panchayats and district panchayats possess

farm machineries and provided these machineries at reduced rates on custom hire basis to the farmers.

Interviews and discussions with the leaders also show that they have changed their past attitude and at present all of them are supporting farm mechanisation. They re-iterated the need for mechanisation in the present and future for achieving self-sufficiency or reducing the external dependence for food grains. Strong resistance of the olden days have alleviated due to the socio-economic and political advancements made by the state and now trade unions support mechanisation in Kerala.

Chapter 8

RESULTS AND DISCUSSIONS

The study was aimed at evaluating the attitude of labourers, farmers and union leaders towards paddy mechanisation, which is considered to be essential for survival and existence of paddy fields and cultivation in the state. With this end in view data were collected, analysed and interpreted. Analysis and interpretation of data were presented in the previous three chapters. This chapter deals with the results of analysis and interpretation discusses the important findings and their implications.

8.1 Attitude of Young Generation towards Paddy Farming

Average age of farmers in Nannamukku panchayat is 58 years that in Kuzhalmannam panchayat is 55 years. The number of farmers with less than 40 year of age is only five (five percent). At the same time, there are 11 farmers (11 percent), above the age of 70 years. The experience level of farmers also indicates that only limited number of persons have recently entered into farming. It is only eight farmers, who have come forward within 10 years to accept paddy farming as their occupation. On an average, farmers in Nannammukku are continuing their farming for 31 years and farmers in Kuzhalmannam for 25 years. This shows that young generation are not interested in paddy cultivation and do not prefer farming as an occupation. This is due to the uneconomical nature of farming and inability to earn a decent livelihood by paddy farmers.

Similarly, the average age of farm workers in Nannamukku panchayat is 54 years and that of Kuzhalmannam panchayat is 51 years. There is no worker in the study area with less than 35 years of age and only two workers are the in Kuzhalmannam panchayat in the age group of 35-40 years. At the same time, there are 42 (42 percent) workers with more than 56 years of age - above the retirement age for government employees. This shows that more than one-third of the workers are aged and worn-out.

Even if better wages are available, new generation of workers are also not coming forward to accept farming jobs. Analysis the employment patterns of the

existing workers' family shows that parent of all of them were farm labourers. At the same time, more than 90 percent of the workers' sons and daughters are engaged in non-farm activities. They work in construction, transportation and different kinds of service sector including government and semi-government and private undertaking. Consequently, no replacement or gap-filling takes place, when an existing farm employee leaves his job. As a result, there is severe scarcity of farm workers in the study areas and farmers find it difficult to carry on farming operation on time.

In addition to the socio-economic and education development of the traditional farm labour supplying communities, the drudgery and seasonal nature, lack of availability of sufficient work, lower social status to the farm workers, and availability of sufficient non-work etc are the major reasons for the negative attitude of the youth towards farm jobs.

Thus, the young generation does not prefer to be an employer or employee in paddy farming. They prefer low-paid white collar jobs than blue collar jobs with better wages. If this attitude of the young people is continued, in future, there will be no paddy farmers, paddy workers, paddy fields and paddy production in the state. Paddy cultivation, itself, will be a history and the state has to depend entirely other states for rice-the staple food which will be very dangerous and difficult.

8.2 Scarcity of Farm Labourers and Unemployment among them - The Paradoxical Situation

One of the most important problems faced by the farmers is the severe scarcity of farmers. Many of them have suffered loss in past due to the inability to complete farming operations and many had left farm land uncultivated in the past due to this reason alone. At the same time, most important problem faced by the farm workers is lack of availability of sufficient farm jobs throughout the year. Analysis shows that even in peak agricultural seasons too, they have to remain unemployed for certain number of days.

Paddy farming is based on climate and seasonal. Farming operations is time-bounded; each specific operation of particular region is to be completed on time. Thus, all the farmers of that region together demand labourers at the

particular time, after that the workers are not demanded until the period of the next operation. Thus, farmers face severe scarcity of labourers to perform various operations on time. This, scarcity of labourers is one of the major reasons for mechanisation of paddy cultivations in Kerala.

Seasonal nature of paddy cultivation, decline in area under paddy, mechanisation and migrant labourers are the major reasons for unemployment or disguised unemployment among the farm labourers. In the earlier days, even though paddy farming was seasonal, the employer-employee relationship in the paddy farm sector was more or less paternalistic, and during the lean seasons employees got work, wages and livelihood from the land-lord farmer- their employer. Disappearance of this system can also be considered as a reason for increasing unemployment among the farm labourers. Thus, the farmers face severe scarcity of farm labourers and the labourers face unemployment also.

8.3 MNREGP and Scarcity of labourers

According to the farmers, MNREGP has also adversely affected availability and increased the scarcity of farm workers. Since, there is no considerable difference in the wage rates of female farm workers of Kuzhalmannam panchayat and MNREGP wage rates, workers prefer MNREGP work. Adaptation of the MNREGP work culture in the paddy fields is the major problems faced by farmers of Nannamukku panchayat, where female farm workers get double of the MNREGP wages. Thus, from the angle of farmers, MNREGP has adversely affected paddy farming. It becomes essential to make necessary changes in the MNREGP, to eliminate the adverse effect on farming.

8.4 Migrant Workers and Paddy Farming

Large number of migrants are working in Kerala. They are mainly concentrated in construction, but undertake almost all other jobs also. In Nannamukku panchayat they are the major source of farm labourers, but in Kuzhalmannam panchayat, they do not undertake farming operations. Majority of these migrant labourers are from West Bengal, few of them are also from Tamil Nadu and below the age of 40 years i.e., in their prime working ages. In both these states paddy farming is popular and, thus, the migrants are experienced in paddy farming.

In Nannamukku panchayat, these migrants undertake farm operations on contract and daily-wage basis. Though, they undertake almost all farming operations, they are mainly engaged in transplanting. They undertake transplanting and harvesting on contract basis. Their present rate for transplanting is Rs. 3500 to Rs. 4000 per acre and for harvesting Rs. 8000 to Rs. 10,000. However, at present complete harvesting and post-harvesting operations are performed mechanically. To complete transplanting of an area of one acre, the group requires only five to six hours. They start their transplanting job very early, even before six'o clock in the morning and before noon they complete it. They are also ready to work on daily wage basis. But the employers do not pay them same wages paid to the native workers. They are negatively discriminated in wage payment and provision of working conditions.

Presence of these migrant workers is a bless to the farmers in Nannamukku, where use of transplanter is difficult due to the nature of farm land. Farmers prefer them, due to low wages and more work. At the same time, native workers are much worried about the presence of migrants. According to them, mechanisation does not make serious problems to them, but the presence of migrants create them unemployment. Majority of the female workers in Nannamukku panchayat are against the migrants and they also talked about their readiness to oppose these migrant workers. But, trade unions leaders of this area are not against the migrants. Lack of leadership to organise the workers against the migrants can be the reason that withhold a mass move against the migrant workers. However, are supporting the migrants, they say that, those who oppose migrants hall bring sufficient workers and they are ready not to employ migrants, if sufficient native workers are available.

8.5 Farmers Associations

Two kinds of associations can be seen among the farmers. One is the association in the form of trade unions of workers, organised on the basis of politics. The second one is the collectivity of the farmers in a particular area, more or less in the nature of group farms, formed for improving farm productivity by creating necessary environment, with auspicious of Agricultural Offices of the panchayat, and popularly known as *padashekham*.

Farmers are interested in both the associations, and majority of the farmers are of the opinion that, these associations are beneficial, and have helped them in improving productivity and their socio-economic conditions. The associations formed on the basis of politics can act as a mechanism for settlement of employer-employee disputes and can be a source of conflict also. When there is a conflict between the employer and employees belonging to the same political parties, unions can interfere and make an amicable settlement. But, the conflict stiffens, if both belong to different political parties. Government can influence these associations and implement policies and programmes for improving paddy farming.

All the farmers are satisfied with their *padashekhara samithis*. Success of the *samithi*, up to an extent depends upon the efficiency of and effectiveness of the co-ordination of activities of the *samithi* made by the agricultural office of the area. Though there are chances for conflict among the members, it can be effectively solved by the authorities of agriculture office of the area. In this juncture, to mention the services rendered by the Sri. Sasi and Ravi of Nannamukku Agriculture Office and Sri. Govind Raju of Kuzhalmannam Agriculture Office.

One of the important problems faced by the *padashekhara samithis* is the lack of adequate funds for working. Farmers, themselves contribute funds for working of the *samithis*. However, in the year, 2013 onwards, the government has decided to provide Rs. 200 per hectare for each *padashekharam*, but according to the farmers it is too low and is insufficient to meet the working capital requirements of the *samithis*. Thus, they request for more funds. Considering the role so far played by the *samithis*, government has to take all possible measure to strengthen *padashekhara samithis*, which are considered to be an important mechanism for promotion of paddy farming in the state.

8.6 Leased Farming

Leased-paddy farming is popular in Nannamukku panchayat. The area under leased farming and the number of tenant farmers shows an increasing trend in this panchayat. Nannamukku is an emigrant-prone panchayat. Many of the male heads of the households who own land are outside India. Thus, such households lease their land to farmers or workers who are interested in farming. Further, those

land owners, who have no sufficient time or resources to conduct farming operations may also lease their land. The amount of rent varies from Rs. 8000 to Rs.12000, depending upon the fertility and productivity of the land. This shows that even by paying rent for leased land, paddy cultivation is profitable, not uneconomical.

But in Kuzhalmannam panchayat, leased paddy farming is not so popular. But here paddy fields are leased out for cultivating banana, ginger, vegetables etc., for an annual rent, which may extent up to Rs. 25,000.

This shows that, in Kerala, lease farming s re-emerging and highlights the need for promoting and encouraging leased farming in the state. Otherwise a large area of land may remain uncultivated.

8.7 Paddy Farmers and Mechanisation

In our previous discussions, it was found that mechanisation is essential for survival and improvement of paddy cultivation in the state. In the study areas all the farmers, without any difference in the area of cultivation (i.e. small, medium or large) adopt mechanisation for reducing cost of cultivation, completing farming operations on time, and to reduce dependence on labour which is the most important constraint faced by them in the state. Mechanisation, thus, ultimately helps the farmer to increase his surplus/profit and brings peace in mind.

However, in the study areas only limited farm operations are mechanised. Tractors, power tillers and combine harvesters are extensively used, from 2012 onwards, hay bailer is also used. Transplanters, weeders, seed-drillers etc are not used in both the panchayats. Further, in Nannamukku panchayat, due to the specific feature of the Kole land, use of tractor is difficult, thus, power tillers are used. Thus, there are chances for further mechanisation.

Lack of availability on time, high rental charges, land features, and small size of holding are the major constraints in mechanisation in these two panchayats. But at the same time 10 percent farmers do not face any difficulties in the use of machines and equipment in their paddy fields. Thus, lack of availability and rental charges restrict the use of farm machines.

8.7.1 Attitude of Farmers

All the farmers in the study area show favourable attitude towards farm mechanisation. It is beneficial to them; minimises the cost of cultivation and thus, maximises their earnings. Majority of the farmers are of the opinion that, mechanisation reduces cost of cultivation; still there are nine farmers (one in Nannamukku and eight in Kuzhalmannam) who do not agree with this. According to them, high rental charges to farm machineries set-off the labour cost saved. Thus, high rental charges for farm machines is a matter of concern. Similarly, possibility of increasing productivity by farm mechanisation is a matter of conflict. Majority of the farmers have disclosed that mechanisation has reduced employment opportunities of workers. But has helped them to complete farm operations on time, increase their profits and improve their working and living conditions. Further, mechanisation has motivated them and members of their families to acquire new skills and competencies in the operation of farm machineries.

However, the overall attitude of the farmers is favourable to farm mechanisation. It is evident from their responses like, they would have stopped farming, if there was no mechanisation; it is better to use machines even by paying high rental charges than wages, when the difficulty involved in getting and managing g farmers etc.

Farmers of Nannamukku show more favourable attitude towards mechanisation than that of farmers in Kuzhalmannam. The reason behind this is the increased availability of farm labourers at low wages and the features of the land in Kuzhalmannam. In Kuzhalmannam wage rates of female labourers are Rs. 200 and that of male labourers is Rs.450. While in Nannamukku, average wage rate of female farm workers is Rs. 350 and that of male farm labourers is Rs. 550. Being Kole land, the paddy fields in Nannamukku is vast stretched and extends to hundreds of acres without any boundaries. In such land mechanised farming is easy. But in Kuzhalmannam, the paddy fields are uneven and are divided into small plots, where large scale mechanisation is difficult.

8.8 Wage Gain but Job Loss

An important feature of the farm labour market of the state is increasing wage rates and declining in the number of working days.

8.8.1 Increase in the wage rates

Average daily wage rates of different categories of farm workers have increased considerably. The study areas are also not an exception to this trend in the wage rates. Average wage rates of male farm workers in Kuzhalmannam have increased by 350 percent within a period of 10 years and that of females by 300 percent. Similarly, average wage rates of male farm workers in Nannamukku panchayat during this period has been increased by 267 percent and that of females by 250 percent. More or less similar changes can be observed in the case of non-farm wages of different categories also.

High wage rates are one of the major problems faced by the farmers. It is one of the reasons for reduction in paddy cultivation in Kerala and changes in cropping pattern. Further, it is also the driving force behind mechanisation of paddy cultivation. However, increase in the wage rates does not lead to a corresponding increase in the income and improvement in the living standards of workers, on account of the decline in the number of days workers.

8.8.2 Decline in the Number of Working Days

Analysis of data shows that there is considerable decrease in the number of both farm and non-farm working days among the farm workers in the study areas.

8.8.2.1 Farm working days

Within 10 years, average working days of male workers in Nannamukku panchayat has fallen by 34 days (50 percent) and that of female by 30 days (59 percent), clearly indicating that at present they are engaged only for less than one-half of the number of days were engaged 10 years ago. Similar, reduction has taken place in the case of workers in Kuzhalmannam panchayat also. There is a drop of 38 percent in average number of working days engaged by male farm workers and 53 percent in case of female workers. In both the panchayats, the seriously affected group is female workers.

