A STUDY ON THE INFLUENCE OF LABOUR EFFICIENCY ON THE ADOPTION OF IMPROVED AGRICULTURAL PRACTICES BY FARMERS AND FACTORS RELATED WITH IT

BY

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THESIS

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DECLARATION

I hereby declare that this thesis entitled "A STUDY ON THE INFLUENCE OF LABOUR EFFICIENCY ON THE ADOPTION OF IMPROVED AGRICULTURAL PRACTICES BY FARMERS AND FACTORS RELATED WITH IT" is a bonafide record of research work done by me during the course of research and that the thesis has not previously formed the basis for the award to me of any degree, diploma, associateship, fellowship or other similar title of any other University or Society.

V B Padmanabha

V.B.Padmanabhan

Vellayani,
10th June, 1981.

CERTIFICATE

Certified that this thesis entitled "A STUDY ON THE INFLUENCE OF LABOUR EFFICIENCY ON THE ADOPTION OF IMPROVED AGRICULTURAL PRACTICES BY FARMERS AND FACTORS RELATED WITH IT" is a record of research work done independently by Sri V.B. Padmanabhan under my guidance and supervision and that it has not previously formed the basis for the award of any degree, fellowship or associateship to him.

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CONTENTS

LIST OF TABLES

LIST OF TABLES (Contd.)

LIST OF TABLES (Contd.)

LIST OF TABLES (Contd..)

LIST OF FIGURES

INTRODUCTION

CHAPTER I

INTRODUCTION

The progress of our country depends mainly on the progress of agricultural development. Agriculture was, is and will continue to be the backbone of our economy. To increase agricultural production farmers must adopt scientific agriculture. Programmes and projects were undertaken to provide all the required facilities to induce farmers to adopt improved agricultural practices. But studies have revealed that the adoption of improved agricultural practices by farmers depends upon many factors. The characteristics of the farmers, the characteristics of the agricultural practices, the social system factors in which the farmers are living, the transport and market facilities etc., have profound influence on the adoption of improved agricultural practices.

One important factor that affects the adoption is the characteristics of the farmer. A farmer should have knowledge of improved agricultural practices, favourable attitude and above all necessary skill in doing the required operations apart from other

favourable personal characteristics, if he is to adopt the scientific methods of cultivation.

Agriculture in Kerala is different in labour use pattern when compared to other parts of India. A great part of the labour required for cultivation of crops is met by hired casual labourers. As shown in Table 1 in Kerala as much as 96% of the labour required for paddy cultivation is met by hired labourers.

Table 1. State-wise labour utilization per heccare for paddy in man days (1967-68)*

Sl No.	State	Hired	Family	Total
1	Assam	24	68	92
2	Andhra Pradesh	81	20	101
3	Madhya Pradesh	65	49	113
4	Kerala	164	7	171
5	Orissa	21	47	68
6	Tamil Nadu	196	13	169
7	Uttar Pradesh	46	131	177
8	West Bengal	76	75	151

* Source: Department of Agricultural Economics, College of Agriculture, Vellayani, Kerala Agricultural University.

The same trend can also be seen in other crops like coconut, tapioca etc.

In such a situation if a farmer in Kerala has to adopt an improved agricultural practice the agricultural labourers engaged by him for that work must also have the necessary knowledge and skill. So it can be argued that in Kerala not only the knowledge and skill of the farmer but also of the large number of hired labourers engaged by him for the different operations can be a factor in deciding the adoption of scientific agricultural practices by farmers. Nair (1969) and Pillai (1978) in their studies on the adoption of scientific agricultural practices in Kerala have found that one of the reasons for non-adoption or partial adoption of scientific practices was the quantity and quality of agricultural labourers engaged by the farmers. Lack of skill of labourers engaged by farmers has been frequently mentioned as a difficulty which inder the adoption of some practices.

Need for the study

Most of the earlier studies done in labour efficiency, factors contributing to it, its relationship with technological changes etc., were those

confining to industrial labour. Few such studies have been done in the field of agricultural labour. The influence of labour efficiency on the adoption of improved agricultural practices has not been studied at all. Such a study was found to be important especially in Kerala where the percentage of hired labour use in agricultural production is maximum in most of the crops. Hence this study was taken up.

Objectives:

The following were the specific objectives of the study.

1. To identify the relationship between the efficiency of agricultural labourers employed by the farmer and the extent of adoption of the recommended practices of crops grown by him.
2. To identify the factors contributing to the efficiency of different types of agricultural labourers.
3. To identify the ways for increasing the efficiency of agricultural labourers.

Scope and limitations

A study of this kind has not been undertaken in the field of agricultural labour so far. So there was dearth of relevant findings which could give guidance to the researchor. The study tried to identify some of the labour characteristics and their relationchip with labour efficiency. It also meesured the relationship of labour efficiency with the adoption of recommended agricultural practices by farmers.

A study of this nature in detail would require considerable amount of time, personnel and other resources. For a single study by a single researcher to explore this area in a greater depth and in a comprehensive manner will be far from easy accomplishment. These limitations have been taken into consideration in deciding the variables, area coverage and sample size. However, every efforts have been taken to make the study as objeccive as possible.

The study was conducted in Trivandrum district and the findings may not suit to other parts of Kerala. Even if all the important characteristics of the agricultural labourers which influence their efficiency are identified and studied exhaustively their extent of

influence can vary from place to place due to different political, organizational conditions and working environment. Also in many situations the productivity of a labourer is not completely dependent on his efficiency alone. A worker is not the complete master of his productivity. As Mongia (1976) stated the tools or machines used, the techniques followed, the quality of raw materials used, the weather factors etc. have in most cases, more influence on his productivity than his own effort.

It is visualised that the findings of this study like other scientific and systematic studies, would provide an insight into the subject. There is ample scope for continuing the study in other related aspects and angles in future.

THEORETICAL ORIENTATION

CHAPTER II

THEORETICAL ORIENTATION

The main purpose of this Chapter is to link whatever research findings exist in the area of study with the research problem. For this a review of literature will be made to cull out and integrate important findings which will give proper orientation for the proposed research. These findings will be used to locate the problem on a theoretical perspective.

Agricultural Labourer

Agricultural labourer has been defined by various authors.

The First Agricultural Labour Enquiry Committee (1950-'51) defined the term'agricultural labourer' as "those people who are engaged in raising crops on payment of wages". The Second Agricultural Labour Enquiry Committee (1956-57) enlarged the definition of agricultural labourer to include those who are engaged in other agricultural operations like dairy farming, horticulture, raising of livestock, bees, poultry etc. According to the National Commission on Labour (1969) an agricultural labourer is one who is basically

unskilled and unorganised and has little for his livelihood than other personal labour.

Singh and Singhal (1969) defined agricultural labourer as a person who for more than half of the total number of days on which he actually worked during the year, as an agricultural labourer.

Report on the National Commission on Labour (1969) stated that the Fourth Five Year Plan documents defined an agricultural labourer as 'one who depends on agricultural wages for more than half his income.' This definition implies that agricultural labourers are people with rural households which derive more than 50 per cent of their income from agricultural wages.

Government of Kerala (1976) defined agricultural labourer as " a person who, in consideration of the wages payable to him by a land owner, works on, or does any other agricultural operation in relation to, the agricultural land of such land owner.

Rao (1976) stated that in the 1971 Census an agricultural labourer was defined as " a person who works in another person's land for wages in money, kind or share without any right or lease or contract on

the land on which he works". An agricultural labourer is generally one who depends mainly on wage-paid employment in agriculture. Self cultivation (in own holding or a tenant/share-cropper etc.) may also provide him with a secondary means of livelihood but wage - employment in agriculture still remain his mainstay".

Agricultural labourer for this study is considered as a person doing any kind of agricultural operation for a farmer in receipt of wages in the form of either cash or kind or both.

Types of agricultural labourers

Different authors have classified agricultural labourers in different ways.

Patel (1952) stated that M.B.Nanavati and J.J. Anjaria classified agricultural labourers into three groups.

i) Field labourers - who comprised ploughmen, reapers, sowers weeders and transplanters represent labour of seasonal character

ii) Ordinary labourers- Comprised embankment-workers, well diggers, and canal-cleaners; as such they too, are presumably

labourers of a seasonal character.

iii) Skilled labourers -included carpenters, masons, blacksmith and leather workers, who, in reality are artisans and not farm labourers.

Such a classification does not have the advantage of a simplified classification either on a time basis, or on the basis of skill.

Also, Patel (1952) stated that 'agricultural labourers are classified on the basis of the way in which they receive their remuneration, in cash or kind or a combination of both. This does not bring out important distinctions regarding employment on a longer or shorter time basis. Taking the above objections into consideration Patel classified agricultural labourers into 4 main types.

i) Bonded or semi-free labourers- comprised those labourers who did not have the freedom of choosing their masters or their job.

ii) Dwarf-holding labourers - among them the most important group was composed of tenants-at-will and share croppers who undertook cultivation under terms which

were difficult to distinguish from those under which landless agricultural labourers worked. Small tenants with occupancy rights and petty proprietors cultivating patches of land under five acres in size were also included in this type; the income from the cultivation of dwarf-holdings was generally inadequate for their livelihood. They were compelled therefore to seek subsidiary work as agricultural labourers. Persons who sought partial agricultural labour on account of insufficiency of income from their occupations such as domestic industries, collecting forest products, tending cattle, were also included in this group.

iii) Under employed landless labourers - was composed of those who had no other major occupation but agricultural labour. On account of the limited demand of agricultural labour they were unemployed or underemployed for part of the year. All those agricultural labourers who migrated for seasonal work were also included in this group.

iv) Full-time free wage labourers- were employed by farmers who carry on agriculture as small capitalists seeking profits of cultivation and not as

absentee - land-lords living off rents

Pant (1965) identified the following four types of agricultural labourers.

i) Landless labourers whose only source of income was wage labour. They might be skilled or unskilled, attached or casual workers.

ii) Labourers who did not depend upon wage labour alone for earning their livelihood, but also were obliged to seek work to supplement their income. To this group belonged small land owners, tenants, share-croppers, part-time farmers and also village artisans.

iii) The families (women and children) of the above two types of workers constituted the third type. Here also, the main object was to supplement income which was inadequate.

iv) The workers who alternated between agricultural and non-agricultural jobs.

Singh and Singhal (1969) stated that the Consus of 1951 classified agricultural workers into two broad groups.

i) Casual workers

ii) Attached workers who had continuous employment for one month or more of time.

Singh (1978) stated that there were four categories of workers in agriculture, called as Thorners' grouping

i) Working on daily wages
ii) Working as permanent hands
iii) Working on contract for one crop season or more
iv) Working for allotted land

The payment was in kind and cash and there was a mixed category of kind and cash wages.

The above classifications were not found suitable for this study. Most of the agricultural labourers in Kerala are casual workers who work for daily wages. The purpose of this study was to find out the relationship of agricultural labour efficiency and adoption of scientific practices by farmers. Hence in this study only those labourers who were engaged for doing the operations in the selected crops were considered. These operations were done by casual labourers.

For this study agricultural labourers have been classified into two groups, namely Men and Women agricultural labourers.

Labour efficiency

Labour efficiency and labour productivity which have been synonymously used by different authors have been

defined in different ways.

Mongia (1976) defined labour productivity as the rate of output to the corresponding input of labour. According to Pratten(1976) the term labour productivity is reserved for measures of output per unit of labour input.

Economists use the corn labour productivity for measures of output obtained from inputs of labour but many businessmen use it for measures of the efficiency of labour.

For the present study, labour efficiency of agricultural labourers refers to the capacity to do productive work on the farm per man per unit time.

Labour efficiency and Agricultural production

The factors related with agricultural labour which have direct bearing on agricultural production are the quantity and quality of agricultural labour. Quantity refers to the availability of labour in time in right quantity and the quality refers to the ability/efficiency of agricultural labour.

Johl and Kapur (1977) stated that one of the reasons for low agricultural production in our country

is the inefficiency of labour. Nair (1969) and Pillai (1978) in their studies on the adoption of scientific agricultural practices in Kerala have also found that one of the reasons for non-adoption or partial adoption of scientific practices as stated by the farmers was related with the quality of agricultural labourers engaged by the farmer. Lack of skill of labourers engaged by farmers has been frequently mentioned by farmers as a difficulty which hinder the adoption of some practices.

Determinents of labour efficiency

The components of labour efficiency has been identified by many workers.

Dewett et al. (1949) stated that the two main components of labour efficiency are "Power to do work" and " Will to do work" The "Power to do work" will depend upon the physical factors like physique, health, skill in doing work etc. of the labourer. The "Will to do work" reflects his mental qualities like ambition to rise, sense of duty etc. Apart from these two, the quality of equipment and tools the labourer uses, the social and situational factors influence labour efficiency.

A review of the studies and reports which reported the association between different characteristics and efficiency of labourers are presented in Table 2.

Table 2. Review of labour efficiency factors

No.	Variable	Author/s who stated relationship	Relationship
1	Ability	Mehta (1955)	Related to productivity
		Mine (1964)	Related to efficiency
2	Age	Gilmer (1961)	Negatively related to turn over
		International Labour Organisation (I.L.O) (1963)	Not related to output of workers
		I.L.O. (1969)	Related to productivity
3	Ambition to rise	Dewett et al. (1948)	Related to efficiency
4	Anxiety	Smith (1955)	Related to efficiency
5	Aptitude	Mehta (1955)	Related to efficiency
		Gilmer (1961)	Related to turn over
6	Capacity	Mehta (1955)	Related to efficiency
7	Caste	Dewett et al. (1948)	Related to efficiency
8	Common sense	Smith (1955)	Related to efficiency
9	Cooperation	Smith (1955)	Related to efficiency
10	Education	Mehta (1955)	Related to productivity
		Gilmer (1961)	Related to turn over
		Ganguli (1962)	Related to efficiency
		Galenson and Pyatt (1964)	Related to labour quality
		Agarwal (1969)	Related to turn over
		I.L.O. (1975)	Related to productivity
		Dutani (1976)	Related to work out put
		Gupta (1976)	Related to efficiency
		Sinha (1976)	Related to efficiency

Table 2 (Contd.)

No	Variable	Author/s who stated relationship	Relationship
11	Experience	Mehta (1955)	Related to productivity
		I.L.O (1963)	Not related to out put of workers
		Agarwal (1969)	Related to turn over of workers
12	Faithfulness	Prakasam (1976)	Related to efficiency
13	Fatigue	Smith (1955)	Negatively related to productivity
		I.L.O. (1969)	Related to productivity
14	Friendliness	Prakasam (1976)	Related to efficiency
15	Group cohesiveness	Mathewson (1931)	Related to performance
		Schachter et al. (1951)	Positively related to productivity
		Seashore (1951)	Related to work out put
		Knowles (1958)	Related to work out put
		Gilmer (1961)	Related to productivity
		Faroqi (1962)	Related to efficiency
		Patchen (1962)	Related to productivity
		French (1964)	Positively related to productivity
16	Habits	Mehta (1955)	Related to efficiency
17	Handicap	Gilmer (1961)	Related to job turn over
18	Health	Mehta (1955)	Related to efficiency
		Galenson and Pyatt (1964)	Related to productivity
		Cohen (1975)	Related to efficiency
		Butani (1976)	Related to turn over
		Sinha (1976)	Related to efficiency
		Mach (1979)	Related to productivity

contd...

Table 2 (contd.)

No.	Variable	Author/s who stated relationship		Relationship
19	Honesty	Dewett et al.	(1948)	Related to efficiency
20	Housing	Galenson and Pyatt	(1964)	Related to labour quality
		Cohen	(1975)	Positively related to efficiency
21	Incentives	Mongia	(1976)	Related to productivity
22	Initiative	Smith	(1955)	Related to efficiency
		Desai	(1969)	Related to work out put
23	Intelligence	Dewett et al.	(1948)	Related to efficiency
		Mehta	(1955)	Related to efficiency
		Gilmer	(1961)	Related to turn over
24	Interest	Gilmer	(1961)	Related to turn over
		Farooqi	(1962)	Positively related to productivity
		I.L.O	(1975)	Positively related to productivity
25	Job attitude	Homans	(1941)	Related with increase in output
		Finley et al.	(1955)	Positively related to efficiency
		Mehta	(1955)	Positively related to productivity
		Smith	(1955)	Positively related to productivity
		Likert	(1956)	Positively related to productivity
		Herzberg et al.	(1957)	Related to productivity
		Ganguli	(1958)	Positively related to productivity
		Mongia	(1976)	Positively related to productivity

Table 2. (contd.)

No.	Variable	Author/s who stated relationship		Relationship
26	Job satisfaction	Brayfield and Crockett	(1955)	Not related to performance
		Capwell	(1957)	Not related to performance
		Kahn	(1960)	Not related to productivity
		Veeraraghavan	(1961)	Not related to productivity
		Farooqi	(1962)	Positively related to productivity
		French	(1964)	Not related to productivity
		Dubin et al.	(1965)	Not related to performance
		Fleishman	(1965)	Positively related to performance
27	Judgement	Dewett et al.	(1948)	Related to efficiency
28	Knowledge of the job	Smith	(1955)	Related to efficiency
		Prakasam	(1976)	Related to efficiency
29	Labour-management relations	I.L.O.	(1969)	Related to productivity
30	Laziness	Prakasam	(1976)	Related to efficiency
31	Morale	Finley et al	(1955)	Positively related to efficiency
		Mehta	(1955)	Positively related to productivity
		Smith	(1955)	Not related to productivity
		Gilmer	(1961)	Positively related to productivity
		Pajer	(1970)	Positively related to productivity

Table 2. (contd.)

No.	Vairable	Author/s who stated relationship		Relationship
32	Motivation	Smith	(1955)	Positively related to efficiency
		Karn	(1961)	Positively related to performance
		Agarwal	(1969)	Related to turn over
33	Number of hours of work	Mehta	(1955)	Related to output por worker
		I.L.O.	(1975)	Related to productivity
		Mongia	(1976)	Related to efficiency
34	Nutrition	I.L.O.	(1963)	Related to output of worker
		Galenson and Pyatt	(1964)	Related to productivity
		Agarwal	(1969)	Related to turn over
		Cohen	(1975)	Related to productivity
		Mongia	(1976)	Related to work output
		Matura	(1979)	Related to productivity
35	Participation	Ganguli	(1958)	Related to productivity
		Faroqi	(1962)	Related to productivity
36	Perseverance	Dowett et al.	(1948)	Related to efficiency
37	Personal adjustment	Ganguli	(1962)	Related to efficiency
		I.L.O	(1969)	Related to productivity
38	Personality	Gilmer	(1961)	Related to turn over
		Karn	(1961)	Related to labour performance
39.	Physical activity	Minc	(1964)	Related to productivity
		Prakasam	(1976)	Related to efficiency

contd

Table 2. (contd.)

No.	Variable	Author/s who stated relationship		Relationship
40	Resourcefulness	Dewett et al.	(1948)	Related to efficiency
		Smith	(1955)	Related to efficiency
41	Responsibility	Dewett et al.	(1948)	Related to efficiency
		Desai	(1969)	Related to work output
		Prakasam	(1976)	Related to efficiency
42	Rest	Ganguli	(1953)	Related to productivity
43	Sex	Gilmer	(1961)	Women show less turn over
		Galenson and Pyatt	(1964)	Related to productivity
		I.L.O.	(1969)	Related to productivity
44	Skill	Monta	(1955)	Positively related to productivity
		Smith	(1955)	Related to efficiency
		I.L.O.	(1957)	Positively related to productivity
		Galenson and Pyatt	(1964)	Related to productivity
		Hinc	(1964)	Related to productivity
		I.L.O	(1969)	Related to productivity
		Gupta	(1976)	Positively related to productivity
		Mongia	(1976)	Related to productivity
45	Social climate	Ganguli	(1962)	Related to efficiency
		I.L.O.	(1969)	Related to productivity

contd...

Table 2. (contd.)

No.	Variable	Author/s who stated relationship		Relationship
46	Social security	Galenson and Pyatt	(1964)	Related to labour quality
47	Stature	I.L.O.	(1963)	Not related to output of worker
48	Status	Agarwal	(1969)	Related to turnover
		Finnigan	(1973)	Related to quantity and quality of work
49	Trade Union	I.L.O.	(1969)	Related to productivity
50	Training	Mehta	(1955)	Positively related to productivity
		Galenson and Pyatt	(1964)	Related to productivity
		Agarwal	(1969)	Related to turnover
		I.L.O.	(1975)	Positively related to productivity
		Butani	(1976)	Related to work output
		Gupta	(1976)	Related to efficiency
		Mongia	(1976)	Positively related to productivity
51	Wages	Kahn	(1961)	Positively related to productivity
		Faroqi	(1962)	Positively related to productivity
		Agarwal	(1969)	Related to turnover
		I.L.O.	(1969)	Related to productivity.

contd..

Table 2. (contd.)

No.	Variable	Author/s who stated relationship		Relationship
52	Willingness to work	Lowett et al.	(1948)	Related to efficiency
		Mehta	(1955)	Related to productivity
53	Working conditions	Mehta	(1955)	Positively related to productivity
		Faroqi	(1962)	Related to productivity
		I.L.O.	(1969)	Related to productivity
		Mongia	(1976)	Related to productivity
54	Welfare measures	Faroqi	(1962)	Not related to productivity
55	Working methods	I.L.O.	(1963)	Not related to work output

Many of the studies and reports reviewed above were pertaining to industrial labour but many of these factors can be applicable to agricultural labourers also. As shown in the review there are many factors related with labour efficiency. Different researchers have reported different types of relationship with the same variable in different situations. It is also evident that one researcher cannot consider all the above characteristics in one study within a short period of time. So from among the many characteristics that were proved to have relationship with labour efficiency a manageable system of variables which were adapted to empirical measurements were selected. Some other variables which were found to be important in Kerala situation in the pilot study were also included for the study. The selected variables are the following:

1. Age.
2. Caste
3. Education
4. Experience
5. Knowledge of scientific agriculture
6. Knowledge of development programmes for agricultural labourers.
7. Participation in decision making with the farmer

8. Attitude towards agriculture
9. Attitude towards job
10. Attitude towards employer.
11. Attitude towards labour unions
12. Level of aspiration (present)
13. Level of aspiration (future)
14. Value orientation
15. Feeling of responsibility in increasing agricultural production
16. Period of employment by the farmer.
17. Total period of employment.

