

**A STUDY OF THE IMPACT OF LAB-TO-LAND
PROGRAMME ON TRIBAL AND NON-
TRIBAL PARTICIPANTS IN KERALA
AGRICULTURAL UNIVERSITY**

By

V. K. SUDHA

THESIS

submitted in partial fulfilment of
the requirement for the degree

Master of Science in Agriculture

(Agricultural Extension)

Faculty of Agriculture
Kerala Agricultural University

Department of Agricultural Extension
COLLEGE OF HORTICULTURE
Vellanikkara - Trichur

1987

DECLARATION

I hereby declare that this thesis entitled
"A STUDY OF THE IMPACT OF LAB-TO-LAND PROGRAMME ON
TRIBAL AND NON-TRIBAL PARTICIPANTS IN KERALA AGRICULTURAL
UNIVERSITY" is a bonafide record of research work done by
me during the course of research and that the thesis has
not previously formed the basis for the award to me of
any degree, diploma, associateship, fellowship or other
similar title of any other University or Society.

Vellanikkara,

2-9-1987.


Sudha V.K.
2/9/87

SUDHA. V.K.

CERTIFICATE


Certified that this thesis, entitled 'A study of the impact of Lab-to-Land Programme on tribal and non-tribal participants in Kerala Agricultural University' is a record of research work done independently by Miss.V.K. Sudha, under my guidance and supervision and that it has not previously formed the basis for the award of any degree, fellowship or associateship to her.

Vellanikkara,
1987.




K.P. Ramachandran Nair,
Chairman,
Advisory Committee,
Associate Professor and Head,
Department of Agri.Extension,
College of Horticulture,
Vellanikkara.

APPROVED BY

CHAIRMAN : Sri.K.P. Ramachandran Nair 

MEMBERS : 1. Dr.G.T. Nair 

2. Dr.K. Mukundan 

3. Sri.V.K.G. Unnithan 

EXTERNAL EXAMINER :



ACKNOWLEDGEMENT

It is with deep sense of gratitude that I express my heartfelt thanks and indebtedness to Sri.K.P.Ramachandran Nair, Associate Professor and Head, Department of Agricultural Extension, Chairman of my Advisory Committee for his valuable guidance, constant encouragement and the abundant interest shown during the course of my research programme and in the preparation of this thesis.

My sincere thanks are also due to the members of the Advisory Committee, Dr.G.T. Nair, Professor, K.V.K. Pattambi, Dr.K. Mukundan, Professor, Department of Agricultural Economics and Sri.V.K.G. Unnithan, Associate Professor of Agricultural Statistics for their valuable suggestions for the successful completion of this research work.

I place my sincere gratitude to Dr.G. Balakrishna Pillai, Professor i/c., Central Training Institute, Mannuthy, for the interest he had shown in this research project and the unsparing pains he has rendered for the preparation of this thesis.

I also owe a great deal to Dr.C. Bhaskaran, Dr.R.M.Prasad, Asst. Professors, Department of Agricultural Extension, College of Agriculture, Vellayani and Sri.K. Abdul Karim, Junior Asst. Professor, Department of Agricultural Extension, College of

Horticulture, Vellanikkara for their valuable suggestions and the unstinted help offered at all stages of this study.

I also take the privilege to acknowledge the help given by Professor A.I. Thomas, Co-ordinator, Lab-to-Land Programme, Kerala Agricultural University and Project leaders at the various Lab-to-Land Centres for easy collection of data.

I am also happy to place on record my gratefulness to all my friends, particularly Miss.Santhi, C.U., Symbala.K.S. and Mr.Sanjeev.K.V. for the help rendered during my data collection and for the preparation of my thesis.

Profound thanks are due to Sri.K.A.Joy for the care and interest he has taken in typing this thesis.

My sincere thanks are also due to the Kerala Agricultural University for awarding me a merit scholarship for my post graduate studies.

I also take it as a duty to express my sincere thanks and indebtedness to my parents, brother and sister for their moral support which enabled me to complete this venture successfully.

Vellanikkara,
2-9-1987.

Sudha.V.K.
2/9/87
SUDHA. V.K.

CONTENTS

	Page
CHAPTER - I	
INTRODUCTION	1
CHAPTER - II	
THEORETICAL ORIENTATION	7
CHAPTER - III	
METHODOLOGY	29
CHAPTER - IV	
RESULTS	53
CHAPTER - V	
DISCUSSION	79
CHAPTER - VI	
SUMMARY	98
REFERENCES	:
APPENDICES	:
ABSTRACT	:

LIST OF TABLES

	<u>Page</u>
Table-1	
Distribution of participants of Lab-to-Land Programme from 1979-85 based on Caste.	30
Table-2	
Distribution of participant and non-participant respondents selected from Lab-to-Land Centres in Trichur District.	32
Table-3	
Distribution of participants of Lab-to-Land Programme based on their perception about the Programme.	54
Table-4	
Distribution of participants of the Programme based on their scientific orientation.	55
Table-5	
Distribution of Non-participants based on their scientific orientation.	56
Table-6	
Comparison of mean scores of the scientific orientation of the participants and non-participants and the significance of difference between their scientific orientation scores.	57
Table-7	
Comparison of mean scores of scientific orientation of Non-tribal participants and tribal participants and the significance of difference between their mean scientific orientation scores.	58

	<u>Page</u>
Table-8	
Comparison of mean scores of scientific orientation of non-tribal participants and non-tribal non-participants and the significance of difference between their mean scientific orientation scores.	59
Table-9	
Comparison of mean scores of scientific orientation of tribal participants and tribal non-participants and the significance of difference between the mean scientific orientation scores.	60
Table-10	
Distribution of participants and non-participants on their extent of adoption.	61
Table-11	
Comparison of mean scores of extent of adoption of participants and non-participants and significance of difference between their mean extent of adoption.	62
Table-12	
Comparison of mean scores of extent of adoption of non-tribal participants and tribal participants and the significance of difference between the mean extent of adoption scores.	63
Table-13	
Comparison of mean scores of extent of adoption of non-tribal participants and non-tribal non-participants and the significance of difference between the mean extent of adoption scores.	64

	<u>Page</u>
Table-14	
Comparison of mean scores of extent of adoption of tribal participants and tribal non-participants and the significance of difference between the mean extent of adoption scores.	65
Table-15	
Distribution of participants of the Programme according to independent variables selected for the study.	66
Table-16	
Distribution of non-participants of the Programme according to independent variables selected for the study.	69
Table-17	
Correlation between perception about Lab-to-Land Programme and independent variables in non-tribal participants and tribal participants.	72
Table-18	
Correlation between scientific orientation and independent variables in participants of the programme.	73
Table-19	
Correlation between scientific orientation and independent variables in non-participants of the Programme.	74
Table-20	
Correlation between extent of adoption of participants and independent variables.	75

	<u>Page</u>
Table-21	
Correlation between extent of adoption of non-participants and independent variables.	76
Table-22	
Constraints regarding the adoption of technologies transferred under the Programme by non-tribal participants.	77
Table-23	
Constraints regarding the adoption of technologies transferred under the Programme by tribal participants.	78

LIST OF ILLUSTRATIONS

<u>Figure No.</u>	<u>Title</u>	<u>Between pages</u>
1	Conceptual frame work of the study.	28 - 29
2	Map showing location of selected LLP Centres in Trichur District.	31 - 32
3	Distribution of participants according to their perception about Lab-to-Land Programme.	54 - 55
4	Distribution of participants of the Programme based on their scientific orientation.	55 - 56
5	Distribution of non-participants of the Programme based on their scientific orientation.	56 - 57
6	Distribution of participants and non-participants of the Programme based on their extent of adoption.	61 - 62
7	Distribution of participants of the Programme based on the independent variables selected.	68 - 69
8	Distribution of non-participants of the Programme based on the independent variables selected.	71 - 72
9	Rank order of constraints as perceived important by non-tribal participants of the Programme.	77 - 78
10	Rank order of constraints as perceived important by tribal participants of the Programme.	78 - 79

Introduction

CHAPTER - I

INTRODUCTION

With great advances in the development of science and technology one cannot just imagine that sufficient technology has been transferred to the rural masses for their all round development. It is not the availability of technology alone that matters, but, what the farmer does with it, ^{that} is of transcendent importance to the country's progress. The process of transfer of technology refers to any external effort in the form of technical advice, demonstrations, input supply, etc. which are beyond the indigenous capabilities of the recipients. The main objective of transfer of technology is to improve the innovative capabilities of the recipients and bring about discernible improvement in the quality of their life.

In agricultural sector where farm size is small, capital scarce and poverty rampant, good management is lacking and where farmer's attitude is rigid and conservative, new technologies are to be taught which may have functional and dysfunctional consequences. Apparently there must be a felt need on the part of the recipients. Necessary technology must be transferred carefully and efficiently for bringing about desirable

changes in the clientele.

There is no dearth in relevant technology available in the country. But there is a wide gap between the available technology and the actual utilisation of the same by the clientele. Nevertheless, there is a time-lag between the release of technology in the laboratories and its practical application in the field conditions. In order to overcome this problem, ICAR has taken up the task to ensure that the scientific innovations diffuse rapidly into the social system so that the technological gap gets reduced. The four transfer of technology programmes launched by ICAR in this direction are National Demonstration Scheme, Operational Research Project, Krishivigyan Kendras and the Lab-to-Land Programme.

Lab-to-Land Programme is a transfer of technology programme which was originated by Dr.M.S. Swaminathan, the former Director General of ICAR. It is with a view to commemorate the Golden Jubilee Celebrations of ICAR, this specific programme was launched during 1979-80 for the uplift of small and marginal farmers and agricultural labourers in the country. This programme had visualised a land to lab concept also at the operational level as constant feed back from the field also was expected to the Research System.

The Kerala Agricultural University also started the Lab-to-Land Programme during 1979-80. Agriculture is a major segment of economic development in Kerala.

* It accounts for 58 per cent of the State's income and the distinguishing features of Kerala are low per capita availability of land, high cropping intensity and diversified cropping pattern. The broad objectives of agricultural development in the State demands speedy transfer of technology to farmers. The Lab-to-Land Programme was launched in Kerala Agricultural University on par with the objectives set at National level. The weaker section of society comprising of small farmers, marginal farmers and landless agricultural labourers belonging to the Scheduled Castes, Scheduled Tribes and other Backward Communities are benefitted by the Programme. The Programme aims at the overall development of the rural poor through timely technical advice and input supply within available limits.

Importance of the study

The Lab-to-Land Programme was being implemented in the Kerala Agricultural University from 1979-80. Being a recent innovative approach of the ICAR, this Programme has won the support of the public and the

* SOURCE : LAB- TO- LAND PROGRAMME. Phase I, II and III. Directorate of Extension, Kerala Agricultural University, Mannuthy.

Programme could evoke considerable interest and enthusiasm among the beneficiary farmers. The farmers in these Lab-to-Land Centres were exposed to organised extension activities from time to time. Several inputs were distributed to the beneficiaries free of cost and timely technical advice was given by the officials. But so far, there is no systematic research study conducted in the Kerala Agricultural University as to how far this programme could achieve its intended objectives. For the successful implementation of the Programme, systematic evaluation is needed from time to time. The results of periodical evaluation may lead to concrete suggestions for future extension work. As the Lab-to-Land Programme is a continuing programme, the study will provide important hints on the strong and weak points of the Programme which will be useful to the various extension researchers and implementing agencies.

Objectives of the study

- 1) To study the perception about Lab-to-Land Programme by participant farmers.
- 2) To measure the scientific orientation of the participant farmers of the Programme Vis-a-Vis non-participant farmers.

3) To study the extent of adoption of technology transferred by participant and non-participant farmers.

4) To study the relationship of selected personal, socio-economic and socio-psychological characteristics of participants and non-participants with perception about Lab-to-Land Programme by the participants, scientific orientation of participants and non-participants and extent of adoption of technology transferred by participants and non-participants.

5) To identify the constraints in the adoption of technology transferred under the programme by the participants.

Limitations of the study

This study was restricted to Trichur District. A study of the tribal participants of the Programme had its own difficulties as the areas they dwell are remote, making it difficult to establish contacts with them. Moreover a student researcher has the limitation of resource, time and finance. Although the study may have some limitations in making generalisations to other areas, it is expected that the findings of this study would certainly provide definite clues for the successful implementation of the Programme

and in formulating future extension programmes.

Presentation of the study

The thesis is divided into six chapters. The first chapter deals with introduction, objectives, importance and limitations of the study. The second chapter deals with the theoretical orientation pertaining to the study area. The third chapter deals with the methodology comprising of the description of study area, selection of respondents, selection and empirical measurement of variables, tools for data collection and statistical techniques used. The fourth chapter deals with results of the study and the fifth chapter deals with discussion of the results obtained. The final chapter is summary and conclusion.

The references and appendices are given at the end.

Theoretical Orientation

CHAPTER - II
THEORETICAL ORIENTATION

A perusal of the available literature is of great importance in gaining insight into the directions of the research problem under study. In this chapter an attempt is made to review the related literature which will provide a basis for empirical investigation. The review is presented under the following heads.

- I. Concept of Lab-to-Land Programme.
- II. Impact of Lab-to-Land Programme.
- III. Perception about Lab-to-Land Programme.
- IV. Scientific orientation of participants and non-participants.
- V. Extent of adoption of technologies transferred.
- VI. Relationship of independent variables with dependant variables.
- VII. Constraints in the adoption of technologies transferred under the Programme.

I. Concept of Lab-to-Land Programme

The National Organising Committee (NOC) designated the Lab-to-Land Programme to mark the Golden Jubilee Celebrations of ICAR in the year 1979. The Programme

envisages a concerted and massive effort for the transfer of farm technology from laboratories to the cultivator's fields and homesteads. This Programme has been designed to involve the Scientist acting as a 'delivery mechanism' of the technology to the 'receiving or utilising mechanism' of selected farm families through direct contact. The main thrust of this Programme has been transfer of limited technology based on local conditions to selected farmers and providing them with necessary inputs free and in time.

The ICAR has fixed certain norms for selecting the farm families under this Programme. Villages having large proportion of small and marginal farmers and landless agricultural labourers belonging to Scheduled Castes and Scheduled Tribes were selected. The families were selected on a cluster basis to give a visible impact. After the selection of families a bench mark survey was carried out to know the existing status of farmers in terms of crops, livestock and fish production in addition to availability of local resources. Based on the survey results, individual farm plans were prepared and implemented.

The ICAR has also prescribed specific operational procedures for implementing the Programme. The Programme was implemented in different phases. The Phase I was from 1979-'82 and Phase II from 1982-'84. Phase III was from

1984-'85. Due to the encouragement received from the participating families, the Programme was extended further. The Programme is co-ordinated, monitored and evaluated by eight zonal units established in eight agro-climatic regions of the country. An inter-disciplinary team of scientists will carry out demonstrations in the farmer's field, organise exhibitions, kisan melas and field days to supplement the proven technology demonstrated. A 'feed forward' and 'feed backward' mechanism is a unique feature of the Programme.

II. Impact of Lab-to-Land Programme

Lab-to-Land Programme is an innovative programme. Hence, specific research studies on this subject are very few. In spite of the serious limitation of dearth of research studies, an attempt was made to collect the few available literature. In the few studies quoted below, the impact of Lab-to-Land Programme was measured in terms of adoption of transferred technology, income level, productivity etc.

Balasubramaniam (1981) reported that Lab-to-Land Programme brought an awareness among tribals about improved technology and extension agencies. However, technological gap was noticed in certain practices like seed treatment of cowpea

and use of super digest compost.

Ravichandran (1981) reported that there was several consequential changes in the beneficiaries of the Programme. The adoption rate increased and two-thirds of beneficiaries reported to continue adoption of recommended practices even in the absence of input supply. About half of the non-tribals and three-fourth of tribal cultivators had increased their income due to increased yield. There was an increase in per capita annual income in nearly 21 per cent and 13 per cent of non-tribals and tribals respectively.

Mishra and Jha (1985) found that the adoption score of participants of Lab-to-Land Programme was high compared to the score of non-participants. Productivity of crops and thereby the income of the participants was higher than non-participants.

Reddy and Daivadeenam (1985) found that 65 per cent of the small farmers and 80 per cent of the marginal farmers under the Lab-to-Lab Programme had got an increased yield. Among small farmers 59 per cent and among marginal farmers 72 per cent reported an increase in the income level. The Programme also provided a scientific outlook to 90 per cent of the participants in each category.

III. Perception about Lab-to-Land Programme. Perception and it's meaning

Perception denotes sensory experiences which has gained meaning or significance. Hartley (1952) wrote that perception was not "mere sensation that results from exposing the eye to complicated patterns of light waves, but the process by which we register what is in the field of view in a way that is meaningful." They added that sensory experiences became percepts or perceptions when they were "according to our concepts of external world" interrupted.

Allport (1955) argued similarly that although perception involved to some degree an understanding awareness of objects, 'it is the way things look to us, or the way they sound, feel, taste or smell.'

Sherif (1956) mentioned "perceptual structuring is not only a cognitive affair, it is jointly determined by the totality of functionally related external factors and internal factors coming in the structuring process at a given time.

Blalock (1963) mentioned the characters of perception as follows:

1. It was an individual matter. Thus there might be

as many different perceptions as there were individuals.

2. It must be considered and dealt with in terms of what the individual actually experiences.

3. It involved not only receiving stimuli but also interpreting and describing these stimuli in terms that were meaningful to the individual.

4. Various internal and external factors might influence both the interpretation of the stimulus and the response it was likely to evoke.

5. It was a dynamic phenomenon that might be continually changing within the individual.

Perception is a psychological phenomenon which is affected by one's subjective judgements and opinions. In this study an overall perception about the effectiveness of the different aspects of the programme is studied.

Studies on perception of functioning of developmental projects and organisations

Vijayaraghavan (1979) stated that in the Integrated Dryland Agricultural Project area, more or less equal percentage of participants (45.00 and 43.33 per cent) felt that the efforts made by extension workers was 'less' and

to 'certain extent' respectively. With regard to supplies and services most of the participants (81.6 per cent) stated it as 'least in time' while 50 per cent considered it as 'most adequate.'

Balu (1980) reported that more than half of the beneficiaries of IADP perceived the efforts on publicity of IADP as better. Most of the participants indicated, the supplies and services arranged in relation to adequacy as 'mostly in time' and 'mostly adequate.' Majority of participants (96.67 per cent) were satisfied in their opinion about the working of the project.

Nandakumar and John Knight (1982) reported that majority of participants were satisfied with the working conditions of DPAP. Only a meagre per cent had neutral ideas and have expressed dissatisfaction. All participants perceived increase in knowledge about agriculture.

Ponnappan (1982) reported that 96 per cent of the beneficiaries of Fish Farmers Development Programme were satisfied with the functioning of the programme. About 86 per cent of the beneficiaries felt the impact of increased income due to participation in the programme.

Shivakumar (1985) studied the perception of farmers about research stations and research workers. He found that there was significant difference in farmer's perception about research station and research workers between the surrounding farmers and distant farmers. A more favourable perception was found to be associated with neighbouring farmers than the distant farmers.

IV. Scientific orientation of participants and non-participants.

Lab-to-Land Programme is an educational programme. For the successful achievement of the objectives of the programme the scientific outlook or scientific orientation of the farmers is of importance. Since both tribals and non-tribals are studied in this research work, a study of the scientific orientation of these groups will be interesting and the influence of the farmer's characteristics to this variable can be expected to bring forth some results.

According to Supe (1969) scientific orientation is the degree to which a farmer is oriented to the use of scientific methods in decision making in farming.

For this study scientific orientation is operationalised as the degree to which a farmer is oriented to the use of

scientific methods in agriculture.

Scientific orientation is usually taken as an independent variable. Since the scientific background of the farmers has due importance in this study, this variable was taken here as a dependent variable. However, literature on scientific orientation as a dependant variable is almost absent.

V. Extent of adoption of improved practices

Wilkening (1952) postulated adoption of innovation as a process composed of learning, deciding and acting over a period of time. The adoption or a decision to act has a series of actions and thought decisions.

Copp et al., (1958) defined adoption as an activity of farmers taking place over a period of time. They perceived adoption of farm practises as a bundle of related events flowing through time, not an instantaneous metamorphosis.

Emery and Oeser (1958) viewed adoption of farm practice as a consequence of communication.

According to Ramsey et al., (1959), adoption behaviour involved two components - behavioural, which involves the actual use of the practice and cognitive which includes obtained knowledge and critical evaluation of the practice in terms of individual situations.