One of the major reasons for decline in the number of working days is the mechanisation of paddy farming, especially, among the females. In the study areas, they predominate in transplanting, weeding, harvesting and post-harvesting operations. All these activities are, at present, more or less mechanised, except transplanting and weeding. In Kuzhalmannam panchayat female workers, at present, also carry on transplanting. But, in the adjoining panchayats transplanters are also used, creating worries among the female workers. For the purpose of weeding, farmers extensively use weedicides, which have resulted in declining the requirements of labourers for weeding. In all other operations, labourers are replaced or are gradually replacing by machines. Another important reason for decline in the number of farm working days in Kuzhalmannam panchayat is the decline in the area under paddy cultivation. Several hectares of land has been converted for construction of roads, buildings and for other purposes. Similarly, paddy fields are also used for cultivation of banana, ginger, vegetables etc. All these, together have resulted in decline of average number of farm working days.

In Nannamukku also, more or less the same pattern of mechanisation is followed. But here conversion paddy land for other purposes is limited. Mechanisation has adversely affected workers by reducing their number of working days. But, transplanting and weeding operations are not mechanised. But, at present transplanting is done by the migrants from Bengal. Weeding, as in the case of, Kuzhalmannam panchayat, farmers use weedicides. Thus, mechnisation and migrants are the major reasons for decline in the average number of farm working days.

Decline in the number of working days is an important reason for shortage of farm workers. Inability to get sufficient farm employment to sustain family, compelled farm works shift away to non-farm jobs. They were more or less secure in these jobs and permanently settled in these jobs. But as mentioned, new workers did not turn to farm jobs resulting in shortage of farm workers.

8.8.2.3 Non-farm working days

Average number of non-farm working days of both males and female in Nannamukku panchayat has considerable decline. Within a period of ten years, there was a drop of 58 days (47 percent) in the average number of non-farm

working days of male workers and 49 days (59 percent) in the case of female workers. The decline in the non-working days is due to the age preference of employers and presence of migrant workers, who undertake all kinds of manual work. But in Kuzhalmannam panchayat, average number non-farm working days of male shows an increase of seven days, within ten years, while that females had declined by 13 days. The reason for increase in the number of male workers can be due to the increase in the non-farm activities in the area. Further, migrants are also not common in this panchayat.

8.8.2.4 Decline in the Total Number of Working Days

Decline in the number of farm and non-farm employment has resulted in declining the average number of total working days in both the panchayats. The study shows that, within a period of ten years, average number of total working days of male workers in Nannamukku panchayat has fallen by 81 days (44 percent) and that of females by 80 days (55 percent). While during the same period, in Kuzhalmannam panchayat, average number of total working days of men has declined only by 11 days, while that of females workers had declined by 50 percent. This shows that, decline is more serious in the case of female workers, that too in Nannamukku panchayat. Major reason for decline in the total number of working days of female labourers can be due to the decline in the number of farm working days. Presence of migrant workers in Nannamukku has seriously affected female workers in addition to the mechanisation of farming. These migrants undertake all kinds of manual work. Before their arrival, unskilled construction work and other kinds of light manual works were carried on by the female workers. But at present the migrants undertake this work too. These migrants are paid wages at the rate equal to the female native workers. Employers prefer the male healthy, young migrants to the old female workers whose average age is above 56 years.

The worries of farm workers over the loss of working days were shared during the field survey, and remembered the good olden days, when they got sufficient work and wages (in kind) for a decent life.

8.9 Satisfaction Level of Workers

Levels of job and wage satisfaction affect loyalty and productivity of workers. The study shows that two-third of male workers and 43 percent of female workers in Nannamukku panchayat are satisfied with their present farm jobs. While the satisfaction level of the workers in Kuzhalmannam panchayat is lower than that of their counterparts in Nannamukku. Nearness to home, facility to work with friends and relative, better employer-employee relationship and possibility to conduct farming operations are the reasons cited for job satisfaction, but low wages, drudgery bad working conditions inferior status, lack of availability of continues job etc are the reason for job dissatisfaction. This shows that workers satisfaction depends upon both economic and non-economic factors. In this case, the reasons for job satisfaction of the workers is not better wages.

However, none of the workers are satisfied with their present farm wages. Most of them are highly dissatisfied, especially, the female workers in Kuzhalmannam panchayat. All the workers are of the opinion that they do not get sufficient wages, when compared to the drudgery of the work involved. At the same time, many of them are satisfied with their non-farm wages, they receive. This wage and job dissatisfaction is one of the major reasons for the scarcity of farm labourers and that pushes away from or creates inertia among the young generation towards farm jobs.

8. 10 Unionism among the Farm Workers

In the study areas, *Kerala State Karshaka Thozhilali Union* (KSKTU) is the strongest and active union. In addition to the KSKTU, DKTF and KSKTF also exist. The study found that 94 percent of the workers in Kuzhalmannam and 82 percent workers in Nannamukku are members of unions. Political attachment and to get membership in the workers Provident Fund are the two major reasons for joining the unions. While lack of interest and politics are the two reasons that hinder workers from joining trade unions. Thus, politics is the major factor that motivates one to join or not to join trade unions.

However, it shows that only less than fifty percent of the workers pay subscriptions, membership fee etc regularly. Further, more than one-fourth (26

percent) of members in Kuzhalmannam panchayat and 46 percent of the members in Nannamukku participate in meetings and other activities, only if they have sufficient time, otherwise they do not participate. Similarly, for participation in strikes and other activities, time is the determining factor; 64 percent members in Kuzhalmannam panchayat and 54 percent member in Nannamukku participate in strikes and other similar activities, if they have time. At the same time 20 percent workers in Kuzhalmannam participate in all strikes and similar activities recently organised (within two years) by their unions.

However, most of the members believe that, all or majority of strikes conducted by their unions in the past were right, and has helped a lot in improving the socio-economic conditions of the farm workers. Further, 70 percent of the workers in Kuzhalmannam and 64 percent workers wish to continue their membership in the union. Further, 46 percent of the workers in Kuzhalmannam panchayat and 40 percent workers in Nannamukku mentioned their willingness to continue the present union, even if the union stands against their economic interest. All these show bond or attachment of the members towards their union. However, a close analysis of the above responses also indicates, that many of the workers are not willing to actively participate in union activities. Their readiness to participate, “if there is sufficient time” is an indicator of their attitude towards trade union and activities.

8.11 Mechanisation and Workers

The direct adverse impact of farm mechanisation is upon the existing farm workers. The impact depends upon the demand and supply of farm labourers and availability of other alternative jobs. Farmers attempt for farm mechanisation during up to 1970s were severely opposed by labourers and their unions. Those days were the days were the period of mass unemployment and of alternative employment opportunities were available. However, the present labour market conditions have changes too much. The state faces sever scarcity of farm labourers and sufficient non-farm employment is available.

8.11.1 Employment Loss

All the workers in the study areas mentioned that they have lost employment due to mechanisation, or mechanisation has resulted in declining the number of farm working days. Loss compelled many to undertake non-farm jobs and migration to other places. Those who cannot find other jobs or migrate remained unemployed. Females are the most affected group due to mechanisation. Thus, it can be re-iterated that farm mechanisation will surely lead to unemployment among the farm workers.

8.11.2 Opposition against Mechanisation

In Kuzhalmannam, farmers had to face stiff oppositions and agitations from workers and their unions against introduction of tractor. In Nannamukku they need not face similar oppositions or agitations against mechanisation. But at present different kinds of farm machineries are used in Kuzhalmannam panchayat, without any difficulty. However, 34 percent workers in Kuzhalmannam panchayat and 24 percent workers in Nannamukku panchayat revealed their readiness to strike against mechanisation in the present or future. Further, 26 percent workers in Kuzhalmannam panchayat and 40 percent workers in Nannamukku are undecided about their future. Thus, it could be concluded that, still there are chances for strikes and agitations against farm mechanisation. However, the workers have also added that considering the present difficulty in getting the required number of farm workers and availability of sufficient non-farm employment, it is very difficult to conduct strikes or to oppose mechanisation.

But, it is more important to note that, these farm workers are aged, and since the youth are not entering into farm jobs, a strike against mechanisation is difficult to occur. Because, in future, if the present trend continues, there will be no a category of workers to be called as farm workers, who have to strike against farm mechanisation. Thus, Farm mechanisation will be the only strategy to continue paddy farming in the state and all the concerned can proceed without any difficulty.

8.11.3 Attitude of Farm Workers towards Mechanisation

The study found that majority of the workers believe that mechanisation has resulted in reducing the drudgery of work, but has not led to improve their working conditions. They also maintain that it has also led to reduction of employment opportunities and wage rates. Similarly, majority of them agreed that mechanisation helps to complete farming operations on time.

At the same time 50 percent of the workers did not agree with the statement that workers support machination. Further, 36 percent of the workers agreed that at present, trade unions support mechanisation without considering the workers. At the same time, more than 60 percent of the workers kept silence to the statement.

Regarding the future, they agreed that workers have to lean operations and the government has to take necessary steps for providing training in farm machine operations to the workers.

All these show the mixed responses and conflicting attitude of workers towards mechanisation. The same worker maintain both favourable and unfavourable attitude towards farm mechanisation.

Overall attitude of the workers are measured by using the Likerts' Summative Scaling Technique shows that, (based on mean score value) they maintain favourable attitude towards farm mechanisation. However, when more rigorous test for evaluating attitude was conducted that, the workers attitude towards mechanisation is found to be neither positive nor negative. They are indifferent to the farm mechanisation process.

The study has also found that three male workers in each of the study area know operation farm machineries. Further, many workers in both sexes wish to learn operations of farm machineries. This is an indicator of the changing attitude of farm workers towards mechanisation.

When compared to the males, the attitude of females is more unfavourable. This is due to the fact that, they have to suffer the most due to farm mechanisation, by losing their employment and income. Similarly, workers in Nannamukku show

more favourable attitude than their counterparts in Kuzhalmannam. The reason behind this is that in Nannamukku panchayat, only one cropping is possible, and thus, almost all farm workers engaged more days in non-farm activities while paddy farming provided them work only for fewer days when compared to that of workers in Kuzhalmannam panchayat, where two cropping is possible. Thus, mechanisation affected more on the workers of Kuzhalmannam than that of workers of Nannamukku panchayat.

Attitude of a person is influenced by several factors, especially, his past and present experiences. In the past, most of the workers have lost their jobs and have to remain unemployed or underemployed. This painful experience is the major reasons for their negative attitude, still they maintain. But considering the present, employment situations, wages and benefits, they cannot follow the old attitude. Thus, they are trying to change their attitude towards mechanisation, which is indicated by their desire to learn operations of farm machineries, and request to the government to conduct training programmes to the workers in the operations of farm machineries. Thus, it could be clearly stated, that the attitude of farmers is gradually changing and they are trying to maintain favourable attitude towards farm mechanisation.

In future, there are chances for more favourable changes in the attitude of workers towards farm mechanisation. We have evaluated the attitude of workers who have lost their employment and income due to mechanisation and have participated in strikes and agitations against mechanisation. To such workers, it may be difficult to adjust with mechanisation. However, the attitude of the new generation with sufficient jobs and income, who have not lost their jobs and income due to mechanisation, will be more favourable to that of the previous generations.

8.12 About the Leaders

All the Trade union leaders interviewed were also aged; fifty percent of them belong to Scheduled Caste and Scheduled Tribe communities and the remaining to Other Backward Communities. This is the reflection of the group these leaders represent. Further, all the leaders, in addition to the leadership of the trade union, hold key positions in their mother political parties. Many of them are

President/ Vice President/ members of grama panchayat or block panchayats or district panchayats. Trade union leadership to them is an assignment of party activity. Trade union activities are a larger part of the political agenda to gain support of people.

One of the leaders is an Ex-military man, possessing five acres of land and is a good farmer also. He is the president of a service co-operative society. Two more leaders in Kuzhalmannam panchayat possess one-half acre of land. All the three leaders use tractors for ploughing and combine harvester for harvesting and post-harvesting operations. However, when I went to interview a trade union leader, he was working in his own farm. This shows that many among the farm workers' trade union leaders are still outsiders or do not belong to the activities of the members for the benefit of whom the trade union is formed.

8.13 Leaders View on Farmers and farming

All the leaders, without any difference in their political outlook, strongly believe and unanimously agree that paddy cultivation in Kerala is uneconomical and farmers are not getting due reward for their efforts and investments. This is a change in the attitudes of trade unions and positive outlook of the leaders towards farmers and farming activities. At present, they do not consider farmers as landlords, exploiters etc. This change in attitude will be helpful in the farm mechanisation and modernization.

According to the leaders increased wages is not, but the increased cost of other inputs is, the cause for increased cost of cultivation. Trade union leaders do not have the opinion that the wage rate of Kerala is not high, but they hold that drudgery in farm job is more than that of any other jobs, and thus, the farm workers should get fair wages.

According to the leaders, lack of availability of sufficient employment is the major problem faced by farm workers in the present day. Decline in area under paddy, mechanisation etc are the reasons for decline in employment opportunities.

8.14 Changing Direction of Strikes

At present trade unions' strikes are not meant for increasing wages or for providing better working conditions and status or against mechanisation, but for controlling the prices of farm inputs and of essential commodities or to increase the benefits under social security schemes. Further, strikes are also not against farmers or employers. The orientation of strikes has been changed. Ultimate benefits of many strikes will also be available to the farmers, who were, in the past considered as, the exploiters and enemies of the workers.

8.15 Changing Attitude towards Mechanisation

There is a clear shift in the attitudes of trade unions towards mechanisation. Some of the instances for substantiating this statement are given below. The leaders as office bearers of local bodies and self governments have taken initiatives to acquire farm machineries and to train workers to operate these machines. Since, the leaders, who have to oppose mechanisation and had opposed mechanisation in the past, at present, they are coming forward for mechanisation. By providing training to the farm workers, they are trying to minimise the possible loss of employment to the farm workers due to mechanisation and to improve income, standard of living and social status of the workers.

Considering the lack of availability of farm machineries on time and high rental charges, many leaders wish to organise self-help groups and co-operatives societies for providing custom hire services of farm machineries with operators, but, due to the seasonal nature of farming, they foresee the demand for such service will be limited to the peak seasons and during the off-peak seasons the workers and machineries have to remain idle, and thus, will be non-viable. This is also a helping approach of trade union leaders towards farm mechanisation.

All these show that, at present trade unions support mechanisation – in the word of union leaders “need-based mechanisation” which “helps to reduce the drudgery of farm work and workers and to increase their productivity”. Further, mechanisation shall not scare away the workers from farming activities; they need to be kept in the farming job by providing them required training in operations of farm machineries and equipment.