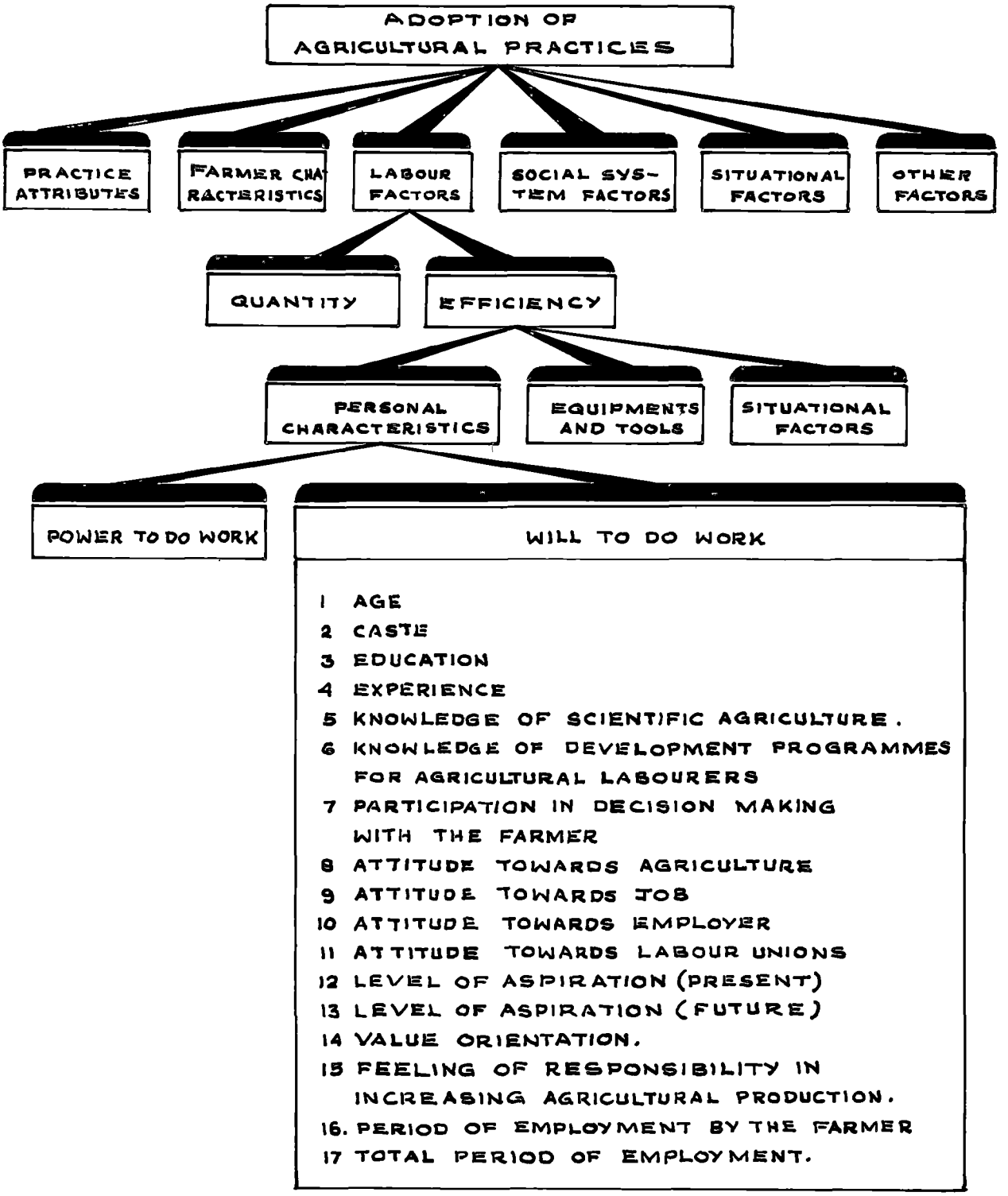
The conceptual scheme of the study explained above is represented as a model in Fig. 1.

A detailed discussion and review on the above selected factors is presented below which will help to pinpoint the importance of these factors in the study. The assumption made for this study, based on the review, is also given under each variable.

Age

Gilmer (1961) stated that there was a higher turn over among younger than among older people. International Labour Organisation (I.L.O) (1963) stated that age was not related to output of workers. But in 1969 I.L.O. stated that age was a human factor affecting labour productivity.

FIG 1 CONCEPTUAL MODEL OF THE STUDY



The preliminary observation made by the researcheər was in line with that of Gilmer (1961). Hence it was postulated for this study that there would be an association between age and efficiency of agricultural labourers.

Caste

As many of the studies in labour efficiency were done in countries where caste did not exist this factor had not been studied in detail. Dewett et al. (1949) stated that caste could influence labour efficiency. The observation made by the researcher during the pilot study also revealed that caste could influence labour efficiency.

For this study, it was assumed that there would be a relationship between caste and efficiency of agricultural labourers.

Education

Mehta (1955) stated that general education was one of the many factors that had made a remarkable contribution towards increase in productivity. Gilmer (1961) stated that turn over was high among those persons whose positions were below their level of education.

Ganguli (1962) suggested to educate an individual labourer in order to make him efficient. Galenson and Pyatt (1964) stated that education was one of the factors that

had an impact on labour quality. According to Agarwal (1969) contribution of workers to economic activities differed due to qualitative differences among members of a group which could be expressed in terms of a fairly large number of characteristics among which one was education. I.L.O (1975) suggested that educational programmes were to be designed to increase productivity. Butani (1976) stated that education had the impact of affecting outlay capacity in man power. Gupta (1976) stated that education developed overall general efficiency. Sinha (1976) was also of the opinion that education improved workers' efficiency.

As the preliminary exploratory observation of the researcher also confirmed the statements of Mehta (1955) Sinha (1976) and Gupta (1976) it was hypothesised that there would be an association between education level of agricultural labourers and their efficiency.

Experience

There is a general saying "Practice makes man perfect" and practice is achieved through experience.

Chambers Dictionary (1959) defined experience as practical acquaintance with any matter gained by trial or wisdom derived from the changes and trials of life.

Mehta (1955) stated that the ability of the worker to perform his job more efficiently depended upon many factors among which one was experience. I.L.O (1963) stated that experience was not related to output of workers. Agarwal (1969) stated that contribution of workers to economic activities differed due to qualitative differences among members of the group which could be expressed in terms of a fairly large number of characteristics, among which one was experience.

For this study it was hypothesised that there would be relationship between experience and efficiency of agricultural labourers.

Knowledge of scientific agriculture

English and English (1958) defined knowledge as a body of understood information possessed by an individual or by a culture. According to Pillai(1978) knowledge is "an important component of behaviour and as such plays an important part in the behaviour of an individual".

Smith (1955) and Prakasam (1976) stated that the knowledge of the labourer about his job was related to his efficiency. The theory of learning suggested that the more a labourer did work efficiently, the more would be the knowledge about the same work. It is logical to

assume that the knowledge of scientific agricultural practices is an indication of the degree to which a labourer will be able to do his work efficiently.

Hence it was postulated for this study that there would be a positive relationship between the knowledge of agricultural labourers regarding scientific agriculture and their efficiency.

Knowledge of development programmes for agricultural labourers

Several development projects are under implementation for the benefit of agricultural labourers like Minimum Wages Act of 1948 and the Acts and Ordinances of Kerala of 1974. Acts, Ordinances and Regulations were brought into effect for the benefit of agricultural labourers both by the Central Government and State Government. The agricultural labourers who are aware of these programmes may have a better job attitude and this will work as an incentive for doing better work. Incentives have already been shown as a factor contributing to efficiency. Mongia (1976) stated that providing incentives of any kind can influence the productivity of workers. Hence it can be logically assumed that the labourers who are

efficient will have a better knowledge regarding the Acts, Ordinances, Regulations and Programmes which are intended for their development. But Farooqi (1962) stated that welfare measures created good attitude but did not increase productivity. It was hypothesised for this study that there would be a positive relationship between the labourers' knowledge regarding programmes for their develo ment and their efficiency.

Participation in decision making with the farmer

Ganguli (1958) and Farooqi (1962) stated that participation from the labourers was related to productivity. Farooqi (1962) reviewed two sources of motivation -"own forces" and "induced forces" as distinguished by the German psychologist Kurt Lewin. It was demonstrated by Kurt Lewin that only " own forces" had true motivational properties. The energy necessary to carry out an action is released only if the person himself made the decision to take that action. If members of a cohesive group made a decision, especially in face-to-face situation, it would activate "own forces" in all the members of that group.

Decision making is required at each and every stage in agriculture. For doing each agricultural operation and

about the manner in which it is to be done the farmer has to take his own decisions. If the labourer is involved in the decision making process with the farmers in face-to-face situation his "own force" will be activated which will motivate him to do the agricultural operation in a more efficient way. Also, if the farmer seeks the opinions of the labourer in making decisions as what to cultivate, how to cultivate etc., the labourer will be motivated to work well.

It was assumed that there would be an association between the efficiency of agricultural labourers and the extent of their participation in decision making with the farmer in doing agricultural operations.

Attitude

Various definitions of attitude have been advanced. Allport (1935) defined attitude as 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 with which it is related. Murphy, Murphy and Newcomb (1937) defined attitude as primarily a way of being set toward or against certain things. Thurstone (1946) defined

attitude as the degree of positive or negative affect associated with some psychological object towards which people can differ in varying degrees. According to Krech and Krutchfield (1948) attitudes are a function of perception. New Comb (1950) speaks of attitude as a state of readiness for motive arousal and an individual's attitude towards something is his pre-disposition to perform, perceive, think and feel in relation to it. Rosenberg (1956) stated " an attitude is a relatively stable affective response to an object". Katz and Scotland (1959) defined attitude as a tendency of disposition to evaluate an object or symbol of the object in a certain way. Rammers et al. (1967) defined attitude informally as feeling for an against something. Sharma (1972) defined attitude as a personal disposition which impels an individual to react to some objects or situations. Henraman (1973) defined attitude as the degree of liking, positive evaluationand/or preference of one person for another.

Allport's definition implies that attitudes refer to a very general state of readiness. Murphy, Murphy and New Comb however, restricts the state of readiness or 'set' to reaction 'toward or against' certain objects. The latter more recent definition focus on the affective

tendency to favourably or unfavourably evaluate objects. Krech et al. (1962) defined attitude as an enduring system of three components entering about a single object: the cognitive component - the beliefs about the object - feeling component - the effect connected with the object and the action tendency component-the disposition to take action with respect to the object. Thus attitude is briefly, a determining tendency, or set or state of readiness to act in a characteristic manner, which predisposes a person to behave in certain ways towards specific objects, persons, ideas values or situation in the social environment.

Man possesses attitude towards a wide range of phenomena. As Krech et al. Crutchfield (1962) have pointed out, it is the valence and the degree of multiplicity of attitude that decide the influence of attitude on behaviour at a given point of time. There are many attitudes that may be logically related to the willingness to work efficiently.

Attitude towards agriculture

A good share of the agricultural operations in India is done by the labourers when compared to those done by farmers, machines and draught animals.

A labourer having positive attitude towards agriculture may do the agricultural operations more efficiently than one having negative attitude since it is the attitude of the individual that decides his behaviour.

For this study it was assumed that labourers having positive attitude towards agriculture would be more efficient in doing agricultural operations than those having negative attitude.

Attitude towards job

Gilmer (1961) stated that job attitude is the feeling the employee has about his job, his readiness to react in one way or another to specific factors related to a job.

Herzberg et al. (1957) established quantitative relationship between productivity and job attitude in 14 out of 26 studies conducted by him. In 9 studies there was no relationship and in 3 studies workers with positive job attitudes actually showed poor production records than those with negative attitudes. Herzberg and colleagues concluded that ".....there are enough data to justify attention to job attitude as a factor in improving the worker's output....."

Homans (1941) and Smith (1955) reported that the only factor that was found to be continuously related with increased output in the Western Electric Research was the job attitude of the employees. Finley et al.(1955) stated that efficiency of workers would be more if positive attitudes towards work were encouraged. Mehta (1955) stated that no other factor of industrial production played so dominant a role in the determination of industrial productivity as the attitude of industrial workers towards their jobs. Studies by Likert (1956) and Ganguly (1958) had shown that increase in productivity could be obtained though favourable shifts in the job attitude of employees. Mongia (1976) stated that high productivity could be achieved if the attitude of the workers towards their work is maintained at favourable level.

The findings substantiated the view that attitude towards job is an important factor which decide efficiency. For this study it was postulated that there would be a positive relationship between attitude towards job and efficiency of agricultural labourers.

Attitude towards the employer

Labourers can have varying degrees of positive or negative affect towards the farmer employing them.

Labourer's attitude towards farmer may have definite influence on the quantity and quality of work done by him for the farmer.

Hence it was postulated for this study that there would be a positive relationship between the attitude towards the farmer employing the labourer and efficiency of agricultural labourers.

Attitude towards labour unions

Mehta (1955) stated that the workers' attitude and behaviour were influenced partly by trade union practices. I.L.O (1969) also stated that trade union practices was one of the human factors affecting labour productivity.

The preliminary study conducted by the researcher revealed that labourers having positive attitude towards labour unions were more aware of the rights as well as duties as a labourer. It could be expected that such labourers would do their works more efficiently.

In line with the views of Mehta (1955) and I.L.O. (1969) it was postulated for this study that there would be an association between attitude towards labour unions and efficiency of agricultural labourer.

Level of aspiration

Gardner (1940) stated that the concept of level of aspiration was first introduced by Dempo with reference to the degree of difficulty of the goal towards which a person is striving and Hoppe who performed the first experimental analysis of aspiration phenomena defined it as " a person's expectations, goals or claims on his own future achievement in a given task". Lewin (1951) defined level of aspiration as "the degree of difficulty of the goal towards which a person is striving". English and English (1958) defined level of aspiration as "the standard by which a person judges his own performance as a success or a failure or as being upto what he expects of himself". According to Cantril and Free (1962) level of aspiration of an individual is "his own overall assessment of his concern for wishes and hopes for the future or for the fears and worries about the future in his own reality world. This reality world is a pattern of assumption that an individual has built up and by means of which he interprets and transacts with the natural and social world around him". Rajendran (1978) and Sushama (1979) defined aspiration as "the degree to which the individual gets his goals realistically in relation to his physical and mental attributes and in accordance with his environment".

Dewett et al.(1948) stated that the two main components of labour efficiency are "Power to do Work" and "Will to do Work" and the "Will to do Work" depends upon the labourer's mental qualities like "ambitious to rise in life". The preliminary observation made by the researchor also revealed that there was an association between the level of aspiration and efficiency of labourer.

Hence it was postulated for this study that there would be a positive relationship between the present and fucure levels of aspiration and efficiency of agricultural labourers.

Value orientation

Parsons and Shills (1965) defined value orientation as those aspects of the actor's orientation which commits him to the observance of certain norms, standards, criteria for selection whenever he is in a contingent situation which allow him to make a choice.

Very broadly, value orientation may be explained as a generalised and ordered principle concerning basic human problems, which directly or indirectly influence human behaviour.

The researcher did not come across any study which related value orientation to the efficiency of labourers. Value orientation influences human behaviour. The labourers who have a modern outlook towards social values may be having a positive attitude towards scientific agriculture. It is logically expected that these labourers will be doing the agricultural operations in a more efficient way than the labourers with traditional outlook. Results of the pilot study also justified the above view.

Hence it was postulated for this study that there would be a positive association between value orientation and efficiency of agricultural labourers.

Feeling of responsibility in increasing agricultural production

Dewett et al.(1948) and Prakasam (1976) stated that the responsibility feeling of the labourer was related to his efficiency. Desai (1969) stated that the feeling of responsibility was related to his workoutput.

A sense of responsibility makes an individual to do a work in a better way. The assumption that the labourers who feel responsible for increasing the agricultural production of the farmers employing them will do agricul-

tural operations in a better way was found to be true in the pilot study undertaken by the researcher.

Hence it was hypothesised for this study that there would be a relationship between the feeling of responsibility in increasing agricultural production and efficiency of agricultural labourers.

Period of employment by the farmer

The researcher did not come across any finding that related the period of employment of a labourer under a person and the efficiency of the labourer. When a labourer is employed for more number of days by a farmer, it is expected that the labourer will develop loyalty towards that farmer for giving him employment. Hence it is logical to expect that the labourer will work more efficiently if he is employed by the same farmer for longer period. This was noticed in the exploratory study conducted by the researcher.

Hence it was postulated for this study that there would be a positive relationship between period of employment by the farmer and efficiency of agricultural labourers.

Total period of employment

The researcher did not come across any finding which

related the total period of employment of a labourer in an year to his efficiency.

The total period of employment in an year varies with the labourer. Generally farmers will seek the services of efficient labourers for their work. Such a labourer who gets more number of days employment in an year may be more satisfied and may have positive attitude towards doing agricultural labour as the occupation. Hence it is logically assumed that such labourers work more efficiently. This was also observed in the preliminary study.

Hence it was hypothesised for this study that there would be a positive association between total number of days of employment of the agricultural labourer in an year and his efficiency.

Definition of concepts

Education:

It was defined as the extent of formal or informal learning possessed by the labourer.

Experience:

It was defined as the period in years for which the labourer had been engaged in doing agricultural labour as his occupation.

knowledge:

It was defined as the body of understood information by a labourer in respect of improved agricultural practices and development programmes for agricultural labourers.

Participation in decision making with the farmer:

It was defined as the extent to which the labourer is involved in decision making with the farmers regarding what to cultivate, how to cultivate, etc.

Attitude towards agriculture:

It was defined as the positive or negative affect associated with agriculture towards which labourers differ in varying degrees.

Attitude towards job:

It was defined as the degree of positive or negative affect associated with doing agricultural labour as an occupation towards which labourers differ in varying degrees.

Attitude towards employer:

It was defined as the degree of positive or negative affect associated with the farmer employing the labourer towards which labourers differ in varying degrees.

Attitude towards labour unions:

It was defined as the degree of positive or negative affect associated with labour unions towards which labourers differ in varying degrees.

Level of aspiration:

It was defined as the overall life goals in his reality world that a labourer is striving for.

Value orientation:

It was defined as those aspects of the actor orientation which commit him to the observance of certain norms, standards, criteria for selection, whenever he is in a contingent situation which allows him to make a choice.

Feeling of responsibility in increasing the agricultural production:

It was defined as the sense of responsibility of the labourer in increasing the agricultural production of the farmer employing the labourer.

Period of employment by the farmer:

It was defined as the number of days the labourer was engaged by the farmer for doing agricultural operations during the last year.

Total period of employment:

It was defined as the total number of days the labourer was engaged for doing agricultural operations by different persons during the last year.

Labour efficiency:

It was defined as the capacity to do productive work on the farm per man per unit time.

Hypotheses

The following specific hypotheses were set for the study.

Hypothesis 1 — There will be significant positive association between efficiency of agricultural labourers and extent of adoption of the recommended practices of crops grown by the farmers employing them.

Hypothesis 2 — There will be significant negative relationship between age and efficiency of agricultural labourers.

Hypothesis 3 — Caste of agricultural labourers will have significant association with their efficiency.

Hypothesis 4 — There will be significant positive relationship between education and efficiency of agricultural labourers.

Hypothesis 5 — There will be significant positive relationship between experience and efficiency of agricultural labourers.

Hypothesis 6 — There will be significant positive relationship between knowledge of scientific agriculture and efficiency of agricultural labourers.

Hypothesis 7 — Knowledge of development programmes for agricultural labourers will have significant positive influence on efficiency of agricultural labourers.

Hypothesis 8 — Extent of participation of agricultural labourers in decision making with the farmer will have significant positive influence on their efficiency.

Hypothesis 9 — There will be significant positive relationship between attitude towards agriculture and efficiency of agricultural labourers

Hypothesis 10 — There will be significant positive relationship between attitude towards job and efficiency of agricultural labourers.

Hypothesis 11 — Attitude towards employer will have significant positive relationship with efficiency of agricultural labourers.

Hypothesis 12 Attitude towards labour unions will have significant positive association with efficiency of agricultural labourers.

Hypothesis 13 Level of aspiration (present) will have significant positive influence on efficiency of agricultural labourers.

Hypothesis 14 Level of aspiration (future) will have significant relationship with efficiency of agricultural labourers.

Hypothesis 15 Value orientation of agricultural labourers will have significant positive influence on their efficiency.

Hypothesis 16 Feeling of responsibility in increasing agricultural production will have significant positive association with efficiency of agricultural labourers.

Hypothesis 17 There will be significant positive relationship between period of employment by farmer and efficiency of agricultural labourers.

Hypothesis 18 Total period of employment will have significant positive influence on efficiency of agricultural labourers.

METHODOLOGY

CHAPTER III

METHODOLOGY

The procedures followed for the selection of area and samples and the empirical measures used for the measurement of the variables included in the study are described in this Chapter.

A. Selection of the study areas

The study was confined to Trivandrum District. This study required high and low adopters in the sample. To ensure this, it was decided to select sample from high adoption and low adoption areas. From the list of Intensive Paddy Development (I.P.D) Units in Trivandrum District, which are the lowest units of agricultural development administration in the State, progressive and non-progressive units were identified on the basis of extent of High Yielding Variety Paddy coverage and extent of Coconut seedling distribution (Appendix I). Paddy and Coconut were considered since these were the two crops among the most important crops of Kerala. Since this study considered the adoption of recommended agricultural practices in Paddy and Coconut, the extent of adoption in these two crops only were taken into

consideration. One I.P.D. Unit from among the progressive group and another one I.P.D. Unit from among the non-progressive group were selected by random sampling process. The progressive I.P.D. Unit was selected so as to get a large number of high adopting farmers and the non-progressive I.P.D. Unit was selected so as to get a large number of low adopting farmers for the study. The progressive I.P.D. Unit thus selected was Attingal and the non-progressive I.P.D. Unit selected was Edava, both in Chirayinkil Taluk.

Description of the Study areas

The Attingal I.P.D. Unit area lies about 30 kilometres North of Trivandrum, on either side of the Trivandrum-Quilon National Highway. This area is in the Attingal Municipality. The 4 villages namely, Attingal, Avanavanchery, Kizhvallam and Alancode constitute the I.P.D. Unit area. There are 20 wards under the I.P.D. Unit area serially numbered from 1 to 20, with a total number of 2341 farmers as per the I.P.D. Unit office register.

The Co-operative Societies in this I.P.D. Unit area rendering service to the farmers are (i) Municipal service Cooperative Society, Attingal and (ii) Town Consumer Society, Attingal. The Banks giving agricultural loans in this

area are Bank of Baroda at Alancode and Paravoor Central Bank at Attingal. Agencies of FACT, Parry and Shawallace are also functioning in this area. Pesticide agencies of Agrochemicals and Parry render their service to the farmers of this area. There is also one 'Karshaka Sanghom', namely, 'Attingal Cherukida Karshaka Sanghom' functioning for the benefit of the farmers of this area.

The Edava I.P.P. Unit area is located at about 50 Kilometres North of Trivandrum, on either side of the Varkala-Quilon Road. This area is in the Varkala Municipality. The 2 villages namely, Varkala with 12 wards and Edava with 10 wards constitute the I.P.D. Unit area, with a total number of 2512 farmers as per the I.P.D. Unit office register.