Rogers (1962) defined adoption process as the mental process through which an individual passes from the first hearing about an innovation to its final adoption.

Katz et al., (1963) defined diffusion adoption process as the acceptance over time of some specific items - an idea or practice by an individual, group or adopting unit limited to specific channels of communication to a social structure and to a given system of values or culture.

Chattopadhyaya (1963) viewed adoption as a stage in the adoption process where decision making is complete regarding the use of a practice and action with regard to such a decision commences.

Rogers and Shoemaker (1971) defined adoption as a decision to continue the full use of an innovation as the best course of action.

Adoption research became part of the main stream of

rural sociology in the early 1940's. Anthropologists like Suttle (1951) and Sharp (1952) attempted to emphasise the social consequences of innovations and their effects on adoption. Sociopsychological approach was the main criterion in Wilkening's (1952) researches. Sociometric analysis was utilised by Coleman (1955) in his study on adoption of Soil Conservation practices by farmers. He observed that the adoption of farm practices was influenced by social, psychological and economic factors of the individual respondents. Sawhney (1961) while examining the factors and forces contributing towards the wide difference in adoption and enhancing the process of acceptance, found that they can be explained better from social, psychological and economic point of view. Basaram (1966) conducted a study on motivational and resistance force related to acceptance of new ideas in Indian farming and concluded that sociological, psychological and economic variables of the farmers are important in explaining their attitude towards new ideas and techniques and final adoption of them.

VI. Independent variables and their relationship with dependent variables

Age, Socio-economic status, Income, Economic motivation, Management orientation, Extension orientation, Level of

Aspiration are the independent variable of the study. The relationship of these variables with perception, scientific orientation and extent of adoption are quoted in this sequence.

Age

Bhilegaonkar and Dakh (1978) reported that there was no significant relationship between age and utility perception of Mobile Farm Advisory Service.

Nandakumar (1980) reported that there was negative and significant relationship between age and perception about impact of DPAP.

No literature was available on the association between age and scientific orientation.

Balu (1980) and Sohi and Kherde (1980) reported no association between age and adoption.

Balasubramanian (1980) Sanoria and Sharma (1983) Yadav and Jain (1984) and Balkishan Singh, Mahipal and Tyagi (1985) reported that age and adoption was significantly correlated. Yadav and Jain (1984) and Balkishan, Mahipal and Tyagi (1985) reported a positive and significant association between age and adoption.

Manivannan (1980) Kamarudeen (1981) and Vijayakumar (1983) reported a negative and non-significant relationship between age and adoption level.

Socio-economic status

Nandakumar (1980) reported a positive and significant relationship between economic status and perception of impact of Drought prone area programme.

No study could be traced on the association between scientific orientation and socio-economic status.

Muthaya (1971) reported that the one's personal and socio-economic attributes, to a great extent contributed to ones level of aspiration which increased the adoption of new ideas.

Somasundaram (1976) reported no association between socio-economic status and adoption of small farmers.

Vijayaraghavan (1977) and Palaniswamy (1978) reported a positive and significant relationship between socio-economic status and adoption.

Sinha and Sinha (1980) reported that adopters had higher socio-economic status than non-adopters.

Sushama, Menon and Bhaskaran (1981) found that socio-economic status had significant correlation with adoption in more developed areas whereas in the less developed areas it showed a non-significant relationship.

Singh (1983) found that socio-economic status was significantly associated with level of adoption of farm mechanisation.

Yadav and Jain (1984) reported that higher the socio-economic status of farmers greater was the tendency towards adoption.

Income

No closely related studies could be reviewed on the relationship between income and perception.

Fliegal (1960) reported a positive relationship between farmers attitude towards science and their net farm income.

Palaniswamy (1978) Segar (1979) Balkishan Singh, Mahipal and Tyagi (1985) reported a positive and significant relationship between income and adoption.

Thankaraju (1979) and Thyagarajan (1979) reported there was no significant relationship between income and extent of adoption.

Economic motivation

No study closely related to find out influence of this variable on perception as well as scientific orientation could be reviewed. However it was decided to include economic motivation as one of the variables affecting perception and scientific orientation.

Das and Sarkar (1970) reported that economic motives of the adopter farmers are directly associated with the socio-cultural variables as age, education, family type, occupation, farm size, annual income, social participation and caste.

Rajendran (1978) reported that higher rate of adoption was demonstrated by farmers with high economic motivation.

Manivannan (1980) Aristotle (1981) reported a positive and significant association between economic motivation and extent of adoption.

Tyagi and Sohal (1984) reported that economic motivation had a positive and significant relationship with adoption of dairy innovations.

Singh and Ray (1985) found that economic motivation had direct influence on the use of fertilisers by farmers.

Management orientation

No closely related studies on the influence of management orientation on perception could be traced out. However this variable was decided to be included in the study as Lab-to-Land Programme involves the management of various crop and livestock enterprises.

Kamarudeen (1981) reported a positive and significant association between scientific orientation and management orientation of both neighbouring farmers and control farmers of National demonstration programme.

Samantha (1977) found that the cultivators with high management orientation were likely to repay the loan in time because they exhibited a high level of adoption.

Shanmukhappa (1978) pointed out the significant relationship between managerial ability of arecanut growers with their adoption of improved cultivation practices.

Bhaskaran (1979) reported a positive and significant correlation between management orientation and adoption in both less progressive and progressive villages and had no significant correlation with adoption in more progressive village.

Kamarudeen (1981) reported a positive and significant relationship between management orientation and extent of adoption of demonstrated cultivation practices.

Extension Orientation

Shivakumar (1983) reported a significant and positive association between farmer's degree of contact with research station and research workers and their perception about research station and research workers.

Shivakumar (1983) found that scientific orientation of a farmer had significant positive influence on his degree of contact with research station and research workers.

Singha et al., (1974) reported that extension contact did not show any significant association with adoption.

Gangappa (1975) and Mahadeva Swami (1978) found that farmers' contact with extension agency and their participation

in extension activities have got a positive influence on the adoption behaviour.

Bhaskaran (1979) found that extension orientation was significantly correlated with adoption while it was positively and significantly correlated with adoption in progressive villages. In the case of more progressive village extension orientation was correlated with adoption at one per cent level.

Kamarudeen (1981) found that there was positive and significant relationship between contact with extension agency and adoption of recommended practises.

Haraprasad (1982) reported a positive and significant relation between contact with extension agency and adoption behaviour of SFDA beneficiaries.

Sanoria and Sharma (1983) reported a significant association between adoption and contact with extension agencies in the beneficiaries of Lab-to-Land Programme.

Level of aspiration

No study could be traced on the association of this variable with perception and also on scientific orientation.

However, it was decided to include this variable in the study.

Muthaya (1971) reported that one's personal and socio-economic attributes to a great extent contributed to one's level of aspiration which increased the adoption of new ideas.

Chauhan (1976) stated that level of aspiration is an important factor in the adoption of scientific technology by the farming community.

Balasubramanian (1977) found no correlation between level of aspiration and adoption of improved cultivation practices of Ragi.

Rajendran (1978) reported that level of aspiration (future and past) of Rice farmers had significant influence on the adoption of High Yielding Varieties.

Sushama, Menon and Bhaskaran (1981) found that level of aspiration (past) and level of aspiration (future) had significant relationship with adoption behaviour of tribal people in Kerala.

Sanoria and Sharma (1983) established a significant relationship between aspiration and adoption behaviour of

beneficiaries of T & V system while they found that there was no relationship between aspiration and adoption behaviour of Lab-to-Land Programme beneficiaries.

The above studies revealed that the independent variables had significant relationship with extent of adoption of improved agricultural practices. The relationships of the independent variables with perception about Lab-to-Land Programme and with scientific orientation could not be fully established due to the dearth of research studies in these areas.

In these circumstances, it has become necessary to study the relationship of these independent variables with perception, scientific orientation and extent of adoption in the study area.

VII. Constraints in the adoption of technologies transferred under the Programme

Vijayaraghavan (1977) identified the constraints in the adoption of High Yielding Varieties of paddy by Small and Marginal farmers as lack of irrigation facility and non-availability of timely loans and local information.

Anonymous (1979) expressed that inadequate publicity

and low participation rate in SFDA programme were the reasons for less utilisation of various types of facilities available under the project by the target group.

Balasubramaniam (1981) identified poor socio-economic status, lack of credit facility, inadequate input supply and exploitation by village traders as the main constraints perceived by tribal beneficiaries of Lab-to-Land Programme.

Ravichandran (1981) identified insufficient infrastructure, low price for output, non-availability of credit and insufficient managerial service as the important constraints perceived by tribal and non-tribal beneficiaries of Lab-to-Land Programme.

Surendran (1981) identified labour problem, lack of transport facility, lack of credit facility and less land holdings as major constraints of Todas, a tribal group.

Waghmare and Pandit (1982) found that constraints perceived by tribal farmers in the adoption of wheat technology were, lack of knowledge, lack of technical guidance, high cost of chemical fertilisers, non-availability of plant protection equipments and lack of finance.

Bhoite and Nikalji (1983) found that factors responsible

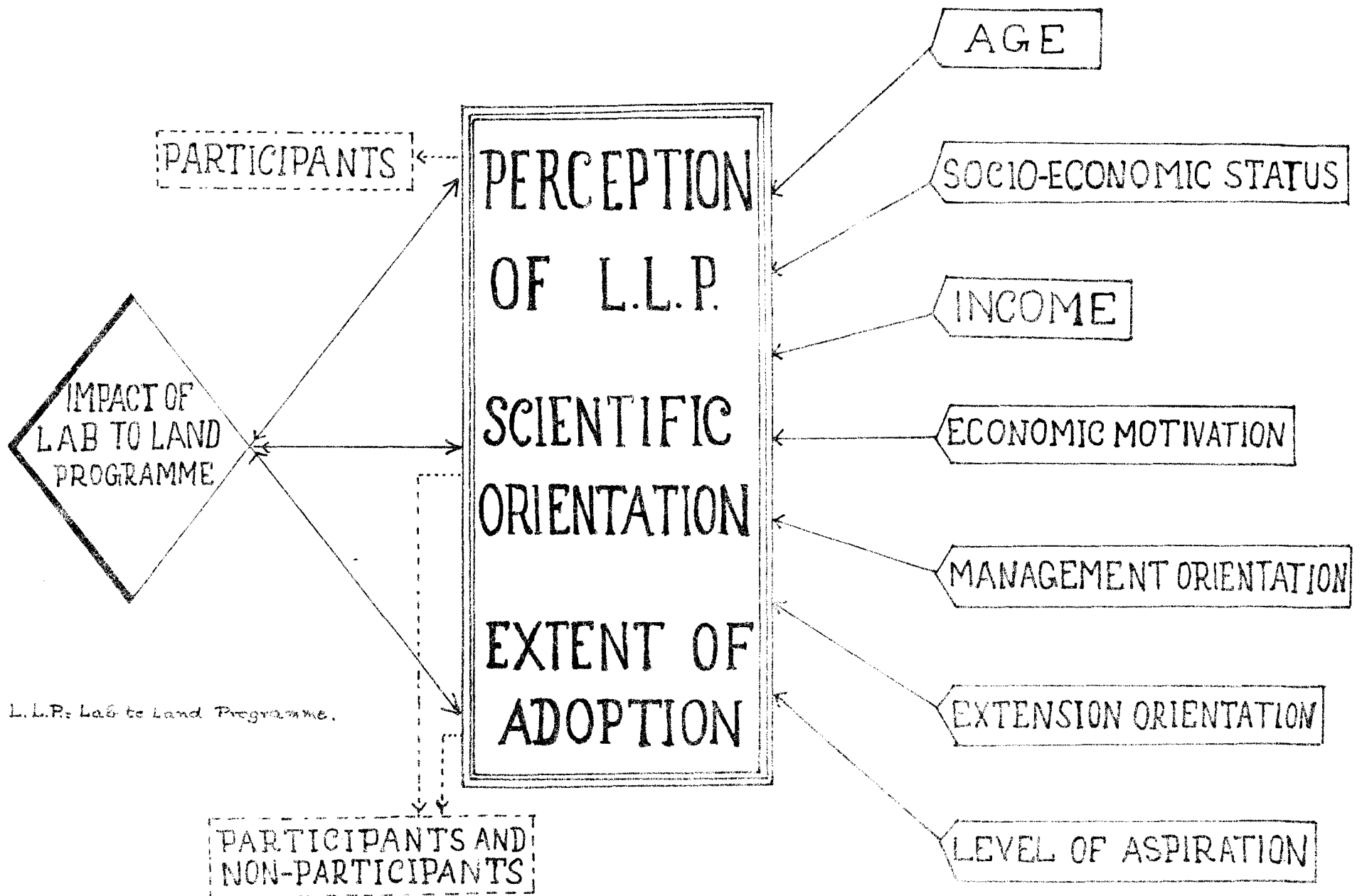
for non-adoption of dryland technology were inadequacy of capital, lack of knowledge, non-availability of technical guidance, non-availability of seeds, fertilisers, implements and uneconomic holding size.

Kulkarni and Sangle (1984) reported that non-compatibility of recommended technology, insufficient supply of inputs and credits, and lack of knowledge about technology were the important constraints responsible for increasing the technological gap in tribal farming system.

Waghmare and Waghmare (1985) derived the constraints in transfer of wheat technology. They found that high cost of labour, high cost of inputs and non-availability of finance in time, as the main impediments for the speedy transfer of technology.

There are no research studies on the constraints in the adoption of technology transferred under Lab-to-Land Programme in Kerala Agricultural University. Hence the proposed study is a pioneer attempt in this direction.

FIGURE. 1
CONCEPTUAL FRAMEWORK OF THE STUDY.



Methodology

CHAPTER - III

METHODOLOGY

This chapter enunciates the investigation methods and procedures adopted in the study. The methods and procedures followed are presented under the following sub-heads.

- A. Lab-to-Land Programme in KAU.
- B. Location of study
- C. Sampling procedure
- D. Selection of technologies transferred included in the study
- E. Selection and empirical measurement of variables
- F. Procedure for data collection
- G. Statistical techniques used

A. Lab-to-Land Programme in KAU.

As in the national level the Programme was implemented in different phases in the State. The target assigned to Kerala Agricultural University in the Phase I, covering the period from 1979-82, was to cater to the needs of 750 families. The Phase II of the Programme had a coverage of 1100 families. A cluster approach was adopted for selecting participants from

the Phase II onwards. In Phase III (1984-85) 1100 farm families were adopted mainly for the development of homesteads and for area development programme. Due to the spectacular responses received from families, the Programme was extended further in the State.

There are 32 Transfer of Technology (TOT) centres in Kerala Agricultural University distributed throughout the State. In most of the centres 25 families each were selected. Two tribal colonies selected are Amboori tribal colony in Trivandrum district and Chalakudy tribal colony in Trichur district.

Table-1. Distribution of Participants of Lab-to-Land Programme from 1979-85 based on Caste

Year	SC	ST	OBC	Others	Total
1979-82	96	18	38	598	750
1982-84	298	206	245	351	1100
1984-85 (First year of Phase III)	337	149	344	270	1100

Source: Lab-to-Land Programme, Phase I, II and III 1979-1985. Directorate of Extension, Kerala Agricultural University.

The participants were selected on a cluster approach giving priority to weaker sections of the society.

B. Location of study

The present study was taken up in Trichur District. *Trichur district was selected for the study considering the fact that maximum number of tribal participants of Lab-to-Land Programme was available in Trichur district only.

The location of study area in Trichur district is given in Figure (1).

C. Sampling Procedure

The participants in the Phase III (1984-85) of the Programme was selected for study. From each Lab-to-Land centre, both participants and non-participants were selected. Participants for the study were selected on a random basis from each centre, sample size being proportionate to the total families selected in each centre under the Programme. An equal number of non-participants were also selected from each centre having similar characteristics, ie, belonging to the weaker sections of the society according to probability proportionate to size. Altogether 120 respondents were selected for the study. Sixty respondents from participant group and sixty respondents from non-participant group formed the sample for the study.

* Source : LAB-TO-LAND PROGRAMME. Phase I, II and III. Directorate of Extension, Kerala Agricultural University, Mannuthy

FIGURE. 2

MAP SHOWING LOCATION OF SELECTED LLP CENTRES IN TRICHUR DISTRICT.

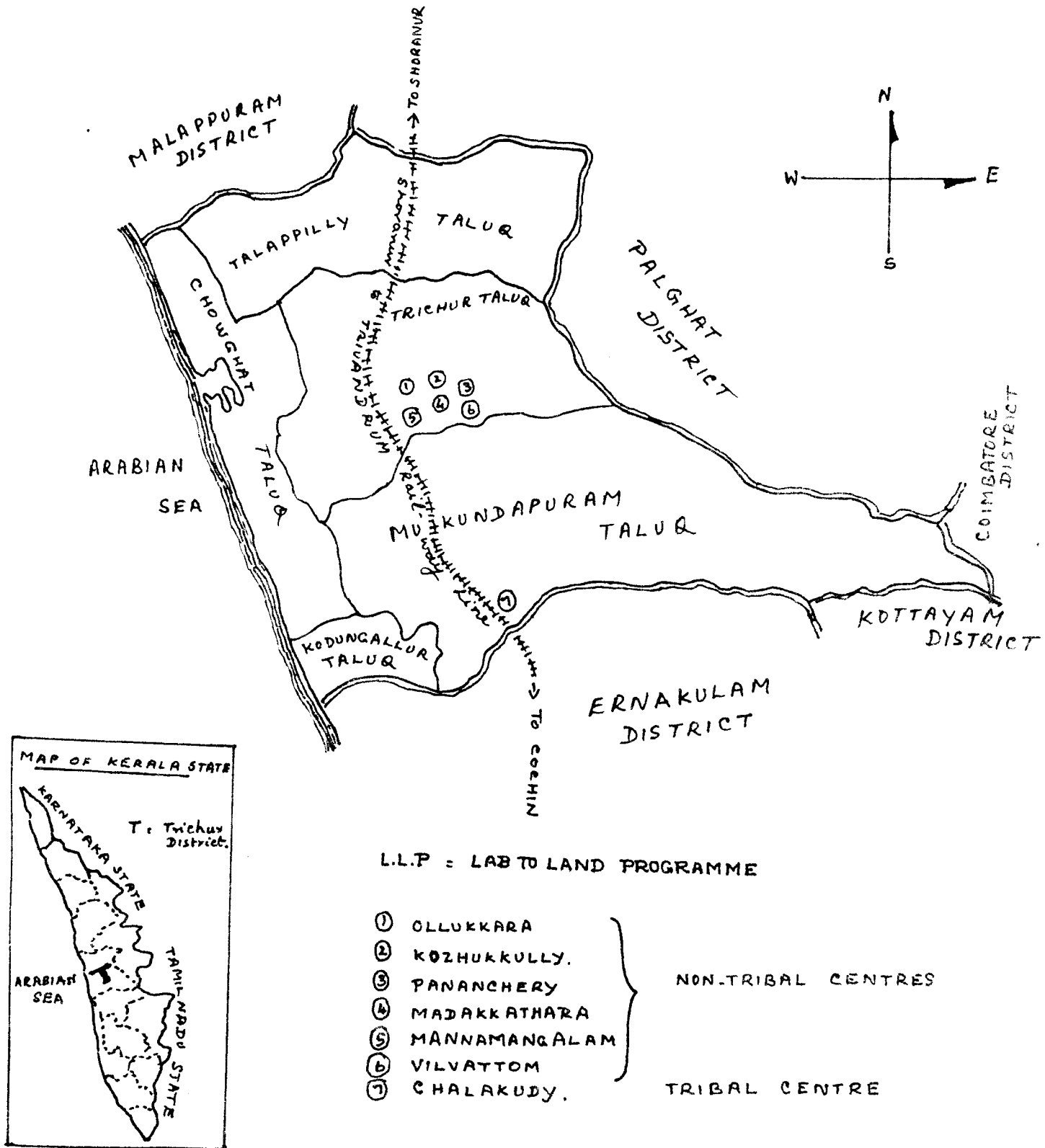


Table-2. Distribution of participant and non-participant respondents selected from Lab-to-Land Centres in Trichur District.