8.16 Future of Oppositions against Mechanisation

The above discussions show that, at present, the attitude of farmers, labourers and trade union leaders is favourable to farm mechanisation. Workers and trade unions are the source of opposition and agitation against mechanisation. But, analysis shows that, certain unions overtly and others unions covertly support mechanisation. All of the leaders interviewed, and statements of other leaders appearing in news paper, books and magazines, clearly state that mechanisation is essential for survival of paddy farming, without it is difficult to carry on farm activities in the state. This fact also agreed by workers. They have also stated it is very difficult to conduct or even oppose mechanisation in the present situation. Thus, trade union leaders, in the ordinary sense, will not come forward by opposing or declaring agitations or strikes against mechanisation. Further, conceiving the difficulty in getting the required farm workers to complete farm operations on time, the leaders themselves are using farm machineries and as office bearers of local self governments have taken steps for acquiring farm machineries and equipments and providing training to the workers. In this way, they are promoting and encouraging farm mechanisation. Thus, it could be stated that opposition against mechanisation has been alleviated and now the conditions are most favourable to increase the pace of farm mechanisation in the state. However, it is difficult to say that in future, there will be no oppositions or agitations or against strikes; it all depends upon the policy decisions of leaders, which is difficult to anticipate and forecast.

Chapter 9

SUMMARY FINDINGS AND SUGGESTIONS

9.1 Summary

Rice is the staple food of Keralites. But, Kerala does not produce even one-quarter of the rice required by Keralites. The deficiency of rice is increasing constantly year after year. The area under cultivation of paddy and paddy production is declining adding the severity of scarcity of food. Paddy fields are converted for commercial as well as non-commercial purposes. The cropping pattern of Kerala is also subject to constant change. Paddy fields are filled and converted for the purpose of planting tree crops, plantation crops and for constructing buildings. The major reason for change in the cropping patterns of Kerala is the uneconomical nature and lack of profitability of paddy cultivation; farmers do not get adequate return for their investment and efforts in paddy cultivation.

Paddy cultivation is a labour intensive and labour cost constitutes a major element of cost of paddy cultivation. In Kerala, wage rate of farm workers is one of the highest among the Indian states. Further, farmers are not getting sufficient farm workers to complete different farm operations on time. Socio-economic development and demographic changes in the state have resulted in severe scarcity of farm and manual workers. Thus, labour has become the most important constraint in paddy cultivation.

In addition to the high wage rate and scarcity of labourers, costs of other inputs too have increased much. Paddy farming requires different inputs like manures, fertilisers, weedicides, insecticides etc. Costs of these inputs, in recent times have increased by many times. At the same time, the farmers are not getting adequate and fair prices to their paddy. In this way, according to many, paddy farming has become uneconomical and a depressed industry. In the foregoing discussion, we have not considered the uncertainty in the yield on account of the climatic changes. If it is also considered the farmers would have quit farming as early as possible.

But, for the survival of millions of people in Kerala, survival and growth of paddy cultivation is very important. Thus, appropriate strategy shall be chalked out for the survival and growth of paddy cultivation. The strategy shall give importance and must lead to cost reduction and increase in productivity, so as to make paddy farming profitable and economical.

Since, increased labour cost and scarcity labour is the serious problem faced by paddy farmers of Kerala, farm mechanisation and modernisation is the recommended strategy that can be adopted for the survival and growth of paddy cultivation. However, paddy farm mechanisation require capital investments, infra structural facilities, better irrigational facilities, skilled manpower to operate the machines, better climatic conditions and support of all the stake holders of paddy cultivation.

As far as Kerala is concerned, the state possesses almost all the requirements for mechanisation of paddy fields. At the same time, Kerala has not achieved the level of progress achieved by other states in this respect. Then the question is “what is/what are the reasons behind this under achievement?” Many answers or reasons are there. One of the most important reasons is the attitude of the stake holders. The important stake holders of paddy farming are the farmers and farm workers. Since the attitudes of the workers are influenced by their trade unions and leaders, attitude of trade unions also influence farm mechanisation process. Thus, attitude of these three major groups are very important in farm mechanisation. Considering the importance of attitude in a change process, the present study was planned with the following specific objectives:-

1. To contextualise the ongoing mechanisation process in the paddy fields of the study areas.
2. To identify the determinants and constraints of mechanisation in paddy cultivation.
3. To analyse and evaluate the attitude of labourers, farmers and unions towards mechanisation process in rice cultivation.
4. To analyse the impact of mechanisation upon the wage rates, employment (loss/gain) and worker collectivity.

The study is a descriptive one based on both primary and secondary data. Three groups of people come under the scope of the study- the farmers, the farm workers and the union leaders of farm workers. For the purpose of the study data were collected from workers, farmers and trade union leaders. The study was conducted in two panchayats- one from Malappuram district and second from Palakkad district. For the purpose of identifying the panchayat, multi-stage sampling technique was adopted, in the first stage the development block with the largest area under paddy cultivation was identified and as the second stage from these development blocks, the panchayat having the largest area under paddy cultivation was selected. Thus, in Palakkad district, Kuzhalmannam block and in Malappuram district Perumapadappu block were identified in the first stage. From Kuzhalmannam block Kuzhalmannam panchayat is selected and from Perumapadappu block Nannamukku panchayat also selected for the study. The panchayats for study were identified on the basis of Agricultural Statistic 2010-11, published in 2012 by the Department of Economics and Statistics, Government of Kerala.

For the study, fifty workers and fifty farmers each from both panchayats (total 100 workers and 100 farmers) were interviewed for the study by using structured interview schedules. Among the workers interviewed, 35 workers in both the panchayat were females. Females were given weightage in the sample due to their increased presence in paddy fields. In addition to the workers and farmers ten trade unions were also interviewed for the study. The trade union and leaders were selected on the basis of active presence in the panchayats under study. Those unions which are not active and or their presence are not felt in the area of the study (these two panchayats) were not considered for the study. In these two panchayats the only active union is the Kerala Karshaka Thozhilali Union (KSKTU) and thus importance is given to the union and its leaders. In addition to the KSKTU, leaders of two more unions KSKTF and DKTF were also interviewed. The leaders interviewed include the regional level and district/state level leaders of the unions. For the purpose of gathering information from the union leaders open-ended interview schedules were employed.

Data collected were analysed by using Microsoft Excel and SPSS packages. For analysis and interpretation of the data, simple statistical and mathematical tools

and techniques like percentage, average, standard deviations etc. are extensively used. For evaluation of attitude t-test is also employed.

The study has been presented in nine chapters. The first chapter deals with the introduction, the problem, scope and coverage, objectives, significance and limitations of the study. The second chapter provides review of literature arranged on the basis of the nature of the problem discussed by the literature.

The third chapter dealt with methodology of the study. This chapter provides information about the data sources, criterion followed for selection of the study areas, a brief description of the study areas, sampling technique, tools techniques employed for data collection, analysis and interpretation.

The fourth chapter discusses three major concerns of paddy cultivation and also the society. In this chapter, a brief analysis of the wage rates of the state, paddy production and area under cultivation as well as trade union activities of farm workers the state are presented. A comparative study of the wage rates of different categories farm workers Kerala with the national average over different periods show that wage rates of Kerala has been increased at faster rates than that of the national average and the wage rate in Kerala is two to three times higher than that of the national average. Decline in area under paddy cultivation is a reality. The area under paddy cultivation has been declined to less than one-fourth that of 40 years ago. Similarly, total paddy production in the state has also declined. At present the state's paddy production is equal to less than 20 percent of its requirements. The chapter also presents a short history of trade union activities in general and that of farm workers in particular.

Chapter five presented details of paddy farmers and their attitudes. As per the chapter majority of farmers are above the age of fifty having a farming experience of more than 40 years. Lack of availability of workers, high wage rates and low prices for paddy are the three important difficulties faced by the farmers in these panchayats. Migrant Bengali workers are the important source of labours in Nannamukku panchayat, but these migrants are not paid wages at the rate that is paid to the natives. All the farmers mentioned that MNREGP has adversely affected the availability of farm workers. All the farmers use and prefer to use machines for farming. Lack of availability on time, high rental charges and

features of the land are the major constraints faced by farmers in paddy farm mechanisation. Farmers in Kuzhalmannam have faced opposition and agitations from workers and their unions against mechanisation in the past. Farmers in Nannamukku panchayat on an average cultivate in 5.2 acres and their counterparts in Kuzhalmannam on an average cultivate in 2.39 acres. The average productivity in Kuzhalmannam is 1768 kg per acre and that in Nannamukku is 22381 kg per acre. Farmers' attitude towards mechanisation is favourable; they are the ultimate beneficiaries also. But the farmers of Nannamukku panchayat are more interested in farm mechanisation than that of farmers of Kuzhalmannam.

The sixth chapter dealt with the farm workers and mechanisation. This chapter presents the socio-demographic features of the farm workers, their employment and income patterns, availability of farm and non-farm works, working conditions, job and wage satisfactions, loss of employment and unemployment due to mechanisation, attitude towards mechanisation, trade union membership and involvement in union activities as well as attitude towards farm mechanisation. The chapter shows that majority of the workers were above 50 years old and have a working experience of more than 40 years, average wage of Nannamukku panchayat is more than that of Kuzhalmannam panchayat. Average number of farm working days shows a declining trend at the same time, average farm wages shows an increasing trend. Similarly, most of the workers undertake non-farm works and at present it is the major source of earnings to the works and thus to call non-farm workers instead of calling them farm workers. Further, all the female farm workers are members of MNREGP but, males' participation in MNREGP is limited. Workers are not satisfied in their farm and non-farm jobs and wages. To many workers daily wages are not sufficient to meet their days-to-day expenses and some workers need to borrow to meet the day-to-day expenses. Workers attitude towards mechanisation is neither positive nor negative. At the same time, workers in Nannamukku panchayat show more favourable attitude than that of workers in Kuzhalmannam panchayat and male workers' attitude is more favourable than that of females' attitude.

Chapter seven dealt with trade union and trade union leaders. The chapter presented the socio-demographic features of trade union leaders and their opinion about the past strikes and possibility of strikes against mechanisation in future. The

chapter shows that all of the leaders, except one, are above 50 years old, belonging to Scheduled Caste or Scheduled Tribe or Other Backward Communities. One of the leaders has five acres of land and he is a good farmer also. Among the leaders, four leaders have farm land and they use tractors for ploughing and combine harvester for harvesting and post-harvesting operations. According to the leaders lack of availability of farm workers in Kerala is a reality and the cost of cultivation is very high due to the increased input costs. According to them, in the present condition in Kerala, it is difficult to oppose farm mechanisation and they justified the past strikes opposing mechanisation. At present, the orientation of their strikes has changed. In the earlier days, strikes were against land-lords and farmers for better wages, better treatment and better working conditions. Farm workers have achieved all these. At present their strikes are for controlling the cost farm inputs, and that of essential commodities and to increase the benefits of social security schemes. Interviews with the leaders, latest speeches and press reports show that their attitude towards mechanisation has changed too much and at present they support “need based mechanisation” which “helps to reduce the drudgery of farm workers and to increase their productivity”.

The eighth chapter dealt with results and discussions and the last chapter with summary, findings and suggestions.

9.2 Major findings

Average age of farm worker in Nannamukku panchayat is 54 year and that of Kuzhalmannam panchayat is 51 year. This shows that young generation workers are not coming forward to undertake farm jobs. Further, more than two third of the workers have an experience of more than 40 years. This shows that majority of them have entered in to the labour market at their early years itself.

1. Average age of farmers in Nannamukku panchayat is 58.46 and Kuzhalmannam panchayat is 54.86 years. This shows that the farmers are aged persons.
2. Among the farmers 60 percent in Nannamukku panchayat and 74 percent in Kuzhalmannam panchayat have other non-farming jobs also. Thus, majority of the farmers have non-farming income also

3. Farmers in Nannamukku panchayat have an average experience of 31.4 years and Kuzhalmannam have average experience of 24.62 years.
4. Lack of availability of workers, High input costs and lack of availability machineries and equipments on time are the major problems faced by the farmers of these panchayats.
5. All the farmers in both the panchayat mentioned that MNREGP scheme has adversely affected availability of farm workers. Further, farmers in Nannamukku panchayat are worried on the assimilation of the work culture of the MNREGP to the paddy fields also.
6. In Nannamukku panchayat 32 percent farmers directly hire workers from the open labour market squares, and the remaining (68 percent) hire from the open labour and make use of the agents.
7. In Nannamukku panchayat, migrant Bengali migrants are the major source labour. However, these migrants are not paid the same wages that is paid to the natives. They are negatively discriminated in wage payment and provision of working conditions.
8. 80 percent farmers in Nannamukku panchayat and 86 percent farmers in Kuzhalmannam panchayat are members in farmers unions. According to them the associations have helped them to improve knowledge in paddy productivity.
9. All the farmers in both the panchayats use and prefer farm machineries. Machineries and equipment are taken on custom hire basis from private individuals.
10. Farmers in Kuzhalmannam have to face resistance of farm workers and their union against mechanisation. But, there was not agitation or opposition in Nannamukku panchayat.
11. Average yield per acre in Nannamukku is 2381 kilograms and that of Kuzhalmannam is only 1768 kilograms.
12. Paddy cultivation in leased land is popular in Nannamukku panchayat. But it is not so popular in Kuzhalmannam panchayat.
13. All the farmers have positive attitude towards farm mechanisation.
14. Farmers in Nannamukku show more interest and favourable attitude than that of the farmers of Kuzhalmannam panchayat.

15. All the farm workers belong to the back ward communities. In Nannamukku panchayat 56 percent and in Kuzhalmannam 78 percent belong to the Scheduled Caste and Scheduled Tribe communities and the remaining belongs to Other Backward communities.
16. Considerable reduction has taken place in the average number of farm working days for both men and women in the study areas. In Kuzhalmannam, during the year 2012-13, male workers were employed in farm jobs on average for 45 days and females for an average of 51 days. Five years ago number average working days for males was 69 and that of females was 79 days, and ten years ago on an average they worked for 69 and 109 days respectively in this panchayat.
17. In Nannamukku panchayat, average number of farm working days during 2012-13 for males was 31 and for females it was 21 days. At the same time, five years ago men were employed on an average for 47 days and females for 49 days, and ten years ago 65 and 57 days respectively.
18. Reduction in the average farm working days is more among the females.
19. Similar reduction in non-farm employment of female workers can be noticed in Kuzhalmannam panchayat. During the year 2012-13, females on an average has worked for 30 days, five years ago they had worked for 37 days and ten years ago for about 43 days. At the same time, no considerable reduction or changes have taken place in the average number of non-farm working days for male workers.
20. In Nannamukku panchayat, non-farm working days of both male and female workers have declined considerably. During the year, 2012-13 average number of non-farm days for males was 65 days and five years ago it was 102 days. Similarly in the case of females, number of average non-farm working days during the year 2012-13 was only 34 days against 66 days worked five years ago. This reduction can be due to the increased presence of interstate migrants in the panchayat, who undertake both farm and nonfarm jobs in this area.
21. Average number of total number of days worked by the workers has also declined. In Kuzhalmannam panchayat during the year 2012-13, average number of total working days of male workers was only 127 days, at the same time, they had worked five years ago for 145 days and ten years ago

for 138 days. Similarly, average number of total working days for females during the year 2012-13 was only 28 days, while they had worked five years ago for 125 days, and ten years ago for 163 days.