There are two Service Co-operative Societies functioning in this I.P.D. Unit area, one at Edava and another at Varkala. Branches of Indian Overseas Bank, Bank of Baroda and State Bank of Travancore finance agricultural loans to the farmers of this area. Fertilizer Agencies of FACT, Parry and Shawallace and Pesticide agencies of Parry and Bayer render their services to the farmers of this area. There is also the 'Pullaniyode Karshaka Sanghom' functioning for the benefit of the farmers

under this I.P.D. Unit area. The locations of the study are shown in Fig.2.

B. Selection of respondents

The main purpose of this study was to find out whether the adoption of improved agricultural practices by farmers had any relationship with the efficiency of labourers employed by them. For this a group of farmers and the labourers employed by them had to be selected.

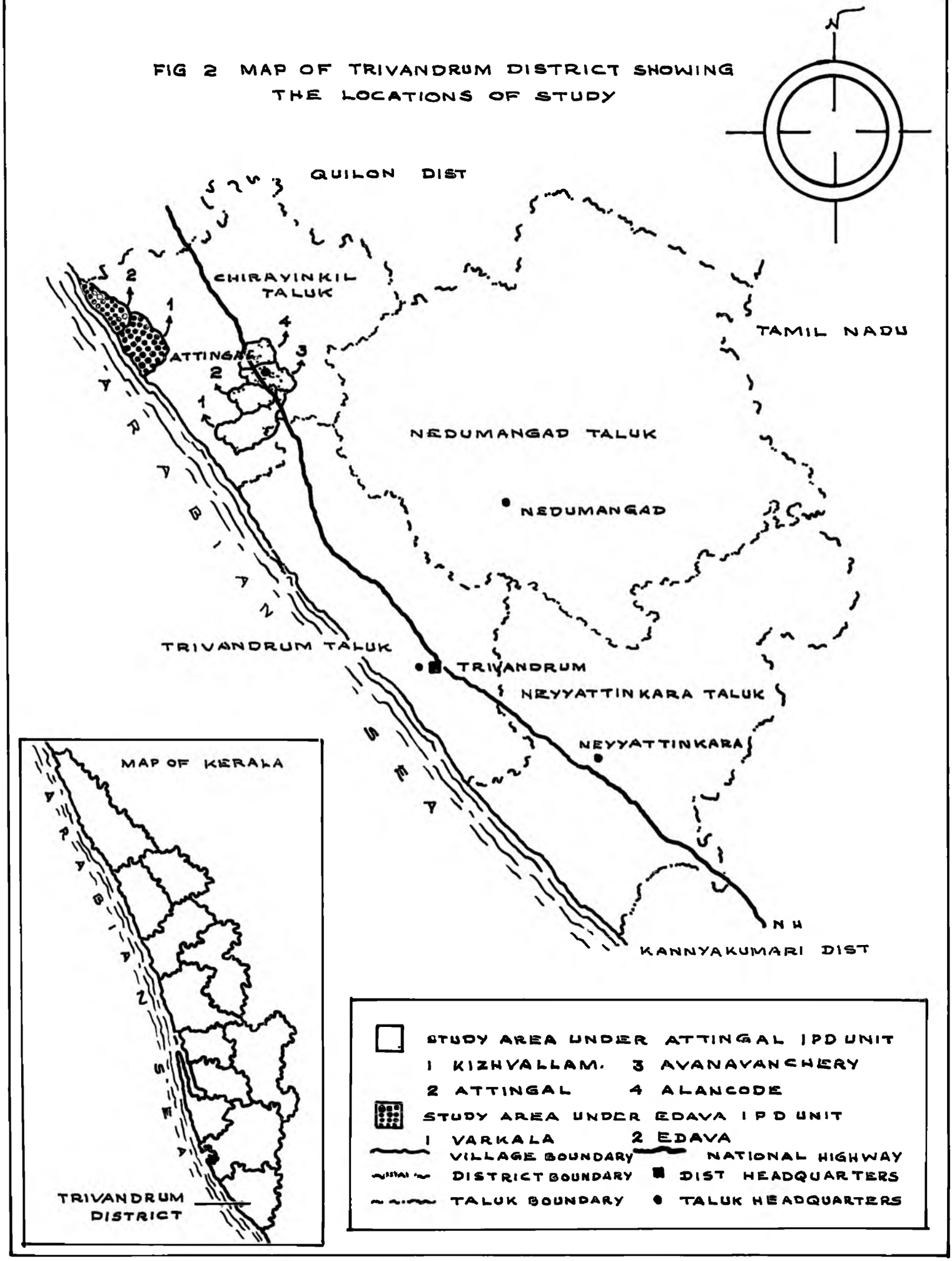
i) Selection of farmers

For this the list containing the name and address of all the farmers in the selected I.P.D. Units was collected from the concerned I.P.D. Unit office. From this list 60 farmers were selected at random. These farmers were classified into high adopters and low adopters on the basis of the adoption quotient worked out for each farmer. The classification was done for studying the relationship between extent of adoption of farmer and the efficiency of the labourers employed by him. Thus there were 34 high adopting and 26 low adopting farmers in the sample.

ii) Selection of agricultural labourers

Each farmer selected was asked to list down the

FIG 2 MAP OF TRIVANDRUM DISTRICT SHOWING THE LOCATIONS OF STUDY



casual Men and Women labourers employed by him for doing agricultural operations in Paddy and Coconut for maximum number of days during the last year. From the lists of Men and Women labourers thus obtained, one Man and one Woman were selected by random process. In some situations it was found that the same labourer had been engaged by two or more farmers. If such a labourer had been selected already in the sample his name was not considered for selection again in the list of labourers of other farmers. Thus 120 labourers were selected out of which 60 were Men and 60 were Women. All the labourers were classified into Efficient or Inefficient based on the efficiency score for each labourer calculated on the basis of judgement by the farmers employing them. Thus 39 Efficient Men labourers, 22 Inefficient Men labourers, 27 Efficient Women labourers and 33 Inefficient Women labourers were identified for the study.

C. Empirical measures

The variables selected for this study together with their theoretical definitions have been discussed in the Chapter on Theoretical orientation.

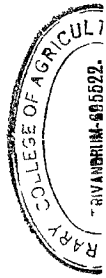
The detailed procedures followed for measurement of these variables are given below:

1. Age

In the present study age was measured as the number of years completed by the respondent at the time of interview.

2. Caste

The respective caste of the labourer was noted.



3. Education

Trivedi (1963) developed a scoring system for measuring different levels of education which he had followed in his socio-economic status scale.

Pareek and Trivedi (1965) developed a socio-economic status scale for measuring the levels of education of farmers.

Oliver and Annamalai (1975) credited the respondents with scores based on number of years of schooling for measuring their levels of education.

Pillai (1978) measured education of farmers in terms of the number of years of formal school and college studies undergone by the farmers.

In this study, score for different levels of education was given as per the socio-economic status scale of Trivedi (1963) with slight modification. The scoring

adopted for the measurement of level of education was as follows:

Illiterate	- 0
Can read only	- 1
Can read and write	- 2
Primary school	- 3
Middle school	- 4
High school	- 5

4. Experience

Sreenivasan (1974) measured the experience in farming as number of years when the respondent assumed the actual entrepreunial responsibility. Same type of measurement was used by Anbalgan (1974).

Rajendran (1978) measured the experience of farmer in terms of the total number of years the farmer had been engaged in farming.

In this study the experience of the labourer is measured in terms of the total number of years the labourer had been engaged in doing agricultural labour as the occupation.

5. Knowledge of Scientific agriculture and development programmes for agricultural labourers

Lindquist (1951) described the procedure for developing the scale for measuring knowledge.

Shankariah and Singh (1969) measured knowledge of the respondents about improved methods of vegetable cultivation based on the teacher made test. Singh et al. (1968) adopted the method of self-appraisal to determine the level of knowledge of Agricultural Extension Officers. Jaiswal and Dave (1972) calculated the knowledge score as follows:-

$$\text{Knowledge score} = \frac{\text{No. of correct answers}}{\text{Total raw score}} \times 100$$

Singh and Prasad (1974) measured knowledge using the formula.

$$\text{Knowledge quotient} = \frac{\text{Observed knowledge score}}{\text{Actual total score}} \times 100$$

Singh and Singh (1974) developed a knowledge test based on the response of the farmers to questions on various aspects of wheat cultivation.

Total score of each respondent was collected by the formula $\frac{x_1}{n} \times 100$

Where x_1 = number of correct answer

n = total number of questions

For the present study, the teacher made test including simple question items and constant alternative items (True-False) as described by Remmers et al. (1967) which is comparatively simple and easy to operate was developed using the procedure detailed below.

The details about the scientific agricultural practices of the 5 common crops of Kerala namely, Paddy, Coconut, Tapioca, Banana and Arecanut were obtained from 'Package of Practices Recommendations' (1978) published by Kerala Agricultural University. Then based on this 60 items were formulated.

The items were administered to twenty labourers during the pilot study. Responses of labourers to each of the items were examined and this revealed that all the labourers had answered certain items whereas some items were not answered by even a single labourer. Such items were discarded and the remaining forty seven items were selected for constructing the knowledge test.

A score of 1 was given to a correct answer and '0' was given to a wrong answer. Finally the scores were all added up to get the knowledge score for each labourer.

Through the discussions with Labour Welfare Officers, Officers of the Development Department, Small Farmers Development Agency, Village Panchayats, Integrated Rural Development Projects and also by consulting relevant literature a list of all the development programmes, Acts and Regulations intended for the benefit of agricultural labourers was prepared. The knowledge of the labourers about these programmes and activities was obtained. The correct knowledge was given a score of one and wrong knowledge was given a score of Zero. The score obtained by a respondent for all the answers were added up to obtain the knowledge score.

6. Participation in decision making with the farmer

For measuring this variable in this study an arbitrary scale was developed which contained positive and negative statements regarding participation in decision making with the farmer identified through review and discussion. The responses were collected

in a three point continuum namely Most often, Sometimes and Not at all. The scoring pattern for positive statements was as follows:

Most often	- 2
Sometimes	- 1
Not at all	- 0

Two statements which had contents indicating negative participation were scored in the reverse manner. The score of the respondents were obtained by adding up the scores corresponding to their response pattern for each statement.

7. Attitude

The objective measurement of attitude requires a scale developed for the purpose. An attitude scale will contain statements (items) which can be selected by different methods. Items and their scale values are decided by a panel of judges in equal appearing interval scales and successive interval scales. Item analysis is the basis of selection of items in Likert scales. Scalogram analysis of Guttman can be followed in selecting items with unidimensionality. In this study the following methods were used in developing attitude

scales.

i) Attitude towards Agriculture

An arbitrary scale was developed to measure this variable. The following procedure was followed in developing this scale.

A large number of statements which reflected various degrees of positive and negative attitude towards agriculture in general were identified through discussion with agricultural labourers and by consulting relevant literature including attitude statements given by Pareek and Rao (1974). These items were edited according to the criteria suggested by Edwards (1957). The edited items were given to experts in Agricultural Extension to assess the appropriateness of these statements for an attitude scale. Based on the opinion of these experts 12 statements were finally selected of which 6 were positive and 6 were negative. The responses were obtained on a five point continuum ranging from strongly Agree to Strongly Disagree. The scoring assigned were for Strongly Agree (4) Agree (3) Undecided (2), Disagree (1) and Strongly Disagree (0). Negative statements were scored in the reverse manner. The attitude score of the respondents were obtained by adding up the scores corresponding to their response

pattern for each statement.

ii) Attitude towards job

Through review of relevent literature and discussions with agricultural labourers, an arbitrary scale was developed for studying this variable. The scale consisted of 12 statements of which 6 were positive and 6 were negative reflecting various degrees of attitude towards doing agricultural labour as the occupation. The statements were ranked on a five point continuum ranging from Strongly Agree to Strongly Disagree. The score for the different points were as follows: Strongly Agree (4), Agree (3), Undecided (2), Disagree (2) and Strongly Disagree (0). Negative statements were scored in the reverse manner. The scores of the respondents were obtained by adding up the scores corresponding to their response patterns.

iii) Attitude towards employer

Scalogram analysis by Guttman as explained by Edwards (1957) was followed in studying this variable. The procedure adopted was as follows:

A number of statements reflecting varying degrees of attitude of the labourers towards the farmer employing them were selected. From among them, 8 statements were selected which had homogeneous content. The items

were arranged in a logical and sequential order of degree of attitude. The item that reflected the most negative attitude was arranged as the first one, and the item that reflected the most positive attitude as the last one with items of varying degree of attitude in between in a sequence. The statements were then given to a sample of 100 labourers. Subjects were asked to respond to each statement in terms of their agreement or disagreement with it. A score of one was given for agreement to positive statements and a score of zero was given on disagreement to positive statements. In the case of negative statements, the scoring pattern was reversed.

The method of scalogram analysis suggested by Goodenough (1944) was then adopted which is as follows:

A score matrix was prepared with rows corresponding to subjects and columns to statements. The responses of a subject to the various statements were recorded in the row of the matrix in terms of the 0 and 1 weights. The response patterns were recorded with the subject with the highest score assigned to the first row. The second row was corresponding to the subject with the next highest score, and so on. Summing across the rows of the score matrix gave the scores for the various

subjects and these were recorded at the right of the last statement column. Summing down the columns gave the frequencies with which the response has been made to each of the various statements.

The sums of each column of the score matrix were divided by the total numbers of subjects to obtain the proportions 'p' giving the 1 response to each of the statements. The proportions giving the 0 response will be 1-'p' = 'q'.

A bar chart was drawn for each statement in a graph paper. The top part of the bar chart indicated the proportion giving the 1 response to a statement and the lower part represented the proportion giving the 0 responses. The points of division were indicated by the solid lines and each point of division was extended through the other bar charts in terms of dotted lines.

The predicted patterns of responses for each score were obtained directly from the bar charts and were compared with the observed patterns which had been recorded in the orginal score matrix. Each deviation of an observed response from the predicted response was counted as an error. The errors of each subject were summed and recorded at the right of the column of scores.

The total number of errors was obtained by summing up the entries in the error column. The proportion of errors was found out by dividing the total number of errors by the product of number of respondents and number of statements. Coefficient of reproducibility = 1 -proportion of errors.

The coefficient of reproductibility obtained for the initial set of 8 statements was only 0.78. Two statements which caused the maximum number of errors were then removed and the analysis was repeated with the remaining 6 statements. The coefficient of reproducibility thus obtained was 0.88. These six statements constituted the final scale.

iv. Attitude towards labour unions

Hundeel (1967) developed a scale to study the attitude of small scale enterpreneurs towards labour unions.

For the present study a new scale consisting of items selected on arbitrary basis after reviewing relevant literature and conducting discussions with agricultural labourers and agricultural labour union leaders was used. The scale consisted of 10 statements of which 5 were positive and 5 were negative which

reflected varying degrees of attitude towards labour unions. The statements were ranked on a five point continuum ranging from Strongly Agree to Strongly Disagree. The score for the different points were as follows:

Strongly Agree (4), Agree (3), Undecided (2), Disagree(1) and Strongly Disagree (0). Negative statements were scored in the reverse manner. The scores of the respondents were obtained by adding up the scores corresponding to their response patterns.

8. Level of aspiration

Level of aspiration has been measured in varied ways in field situations.

Haller and Woll (1957) measured educational aspiration as the intentions and planning to join college and occupational aspiration from the answers on the intention of future vocation, the choice being assigned prestige ratings.

Haller (1958) studied the level of occupational aspiration from a forced choice instrument developed to estimate the occupational prestige level desired while minimising the non-prestige effects on the

occupational choice.

Fliegel (1959) studied level of aspiration of farmers. Eight items were used in constructing a measure of level of aspiration.

Cantril and Free (1962) developed a Self Anchoring Striving Scale for measuring the several level of aspiration. This method is also known as 'ladder technique'.

Chattopadyayz (1963) used a semi structured projective technique to measure level of aspiration of farmers.

Wilkening and Van (1967) measured aspiration as level of striving for attainments in the farm and home areas. Each respondent was asked how much in comparison with other members of the community, he aimed at reaching certain goals by indicating whether he was striving 'least of all', a little less' 'about the same' ' a little more' or 'much more' than others. This question was asked in order to place their aspiration in a social context.

Sohal and Singh (1968) measured level of aspiration in farming by an aspiration scale developed by them which had forty statements.

In the present study, only the general level of aspiration was considered. Individual may have varied levels of aspiration in different specific areas (occupational, economic etc.). But assessment of an individual's general level of aspiration will be a more valid index than levels of specific aspirations.

Level of aspiration needs to the evaluated according to an individual's own subjective reality, rather than through an external objective scale. The goals an individual strives for are subjective. Therefore it is ineffective to measure the dynamics of any ' private world' through completely independent and external criteria. As Cantril and Free (1962) warned the use of pre-set spectrums may involve the risk of artificially structuring the respondent's replies, distorting his thoughts and putting words into his mouth through a failure to formulate the realities of the situation in the way he, the respondent, perceives them. It is necessary to obtain a measure of individual level of striving through his own frame of reference. Cantril's Self Anchoring Striving Scale which measures an individual's level of striving purely from the transactional and

subjective frame of reference, has been used to obtain a measure of level of aspiration in this study.

According to Cantril's technique the respondent was asked to define in his own terms his hopes and fears for the future or the components of the 'best' and 'worst' possible life for him. This provides a subjective frame of reference against which the respondent could evaluate his personal value satisfactions in life. After these subjective points were obtained the respondent was shown the picture of a ladder the top of which represented the best possible life for him as he defined it. He was asked to state where on the ladder of his life he felt he belonged to at present. The step number chosen from the ladder ranging from 0 to 10 represented his score of the present level of aspiration. He was then asked to state where on the ladder he thought he could be five years later. The step chosen represented his score of the future level of aspiration.

9. Value orientation

Singh (1965) developed a value orientation scale to measure the degree of direction of value orientation

of an individual. He studied value orientation of the respondents in three dimensions.

i. Conservatism - Liberalism
ii. Fatalism - Scienticism
iii. Cosmopoliteness - Localiteness

Each scale consisted of six items arranged against a four point range from 'Strongly Agree' at one end to 'Strongly Disagree' at the other end.

Singh (1967) measured value orientation of the farmers in respect of two dimensions namely, Localite - Cosmopolite (Lo-Co) and External confirmity-Individualism (E-I). Quantitative measures for these two dimensions were prepared by him under Indian conditions.

Ranjit Singh and Sohal (1970) measured the following values namely (i) Progressive outlook (ii) Economic gain (iii) Dignity of labour (iv) Willingness to take risk and (v) Achievement of goals to assess the value orientation of individuals.

Hasan (1972) developed a scale to measure the value orientation in terms of Conservatism-Liberalism, Fatalism-Scienticism.

Alexander (1980) measured value orientation by putting a battery of value loaded 20 statements to the respondents to find out their attitude to these statements, and on that basis to develop an understanding of their value orientation. Those statements touched upon basic issues like the relation between man and nature, man and man, gratification of needs and are referred to as value orientation. These statements sought to understand the modernity of the respondents, and are collectively referred to as 'Modernity Scale'. In this study the dimension of value studied was Traditionality-Modernity. To measure this value 10 statements were selected from those given for measuring this value orientation by Pareek and Rao (1974). Of the 10 statements, 5 were positive and 5 were negative. The response to these statements were obtained in a five point continuum ranging from Strongly Agree to Strongly Disagree. The responses to the positive statements were scored as follows:

Strongly Agree	- 4
Agree	- 3
Undecided	- 2
Disagree	- 1
Strongly Disagree	- 0

Negative statements were scored in the reverse manner. The score of the respondents were obtained by adding up the scores corresponding to their response patterns.

10. Feeling of responsibility in increasing the agricultural production

This variable was measured in this study by asking the respondent how much responsibility the labourer felt in increasing agricultural production of the farmer employing him. The responses were collected in a four point continuum varying from ' Very much responsible' to 'Not responsible'. The scoring was as follows:

Very much responsible	- 4
Responsible	- 3
Undecided	- 2
Not responsible	- 1

The score obtained represented the feeling of responsibility of the labourer in increasing the agricultural production of the farmer employing the labourer.

11. Period of employment by the farmer

Period of employment by the farmer was measured by asking the farmer for how many days he had engaged the

labourer during the last year.

12. Total period of employment

Total period of employment was measured by asking the labourer for how many days he had been engaged for doing agricultural operations by different persons during the last year

13. Efficiency of agricultural labourers

Johl and Kapur (1977) suggested two measures of labour efficiency namely Crop Average per Man Equivalent and Productive Man-work Units (P.M.W.U) per Man Equivalent. Crop Avergge per Man Equivalent is one of the simplest measures and is computed by dividing the total acres in crop by Man Equivalents. Productive Man-work Units per Man Equivalent is another good and accurate general measure of labour efficiency for all types of farms. This measure is computed by dividing total Productive Man-work Units by the number of Man Equivalents on the farm. A Productive Man-work Unit is the average amount of work accomplished by one man in the usual 10 hour day. The Productive Man-work Units are obtained by multiplying the areas of each crop and number of each kind of livestock by the average labour requirements per unit

of each enterprise in a region

$$\text{P.M.W.U per man} = \frac{\text{Total P.M.W.U}}{\text{Man Equivalents.}}$$

Barnard and Nix (1973) stated that the overall efficiency of labour can be measured by relating a total farm output measure to the input costs and comparing with standards. The general form of the calculation is

$$\frac{\text{Net output (or gross margin)}}{\text{Labour cost}} \times 100$$

Standard Man Days (S.M.D) can also be used, according to Barnard and Nix (1973). A Standard Man Day (once called 'Man-work Unit') is eight hours of work supplied by an average worker. The number of S.M.Ds theoretically required is compared with the number available.

The measure is $\frac{\text{S.M.Ds required}}{\text{S.M.Ds available}} \times 100$

The above systems of measurement of labour efficiency measured only the partial productivity. Mongia (1976) stated that partial productivity ratio do not measure changes in the efficiency of that particular resource only nor of productive efficiency generally.

The progress cannot be assigned to labour or capital but we have to take into account various factors which affect productivity. These factors are quality changes in factors of production, technological changes, scale of production etc. It was not possible to work out the productivity since the farmers were not keeping any account of their farm activities and of the labourers engaged by them. So the above methods to measure labour efficiency were not used for the present study.

Another system of assessment of labour efficiency adopted by many workers was on the basis of certain efficiency criteria. Dewett et al.(1948) suggested honesty, intelligence, perseverance, judgement, health, resourcefulness and sense of responsibility could influence labour efficiency.

Smith (1955) suggested that the following criteria may be considered while assessing the efficiency of workers

i) General dependability
ii) Neatness and orderliness of work
iii) Skill
iv) Amount of acceptable work produced
v) Application of time, interest and energy to duties
vi) Knowledge of duties and related information

vii) Ability to learn and profit from experiences.
viii) Common sense
ix) Initiative and resourcefulness
x) Co-operativeness, ability to work with and for others.