Name of Lab-to-Land centre	Total families selected under the programme in Phase III (1984-85)	No. of participants selected for the study	No. of non-participants selected for the study
Vilvattom	50	10	10
Panancherry	25	5	5
Ollukkara	25	5	5
Mannamangalam	25	5	5
Madakkathara	25	5	5
Kozhukully	25	5	5
Chalakyudy	25	5	5
Tribal colony	100	20	20
Total	300	60	60

D. Selection of technologies transferred included in the study

The technologies transferred under this Programme in Kerala Agricultural University comprises a mixed farming approach based upon individual homesteads incorporating Agriculture, Horticulture, Animal Husbandry, Poultry and Fish Farming.

Critical inputs supplied for the participants include seeds, seedlings, fertilisers, supplementary feed, Poultry, Goat, Beehives, Fingerlings and Agricultural Implements.

For this study a few practices under crop enterprise and livestock enterprise were taken into account based on the observations of pilot study. The crops selected were Coconut, Banana and Pepper. The livestock enterprise includes Goat and Poultry rearing.

The following practices were selected for the various enterprises based on the opinion of experts in Kerala Agricultural University and based on the importance of these practices as revealed during the pilot study.

1. Coconut : Variety cultivated, spacing, chemical fertilisation, use of Plant Protection chemicals.
2. Banana : Variety, spacing, chemical fertilisation, use of Plant Protection chemicals.
3. Pepper : Variety, Organic manuring, Chemical fertilisation, use of Plant Protection chemicals.

4. Goat : Breed, Housing system, Concentrate feeding.
5. Poultry : Breed, Concentrate feeding, Preventive vaccinations.

Extent of adoption by participants and non-participants of the Programme for the above practices were studied.

E. Selection of Variables and its empirical measurement

Based on the specific objectives and review of past studies and in consultation with experts in the field of Agriculture and Tribal development, the following variables were selected for study. A pilot study was also conducted before the finalisation of variables.

I. Dependent variables

1. Perception about Lab-to-Land Programme by participants.
2. Scientific orientation of participants and non-participants.
3. Extent of adoption of technologies transferred by participants and non-participants.

II. Independent variables

Age

Socio-economic status

Income

Economic motivation

Management orientation

Extension orientation

Level of Aspiration

I. Measurement of dependent variables

1. Perception about Lab-to-Land Programme by the participants

Perception is operationalised as the meaningful sensation of the farmer about the Lab-to-Land Programme of the Kerala Agricultural University. An overall perception about the different activities of Lab-to-Land Programme in the Kerala Agricultural University is studied.

Murthy et al., (1973) developed a scale to measure the differential perception of adopters and non-adopters. The perceptual field relating to the adoption process was classified into few sub-dimensions and responses in all sub-dimensions were arranged starting from 'most positive' through 'neutral' to 'most negative perception'.

Shivakumar (1983) studied the perception about research

station and research workers by farmers. He developed a set of perception statements and responses were collected on a three point continuum. The scoring pattern followed was a score of 'three' for 'very true' response, a score 'two' for 'true to some extent' response and 'one' for 'not at all true responses', in the case of positive statement. For negative statements the scoring pattern was in reverse order.

In this study, a scale was developed for the purpose to measure perception about the Programme. Based on review of literature and discussion with experts a set of 29 statements were collected from the universe of content whose relevancy was checked by giving to Lab-to-Land Project leaders and other experts. Finally a set of 14 statements with values above median were selected and represented on a four point continuum. A score of 'four' was given for 'very effective response', a score 'three' for 'effective' response, a score 'two' for 'less effective' response and 'one' for 'least effective' response. Total score for each respondent was found out which represented his perception score. The mean value was found out and respondents were classified as high perception group and low perception group.

Reliability of the scale

A scale is reliable only when it will consistently

produce the same results when applied to the same sample. Guilford (1954) had defined reliability as the 'proportion of variance in obtained test scores'. In this scale, the reliability was worked out by split half method.

Split half method: The scale was administered to 20 respondents. The statements were split into two halves on the basis of odd and even numbers and their scores added up. Correlation coefficient for the two set of scores was calculated and it was found to be 0.7595. Applying the Spearman-Brown's formula, to find out the reliability of the scale at full length, the value obtained was 0.863. This revealed that the reliability of the scale was high.

Spearman-Brown's formula = $\frac{nr}{1+(n-1)r}$ where n = No. of groups
r = correlation coefficient

Validity of the scale

The validity of a scale depends upon the fidelity with which it measures what it purports to measure. The scale developed was tested for the content validity and construct validity.

Content validity

The main criterion for content validity is how well the contents of the scale represent the subject matter under

study. The present scale had this validity since all the possible items within the universe of contents had been included after consultation with experts in the field.

Construct validity

This was tested by calculating the correlation coefficient between extension orientation and perception about Lab-to-Land Programme scores of 20 respondents. The correlation coefficient was 0.924 which was significant. Hence it was concluded that the scale had construct validity.

2. Scientific orientation of participants and non-participants

Scientific orientation is operationalised for the study as the extent and degree of scientificism in the positive operational behaviour of the farmers.

The scientific orientation scale developed by Supe (1969) was used to measure this variable. His scale consisted of six statements of which one statement was negative. The responses were collected on a five point continuum as shown below.

Points on the continuum	Scores
Strongly Disagree	1
Disagree	3
Undecided	4
Agree	5
Strongly Agree	7

The scoring pattern was reverse for the negative statement. Total score obtained by each respondent represented his scientific orientation score. The mean value was found out and respondents were grouped as high scientific orientation group and low scientific orientation group.

3. Extent of adoption of technologies transferred by participants and non-participants

For the purpose of this study, extent of adoption was operationalised as the degree of observable action, in the form of use of the selected practices of crop, livestock and other connected enterprises recommended under the Lab-to-Land Programme.

Many researchers have developed various methods to measure adoption behaviour.

Wilkening (1952) used an index for measuring the adoption of improved farm practices. The index of adoption used was the percentage of practices adopted to the total number of practices applicable for the adoption studied.

Fliegal (1956) constructed an index of adoption of farm practices using the correlation of several adoption variables, non-adoption was given a score of '0' and adoption a score of '1'.

Beal and Rogers (1960) developed an adoption scale for measuring the adoption of a practice. They studied in detail the adoption of two farm practices. This scale was computed which credited an individual with '1' score for adoption and '0' score for non-adoption of the practice.

Chattopadyaya (1963) used adoption quotient for measuring adoption behaviour. This is a ratio scale that measures a farmer's behaviour on dimension of applicability, potentiality, extent, time, consistency and differential nature of innovation.

Sundara Swamy and Duraiswamy (1975) developed 'Adoption Quotient' to measure the adoption behaviour. They took 13 practices and farmers were classified as low adopters (A.Q 10-40%) medium adopters (A.Q 40-80%) and

high adopters (A.Q 80-100%).

In this study an adoption scale was developed to suit the purpose as given below.

Based on the pilot study two main enterprises ie, crop enterprise and livestock enterprise were identified. Three crops namely Coconut, Banana and Pepper were included under the crop enterprise. Rearing of goat and poultry was the livestock enterprises considered. Four recommended practices in each of the crop enterprise and three recommended practices in each of the livestock enterprise was considered. A score '1' was given for adoption of the practice and '0' for non-adoption. Mean adoption score for the two enterprises was found out which represented his adoption score. Extent of adoption was calculated using the formula

$$e = \frac{\text{No. of practices adopted by the respondent}}{\text{No. of practices that can be adopted by the respondent}} \times 100$$

Based on the extent of adoption the respondents were grouped as High adopters (e, 75.1-100%) High medium adopters (e, 50.1-75%) Low medium adopters (e, 25.1-50%) Low adopters (e, 0.1-25%) and Non adopters (e, 0.00%). This method of classification was followed by Sohal and Makkar (1973).

Measurement of independent variables

Age: Age is operationalised for the study as the number of years the respondent has completed at the time of his study since his birth. Mean value was found and above mean represented old and below mean as young farmers.

Socio-economic status

In this study socio-economic status refers to the respondent's occupation, education, social participation, land, house, farm power, material possession and family. The socio-economic status scale developed by Trivedi (1963) and suitably modified by Sushama (1979) was used for the study. The assignment of scores for the various socio-economic items were as follows.

a. Occupation	Score
Agricultural Labour	1
Collection of forest produce	2
Business (specify)	3
Independent Profession (specify)	4
Own Cultivation	5
b. Education	Score
Illiterate	0

Can read only	1
Can read and write	2
Primary	3
Middle	4
High school and above	5

Both husband's and wife's education was considered.

c. Social Participation **Score**

1) 1. No membership in any of the organisations	0
2. Membership in each organisation	1
3. Office bearer in each organisation	2

ii) Frequency of attending meetings

1. Not attending meetings	0
2. Attending few meetings	1
3. Attending all meetings	2

d. Land **Score**

Less than 50 cents	0
50-100 cents	1
1-2 acres	2
2 acres and above	3

e. House **Score**

a) Hut (one room)	1
Thatched	2
Tiled	3

Terraced	4
b) Plastered	1
Not Plastered	0
c) Electrified	1
Not electrified	0

f. Agricultural implements

Items considered under this were (1) Draught animal (2) Pumpset (3) Sprayer (4) Spade (5) Pickaxe (6) Reaper (7) Axe (8) Cycle (9) Radio (10) Watches (11) Chairs (12) Cots. For the above items current market price was found out. For every Rs.1000 worth possession a score 'one' was given.

g. Livestock	Score
Cow	3
Buffaloe	3
Goat	2
Poultry	1
h. Family type	Score
Nuclear	1
Joint	2

Total score of the respondent was taken as his socio-economic status score. The mean value was found out and above mean represented high socio-economic status

group and below mean, low socio-economic status group.

Income

Income refers to the total farm and non-farm income of the family per year. For every Rs.1000 income a score 'one' was given. Mean value was found and above mean was taken as high income group and below mean low income group.

Economic motivation

Nair (1969) defined economic motivation of farmers as their attitude towards farming, as a profit oriented enterprise. The definition given by Nair (1969) was followed in this study.

Moullick (1965) developed a scale for measuring this variable. The scale developed by Supe (1969) was used in this study. This scale consisted of six items against a five point range from 'strongly agree' to 'strongly disagree'. There were five positive items and one negative item. The scoring adopted was as follows.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Positive item score	7	5	4	3	1
Negative item score	1	3	4	5	7

The total scores of the respondent was taken as high score for economic motivation. Mean value was taken and above mean was treated as high economic motivation and below mean as low economic motivation group.

Management orientation

Management orientation has been operationally defined as the degree to which the farmer is oriented towards scientific farm management comprising of planning, production and marketing functions on his farm enterprise.

The scale developed by Samantha (1977) was used to measure this variable.

It consisted of 18 statements, six statements each for planning, production and marketing orientations. In each group positive and negative statements were mixed retaining at the same time a more or less psychological order of the statements. In the case of positive statements

a score 'one' was given for agreement and 'zero' for disagreement. For negative statements the pattern was reverse. The total score obtained by respondent was taken as his score for management orientation. The mean value was taken and above mean represented high management orientation group and below mean low management orientation group.

Extension orientation

Extension orientation index developed by Bhaskaran (1979) was followed in this study. This scale consists of two major items. 1) Extension contact (2) Extension Participation.

a) Extension Contact:

The extent of extension contact was computed by giving scores to the items as given below.

Frequency of meeting Agricultural University Scientists/
Extension Officers/Demonstrators.

	Score
Two or more times a week	3
Once in a week	2
Once to thrice a month	1
Never	0

b) Extension participation

Based on the pilot study the following activities were included to evaluate the extension participation of repondents.

- 1) Seminar
- 2) Group discussion
- 3) Farmer's meetings
- 4) Demonstrations
- 5) Exhibitions
- 6) Film show.

The respondents participation in the above extension activities in the year 1984-85 was used to arrive at extension participation score.

Frequency	Scores
Never	0
Not attending all activities whenever conducted	1
Attending all activities whenever conducted	2

Score obtained for both the sub items by each respondent was calculated. Mean extension orientation value was found and respondents were grouped as high extension orientation group and low extension orientation group.

Level of aspiration

The concept of level of aspiration was first introduced by Dempo (Gardner, 1940) with reference to the degree of

difficulty of the goal which a person is striving to achieve.

In this study level of aspiration is operationalised as the farmer's level of wishes and hopes to attain higher standards of living.

Chattopadyaya (1963) used a semistructured projective technique to measure level of aspiration of farmers.

Cantril and Free (1962) developed a self anchoring striving scale for measuring the general level of aspiration. This method was also known as 'Ladder technique'.

Muthaya (1971) assessed aspiration of farmers using Cantril's pictorial self anchoring ladder scale with slight modifications. This scale was used in this study. It was a seven point ladder scale, step seven indicates 'High satisfaction'. The individual was asked where on the ladder he felt he belonged at the present and where he thought he would stand after three years. The steps were given scores ranging from one to seven. Thus for each respondent two types of scores for present and future was obtained. The difference between present and future scores represented the level of aspiration. Mean value was found out and above mean was taken as high aspiration and below mean low

aspiration.

Constraints in the adoption of technologies transferred
under the programme

Based on the pilot study and consultation with Lab-to-Land Project leaders, a list of 19 constraints were included in the interview schedule. The respondents were asked to identify each constraint as 'most important' and or 'least important'. A score 'one' was given if the constraint was perceived as 'most important' and zero score for the constraint perceived as 'least important'. The rank order of the constraints was determined based on the total score for each constraint.

F. Procedure for data collection

The draft interview schedule constructed was pre-tested and in the light of the results, necessary modifications were made. The final interview schedule was then administered through personal interview. The interview schedule is given in Appendix I. The data was collected during the months of September-October, 1986. The schedule was translated into malayalam before administering to the respondents.

Statistical techniques

The data for advanced statistical procedures were processed at the Computer Centre, Kerala Agricultural University, Vellanikkara. For analysis of data the following statistical tests and procedures were applied.

For making simple comparisons, percentages were worked out.

't' test

The 't' test of significance of difference between means was employed to compare the participants and non-participants with respect to their scientific orientation and extent of adoption.

The formula used was

$$t_{n_1 + n_2 - 2} = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{s^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where \bar{x}_1 = mean of sample 1 n_1 = size of sample 1
 \bar{x}_2 = mean of sample 2 n_2 = size of sample 2

$$s^2 = \frac{(n_1 - 1) s_1^2 + (n_2 - 1) s_2^2}{n_1 + n_2 - 2}$$

s_1^2 = mean square for sample 1

s_2^2 = mean square for sample 2

In cases where the variances were not found to be equal the Cockran's approximate test was employed.

Correlation

Correlation coefficient is a measure of the intensity of association between two or more variables. Correlation was worked out to test the intensity of association between dependent and independent variables.

Results

CHAPTER - IV

RESULTS

The results of the study in accordance with the objectives are presented in this chapter under the following sub-heads.

- I. Perception about Lab-to-Land Programme.
- II. Scientific orientation of participants and non-participants of the Programme.
- III. Extent of adoption of transferred technology by the participants and non-participants of the Programme.
- IV. Distribution of participants and non-participants of the Programme according to independent variables selected for the study.
- V. Correlation between independent variables and dependent variables of the study.
- VI. Constraints regarding the adoption of transferred technology under the programme by tribal and non-tribal participants.

RESULTS

I. Perception about Lab-to-Land Programme

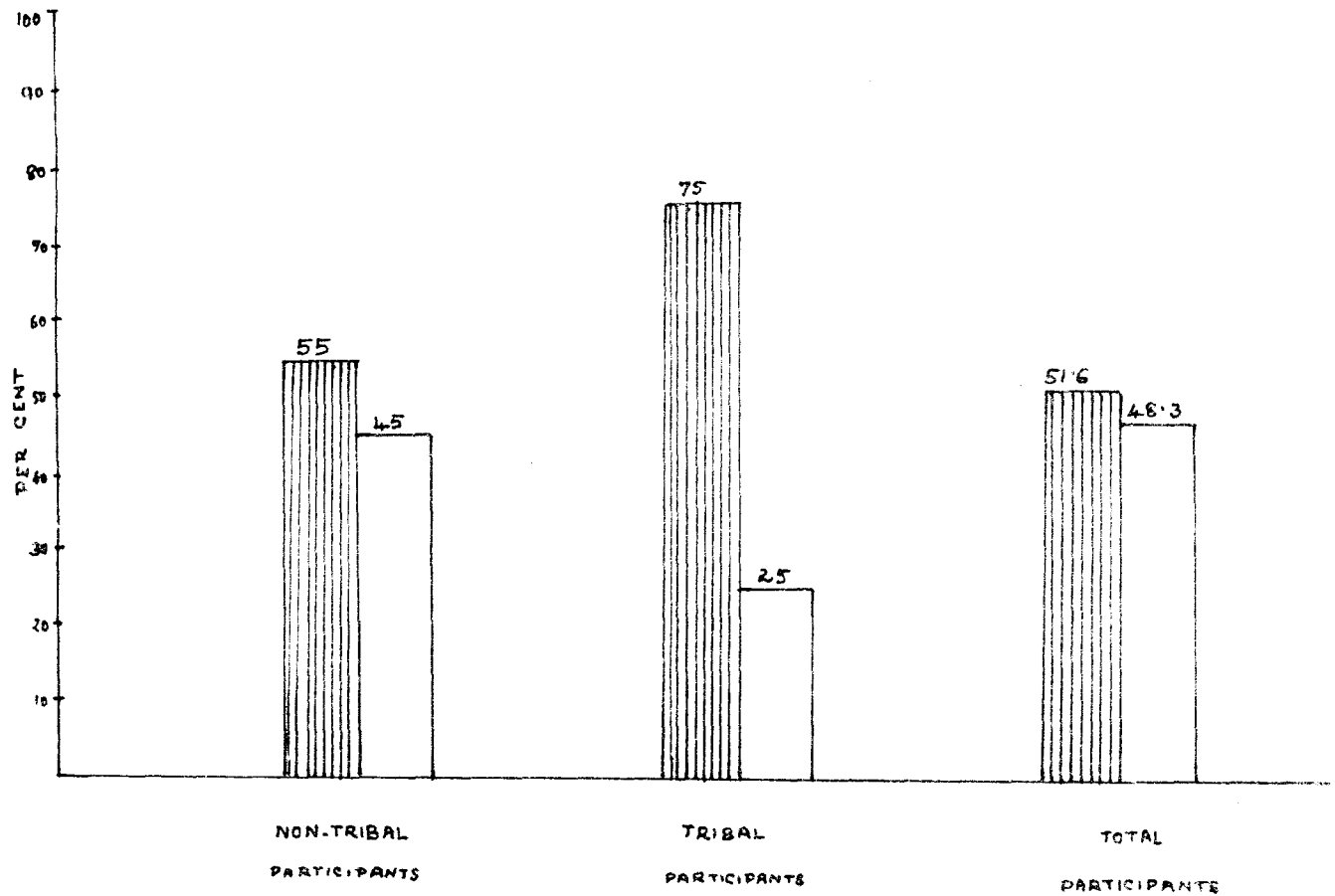
Table-3. Distribution of Participants of Lab-to-Land Programme based on their perception about the Programme

	Non-tribal Participants N = 40 \bar{x} = 45.15		Tribal participants N = 20 \bar{x} = 37.05		Pooled sample N = 60 \bar{x} = 42.45	
	Frequency	Percent- age	Frequency	Percent- age	Frequency	Percent- age
High	22	55.00	15	75.00	31	51.60
Low	18	45.00	5	25.00	29	48.40
Total	40	100.00	20	100.00	60	100.00

It is seen from Table-3 that 55 per cent of non-tribal participants and 75 per cent of tribal participants belonged to high perception group. Distribution of participants was almost equal in the two groups, as revealed by the data of pooled sample. A diagrammatic representation is given in Figure-3.

FIGURE 3.

DIAGRAM SHOWING THE DISTRIBUTION OF PARTICIPANTS
ACCORDING TO THEIR PERCEPTION ABOUT LAB-TO-LAND
PROGRAMME.



 HIGH PERCEPTION GROUP

 LOW PERCEPTION GROUP.