22. In Nannamukku panchayat male workers have worked on an average for 104 days and females for 65 days. However, five years ago they had worked for 158 and 122 days respectively and ten years ago average number of total working days for males' were 185 and for females 145 days.
23. In Nannamukku, panchayat both farm and non-farm working of both males and females have declined considerably. This is the combined effect of the reduction in the area of cultivation, mechanisation in farm work and the presence of Bengali workers who undertake both farm and non-farm work. However, in this panchayat no considerable reduction in area under cultivation has taken place within the last ten years.
24. All the female workers in both the panchayat and five male workers in Nannamukku panchayat and seven male workers in Kuzhalmannam panchayat are members of MNREGP. On an average men worker in Nannamukku has worked for 35 days and female workers for 61 days under the NREGP scheme. Similarly, in Kuzhalmannam panchayat males have worked on an average for 37 days and female for 67 days.
25. Employment under NREGP Scheme has helped them to compensate the loss of employment and reduction in number of days worked.
26. In Kuzhalmannam panchayat the average wage rate of male farm workers is Rs.450 and that of females is Rs.200. While in Nannamukku average wage rates of male farm workers is 550 and that of females is 450. But, in these two panchayats, there is no difference in the average wage rates of males for non-farm work. At the same time, female in Nannamukku receive Rs. 450 and in Kuzhalmannam receive on an average Rs 350 for non-farm work.
27. In both the panchayats, the effective working time has been reduced by adjusting the starting time and ending time of the work. Ten years ago, the workers in both the panchayats started work around 7.30 am and continued the work up to 5 pm. But at present they lately start the days' work and complete the day's work early.

28. None of the workers in both the panchayats are satisfied in their farm job or wages.
29. 94 percent (47 persons) workers of Kuzhalmannam panchayat 82 percent (41 persons) in Nannamukku panchayat are members of trade unions.
30. Number of workers in both the panchayats who regularly participate in union activities is very limited. Many of them participate in union activities if they have sufficient time.
31. Three male farm workers in each of these two panchayats know operations of farm machineries- tractor and power tiller. At the same time, two male workers in Nannamukku panchayat wish to learn operations of different farm machineries, three females workers from both of the panchayats wish to learn operations of transplanter. This shows the changing attitude of farm workers towards farm machines.
32. All the female workers in the panchayats, 12 male workers in the Kuzhalmannam panchayat and seven male workers claimed that they have lost farm jobs due to farm mechanisation.
33. Majority of the workers - both males and females are not willing to participate in a strike against mechanisation in the future.
34. All the workers are aware of the present economic conditions paddy cultivation.
35. Parents of all the workers are / were farm workers. At the same only negligible number of workers' sons and daughters have entered into farm jobs. This indicates that the generation of farm workers is going to an end or facing extinction.
36. Nearly two third of the worker possess only less than 10 cents of land.
37. Eight workers in Nannamukku panchayat and one worker in Kuzhalmannam panchayat conduct paddy cultivation in leased land. Among the eight works four workers have leased two to five acres of land for cultivation
38. The mean score of the 100 workers of both the panchayats taken together is 49.18 and the standard deviation is 4.331. The expected mean value is 48. The mean test shows that there exists significant difference in hypothetical mean value=48 with p-value 0.008. This shows that the workers have favourable attitude towards mechanisation.

39. But, when more rigorous test of measuring of attitude is conducted by adding the standard deviation with the mean hypothetical value 52.331 (48+4.331) and using the value for comparing the observed mean score of the sample (49.18), it shows that the attitude of workers as a whole towards mechanisation is neither favourable nor unfavourable.
40. Male workers attitude towards mechanisation is more favourable than that of females.
41. Workers of Nannamukku panchayat are more favourable towards mechanisation than that of workers of Kuzhalmannam panchayat.
42. All the leaders excluding one are above 50 years of age. Similarly, all of them Fifty percent of the leaders belong to SC/ST community and the remaining to Other Backward Communities.
43. All the leaders, in addition to the leadership of the trade union, hold key positions in their mother political parties.
44. One of the leaders is an Ex-military man, possessing five acres of land and is a good farmer also. Two more leaders in Coyalmannom panchayat possess one-half acre of land. All the three leaders use tractors for ploughing and combine harvester for harvesting and post-harvesting operations.
45. All the leaders, without any difference in their political outlook, strongly believe and unanimously agree that paddy cultivation in Kerala is uneconomical and farmers are not getting due reward for their efforts and investments.
46. According to the leaders increased wages is not, but the increased cost of other inputs is the cause for increased cost of cultivation.
47. According to the leaders, lack of availability of sufficient employment is the major problem faced by farm workers in the present day.
48. At present trade unions strikes are not meant for increasing wages or for providing better working conditions and status, but for controlling the prices of farm inputs and of essential commodities or to increase the benefits under social security schemes.
49. At present strikes are not against to farmers or land lords, but in major cases to the government.

50. The leaders as office bearers of local bodies have taken initiatives to acquire farm machineries and to train workers to operate these machines.
51. Many leaders wish to organise self-help groups and co-operatives societies for providing custom hire services, but, due to the seasonal nature of farming, they foresee the demand for such service will be limited to the peak seasons and during the off-peak seasons the workers and machineries have to remain idle, and thus, will be non-viable.
52. At present trade unions support mechanisation – in the word of union leaders “need-based mechanisation” which “helps to reduce the drudgery of farm work and workers and to increase their productivity”

9.3 Suggestions

We have seen that farm mechanisation is essential for the purpose of producing the required food grains or to reduce the deficiency of food grain production in Kerala. Governments both at the national, state and regional levels have taken a lot of steps to increase the pace of farm mechanisation. Since, at present, the attitude of farmers, workers and unions are favourable to farm mechanisation, it is the apt time to take more rigorous for furtherance and speeding up of farm mechanisation process. The following suggestions can be made on the basis of the study:-

9.3.1 Training: Provide more training programme in the operations of farm machineries to both the workers and farmers. Training in the operation of farm machineries and equipment to the workers will help them to mitigate the loss of employment due to farm mechanisation, increase their income and employment opportunities. One of the important problems faced by the farmers is the lack of availability of trained operators of farm machineries and equipments. This problem can be solved by giving training to the existing farm workers.

Training can also be provided to the farmers. This will help them to acquire and operate farm machineries without any difficulty or external dependence. They can operate the machinery according to their needs and requirements. If necessary, the farmer himself can be the operator and thereby earn additional income through custom hiring of farm machineries owned by him. Training programme can be arranged by grama panchayats/block

panchayats/district panchayat in association with the Krishi Vihana Kendras (KVK), Agricultural University, manufacturers of machineries etc.

9.3.2 Provision of farm machineries. Lack of availability of machineries on time and high rental charges is the most important problem faced by the farming community. This can be eliminated by acquiring more farm machineries by the local self governments. Before acquiring the farm machineries, the local self government should study the local requirements and viability of the schemes. These machineries are to be made available to the farmers at reduced charges. Since training has been given to the farmers, they can also use the machine without difficulty by hiring from the respective offices. LSGs can play an active role in the provision of farm machineries.

9.3.4 Proper maintenance of farm machines. Maintain the farm machineries acquired by these LSGs properly. At present many LSGs have purchased and possess a lot of farm machineries and equipments, but are remaining idle either due to lack of viability or suitability of the machine to the area or due to lack of proper repairs and maintenance.

9.3.5. Appointment of qualified and trained staff. An important reason for the lack of efficient and effective usage and proper maintenance of farm machineries acquired and possessed by the local self governments, other government and semi-government undertaking is the lack of qualified and trained staff to operate and maintain them. Thus, for efficient and effective use of the machineries owned by government and semi-government undertaking qualified and trained permanent staff, responsible for proper maintenance of these machineries should be appointed.

9.3.6 Financial Assistance. Sufficient financial assistance in the form loans at concessional rates shall be given to the farmers and workers either individually or to a group formed by them for acquiring farm machineries and implements.

9.3.7 Creation of awareness. Lack of awareness about modern farm machineries and equipment is also a problem. Awareness shall be created among the farmers and workers about the use and benefits of modern farm machineries and equipments. Awareness shall also be created among the public, especially among the youth and students at the school levels.

Agricultural offices (Krishi Bhavans), KVKs and Agricultural University etc., can do a lot in creating awareness among farmers and workers.

9.3.8 Encouraging private entrepreneurs. Lack of availability of farm machineries on time can be eliminated by promoting and encouraging the business of providing farm machineries on custom hire basis. Thus, those entrepreneurs who come forward with such business proposals shall be encouraged. Banks and other financial institutions have to provide loans at concessional rates (at the interest of agricultural loans) to such entrepreneurs. Gulf returnees may start such enterprises.

9.3.9 Empowerment of *padashekhara samithis*. *Padashekhara samithis*, as a collectivity of farmers play an important role in farm mechanisation and co-ordination of farming activities. One of the important problems faced by them is the shortage of working capital. Thus, they are to be provided more funds for their working and for acquiring machineries and equipments, which the *samithi* can use for the benefit of its members.

9.3.10 Co-ordination. Efforts of staff in agriculture offices (*Krishi Bhavans*) cannot be overlooked in farm mechanisation. Success of farm mechanisation depends upon the integration and co-ordination agricultural office and farmers. Further, there shall be integration between the different agencies and offices that work for the improvement of paddy farming and farmers.

9.3.11 Ensure a fair rate of return to the investments and efforts of farmers. Lack of a fair return to the investments and efforts of farmers is one of the important reasons for decline in the area under paddy, paddy production and changes in cropping pattern. Thus, farmers shall be guaranteed a fair rate of return for their investment and efforts in paddy cultivation. This can be done by increasing the support price of paddy, more subsidies to farm inputs, crop insurance etc.

9.3.12 Ensure quality of farm machineries. Most of the paddy farm machineries are imported from other countries, especially from China, Japan etc. It is important to ensure quality of such machines. At present, there are no arrangements inspecting or ensuring quality of the farm machineries imported into India. Thus, the central government shall make arrangements for ensuring quality of the farm machines imported to the country.

9.3.13 Availability of spare parts and repair facilities. One of the important problems faced by the owners of farm machineries and equipments is lack of availability of spare parts and lack of repairs and maintenance facilities. Since, majority of the machines are imported from other countries, spare parts are not available in India, and trained persons for repairing these machineries are also not available. Thus, the foreign machinery manufacturers should ensure adequate availability of spare parts at fair prices and train sufficient citizens of India for repairing such machineries and equipments. They also must set adequate after sale service centres in India,

9.3.14 Research. Many of the farm machineries are developed in western countries, Japan, Korea, China, etc. Many of these machineries are not appropriate to our needs. They frequently fail to work in our fields and, thus, more repairs and maintenance is required. Increased repair and maintenance cost make these machines uneconomical. Thus, more research shall be undertaken to develop machineries appropriate to the needs of the state and the region.

9.4 Role of Labour Department

Labour department can play an active role in the promotion of paddy farm mechanisation in the state. Paddy farm mechanisation helps to increase productivity of the farm labourers and paddy production in the state. Most of the suggestion made above can be effectively implemented by the labour department either individually or with co-operation of other departments, especially the agriculture department. The labour department can organise training programmes for imparting skills in the operation of farm machineries, conduct seminars and workshops for labourers and trade union leaders to discuss various problems and prospects of farm mechanisation, can interfere in the appointment policies followed by LSGs in the recruitment of machine and equipment operators owned by LSGs. It can promote research and development programmes in association with the agricultural department and agricultural universities in and outside the state.

9.5 Conclusion

The study was a unique one based on interdisciplinary approach to gather information on paddy cultivation and paddy mechanisation. The study has analysed the socio-economic and political set ups under which paddy cultivation and paddy mechanisation in the state is carried on. The study could identify and bring into light the various problems and concerns of farmers and workers. Analysis of union activities among the workers and farmers and helped to form an idea about the attachment of workers and farmers to their union and union activities. It has analysed in detail the economic aspect of paddy cultivation and has reached in the conclusion that paddy cultivation is not uneconomical, if carried on with the help of appropriate machineries and equipment. It has analysed the attitude of different stake holder and has found that all the stake holders show positive attitude towards mechanisation and none of them have negative attitude towards mechanisation. Further, it could provide some valuable suggestions for the furtherance of farm mechanisation.

9.6 Areas of Further Research

The study opens scope for further research in related areas. Since the present study has made only in two panchayats and two districts, there is wide scope for a study which covers wider area of the present study.

Mechanisation has created several consequences upon the lives of farm workers. A study on the impact of mechanisation upon the farm workers will help us to disclose the job loss or gain and adjustments made by the workers to cope up with the impacts of mechanisation.

A study which deals with the income and employment patterns of interstate migrant farm workers can be made. Similarly, the impact of unrestricted inflow of interstate migrant workers upon the native works can also be made. A comparative study which evaluates the profitability of paddy cultivation with that of the land converted for other purposes can be made. Such a study may help us to ascertain whether conversion of paddy fields for other purposes is profitable or not.