Minc (1964) stated that the following subjective factors influence labour productivity.

i) the skill or qualifications of the worker
ii) the intensity of his efforts in the process of labour
iii) the innate ability of the worker, that is, his physical and mental energy.

Prakasam (1976) rated the employees of a textile mill on the basis of the following criteria.

i) Knows job well
ii) Hardworking
iii) Responsible
iv) Active
v) Cooperative
vi) Friendly
vii) Faithful
viii) Lazy

In this study the efficiency criteria method was used to measure the efficiency of agricultural labourers.

There was no study to indicate the efficiency criteria that are applicable to agricultural labourers. Hence, a preliminary set of efficiency criteria were collected based on the review and by discussion with farmers and agricultural experts. They were included in the pilot study and based on the results the following ten efficiency criteria were selected for evaluating the efficiency of the labourers.

i) Quantity of work out put per day.
ii) Quality of the work done (Orderliness, Neatness, Completeness etc.)
iii) Interest in doing work
iv) Skill in doing the work
v) General dependability
vi) Knowledge regarding scientific agricultural practices
vii) Responsibility
viii) Punctuality
ix) Sincerity
x) Obedience

The farmer employing the labourer was asked to evaluate the efficiency of each labourer engaged by him

on the above ten criteria. Each criterion was rated on a ten point continuum. The total points obtained by each labourer on the above10 criteria were added up to get efficiency score of the labourer. Thus the efficiency score could vary between 10 and 100.

14. Adoption behaviour

Several methods have been used to quantify the adoption behaviour by various research workers. Notable among those who utilised a scale for measuring adoption in some form or other were Wilkening (1952), Marsh and Coleman (1959) Fliegel (1956) Beal and Rogers (1960), Chattopadhyay (1963) and Supe (1969)

Wilkening (1952) used an index for measuring the adoption of improved farm practices. He realised the importance of potentiality of adoption. The index of adoption used was the percentage of practices adopted to the total number of practices applicable for that farmer. Because of the differential nature of practice he suggested differential weights in the adoption index.

Marsh and Coleman (1955) also used a practice adoption score computed as the percentage of applicable practices adopted.

Fliegel (1956) constructed an index of adoption of farm practices using the correlation of several adoption variables. He factor analysed each of the 11 practices selected, non-adoption was given a score of '0' and adoption a score of '1'.

Chattopadhyaya (1963) constructed an ' Adoption Quotient' to measure farm practices adoption. He has taken into consideration the different variables like potentiality, extent, weightage and time in developing the adoption quotient.

In this study adoption of recommended agricultural practices of Paddy and Coconut were measured by the Adoption Quotient as developed by Chattopadhyaya (1963) and as used by Jaiswal and Dave (1976) with modification. The information regarding the recommended agricultural practices of Paddy and Coconut were obtained from the 'Package of Practices Recommendations' published by the Kerala Agricultural University. In calculating the Adoption Quotient, the following practices were considered.

1. Area under High Yielding Variety Paddy
2. Seed treatment in Paddy
3. Use of NPK fertilizers for Paddy and Coconut

4. Liming in Paddy cultivation
5. Plant protection in Paddy cultivation
6. Annual digging in Coconut garden
7. Taking basins for Coconut trees.

The Adoption Quotient was worked out using the following formula

$$\text{Adoption Quotient} = \frac{e_1/p_1 + e_2/p_2 + \ldots\ldots\ldots e_7/p_7}{n} \times 100$$

Where,

e_1 = Summation of extent of adoption of High Yielding Variety Paddy

p_1 = Summation of potentiality of adoption of High Yielding Variety Paddy

e_2 = Summation of extention of adoption of Seed treatment in Paddy

p_2 = Summation of potentiality of adoption of Seed treatment in Paddy

e_3 = Summation of extent of adoption of NPK fertilizer in Paddy and Coconut

p_3 = Summation of potentiality of adoption of NPK fertilizers in Paddy and Coconut

e_4 = Summation of extent of adoption of liming in Paddy cultivation

p_4 = Summation of potentiality of adoption of liming in Paddy cultivation

e_5 = Summation of extent of adoption of plant protection in Paddy cultivation

p_5 = Summation of potentiality of adoption of plant protection in Paddy cultivation

e_6 = Summation of extent of adoption of annual digging in Coconut garden

p_6 = Summation of potentiality of adoption of annual digging in Coconut garden

e_7 = Summation of extent of adoption of taking basins for Coconut trees

p_7 = Summation of potentiality of adoption of taking basins for Coconut trees

N = Total number of practices.

Field procedure

Separate draft interview schedules were prepared which were administered to ten farmers and twenty labourers employed by them. These farmers and labourers were not in the main sample. In the light of the results of the pre-testing, suitable modifications were made and the schedules were finalised. The interview schedules are presented in Appendix II and III.

The data were collected by interviewing the farmers and their labourers by the researcher. Each question in the schedule was put to the respondents in Malayalam in the order in which it was given in the schedule and answers obtained from the respondents were entered in the schedule in the appropriate column. In obtaining the responses of Likert type of questions the respondents were asked to state whether he agreed or disagreed with the statement. When he agreed he was asked to indicate whether he simply agreed or strongly agreed. This was followed in the case of disagreement also. Thus for each of the item the responses in the required ranges were obtained. The data were collected during the period from the third week of June to the first week of November, 1980.

Statistical measures

The data collected were put to appropriate statistical tests. Correlation, Chi-square and Percentage analysis were employed in this study.

Chi-square test was used to find out the association between the adoption of farmers and efficiency of their labourers and between caste and efficiency of the labourers. The Correlation coefficient was used to find

out the relationship of various labour characteristics with labour efficiency. The inter-relationship among the significant characteristics were calculated by an Inter-correlation analysis. The significance of correlation was tested at 0.05 level.

RESULTS

CHAPTER IV

RESULTS

The results of the study are presented under the following heading in this chapter.

I. Relationship between the efficiency of agricultural labourers and the extent of adoption of the recommended practices of crops grown by farmers employing them.

II. Characteristics of Men and Women agricultural labourers and their relationship with efficiency.

III. Inter-relationship of different factors contributing to the efficiency of agricultural labourers.

IV. Problems related with agricultural labourers.

V. Suggestions for increasing the efficiency of agricultural labourers.

VI. Related findings.

I. Relationship between the efficiency of agricultural labourers and the extent of adoption of the recommended practices of crops grown by the farmers employing them.

The data regarding the efficiency of agricultural labourers and the extent of adoption of the recommended

practices of crops grown by the farmers employing them are presented in Table 3.

Table 3. Efficiency of agricultural labourers and the extent of adoption of the recommended practices of crops grown by the farmers employing them.

		Extent of adoption by farmers		
		High	Low	Row Total
Efficiency of agricultural labourers	Efficient	52	13	65
	Inefficient	16	39	55
	Column Total	68	52	120

The above Table 3 showed that 52 out of 65 Efficient labourers were employed by farmers with high adoption. Only 16 Inefficient labourers were employed by farmers with high adoption. Majority of Inefficient labourers, 39 out of 55, were employed by the farmers with low adoption.

The association between the efficiency of agricultural labourers and the extent of adoption of recommended practices by farmers employing them was measured by the Chi-square test. The calculated Chi-square value was 31.78, which was significant. Hence the hypothesis number 1 was accepted. There was signifleant positive association between efficiency of agricultural labourers and extent of adoption of the recommended practices of crops grown by the farmers employing them.

Table 4. Distribution of different catogories of agricultural labourers according to their age

Age group	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
0 - 24	0	0	0	0	0	0	0	0	0	0	0	0
25 - 40	24	40	19	50	5	22.7	42	70	22	81.5	20	60.6
41 - 55	30	50	17	44.7	13	59	18	30	5	18.5	13	39.4
Above 55	6	10	2	5.3	4	18.3	0	0	0	0	0	0
Total	60	100	38	100	22	100	60	100	27	100	33	100

II. Characteristics of Men and Women agricultural labourers and their relationship with efficiency

1. Age

The data regarding the age of Men and Women agricultural labourers are presented in Table 4.

The analysis of the above Table 4 revealed that 40% of the Men labourers and 70% of the Women labourers belonged to the age group of 25 to 40 years while 50% of the Men labourers and 30% of the Women labourers were in the age group of 41 to 55. When 10% of the Men labourers were above 55 years of age, there was not a single Women labourer in that category.

It was surprising to note that there was not a single labourer in the category below 25 years of age.

Fifty per cent of the Efficient Men labourers belonged to the age group of 25 to 40. Majority (59%) of the Inefficient Men labourers were in the age group of 41 to 55. In the case of Women labourers when 81.5% of the Efficient labourers belonged to the age group of 25 to 40, only 60.6% of Inefficient labourers were found in this category.

Correlation analysis was done to find out the relationship between age and efficiency of Men and Women labourers. The calculated coefficient of correlation value for Men labourers was -0.3757 and that for Women labourers was -0.3215, which were significant. Hence the hypothesis number 2 was accepted. There was significant negative relationship between age and efficiency of agricultural labourers.

2. Caste

The data regarding the caste pattern of agricultural labourers are presented in Table 5.

The data in the above Table 5 revealed that majority of the agricultural labourers belonged to "Kuravar" caste. There were 60% of the Men labourers and 55% of the Women labourers from this caste. The distribution of agricultural labourers among the other two castes, namely, "Pulayar" and "Parayar" was almost the same. There was also not much difference between Efficient and Inefficient labourers with respect to their caste.

All the labourers studied belonged only to the three Scheduled castes, namely "Kuravar", "Pulayar" and "Parayar".

Table 5. Distribution of different categories of agricultural labourers according to their caste

Caste	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Kuravar	36	60	25	65.8	11	50	33	55	16	59.3	17	51.5
Pulayar	13	21.6	7	18.4	6	27.2	14	23.3	6	22.2	8	24.25
Parayar	11	18.4	6	15.8	5	22.8	13	21.7	5	18.5	8	24.25
Total	60	100	38	100	22	100	60	100	27	100	33	100

The association between caste and efficiency of agricultural labourers was found out using Chi-square test separately for Men and Women labourers. The calculated Chi-square value 1.45 for Men labourers and 0.4 for Women labourers were not significant. Hence the hypothesis number 3 was rejected. There was no significant association between caste and efficiency of agricultural labourers.

3. Education

The data regarding the level of education of different categories of agricultural labourers are presented in Table 6.

Analysis of the data in the above Table 6 showed that majority of agricultural labourers were illiterates, the figures being 40% for Men labourers and 63.2% for Women labourers. When 16.6% of the Men labourers could read and 20% of them had primary school education, the corresponding figures for Women labourers were only 6.7% and 11.7% respectively. Not a single labourer in any of the category had high school education.

There was difference in the level of education of Efficient and Inefficient labourers. When only 26.3%

Table 6. Distribution of different categories of agricultural labourers according to their level of education

Education level	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Illiterate	24	40	10	26.3	14	64	38	63.2	16	59.3	22	66.7
Can read only	10	16.6	8	21	2	9	4	6.7	2	7.4	2	6
Can read and write	6	10	4	10.5	2	9	7	11.7	2	7.4	5	15.2
Primary school	12	20	10	26.3	2	9	7	11.7	4	14.8	3	9.1
Middle school	8	13.4	6	15.9	2	9	4	6.7	3	11.1	1	3
High school	0	0	0	0	0	0	0	0	0	0	0	0

of the Efficient Men labourers were illiterates as much as 64% of the Inefficient Men labourers were illiterates. Similarly when 21% of the Efficient Men labourers could read, 26.3% of them had primary school education and 15.9% had middle school education, the corresponding figure for Inefficient Men labourers was 9% for each of the above. In the case of Efficient Women labourers 59.3% were illiterates. As much as 66.7% of the Inefficient Women labourers were illiterates. When 14.8% of the Efficient Women labourers had primary school education and 11.1% had middle school education, the corresponding figures for Inefficient Women labourers were 9.1% and 3% respectively.

Correlation analysis was done to find out the relationship between level of education and efficiency of Men and Women labourers. The calculated coefficient of correlation value for Men labourers was 0.3240 which was significant. The coefficient of correlation value between the level of education of Women labourers and their efficiency was 0.1544 which was not significant. Hence the hypothesis number 4 was accepted with respect to Men labourers and rejected with respect to Women labourers. There was significant positive relationship between education and efficiency of Men labourers. There was no significant relationship between education and efficiency of Women labourers.

4. Experience

The data regarding the experience of different categories of agricultural labourers are presented in Table 7.

Table 7 revealed that 35% of the Men labourers had experience of 10 to 20 years and another 35% had experience of 21 to 30 years. In the case of Women labourers, 55% of them had experience of 10 to 20 years. When 44.7% of the Efficient Men labourers had experience of 10 to 20 years, 54.5% of the Inefficient Men labourers had experience of 31 to 40 years. Sixtyseven per cent of the Efficient and 45.5% of the Inefficient Women Labourers had experience of 10 to 20 years.

Correlation analysis was done to find out the relationship between experience and efficiency of Men and Women labourers. The coefficient of correlation value -0.4124 obtained for Men labourers and -0.3446 obtained for Women labourers were significant but negative. Hence the hypothesis number 5 was rejected. There was significant negative relationship between experience and efficiency of agricultural labourers.

Table 7. Distribution of different categories of agricultural labourers according to their experience.

Experience group	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
10-20 years	21	35	17	44.7	4	18.2	33	55	18	66.7	15	45.5
21-30 years	21	35	15	39.5	6	27.3	22	36.7	8	29.6	14	42.4
31-40 years	17	28.3	5	13.2	12	54.5	5	8.3	1	3.7	4	12.1
Above 40 years	1	1.7	1	2.6	0	0	0	0	0	0	0	0
Total	60	100	38	100	22	100	60	100	27	100	33	100

5. Knowledge of scientific agriculture

The data pertaining to the knowledge of Scientific agriculture of different categories of agricultural labourers are presented in Table 8.

The above data in Table 8 revealed that 20 out of 60 Men labourers had knowledge score ranging from 31 to 40. Out of this 20 labourers, 16 were from the Efficient group. Out of 12 Women labourers in the score range of 31 to 40, only five were from the Efficient group. The 16 Men labourers out of the 60 who had knowledge score of more than 40 could be considered as having a good knowledge of Scientific agriculture. Among Women labourers only one was in this category. When the mean knowledge score of Efficient Men labourers was 37.08, it was only 24.27 for inefficient Men labourers. The difference in mean scores of Efficient and Inefficient Men labourers was 12.81. The difference in mean scores of Efficient and Inefficient Women labourers was very little.

Correlation analysis was done to find out the relationship between knowledge of Scientific agriculture and efficiency of Men and Women labourers. The co-efficient of correlation value 0.5541 calculated for Men labourers was

Table 8. Distribution of different categories of agricultural labourers according to their scores on knowledge of Scientific agriculture

Score range	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
0 - 10	5	8.3	1	2.6	4	18.2	10	16.7	2	7.4	8	24.2
11 - 20	6	10	2	5.3	4	18.2	24	40	12	44.4	12	36.4
21 - 30	13	21.7	5	13.2	8	36.3	13	21.7	8	29.6	5	15.2
31 - 40	20	33.3	16	42.1	4	18.2	12	20	5	18.6	7	21.2
41 - 68	16	26.7	14	36.8	2	9.1	1	1.6	0		1	3
Total	60	100	38	100	22	100	60	100	27	100	33	100
Mean	32.38		37.08		24.27		20.77		21.67		20.03	

significant. In the case of Women labourers the coefficient of correlation value was only 0.1647 which was not significant. Hence the hypothesis number 6 was accepted with respect to Women labourers. There was significant positive relationship between knowledge of Scientific agriculture and efficiency of Men labourers. There was no significant relationship between knowledge of Scientific agriculture and efficiency of Women labourers.

6. Knowledge of development programmes for agricultural labourers

The data regarding the knowledge of agricultural labourers' development programmes of the different categories of agricultural labourers are shown in Table 9.

The distribution of knowledge scores presented in the above Table 9 revealed that majority of Men and Women labourers had low knowledge about the programmes undertaken by the Government for their development. Out of the total respondents of 60 Men labourers 40 had scores below 5 while among the Women labourers their number was 51. Sixtythree per cent of the Efficient and 72.7% of the Inefficient Men labourers were in this category. Among Women labourers 88.9% of Efficient and 81.8% of Inefficient were in this category.

Table 9. Distribution of different categories of agricultural labourers according to their scores on the knowledge of development programmes for agricultural labourers

Score range	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
0 - 5	40	66.7	24	63.2	16	72.7	51	85	24	88.9	27	81.8
6 - 10	20	33.3	14	36.8	6	27.3	9	15	3	11.1	6	18.2
11 - 15	0	0	0	0	0	0	0	0	0	0	0	0
Total	60	100	38	100	22	100	60	100	27	100	33	100

Coefficient of correlation value calculated for Men labourers was 0.4516 and that for Women labourers was 0.2944. Both the values were significant. Hence the hypothesis number 7 was accepted. There was significant positive relationship between knowledge of development programmes for agricultural labourers and efficiency of agricultural labourers.

7. Participation in decision making with the farmer

The data regarding the participation of different categories of agricultural labourers in decision making with the farmer in doing agricultural operations are presented in Table 10.

A study of the above Table 10 revealed that 34 out of 60 Men labourers (56.7%) had score above 10 which indicated that they were involved in decision making with the farmers. In the case of Women labourers it was only 5 (8.3%). The Efficient Men labourers had more involvement in decision making. In their case, 28 out of 38 (73.7%) were having score above 11. There was not much difference in the case of Efficient and Inefficient Women labourers.

The coefficient of correlation value 0.5115 obtained for Men labourers and 0.3967 obtained for Women labourers

Table 10. Distribution of different categories of agricultural labourers according to their scores on participation in decision making with the farmer in doing agricultural operations

Score range	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
0- 5	3	5	1	2.6	2	9.2	6	10	0	0	6	18.2
6-10	23	38.3	9	23.7	14	63.6	49	81.7	25	92.6	24	72.7
11-15	10	16.7	7	18.5	3	13.6	5	8.3	2	7.4	3	9.1
16-20	23	38.3	20	52.6	3	13.6	0	0	0	0	0	0
21-24	1	1.7	1	2.6	0	0	0	0	0	0	0	0
Total	60	100	38	100	22	100	60	100	27	100	33	100

were significant. Hence the hypothesis number 8 was accepted. There was significant positive relationship between the extent of participation of agricultural labourers in decision making with the farmer and their efficiency.

8. Attitude towards agriculture

The data regarding the attitude towards agriculture of different categories of agricultural labourers are presented in Table 11.

The data in the above Table 11 showed that the attitude of agricultural labourers towards agriculture in general was on the positive side. About 73% of Men and 68% of Women labourers had scores above 26 out of a possible score of 48. The mean scores for Men and Women labourers were almost the same. The mean score for Efficient Men labourers was 30.61 whereas it was 26.82 for Inefficient labourers. The difference in means for Efficient and Inefficient Women labourers was not high.

Correlation analysis was done to find out the relationship between attitude towards agriculture and efficiency of Men and Women labourers. The calculated

Table 11. Distribution of different categories of agricultural labourers according to their scores on attitude towards agriculture

Score range	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
0 - 14	0	0	0	0	0	0	0	0	0	0	0	0
15 - 20	3	5	0	0	3	13.6	1	1.7	0	0	1	3
21 - 25	13	21.7	8	21.7	5	22.7	18	30	5	18.5	13	39.4
26 - 30	18	30	9	23.7	9	40.9	17	28.3	10	37	7	21.2
31 -35	17	28.3	13	34.2	4	18.2	23	38.3	12	44.5	11	33.3
Above 35	9	15	8	21	1	4.6	1	1.7	0		1	3
Total	60	100	38	100	22	100	60	100	27	100	33	99.9
Mean	29.22		30.61		26.82		28.13		28.96		27.45	

coefficient of correlation value was 0.3363 for Men labourers and 0.2796 for Women labourers. Both the values were significant. Hence the hypothesis number 9 was accepted. There was significant positive relationship between attitude towards agriculture and efficiency of agricultural labourers.

9. Attitude towards job

The data regarding the attitude towards job of different categories of agricultural labourers are given in Table 12.

Table 12 revealed that a great majority of agricultural labourers had favourable attitude towards their profession. While 35 Men and 34 Women labourers had attitude scores ranging from 21 to 30, their number was 20 and 21 respectively in the score range above 30. The glaring fact revealed by this table was that in the case of Inefficient labourers the number under the score range above 30 was only one for Men labourers and 6 for Women labourers.

The coefficient of correlation value obtained for Men labourers was 0.5390 and that for Women labourers was 0.5623. Both the values were significant. Hence the

Table 12. Distribution of different categories of agricultural labourers according to their scores on attitude towards job.

Score range	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
0 - 9	0	0	0	0	0	0	0	0	0	0	0	0
10 - 20	5	8.3	0	0	5	22.7	5	8.3	0	0	5	15.2
21 - 30	35	58.3	19	50	16	72.7	34	56.7	12	44.4	22	66.7
31 - 48	20	33.3	19	50	1	4.5	21	35	15	55.6	6	18.2
Total	60	99.9	38	100	22	99.9	60	100	27	100	33	100.1
Mean	27.57		29.82		23.68		28.12		30.59		26.09	

hypothesis number 10 was accepted. There was significant positive relationship between attitude towards job and efficiency of agricultural labourers.

10. Attitude towards employer

The data pertaining to the attitude towards employer of the different categories of agricultural labourers are shown in Table 13.

The above Table 13 revealed that about 48% of the labourers had negative attitude towards the employer. But 46.7% of Men labourers and 43.3% of Women labourers had very favourable attitude towards their employer farmer. The striking difference in attitude of Efficient and Inefficient labourers was also observed. When 71% of Efficient Men labourers had positive attitude towards employer it was only 4.5% in the case of Inefficient Men labourers. Almost the same trend was observed in Women labourers also. When 66.7% of Efficient Women labourers had very positive attitude, it was only 24.2% in the case of Inefficient Women labourers. Among the Inefficient Men labourers 86.4% had very negative attitude towards the employer farmer. In the case of Inefficient Women labourers

Table 13. Distribution of different categories of agricultural labourers according to their scores on attitude towards employer.

Score range	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
0 - 2	28	46.7	9	23.7	19	86.4	29	48.3	6	22.2	23	69.7
3 - 4	4	6.6	2	5.3	2	9.1	5	8.3	3	11.1	2	6.1
5 - 6	28	46.7	27	71	1	4.5	26	43.3	18	66.7	8	24.2
Total	60	100	38	100	22	100	60	99.9	27	100	33	100

also, the proportion with negative attitude was very high, as much as 69.7%.