II. Scientific orientation of Participants and Non-participants of the Programme.

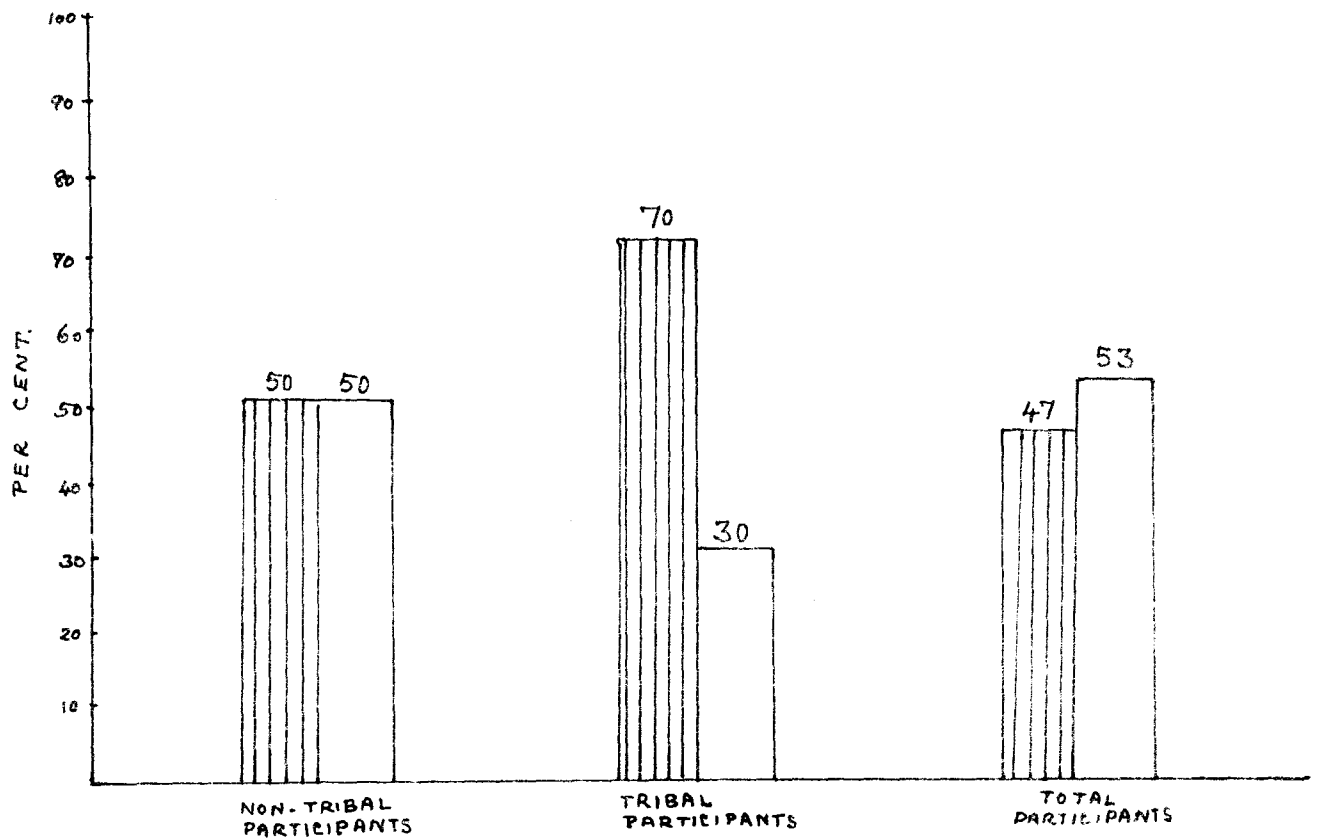
Table-4. Distribution of participants of the Programme based on their scientific orientation

	Non-tribal participants N = 40 \bar{x} = 33.45		Tribal participants N = 20 \bar{x} = 27.95		Pooled sample N = 60 \bar{x} = 31.8	
	Frequency	Percent-age	Frequency	Percent-age	Frequency	Percent-age
High	20	50.00	14	70.00	28	47.00
Low	20	50.00	6	30.00	32	53.00
Total	40	100.00	20	100.00	60	100.00

Data presented above show that non-tribal participants are equally distributed in the two groups. Data further highlighted that 70 per cent of the tribal participants are in the high scientific orientation group. The pooled sample data however show that 53 per cent of participants are in low scientific orientation group. A diagrammatic representation is given in Figure-4.

FIGURE. 4.

DIAGRAM SHOWING THE DISTRIBUTION OF THE PARTICIPANTS OF THE PROGRAMME BASED ON SCIENTIFIC ORIENTATION.



HIGH SCIENTIFIC ORIENTATION



LOW SCIENTIFIC ORIENTATION

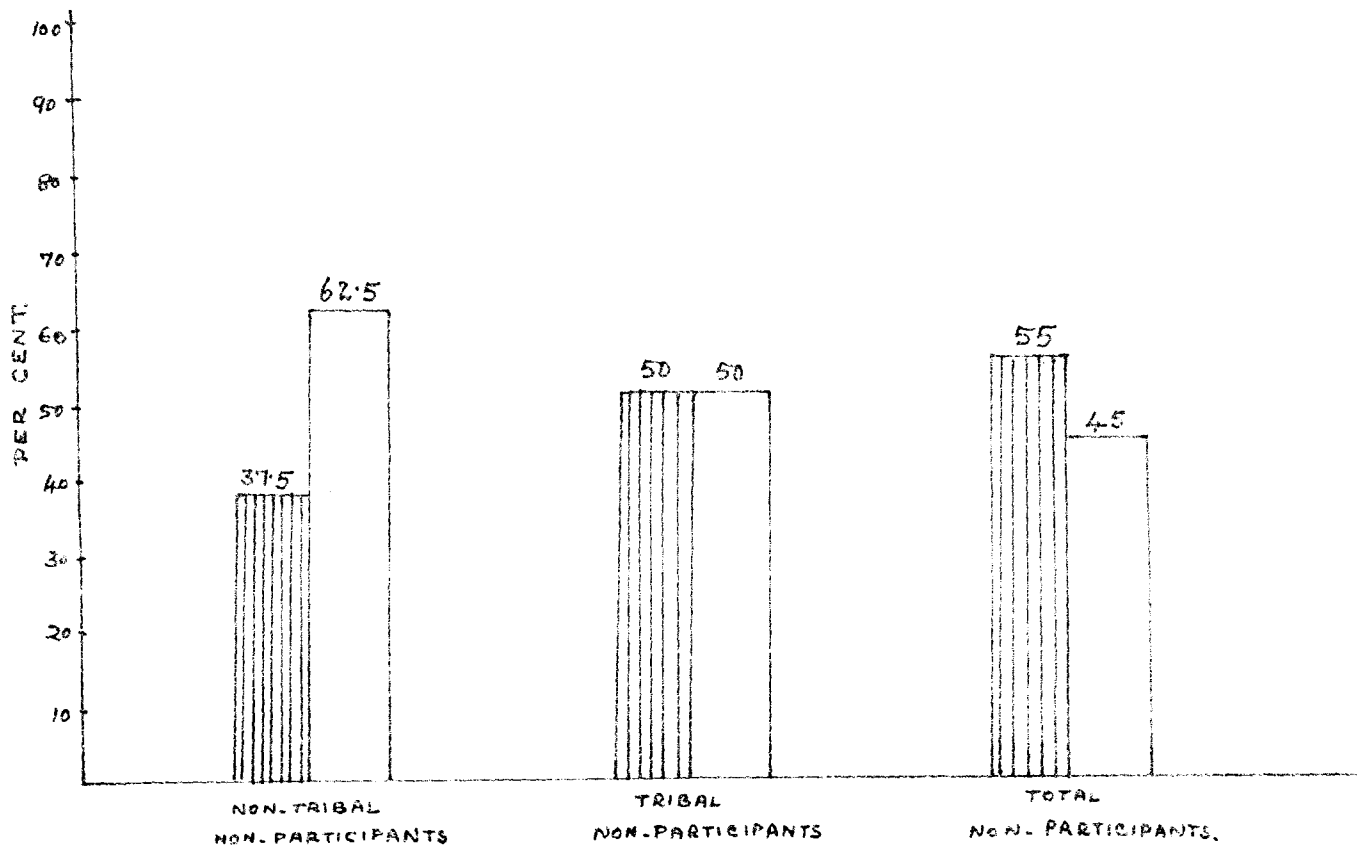
Table-5. Distribution of non-participants based on their scientific orientation

	Non-tribal non-participants N = 40 \bar{x} = 30.125		Tribal non-participants N = 20 \bar{x} = 26.45		Pooled sample N = 60 \bar{x} = 29	
	Frequency	Percent-age	Frequency	Percent-age	Frequency	Percent-age
High	15	37.50	10	50.00	33	55.00
Low	25	62.50	10	50.00	27	45.00
Total	40	100.00	20	100.00	60	100.00

It was seen from Table-5 that majority i.e. 62.50 per cent of non-tribal participants are in low scientific orientation group. In the case of tribal non-participants an equal distribution in the two groups was seen. The pooled sample data showed that 55 per cent of the participants belong to high scientific orientation group. The diagrammatic representation is given in Figure-5.

FIGURE 5.

DIAGRAM SHOWING DISTRIBUTION OF NON-PARTICIPANTS OF THE PROGRAMME BASED ON SCIENTIFIC ORIENTATION.



HIGH SCIENTIFIC ORIENTATION



LOW SCIENTIFIC ORIENTATION

Table-6. Comparison of mean scores of the scientific orientation of the participants and non-participants and the significance of difference between their scientific orientation scores.

Groups	Mean scientific orientation scores	't' value
Participants N = 60	31.88	3.274**
Non-participants N = 60	28.90	

**** Significant at 0.01 level of probability**

The Table-6 clearly showed that the mean score for scientific orientation was higher in participants than non-participants. This difference was substantiated by the 't' value revealing significant difference between the participants and non-participants with respect to their scientific orientation scores.

Table-7. Comparison of mean scores of scientific orientation of non-tribal participants and tribal participants and the significance of difference between their mean scientific orientation scores

Groups	Mean scientific orientation scores	't' value
Non-tribal participants N = 40	33.85	4.25 S
Tribal participants N = 20	27.95	

Table value = 2.05

S = Significant

The Table-7 showed that mean scientific orientation scores of non-tribal participants are high compared to tribal participants. This difference was substantiated by the 't' value which reveals a significant difference between the two groups with respect to scientific orientation scores.

Table-8. Comparison of mean scores of scientific orientation of non-tribal participants and non-tribal non-participants and the significance of difference between their mean scientific orientation scores.

Groups	Mean scientific orientation scores	't' value
Non-tribal participants N = 40	33.85	3.24**
Non-tribal non-participants N = 40	30.125	

**** Significant at 0.01 level of probability**

The Table-8 indicated that scientific orientation scores of non-tribal participants were higher which was further proved by the 't' value revealing significant difference between the two groups.

Table-9. Comparison of mean scores of scientific orientation of tribal participants and tribal non-participants and the significance of difference between the mean scientific orientation scores

Groups	Mean scientific orientation scores	't' value
Tribal participants N = 20	27.95	1.625 NS
Tribal non-participant N = 20	26.45	

NS = Non significant

The Table-9 shows that mean scientific orientation scores of tribal participants is slightly higher than that of non-participant tribals, however the difference was not significant as evident from computed 't' value.

III. Extent of adoption of transferred technology by participants and non-participants.

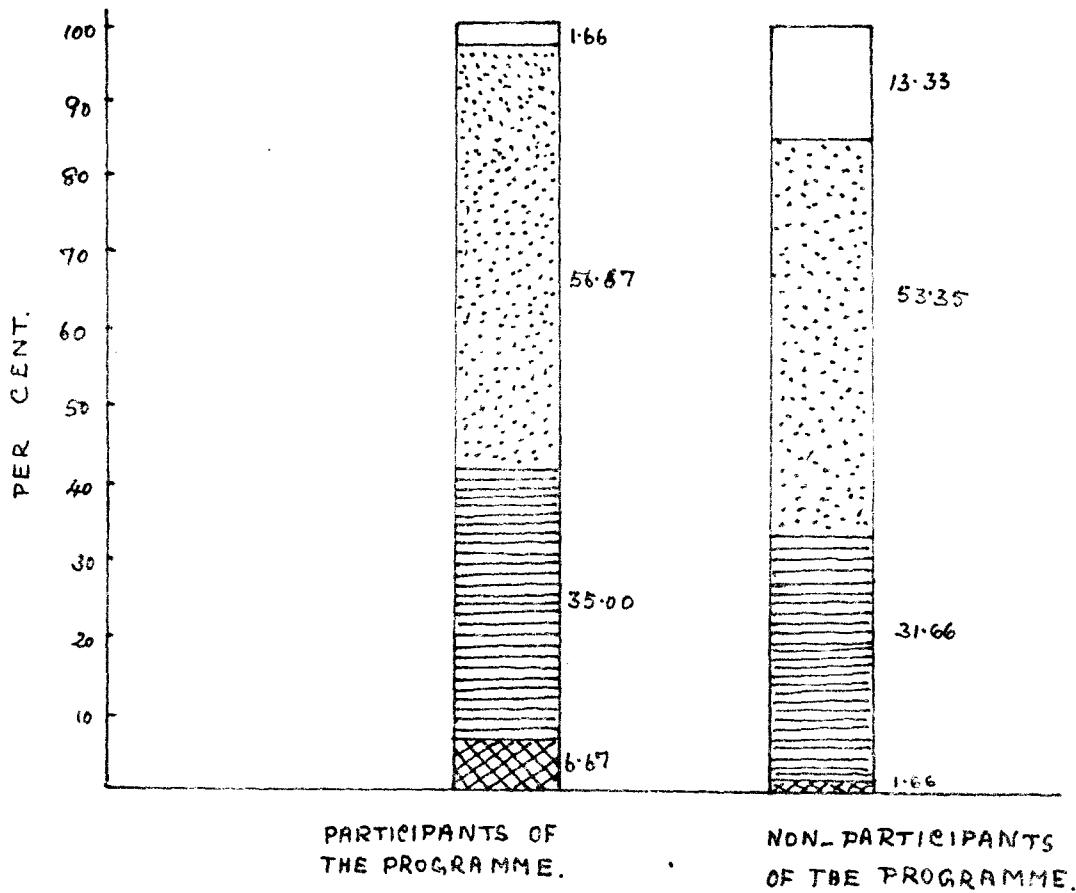
Table-10. Distribution of participants and non-participants on their extent of adoption

	High adoption (75.1-100)	High medium adoption (50.1-75)	Low medium adoption (25.1-50)	Low adoption (0.1-25)	Non adoption (0.00)
Participants N = 60	4 (6.67%)	21 (35%)	34 (56.67%)	1 (1.66%)	0
Non-participants N = 60	1 (1.66%)	19 (31.66%)	32 (53.33%)	8 (13.33%)	0

Table-10 revealed that participants in general were having better rate of adoption than non-participants. 35 per cent of participants are in high medium adoption category as compared to 31.66 per cent non-participants. Similarly 13.3 per cent non-participants belonged to low adoption group while it was only 1.66 per cent among the participant group. A diagrammatic representation is given in Figure-6.

FIGURE . 6

DIAGRAM SHOWING THE DISTRIBUTION OF PARTICIPANTS AND NON-PARTICIPANTS OF THE PROGRAMME BASED ON THE EXTENT OF ADOPTION.







-  HIGH ADOPTERS
-  HIGH-MEDIUM ADOPTERS
-  LOW-MEDIUM ADOPTERS
-  LOW ADOPTERS

Table-11. Comparison of mean scores of extent of adoption of participants and non-participants and significance of difference between their mean extent of adoption

Groups	Mean adoption score	't' value
Participants N = 60	0.8496	3.177**
Non-participants N = 60	0.65008	

** Significant at 0.01 level of probability

Table-11 clearly indicated that mean adoption score of participants is higher compared to non-participants. It is further proved by the computed 't' value revealing significant difference between the two groups.

Table-12. Comparison of mean scores of extent of adoption of non-tribal participants and tribal participants and the significance of difference between the mean extent of adoption scores.

Groups	Mean adoption scores	't' value
Non-tribal participants N = 40	1.007	8.9 S
Tribal participants N = 20	0.5335	

Table value = 2.039

S = Significant

The Table-12 indicated that mean adoption score of non-tribal participants were higher compared to tribal participants. This difference was further proved by the computed 't' value which revealed significant difference.

Table-13. Comparison of mean scores of extent of adoption of non-tribal participants and non-tribal non-participants and the significance of difference between the mean extent of adoption scores.

Groups	Mean adoption score	't' value
Non-tribal participants N = 40	1.007	2.92**
Non-tribal non-participants N = 40	0.820	

**** Significant at 0.01 level of probability**

Table-13 revealed that mean adoption score of non-tribal participants were higher compared to non-tribal non-participants. This difference was substantiated by the computed 't' value.

Table-14. Comparison of mean scores of extent of adoption of tribal participants and tribal non-participants and the significance of difference between the mean extent of adoption scores.

Groups	Mean adoption scores	't' value
Tribal participants N = 20	0.5335	3.446**
Tribal non-participants N = 20	0.3095	

**** Significant at 0.01 level of probability**

Table-14 indicated that mean adoption score of tribal participants are higher than non-participant tribals. This difference was substantiated by computed 't' value revealing significant difference between the two groups.

IV (a). Distribution of participants of the Programme according to independent variables selected for the study

Table-15.

Variables	Non-tribal participants		Tribal participants		Pooled sample	
Age	$\bar{x} = 45$		$\bar{x} = 43$		$\bar{x} = 44$	
	F	%	F	%	F	%
Old	24	60	7	35	31	57
Young	16	40	13	65	29	43
Socio-economic status	$\bar{x} = 31.54$		$\bar{x} = 15.98$		$\bar{x} = 26.36$	
	F	%	F	%	F	%
High	19	47	10	50	30	50
Low	21	53	10	50	30	50
Income	$\bar{x} = 5.25$		$\bar{x} = 1.75$		$\bar{x} = 4.08$	
	F	%	F	%	F	%
High	21	53	13	65	30	30
Low	19	47	7	35	30	50
Economic motivation	$\bar{x} = 33.95$		$\bar{x} = 28.4$		$\bar{x} = 32.1$	
	F	%	F	%	F	%
High	20	50	12	60	29	48.3
Low	20	50	8	40	31	51.7
Management orientation	$\bar{x} = 14.75$		$\bar{x} = 10.6$		$\bar{x} = 13.36$	
	F	%	F	%	F	%
High	24	60	8	67	36	60
Low	16	40	12	33	24	40
Extension orientation	$\bar{x} = 7$		$\bar{x} = 6.45$		$\bar{x} = 7$	
	F	%	F	%	F	%
High	27	67.5	13	65	27	45
Low	13	32.5	7	35	33	
Level of aspiration	$\bar{x} = 25.5$		$\bar{x} = 20.35$			
	F	%	F	%		
High	35	87.5	10	50		
Low	5	12.5	10	50		

\bar{x} = mean

F = frequency

% = percentage

Age: It was seen from Table-15 that 60 per cent of non-tribal participants were in older age group while in the case of tribal participants 65 per cent were in the younger age group. In the pooled data 57 per cent of the participants were found to be in older age group.

Socio-economic status: The Table-15 revealed that 47 per cent of non-tribal participants and 50 per cent of tribal participants were in higher socio-economic status group. In the pooled data an equal distribution of participants was observed in the two groups.

Income: The Table-15 pointed out that 53 per cent of non-tribal participants were in high income group while 65 per cent of tribal participants were in high income group. An equal distribution was observed in the high income group and low income group in pooled data.

Economic motivation: An appraisal of Table-15 indicated that 50 per cent of non-tribal participants and 60 per cent of tribal participants were in high economic motivation group. In the pooled data 48 per cent of participants were found to belong to high economic motivation group.

Management orientation: It was observed from the Table-15 that 50 per cent of non-tribal participants and 67 per cent tribal participants were in high management orientation group. In the pooled data, 60 per cent of participants were found to be in the high management orientation group.