Appendix I
Employment Details of the Workers (Nannamukku Panchayat)

Farm operations		CURRENT YEAR			FIVE YEARS' AGO			TEN YEARS AGO		
		No of workers	Average days	Wage rate (RS)	No of workers	Average days	Wage rate (RS)	No of workers	Average days	Wage rate (RS)
Ploughing	Male	0	0	0	0	0	0	3	35	300
Other land preparation	Male	15	18	525	15	18	310	15	15	150
	Female	0	0	0	0	0	0	11	6	95
Sowing	Male	4	6	550	5	6	325	3	8	150
Transplanting	Female	35	13	350	35	20	215	35	25	100
weeding	Female	35	8	350	35	13	205	35	16	100
Fertiliser application	Male	15	8	550	15	8	310	15	13	150
	Female	5	5	350	10	5	220	8	7	95
Plant protection	Male	8	12	825	8	13	400	4	8	200
Harvesting Post-harvesting	Male	0	0	0	0	0	0	35	26	125
	Female	nil	nil	nil	nil	nil	nil	7	14	150
Hay bailing	Male	0	0	0	12	7	310	10	8	150
	Female	0	0	0	26	8	205	30	15	100
Average farm working days	male	15	31	550		47	300	15	65	100
	female	35	21	350		49	200	35	51	150
Average non-farm work day	male	15	65	550		102	300	15	123	150
	female	35	34	450		66	103	35	83	60
Average total working days	male	15	104			158		15	185	
	female	35	65			122		35	145	
NREGP	Male	5	35			NA			NA	
	Female	35	61			NA			NA	
Average number of total working days	female	15	110			158		15	185	
	male	35	120			122		35	145	

Source: Survey Data

Appendix II
Employment Details of the Workers (Kuzhalmannam Panchayat)

Farm operations		CURRENT YEAR			FIVE YEARS AGO			TEN YEARS AGO		
		No of workers	Average days	Wage rate (RS)	No of workers	Average days	Wage rate (RS)	No of workers	Average days	Wage rate (RS)
Ploughing	Male	0	0	0	0	0	0	2	0	100
Other land preparation	Male	12	19	450	15	21	180	15	24	90
	Female	10	6	200	9	8	90	15	8	50
Sowing	Male	7	8	500	10	11	200	10	14	100
Transplanting	Female	35	17	200	35	21	90	34	30	50
weeding	Female	35	10	200	35	25	90	34	25	50
Fertiliser application	Male	15	14	500	15	12	200	15	15	100
	Female	7	3	200	10	5	90	14	7	50
Plant protection	Male	9	13	750	9	15	300	10	11	150
Harvesting Post-harvesting	Female	8	7	325	35	16	125	34	33	90
	Male	nil	nil	nil	nil	nil	nil	5	10	125
Hay bailing	Female	8	6	200	14	10	180	14	13	100
	Male	25	7	450	35	11	90	34	10	45
Average farm working days	Male	15	45	450	15	71	180	15	72	100
	Female	35	51	200	35	79	90	34	95	50
Average non-farm work day	male	15	68	500	15	65	222	15	61	110
	female	35	30	300	35	39	103	34	43	60
Average total working days	male	15	127		15	145		15	138	
	female	35	82		35	126		34	164	
NREGP	Male	7	37		15	NA		15	NA	
	Female	35	67		35	NA		35	N	
Average number of total working days	Male	15	158		15	145		15	138	
	Female	35	149		35	126		35	164	

Source: Survey Data

**Appendix III
Wage Satisfaction**

Satisfaction level	Nannamukku						Kuzhalmannam					
	At present		Five years ago		Ten years ago		At present		Five years ago		Ten years ago	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Highly satisfied												
Satisfied												
Indifferent												
Dissatisfied	6	27	8	25	9	25	8	7	9	16	10	18
Highly dissatisfied	9	8	7	10	6	10	7	28	6	19	5	17
Total	15	35	15	35	15	35	15	35	15	35	15	35

**Appendix IV
Wage satisfaction (Non Farm Employment)**

Non-farm wage Satisfaction level	Nannamukku						Kuzhalmannam					
	At present		Five years ago		Ten years ago		At present		Five years ago		Ten years ago	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Highly satisfied	-	-	-	-	-	-	-	-	-	-	-	-
Satisfied	2	7		8	-	4	-	-	-	-	-	-
Indifferent	11	18	7	18	4	9						
Dissatisfied	2	8	8	9	4	14	7	33	10	35	12	34
Highly dissatisfied	-	2	-	-	7	4	8	2	5	none	3	none
Total	15	35	15	35	15	35	15	35	15	35	15	35

**Appendix V
Opinion about the Sufficiency of Wages**

Sufficiency of farm wage	Nannamukku						Kuzhalmannam					
	At present		Five years ago		Ten years ago		At present		Five years ago		Ten years ago	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Farm Wage Sufficient	9	26	8	14	9	19	5	none	none	none	2	9
Need to borrow	3	3	3	3	3	4	2	6	3	8	1	5
Non-farm wage sufficient	4	28	10	21	7	18	5	15	6	22	9	19
Need to borrow	3	3	3	6	3	3	3	6	2	6	1	4
Total	15	35	15	35	15	35	15	35	15	35	15	35

Source: Survey Data

Appendix VI
Employment Pattern of Workers' Family Members (Kuzhalmannam)

	Agriculture	Construction	Business	Transport	Govt Service	Private Firms	Other	Student	Not Applicable
Father	100(50)								
Mother	100 (50)								
Husband	69 (23)	9 (3)				3 (1)	21(7)		
Wife	67 (10)	27(4)					6.67(1)		
Son - 1	8 (4)	24 (12)	6(3)	6(3)	4 (2)	14 (7)	30 (15)	4 (2)	4 (2)
Son- 2	4 (2)	32 (16)	2 (1)	8 (4)		4 (2)	13(26)	4 (2)	20 (10)
Daughter - 1	12 (6)	16 (8)			2 (1)	14(7)	40 (20)	2 (1)	
Daughter - 2	2 (1)	10(5)				9	46 (23)		24 (12)

Source: Survey Data

Appendix VII
Employment Pattern of Workers' Family Members (Nannamukku)

Relationship	Agriculture	Construction	Transport	Business	Govt. Service	Private Firms	Other	Student	No person
Father	100(50)								
Mother	100(50)								
Husband	40(14)	29(10)	12(4)	6(2)	0	9(3)	4(1)		
Wife	47 (7)	27(4)				13(2)	13(2)		
Son -1	14(7)	32(16)	16(8)	8(4)	4(2)	10(5)	12(6)	4(2)	
Son -2	0	26(13)	20(10)	12(6)	8(4)	12(6)	8(4)	8(4)	6(3)
Daughter 1	14(7)	10(5)			4(2)	28(14)	8(4)	14(7)	22(11)
Daughter 2	6(3)	4(2)			4(2)	10(5)	16(8)	16(8)	44(22)

Source: Survey Data

Appendix VIII Responses of workers (Percentage)																		
Statements	Strongly agree		Moderately agree		Agree		Neutral		Disagree		Moderately disagree		Strongly disagree		Mean score		Standard deviation	
	NNM	KLM	NNM	KLM	NNM	KLM	NNM	KLM	NNM	KLM	NNM	KLM	NNM	KLM	NNM	KLM	NNM	KLM
1. Mechanisation has resulted in reduction of farm employment	38	--	48	26	--	74	8	--	6	--	--	--	--	--	1.98	1.26	1.116	1.703
2. It had resulted in reduction of wage rates.	--	24	--	40	20	16	42	14	28	6	10	--	--	--	4.28	2.38	0.904	1.176
3. It has reduced drudgery of farm work	6	--	8	20	44	20	36	26	6	22	--	10	--	2	4.72	4.1	0.928	1.374
4. It has helped to conduct farm operations on time.	26	2	34	--	40	36	--	26	--	18	--	14	--	4	4.86	3.82	0.808	1.304
5. It has resulted in reduction of cost of cultivation	26	--	34	26	16	14	16	48	8	12	--	--	--	--	5.48	4.56	1.282	0.993
6. Mechanised farming is mainly suited for literate workers.	--	--	--	--	14	16	42	36	36	48	8	--	--	--	4.42	4.32	0.835	0.741
7. It has improved working conditions of farm workers.	--	--	10		30	10	60	20	--	12	--	38	--	20	3.52	2.62	0.677	1.292
8. Mechanised farming requires more chemical and thus is harmful to workers	--	--	4	--	42	--	54	--	--	8	--	58	--	34	3.44	1.74	0.577	0.6
9. At present labourers support mechanisation.				6	16	10	24	6	52	14	8	44	--	20	3.44	2.64	0.861	1.495
10. At present trade unions support mechanisation without considering workers.	--	--	--	14	6	22	24	60	36	4	34	--	--	--	3.14	4.44	0.926	0.787
11. Farm workers need to learn operations of farm machines.	2	2	2	36	42	12	42	26	12	4	--	10	--	20	4.3	4.12	0.789	1.913
12. Govt has to give training for workers in the operation of farm machines.	62	20	20	16	12	40	6	12		12	--	--	--	--	6.38	4.2	0.923	1.245

NNM = Nannamukku; KLM = Kuzhalmannam

Source: Survey Data

Appendix X- Responses of Farmers (Percentage)																		
Statements	Strongly agree		Moderately agree		Agree		Neutral		Disagree		Moderately disagree		Strongly disagree		Mean score		Standard deviation	
	NNM	KLM	NNM	KLM	NNM	KLM	NNM	KLM	NNM	KLM	NNM	KLM	NNM	KLM	NNM	KLM	NNM	KLM
1. Mechanisation helps in reducing costs	10	18	28	18	42	32	18	16	2	16					5.26	5.06	0.945	1.316
2. It has led to increase productivity	2	8	4	12	20		36	50	38	28		2			3.96	3.96	0.968	0.902
3. It has reduced the problems of shortage of workers	12	60	72	40	16										5.96	5.56	0.533	0.501
4. It helps me to complete farming on time	2	16	40	62	30	22	22		6						5.1	4.94	0.974	0.62
5. it helps me to increase profit	2	4	40	14	42	54	16	28							5.28	4.94	0.757	0.767
6. It has resulted in reducing employment			4	24	50	38	38	38	2		6				3.56	3.14	0.861	0.782
7. If no mechanisation, I would have stopped farming	4		58	56	34	30	4	14							5.62	5.42	0.635	0.731
8. It helps to use inputs efficiently	34	6	38	64	10	18	14	12	4						5.78	5.64	1.183	0.776
9. I prefer machines over workers	2	2	8	2	22	40	22	56	40		6				3.9	3.54	1.182	0.788
10. It has improved working conditions	12	4	32	36	36	42	12	18	8						5.28	5.26	1.089	0.803
11. It has reduced the drudgery of farm work			14		18	6	38	48	30	44				2	4.16	3.56	1.017	0.705
12. It has motivate farmer and his family to acquire new skills	60		36		2	56	2	36		8					6.54	4.48	0.646	0.647
13. At present workers and their union support mechanisation	4		34	16	48	22	14	56		6					5.28	4.48	0.757	0.839
14. Considering the difficulty in managing workers, it is better to mechanise farms	2		6	26	38	60	46	14	8						4.48	4.58	0.814	1.144
15. I will try my best to implement or mechanisation	10		60	50	30	50									5.8	5.5	0.606	0.505

NNM = Nannamukku; KLM = Kuzhalmannam

Source: Survey data

Appendix XI
Strikes Conducted By Different Trade Unions and Reasons There Of

Demand	Within Two Years			Two To Five Years			Five To Ten Years			Ten Years Ago		
	KSK TU	KSK TF	DKTF	KSK TU	KSK TF	DKTF	KSK TU	KSK TF	DKTF	KSK TU	KSK TF	DKTF
Increase in wages	No	No	No	No	No	No	No	No	No	Yes	Yes	No
Reduced working time	No	No	No	No	No	No	No	No	No	Yes	Yes	No
Change in mode of payment	No	No	No	No	No	No	No	No	No	Yes	Yes	No
Non-payment of wages	No	No	No	No	No	No	No	No	No	Yes	Yes	No
Denial of work	No	No	No	No	No	No	No	No	No	Yes	Yes	No
Against mechanisation	No	No	No	No	No	No	No	No	No	Yes	Yes	No
Against migrant workers	No	No	No	No	No	No	No	No	No	No	No	No
Against increase on prices of farm inputs	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No
Against increase in prices of essential commodities	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes
For increasing social security benefits	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
For protection of paddy field	Yes	No	No	Yes	No	No	Yes	No	No	Yes	No	No

Source: Survey Data

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MECHANISATION IN THE PADDY FIELDS: ATTITUDE OF LABOURERS FARMERS AND UNIONS

Set I - Questionnaire to Labourers

District : Malappuram/Palakkad

Panchayat: Kuzhalmannam/ Nannamukku

Name of Investigator: _____

Date: _____

Individual Information

Name:		Phone/Mobile Number:						
Address:								
1. Sex	Male	female	2. Age	3. Marital status		Married	Unmarried	Widow/widower
4. Religion	Hindu		Muslim		Christian	Others		
5. Caste	Forward	Backward	SC/ST	Others		6. Name of the caste		
7. Educational qualification	Illiterate		Primary	Secondary		Higher secondary		
	Degree & above		Diploma		Other , Specify			
8. Experience (years)	9. Do you know any other works					Yes	No	
10. If yes , please state the works								

11. Employment History

Farming operations	At present				Five years ago				10 years ago			
	Frequency*	Wage rate	Average number of days worked/year	Mode of payment**	Frequency*	Wage rate	Average number of days worked/year	Mode of payment**	Frequency*	Wage rate	Average number of days worked/year	Mode of payment**
a. Ploughing												
b. Other land preparation												
d. Sowing												
e. Transplanting												
g. Weeding												
h. Manuring												
i. Pesticide application												
j. Harvesting												
k. Threshing												
l. winnowing												
m. Processing hay												
n. Transportation												
12. Out of these, which is the most difficult farming task (Rank any three)	Ploughing		Bunding		Levelling		Sowing					
	Transplanting		Weeding		Manuring		Pesticide application					
	Harvesting		Carrying sheaf		Threshing		winnowing					
	Processing hay		Any other, state									

* **Write - 1-** For Always; 2- Frequently; 3- Often; 4- Rarely; 5 Never

** **Write- 1-** For Cash; 2- In Kind 3- Partly in Cash and Partly in Kind

13. Which of the following types of contracts for employment you prefer the most? (Please v)

Type of contract (employment status)	At present	Five years ago	Ten years ago
Always to work on casual basis for daily wages			
Always to work on contract basis			
Permanently to work with an employer			
Other, please state			

14. Availability of job, working time and wages

	At present		5 years ago		10 years ago	
	Yes	No	Yes	No	Yes	No
a). Do you get farm work throughout the year?	Yes	No	Yes	No	Yes	No
b) Do you get farm work on all days during peak season?	Yes	No	Yes	No	Yes	No
c). If no, what are/could be the reasons for this (Rank any three)?*						
d). Average number of days worked per week during the peak agricultural season (farm work)?						
e). Do you work for overtime during peak agricultural season (Farm work)?	Yes	No	Yes	No	Yes	No
f). Do you undertake any non-farm work during the peak agricultural season?	Yes	No	Yes	No	Yes	No
g). If yes average number of days worked (non-farm)?						
h). Average number of working days per week during the off-peak season (farm work)?						
i). Average number of working days per week during the off-peak season (non-farm)?						
j) . Non-farm Activities undertaken by you? **						
k). How do/did you get farm work? ***						
l). How do/did you get non-farm work? ***						
m). Average working hours (farm)?						
n). Average working hours (non-farm)?						
o). Time of starting and ending farm work						
p). Time of starting and ending non-farm work						
q). Tea break (minutes) (column 1 farm and 2 non-farm)						
r). Lunch Break (minutes) (as above)						
s). Average wages/earnings per day(farm)						
t). Average wages/earnings per day(non-farm)						
u). Medium of getting wages- (farm)●						
v). Periodicity of getting wages-(farm) ●●						
w). Medium of getting wages- (non-farm)●						
x). Periodicity of getting wages-(non- farm)●●						