The coefficient of correlation value calculated to find out the relationship between attitude towards employer and efficiency was 0.6845 for Men labourers and 0.5880 for Women labourers. Both the values were significant. Hence the hypothesis number 11 was accepted. There was significant positive relationship between attitude towards employer and efficiency of agricultural labourers.

11. Attitude towards labour unions

The data pertaining to the attitude of different categories of agricultural labourers towards labour unions are presented in Table 14.

Data in the above Table 14 conclusively showed that majority of Men labourers (63.3%) and Women labourers (70%) had favourable attitude towards labour unions. Only 22 Men and 18 Women labourers had negative attitude. There was not much difference between Efficient and Inefficient labourers.

The coefficient of correlation value 0.1239 obtained for Men labourers and -0.0273 obtained for Women labourers

Table 14. Distribution of different categories of agricultural labourers according to their scores on attitude towards labour unions.

Score range	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
0 - 14	0	0	0	0	0	0	0	0	0	0	0	0
15 - 20	22	36.7	11	28.9	11	50	18	30	10	37	8	24.2
21 - 25	20	33.3	15	39.5	5	22.7	33	55	13	48	20	60.6
26 - 30	13	21.7	8	21.1	5	22.7	9	15	4	15	5	15.2
31 - 40	5	8.3	4	10.5	1	4.5	0	0	0	0	0	0
Total	60	100	38	100	22	99.9	60	100	27	100	33	100

were not significant. Hence the hypothesis number 12 was rejected. There was no significant relationship between attitude towards labour unions and efficiency of agricultural labourers.

12. Level of aspiration (present)

The data regarding the level of aspiration (present) of the different categories of agricultural labourers are presented in Table 15.

A study of the present aspiration pattern of the labourers presented in the above Table 15 proved that a great majority of the agricultural labourers of both categories had very low level of aspiration. Almost all the respondents had scores below 4 which indicated that they considered themselves to be in very low levels of standard of living.

The mean score of the level of aspiration (present) for Efficient Men labourers was 1.92 and that for Inefficient Men labourers was 1.27, the difference being 0.65. There was not much difference in the mean scores of level of aspiration (present) for Efficient and Inefficient Women labourers.

Table 15. Distribution of different categories of agricultural labourers according to their scores on level of aspiration (present)

Score range	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
0 - 3	58	96.7	36	94.7	22	100	59	98.3	26	96.3	33	100
4 - 6	2	3.3	2	5.3	0	0	1	1.7	1	3.7	0	0
7 - 10	0	0	0	0	0	0	0	0	0	0	0	0
Total	60	100	38	100	22	100	60	100	27	100	33	100
Mean	1.68		1.22		1.27		1.33		1.44		1.24	

The coefficient of correlation value 0.3262 obtained for Men labourers was significant, while the value 0.2340 obtained for Women labourers was not significant. Hence the hypothesis number 13 was accepted with respect to Men labourers and rejected with respect to Women labourers. There was significant positive relationship between level of aspiration (present) and efficiency of Men labourers. There was no significant relationship between level of aspiration (present) and efficiency of Women labourers.

13. Level of aspiration (future)

The data pertaining to the level of aspiration (future) of the different categories of agricultural labourers are presented in Table 16.

The distribution of scores on aspiration for future shown in Table 16 above revealed that majority of the respondents of both the categories had scores below 4. While 68.3% of Men labourers were in this category, the percentage of Women labourers was 78.3. In both the categories the percentage of labourers who were below a score of 4 was less in Efficient category. The percentage in this category was the same, that is 81.8 for Inefficient Men and Women labourers. The mean score of 3.39 for

Table 16. Distribution of different categories of agricultural labourers according to their scores on level of aspiration (future)

Score range	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
0 - 3	41	68.3	23	60.5	18	81.8	47	78.3	20	74.1	27	81.8
4 - 6	17	28.3	13	34.2	4	18.2	13	21.7	7	25.9	6	18.2
7 - 10	2	3.3	2	5.3	0	0	0	0	0	0	0	0
Total	60	99.9	38	100	22	100	60	100	27	100	33	100
Mean	2.83		3.39		1.86		2.29		2.56		2.07	

Efficient Men labourers was the highest when compared to all other categories of labourers. Inefficient Men labourers had a mean score of only 1.86.

The coefficient of correlation value 0.4284 calculated for Men labourers was significant while the value 0.2246 calculated for Women labourers was not significant. Hence the hypothesis number 14 was accepted with respect to Men labourers and rejected with respect to Women labourers. There was significant positive relationship between level of aspiration (future) and efficiency of Men labourers. There was no significant relationship between level of aspiration (future) and efficiency of Women labourers.

A comparative study of the mean values of aspiration, present and future, presented in Tables 15 and 16 respectively revealed that the difference between the present and future was only 1.47 for Efficient Men labourer and 1.12 for Efficient Women labourer. However these differences were higher than the differences in the means of Inefficient labourers. The difference in mean values of Inefficient labourers was 0.59 for Men and 0.83 for Women.

14. Value orientation

The data regarding the value orientation of different catogories of agricultural labourers are presented in Table 17.

The scores regarding the value orientation presented in the above Table 17 revealed that Men labourers were more progressive than Women labourers. When 53.3% of Men labourers had scores above 20 it was only 13.3% in Women labourers. In the case of Efficient labourers, when 71% of Men were having scores above 20, the percentage in Women labourers was only 7.4. Only 22.7% of Inefficient Men labourers had scores above 20. The difference in the mean scores of Efficient and Inefficient Men labourers was 6.26. The means for Efficient and Inefficient Women labourers were almost the same.

The coefficient of correlation value obtained for Men labourers was 0.4780 and that for Women labourers was 0.2656 which were significant. Hence the hypothesis number 15 was accepted. There was significant positive relationship between value orientation and efficiency of agricultural labourers.

Table 17. Distribution of different categories of agricultural labourers according to their scores on value orientation

Score range	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
0 - 9	2	3.3	0	0	2	9.1	3	5	1	3.7	2	6.1
10 - 20	26	43.3	11	28.9	15	68.2	49	81.7	24	88.9	25	75.8
21 - 30	29	48.3	25	65.8	4	18.2	8	13.3	2	7.4	6	18.1
31 - 40	3	5	2	5.3	1	4.5	0	0	0	0	0	0
Total	60	99.9	38	100	22	100	60	100	27	100	33	100
Mean	20.73		23.03		16.77		17.23		17.33		17.18	

15. Feeling of responsibility in increasing the agricultural production

The data pertaining to the feeling of responsibility in increasing the agricultural production of different categories of agricultural labourers are shown in Table 18.

The data in Table 18 revealed that 70% of Men and 51.7% of Women labourers felt that they had responsibility in increasing the agricultural production of the farmers who engaged them as casual labourers. The comparative study of Efficient and Inefficient labourers revealed striking difference. While 92% of the Efficient Men labourers felt responsibility it was only 31.8% in the case of Inefficient Men labourers. The trend was same in the case of Women labourers; while 74.1% of Efficient Women labourers felt responsibility it was only 33.3% in the case of Inefficient labourers.

The calculated coefficient of correlation value for Men labourers was 0.6043 and for Women labourers it was 0.4693. Both the values were significant. Hence the hypothesis number 16 was accepted. There was significant positive relationship between feeling of responsibility in increasing agricultural production and efficiency of agricultural labourers.

Table 18. Distribution of different categories of agricultural labourers according to their feeling of responsibility in increasing the agricultural production

Feeling of responsibility	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Very much responsible	9	15	8	21	1	4.5	0	0	0	0	0	0
Responsible	33	55	27	71	6	27.3	31	51.7	20	74.1	11	33.3
Undecided	3	5	0	0	3	13.6	10	16.7	3	11.1	7	21.2
Not responsible	15	25	3	7.9	12	54.6	19	31.7	4	14.8	15	45.4
Total	60	100	38	99.9	22	100	60	100.1	27	100	33	99.9

16. Period of employment by the farmer

The data regarding the period of employment by the farmer for different categories of agricultural labourers are presented in Table 19.

The data regarding the period of employment under the same farmer in an year of the respondents revealed that majority of them were employed for less than 30 days. The percentage under this range was 81.6 for Men and 86.7 for Women labourers. The labourers in the Efficient category of Men and Women labourers were employed for more number of days when compared to the Inefficient labourers. The mean number of days for Efficient Men was 30 and for Inefficient Men it was only 21. The mean number of days for Efficient Women labourers was 28 which was greater than the mean value, 20, for Inefficient labourers.

The coefficient of correlation value 0.4504, calculated for Men labourers and 0.5781, calculated for Women labourers were significant. Hence the hypothesis number 17 was accepted. There was significant positive relationship between the period of employment by farmer and efficiency of agricultural labourers.

Table 19. Distribution of different categories of agricultural labourers according to the period of employment by the farmer

No.of days of employment by farmer per year	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Below 30	49	81.7	27	71.1	22	100	52	86.7	19	70.4	33	100
30 - 40	5	8.3	5	13.2	0	0	4	6.7	4	14.8	0	0
41 - 50	5	8.3	5	13.2	0	0	3	5	3	11.1	0	0
Above 50	1	1.7	1	2.6	0	0	1	1.7	1	3.7	0	0
Total	60	100	38	100.1	22	100	60	100.1	27	100	33	100
Mean	26.92		30.26		21.14		23.53		27.96		19.91	

17. Total period of employment

The data pertaining to the total period of employment in an year of different categories of agricultural labourers are shown in Table 20.

The data regarding the total period of employment of agricultural labourers in an year, presented in Table 20, showed that the average period of employment in an year for Men labourers was 138.87 days. For Women labourers it was 115.42 days. For the Efficient Men labourers the mean was 149 days and for Inefficient Men labourers it was 121.36 days. In the case of Efficient Women labourers the average days of employment per year was 121.67 and for Inefficient Women labourers it was 110.3.

The coefficient of correlation value, 0.3156, obtained for Men labourers was significant and 0.1130 obtained for Women labourers was not significant. Hence the hypothesis number 18 was accepted with respect to Men labourers and rejected with respect to Women labourers. There was significant positive relationship between total period of employment and efficiency of Men labourers. There was no significant relationship between total period of employment and efficiency of Women labourers.

Table 20. Distribution of different categories of agricultural labourers according to the total period of employment in an year.

Total No. of days of employment in an year	Men						Women					
	Total		Efficient		Inefficient		Total		Efficient		Inefficient	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
50 - 100	12	20	4	10.5	8	36.4	30	50	11	40.7	19	57.6
101 - 150	26	43.3	15	39.5	11	50	25	41.7	14	51.9	11	33.3
151 - 200	21	35	18	47.4	3	13.6	5	8.3	2	7.4	3	9.1
Above 200	1	1.7	1	2.6	0	0	0	0	0	0	0	0
Total	60	100	38	100	22	100	60	100	27	100	33	100
Mean	138.87		14.9		121.36		115.42		121.67		110.30	

For a comparative study the coefficient of correlation values worked out between the 16 variables and efficiency of Men and Women labourers are given in Table 21.

Table 21. Coefficient of correlation values between the independent variables and efficiency of Men and Women labourers

No.	Independent variable	Coefficient of correlation value	
		Men labourers	Women labourers
1	Age	-0.3757*	-0.3215*
2	Education	0.3240*	0.1544
3	Experience	-0.4124*	-0.3446*
4	Knowledge of Scientific agriculture	0.5541*	0.1647
5	Knowledge of development programmes for agricultural labourers	0.4516*	0.2944*
6	Participation in decision making with the farmer	0.5115*	0.3967*
7	Attitude towards agriculture	0.3363*	0.2796*
8	Attitude towards job	0.5390*	0.5623*
9	Attitude towards employer	0.6845*	0.5880*
10	Attitude towards labour unions	0.1239	-0.0273
11	Level of aspiration (present)	0.3262*	0.2340
12	Level of aspiration (future)	0.4284*	0.2246
13	Value orientation	0.4780*	0.2656*
14	Feeling of responsibility in increasing agricultural production	0.6043*	0.4693*
15	Period of employment by the farmer	0.4504*	0.5781*
16	Total period of employment	0.3156*	0.1130

* Significant at 0.05 level.

The relationship of the independent variables studied with the dependent variable is diagramatically represented in Fig. 3 for Men labourers and in Fig. 4 for Women labourers.

III. Inter-relationship of different factors contributing to the efficiency of agricultural labourers.

The results of the analysis of inter-relationship of the 12 different variables of this study, which were found to be significant in the correlation analysis, are presented in Table 22. Some of the variables had to be eliminated to facilitate the inter-correlation analysis by the computer which was used for the analysis. The variables, knowledge of development programmes, attitude towards labour unions, level of aspiration (present), period of employment by the farmer and total period of employment in an year were not considered in this analysis because either they were not significant for both groups or they were not very important as the other ones included.

An analysis of Table 22 revealed that the variables age and experience had significant negative correlation with education, knowledge of Scientific agriculture, attitude towards agriculture, attitude towards job, attitude towards employer, value orientation, level of aspiration (future),

Fig.3. Correlation diagram for Men labourers- Relationship of independent variables with the dependent variable.

Independent variables

x_1 - Age

x_2 - Education

x_3 - Experience

x_4 - Knowledge of scientific agriculture

x_5 - Attitude towards agriculture

x_6 - Attitude towards job

x_7 - Attitude towards employer

x_8 - Value orientation

x_9 - level of aspiration (present)

x_{10} - Level of aspiration (future)

x_{11} - Participation in decision making the farmer

x_{12} - Attitude towards labour unions

x_{13} - Knowledge of development programmes for agricultural labourers

x_{14} - Feeling of responsibility in increasing agricultural production

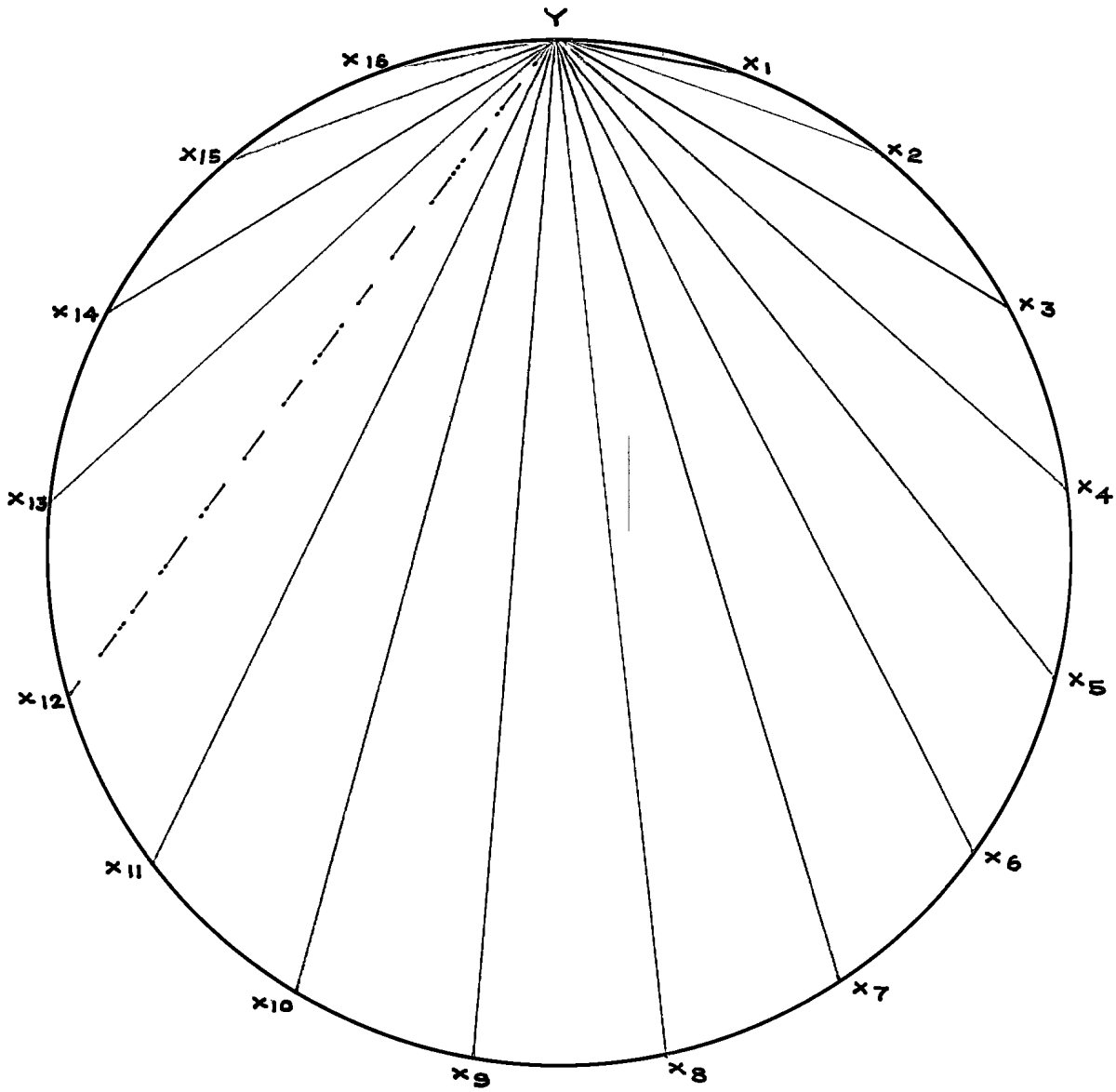
x_{15} - Period of employment by the farmer

x_{16} - Total period of employment

Dependent variable

Y - Labour efficiency

FIG 3 CORRELATION DIAGRAM FOR MEN LABOURERS RELATIONSHIP OF INDEPENDENT VARIABLES WITH THE DEPENDENT VARIABLE



POSITIVE SIGNIFICANT

NEGATIVE SIGNIFICANT

POSITIVE

NEGATIVE

Fig.4. Correlation diagram for Women labourers- Relationship of independent variables with the dependent variable.

Independent variables

x_1 - Age
x_2 - Education
x_3 - Experience
x_4 - Knowledge of scientific agriculture
x_5 - Attitude towards agriculture
x_6 - Attitude towards job
x_7 - Attitude towards employer
x_8 - Value orientation
x_9 - Level of aspiration (present)
x_{10} - Level of aspiration (future)
x_{11} - Participation in decision making the farmer
x_{12} - Attitude towards labour unions
x_{13} - Knowledge of development programme for agricultural labourers
x_{14} - Feeling of responsibility in increasing agricultural production
x_{15} - Period of employment by the farmer
x_{16} - Total period of employment

Dependent variable

Y - Labour efficiency

FIG: 4. CORRELATION DIAGRAM FOR WOMEN LABOURERS RELATIONSHIP OF INDEPENDENT VARIABLES WITH THE DEPENDENT VARIABLE

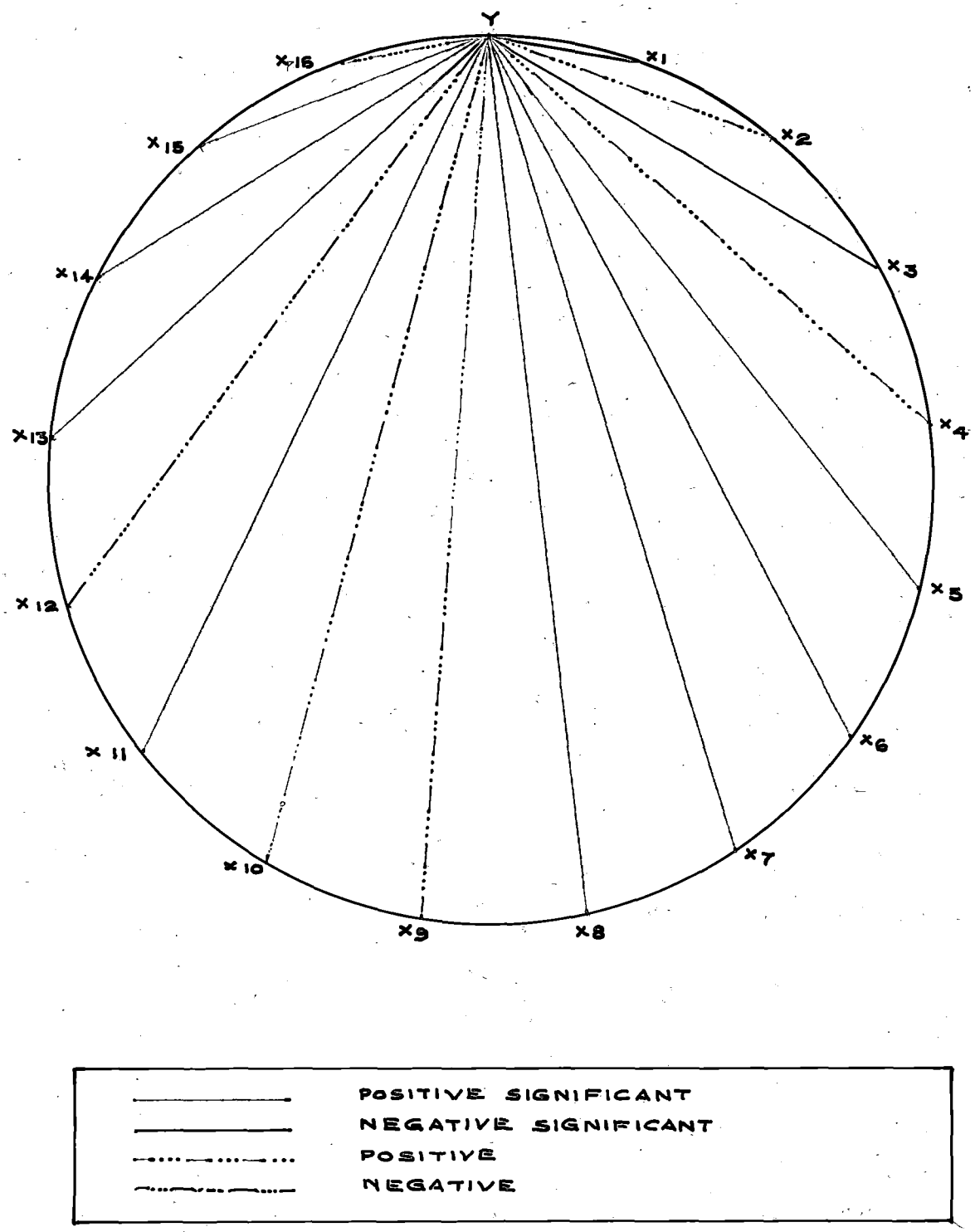


Table 22 Inter orrelation matr x fo the ndependent variables

Va a b e	x_1	x_2	x_3	x_4	x_5	x_6	x_7	x_8	x_9	x_{10}	x_{11}
x_1	000	−0 5360	0 9292	−0 3350	−0 3713	−0 3344	−0 3780*	−0 3491*	−0 3073	−0 0846	−0 3070
x_2		1 000	−0 5503	0 6 03	0 3724	0 1442	0 3996	0 5772	0 5415	0 3731	0 44 2
x_3			1 000	−0 4254	−0 32 9	−0 3 08	−0 4135	−0 4047	−0 3536	−0 1743	−0 3882
x_4				000	0 35	0 750	0 5 58	0 7093	0 5130	0 6595	0 5937
x_5					1 000	0 3764	0 3907	0 3364	0 3320	0 2557	0 2956
x_6						000	0 55 7	0 2513	0 2085	0 3719	0 4395
x_7							000	0 4839	0 4170	0 5872	0 5680
x_8								000	0 6 0	0 6222	0 6340
x_9									000	0 5284	0 5935
x_{10}										1 000	0 6969
x_{11}											000

S gnif a a 0 05 le l

x_1 Age
x_2 Educatien
x_3 Experiense
x_4 Knowledge of Scientific agriculture
x_5 Attitude towards agriculture
x_6 Attitude towards job
x_7 Attitude towards employer
x_8 Value or ents on
x_9 Level f aspira i n future)
x_{10} Parti pa ion n de sion making with the farmer
x_{11} Feeling of respons bility in increasing agriculture production

participation in decision making with the farmer and feeling of responsibility in increasing agricultural production.