Extension orientation: The Table-15 revealed that 67.5 per cent of non-tribal participants and 65 per cent of tribal participants were in high extension orientation group. The pooled sample

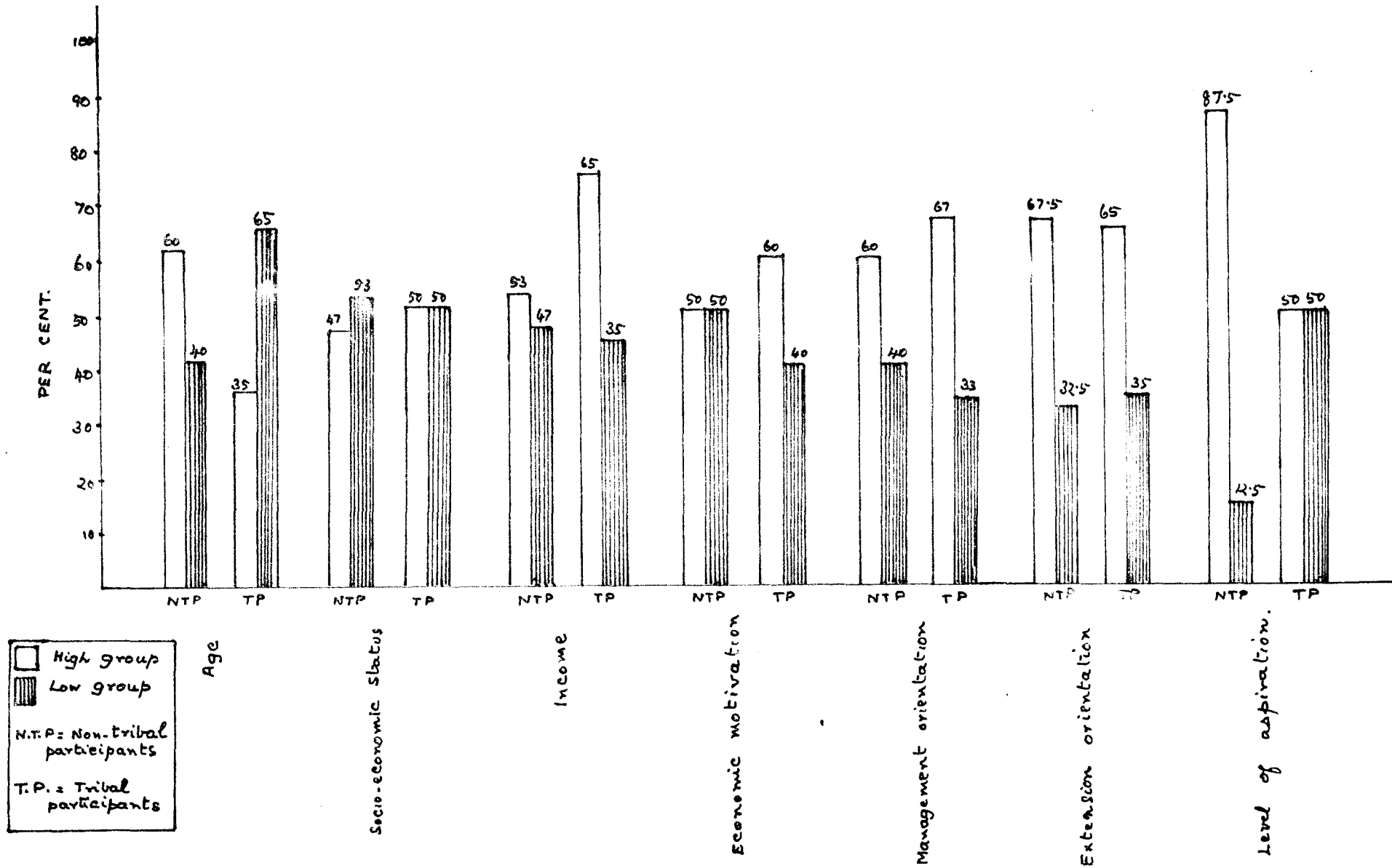
data revealed that 45 per cent of participants belonged to high extension orientation group.

Level of aspiration: It was seen from Table-15 that 87.5 per cent of non-tribal participants and 50 per cent of tribal participants belonged to high level of aspiration group. The pooled data revealed that 65 per cent of participants belonged to high level of aspiration group.

A diagrammatic representation of the distribution of participants based on independent variables is given in Figure-7.

FIGURE-7

DIAGRAM SHOWING DISTRIBUTION OF PARTICIPANTS OF THE PROGRAMME BASED ON THE INDEPENDENT VARIABLES SELECTED.



IV (b). Distribution of Non-participants of the Programme according to independent variables selected for the study

Table-16.

Variable	Non-tribal non-participants N = 40		Tribal non-participants N = 20		Pooled sample N = 60	
Age	$\bar{x} = 47$		$\bar{x} = 43$		$\bar{x} = 45$	
	F	%	F	%	F	%
Old	16	40	6	30	27	45
Young	24	60	14	70	33	55
Socio-economic status	$\bar{x} = 32.19$		$\bar{x} = 10.6$		$\bar{x} = 25.02$	
	F	%	F	%	F	%
High	18	45	10	50	31	51.6
Low	22	55	10	50	29	48.3
Income	$\bar{x} = 5.9$		$\bar{x} = 1.97$		$\bar{x} = 4.62$	
	F	%	F	%	F	%
High	19	47.5	7	35	25	41.6
Low	21	52.5	13	65	35	58.3
Economic motivation	$\bar{x} = 31.87$		$\bar{x} = 26.35$		$\bar{x} = 30.03$	
	F	%	F	%	F	%
High	14	35	15	75	26	43
Low	26	65	5	25	34	57
Management orientation	$\bar{x} = 12.95$		$\bar{x} = 9.4$		$\bar{x} = 11.76$	
	F	%	F	%	F	%
High	22	55	16	80	29	48
Low	18	45	4	20	31	52
Extension orientation	$\bar{x} = 4.5$		$\bar{x} = 1.95$		$\bar{x} = 3.7$	
	F	%	F	%	F	%
High	17	43	14	70	25	42
Low	23	57	6	30	35	58
Level of aspiration	$\bar{x} = 25.5$		$\bar{x} = 17.9$		$\bar{x} = 22.98$	
	F	%	F	%	F	%
High	19	47	7	35	36	60
Low	21	53	13	65	24	40

\bar{x} = mean

F = frequency

% = percentage

Age: The Table-16 revealed that 40 per cent of non-tribal non-participants and 30 per cent of tribal non-participants belong to older age group. In the pooled data, 45 per cent of non-participants were found to belong to older age group.

Socio-economic status: The Table-16 showed that 45 per cent of non-tribal non-participants and 50 per cent of tribal non-participants belonged to higher socio-economic status group. In the pooled data more than 50 per cent non-participants were found to belong to high socio-economic status group.

Income: The Table-16 revealed that 47.5 per cent non-tribal non-participants and 35 per cent tribal non-participants belonged to high income group. In the pooled data only 42 per cent were found to belong to high income group.

Economic motivation: From the Table-16 it was seen only 35 per cent of non-tribal non-participants belonged to high economic motivation group. While 75 per cent of tribal non-participants belonged to high economic motivation group. In the pooled data 43 per cent of non-participants were found to belong to high economic motivation group.

Management orientation: It was observed from the Table-16 that 55 per cent of non-tribal non-participants and 80 per cent of tribal non-participants belonged to high management orientation group. However in the pooled data only 48 per cent of non-participants were found in high management orientation group.

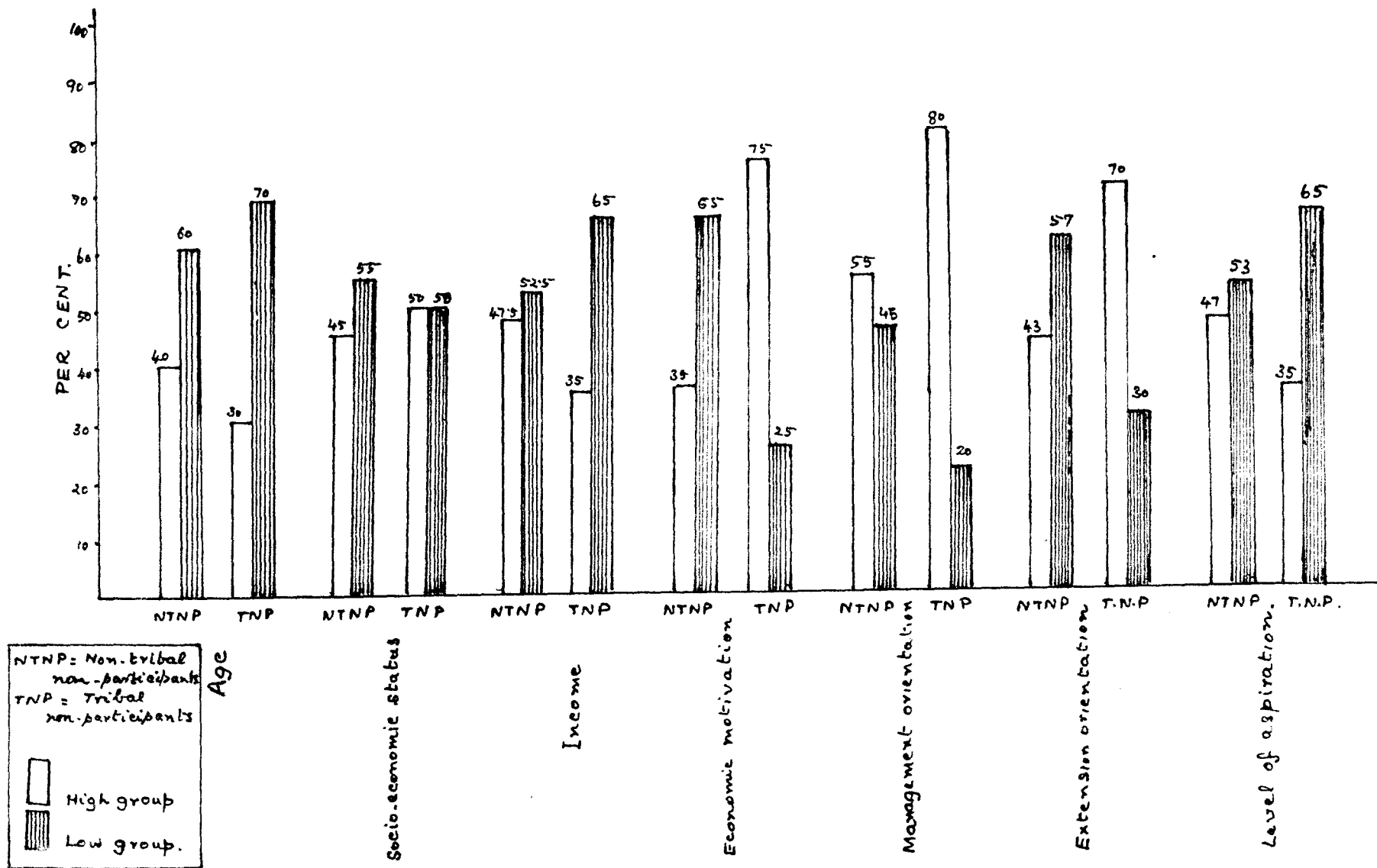
Extension orientation: It was revealed from the Table-16 42.50 per cent of non-tribal non-participants belonged to high extension orientation group. Among the tribal non-participants 70 per cent were found to belong to high extension orientation group. In the pooled data only 42 per cent of non-participants belonged to high extension orientation group.

Level of aspiration: The Table-16 revealed that 47.50 per cent non-tribal non-participants and 35 per cent tribal non-participants belonged to high level of aspiration group. But 60 per cent of total non-participants were found to belong to high level of aspiration group.

A diagrammatic representation of distribution of non-participants based on independent variables is given in Figure-8.

FIGURE. 8

DIAGRAM SHOWING THE DISTRIBUTION OF NON-PARTICIPANTS OF THE PROGRAMME BASED ON THE INDEPENDENT VARIABLES SELECTED.



V (a). Correlation between perception about Lab-to-Land Programme and independent variables in Non-tribal participants and Tribal participants.

Table-17.

Independent variables	Non-tribal participants N = 40	Tribal participants N = 20	Pooled sample N = 60
Age	-0.0231	0.0660	0.0609
Socio-economic status	0.2488	0.1974	0.5605**
Income	0.2131	0.4506*	0.3407**
Economic motivation	0.1601	0.1306	0.4936**
Management orientation	0.1853	0.0925	0.5226**
Extension orientation	0.3819*	0.4557*	0.3682**
Level of aspiration	0.2792	0.2813	0.6414**

** Significant at 0.01 level of probability

* Significant at 0.05 level of probability

It is seen from Table-17 that in the case of non-tribal participants extension orientation alone was positively and significantly related with perception about the Programme. In the case of tribal participants the variable income and extension orientation were found to be positively and significantly associated with perception about the programme. In the pooled sample all variables except age was found to be positively and significantly related with perception about the Programme.

V (b). Correlation between scientific orientation and independent variables in participants of the Programme.
Table-18

Independent variables	Non-tribal participants N=40	Tribal participants N=20	Pooled sample N=60
Age	0.1200	-0.2972	0.0845
Socio-economic status	0.2829	0.2764	0.4812**
Income	0.1301	0.3737	0.2956**
Economic motivation	0.3639*	0.4035	0.5806**
Management orientation	0.3700*	0.5177*	0.6150**
Extension orientation	0.4070*	0.4805*	0.3892**
Level of aspiration	0.2588	0.3150	0.5607**

** Significant at 0.01 level of probability

* Significant at 0.05 level of probability

A perusal of the Table-18 revealed the variables economic motivation, management orientation and extension orientation were positively and significantly related with scientific orientation in the case of non-tribal participants. In the case of tribal participants the variables, management orientation and extension orientation showed positive and significant relationship with scientific orientation. In the pooled sample all variables except age was found to be positively and significantly associated with scientific orientation.

V (c). Correlation between scientific orientation and independent variables in non-participants of the Programme.
 Table-19.

Independent variables	Non-tribal non-participants N=40	Tribal non-participants N=20	Pooled sample N=60
Age	0.2391	0.1521	0.3356**
Socio-economic status	0.1146	0.2452	0.3600**
Income	0.1431	0.3936	0.3335**
Economic motivation	0.4060*	0.3461	0.6992**
Management orientation	0.2365	0.1688	0.3521**
Extension orientation	0.4352**	0.1438	0.5108**
Level of aspiration	0.1044	0.0907	0.2775*

**Significant at 0.01 level of probability

* Significant at 0.05 level of probability

The Table-19 revealed that in the case of non-tribal non-participants the variables, Economic motivation and Extension orientation were found to be positively and significantly related with scientific orientation. No variable was found to be related significantly with scientific orientation in case of tribal non-participants. In the pooled sample all variables were found to be related significantly with scientific orientation.

V (d). Correlation between extent of adoption of
 Table-20. participants and independent variables.

Independent variables	Non-tribal participants N=40	Tribal participants N=20	Pooled sample N=60
Age	0.0790	0.1875	0.0508
Socio-economic status	0.1377	0.1219	0.5123**
Income	0.0601	0.0195	0.4150**
Economic motivation	0.4939**	0.4058*	0.5823**
Management orientation	0.1637	0.0472	0.5166**
Extension orientation	0.3706*	0.4574**	0.5872**
Level of aspiration	0.0133	0.0702	0.5116**

** Significant at 0.01 level of probability

* Significant at 0.05 level of probability

It is evidenced from Table-20 that in the case of non-tribal participants the variables economic motivation and extension orientation were found to be positively and significantly related with extent of adoption. In the case of tribal participants also a positive and significant relationship at 0.01 level of probability was observed between the two variables ie. economic motivation and extension orientation with extent of adoption. In the pooled sample all variables except age was found to be positively and significantly related with extent of adoption.

V (e). Correlation between extent of adoption of
 Table-21. non-participants and independant variables.

Independant variables	Non-tribal Non-participants N=40	Tribal Non-participants N=20	Pooled sample N=60
Age	0.3188	0.1022	0.3435**
Socio-economic status	0.3065	0.0658	0.6929**
Income	0.1407	0.0313	0.5153**
Economic motivation	0.4401**	0.4778*	0.6712**
Management orientation	0.1540	0.2620	0.4147**
Extension orientation	0.4578*	0.4549*	0.7247**
Level of aspiration	0.0518	0.1050	0.3770**

** Significant at 0.01 level of probability

* Significant at 0.05 level of probability

A perusal of Table-21 revealed that the variables economic motivation and extension orientation was positively and significantly related with extent of adoption at 0.01 level of probability respectively in the case of non-tribal non-participants. In the case of tribal non-participants also the variables economic motivation and extension orientation, was found to be positively and significantly associated with extent of adoption. In the pooled sample all the variables were found to be positively and significantly related with extent of adoption.

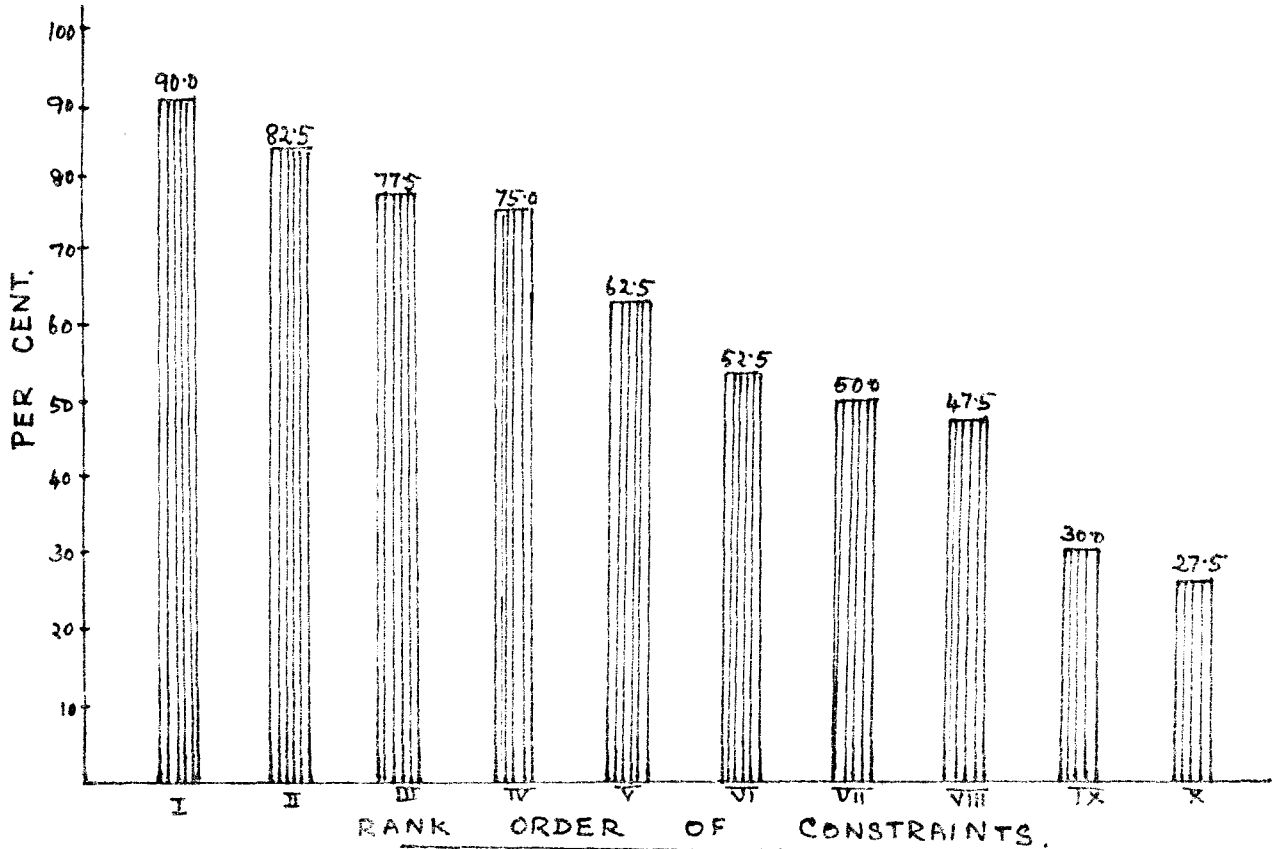
VI (a). Constraints regarding the adoption of technologies transferred under the Programme by Non-tribal participants.

Rank order of constraints	Constraints	Frequency	Percentage
I	Inadequacy of capital	36	90.0
II	Non-availability of credit	33	82.5
III	High cost of feed	31	77.5
IV	Uneconomic holding size	30	75.0
V	Lack of good breeds	25	62.5
VI	Inadequate medical care to goat and poultry	21	52.5
VII	Insufficient managerial service	20	50.0
VIII	Poor socio-economic status	19	47.5
IX	Inadequate market facility	12	30.0
X	Water scarcity	11	27.5

It was seen from Table-22 that inadequacy of capital ranked first among the constraints perceived important by the non-tribal participants. Ninety per cent of the non-tribals pointed out this constraint as most important. The other constraints in the rank order were non-availability of credit, (82.5 per cent) high cost of feed (77.5 per cent), uneconomic holding size (75 per cent), lack of good breeds (62.5 per cent), inadequate medical care to goat and poultry (52.5 per cent), insufficient managerial service (50 per cent), poor socio-economic status (47.5 per cent), inadequate market facility (30 per cent) and water scarcity (27.5 per cent). The diagrammatic representation is given in Figure-9.