* Write 1- Reduction in area of farming; 2- Mechanisation; 3- Migrant workers; 4- Employer's attitude; 5 - Personal problems; 6- Other (specify)

** **Write** 1- For Construction work; 2- for Business; 3 - Transportation; 4- Sand Mining; 5- other (specify)

** ***Write** 1- For Approaches and asks to the farmer/employer; 2- The farmer/employer or his representative comes to me and ask to work; 3- Both 1 and 2; 4- Stand in the nearby labour market square in the morning and prospective employers come and hire; 5- Stand in the nearby labour market square if employment is not received as per alternative 2; 6- Trade unions; 7- Friends and relatives; 8 Other (please specify)

● **Write** 1. In cash; 2- In kind; 3- Partly in cash and partly in kind

●● **Write** 1- Daily; 2- Weekly ; 3- Fortnightly; 4-Monthly ; 5- On completion of the work; 6- On completion of the contract; 7- on returning home; 8- On demand; 9- Other (state)

	At present		Five years ago		Ten years ago	
y). Do you get overtime wages for farm work? (Rupees)						
z). Do you get overtime wages for non-farm work? (Rupees)						
aa). Do you get anything in addition to your farm wages?	Yes	No	Yes	No	Yes	No
ab). If yes, mention the nature and amount / value						
ac). Do you get anything in addition to non- farm wages?	Yes	No	Yes	No	Yes	No
ad). If yes , mention the nature and amount / value						
ae). Do you work on all days in the week continuously?	Yes	No	Yes	No	Yes	No
af). If, no in which day you won't work (take leave)?						
ag). Do/did you remain idle even if work is available	Yes	No	Yes	No	Yes	No
ah). If yes how many days/week?						
ai).Your level of wage satisfaction (farm) *						
aj). Is /was your farm wage sufficient to meet your day-to-day food and family maintenance expense?	Yes	No	Yes	No	Yes	No
ak). Do /did you need to borrow for the above?	Yes	No	Yes	No	Yes	No
al). Your level of wage satisfaction (non-farm) *						
am). What is your opinion about the farm wages when compared to working time? **						
an). What is your opinion about the farm wages when compared to drudgery? **						
ao). Is /was non-farm wage sufficient to meet your day-to-day food and maintenance expense	Yes	No	Yes	No	Yes	No
ap). Do /did you need to borrow for the above?	Yes	No	Yes	No	Yes	No
aq). What is your opinion about the non-farm wages when compared to working time? **						
ar). What is your opinion about the present non- farm wages when compared to drudgery? **						
as).Do/did you have the habit of leaving the employer without completing jobs	Yes	No	Yes	No	Yes	No
at). If yes, can you mention the circumstances? ***						
au). Do you have membership in any social welfare fund	Yes	No	Yes	No	Yes	No
av).If yes, mention the schemes						

* **Write** - "HS"-Highly Satisfied; "MS" - Moderately Satisfied; "S" - Satisfied; "I"- Indifferent; "D"- Dissatisfied; "MD"- Moderately Dissatisfied and "HD"- Highly Dissatisfied.

** **Write** - 1- More; 2- Not more nor less and 3- Less

*****write** - 1- For low wage rate; 2- More supervision; 3- Inferior quality of food; 4- Misbehaviour; 5 Bad working conditions; 6- Always scolding; 7- Ill-health; 8 Others (specify)

15. Was there any change in the mode (medium) of payment of your farm wages ?	Yes	No
15. a. If yes can you mention the changes :		
16. Was the change favourable to you?	Yes	No
17. Do you think your union is/ was responsible for such a change?	Yes	No
18. Are you satisfied with your present farming job?	Yes	No
18.a)If yes, what are your reasons for satisfaction? (rank any three)	Better wages and benefits	Better working conditions
	Nearness to home	Better employer-employee relations
	Can work with friends and relatives	Less working hours
	Can conduct own-farming also	Can undertake other jobs also
	Power and prestige	Easy nature/drudgery
	Other, please mention	

18.b). If not, what are your reasons for dissatisfaction? (rank any three)	Law wages and other benefits	Drudgery (difficult nature)	
	More hours of work	Bad working conditions	
	Cannot undertake other jobs	Inferior status	
	Cannot undertake own farming	Bad employer-employee relations	
	Other, please state.		
19. Are you satisfied with your present non-farming job?		Yes No	
19.a). If yes, what are your reasons for satisfaction? (rank any three)	Better wages and benefits	Better working conditions	
	Nearness to home	Better employer-employee relations	
	Can work with friends and relatives	Less working hours	
	Can conduct own-farming also	Can undertake other jobs also	
	Power and prestige (better status)	Easy nature	
	Other, please mention		
19.b.) If not, what are your reasons for dissatisfaction? (rank any three)	Law wages and other benefits	Drudgery (difficult nature)	
	More hours of work	Bad working conditions	
	Cannot undertake other jobs	inferior status	
	Cannot undertake own farming	Bad employer-employee relations	
	Union rivalry	Away from home	
	Others, please state		
20. Do you wish to a permanent shift from farm work to any other non-farm work?		Yes No	
20.a). If yes, what are your reasons?	Drudgery	Low wages	Poor working conditions
	More working time	Low status	Lack of availability of work
	Poor health	Attitude of farmers	Extreme climatic conditions
	Other, please state		
20.b). If no, what are your reasons?	The work is easy	Better wages	Better working conditions
	Less working time	Better status	Availability of work
	Our traditional work	Helping attitude of farmers	Don't know other work
	Other, please specify		
21. Are you a member of NREGP?		Yes No	
22. How many days did you work under this programme in the last year?			
23. If yes which one you prefer (Write 1 for farm work and 2 for NREGA)			
24. What are your reasons for the preference (Mention any three)*			

* Write 1- For Better Wages; 2- Easy Nature; 3- Less Supervision; 4-Lack of Responsibility and accountability; 5-Fear of Loss of Employment; 6- Fear of Loss of Membership; 7 - Attachment With The Employer; 8 – interest in the job; 9 - Others (specify)

Trade union attachment of workers					
25. Are you a trade union member?				Yes	No
26. If yes, can you name the union?					
27. What are your reasons for joining the trade union (state any two)	To get employment	Political attachment	Pressure of friends and relatives		
	To get membership in welfare fund and pay contributions to the fund				
	For solidarity among the workers and to protect their interests				
	To teach the egoist farmers a lesson		As a fashion		
	Other reasons ,please state				
28. Do you pay subscriptions to the union regularly				Yes	No
29. Frequency of attending the meetings		Regularly	Often	Rare	If there is time
30. Did/Do you participate in the strikes conducted by your union?				Yes	No
31. If yes, your level of participation		All strikes	Based on merit of the problem		If there is time
32. Have you ever participated in strikes for increasing wage rates?				Yes	No
33. Have you ever participated in the strikes for reducing working time?				Yes	No
34. Have you ever participated in strikes against mechanisation?				Yes	No

35. Have you ever participated in strikes for implementation of land reforms?		Yes	No
36. Have you ever participated in the strikes for the right for homestead land (<i>kudikidappavakasam</i>)?		Yes	No
37. Have you ever participated in the land grab agitation?		Yes	No
38. Have you ever participated in protection of paddy fields/land (<i>vettinirathal</i>)?		Yes	No
39. Do you think all these strikes are/ were right or justifiable	All are right/justifiable	Majority were right /justifiable	
	Majority were not right/justifiable	Not justifiable/right	
	No commands		
40. Do you wish to continue membership in the union in future also?		Yes	No
41. Suppose if the union stands against your economic interest will you continue?		Yes	No
42. If you are not a member of union, what are your reasons?	Lack of interest	Paucity of time	
	Fear of losing job	Political reasons	
	No trade union in our village	Fund collection	
	No trade union to protect interest of workers		
	Other reasons, please state		

43. Which of the following works and to what extent has been mechanised in your area (put ✓mark)							
Farm work / activity	Extent of mechanisation			Do/did you perform this task			
	Fully mechanised	Partly mechanised	Not mechanised	Prior to Mechanisation		At present	
a). Ploughing				Yes	No	Yes	No
b). Levelling				Yes	No	Yes	No
c). Bunding				Yes	No	Yes	No
d). Sowing				Yes	No	Yes	No
e). Transplanting				Yes	No	Yes	No
f). Irrigation				Yes	No	Yes	No
g). Weeding				Yes	No	Yes	No
h). Apply fertiliser				Yes	No	Yes	No
i). Apply chemicals				Yes	No	Yes	No
j). Harvesting				Yes	No	Yes	No
k). Sheaf carrying				Yes	No	Yes	No
l). Threshing				Yes	No	Yes	No
m). Winnowing				Yes	No	Yes	No
n). Hay bundling				Yes	No	Yes	No

Knowledge and interest in farm mechanisation/machine operations			
44. Do you know operations of farm machineries?		Yes	No
44.a.) If yes, mention the names of machines/machineries			
44.b.). How did you learn these operations?	Attending training programme conducted by agricultural dept		
	As an assistant of the operator	Attending training given by private agencies	
	From employer	Other , please state	
44.c.) If no, do you wish to learn operations of farm machineries?		Yes	No
44.d.) If yes, mention the names of machinery/equipment			
45. Had you faced difficulties in getting employment in the past due to mechanisation		Yes	No
46. At present do you face difficulties in getting employment due to mechanisation		Yes	No
47. Have you or your friend or relatives lost job on account of mechanisation		Yes	No

47.a. If yes, can you the say areas in which jobs have been lost	Ploughing	Levelling	Sowing	Transplanting	
	Seed bed preparation	Weeding	Irrigation	Applying chemicals	
	Fertiliser application	Harvesting	Threshing	Winnowing	
	Sheaf handling	Hay bundling	Transportation	Others	
47.b. If yes, how did you they overcame this situation	Remain unemployed	Went for non-farm works in own villages			
	Conducted own farming	Migrated to other parts of the state for work			
	Migrated to other states	Learned operations of farm machines and worked on it			
	Other, please state				
48. Did you discuss the matter with your union leaders?				Yes	No
49. If yes what was their response		To adapt to the mechanisation process	To oppose mechanisation		
50. Had your union at any time opposed mechanisation?				Yes	No
50.a. If yes, can you remember the year /years					
50.b. Then how did you express your opposition?	Strike	Conducting picketing in the field of farmers			
	Conducting picketing house of the farmers				
	Not allowing to enter machineries from entering into the farms				
	Other ways, please mention				
50.c. Did these oppositions end in success?				Yes	No
51. Did the farmers retaliate?				Yes	No
51.a. How was their retaliation?	By not employing the opposed workers		Reducing wage rates		
	Keeping the land barren without farming		More mechanisation		
	Other ways, please mention				
52. At present can you oppose mechanisation in farming?				Yes	No
52.a. If yes, why?	Leads to further reduction in employment		Leads to decrease in the wage rates		
	It is against our union policy		Creates health problems to the workers		
	Other, please state				
52.b. When you will initiate a strike against mechanisation	When adversely affects me		When adversely affect my family		
	When adversely affects friends		When adversely affects society		
	When the union asks to strike		Other please mention		
52.c. If no, why?	Without mechanisation rice farming cannot survive		Availability of sufficient non-farm employment		
	Difficult nature of farming operations		Lack of availability of workers		
	High wage rate of workers		Better working conditions		
	Better employer employee relationships		Fear of farmers		
	Fear of losing the existing employment		Other, please state		
53. In future will you strike against mechanisation			Yes	No	Undecided
53.a. If yes, when	When adversely affects me		When adversely affect my family		
	When adversely affects friends		When adversely affects society		
	When the union asks to strike		Other, please		
53.b. If no why?	Without mechanisation rice farming cannot survive		Availability of sufficient non-farm employment		
	Difficult nature of farming operations		Lack of availability of farm workers		
	High wage rate of farmers		Better working conditions		
	Better employer employee relationship		Fear of loss employment		
	Fear of farmers		Others		
54. Even if your union asks to do strike won't you strike?				Yes	No
55. In the present condition (labour deficit) can't you fully support farm mechanisation				Yes	No
56. At present and in future can't you co-operate in farm mechanisation with farmers?				Yes	No

57. Why can't you purchase and operate farm machines on custom hire basis	Lack of capital	Lack of skill
	Lack of feasibility	In this area labourers resist mechanisation
	In this area trade unions oppose mechanisation	
	I have opposed mechanisation in the past	
	Other, please state	

58. Please state your opinion on the following statements (write appropriate number in the column)*	
a. Mechanisation has resulted in the reduction of farm employment	
b. Mechanisation has resulted in the reduction of wages of farm labourers	
c. Mechanisation has reduced drudgery of farm labourers	
d. Mechanisation has increased crop intensity and thus, more employment to labourers	
e. Mechanisation has helped to conduct farming operations on time	
f. Mechanisation has reduced the problem of lack of availability of farm workers	
g. Mechanisation has resulted in the reduction of cost of cultivation	
h. Mechanisation has improved the profitability or reduced losses of farming	
i. Mechanisation has resulted in the reduction of earnings and income of farm workers	
j. Mechanised farming is mainly suited to literate agricultural labourers	
k. Mechanisation has improved the working condition of farm workers	
l. Mechanisation has resulted in motivating workers to acquire new skills and competencies	
m. The introduction of improved farm practices is a blessing for agricultural labourers	
n. Mechanisation opens up a lot of employment avenues to the educated unemployed youth or attracts educated youth to farm work.	
o. Mechanised farming require usage of more chemicals and thus is harmful to workers	
p. At present labourers also support mechanisation in farming	
q. Trade union's attitude towards mechanisation has changed a lot	
r. At present trade unions support mechanisation without considering workers	
s. Farm workers need to learn farm machine operations	
t. Mechanisation has led to increase area under paddy cultivation by making use of barren lands for cultivation	
u. At present workers and their attitude towards mechanisation has changed too much	
v. At present they whole-heartedly support mechanisation	
w. Trade unions have played an important role for the present better position of farm workers	

59. Workers awareness about the economic conditions of rice farming*	
a. There is actual shortage of farm labourers in this area	
b. Farmers cannot complete farming operations on time due to shortage of labourers	
c. Wage rates of farm labourers are very high when compared to their productivity	
d. Morale of farm workers towards his work and employer has considerably deteriorated	
f. If farm work is not completed on time the farmer has to incur huge loss	
g. Cost of cultivation of rice has increased very much	
h. Increase in the labour cost is a major reason for increase in the cost of cultivation	
i. Income from rice farming is not sufficient to meet the expenses of farming	
l. Mechanisation is a solution to the various labour related problems of farmers.	
m. For improving rice production there need a collectively of farm workers and cultivators	

*Write '1'- for Strongly Agree; '2'- Moderately agree, 3- for Agree; 4- Neutral; 5- Disagree; 6 moderately disagree and 7 for Strongly Disagree

60. Family's Traditional Occupation and Mobility (Please Put ✓ Mark In Appropriate Columns)					
Relationship	Farming	Non-farming*	Relationship	Farming	Non-farming*
Father			Mother		
Brother			Brother		
Sister			Sister		
Wife			Son		
Son			Son		
Daughter			Daughter		

*Write 1- for Construction; 2- Business; 3- Transportation ; 4- Govt. Service; 5- Private firms; 6 –others(state)

61. Particulars of Land Holdings and Agricultural Practices			
a. Area of your land holdings		b. Total cultivated area	
c. Area under paddy		d. Area under other crops	
e. Owned		f. Leased in land	
g. Leased out land		h. Total irrigated area	
62. What is your preference for paddy farming? Manpower (write 1) or machines (write 2)			
62.a. If manpower, why?	Cheaper	Easy availability	
	More efficient	Lack of availability of machine	
	Decisions of union	Other	
62.b. If machines, why	Cheaper	Easy availability	
	More efficient	Lack of availability of labourers	
	other		
63. If you are a farmer do you prefer mechanisation over labourers			No
			Yes

If anything more to say you are welcome, please continue.