The variables age and experience were significantly and positively correlated.

Education had significant positive correlation with knowledge of Scientific agriculture, attitude towards agriculture, attitude towards employer, value orientation, level of aspiration (future), participation in decision making with the farmer and feeling of responsibility in increasing agricultural production.

Knowledge of labourers regarding Scientific agriculture was significantly and positively correlated with attitude towards agriculture, attitude towards employer, value orientation, level of aspiration (future), participation in decision making with the farmer and feeling of responsibility in increasing agricultural production.

Attitude of the labourers towards agriculture was significantly and positively correlated with attitude towards job, attitude towards employer, value orientation, level of aspiration (future), participation in decision

making with the farmer and feeling of responsibility in increasing agricultural production.

There was significant positive correlation between attitude towards job on one hand and attitude towards employer, value orientation, level of aspiration (future), participation in decision making with the farmer and feeling of responsibility in increasing agricultural production on the other hand.

Attitude towards employer had significant positive correlation with value orientation, level of aspiration (future), participation in decision making with the farmer and feeling of responsibility in increasing agricultural production.

Value orientation had significant positive correlation with level of aspiration (future), participation in decision making with the farmer, and feeling of responsibility in increasing agricultural production.

Level of aspiration (future) was significantly and positively correlated with participation in decision making with the farmer and feeling of responsibility in increasing agricultural production.

There was also a significant positive correlation between participation in decision making with the farmer and feeling of responsibility in increasing agricultural production.

The inter-relationship of the significant variables in this study is diagramatically represented in Fig. 5.

IV. Problems related with agricultural labourers

Data pertaining to the problems related with agricultural labourers, as expressed by farmers, are presented in Table 23.

A critical observation of Table 23 revealed that almost all the farmers mentioned high labour charge as a major problem. About 71% of the farmers with high adoption and 92% of the farmers with low adoption mentioned high labour charge as the most important problem. Majority of the farmers mentioned less quantum of work done by the labourers as a problem. The percentage of farmers who mentioned this problem was 82.4 for high adopters and 73.1 for low adopters. When 29.4% of the farmers with high adoption mentioned nonavailability of labourers to satisfy labour requirement as a problem, it was as high as 76.9% in the case of farmers

Fig.5. Intercorrelation diagram - Inter-relationship of independent variables.

Independent variables

x_1 - Age

x_2 - Education

x_3 - Experience

x_4 - Knowledge of scientific agriculture

x_5 - Attitude towards agriculture

x_6 - Attitude towards job

x_7 - Attitude towards employer

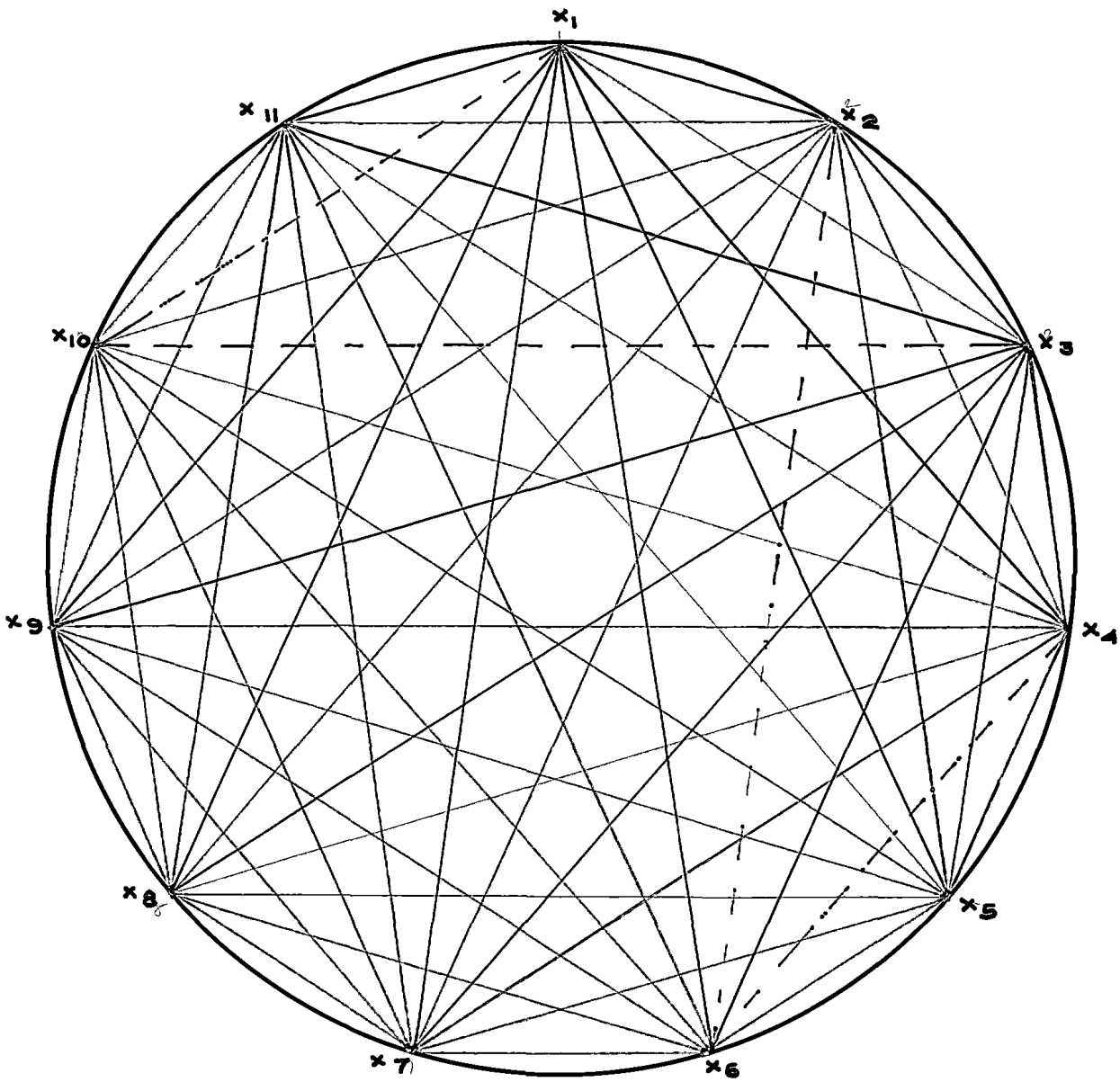
x_8 - Value orientation

x_9 - Level of aspiration (future)

x_{10} - Participation in decision making with the farmer

x_{11} - Feeling of responsibility in increasing agricultural production

FIG 5 INTER CORRELATION DIAGRAM – INTER RELATIONSHIP OF INDEPENDENT VARIABLES



POSITIVE SIGNIFICANT

NEGATIVE SIGNIFICANT

POSITIVE

NEGATIVE

Table 23. Distribution of farmers expressing different problems related with agricultural labourers.

Sl. No.	Problem	Farmers with high adoption				Farmers with low adoption			
		Mentioning		Mentioning as the most important		Mentioning		Mentioning as the most important	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
1	High labour charge	33	97.1	24	70.6	26	100	24	92.3
2	Not available to satisfy labour requirement	10	29.4	5	14.7	20	76.9	2	7.7
3	Lack of sincerity on the part of labourers	19	55.9	3	8.8	7	26.9	0	0
4	Less time of work	11	32.4	1	2.9	1	3.8	0	0
5	Less quantum of work done	28	82.4	1	2.9	19	73.1	0	0
6	Lack of knowledge of improved agricultural practices	2	5.9	0	0	0	0	0	0
	Total			34	99.9			26	100

with low adoption. The other problems expressed by farmers were lack of sincerity, less time of work and lack of knowledge of Scientific agricultural practices on the part of labourers.

V. Suggestions for increasing the efficiency of agricultural labourers.

Data pertaining to the suggestions given by farmers for increasing the efficiency of agricultural labourers are presented in Table 24.

A critical analysis of the data of Table 24 showed that a great majority of the farmers mentioned good supervision as a suggestion to improve the efficiency of agricultural labourers. This suggestion was mentioned by 85.3% of farmers with high adoption and 73.1% of farmers with low adoption. When 55.9% of high adopting farmers mentioned friendly behaviour towards the labourers as a suggestion to improve labour efficiency, the percentage of low adopting farmers mentioning it was 76.9. About half the number of high adopting and low adopting farmers suggested that farmers should also work with the labourers to increase their efficiency. Nearly one-fourth of the numbers of high adopting and low adopting farmers considered good supervision as an

Table 24. Distribution of farmers according to the suggestions given for increasing the efficiency of agricultural labourers

Sl No.	Suggestion	Farmers with high adoption				Farmers with low adoption			
		Mentioning		Mentioning as most important		Mentioning		Mentioning as most important	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
1.	Good supervision	29	85.3	9	26.5	19	73.1	7	26.9
2.	Friendly behaviour of farmers	19	55.9	4	11.8	20	76.9	4	15.4
3.	Farmers may encourage good work of labourers	2	5.9	0	0	1	3.8	0	0
4.	Farmers should also work with the labourers	18	52.9	9	26.5	13	50	7	26.9
5.	Governmental aids may be provided to the labourers	3	8.8	0	0	2	7.6	2	7.7
6.	The labourer may be employed permanently under a farmer	1	2.9	0	0	0	0	0	0
7.	Labourers should have sincerity towards work	14	41.2	11	32.4	7	26.9	4	15.4
8.	Labourers may be trained in doing agricultural operations	4	11.8	0	0	1	3.8	1	3.8
9.	Proper instructions may be								

important factor. Again one-fourth of them suggested that farmers should also work with the labourers to improve labour efficiency. The other suggestions mentioned were encouraging good work, providing governmental aids, permanent employment under a farmer, developing sincerity towards work and giving training and proper instructions to do agricultural operations.

Data pertaining to the suggestions given by the agricultural labourers for increasing their own efficiency are presented in Table 25.

The data in the Table 25 revealed that 71.7% Men labourers and 46.7% Women labourers mentioned the need for employing the labourers permanently under the farmer to increase efficiency. Fortyfive per cent of Men labourers and 25% of Women labourers had considered it as the most important suggestion. Another important suggestion given by 60% of Men labourers and 40% of Women labourers was to increase the wage of labourers. These were the two suggestions which were considered important by many of the respondents. The other suggestions were good supervision, reduction of time of work, farmers' friendly behaviour towards labourers, etc.

Table 25. Distribution of different categories of agricultural labourers according to their suggestions given for increasing their own efficiency (Frequency distribution)

Sl. No.	Suggestion	Mentioning						Mentioning as most important					
		Men			Women			Men			Women		
		Total	Efficient	Inefficient	Total	Efficient	Inefficient	Total	Efficient	Inefficient	Total	Efficient	Inefficient
1.	Increasing wage	36	25	11	24	14	8	16	12	4	12	10	2
2.	Ensuring good supervision	29	14	15	17	1	16	1	0	1	10	0	10
3.	Reducing time of work	33	16	17	41	19	22	4	2	2	7	6	1
4.	Employing the labourer permanently under a farmer	43	23	20	28	17	11	27	14	13	15	5	10
5.	Friendly behaviour of farmers	22	17	5	44	19	25	1	1	0	2	1	1
6.	Farmers should also work with the labourers	19	7	12	15	2	13	3	3	0	8	2	6
7.	Governmental aids may be provided to the labourers	6	4	2	6	1	5	1	1	0	0	0	0
8.	No suggestion	7	5	2	6	3	3	7	5	2	6	3	3
	Total							60	38	22	60	27	33

VI. Related findings

1. Extent of use of hired agricultural labour for different agricultural operations

Data pertaining to the extent of use of hired labour in different agricultural operations are given in Table 26.

The data in Table 26 revealed that for the operations like land preparation, sowing, transplanting, irrigation, weeding and harvesting in paddy both high adopting and low adopting farmers were almost completely dependent on hired labour. In the case of plant protection and manuring the farmers with high adoption used only less hired labour when compared to low adopters. Similarly in coconut operations like digging and taking basins were almost completely done by hired labour.

2. Farmers' perception about labour availability

Data pertaining to the farmers' perception about labour availability are presented in Table 27.

The data (Table 27) showed that 55.88% of the farmers with high adoption were of the opinion that labour availability was just sufficient to satisfy the requirement

Tab e 26 Exte t of use of hired ag cu ural labourer n f e t ag u a oper ons (in percentage) of the total lab utilised for ea h pe a ion

C p Farmer category adop on	Paddy																				Coconut			
	Land p ep s n		Sow ng		Trans plo g		I rig n		W e ng		Plant pro e on		Manuring		Har esting		Digging		Taking basins		Harvesting	
	Family	Hir d	am ly	Hi	Family	Hi ed	Fam ly	Hir d	F mily	Hi ed	Fam ly	Hired	Fam ly	Hired	Family	Hired	Family	Hired	Family	Hired	Family	Hired
High	3 6	96	20	80		99	36 7	63 2		99	63	37	51	49	2	98	18	82	9	91	31	69
Low	2	98	0	90	0	00	28	72	0	00	40	60	27	73	0	00	0	90	7 3	92 7	36	63

Table 27. Distribution of farmers according to their perception about labour availability.

Adoption of farmers	Labour availability					
	Much more than required		Just sufficient to satisfy the requirement		Much less than required	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
High N = 34	0	0	19	55.88	15	44.12
Low N = 26	0	0	8	30.77	18	69.23

while 69.23% of the farmers with low adoption considered that labour availability was much less than the requirement. Not a single farmer was of the opinion that labour availability was much more than the requirement.

3. Wage pattern, total hours of work and extent of work done

The data regarding the wage rates, total hours of work and quantity of work done by Men and Women labourers collected from the 60 farmers are presented in Table 28.

The data revealed that the wage rate was different for different agricultural operations. In the case of Men labourers it was ranging from Rs.7/- to Rs.13/- per day in Attingal area of the study. For harvesting of coconuts it was Rs.16/- per day and a 4% number of nuts harvested. But in Ollava area the range was from Rs.8/- to Rs.15/- and for coconut harvest the rate was Rs.18/- plus 4% of harvested nuts.

For ploughing, levelling, sowing, irrigation and spraying the hours of work was only four while for other operations it was 7.5.

Table 28 Wage pa tern to al hours of work and extent of wo k done

S No	Agr cultural operation	To al hours of work	Ave age extent of wo k done per labourer	Done by Men/Women labourers	Wage (cash / kind) Attingal area	Kilava area
	C op Paddy					
	Digging paddy f elds	7 5	7 cents	Exclusively done by Men labourers	Rs 13/	Rs 15/
2	Pl ughing paddy fie ds	4	40 s e	-do	Rs 9/	Rs 10/
3	Le elling paddy fields	4	80 te	-do	Rs 9/	Rs 10/
4	Sowing	4	50kg seeds e an in 5a es	-do-	Rs 13/	Rs 5
5	Pulling ou seed gs and t anspla ng	6	7 s	Exc ely done by n n labou e s	Rs 0/	Rs 12/
6	Fe t lizer appli s on	7 5	50kg plied e	Do e by Men and Women abourers	Rs 13/ for Men and Rs 0/ for Women	Rs 15 for Men a d Rs 12 for Women
7	Ir g n		e, ds u avai li f wa s	xc un ely d ns by e s ers	Rs 7/	Rs 8/
8	Weeding	7 5	4c D da up e ext nt f w d s k	xc un ely d ne by W e s ours e	Rs 0/	Rs 2/
9	Harves g e h ng nd an ng	7 5	7 C s	Do e by M n & W men bours e	One-sixth of harvested paddy	One-sixth of harves ed paddy
0	Sp ay ng p p ion cicals	4	25 s re	x ely s by Ma lab urers	Rs 10/	Rs 12/
11	W n w ng pa dy	4	50kg pa y	Exc us ly d ne by Woma abours s	¼ of the paddy winnowed	¼ of the paddy winnowed
	C op n t					
1	Diggi g s mu ga den	7 5	6 s	Exc us ely ne y Men lab urers	Rs 13/	Rs 15/
2	Taking bas ns f n ees	7 5	8 bas ns	-d	Rs 13/	Rs 15/
3	Har es ng Coc n t	6 5	60 es	-do-	Rs 16/ 4% of harvested nuts	Rs 18/ + 4% of harvested nuts
4	Col_e ng he nu s l es s a hes etc	7 5	30 es	D e by Me & Women labou ers	Rs 3/ 1 nut for Men Labourers Rs 10/ 1 nut for Women Labou- rer	Rs 15/ + 1 nut for Men Labourers Rs 12/ + 1 nut for Women Labourers

Digging, ploughing, levelling, sowing, irrigation and plant protection for paddy was done exclusively by Men labourers while pulling out seedlings, transplanting and weeding were done exclusively by Woman labourers. In Coconut all the three major operations studied were done by Men labourers.

4. House type of agricultural labourers

Data pertaining to the house type of agricultural labourers are given in Table 29.

Table 29. Distribution of agricultural labourers according to house type (Frequency distribution)

Hut	Thatched and brick walled	Tiled and brick walled	Thatched and cement walled	Tiled and cement walled	Total
60	37	25	0	0	120

The data in Table 29 showed that out of the total 120 labourers studied, 60 lived in huts, 37 lived in thatched and brick walled houses and 23 lived in tiled and brick walled houses. There was no labourer who lived in cement plastered house.

5. Land owned by agricultural labourers

Data regarding the land area owned by agricultural labourers are presented in Table 30.

Table 30. Distribution of agricultural labourers according to the area of land owned (Frequency distribution)

Area owned (Cents)	0	1-5	6-10	10	Total
Efficiency					
Efficient	26	13	16	10	65
Inefficient	35	5	10	5	55
Total	61	18	26	15	120

Analysis of the data in the above Table 30 revealed that more than half the number of agricultural labourers were landless, the number being 61 out of 120. The proportion of agricultural labourers possessing land was more in the case of Efficient labourers when compared with Inefficient labourers.

6. Adoption behaviour of agricultural labourers

Data regarding the adoption of improved agricultural practices by agricultural labourers are shown in Table 31.

Table 31. Distribution of agricultural labourers according to their adoption of improved agricultural practices (Frequency distribution)

Agrl. Practice	HYV	Fertilizer application	Irrigation	Plant protection measures
Efficiency				
Efficient N = 65	2	3	20	0
Inefficient N = 55	0	2	6	0
Total	2	5	26	0

The data in the above Table 31 showed that out of the 59 agricultural labourers who had land only 2 were cultivating High Yielding Varieties of crops, 5 were applying fertilizers to their crops and 26 were irrigating their crops. Out of 26 labourers who followed the practice of irrigating their crops, 20 were Efficient labourers. Not a single labourer was adopting plant protection measures for their crops.

7. Labour Union Membership and participation

Data pertaining to the Labour Union membership and participation of different categories of agricultural labourers are shown in Table 32.

Table 32 D st bu n of d fferent cateq ries f agri ural labourers ac ording to he r memb ship and pa t ipa ion in Labour Union ac ivi as

	Men abou ers						Oman labourers					
	To al		Eff c ent		Ineff c ent		To al		Effic ent		Inefficient	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	% Freq
Membership												
No membe ship	40	66 66	27	7 05		9 0	48	80	22	81.48	26	78 78
Member	20	33 33		28 94	9	40 9	12	20	5	18 51	7	21
P e dent	0	0	0	0	0	0	0	0	0	0	0	0
Se e ary	0	0	0	0	0	0	0	0	0	0	0	0
	6	9 99	38	9 99	22	99 99	60	00	27	99 99	33	99 99
P p												
p n	0	0	0	0	0	0	0	0	0	0	0	0
n p n	20	33 33		28 9	9	0 9	0	16 66	3	1 1	7	21 2
H pa n	0	66 66	2	7 05	3	59 09	50	83 33	24	88 88	26	8 78
1	60	00	38	99 99	22	99 99	60	99 99	27	99 99	33	99 99

A critical analysis of Table 32 revealed that 66.66% of Men labourers and 80% of Women labourers were non members of Labour Unions. Among the members Inefficient labourers were more in the case of both Men and Women when compared to Efficient labourers. None of the labourers studied occupied any kind of leadership position in labour unions.

When the extent of participation of agricultural labourers in Labour Union activities was considered it was found that Men and Women labourers who were members had only limited participation.

DISCUSSION

CHAPTER V

DISCUSSION

The results of this study are discussed in detail in this Chapter.

I. Relationship between the efficiency of agricultural labourers and the extent of adoption of the recommended practices of crops grown by the farmers employing them.

This study revealed that there was significant positive association between adoption of the recommended agricultural practices by farmers and the efficiency of the agricultural labourers employed by them. This result was in line with the findings of Nair (1969), Johl and Kapur (1977) and Pillai (1978) who had already identified that efficiency of agricultural labourers was related with adoption of scientific agricultural practices and agricultural production.

This finding substantiated the relationship hypothesised in this study. This finding can be interpreted in two different ways based on the cause-effect relationship. A farmer who has high adoption rate of agricultural practices is engaging more efficient labourers.

Because these labourers are efficient they are being engaged by high adopters. Another explanation can be that because the labourers are efficient, the farmer is able to adopt more advanced agricultural practices without difficulty. Though which is cause and which is effect cannot be determined by this result, it can be definitely concluded that the two; efficiency of agricultural labourers and adoption of modern scientific agricultural practices by farmers engaging them are highly related.