FIGURE 9

DIAGRAM SHOWING THE RANK ORDER OF CONSTRAINTS AS PERCEIVED IMPORTANT BY NON-TRIBAL PARTICIPANTS OF THE PROGRAMME.



- RANK ORDER OF CONSTRAINTS.
- I. Inadequacy of Capital.
 - II. Non-availability of credit.
 - III. High cost of feed.
 - IV. uneconomic size of holding
 - V. Lack of good breeds.
 - VI. Inadequate medical care to goat and poultry.
 - VII. Insufficient managerial service.
 - VIII. Poor socio-economic status
 - IX. Inadequate market facility.
 - X. Water scarcity.

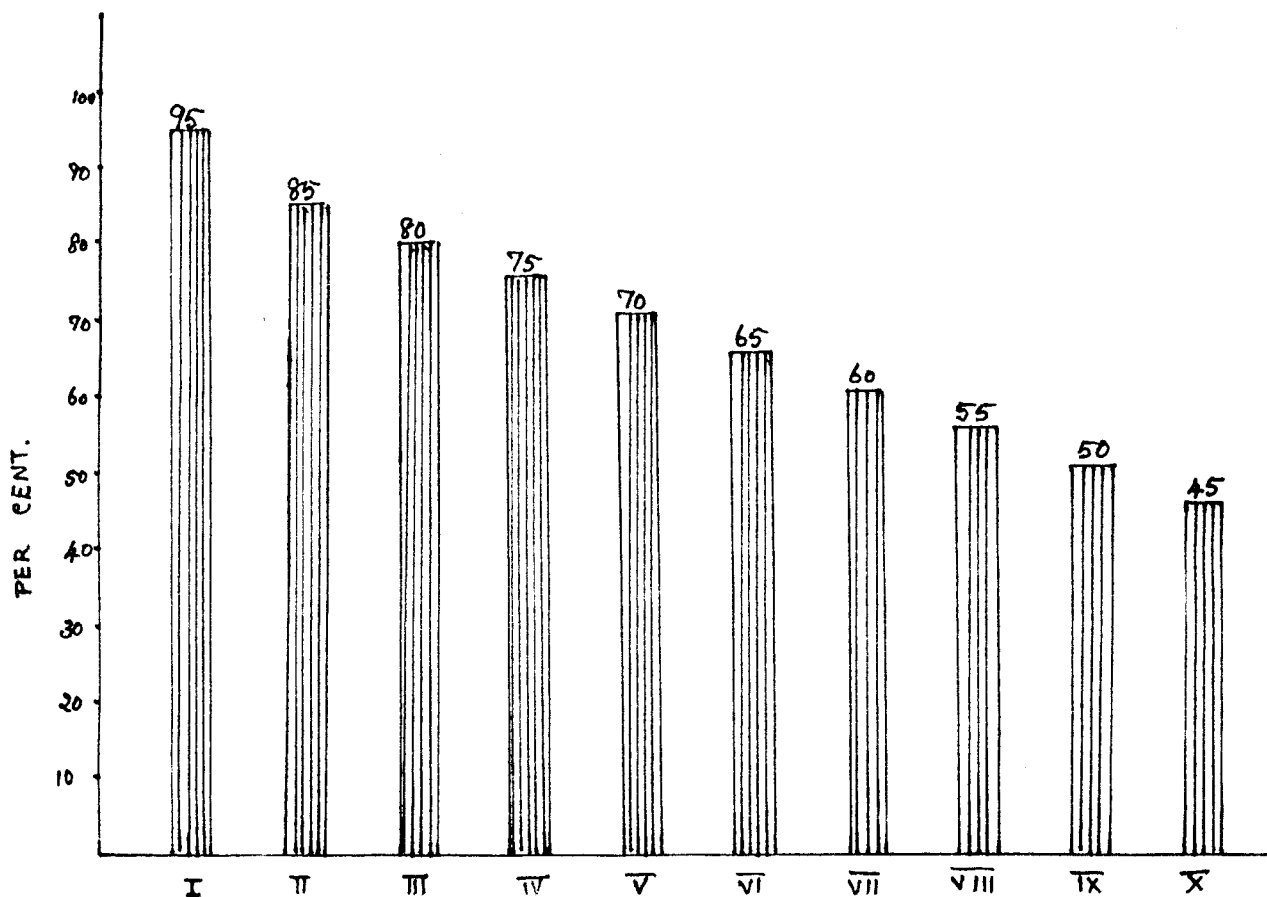
VI (b). Constraints regarding the adoption of technologies transferred under the Programme by tribal participants.

Rank order of constraints	Constraints	Frequency	Percentage
I	Inadequacy of capital	19	95
II	Uneconomic holding size	17	85
III	Non-availability of credit	16	80
IV	Poor socio-economic status	15	75
V	Lack of knowledge about technology	14	70
VI	Insufficient managerial service	13	65
VII	Lack of good breeds	12	60
VIII	Poor transport facility	11	55
IX	High cost of feed	10	50
X	Inadequate supervision and guidance	9	45

Table-23 revealed that inadequacy of capital ranked first among the constraints as identified by tribal participants. Ninety five per cent of the tribal participants reported inadequacy of capital as the most important constraint. The other constraints were un-economic holding size (85 per cent) non-availability of credit (80 per cent), poor socio-economic status (75 per cent), lack of knowledge about technology (70 per cent), insufficient managerial service (65 per cent), high cost of feed (50 per cent) and inadequate supervision and guidance (45 per cent). The diagrammatic representation is given in Figure-10.

FIGURE. 10.

DIAGRAM SHOWING THE RANK ORDER OF CONSTRAINTS AS PERCEIVED IMPORTANT BY THE TRIBAL PARTICIPANTS OF THE PROGRAMME.



RANK ORDER OF CONSTRAINTS.

- I. Inadequacy of capital.
- II. Uneconomic size of holding
- III. Non-availability of credit
- IV. Poor socio-economic status
- V. Lack of knowledge about technology
- VI. Insufficient managerial service
- VII. Lack of good breeds
- VIII. Poor transport facility.
- IX. High cost of feed.
- X. Inadequate supervision and guidance.

Discussion

CHAPTER - V

DISCUSSION

The results obtained in the study are discussed and interpreted in this chapter under the following heads.

- I. Perception about Lab-to-Land Programme by the participants.
- II. Scientific orientation of participants and non-participants of the Programme.
- III. Extent of adoption of transferred technology by the participants and non-participants of the Programme.
- IV. Distribution of participants and non-participants based on their personal, socio-economic and socio-psychological variables.
- V. Association between the dependant variables and independent variables of the study.
- VI. Constraints as perceived important by the participants in the adoption of technology transferred.

I. Perception about Lab-to-Land Programme

It is seen from Table-3 that 55 per cent of the non-tribals and 75 per cent of the tribals belonged to high perception group. The phenomenon of high perception about the Programme might be due to the organised extension efforts carried out and also because of the timely supply and service and technical advice given by the implementing agency.

It is also interesting to note that majority of the tribal participants belonged to the high perception group. This might be due to the fact that the tribal beneficiaries were not exposed to concentrated and intensive attempts for their development in their area earlier and it was the first time such concerted efforts were made for their uplift. The Programme envisaged constant interaction of the implementing agency with participants and they were exposed to various extension programmes within a short period of time. So much so, there was higher perception rate among them with regard to Lab-to-Land Programme.

II. Scientific Orientation of participants and non-participants of the Programme.

A perusal of Table-4 indicated that non-tribal

participants were equally distributed in the high scientific orientation group and low scientific orientation group respectively whereas among the tribal participants 70 per cent belonged to high scientific orientation group.

This disparity among tribal and non-tribal participants regarding scientific orientation might be due to various reasons. The non-tribal participants who live in the proximity of Agricultural University and other implementing centres of the University are frequently exposed to various extension programmes. Also many of the participant non-tribals happen to be 'Contact farmers' of the T and V system of the State Department of Agriculture. Hence it is presumed that there is already an existing level of scientific orientation among the participant non-tribals and this might be the probable reason for observing an equal rate of distribution with regard to scientific orientation in non-tribal participants. In the case of tribal participants Lab-to-Land Programme was the only external stimulus since a long time and the constant extension effort in this area within a short span of time might have resulted in such a marked difference in the distribution.

It is seen from Table-5 that 37.50 per cent and

62.50 per cent of non-tribal non-participants are distributed in high and low groups respectively regarding scientific orientation. The corresponding figures in tribal non-participants are 50 per cent in each group. The probable reason for this uniformity in tribal non-participants in the two groups ie, high and low groups, may be due to the fact that there is more interaction between members of tribal non-participant group and tribal participant group as they were living together in a compact area whereas the interaction between non-tribal non-participants and non-tribal participants will be considerably low.

It is seen from Table-6 that there is significant difference in the scientific orientation of participants and non-participants of the Programme. As this is an educational programme it also envisages that the scientific orientation of the participants will definitely improve as a result of the various extension efforts made in this context, and this probably would definitely have contributed in the increase in the scientific orientation in the participant group when compared to non-participant group.

Table-7 indicated that there was significant difference between tribal participants and non-tribal participants with

regard to scientific orientation. It may be mentioned here that the education level, income, cosmopolitaness etc. of the non-tribal participants were comparatively high than tribal participants which may be the reason for this phenomenon.

Table-8 pointed out there was significant difference between non-tribal participants and non-tribal non-participants in their scientific outlook. This might be because of the constant interaction between the specialists of the University with the participant farmers and also because of the timely participation in the various extension efforts advanced to them by the specialists which was lacking in non-participants.

However, it is seen from Table-9 that there was no significant difference in the scientific orientation of tribal participants and tribal non-participants. The tribals of this study live in two compact colonies, where the participants and non-participants are in close contact. Since the leadership pattern of the tribal groups and their social cohesion are quite different from that of the non-tribal groups it is quite evident that any new idea received is easily exchanged to the members of the tribal group irrespective of their participation in the programme. This might be the reason for getting no significant difference between the tribal participants and tribal non-participants.

III. Extent of adoption of transferred technology by participants and non-participants of the Programme.

Table-10 indicated that extent of adoption of transferred technology was more in the participant group than in the non-participant group.

From Table-11 it was seen that there was significant difference in the mean adoption scores of participants and non-participants of the Programme. This difference might be due to the timely supply of inputs, constant exposure to organised extension activities and sound technical advice given by the experts. The absence of these activities in the control group might have resulted in their low adoption.

It was also evidenced from Table-12 that there was significant difference in mean adoption scores of non-tribal participants and tribal participants. This might be due to the fact that the tribals in general are the poorest of the poor. The illiteracy and the poor socio-economic conditions might lead to the improper utilisation of some of the inputs distributed to them under the programme which in turn have affected their adoption behaviour.

Table-13 and Table-14 revealed that there was significant difference in the extent of adoption of both

non-tribal participants and tribal participants with their counterparts in each group. This might be due to the fact that both non-tribal participants and tribal participants are provided with suitable incentives, timely technical advice and are frequently exposed to extension activities unlike the non-participants in both groups.

IV. Distribution of participants and non-participants of the Programme according to their personal socio-economic and socio-psychological variables.

Age: An appraisal of Tables-15 and 16 brings out the fact that non-tribal non-participants were slightly older in their mean age than non-tribal participants. But the mean age of tribal participants and tribal non-participants were found to be same. In general the respondent farmers of both groups of the study were middle aged.

Socio-economic status:

It was seen from Table-15 and 16 that mean socio-economic status score of non-tribal non-participants were higher compared to non-tribal participants. But the mean socio-economic status score of tribal non-participants were slightly lower than tribal participants. In case of non-tribal participants the weaker section of people were

selected as beneficiaries. People belonging to higher socio-economic status were avoided. In the case of tribal participants mean socio-economic status score was found to be higher because of the fact that they were supplied with various inputs under the Programme free of cost. This might be the reason for getting such an increased mean socio-economic status score in tribal participants than tribal non-participants.

Income:

It was seen from Table-15 and 16 that both non-tribal non-participants and tribal non-participants had higher income score than non-tribal participants and tribal participants. It is strictly in agreement with the basic objectives of the Programme that beneficiaries should be selected from low income groups and target groups.

Economic motivation:

The Table-15 and 16 showed that both participant non-tribals and participant tribals had higher economic motivation than non-participants. Agriculture has assumed the characteristics of more or less a business enterprise rather than a way of life in the past. Therefore the importance of economic gain in crop and livestock will be

the prime consideration of any farmer. Being an educational programme this programme promotes this motive of the participants. This might be the probable reason for this difference in participants and non-participants.

Management orientation:

It was also seen from the Table-15 and 16 that both tribal and non-tribal participants of the programme had higher management orientation. This programme helps to educate the participants on better management of crop and livestock enterprises. This might be the reason for getting a higher management orientation score in the participants.

Extension orientation:

Tables 15 and 16 indicated that participants in general had higher extension orientation than non-participants. This may be explained by the fact that participants are provided with opportunities to contact the University specialists and also to participate in various extension programmes unlike the non-participants whose involvement in such extension programmes were low.

Level of aspiration:

It was seen from Table-15 and 16 that non-tribal

participants and non-tribal non-participants had same level of aspiration while level of aspiration was lower in tribal non-participants compared to tribal participants. However in both these groups the participants were in the high level of aspiration group compared to non-participants. This may be due to the constant interaction with the specialists and frequent exposure to extension activities carried out by the implementing agency.

V. Association between independent variables and dependent variables of the study

Age: From the Table-17 it was seen that there was no relationship between age of the participants and perception about the Programme. This finding is in agreement with the finding of Bhilegaonkar and Dakh (1978).

From the Table-18 and 19 it was also evident that age had no relationship with scientific orientation.

The Tables-20 and 21 pointed out that age had no relationship with extent of adoption in case of both non-tribal groups and tribal groups. This finding of no association between age and extent of adoption was in conformity with the findings of Balu (1980) and Sohi and Kherde (1980). The reason for getting no association between age and any of

the dependant variables might be due to the fact that farmers with land holding belonged to middle age group and hence less variability was noticed.

Socio-economic status:

The correlation study revealed that socio-economic status was not related significantly to any of the dependant variables of the study.

The concept of the programme envisages selection of farmers of lower socio-economic status. So the participants of the study were more or less of the same socio-economic status. Special emphasis was given to select non-participant respondents of more or less matching socio-economic and situational characteristics for the study. So a wide variation was not noticed with respect to this variable which might have led to this finding.

The finding that socio-economic status showed no positive and significant relationship with extent of adoption is in confórmity with the findings of Somasundaram (1976).

Income:

The correlation analysis revealed that income was not

related to any dependant variables of the study, except with perception about Lab-to-Land Programme in the case of tribal participants. The tribals of this study belonged to two tribes namely Kadars and Malayans. The Malayans were more progressive than Kadars and were more interested in agriculture and made better income from agriculture unlike the Kadars. Since there is an observable difference in the income of the two tribes, it might be possible that the Malayans who had more income from agriculture and other sources might have on their own accord interacted with officials at the University stations which might have resulted in their better perception. This might have resulted in the positive and significant association between income and perception about the Programme.

Economic motivation

No relationship was observed between economic motivation and perception about the Programme.

However, economic motivation was found to be positively and significantly associated with scientific orientation in the case of non-tribal participants and non-tribal non-participants. Non-tribals in general are more interested in agriculture and allied enterprises unlike the tribal people. Agriculture is more professionalised

now-a-days and economic motivation involved in any of the crop or livestock enterprise will not be overlooked by an educated farmer. These might be the reasons for getting a positive and significant association between the two variables in the non-tribal group alone.

It was also revealed from Tables 20 and 21 that economic motivation was positively and significantly related with extent of adoption of non-tribal participants and non-tribal non-participants at one per cent level of significance. In the tribal participants and tribal non-participants also a positive and significant association between economic motivation and extent of adoption was observed. This finding is in conformity with the results of Rajendran (1978), Manivannan (1980), Aristotle (1981).

Management orientation

No relationship was observed between management orientation and perception about the Programme (Table-17).

It was evident from Table-18 that management orientation was positively and significantly related with scientific orientation in the case of participants ie, both tribal and non-tribal participants while no relationship was

observed in the case of non-participants. This might be due to the fact the Lab-to-Land Programme provides opportunities to educate the participants on the management of various crop and livestock enterprises which is lacking in non-participants. This finding of positive and significant association between management orientation and scientific orientation is in conformity with the findings of Kamrudeen (1981).

However no relationship was noticed between management orientation and extent of adoption in both the participant group and non-participant group.

Extension orientation

From Table-17 it was revealed that there was positive and significant relationship between extension orientation and perception about the Lab-to-Land Programme in both non-tribal participants and tribal participants. The Lab-to-Land Programme provides opportunities for frequent contact between the participants and experts. In addition to that the participants are exposed to various extension programmes and they are actively involved in these programmes. So the frequent extension contact and timely exposure to extension programmes could have definitely led to this

positive and significant association between the two variables. This finding of positive and significant association between extension orientation and perception about Lab-to-Land Programme is in agreement with the findings of Shivakumar (1983) who found out a significant positive association between farmer's degree of contact with research station and research workers and their perception about Research Station and Research Workers.

From Table-18 it was seen that extension orientation was positively and significantly associated with scientific orientation of non-tribal participants and tribal participants. A farmer who has sufficient extension contacts and extension participation will naturally have a scientific outlook regarding improved agricultural practices. Lab-to-Land Programme aims at the development of scientific outlook among the participants through intensive extension efforts. This might be the reason for getting a positive and significant association between extension orientation and scientific orientation of participants.

In case of non-tribal non-participants also a positive and significant association between extension orientation and scientific orientation was seen (Table-19). The non-tribal non-participants who live in the proximity of

University are also exposed to various extension programmes other than the Lab-to-Land Programme. This might be the reason for getting a positive and significant association between extension orientation and scientific orientation of non-tribal non-participants.

Tables-20 and 21 revealed that extension orientation of both the participant groups was positively and significantly related with extent of adoption. The ultimate objective of the Programme itself is adoption of improved practices through extension education. Through the various extension efforts the participants were educated which finally have resulted in their adoption of improved practices. This might be the reason for getting a positive and significant association between extension orientation and extent of adoption.

In the case of non-participants also both non-tribal group and tribal group exhibited a positive and significant association between extension orientation and extent of adoption. The non-participants also who live in the nearby areas of the University are exposed to various extension programmes and have more opportunities to interact with University Officials. Hence a positive and significant relationship between extension orientation and extent of

adoption could have resulted in their case also.

Gangappa (1975), Mahadevaswami (1978), Bhaskaran (1979), Kamudeen (1981) also reported a positive and significant association between extension orientation and extent of adoption.

Level of aspiration

Level of aspiration was found not to be associated with any of the dependant variables of the study.

Chattopadyay (1963) reported no association between level of aspiration and adoption behaviour. Sanoria and Sharma (1983) reported no relationship between level of aspiration and adoption behaviour of Lab-to-Land beneficiaries. The lack of any significant association between level of aspiration and selected independent variables might be due to the indefinite opinion about the past and future with reference to the low living conditions of participants and non-participants.

VI. Constraints as perceived important by the participants in the adoption of technology transferred.

An attempt was made to find out the constraints as

perceived important by the participants of Lab-to-Land Programme. The constraints as perceived important by tribal and non-tribal participants were identified separately.

Inadequacy of capital ranked first among the constraints in both tribal and non-tribal participants. Ninety per cent of non-tribal participants and ninety five per cent tribal participants reported inadequacy of capital as the most important constraint.

Non-availability of credit (82.5 per cent) high cost of feed (77.5 per cent), uneconomic holding size (75.0 per cent) lack of good breeds (62.5 per cent), inadequate medical care to goat and poultry (52.5 per cent), insufficient managerial service (50.0 per cent) etc. were the other constraints pointed out by the non-tribal participants.

In the case of tribal participants the other constraints perceived were uneconomic holding size (85.0 per cent), non availability of credit (80.0 per cent), poor socio-economic status (75.0 per cent), lack of knowledge about technology (70.0 per cent), insufficient managerial service (65.0 per cent), lack of good breeds (60.0 per cent), etc. in that order.

Ten important constraints were identified and ranked in each group. (Table 22 and 23). Absence of good breeds, inadequate medical care to goat and poultry, high cost of feeds etc. were the constraints pointed out in livestock management by the participants.