Thank you.

MECHANISATION IN THE PADDY FIELDS: ATTITUDE OF LABOURERS FARMERS AND UNIONS

Set II Interview Schedule - Farmers

District: Malappuram /Palakkad Block: Alathur / Perumpadappu

Panchayat: Kuzhalmannam/ Nannamukku

Name of Invigilator: _____

Date: _____

Individual Information											
Name:						Phone/Mobile No:					
Address:											
1. Sex	Male	female	2.Age		3. Marital status	Married	Unmarried	Widow/widower			
4. Religion	Hindu		Muslim		Christian		Others				
5. Caste	Forward		Backward		SC/ST	Others		Name the caste			
6. Educational qualification		Illiterate		Primary	Secondary		Higher secondary				
		Degree & above		Diploma		Other , Specify					
7. Experience (years)				8. Do undertake any other activities				Yes	No		
9. If yes , please state these activities											
10. Annual income (Rs.)					11. Annual Income from paddy cultivation						
12. Do you traditionally belong to a farming family?								Yes	No		
13. What is /was the occupation of your father?					Farming			Non-farming			

14. Extent of Farm Machineries Used in your Farm												
Farming operations	2013		2012		2011		5 years ago		10 years ago		20 years ago	
	Frequency*	Preference●	Frequency*	Preference●	Frequency*	Preference●	Frequency*	Preference●	Frequency*	Preference●	Frequency*	Preference●
Tillage operations												
Sowing												
Irrigation												
Transplanting												
Fertiliser application												
Weeding & interculture												
Plant protection operation												
Duster												
-Sprayer												
Harvesting												
Threshing												
Winnowing												
Straw bailing												
Sheaf and rice transporting												

* Write 1 For Always Use; 2- Often use; 3- Frequently Use; 4- Rarely; 5- Never Use

● Write 1 For Human Labour; 2 Animal Labour; 3 - Machines/equipment

15. Nature of Ownership and Rent Paid for Farm Machines and Equipments												
Farm machineries	2013		2012		2011		5 years ago		10 years ago		20 years ago	
	Ownership*	Amount of rent per hour●	Ownership*	Amount of rent per hour●	Ownership*	Amount of rent per hour●	Ownership*	Amount of rent per hour●	Ownership*	Amount of rent per hour●	Ownership*	Amount of rent per hour●
Pump sets												
Tractor												
Power Tiller												
Transplanter												
Weeder												
Sprayer												
Duster												
Harvester												
Thresher												
Winnower												
Combine Harvester												
Hay Bailer												

* Write '1' for owned, '2' for custom hiring from Panchayat; '3' - from Padashekharam Samthi; '4' Agricultural office; '5' for Other Government Undertakings; '6' Private Individuals from Kerala ; 7 Private individuals from Tamil Nadu and 8 for Others .

● Write the 'Amount of rent in Rupees' if mentioned per day convert it into hourly rates

16. Problems and Facts of Rice Cultivation			
a). Which are /were the most difficult problems (constraints) faced by you as a paddy cultivator (rank any three)	Lack of availability of workers to complete farm work on time		
	High wage rates		High input costs
	Lack of irrigation facilities		Low prices of paddy
	Lack of availability of machineries and equipments		
	High hire charges of machineries and equipments		
	Lack of market for paddy		
	Lack of availability of quality seeds and other inputs		
	Lack of availability of adequate farm information		
	Uncertain climatic conditions and lack of irrigation facilities		
	Other, please state		
b). Do you work in paddy farms along with your workers?	Yes	No	
c). Do your family members work in farms along with workers?	Yes	No	
d). If yes, number of family members available for farm work			
e). Do you find it difficult to get adequate farm workers in this area?	Yes	No	
f). Have you incurred loss at any time due to lack of availability of workers to complete farming operations on time?	Yes	No	
g). Have you at any time left land without farming due to shortage of workers?	Yes	No	
h). Have you had to suspend any farming activity due to shortage of workers?	Yes	No	
i). Have you shifted away from rice to other crops due to labour shortage?	Yes	No	
j). If yes, to which crop(s)?			
k). Do you think NREGP has adversely affected availability of workers for farming?	Yes	No	
l). Of the following operations, which is the most difficult operation to get workers? (rank any three in the order of difficulty)	Seed preparations		Tillage operations
	Transplanting		Weeding and interculture
	Fertiliser application		Plant protection operations
	Harvesting	Threshing	Winnowing
	Transporting	Other, please state	

m). How do you get the required number of workers	Directly from the labour market	Permanent workers	Through agents
	Through union offices	Other, please state	
n). Do you enter into contract with workers before engaging them for work?	Yes	No	
o). If yes, with what respects?	Wages	Working time	
	Working conditions	Other, please state	
p). On an average, how many days you have to wait for getting employees to work?			
q). Do you have any permanent employee for farming operations?	Yes	No	
r). If yes, how many?	Male		Female
s). Do you provide them work on all days	Yes	No	
t). If no, what they do on those days on which you have no work?	Undertake others work	Perform their own farm work	
	Remain unemployed	Other, please state	
u). What is their wage rate (Rs.)	Male		Female
v). Do you employ migrant workers	Yes	No	State their area of origin:
w). At present what is their proportion to the total labourers			
x). Do you prefer migrants over native workers	Yes	No	
y). If yes, what are the reasons?	Low wages	Skill and experience	Work for more time
	Lack of union attachment	Readiness to do any task	
	No particular about the working conditions or food		
	Easy to control and manage	Other please state	
z). If no, what are the reasons for preferring native workers?	Low wages	Their skill and experience	
	Neighbours, friends and relatives	Readiness to do any task	
	Easiness to control and manage	Works for more time	
	As per agreement with union, if natives are available they are to be employed		
	Other, please state		
aa). Do you pay the migrants at the same wage rate that is paid to the natives	Yes	No	
ab). If no, what are the reasons?	Low efficiency	Lack of skill and experience	They are outsiders
	They are ready to work at lower wages	Other, please state	
ac). Do the migrants work for more time than that of the native workers?	Yes	No	
ad). Do you provide the same working conditions to migrant workers also?	Yes	No	
ae). Is/was there any objection from native workers against employing migrants?	Yes	No	
af). Have you had any requests from union leaders not to employ migrants?	Yes	No	
ag). At present do they request you not to employ migrants?	Yes	No	
ah). Have you had at any time conflicts/confrontations with your farm workers?	Yes	No	
ai). If yes with what respects?	Wage rates	Working time	
	Working conditions	Method of their operations	
	Absenteeism	Mechanisation	
	Others, please state		
aj). Have you had at any time conflicts/confrontations with trade unions	Yes	No	
ak). If yes with what respects?	Wage rates of employees	Working time	
	Employing migrant workers	Mode of payment of wages	
	Mechanisation	Other, please state	
al). Did you notice or feel any change in the present attitude of unions towards mechanisation?	Yes	No	
am). If yes, what change?	They whole heartedly support mechanisation	They remain indifferent towards mechanisation	
	They have intensified their opposition	Other, please state	

17. Membership in and Attitude Towards Farmers' Unions				
a). Are you a member of any farmers' organisation/union?			Yes	No
b). If yes, can you name?				
c). What are your reasons for joining the union?	For solidarity among the farmers		To get benefits from government	
	To get loan from co-operatives		To get loan from banks	
	To follow others		Political affiliation	
	To get training and farm information		Other, please state	
d). Do you pay subscriptions and donations without fail?			Yes	No
e). Your level of participation in various activities of the union	Actively participate in all activities		Participate if there is time	
	Participate if it is beneficial to me		Participate if it is beneficial to farmers	
	Never Participate			
f). Do you think such farmers unions are essentially working for the benefit of farmers?			Yes	No
g). Do you think unions will help farmers in improving their farm production and knowledge?			Yes	No
h). Do you think farmers unions can resist workers' collective bargaining power?			Yes	No
i). Do you think such organisations can influence policy decisions of Government?			Yes	No
j). If you are not a member, what are the reasons behind?	Lack of interest		Lack of time	
	Union gives importance to politics and farmers problems are undermined			
	Heavy collections and donations		Do not function properly	
	Social and cultural barriers among the members			
	Other, please state			
k). Are/were you a member of <i>padashekhara samithis</i> at any time?			Yes	No
l). If yes what are the reasons behind joining the <i>samithi</i> ?	To improve farming		To get credit	Just following others
	To be friend of others		To get good quality seeds	
	To get subsidies		For solidarity among the farmers	
	Get linkage with krishibhavans		Other, please state	
m). Do you think membership in the <i>samithi</i> has helped you to improve your farming knowledge			Yes	No
n). Do you think membership in the <i>samithi</i> has helped you to improve your farming operations			Yes	No
o). Do you think your membership in the <i>samithi</i> could improve your farm productivity?			Yes	No
p). Do you think your membership in the <i>samithi</i> could help farmers?			Yes	No
q). Do you think existence of the <i>samithi</i> is essential for farming?			Yes	No
r). Are you satisfied with the working of the <i>samithi</i> ?			Yes	No
s). If no, can you mention how its working can be improved	Providing more funds		Providing more machineries	
	Entering into marketing also		Other, please state	
t). Have you at any time insured you crops?			Yes	No
u). If yes, is/was it beneficial to you?			Yes	No
w). If you have not insured, what is the reason?	High insurance premium		Lack of insurance facilities	
	Numerous formalities to insure and to get claims			
	Bad Experiences of insured farmers		Lack of knowledge	
	Others please state			
18- Mechanisation				
a). Do you like to use farm machineries?			Yes	No
b). If yes, why?	Reduce cost of farming		Can complete operations on time	
	More effective use of inputs		Reduces dependence on workers	
	Give more yield than labour		Other, please state	
c). If no, why?	High operation cost		Lack of accessibility	
	Wastage of inputs		Can't complete operations on time	
	Availability of cheap labour		Lack of irrigation facilities	
	Gives more yield than machines		Land features	
	Poor quality and precision of work		Others, please mention	

d). From where did you get information about farm machineries?	Agricultural offices/officers	Krishi Vijnana Kendras (KVK)		
	Other farmers	News papers	Electronic media	
	Exhibitions /seminars	Other, please state		
e). Do you own any farm machinery?			Yes	No
f). If yes, mention their names:				
g). What are the reasons behind purchase of machines?	To conduct farming operations on time		To gain status	
	Custom hiring and earning livelihood		Lack of custom hiring facility	
	To get loan	To get subsidy	Other, please state.	
h). If you doesn't own what are the reasons? Or Why are you not purchasing?	Opposition from workers and unions		Lack of skill to operate	
	No need of owning, custom hiring facility is available			
	Lack of quality machines		Poor after sale service	
	High repair and maintenance costs		High price of fuel and power	
	Lack of capital		machines have remain idle during off season	
	Other, please state			
i). Do you face any difficulty (constraints) in mechanising your paddy farms?			Yes	No
j). If yes, what are they? (rank any three)	Small and segmented holdings		Lack of skilled machine operators	
	Lack of funds		High hiring charges	
	Inadequate water availability		Lack of availability on time	
	Diversified machinery requirements		Labour/union agitations or opposition	
	Low price for paddy		Uneven land holdings	
	Availability of cheap labour		Other, please state	
k). Do you remember the year in which tractor was first introduced in your area/ farm			Yes	No
l). If yes, did you witness any opposition against tractorisation?			Yes	No
m). If yes, who opposed tractorisation? (write down the numbers in the column)*				
n). How was their resistance? (write down the numbers in the column)**				
o). Then what was the end result of the objection (need to pay compensation <i>attimari</i>) ***				
p). Do you remember the year in which harvester was first introduced in your area?			Yes	No
q). If yes, do you witness any opposition against harvester?			Yes	No
r). If yes, who opposed introduction of harvester (write down the numbers)*				
s). How was their resistance? (write down the numbers)**				
t). Then what was the end result of the objection***				
u). Have you faced objection against any other farm machineries			Yes	No
v). If yes, please give the details				
w). Do you know operations of any of the farm machines?			Yes	No
x). If yes, how did you learn?	Attending training programmes paid by me			
	Attending training programmes conducted by government agencies			
	Attending training programmes conducted by farmers unions			
	Attending training programmes conducted by <i>padashekharam samithi</i>			
	Attending training programmes offered by machine manufacturers			
	Others, please state			

*Write 1 for Permanent workers attached with the land; 2 – All workers of the area; 3 – Workers from other areas; 4 - Trade unions; 5 - Political parties; 6 – Others, please state