II. Characteristics of Men and Women agricultural labourers and their relationship with efficiency.

This study examined seventeen characteristics of Men and Women agricultural labourers. It was found that Men and Women labourers differed with respect to age. Young labourers were more among Women than among Men. When Women become older and older, they prefer to be at home looking after domestic affairs. But Men labourers will have to go out and work irrespective of their age to earn a living. This might be the reason for the larger proportion of young Women labourers among the agricultural labourers studied. It was also found that there was significant negative relationship between age

and efficiency of agricultural labourers. This finding supported the views of Gilmer (1961) and I.L.O. (1969). As a labourer become older and older his physical capacity to do work efficiently decreases. Physical capacity is a factor which decides efficiency. Young people are more energetic and they can do work quickly and in a better way than old people. This was convincingly proved in this study.

With respect to caste, all the labourers studied belonged to Scheduled Castes only. Not a single labourer was from Backward or Forward caste. The social status of agricultural labourer is low. That might be the reason which prevented the members of Backward and Forward castes from becoming agricultural labourers. Also, there was no significant association between caste and efficiency of agricultural labourers. This study did not convincingly prove the view of Dewett et al. (1948). All the labourers studied were confined to only 3 castes and that too Scheduled castes. This might be the reason for the lack of significant association between caste and efficiency of agricultural labourers.

When education of agricultural labourers was considered, it was found that majority of them were illiterates. The number of illiterates was more among Women labourers when compared to Men labourers. The financial status of

agricultural labourers is much low in the society. When the parents go out for job, the elder children are entrusted with the work of looking after domestic affairs including nursing the younger children. This trend prevailed in the past years eventhough it is slowly vanishing now-a-days. Due to these reasons the members of agricultural labour families get rare chances for education. Even if the children go to school, soon they become "dropouts" as they are forced to earn their own bread. The girls in the agricultural labour families are more entrusted with the works of looking after domestic affairs and nursing younger children than the boys. Hence the girls' chances for education are much limited when compared to boys'. That might be the reason for the increase in the proportion of illiterates among Women labourers. It was also found that there was significant positive relationship between education and efficiency of Men labourers. This was in line with the views of Mehta (1955), Gilmer (1961), Ganguli (1962), Galenson and Pyatt (1964), Agarwal (1969), I.L.O. (1975), Butani (1976), Gupta (1976) and Sinha (1976). Education exposes an individual to the new ways and possibilities of living. An educated individual will always use more information channels and hence he will have better knowledge which will make him more efficient. But there was no significant

relationship between education and efficiency of women labourers. The large proportion (63.2%) of illiterates among the sample of women labourers studied might be the reason for the lack of significant relationship between education and efficiency of women labourers.

It was seen that the women labourers studied had less experience than the men labourers. Both men and women labourers were doing agricultural labour as their occupation since their adolescence age. Since there were more number of young labourers among the sample of women labourers studied their period of experience was also less when compared to men labourers. There was significant negative relationship between experience and efficiency of agricultural labourers. The study contradicted the views of Mehta (1955), I.L.O (1963) and Agarwal (1969). It was already found that age and efficiency were significantly and negatively correlated. Less the age, less was the experience. That might be the reason for the negative relationship between experience and efficiency of agricultural labourers.

Regarding knowledge of scientific agriculture, men labourers had better knowledge than women labourers. Higher level of education, as already seen, and better chances to contact progressive people of the men labourers might be the

reason for their better knowledge than Women labourers. There was significant positive relationship between knowledge of scientific agriculture and efficiency of Men labourers. This was in agreement with the views of Smith (1955) and Prakasam (1976). Knowledge plays an important part in the behaviour of an individual. The more a man knows about a job , the more will be his capacity to do it in a better way. Similarly, the more a labourer knows about scientific agriculture, the more will be his inclination to do the agricultural operations more efficiently. This was convincingly proved in the case of Men labourers. But in the case of Women labourers there was no relationship between knowledge of scientific agriculture and efficiency. It might be because the large number of Women labourers studied had little knowledge of scientific agriculture. About 80% of the Women labourers had only below average knowledge of scientific agriculture.

Another aspect which was studied was knowledge of development programmes for agricultural labourers. It was found that majority of agricultural labourers had low knowledge about the programmes undertaken by the Government for their development. Among the labourers, Men had comparatively better knowledge of development programmes than Women labourers. Since the Men labourers had higher

level of education and better opportunities to come in contact with other people than Women labourers, they might have got more information about the development programmes. It was also found that there was significant positive relationship between knowledge of development programmes for agricultural labourers and efficiency of agricultural labourers. As anticipated, the knowledge on development programmes might have acted as an incentive for the labourers. The labourers who were aware of this incentive might have worked efficiently. This was in line with the view of Mongia (1976).

Agricultural labourers' participation in decision making with the farmer was also studied. It was found that Men labourers were more involved in decision making with the farmer than Women labourers. As already explained, Men labourers had higher level of education and more age, experience and knowledge of scientific agriculture when compared to Women labourers. These characteristics of Men labourers might have been the reason which prompted the farmers to involve Men labourers in deciding what is to be done in agriculture. It was also found that there was significant positive relationship between participation in decision making with the farmer and efficiency of agricultural labourers. When the farmers seek the opinions of

the labourers in making decisions regarding agricultural operations the labourers may get a feeling of importance and this will satisfy his 'esteem' needs. Hence he will be motivated to do the agricultural operations in a more efficient way to that farmer who accepts his capacity and importance.

Another finding of this study was that the attitude of agricultural labourers towards agriculture in general, was on the positive side. There was not much difference between men and women labourers with respect to attitude towards agriculture. The labourers studied were doing agricultural labour as their occupation since their adolescence age. It was agriculture that provided them livelihood. That might be the reason for the positive attitude of agricultural labourers towards agriculture. It was also found that there was significant positive relationship between attitude towards agriculture and efficiency of agricultural labourers. It is the attitude of individual that decides his behaviour. Hence the labourers with positive attitude towards agriculture might do the agricultural operations more efficiently than those with negative attitude.

Attitude towards job was also studied. The results showed that majority of the agricultural labourers had

favourable attitude towards their profession. As already said, most of the agricultural labourers were doing agricultural labour as their occupation since their 'teen age'. They earned their livelihood through doing agricultural labour. There was no other alternative for them to earn their livelihood. Hence they might have developed positive attitude towards their job. It was also found that there was significant positive relationship between attitude towards job and efficiency of agricultural labourers. This convincingly proved the views of Finley et al.(1955), Smith (1955), Mehta (1955), Likert (1956), Ganguli (1958) and Mongia (1976) and also was in line with the views of Homans (1941) and Herzberg et al. (1957). Positive attitude of an individual towards the work he is doing may motivate him to do the work more efficiently.

It was seen that about half the number of agricultural labourers studied had negative attitude towards their employer-farmer. Farmers who are desirous of reducing the high cost of cultivation might be trying to extract more work from the labourers by adopting all means which might have been the reason for the negative attitude of labourers towards certain farmers. Friendliness, co-operation with the labourers and appreciating good work of the labourers

might produce favourable attitude in labourers towards farmers. It was found that there was significant positive relationship between attitude towards employer and efficiency of agricultural labourers. When a labourer is having a favourable attitude towards a farmer he will try to do all that are possible by him for the farmer's benefit. He may do the works entrusted to him in an efficient way because he is having a positive attitude towards the farmer.

The study of the attitude of agricultural labourers towards labour unions conclusively showed that majority of the labourers had favourable attitude towards labour unions. In the past days agricultural labourers were unorganised workers. They had to be satisfied with whatever meagre wages and little food the farmers provided them with. They had to suffer many hardships from their employers. They were unaware of their rights. But the concept of labour union has provided them with new light. They began to believe that 'Unity is Strength'. They became aware of their rights. Labour union activities have created an awareness among the agricultural labourers of the dignity of labour and their right to have a better standard of living. These might be the reasons for their favourable attitude towards labour unions. The results of the study revealed that there was no significant relationship between

attitudes towards labour unions and efficiency of agricultural labourers. The results could not convincingly prove the views of Mehta (1955) and I.L.O. (1969). The labourers who had positive attitude towards labour unions were more aware of their rights, rather than their duties as agricultural labourers. The labour union activities are also concerned more with the rights of agricultural labourers rather than their duties. The labour unions are not having any activity which can increase the efficiency of agricultural labourers. The over-emphasis given to the rights alone by the labour union leaders might have prevented the labourers from giving importance to doing work in an efficient manner. That might be the reason for the lack of relationship between attitude towards labour unions and efficiency of agricultural labourers.

The present and future levels of aspiration of agricultural labourers were studied. The present level of aspiration represented their feeling about the standard of living which they were leading. It was found that majority of the agricultural labourers had very low level of aspiration. Agricultural operations are seasonal in nature. Hence the employment opportunities of agricultural labourers are also seasonal. The maximum number of days of employment of an agricultural labourer studied was only

between 115 to 139 days in an year. For many of the days in an year agricultural labourers remain jobless. The wages which they get in the working days will not be sufficient to pull on life throughout the year. Agricultural labour has low social status. By comparison to others in the society agricultural labourers are poor. Majority of them are illiterates, living in huts. Because of these reasons agricultural labourers think themselves to be inferior in the society. These might be the reason for the low level of aspiration(present) of agricultural labourers. Their perception about their future life was also almost in the same line. The difference in aspiration level for present and future was only 1.47 for Efficient Men labourers and 0.59 for Inefficient Men labourers. In the case of Women the respective values were only 1.12 and 0.83. This clearly revealed that inspite of the labour union activities and helping hand of the Government through Acts and Laws, the agricultural labourers did not have a faith in a better life for them in the future. It was also found that there was significant positive relationship between the levels of aspiration (present and future) and efficiency in the case of Men labourers. This was in line with the views of Lewett et al. (1948). As already seen, Men labourers had higher level of education than

Women labourers. The difference in the mean aspiration for present and future between Efficient and Inefficient agricultural labourers was more in men labourers (0.88) In Women labourers it was only 0.29. This clearly revealed that those Men agricultural labourers who had high level of aspiration were also more efficient. But in Women this trend could not be observed. Men labourers go out of their houses and have better chances to meet other people when compared to Women labourers. These might have created a positive line of thinking and better level of aspiration in Men labourers when compared to Women labourers who were more illiterates and had less chance to meet other people. That might be the reason for the lack of significant relationship between levels of aspiration (present and future) and efficiency of Women agricultural labourers, obtained in this study.

When value orientation of the agricultural labourers was considered, it was seen that Men labourers were more progressive than Women labourers. It was already seen that Men labourers possessed higher level of education than Women labourers. The chances for Men labourers to contact other progressive people was more. Usually it was the Men labourers who discussed with the farmers about agricultural and non-agricultural matters. It was already

observed that the extent of participation in decision making with the farmer was much more in the case of Men labourers when compared to Women labourers. Thus the Men labourers got ample opportunities to develop a progressive outlook towards their own life as well as towards the realities of the world. These might be the reasons for the progressiveness in Men labourers when compared to Women labourers. It was also found that there was significant positive relationship between value orientation and efficiency of agricultural labourers. The progressive labourers with modern outlook towards agriculture may believe in scientific agricultural practices. They will be having a positive attitude towards scientific agriculture. They will be aware of their duties as agricultural labourers. They may realise the need for increasing the agricultural production. These might be the reasons for the significant positive relationship between value orientation and efficiency of agricultural labourers.

It was seen that majority of the agricultural labourers felt responsibility in increasing the agricultural production of the farmers who engaged them as casual labourers. Among them the number was more in Men labourers. It was already seen that the Men labourers were more involved in decision making with the farmers than Women labourers.

The Men labourers were participating in decision making regarding agricultural operations. An individual who is a party to take a decision will also feel more responsibility to undertake the activities for implementing the decision. Those labourers might have felt more responsibility to do the operations in a better way and to increase the agricultural production of the farmers who employ them. Also it was found that Men labourers were having higher level of education and were more progressive when compared to Women labourers. These qualities might have made the Men labourers aware of their responsibility to increase the agricultural production of the farmers who employ them. It was also found that there was significant positive relationship between feeling of responsibility in increasing agricultural production and efficiency of agricultural labourers. This finding convincingly proved the views of Dewett et al. (1948), Prakasam (1976) and Desai (1969). As anticipated earlier the sense of responsibility made the labourers do the works in a better way.

Regarding the period of employment of agricultural labourers under the same farmer in an year, it was found that majority of them were employed for less than 30 days. Agricultural operations are seasonal in nature. Labour demand will be more and labour supply will be less during

the peak seasons. There will be competition among farmers to engage efficient labourers during the cultivation seasons. Due to these reasons a farmer was not able to engage the same labourer for more than 30 days in an year, or in other words, a labourer found it difficult to get employment under the same farmer for more than 30 days in an year. It was also found that there was significant positive relationship between the period of employment by farmer and efficiency of agricultural labourers. When a farmer employs a labourer fore more number of days, the labourer may develop positive attitude and loyalty towards that farmer. It was already shown that there was significant positive relationship between attitude towards employer and efficiency of agricultural labourers. That might be the reason for the reason for the significant positive relationship between period of employment under the farmer and efficiency of agricultural labourers.

Another aspect which was studied was the total period of employment of agricultural labourers in an year. It was seen that Men labourers were employed for more number of days than Women labourers. Men labourers are engaged for doing a variety of agricultural operations like cultivation practices in various crops, digging and weeding land, terracing fields, fencing the cropped area etc.

But the scope of employment for Women labourers is limited mainly to paddy cultivation. That might me the reason for the increase in the total period of employment in an year for Men labourers than Women labourers. It was also found that there was significant positive relationship between total period of employment and efficiency of Men labourers. The main problem of agricultural labourers is that they have to remain jobless during the non-cropping periods of the year. But if the labourers get employment for more number of days, that may create a better attitude and job satisfaction in them. They may work efficiently due to their positive attitude and satisfaction regarding their profession. That might be the reason for the significant positive relationship between total period of employment and efficiency of Men labourers. But there was no significant relationship between total period of employment and efficiency of Women labourers. The number of Women labourers, who were unemployed for more number of days in an year, was more when compared to Men labourers. That might be the reason for lack of significant relationship between total period of employment and efficiency of Women labourers.

III Inter-relationship of different factors contributing to the efficiency of agricultural labourers

In the inter-correlation analysis it was revealed that the factors that were not related were age and participation in decision making, education and attitude towards job and knowledge of scientific agriculture and attitude towards job. All the other variables which were tested for their inter-relationship were significantly inter-correlated.

As the age of the labourer increases his experience also increases. A labourer with more education has the capacity to acquire more knowledge and hence his knowledge increases. When he is having more knowledge about scientific agriculture his attitude towards agriculture and job also becomes more favourable. He will become more progressive in his outlook. Such a labourer will be involved by the farmer in decision making and hence he will feel more responsible. When he is having all these characteristics he may have good faith in his better future. The cumulative effect of all these will increase his efficiency.

IV. Problems related with agricultural labourers

High labour charge was the most important problem mentioned by almost all the farmers. The labour charges have also gone up with the increase in the cost of living. But corresponding rise has not been found in the price of agricultural produces, especially Paddy and Tapioca. The rate of wages in Kerala is perhaps the highest in the Nation. Other problems mentioned as major ones were the less time of work and the less quantum of work done by the labourers. The farmers compare the time of work and the quantum of work done by labourers now-a-days with those in the past days. Agricultural labourers were unorganised workers in the past days and they were forced to do more work by the farmers. But now they have the labour unions. Norms have been fixed about the hours of work, period of intervals, wages etc. Hence the farmers feel this problem because they compare with the past. Unavailability of agricultural labourers to satisfy the labour requirement was also mentioned as a problem. Agricultural operations are seasonal in nature. During the peak periods of work, labour demand is maximum. In rural areas now-a-days job opportunities in construction works with high wages are more. So it is natural that in peak seasons farmers experience acute labour shortage.

In some situations the farmers experience very great difficulty even to harvest their crops in time. The other problems mentioned by farmers were lack of sincerity and lack of labourers' knowledge in scientific agricultural practices.

V. Suggestions for increasing the efficiency of agricultural labourers.

Suggestions for increasing the efficiency of agricultural labourers were obtained both from the farmers and agricultural labourers. The suggestions like good supervision, farmers should also work with the labourers, providing government aids and farmer's friendly behaviour towards labourers were mentioned both by the farmers and labourers.

Good supervision, friendly behaviour towards the labourers, farmers should also work with the labourers were the important suggestions from the farmers. Permanent employment under a farmer and increasing the wages were the two important suggestions from the labourers. While farmers perceived high wages as an important problem the labourers felt the need for further increasing the wages. It is natural. Permanency of job in order to avoid the uncertainity of obtaining job is a factor which was perceived as important by labourers. They might have

considered this as the only solution to get more days of employment in an year.

VI. Related findings.

The study revealed that for the oporations like land preparation, sowing, transplanting, irrigation, weeding and harvesting in Paddy and for digging and taking basins in Coconut the farmers of Kerala were almost completely dependent on hired labour. Agriculture is only a subsidiary occupation for majority of the farmers of Kerala. The main occupation of the most of the farmers is something other than agriculture. Since the land area under a farmer is limited in Kerala, mechanisation cannot be resorted to. Even in big farms mechanisation is objected by labour unions. Since the farmers have other activities to attend to and mechanisation is not possible, the extent of use of hired agricultural labour is much more in Kerala. It was also seen that in the case of plant protection and manuring the farmers with high adoption used only less hired labour when compared to low adopters.

It was observed that the wage rates, in general, were high in Edava area when compared to Attingal area. A considerable proportion of the natives of Edava area were in Gulf countries. The problem of inflation caused by the foreign

money was more in Edava area. The scarcity of agricultural labourers to do agricultural operations was more in Edava area.since they were absorbed in works like building construction and small scale industries which were more paying. These might be the reasons for the increased wage rates in Edava area when compared to Attingal area.

It was also revealed by the study that certain agricultural operations were exclusively done by Men labourers, certain others were exclusively done by Women labourers and some others were done by both Men and Women labourers. The agricultural operations which required more physical exertions to do them like ploughing, levelling, sowing, irrigation and plant protection in Paddy and digging, taking basins and harvesting in Coconut were exclusively done by Men labourers. The agricultural operations which required less physical exertion to do them like pulling out seedlings, transplanting and weeding in Paddy were done exclusively by Women labourers. The agricultural operations like application of fertilizers, harvesting, threshing and cleaning in Paddy and collecting the nuts, leaves, spathes etc. while harvesting Coconut were done by both Men and Women labourers. The physical capacity to do the work is the only reason that can be advanced to explain this

division of labour.

The study showed that half the number of agricultural labourers studied lived in huts. The standard of living of agricultural labourers is low due to their low income. In many of the days during the non-cropping period the agricultural labourers remain jobless. The wages they earn on working days are not sufficient even for food throughout the year. These circumstances forced the labourers to live in huts. The other half number of agricultural labourers studied lived in thatched or tiled and brick walled houses. The tiled and brick walled houses were those constructed under the 'One Lakh House Scheme' of Kerala Government and given to the labourers.

It was observed that majority of the agricultural labourers studied were landless. They lived in small huts constructed by themselves in cultivable waste lands of the Government. Those labourers who possessed land had obtained it through "Pattayam" (Ownership right) given by the Government of Kerala as they were "Kudikidappukar" (one he lives in other's land) for the past several years.

It was seen that eventhough 59 labourers studied had land and cultivated it, the adoption rate of scientific agricultural practices was very low. Since the land

they owned and cultivated was not more than 10 cents these labourers might not have had the incentive to adopt improved agricultural practices or atleast grow improved varieties of whatever crops they cultivated.

Regarding the involvement of agricultural labourers in labour unions, it was found that majority of them were not members of labour unions. Even the few labourers who were members had only limited participation in labour union activities. Though it was already seen that majority of the agricultural labourers had favourable attitude towards labour unions, they might not have had adequate time to participate in labour union activities.

SUMMARY

CHAPTER VI

S U M M A R Y

This study was designed to investigate the influence of labour efficiency on the adoption of improved agricultural practices by farmers and factors related with it. The study was conducted in Attingal and Edava I.P.D. Units in Chirayinkil Taluk of Trivandrum District. The specific objectives of this study were:

1. To identify the relationship between the efficiency of agricultural labourers employed by the farmer and the extent of adoption of the recommended practices of crops grown by him.
2. To identify the factors contributing to the efficiency of different types of agricultural labourers.
3. To identify the ways for increasing the efficiency of agricultural labourers.

Men labourers and women labourers were the two types of agricultural labourers included in the study.

A group of farmers and the labourers employed by them were randomly selected from each of the selected I.P.D. Unit areas. In the sample there were 60 farmers

and 120 labourers. The labourers were classified into "Efficient" and "Inefficient" on the basis of efficiency rating obtained from the farmers who employed them.

The data were collected through personal interview. Separate interview schedules were developed for farmers and labourers. The interview schedule for farmers contained questions to measure the extent of adoption of recommended practices in Paddy and Coconut and the efficiency of the labourers employed by the farmer. The interview schedule for labourers had a number of measurement techniques and scales to measure the seventeen variables included in the study. These variables were age, caste, education, experience, knowledge of scientific agriculture, knowledge of development programmes for agricultural labourers, participation in decision making with the farmer, attitude towards agriculture, attitude towards job, attitude towards employer, attitude towards labour unions, level of aspiration(present), level of aspiration (future), value orientation, feeling of responsibility in increasing agricultural production, period of employment by the farmer and total period of employment. Standard statistical techniques like simple correlation, chi-square, percentage analysis etc., were used.

The results of this study are summarised as follows:

1. There was significant positive association between efficiency of agricultural labourers and extent of adoption of the recommended practices of crops grown by the farmers employing them.

2. Most of the labourers were young. There was significant negative relationship between age and efficiency of agricultural labourers.

3. Majority of the agricultural labourers belonged to "Kuravar" caste. All the labourers studied belonged to Scheduled castes. There was no significant association between caste and efficiency of agricultural labourers.

4. Majority of agricultural labourers were illiterates. Illiterates were more among Women labourers than among Men labourers. There was significant positive relationship between education and efficiency of Men labourers. There was no significant relationship in the case of Women labourers.

5. Men labourers had more experience than Women labourers. There was significant negative relationship between

experience and efficiency of agricultural labourers.

6. Men labourers had better knowledge of scientific agriculture than Women labourers. There was significant positive relationship between knowledge of scientific agriculture and efficiency of Men labourers. But there was no significant relationship in the case of Women labourers.

7. Majority of the agricultural labourers had low knowledge about the programmes undertaken by the Government for their development. Men labourers had comparatively better knowledge of development programmes than Women labourers. There was significant positive relationship between knowledge of development programmes for agricultural labourers and efficiency of agricultural labourers.

8. Men labourers were more involved in decision making with the farmers regarding the agricultural operations to be done than Women labourers. There was significant positive relationship between the extent of participation of agricultural labourers in decision making with the farmer and their efficiency.

9. The attitude of agricultural labourers towards agriculture in general was on the positive side. There was not much difference between Men and Women labourers with respect to attitude towards agriculture. There was significant positive relationship between attitude towards agriculture and efficiency of agricultural labourers.