Although significant progress since independence has been made in the fields of science and technology and innovative technology developed as well to regenerate rural economy, the poor financial status of the majority of the farming community was considered to be the major bottle neck in the implementation of the various development programmes among the rural masses. In the case of tribals too, in the State of Kerala, uneconomic holding size, land alienation, lack of co-operatives and other organisations to fight their cause and continued exploitation by others stand as main reasons for their slow progress in the society.

Summary

CHAPTER-VI

SUMMARY

Lab-to-Land Programme was started in the Kerala Agricultural University during the year 1979-80 to mark the ICAR Golden Jubilee Celebrations. The Programme envisaged concerted and massive efforts for the transfer of farm technology from laboratory to cultivators fields with a view to increase the productivity of farm families and their standard of living. It was also anticipated to develop a strong feed back mechanism which would enable the laboratories to come into close contact with problems and needs of farmers and to identify the constraints in the adoption of new farm technologies by the clientele.

It is observed that no formal evaluation of the Programme had so far been conducted in the Kerala Agricultural University to know how far the major objectives of the Programme has been achieved. The present study is a step in this direction. Specific objectives of the study were:

1. To study the perception about Lab-to-Land Programme by participant farmers.

2. To measure the scientific orientation of the participant farmers of the Programme vis-a-vis non-participant farmers.
3. To study the extent of adoption of technology transferred by participant and non-participant farmers.
4. To study the relationship of selected personal, socio economic and socio-psychological characteristics of participants and non-participants with perception about the Lab-to-Land Programme by participants, scientific orientation of participants and non-participants, extent of adoption of transferred technology by participants and non-participants.
5. To identify the constraints in the adoption of technology transferred under the Programme by the participants.

The investigation was carried out in Trichur district considering the fact that maximum number of tribal participants of Lab-to-Land Programme was available in Trichur district only. The participants in the Phase III (1984-85) of the Programme was selected for study from all the eight Lab-to-Land implementing centres in Trichur district. Both participants and non-participants were selected. Participants for the study were selected on a random basis from each centre, sample size being proportionate to the total families selected in each centre under the Programme. An equal number

of non-participants were also selected from each centre. Altogether, 120 respondents were selected for the study. Sixty respondents from participant group and sixty respondents from non-participant group formed the sample for the study. In the participant group 40 were non-tribals and 20 tribals. A corresponding number of respondents were selected from non-participant group.

Age, socio-economic status, income, economic motivation, management orientation, extension orientation and level of aspiration were selected as independent variables based on review of literature and consultation with experts.

Perception about Lab-to-Land Programme by the participants, scientific orientation of participants and non-participants and extent of adoption of participants and non-participants were the dependent variables. An attempt was also made to identify the constraints in the adoption of transferred technology as perceived important by the participants of the Programme.

Regarding the measurement of variables, age was considered as the number of years the respondent had completed at the time of interview. Socio-economic status was measured using the scale developed by Trivedi (1963) and modified by Sushama (1979). Income was measured using the scale developed



for the purpose. Economic motivation was studied using the scale of Supe (1969) and management orientation by the scale developed by Samantha (1977). Extension orientation was measured using the scale developed by Bhaskaran (1979) and level of aspiration by the scale of Muthaya (1971).

The dependent variable, perception about Lab-to-Land Programme was measured using the scale developed for the purpose. Forty statements which were short descriptions of the perception about Lab-to-Land Programme were collected in consultation with experts. The statements were edited and finally, only 29 statements were sent to judges for judging the relevancy of each statement on a four point continuum from 'most relevant' to 'least relevant'. From the 29 statements only 14 statements with values above median were selected. The final statements were given as the stimuli for rating on a four point continuum of 'very effective', 'effective', 'less effective' and 'least effective'. The reliability and validity of the scale was tested which revealed both reliability and validity for the scale.

Scientific orientation was measured using the scale developed by Supe (1969). The scale consisted of six statements of which one statement was negative. The responses were collected on a five point continuum.

In this study an adoption scale was developed for the purpose in which a score of 'one' was assigned to adoption of any recommended practices suggested in the crop and livestock enterprises. Mean adoption score was computed for each respondent.

An interview schedule finalised after pretesting was used for data collection. The schedule was translated to Malayalam for use in the field. Personal interview was adopted for data collection. The data was subjected to correlation analysis and 't' tests. Percentages were also used for making simple comparisons.

The salient findings of the study are summarised and presented below:

1. The study revealed that majority of non-tribal participants and tribal participants were in high perception group. With regard to scientific orientation also, majority of tribal and non-tribal participants were in high scientific orientation group compared to non-participant non-tribals and non-participant tribals. It was also revealed that extent of adoption of transferred technology was more in participants than in non-participants.

2. The study revealed that there was significant difference in the scientific orientation of participants and non-participants of the programme as a whole. A significant difference in the scientific orientation of non-tribal participants and tribal participants as well as non-tribal non-participants and non-tribal participants was noticed. But no significant difference was noticed between the scientific orientation of participant tribals and non-participant tribals.
3. In the case of extent of adoption also there was significant difference in the case of participants and non-participants as a whole. Significant difference was also noticed in the extent of adoption of non-tribal participants and tribal participants. There was also significant difference in the extent of adoption of non-tribal participants and non-tribal non-participants as well as in the case of tribal participants and tribal non-participants.
4. The study of the personal, socio-economic and socio-psychological variables revealed that majority of the participants and non-participants belonged to middle age group. Mean socio-economic status score of non-tribal participants was lower than non-tribal non-participants. But the mean socio-economic status score of tribal

participants were found to be higher than tribal non-participants. Mean score of economic motivation, management orientation, extension orientation and level of aspiration was found to be higher in both participant tribals and non-tribals than non-participant tribals and non-tribals.

5. Age was not significantly related to any of the dependant variables of the study.
6. Socio-economic status was also found to be not associated with any of the dependant variables of the study.
7. Income was positively and significantly related to perception about the Programme at 0.05 level of probability in the case of tribal participants alone.
8. No correlation was obtained between economic motivation and perception about Lab-to-Land Programme. But economic motivation showed positive and significant relationship with scientific orientation of both non-tribal participants and non-tribal non-participants. Economic motivation showed positive and significant relationship with extent of adoption in both groups of participants and non-participants.

9. Management orientation was found to be positively and significantly associated with scientific orientation in the case of the non-tribal participants only.
10. Extension orientation showed positive and significant relationship with perception about Lab-to-Land Programme in both tribal participants and non-tribal participants. Extension orientation also showed positive and significant association with scientific orientation of non-tribal participants, tribal participants and non-tribal non-participants. A positive and significant relationship was observed between extension orientation and extent of adoption in both groups of participants and non-participants.
11. Level of aspiration was not significantly related to any of the dependent variables of the study.
12. The important constraints perceived by non-tribal participants were inadequacy of capital, non availability of credit, high cost of feed, uneconomic holding size, lack of good breeds, inadequate medical care to goat and poultry, insufficient managerial service, poor socio-economic status, inadequate market facility and water scarcity. The important constraints perceived by tribal participants were inadequacy of capital, uneconomic holding size, non availability of credit, poor socio-

economic status, lack of knowledge about technology, insufficient managerial service, lack of good breeds, poor transport facility, high cost of feed and inadequate supervision and guidance.

Implications and Recommendations

The following implications and recommendations emerge out of the findings of the present study.

1. The study has established relationships between the selected independent and dependent variables in most cases. This could positively give important clues to the extension system for favourably manipulating the innovation decision of the clientele.
2. As the study revealed that there is favourable impact of the Programme among the participants in relation to non-participants, it is suggested that similar transfer of technology programmes may be initiated by the Kerala Agricultural University in the villages around the Agricultural Colleges and Research Stations. These Transfer of Technology centres will serve as visual models in the villages to exhibit useful technology for wider adoption by the farming community. It is also possible to get timely feed back to the Research System to streamline the research programmes based on farmers needs.

3. It is seen that even if tribals are favourably disposed of towards innovations, their socio-economic and cultural barriers often stand as bottlenecks for easily translating the innovations into useful action. Hence, it is suggested that agencies may be started to look after the welfare of the tribes and to safeguard them against exploitation from outside agencies. Then only one can expect any visible impact of development programmes on the existing living standards of the tribal population which might ultimately result in the integration of the vast majority of the tribes into the national mainstream.

4. It is suggested that to accelerate the adoption process transfer of technology centres may also be tried by the concerned Development Departments of the State in collaboration with Agricultural Universities. This is suggested with a view to have wider coverage of such centres throughout the State as the number of such centres that could be started by the Agricultural University are limited.

Suggestions for future research

1. To render the generalisations made in this study more applicable, a comprehensive study covering wider geographical area and including more independent variables

should be designed in the immediate future.

2. A similar study including more independent variables may be taken up in the tribal centres alone of the Kerala Agricultural University.
3. A study may be conducted to find the level of knowledge of participants of the Programme with regard to improved practices and also to measure their attitude towards the Programme.
4. An exploratory study may be conducted to identify the constraints as perceived by the Implementing Staff of the Programme.
5. A study may be undertaken to know the effect of feed back as experienced by the Implementing Staff of the Programme.

References

REFERENCES

- Anonymous. 1979. How and why SFDA Fails to deliver goods? PEO Evaluation report, Kurukshetra, 27(17): 4-8.
- Allport, G. 1955. Theories of perception and the concept of structure. New York : Wiley, p. 14.
- Aristotle, D. 1981. Impact of Village adoption schemes of a Nationalised Bank. M.Sc.(Ag) Thesis (unpubl), Agri. College and Res. Instt., T.N.A.U., Coimbatore.
- Balasubramanian, B. 1977. A study on selected psychological correlates for adoption of improved practices in Ragi. M.Sc.(Ag) Thesis (Unpubl), Agri. College and Res. Instt., T.N.A.U., Coimbatore.
- Balasubramanian, R. 1980. Adoption of Dairy innovations - A critical analysis. M.Sc.(Ag) Thesis (unpubl), Agri. College and Res. Instt., T.N.A.U., Coimbatore.
- Balasubramaniam, U.A. 1981. An analysis of socio-technological gap in Lab-to-Land Programme. Res. Bull., Centre for Agriculture and Rural Development Studies, T.N.A.U., Coimbatore.
- Balkishan Singh, Mahipalkand Tyagi, K.C. 1985. Some selected socio personal economic characteristics of the farmers of Progressive and Non-progressive Dairy Villages. Indian J. Extn. Ed. 21(3 & 4) : 101-103.
- Balu, S.R.A. 1980. A study on the impact of Integrated Dryland Agricultural Development Project on Groundnut growers. M.Sc.(Ag) Thesis (unpubl), Agricultural College and Res. Instt., T.N.A.U., Coimbatore.

- Basaram, G.S. 1966. Motivational and Resistance Forces related to the acceptance of new ideas and techniques in Farming. Indian J. Extn. Ed : 2 (2 & 4) : 107-115.
- *Deal, G.H. and Rogers, E.H. 1960. The adoption of the Farm practices in Central Iowa Community. Agricultural and Home Experiment Station, Iowa State University of Science and Technology, Iowa Special Report (26).
- Bhaskaran, C. 1979. A critical analysis of the interpersonal communication behaviour of small and other farmers in a less progressive, progressive and more progressive village in Kanyakumari District of Tamil Nadu. Ph.D. Thesis (unpubl), Dept. of Agri. Extn. U.A.S., Bangalore.
- Bhilegaonkar, M.G. and Dakh, A.M. 1978. A study of Mobile Farm Advisory Service. Indian J. Extn. Ed. 14 (1 & 2) : 62-63.
- Bhoite, H.S. and Nikalji, Y.S. 1983. A study of adoption of Dryland Agricultural Technology with special reference to selected socio-economic attributes. Maha. Jour. Extn. Edn. 2 : 93-97.
- *Blalock, T.C. 1963. 'State Legislators Perception of the North Carolina Co-operative Agricultural Extension Service.' (unpubl). Ph.D. Thesis. University of Wisconsin, Madison, U.S.A.
- *Cantril, H. and Free, K.A. 1962. Hopes and fears for self and country. The self anchoring striving scale in cross cultural research. The American Behavioural Scientist. pp. 3-30.

- *Chattopadhyaya, S.N. 1963. A study of some psychological correlates of adoption of innovations in farming. Ph.D. Thesis (unpubl), I.A.R.I., New Delhi.
- Chauhan, K.N.K. and Singha, B.P. 1976. Impact of SITE on adoption of farm technology. Indian J. Extn. Ed. 12 (3 & 4) : 14-21.
- Coleman, A.L. 1955. How Farm people accept new ideas? Agricultural Extension Service, Iowa State College : 1-10.
- Copp, J.H., Sill, M.L. and Brown, B.T. 1958. The function of information sources in the farm practices adoption process. Rural Sociology. 23 : 48-54.
- Das, K.K. and Sarker, D.R. 1970. Economic motivation and adoption of farming practices. Indian J. Extn. Ed. 6 (1 & 2) : 103-107.
- *Dempo (Gardner, 1940). The use of the term level of aspiration. Psychological review. 47 : 59-65.
- Duncan, J.A. and Krestlow, B.W. 1954. Selected cultural characteristics and acceptance of education programme and practices. Rural Sociology. 19 : 349-357.
- Emery, P.E. and Oeser, O.A. 1958. Information Decision and Action, Melbourne University Press, Carlton.
- Fliegal, F. 1960. 'Obstacles to change for the low income farmers.' Rur. Soc. 25 : 347-351.

- Fliegal, F.C. 1956. A multiple correlation analysis of factors associated with adoption of Farm Practices, Rural Sociology, 21 : 284-295.
- Gangappa, G.N. 1975. A study of adoption behaviour, consultancy pattern and information source credibility of small farmers in Mysore District of Karnataka State. M.Sc.(Ag) Thesis (unpubl), Dept. of Agri. Extn., U.A.S., Bangalore.
- Guilford, J.P. 1956. Fundamental Statistics in Psychology and education. McGraw Hill Book Company, Tokyo : 510-515.
- Haraprasad, D. 1982. Study on the impact of the Agricultural Programmes implemented by the Small Farmers Development Agency among farmers in Trivandrum District. M.Sc.(Ag) Thesis (unpubl), College of Agriculture, Vellayani.
- Hartley, R.E. 1952. Fundamentals of Social Psychology. New York, Knopf : 228.
- Kamrudeen, M. 1981. A study on the impact of National Demonstration Programme on Paddy cultivation in Trichur District. M.Sc.(Ag) Thesis, (unpubl). College of Agriculture, Vellayani.
- *Katz, E., Lewin, M.L. and Hamilton, H. 1963. Tradition of Research on the diffusion of Innovations. Americal Sociological Review, 28 : 237-252.
- Kulkarni, R.R. and Sangle, G.K. 1984. Analysis of technological gap in tribal farming system. Man In India, 64 (1) : 69-73.

- Mahadevaswamy, B.N. 1978. A comparative study of adoption behaviour, consultancy pattern and information source credibility of small, Marginal and other farmers of Bangalore District of Karnataka State. M.Sc.(Ag) Thesis (unpubl), Dept. of Agri. Extn. U.A.S., Bangalore.
- Manivannan, N. 1980. A study on the knowledge and extent of adoption of sun flower growers. M.Sc. (Ag) Thesis (unpubl), Agri. College and Res. Instt., T.N.A.U., Coimbatore.
- Mishra, R.N. and Jha, P.N. 1985. Impact of Lab-to-Land Programme in increasing adoption, productivity and income of farmers in North Bihar. Indian J. Extn. Ed. 21 (1 & 2): 71-79.
- Moullick, T.K. 1965. A study of the predictive values of some factors of adoption of Nitrogenous fertilisers and the influence of sources of information on adoption behaviour. Ph.D. Thesis, I.A.R.I., New Delhi.
- Murthy, B.K., Dudhani, C.M., Jayaramaiah, K.M., Veerabhadraiah, V. and Sethu Rao, M.K. 1973. A scale to measure the differential perception of adopters and non-adopters. Mysore Journal of Agricultural Sciences. 7 : 282-291.
- Muthaya, B.C. 1971. Farmers and their aspiration - Influence of socio-economic status and work - orientation. National Institute of Community Development, Hyderabad.

- Nair, G.T. 1969. A multivariable study on adoption of High Yielding Paddy Varieties by the Farmers of Kerala State. Ph.D. Thesis, College of Agriculture, Vellayani.
- Nandakumar, A.C. 1980. Critical analysis of the functioning of Drought Prone Area Programme. M.Sc.(Ag) Thesis (unpubl), Agrl. College and Res. Instt., T.N.A.U., Coimbatore.
- Nandakumar, A.C. and John Knight, A.C. 1982. Impact of Drought Prone Area Programme on the participants. Rural Development Review, 1 (1) : 48-49.
- Palaniswamy, P. 1978. Adoption Behaviour of Malli and Mullai flower growing farmers. M.Sc.(Ag) Thesis (unpubl), Agrl. College and Res. Instt., T.N.A.U., Coimbatore.
- Ponnappan, C. 1982. Fish Farmers Development Programme - An analysis. M.Sc. (Ag) Thesis (unpubl), Agrl. College and Res. Instt., T.N.A.U., Coimbatore.
- Rajendran, P. 1978. A study of factors affecting the adoption of selected agricultural practices. M.Sc.(Ag) Thesis (unpubl), College of Agriculture, Vellayani.
- Ramsey, C.H., Polson, R.A. and Spencer, G.H. 1959. Values and adoption of practices. Rural Sociology, 24.

- Ravichandran, V. 1981. Lab-to-Land Programme - A perspective analysis. M.Sc.(Ag) Thesis (unpubl), Agri. College and Res. Instt., T.N.A.U., Coimbatore.
- Reddy, M.M. and Daivadeenam, K. 1985. Impact of Lab-to-Land Programme on Small and Marginal Farmers - A study. Kurukshetra, 33 (5) : 22-26 & 34.
- Rogers, E.M. 1962. Diffusion of Innovations. The Free Press, New York.
- Rogers, E.M. and Shoemaker, F.F. 1971. Communication of Innovations - A cross cultural approach. The Free Press, New York.
- Samantha, R.K. 1977. A study of some Agro-economic, Socio-psychological and communication variables associated with repayment of agricultural credit users of Nationalised Banks. Ph.D. Thesis (unpubl). Bidanchandran Krishividyalaya, Nadia, West Bengal.
- Sanoria, Y.C. and Sharma, D.K. 1983. Analysis of adoption behaviour of Beneficiaries of Farm Development Programmes. Indian J. Extn. Ed. 19 (1 & 2) : 84-86.
- Sawhney, M.M. 1961. Diffusion and Acceptance of Innovations in Agriculture with a special reference to the Rural leaders and Rural Youths. Ph.D. Thesis (unpubl), I.A.R.I., New Delhi.
- Segar, V. 1979. Adoption behaviour of members and non-members of Farmers Discussion Groups. M.Sc.(Ag) Thesis (unpubl), Agri. College and Res. Instt., T.N.A.U., Coimbatore.

- Shanmukhappa, S. 1978. A study on adoption behaviour and value orientation of arecanut growers of Shimoga District in Karnataka State, M.Sc.(Ag) Thesis (unpubl), U.A.S., Bangalore.
- *Sharp, L. 1952. Steel axes for stone age Australians in Spicer, E.H. (Ed). Human Problems in Technological change, New York, Ressel Sage Foundation.
- *Sherif, C.W. 1956. An outline of social psychology, New York, Harper and Botlers, p. 79.
- Shivakumar, P.J. 1983. Impact of Agricultural Research Stations and Farmers on the cultivation of crops by the Farmers of surrounding area. M.Sc.(Ag) Thesis (unpubl), College of Agriculture, Vellayani.
- Singh, A.K. and Ray, G.L. 1985. Variables contributing to the level of fertiliser use of the farmers. Indian J. Extn. Ed. 21 (3 & 4) : 1-9.
- Singh, R. 1983. Selected characteristics of farmers in relation to their adoption of farm mechanisation. Indian J. Extn. Ed. 19 (3 & 4) : 11-17.
- Singha, H.S.P. and Sinha, S.K. 1980. Adoption of High Yielding Varieties of Maize by the farmers of Sikkim. Indian J. Extn. Ed. 16 (1 & 2): 46-48.
- Singha, M.N., Singha, P.R.R. and Sohal, T.S. 1974. Attributes of potential adopters of cattle feed mixtures. Indian J. Extn. Ed. 10(3 & 4) : 46-47.