** Write 1- Strike; 2 – Dharna in the farm; 3 – Dharna in front of the house of farmers; 4- Gherao of tractor/harvesters and farms; 5 – Manhandling the farmers/ operators; 6 – taking hold of the machines ; 7 – Other, please state

*** Write 1 – Realising the situation workers withdrew from the agitation voluntarily; 2-Suspended using tractors temporarily; 3 – Mediation with the workers to stop usage of tractors; 4 – Mediation with the unions to stop usage of machines; 5 – Mediation with the workers to pay compensation and use machine; 6 - Mediation with the union to pay compensation & use machines; 7-Reconciliation with

government officials; **8**- Interference of police **9** - Interference of political leaders;
10- Other, please state

y). Level of effectiveness of the training programme	Highly effective	Effective	No comments	
	Ineffective	Highly ineffective		
z). If the government provides loans, are you ready to purchase machineries?			Yes	No
ab). Do you make use of <i>haritha sena</i> organised for doing mechanised farm jobs			Yes	No
ac). If yes, Your level of satisfaction on the performance of the <i>sena</i>	Highly satisfied		Satisfied	No comments
	Dissatisfied		Highly dissatisfied	
ad). If sufficient workers are available do you use farm machineries?			Yes	No
ae). If the cost of farming with the help of machines and that of labour is the same in all respects which one would you prefer	Machine		Labour	
	For certain operations machines and for other labour			

19. State your opinion about the following statements

a). Mechanisation helps in reduced cost of cultivation	
b). Mechanisation has led to increase productivity of farms	
c). Mechanisation has helped to increase the land under rice cultivation	
d). Mechanisation has reduced the problems with shortage of farm labourers	
e). Mechanisation helps me to complete farming operation on time	
f). Mechanisation has helped to more integration and co-operation among farmers	
g). Mechanisation has helped co-ordination of farm work among the farmers	
h). Mechanisation has resulted in reducing employment opportunities to workers	
i). In the absence of mechanisation workers will become more formal	
j). Mechanisation has resulted in reducing the wage rates of farm workers	
k). Mechanisation has adversely affected the collective bargaining power for workers	
l). Mechanisation has helped me to increase rice production without increasing area	
m). Mechanisation has increased peace in mind as it enables me to complete operations on time	
n). Mechanisation increases my profit and income from farming	
o). If there is no mechanisation, I would have stopped farming as an activity	
p). Mechanisation helps to utilise various inputs efficiently and effectively	
q). I prefer machines over workers	
r). Mechanisation has increased employment opportunities to the farm workers	
s). Mechanisation has improved the working conditions of farm workers	
t). It has reduced the drudgery of farm operations and that of workers	
u). Mechanisation has resulted in motivating workers to acquire new skills and competencies	
v). Mechanisation has resulted in motivating farmers and their family members in acquiring skill and training on the operations of farm machineries	
w). At present workers and their union support farm mechanisation in this area	
x). Considering the difficulty in controlling and managing the present farm workers, it is better to mechanise farming even by paying higher costs.	
y). I am ready to increase the area of rice cultivation if farm mechanisation is at its full swing.	
z). In the future, without mechanisation farming will be impossible	
aa). Co-operation among the farmers is essential for the successful farm mechanisation	
ab). I will try my best to implement more mechanisation in my paddy farms	

Write 1 for Highly Agree; 2 moderately agree, 3 for Agree; 4 for No Comments; 5 for Disagree; 6 moderately Agree and 7 for Highly Disagree

21. Land Ownership and Cropping Pattern (Acres)													
	2013		2012		2011		5 years ago		10 years ago		20 years ago		
a). Total land area owned													
b). Of these barren land													
c). Area leased out													
d). Area under other crops													
e). Area leased in for Paddy													
f). Area under Paddy													
g). Suitable for three crops													
h). Suitable for two crops													
i). Suitable for one crop													
j). Number of plots													
k). Area under punja													
l). Area under viripu													
m). Area under mundakan													
o). Is/was the agricultural income sufficient to sustain your family	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	No

22. Yield of rice in Different Years						
	2013	2012	2011	5 years ago	10 years ago	20 years ago
a). Yield in virippu						
b). Yield in mundakan						
c). Yield in punja						
d). percentage used for own consumption (Total)						
e).Selling price of Paddy/QTL						
f). Sales of hay (Rupees)						

23. In your opinion, how can we improve farm production?	Traditionally, but work harder		Follow progressive farmers	
	Follow the recommendations of agricultural department			
	Through mechanisation and modernisation			
	Other, please state			
24. If agriculture is loss why do you continue	It is our traditional occupation		Attachment with farm farming	
	Consumption of own-produced paddy is more tasty and gives more satisfaction			
	Fear of losing land, if leave uncultivated		Fear of becoming the land barren	
	Status	Other, please state.		

If you have more to say, it is welcomed:
Thank you

MECHANISATION IN PADDY CULTIVATION: ATTITUDE OF LABOURERS, FARMERS AND UNIONS

Set III –Interview schedule (key) for Trade Union Leaders

Personal and General Information				
1. Name :			Mob: No.	
2. Address				
3. Age		4. Religion :		5. Caste:
6. Educational qualification	Illiterate	Primary	Secondary	Higher secondary
	Degree & above	Diploma	Other, specify	
7. Present occupation	Farm work	Retired govt. /semi govt. employee		Other
8. Past occupation	Farm work	Govt. Semi govt. Service		Other
9. Years of experience as a Trade union worker				
10. Years of experience as a Trade union leader				
11. Present position held in Political Party				
12. Membership and position in local bodies				
13. Membership in Legislative Assembly/Parliament				
14. Membership and position in co-op. societies				

General opinion about rice farming*		
15. Rice farming is uneconomical		
16. A major reason for this is increased wage rates and labour costs		
17. Farmers cannot complete farm operations on time due to shortage of workers		
18. If farm operations are not completed on time, farmers incur huge loss		
19. Labour related problems are one of the major problem faced by farmers in Kerala		
20. Mechanisation is a solution to labour shortage and increased labour costs		
*Write –‘SA’ for Strongly Agree; ‘A’ for Agree; ‘N’ for Indifference or neither agree nor disagree; ‘D’ for Disagree and ‘SD’ for strongly disagree		
21. What is the major problem faced by farm workers at present?	Low wages	Lack of availability of work
	More working time	Mechanisation
	Migrant workers	Exploitation
	No problems	Others
22. What are the reasons behind shortage of farm workers in Kerala?	Low wages	Bad working conditions
	More working time	Drudgery of farm work
	Exploitation of farmers	Availability of better job
	Increased income of households	Inferior status
	Migration to other countries	
Other, specify		
23. What are the reasons for becoming paddy cultivation an uneconomical activity?	Increased wages and labour costs	Lack of mechanisation
	Increased input costs	Climatic conditions
	Low price of paddy	Lack of marketing facilities
	High land cost	High rent payable by tenants
	Other, please state	
24. What are the reasons for reduction in area under paddy in Kerala?	It has become uneconomical	High labour cost and shortage of workers
	lack of mechanisation	Lack of irrigation facilities
	Usage of land for commercial	
	Other, please state	

26. Have your union organised strikes at any time on the following matters?				
Demands	Within two years	Two to five years	Five to ten years	Ten years ago
a). For increased wages				
b). To reduced working time				
c). To changes in the mode of wage payment				
d). For non-payment of wages				
e). Against denial of work / protect employment				
f). Against mechanisation				
g). Against migrant workers				
h). Against Increasing prices of daily requirement				
i). For increasing social security benefits				
j). Against increasing prices of farm inputs				
k). For protection of Paddy fields				

27. Mechanisation					
a). Have you organised or participated in any strikes against mechanisation in the past?				Yes	No
b). If yes can you remember the year/ or years :					
c). If yes, it was against which machine?		Tractor	Power tiller	Harvester	Other, state
d). How was the strike?	Picketing the farm		Picketing the house of the farmer		
	Picketing the machine		Destroying paddy		
	Destroying the machine		Other, please state		
e). Who yielded in these strikes		Farmers	Workers		
f). How did it end?	Withdrawing the machine		Giving compensation to the workers		
	Police action against the workers		Workers surrendered due to loss of job		
	Due to the interference of labour department		Interference of public		
	Other, please state				
g). In those days did your union get any complaints of loss of employment due to mechanisation?				Yes	No
h). In those days did you get any complaint regarding reduction in wages due to mechanisation?				Yes	No
i). Do you think that mechanisation in paddy cultivation in the past has led to reduction in employment opportunities to farm workers?				Yes	No
j). Do you think that it has led to reduction in the wage rates of farm workers?				Yes	No
k). Do you think it has adversely affected the collective bargaining power of workers?				Yes	No
l). Considering the present farm labour shortage, can you/ your union oppose mechanisation?				Yes	No
m). If yes, why?	Lead to further reduction in employment		Lead to reduction in wage rates		
	It is against the policy of our union		Create health problems to the workers		
	Increase drudgery of work		Other, please state		
n). If no, why?	It is not our policy to strike against mechanisation				
	Without mechanisation paddy can't survive		Sufficient non-farm work is available		
	Reduces drudgery of farm work		High wage rate of farm workers		
	Better employer-employee relationship		Fear of farmers union		
	Decision of our political party		Lack of availability of members to strike		
Other, please state					
o). In future will you organise a strike against mechanisation?			Yes	Undecided	No
p). If yes, when?	When complaints are received from workers		When adversely affects workers		
	When leaders at the higher level asks to do		When adversely affects the society		
	Other, please state				

q). If no, why?	It is not our policy to strike against mechanisation	
	Without mechanisation paddy can't survive	Sufficient non-farm work is available
	Reduces drudgery of farm work	High wage rate of farm workers
	Better employer-employee relationship	Fear of farmers union
	Decision of our political party	Lack of availability of members to strike
Other, please state		
r). At present, when you consider the situation, do you think all the strikes organised by your union in the past were right?	Yes, all were right	Majority were right
	Some were right and some were wrong	
	Majority were wrong	No comments

28. What is your opinion about the following matters when compared to the past (10 years ago) Write 1, if it is more; write 2 if it is equal or same and write 3 if it is less)	
a). Present wages when compared to their working time in the past	
b). Present wages when compared to their productivity in the past	
c). Present wages when compared to the drudgery of the work in the past	
d). Present working time when compared to that of the past	
e). Present working conditions when compared to that of the past	
f). Present involvement and loyalty towards the work with that of the past	
g). Present attachment with their employer with that of the past	
h). Present drudgery with that of the past	
i). Present living standards with that of the past	
j). Present social status with that of the past	
k). At present the exploitation of workers by farmers when compared to that of the past	

29. What is your opinion about the following statements (Write – 'SA' for Strongly Agree; 'A' for Agree; 'N' for Indifference or neither agree nor disagree; 'D' for disagree and 'SD' for Strongly Disagree)	
a). At present majority of farm workers join union for the purpose of getting benefits only	
b). At present members are not ready to conduct strikes or take part in processions	
d). At present workers involvement in union activities has declined very much	
e). Mechanisation is essential for the survival and growth of paddy cultivation in Kerala	
f). For survival and growth of paddy cultivation in Kerala workers and unions have to change	
g). In the past, mechanisation has reduced employment opportunities	
h). In the past, mechanisation has resulted in reducing the wage rates of farm workers	
i). Mechanisation has resulted in reducing the drudgery of farm work	
j). Past trade union activism is a major reason for reduction in farm areas	
k). Due to labour and union opposition, mechanisation in Kerala has not succeeded	
l). Workers morale and loyalty towards work and employer has declined very much	
m). Workers prefer non-farm work than farm work	
n). Wage rates of farm labourers are very high when compared to their productivity	
o). Morale of farm workers towards his work and employer has considerably deteriorated	
p). If farm work is not completed on time the farmer has to incur huge loss	
q). Cost of cultivation of rice has been increased very much	
r). Increase in the labour cost is a major reason for increase in the cost of cultivation	
s). Income from farming not sufficient to meet the expenses of farming	
t). Mechanisation is a solution to the various labour related problems of farmers	
u). Trade unions can play an important role in improving rice cultivation in Kerala.	
w). At present the our unions attitude towards mechanisation has changed too much	
x). At present it is difficult to oppose farm mechanisation	

30. At present does you union support farm mechanisation?		Yes	No
a). If yes, why can't you provide training to members on mechanised farming and form a 'brigade'	We are providing training		Lack of funds
	Lack of scope for getting sufficient work for farm machine operators		
	Lack of interest among the members		Lack of facilities for training
	Fear of weakening the union		
	Other, please state		
b). If yes, why can't you form a self help group of workers engaged in mechanised farm operations?	We have formed (name)		Not thought yet present
	Lack of funds		Lack of support from officials
	Lack of interest among the members		Fear of weakening the union
	Lack of scope for success in Kerala		Lack of availability of suitable machines
	Other, please state		
c). If yes, why can't you form a co-op society which provides both services of men and machines on custom hire basis?	We have formed a co-operative union (name)		
	Not thought yet present		Lack of support from officials
	Lack of interest among members		Fear of weakening the union
	Lack of scope for success in Kerala		Lack of availability of suitable machines
	Repairs and maintenance of farm machineries require huge cost		
	Other, please state		
d). Why trade unions cannot collaborate with farmers to increase rice production?	At present our union collaborates with farmers		
	We are ready, but not yet thought such a thing		
	Both are two classes, having different interest, thus collaboration is difficult		
	They have exploited workers a lot, thus, it is difficult		
	May weaken the union		
	Other, please state		
f). Why trade unions cannot collaborate/cooperate with KVKs and other institution in promoting mechanisation?	At present our union collaborates with farmers		
	We are ready, but not yet thought such a thing		
	Lack of initiative from officials		
	May weaken the union		
	No scope for mechanised farming in Kerala		
	Heavy cost and lack of repairs and maintenance facilities for farm machines		
	Other, please state		
h). If no, why you are not supporting mechanisation in this situation	Mechanisation is not the objective our union		
	Reduce employment opportunities		Reduce prevailing wage rates
	May weaken the union		It is deviation to our previous policy
	Survival and growth of paddy cultivation is possible without mechanisation		
	Other, please state		

31. Do you possess land (how much - in acres)			
32. Do you carry on paddy cultivation		Yes	No
a). If yes, what are the machines used in your farms	Tractor/Tiller	Transplanter	Weeder
	Combine harvester	Hay bailer	Other, please state
b). If no why?	It uneconomical		Lack of time to carry on farming
	Shortage of workers		Other crops
	Other, please state		

Thank you
If anything to say, you are welcome.