10. A great majority of Men and Women labourers had favourable attitude towards their job. There was not much difference between Men and Women labourers with respect to attitude towards job. There was significant positive relationship between attitude towards job and efficiency of agricultural labourers.

11. There was significant positive relationship between attitudettowards employer and efficiency of agricultural labourers.

12. Majority of the agricultural labourers had favourable attitude towards labour unions. There was not much difference between Men and Women labourers with respect to their attitude towards labour unions. There was no significant relationship

between attitude towards labour unions and efficiency of agricultural labourers.

13. A great majority of the agricultural labourers had very low level of aspiration (present). There was significant positive relationship between level of aspiration (present) and efficiency of Men labourers. But there was no significant relationship in the case of Women labourers.

14. Majority of the agricultural labourers had very low level of aspiration (future). There was significant positive relationship between level of aspiration (future) and efficiency of Men labourers. There was no significant relationship in the case of Women labourers.

15. Men labourers were more progressive than Women labourers. There was significant positive relationship between value orientation and efficiency of agricultural labourers.

16. Majority of the agricultural labourers felt responsibility in increasing the agricultural production of the farmers who engaged them as casual labourers. There was significant positive relationship between feeling of responsibility in increasing agricultural

production and efficiency of agricultural labourers.

17. Majority of the agricultural labourers were employed for less than 30 days in an year under the same farmer. There was significant positive relationship between the period of employment by the farmer and efficiency of agricultural labourers.

18. The total period of employment in an year was more for Men labourers (139 days) than for women labourers (115 days). There was significant positive relationship between total period of employment and efficiency of Men labourers. But there was no significant relationship in the case of Women labourers.

19. Inter-correlation analysis indicated that the only factors that were not related were age and participation in decision making with the farmer, education and attitude towards job, and knowledge of scientific agriculture and attitude towards job. All the other variables which were tested for their inter-relationship were signficantly inter-correlated.

20. The major problems related with agricultural labourers as mentioned by farmers were high labour charge, less quantum of work done by labourers, and

unavailability of labourers to satisfy labour requirement. The other problems mentioned were lack of sincerity, less time of work and lack of knowledge of scientific agricultural practices on the part of labourers.

21 The important suggestions mentioned by farmers and agricultural labourers for increasing the efficiency of agricultural labourers were good supervision, farmers should also work with the labourers, providing governmental aids and farmers friendly behaviour towards labourers. Good supervision, friendly behaviour towards the labourers and farmer should also work with the labourers were the important suggestions from the farmers. Permanent employment under a farmer and increasing the wage were the two important suggestions from the labourers.

22. The related findings revealed that the farmers of Kerala were almost completely dependent on hired labour, for doing agricultural operations. Wage rates in general were high in Edava area n comparison with Attingal area. There was division

of labour between Men and women for doing different agricultural operations. Majority of the agricultural labourers were landless and lived in huts. The adoption rate of scientific agricultural practices by agricultural labourers was very low. Majority of the agricultural labourers were not members in labour unions. The few labourers who were members had only limited participation in labour union activities.

It can be considered that the factors viz., age, education, knowledge of scientific agriculture, participation in decision making with the farmer, attitude towards agriculture, attitude towards job, attitude towards the employer-farmer, value orientation, feeling of responsibility in increasing agricultural production etc. had influence on the efficiency of agricultural labourers. It has been proved by this study that there is need to increase the efficiency of agricultural labourers to increase the adoption rate of farmers. Programmes like training in this direction will have to be undertaken along with other agricultural development activities to increase agricultural production of our country.

As stated in the Theoretical Orientation of the study there can be many other factors, which were not considered in this study, which can have an influence on labour efficiency. Further studies will have to be undertaken to consider these factors also. Statistical techniques like factor analysis can be used to isolate the important factors from among the many possible factors.

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APPENDICES

Appendix I

Extent of High Yielding Variety Paddy coverage and Coconut seedlings distribution in the Intensive Paddy Development Units of Trivandrum District

No.	Name of I.P.D.Unit	Area under Paddy (Virippu + Munda kan (in ha.) H.Y.V.	Total	H.Y.V. coverage (%)	Coconut seedlings distributed No.	% of the total for the district
1	2	3	4	5	6	7
1	Amad	91	478	19.04	2165	3.81
2	Anakode	551	1216	45.31	2717	4.78
3	Anakudy	190	405	46.91	881	1.55
4	Anayara	N.A	N.A.	N.A.	1090	1.92
5	Andoorkonam	250	620	40.32	1069	1.88
6	Aruvikkara	82	237	34.60	522	0.92
7	Aryancode	268	1394	19.23	2220	3.90
8	Attingal	317	600	52.83	2169	3.81
9	Bharathanoor	135	393	34.35	3955	6.95
10	Chemmaruthy	188	416	45.19	1155	2.03
11	Chempazhanthy	168	420	40.00	735	1.29
12	Chirayinkil	335	815.2	41.09	1626	2.86
13	Corporation area	115	534	21.54	2400	4.22
14	Edakode	292	698.78	41.79	1330	2.34
15	Edava	127	481	26.40	951	1.67
16	Elakamon	117	500	23.40	475	0.84
17	Karavaram	237	818	28.97	1415	2.49
18	Kilimanoor	262	1074	24.39	2555	4.49
19	Kollayil	167	427	39.11	1195	2.10
20	Konchira	228	392	58.16	635	1.12
21	Kunnathukal	N.A.	N.A.	N.A.	1255	2.21
22	Kunnida	211	408	51.72	2465	4.33

contd..

Appendix I (contd.)

1	2	3	4	5	6	7
23	Manampoor	N.A.	N.A.	N.A.	1035	1.82
24	Maranalloor	330	630	52.38	3129	5.50
25	Marukil	214	500	42.80	435	0.76
26	Mathaseerikonam	108	250	43.20	1289	2.27
27	Melkadakkavoor	135	400	33.75	932	1.64
28	Nagaroor	240	966	24.84	1452	2.55
29	Nanniyodu	N.A	N.A.	N.A	1930	3.39
30	Navaikulam	N.A.	N.A.	N.A.	871	1.53
31	Nellanad	293	438.7	66.79	661	1.16
32	Ottasekharamangalam	275	900	30.56	2906	5.11
33	Parassala	194	1060	18.30	1303	2.29
34	Perumpazhuthoor	218	648	33.64	1411	2.48
35	Pothencode	185	680	27.21	1825	3.21
36	Uzhamalakkal	154	750	20.53	970	1.71
37	Vellanad	203	626	32.43	285	0.50
38	Venpakal	245	525	46.67	485	0.85
39	Vilappil	260	480	54.17	985	1.73
40	Tholicode	150	480	31.25	435	0.76
Mean				38.06		2.52

N.A. = Data not available.

APPENDIX II

A study on the influence of labour efficiency on the adoption of improved agricultural practices by farmers and factors related with it.

No.

Date

Department of Agricultural Extension, College of Agriculture, Vellayani, Trivandrum.

Schedule for farmers

1. Name :

2. Address:

3. Please mention the names and addresses of Men labourers engaged by you for doing agricultural operations in Paddy and Coconut for maximum number of days during the last year.

4. Name and Address of the selected Men labourer

5. For how many days you employ this labourer in an year . . . . . days

6. There are many qualities/characteristics that will distinguish the different agricultural labourers. Below are mentioned some qualities an agricultural labourer should have. You can give a maximum mark of 10 for each character. For example, with respect to interest in doing work, if you feel that the labourer is 'very much' interested in doing work, you can give 10 marks. If he is not having that quality/character, zero should be given. Please evaluate the Men labourer on the following qualities by giving marks.

	1	2	3	4	5	6	7	8	9	10
a. Quantity of work output per day										
b. Quality of the work done										

1	2	3	4	5	6	7	8	9	10

c. Interest in doing work
d. Skill in the work
e. General dependability
f. Knowledge of scientific agricultural practices
g. Responsibility
h. Punctuality
i. Sincerity
j. Obedience

7. Please mention the names and addresses of Women labourers engaged by you for doing agricultural operations in Paddy and Coconut for maximum number of days during the last year.

8. Name and address of the selected Woman labourer

9. For how many days you employ this labour in an year) . . . . . days

10. Please evaluate the Woman labourer as you have evaluates the Man labourer

1	2	3	4	5	6	7	8	9	10

a. Quantity of work output per day
b. Quality of the work done (oderliness, Neatness, Completeness etc.)
c. Interest in doing work
d. Skill in the work
e. general dependability
f. Knowledge of scientific agricultural practices.

Appendix II (contd.)

1	2	3	4	5	6	7	8	9	10

g. Responsibility
h. Punctuality
i. Sincerity
j. Obedience

(contd.)

11. Please give the details of the cultivation practices

a) Crop: Paddy Total area ..... H.Y.V. ..... (area) Local variety .... (area)

Agricultural operation.	Family labour		Hired labour						Inputs used		For how much time each operation is done by a labourer in a day, in how much area, etc.
	Men	Women	Men			Women			Name	Quantity	
			No	Wage		No	Wage				
				Cash	Kind		Cash	Kind			
1	2	3	4	5	6	7	8	9	10	11	12
Land preparation											
Ploughing											
Digging											
Clod breaking											
Levelling											
Forming bunds											
Manuring											
Bringing greenleaf manure, cowdung, fertilizer, etc.											
Application of fertilizer, organic manure											
	Local										
	H.Y.V.										
Top dressing	Local										
	H.Y.V.										
Liming											

(contd.)

Appendix II (contd.)

1	2	3	4	5	6	7	8	9	10	11	12
Quantity of seeds	Local										
	H.Y.V.										
Seed treatment											
Sowing											
Transplanting											
Irrigation											
Weeding											
Plant protection											
Harvesting											
Processing											
b) Crop: Coconut		Area.....									
Digging											
Taking basinc											
Bringing green leaf manure, cowdung, woodash fertilizer etc.											
Liming											
Growing green manure crops											
Plant protection											
Harvesting nuts and leaves.											
Collecting the nuts and leaves.											

12. How is the agricultural labour availability when the labour requirement is considered?

Much more than therequirement.	Just sufficient to satisfy the requirement.	Much less than the requirement
X.....X.....X		

13. Please mention the problems and limitations you have experienced with respect to labour in agriculture? (in the order of importance)

1.
2.
3.
4.
5.

14. Please mention your suggestion for improving the efficiency of agricultural labourers (in the order of importance)

1.
2.
3.
4.
5.

APPENDIX III

A study on the influence of labour efficiency on the adoption of improved agricultural practices by farmers and factors related with it.

No.

Date

Department of Agricultural Extension, College of Agriculture, Vellayani, Trivandrum.

Schedule for agricultural Labourers.

Name:

Address :

1. Age: years
2. Sex:
3. Caste:
4. Education: Illiterate/Can read only/Can read and write Primary School/Middle School/High School.
5. For long you have been working as an agricultural labourer ... years.
6. For how many days you are employed as agricultural labourer in an year?.....
7. House type: Hut/Brickwalled and roof thatched with coconut leaves) Brickwalled and tiled roof/cement plastered wall and roof thatched with coconut leaves/cement plastered wall and tiled roof.
8. Do you own land? Yes/No If Yes, Area.....
9. Do you cultivate Crops? Yes/No If yes.....

Crop	Area	Adoption of H.Y.V.		Adoption of Fertilizer application		Adoption of Irrigation		Adoption of Plant protection with Chemicals.	
		Yes	No	Yes	No	Yes	No	Yes	No

Appendix III (continued).

10. Can you say to which crop each of the following variety belongs?

	True/False		True/False
1. Triveni		5. Sabari	
2. T x D		6. Annapoorna	
3. Jyothi		7. Grosmichael	
4. Robusta		8. Bharathi	

b). Which of the following Chemicals are pesticides and which are fungicides.

	True/False		True/False
1. Ekalux		5. Metacid	
2. Hinosan		6. Sevin	
3. Dimecron		7. B.H.C	
4. Bordeaux mixture		8. Malathion	

c) Which crop is attacked by each of the following pests.

	True/False		True/False
1. Stemborer		5. Leafroller	
2. Rhinoceros Beetle		6. Bug	
3. Case worm		7. Aphid	
4. Rhizome weevil		8. Leaf thrips	

d) Which crop is infested by each of the following disease.

	True/false		True/False
1. Blast		5. Mahali	
2. Budrot		6. Leaf crinkling	
3. Bunchy top		7. Leaf Spots.	

e) Whether the following statements are true or false.

1- Seed treatment is done to control diseases.

2. Tillering decreases if depth of planting is increased in rice.

Appendix III (continued)

3. Tapioca sets should have their ends cut round and level.

4. Irrigation alone can increase coconut yield

5. Bunchy top can be controlled from spreading by spraying insecticides.

6. Suckers that arise before the bunching of banana should be destroyed.

f) For which crop and at what time and dose each of the following fertilizer should be used.

Fertilizer	Crop	Dose	Time of application
1. Urea			
2. Ammonium Sulphate			
3. Super Phosphate			
4. Muriate Potash			
5. Factamphos			
6. 8:8:16 Mixture			
7. 17:17:17 mixtures			

Following are some statements which people made. Please state

11 to what extent you agree or disagree with each of the statements.

	SA	A	UD	DA	SDA

a. Promoting agriculture is the way for our nation's property)

b. We should give more importance to agriculture than to indust in the coming years.

c. Only through agriculture employment opportunities can be provided to the increasing population of India.

d. A farmer has more financial security than a business man

e. One has ample opportunities in agriculture to practise his own abilities.

Appendix III (continued)

f. One has more freedom in agriculture than in any other occupation	S A	A	UD	DA	S DA
g. A farmer is not getting the social status than he deserves					
h. Poverty is there in all farming families					
i. Agriculture is dull occupation					
j. It is difficult to pull on life with agriculture done as the occupation.					
k. Only those people who are unable to for any other work will resort to Agriculture)					
l. Those who accept agriculture as the occupation are wasting their life.					

Following are some remarks made by some agricultural labourers. Please state to what extent you agree or disagree to than statements.

12. a. Agricultural Labour is one of the best jobs that I can get in my circumstances.

b. I like doing agricultural labour than any other occupation.

c. I like my children also becoming agricultural labourers in the future.

d. Even if wage is not increased in the near future, I will continue in this profession.

e. I feel much pride in doing agricultural labour

Appendix III (continued)

	S A	A	UD	DA	S DA
f. Doing agricultural labour is a useful job.					
g. This is a dull job					
h. Agricultural Labour has low social status					
i. I feel no loyalty to the profession					
j. Because I didn't get any other job I have accepted this one					
k. Any other job is better than this one					
l. I wish to give up this job and accept any other job					

13. Following are some remarks made by some agricultural labourers.

Please state whether you agree or disagree with them

	Agree/Disagree
a. The farmer is interested only in making the labourers to work hard.	
b. The farmer has no interest in the welfare of the labourers	
c. The farmer co-operates with the labourers to ascertain extent.	
d. The farmer let the labourers free to do work.	
e. The farmer understands well the difficulties and needs of the labourers and acts accordingly.	

Appendix III (continued) Agree/Disagree

f. Labourers get satisfaction if they work under this farmer only.

14. Following are true statements which people made

Please state to what extent you agree or disagree with the following statements.

	S A	A	U	D	S D A
a. It is better to meet a doctor than a 'Sidha/exorcist for cure of illness.					
b. It is through the advancement of Science, the human race has progressed.					
c. 'Papa' and 'Punya' 'Heaven' and 'Hell' are mere superstitious.					
d. Science can explain the mirracles and secrets of nature.					
e. Man's life is determined by his fate.					
f. Equal status of women with men is not desirable					
g. One should observe ancestor worship.					
h. It is true that 'Spirits' and 'ghosts' do exist.					
i. One should marry within his caste only.					
j. Science has benefittod human Society much more than the evil it has produced					

15. All of us want certain things out of life. If you imagine your future as an agricultural labourer in the best possible way what your life look like than if you are to be happy.

Appendix III (continued)

What are your hopes for the future?

a

b

c

d

On the contrary if you imagine your future in the worst possible light what would your life look like.

What are your worries and fears for the future?

a

b

c

d

How do you feel your present life?

much better | better | neutral | tiresome | much tiresome

How would be your life after five years?

much better | better | neutral | tiresome | much tiresome

Here is a picture of a ladder. Suppose we say that the top of the ladder represents the best possible life for you and the bottom represents the worst possible life for you.

In the light of your hopes and fears for the future where on the ladder do you feel you personally stand at step No.

Where on the ladder you think you would be five years from now step No.....

Appendix III (continued)

16. How often you are consulted/your opinion is considered by the farmer in making decisions regarding agricultural operation.

	Most often	Some times	Not at all
a. The farmer asks me when to start the agricultural operations in the Season			
b. He asks me how many labourers are to be engaged to do each operation.			
c. He asks me which variety seeds and seedlings are to be planted.			
d. He asks me which fertilizer should be purchased, the quantity to be purchased, from where it should be purchased and how it should be brought from there.			
e. He asks me similar questions when plant protection measures are to be taken.			
f. He asks me when the crop should be harvested.			
g. He enquires to me where the produce should be sold, how it should be sold and at what price?			
h. I use to help the farmer by giving my opinion.			
i. The farmer gives due weight to my opinion.			
j. The farmer doesn't like to as any opinion			
k. The farmer use to find faults with my opinion			
l. The farmer does the agricultural operations according to my opinion.			

17. Mention how much responsibility you feel yourself in increasing the agricultural production of the farmers.

Appendix III (continued)

17.

Very much responsible	Responsible	Undecided	Not responsible

18. Tell to what extent you agree or disagree with the following statements-

	SA	A	N	DA	SDA
a. Labour unions are a must for improving the life of Labourers.					
b. Periodical increase in wage is because of the labour unions.					
c. Labour unions help in effecting job permanance for labourers in the farms.					
d. Labour union help the build ng unity among the labourers.					
e. Labour unions help the labourers to be aware of their rights.					
f. Eventhough there are labour unions, they are not of much use to the labourers.					
g. Farmers hesitate to employ labourers involved in labour unions.					
h. Conflicts occur among labourers because of the Labour Unions.					
i. Job disputes have increased because of labour unions.					
j. After the unions have come into existance, the Labourers are not enjoying the benefits from the farmers as it was before.					

19. Are you a member in any of the Labour Unions?
Yes/no If Yes, are you a Member/President/Secretary.

Mention to what extent you participate in labour Union activities.

Active participation	Limited participation	No participation at all

Appendix III (continued)

20. State whether the following are true or false.

True/False

a. The minimum wage for agricultural male labourers has been fixed on by the Government of Kerala as rupees eight.

b. The minimum wage for agricultural female labourers has been fixed by Govt.of Kerala as rupees six and a half.

c. The Kerala Agricultural Labourers Act has come into existence for the Welfare of the agricultural labourer.

d. According to this Act there is provision for establishing Provident Fund for the agricultural labourers.

e. Following the Kerala Agricultural Labourers Act several regulations regarding agricultural labour came into effect.

f. Government has employed inspection to make sure that the the conditions as per the Kerala Agricultural Labourers Act are operated effectively.

g. As per the Kerala Agricultural Labourer's Act hours of work, daily intervals of rest wages etc.of the agricultural labourers have been fixed.

h. As per the regulations of agricultural labourers there is provision for the settlement of agricultural disputes.

i. The register that includes the name and details of each agricultural labourer in a Panchayat should be maintained as the Panchayat Office.

j. Each farmers should maintain the register and records regarding the labourers he employes

k. The Government of Kerala has decided to give a pension of fortyfive rupees per month to the agricultural labourers who have completed sixty years of age.

l. There is a programme in effect for the agricultural labourers and marginal farmers.

m. This programme is implemented by the small Farmers Development Agency.

Appendix III (continued)

n. The agricultural labourers who own a house and ten cents of land are included under this programme.

o. Subsidy is given for agricultural labouress buy agricultural implements, goats,cattle etc. through is programme.

21. Please mention your suggestions to improve the efficiency of agricultural Labourers? (in the order of importance)-

a.

b.

c.

d.

e.

ABSTRACT

This study on the influence or labour efficiency on the adoption of improved agricultural practices by farmers and factors related with it was designed to measure the relationship between efficiency of agricultural labourers and extent of adoption of the recommended practices of crops grown by the farmers employing them, as well as to study the factors associated with the efficiency of agricultural labourers. This study was conducted in Attingal and Edava I.P.D. Unit areas in Trivandrum District. This study covered the two types of agricultural labourers viz., Men labourers and Women labourers. The important findings were the following:-

1. There was significant positive association between efficiency of agricultural labourers and extent of adoption of the recommended practices of crops grown by the farmers employing them.

2. Majority of the agricultural labourers belonged to "Kuravar" caste, were illiterates, had low knowledge about the programmes for their development, had positive attitude towards agriculture, their job and labour unions, had very low levels of aspiration

(present and future), felt responsibility in increasing the agricultural production of the farmers and were employed for less than 30 days in an year under the same farmer.

3. Men labourers were older with higher levels of education, more experience, better knowledge of scientific agriculture and programmes for their development, had more involvement in decision making with the farmer and were more progressive, had more feeling of responsibility in increasing the agricultural production of the farmers and more total period of employment in an year than Women labourers.

4. Age and experience of agricultural labourers were significantly and negatively correlated with their efficiency.

5. Knowledge of development programmes for agricultural labourers, extent of participation in decision making with the farmer, attitude towards agriculture, attitude towards job, attitude towards employer, value orientation, feeling of responsibility in increasing the agricultural production of the farmers, and period of employment under the same farmer were significantly and positively correlated with labour efficiency.

6. Education, knowledge of scientific agriculture, level of aspiration (present and future) and total period of employment in an year were significantly and positively correlated with the efficiency of Men labourers, but not significantly correlated with the efficiency of Women labourers.

7. Caste and attitude towards labour unions were not significantly correlated with the efficiency of agricultural labourers.

8. Inter-correlation analysis indicated that the only factors that were not related were age and participation in decision making with the farmer, education and attitude towards job, and knowledge of scientific agriculture and attitude towards job. All the other variables were significantly inter-correlated.

9. The major problems related with agricultural labourers as mentioned by farmers were high labour charge, less quantum of work done by labourers and unavailability of labourers to satisfy labour requirement.

10. The important suggestions for increasing the efficiency of agricultural labourers mentioned by farmers were good supervision, friendly behaviour towards labourers.

and farmers should also work with the labourers. Permanent employment under a farmer and increasing the wage were the suggestions mentioned by the labourers.

11. The related findings revealed that the farmers of Kerala were almost completely dependent on hired labour. Wage rates were high in Edava area. There was division of labour between Men and Women with respect to different agricultural operations. Majority of the agricultural labourers were landless and lived in huts. The adoption rate of scientific agricultural practices of agricultural labourers was very low. Majority of the agricultural labourers were not members in labour unions. The few labourers who were members had only limited participation in labour union activities.