- Sohal, T.S. and Makkar, S.L. 1973. Adoption of Soil Testing. Indian J. Extn. Ed. 9 (3 & 4) : 136-138.
- Sohi, J.S. and Kherde, R.L. 1980. A study of Dairy adoption behaviour of Small and Marginal Farmers in Punjab. Indian J. Extn. Ed. 16 (1 & 2) : 84-86.
- Somasundaram, D. 1976. A diagnostic study of Small farmers with respect to new agricultural technology and its effective communication for adoption. Ph.D. Thesis (unpubl), Dvn. of Agrl. Extn., I.A.R.I., New Delhi.
- Sundaraswamy, B. and Duraiswamy, K.N. 1975. Extent of adoption of recommended practices in respect of hybrid sorghum cultivation in the selected Taluk of Mysore District. Madras Agric. J. 62 (10 & 12) : 707-711.
- Supe, S.V. 1969. Factors related to Different Degree of Rationality in Decision Making Among Farmers in Buldana District. Ph.D. Thesis, I.A.R.I., New Delhi.
- Surendran, R. 1981. Participation of Todas in Agricultural Development Programme. M.Sc.(Ag) Thesis (unpubl), Agrl. College and Res. Instt., T.N.A.U., Coimbatore.
- Sushama Kumari, N.P. 1979. A study on the impact of selected Development Programme among the tribals of Kerala. M.Sc.(Ag) Thesis (unpubl), College of Agriculture, Vellayani.

- Sushama Kumari, N.P., Menon, A.G.G. and Bhaskaran, C. 1981. Adoption behaviour of selected tribes of Kerala. Indian J. Extn. Ed. 18 (1 & 2) : 71-76.
- *Suttle, Wagne, 1951. The early diffusion of the potato among the coast salish. South Western Journal of Anthropology. 7 : 118-135.
- Thankarajan, S. 1979. Incentives and disincentives related to the adoption behaviour of marginal and neo-marginal farmers. M.Sc.(Ag) Thesis (unpubl), Agri. College and Res. Instt., T.N.A.U., Coimbatore.
- Thankaraju, V. 1979. Adoption of Sericulture technology by trained and untrained sericulturists. M.Sc.(Ag) Thesis (unpubl), T.N.A.U., Coimbatore.
- *Trivedi, G. 1963. Measurement and analysis of Socio-economic status of rural families. Ph.D. Thesis, I.A.R.I., New Delhi.
- Tyagi, K.C. and Sohal, T.S. 1984. Factors associated with adoption of dairy innovations. Indian J. Extn. Ed. 20 (3 & 4) : 1-8.
- Vijayakumar, P. 1985. Impact of Special Agricultural Development Units of the Agricultural Department of Rural areas in Kerala. M.Sc.(Ag) Thesis (unpubl), College of Agriculture, Vellayani.

- Vijayaraghavan, P. 1977. The study of the factors affecting the knowledge and adoption of High Yielding Varieties of Paddy by Small and Marginal Farmers. M.Sc.(Ag) Thesis (unpubl), Agrl. College and Res. Instt., T.N.A.U., Coimbatore.
- Vijayaraghavan, R. 1979. Critical analysis of the functioning of Integrated Dryland Agricultural Development Project. M.Sc.(Ag) Thesis (unpubl), Agrl. College and Res. Instt. T.N.A.U., Coimbatore.
- Waghmare, S.K. and Pandit, V.K. 1982. Constraints in adoption of wheat technology by the tribal farmers of Madhya Pradesh. Indian J. Extn. Ed. 18 (1 & 2) : 95-98.
- Waghmare, V.S. and Waghmare, S.R. 1985. Lab-to-Land Programme : A far crying fillip to Gujarats' Agriculture. Journal of Extension System. National Dairy Research Institute, Karnal, 1 : 70-71.
- Wilkening, E.A. 1952. Acceptance of improved Farm Practices. Agric. Exptl. Stat. Bull. 92 : North Carolina, U.S.A.
- Yadav, K.D. and Jain, N.C. 1964. Socio-economic factors influencing the adoption and non-adoption of Hybrid Cattle in Western M.P. Indian J. Extn. Ed. 20 (1 & 2) : 71-72.

Appendix

APPENDIX-I

KERALA AGRICULTURAL UNIVERSITY
COLLEGE OF HORTICULTURE

K.P.Ramachandran Nair,
Associate Professor and Head,
Dept. of Agricultural Extension,
Vellanikkara.

Vellanikkara,
Dated : 6-8-1986.

To

Dr/Shri.

Miss.V.K.Sudha, an M.Sc.(Ag) Student in Agrl. Extension of College of Horticulture, Vellanikkara is working on her M.Sc.(Ag) Thesis problem entitled "A study of the impact of Lab-to-Land Programme on tribal and non-tribal participants in Kerala Agricultural University." As a part of the study a perception scale has to be developed to measure the perception of participant farmers about the Lab-to-Land Programme. I have the pleasure to request you to please serve as judge for the standardisation of the perception scale. I am enclosing a list containing twenty nine statements and request you to please indicate the degree of relevance of each statement about Lab-to-Land Programme.

I request you to kindly fill in the columns and return the Proforma at your earliest convenience. I solicit your help in this regard.

Yours faithfully,

K.P. Ramachandran Nair

Sl. Statements
No.

**Most
Relevant**
Relevant
**Less
Relevant**
**Least
Relevant**

- 1 Lab-to-Land Programme is an effective Programme for rural uplift.
- 2 Lab-to-Land Programme is an effective Programme for economic development of beneficiaries
- 3 Farm plans chalked out for the beneficiaries of the Programme are effective
- 4 Lab-to-Land Programme is an effective Programme for speedy transfer of technology
- 5 Lab-to-Land Programme is an effective Programme for employment generation
- 6 Lab-to-Land Programme plays an effective role in raising the standards of living of beneficiaries
- 7 Lab-to-Land Programme is effective in identifying the felt needs of the beneficiaries

Sl. No.	Statements	Most Relevant	Relevant	Less Relevant	Least Relevant
8	Lab-to-Land Programme is an effective programme for exposing the beneficiaries to new practices				
9	Lab-to-Land Programme effectively bridges the gap between haves and have-nots				
10	Lab-to-Land Programme is effective in creating awareness about innovations in the beneficiaries				
11	Lab-to-Land Programme is effective in improving the skills of beneficiaries				
12	Lab-to-Land Programme is effective for motivating farmers for further adoption				
13	Lab-to-Land Programme enables the effective utilisation of existing resources				
14	The feed back mechanism existing in the Lab-to-Land Programme is effective				
15	Lab-to-Land Programme is an effective Programme for the transfer of need based technology				

Sl. No.	Statements	Most Relevant	Relevant	Less Relevant	Least Relevant
16	The inputs supplied under the Programme are effective for adoption of recommended practices				
17	Lab-to-Land Programme is an effective Programme for developing confidence even among non-participants in the adoption of new technologies				
18	Lab-to-Land Programme is an effective Programme to expose beneficiaries to diversified enterprises				
19	Lab-to-Land Programme is an effective Programme to promote co-operation among beneficiaries				
20	Technologies transferred under Lab-to-Land Programme are effective				
21	Lab-to-Land Programme enables the effective utilisation of time and effort				
22	Lab-to-Land Programme is an effective Programme for tapping the potentialities of beneficiaries				

Sl. No.	Statements	Most Relevant	Relevant	Less Relevant	Least Relevant
23	Guidance and expertise given under the Lab-to-Land Programme is effective				
24	Lab-to-Land Programme is effective in educating farming community through systematic findings				
25	Lab-to-Land Programme is effective in providing the beneficiaries several opportunities to participate in organised extension activities				
26	Lab-to-Land Programme is effective in raising the annual income of families to some extent				
27	Lab-to-Land Programme is effective in promoting contact between scientists and farmers				
28	Lab-to-Land Programme is effective in developing a scientific outlook among beneficiaries				
29	Lab-to-Land Programme is an effective Programme for solving many of the problems of small and marginal farmers.				

APPENDIX - II

DEPARTMENT OF AGRICULTURAL EXTENSION
COLLEGE OF HORTICULTURE
VELLANIKKARA

"A study of the Impact of Lab-to-Land Programme on Tribal
and Non-tribal participants in Kerala Agricultural University"

Interview Schedule

- Respondent No. :
1. Name and address of the farmer :
2. Age :
3. Caste/Tribe :
4. Panchayat :
5. Block :
6. District :
7. Socio-economic status
- Religion
- a) Occupation : Main/subsidiary
1. Agri. Labour :
2. Collection of forest products :
3. Business (specify) :
4. Independent profession :
5. Own cultivation :

b) Education

	Husbands'	Wives'
1. Illiterate	:	
2. Can read only	:	
3. Can read and write	:	
4. Primary	:	
5. Middle	:	
6. High School and above	:	

c) Social Participation

Do you participate in the activities of any organisation : Yes/No

If yes,

Organisation/ Institution	Not Member	Member	Office bearer	How often do you attend meetings of organisation		
				Regular- ly	Occass- ionally	Never
a. Village Panchayats						
b. Service Co-operatives						
c. Milk Co-operatives						
d. Youth clubs						
e. Mahila mandals						
f. Others (specify)						

d) Land

- 1. Less than 50 cents :
- 2. 50-100 cents :
- 3. 1-2 acres :
- 4. 2 acres and above :

e) House

- a) 1) Hut (one room) (2) Thatched (3) Tiled (4) Terraced
- b) 1) Plastered (2) Not plastered
- c) 1) Electrified (2) Not electrified

and Household

f) Agricultural Implements: No:

- a) Draught animal :
- b) Pumpset :
- c) Sprayer :
- d) Spade :
- e) Pickaxe :
- f) Reaper :
- g) Axe :
- h) Cycle :
- i) Radio :
- j) Watches :
- k) Chairs :
- l) Cots :
- m) Others (specify) :

g) Livestock No:

- 1) Cow :
- 2) Buffaloe :
- 3) Goat :
- 4) Poultry :

h) Family	
Nuclear	:
Joint	:
8) Annual Income	
Farm	:
Non-farm	:
Total	:

9. Perception about Lab-to-Land Programme by the Participants

Sl. No.	Statements	Very effective	Effective	Less effective	Least effective
1	LLP as a Programme for economic development of participants is				
2	Technologies transferred under LLP are				
3	Farm plans chalked out for the beneficiaries are				
4	LLP as a Programme for employment generation...				
5	LLP is in identifying the felt needs of participants				
6	LLP is in exposing beneficiaries to new practises				

Sl. No.	Statements	Very effective	Effective	Less effective	Least effective
7	LLP is in improving the skills of beneficiaries				
8	LLP is a Programme for motivating farmers for further adoption				
9	LLP as a Programme for transfer of need based technology is				
10	The feed back mechanism existing under the programme is				
11	The inputs supplied under the Programme are for adoption of recommended practices.				
12	Guidance and expertise given to beneficiaries are ...				
13	LLP is in promoting contact between scientists and farmers				
14	LLP is in developing scientific outlook among beneficiaries				

10. Scientific orientation

Please state the degree of agreement/disagreement or undecidedness with each of the following statements

Statements	SA	A	UD	DA	SDA
1. New methods of farming give better results to a farmer than old methods.					
2. The way of farming by our forefathers is still the best way to farm today.					
3. Even a farmer with lots of farm experience should use new methods of farming.					
4. A good farmer experiment with new ideas in farming					
5. Though it takes time for a farmer to learn new methods in farming it is worth the efforts.					
6. Traditional methods of farming have to be changed in order to raise the level of living of a farmer.					

11. Economic motivation

1. A farmer should work towards larger yields and economic profits.
2. The most successful farmer is one who makes the most profit.

Statements

 SA A UD DA SDA

3. A farmer should try any new farming idea which may earn him more money.
4. A farmer should grow cash crops to increase monetary profits in comparison to growing of food crops for home consumption.
5. It is difficult for the farmers children to make good start unless he provides them with economic assistance.
6. A farmer must earn his living but the most important thing in life cannot be defined in economic terms.

12. Management orientation

Please indicate your agreement or disagreement with each of the statements given below.

 Agree

 Disagree

A. Planning orientation

1. Each year one should think afresh about the crop to be cultivated in each type of land.
2. It is not necessary to make prior decision about the variety of crop to be cultivated.

Agree	Disagree
-------	----------

3. The amount of seed, fertiliser, PP chemicals needed for raising a crop should be assessed before cultivation.
4. It is now necessary to think ahead of the cost involved in raising a crop.
5. One need not consult any agrl. expert for crop planning.
6. It is possible to increase yield through farm production plan.

B. Production orientation

1. Timely planting of a crop ensures good yield.
2. One should use as much fertiliser as he likes.
3. Determining fertiliser dose by soil testing saves time.
4. For timely weed control one should use suitable herbicide.
5. Seed rate should be given as recommended by specialists.
6. With low water rates one should use as much irrigation water as possible.

 Agree Disagree

C. Marketing orientation

1. Market is not useful to a farmer.
2. A farmer can get good price by grading his produce.
3. Ware house can help a farmer to get better price for his produce.
4. One should sell his produce to nearest market irrespective of price.
5. One should purchase his inputs from shop where his relatives purchase.
6. One should grow those crops which have more market demand.

13. Extension orientation

- a. Extension contact.
 Frequency of meeting
 Officials.

 Twice in a week Once in a week Once thrice a month Never

1. Research Scientists
2. Extension Officer
3. Demonstrators
4. Others

**b. Extension participation
Activities**

Whenever conducted	Not attending all activities whenever conducted	Never
-----------------------	--	-------

1. Seminar
2. Group discussion
3. Farmers' meetings
4. Demonstrations
5. Exhibitions
6. Film show

14. Level of aspiration

1. What level you expect your children to reach in their education.
 - a. Sons : Step No.
 - b. Daughters : Step No.

7	Highly satisfying
6	Moderately most satisfying
5	Average
4	Average
3	Moderately satisfying
2	Least satisfying
1	Least satisfying

2. What level you expect your children to reach in their occupation
 - Sons : Step No.
 - Daughters : Step No.

3. Regarding your possession

1. Where do you think you are now?
Step No.
2. Where do you expect to be in next 3 years.
Step No.

4. Regarding your income
 - 1) Step No.
 - 2) Step No.
5. Regarding your produce from land
 - 1) Step No.
 - 2) Step No.
6. Regarding the type of house
 - 1) Step No.
 - 2) Step No.
7. Regarding possession of Agri. implements.
 - 1) Step No.
 - 2) Step No.
8. Regarding livestock
 - 1) Step No.
 - 2) Step No.
9. Other home reared animals
 - 1) Step No.
 - 2) Step No.
10. Regarding shelter for livestock
 - 1) Step No.
 - 2) Step No.
11. Regarding possession of furniture
 - 1) Step No.
 - 2) Step No.
12. General contentment in life
 - 1) Step No.
 - 2) Step No.

15. Adoption of recommended practices

Coconut

- 1) Do you have coconut palms in your homestead?
Yes/No.
If yes, name the variety.
- 2) What is the spacing you have adopted for planting the palms?
- 3) Do you apply chemical fertilisers to the palms?
Yes/No.
If yes

Name of the fertiliser	Quantity applied	No. of splits and dose
------------------------	------------------	------------------------

- 4) Have you noticed any pest/disease attack on your palms?
Yes/No.
If yes, what chemical have you used to control them.

Name of chemical	Dosage
------------------	--------

- 1) Pest
2) Disease

Banana

- 1) Do you have Banana cultivation in your homestead?
Yes/No.
If yes, name the variety.

2) Have you followed any spacing for planting?

Yes/No.

If yes. What is the spacing followed.

3) Do you apply chemical fertilisers to Banana?

Yes/No.

If yes, name of the fertiliser	Quality applied	No. of splits and dose
--------------------------------	-----------------	------------------------

4) Have you noticed any pest or disease on the plant?

Yes/No.

If yes. What chemical have you used to control them?

Name of chemical	Dosage
------------------	--------

1) Pest

2) Disease

Pepper

1) Do you have pepper cultivation in your homestead?

Yes/No.

If yes. Name the variety.

2) Do you apply organic manures to vines?

Yes/No.

If yes. Give the quantity/vine/year.

3) Do you apply chemical fertilisers?

Yes/No.

If yes.

Name of chemical	Quantity applied	No. of splits and dosage
------------------	------------------	--------------------------

4) Have you noticed any pest/disease on Vines.

Yes/No.

If yes.

Name of chemical	Dosage
------------------	--------

1) Pest

2) Disease

Goat

1) Do you have goats in your home?

Yes/No.

If yes. What is the breed?

2) What sort of housing system is adopted in your home for sheltering goats?

3) Do you give concentrate feed to goat?

Yes/No.

If yes. What is the dosage of feed you give to an adult animal.

(Qty. in gms/kg)

Poultry

1) What sort of breeds of birds do you rear?

2) Do you give concentrate feed to birds?

Yes/No.

If yes. Give the Quantity/bird

3) Do you take preventive vaccinations to birds?

Yes/No.

If yes. When?

16. Constraints in adoption of recommended practices.
Which among the following would you identify as the most important and least important constraint in adoption of recommended practices.

Most important	Least important
-------------------	--------------------

1. Poor transport facility
2. Lack of communication facility
3. Non-availability of supply and services
4. Lack of knowledge about technology
5. Uneconomic holding size
6. Inadequacy of capital
7. Inadequate supervision and guidance
8. Non-availability of labour
9. Favouritism in distribution of inputs
10. Inadequate market facility
11. Water scarcity
12. Poor socio-economic status
13. Low price for output

Most Least
important important

14. Insufficient managerial service
15. High cost of feed
16. Inadequate medical care of goat and poultry
17. Non-availability of good breeds
18. Non-availability of equipments for plant protection
19. Non-availability of credit
20. Others (specify)

**A STUDY OF THE IMPACT OF LAB-TO-LAND
PROGRAMME ON TRIBAL AND NON-
TRIBAL PARTICIPANTS IN KERALA
AGRICULTURAL UNIVERSITY**

By

V. K. SUDHA

ABSTRACT OF THE THESIS

submitted in partial fulfilment of
the requirement for the degree

Master of Science in Agriculture

(Agricultural Extension)

Faculty of Agriculture

Kerala Agricultural University

Department of Agricultural Extension

COLLEGE OF HORTICULTURE

Vellanikkara - Trichur

1987

ABSTRACT

The study was conducted in Trichur district of Kerala State to study the impact of Lab-to-Land Programme on tribal and non-tribal participants in Kerala Agricultural University. The objectives were:

1. To study the perception about Lab-to-Land Programme by participant farmers.
2. To measure the Scientific orientation of the participant farmers of the Programme vis-a-vis non-participant farmers.
3. To study the extent of adoption of technology transferred by participant and non-participant farmers.
4. To study the relationship of selected personal, socio-economic and socio-psychological characteristics of participants and non-participants with perception about Lab-to-Land Programme by participants, scientific orientation of participants and non-participants, extent of adoption of transferred technology by participants and non-participants.
5. To identify the constraints in the adoption of technology transferred under the Programme by the participants.

The study revealed that majority of the non-tribal and tribal participants had higher perception about the programme.

With regard to scientific orientation also majority of tribal and non-tribal participants were in high scientific orientation group compared to tribal non-participants and non-tribal non-participants. Also, it was noticed that the extent of adoption of transferred technology was more in participants than non-participants.

It was also revealed that there was significant difference in the scientific orientation of participants and non-participants. But no significant difference was noticed between scientific orientation of participant tribals and non-participant tribals. In the case of extent of adoption of transferred technology also, significant difference was noticed between participants and non-participants and also between the different groups of participants and non-participants.

The study of personal, socio-economic and socio-psychological variables revealed that majority of the participants and non-participants were middle aged. The mean scores for economic motivation, Management orientation, Extension orientation and level of aspiration were found to be higher in both participant tribals and non-tribals than in non-participant tribals and non-tribals.

The correlation analysis gave the following results. Income was found to be positively and significantly associated with perception about Lab-to-Land Programme in tribal participants. Economic motivation showed positive and significant relationship with scientific orientation in both participant and non-participant tribals. Economic motivation also showed positive and significant relationship with extent of adoption in both groups of participants and non-participants. Management orientation was found to be positively and significantly associated with scientific orientation of non-tribal participants only. Extension orientation was found to be positively and significantly related with perception about Lab-to-Land Programme in both group of participants. A positive and significant relationship was observed between extension orientation and extent of adoption of both participants and non-participants.

The important constraints perceived by non-tribal participants were inadequacy of capital, non-availability of credit, high cost of feed, uneconomic holding size, lack of good breeds etc. The important constraints perceived by tribal participants were inadequacy of capital, uneconomic holding size, non-availability of credit, poor socio-economic status, lack of knowledge about technology etc.