AWARENESS AND ATTITUDE OF FARMERS, AGRICULTURAL EXTENSION WORKERS AND OFFICIALS TOWARDS TRAINING AND VISIT SYSTEM

BY

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DECLARATION

I hereby declare that this thesis entitled "AWARENESS AND ATTITUDE OF FARMERS, AGRICULTURAL EXTENSION WORKERS AND OFFICIALS TOWARDS TRAINING AND VISIT SYSTEM" 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.

Vellayani,
13th June, 1984.

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C E R T I F I C A T E

Certified that this thesis, entitled "AWARENESS AND ATTITUDE OF FARMERS, AGRICULTURAL EXTENSION WORKERS AND OFFICIALS TOWARDS TRAINING AND VISIT SYSTEM" is a record of research work done independently by Miss. BETTY CHERIAN, K. 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.

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C O N T E N T S

LIST OF TABLES

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LIST OF FIGURES

INTRODUCTION

CHAPTER I

INTRODUCTION

One of the prerequisites for agricultural development is the successful transfer of useful technologies or ideas from the scientists to the farmers. Although many sophisticated technologies have been developed in the field of agriculture during the last two decades the per hectare yield of crops grown in the country is still far below the standard of other countries in the world. One of the reasons attributed to the low per hectare yield is the failure in the proper transfer of technology from research station to the farming community.

Therefore the need of the time is the transfer of technology developed from time to time to the farmers, as speedily as possible to increase yields through well organised extension system. The extension system should aim at educating the farmers systematically in an intensive and extensive scale for efficient management of soil, water and crop husbandry.

In order to achieve the above objectives, the Kerala Agricultural Extension Project on the methodology developed by Daniel Benor, the World Bank Consultant on Agricultural Extension, was introduced on a pilot basis in 3 districts

of Kerala viz., Trivandrum, Quilon and Alleppey during 1981. Later in 1983 the programme was extended to the remaining 10 districts of Kerala. The Kerala Agricultural Extension Project popularly known as Training and Visit System (T&V system) envisages the transfer of proven and low cost technology to selected contact farmers in groups of 100-150 farm families by Village Extension Workers (Agricultural Demonstrators) through systematic and regular fortnightly visits. In order to improve the professional competance of Village Extension Workers, they are given fortnightly training by the Subject Matter Specialists at Sub divisional level and by the Junior Agricultural Officer at the Agricultural Extension Unit level. The fortnightly training sessions concentrate on the most important crops of the particular area and the village extension workers are intensively instructed on a few most important recommendations for the forthcoming fortnight of the crop season.

It is universally accepted that an individual's attitude has a significant influence in his behaviour and role performance with respect to a particular goal on success of any process. This being so, the attitude of persons concerned with the implementation of Agricultural Extension Project will largely determine the nature and extent

of their participation which is basic to its success. The main purpose of the present study therefore is to discover the awareness about T&V system and to explore the prevailing attitude of farmers, agricultural extension workers and officials connected with the implementation of this new system.

Keeping the above ends in view, the present study was undertaken with the following specific objectives.

Objectives of the study:

1. To study the awareness of T&V system among the farmers, agricultural extension workers and officials.
2. To develop a scale to measure the attitude of farmers towards T&V system.
3. To measure the attitude of farmers, agricultural extension workers and officials towards T&V system and isolate the factors related with it.
4. To elucidate the problems if any, in the implementation of T&V system as perceived by farmers, agricultural extension workers and officials and to suggest suitable solutions.

Need and importance of the study

Training and Visit system was introduced in three districts of Kerala on a pilot basis during 1981. Later during 1983 the entire state was covered by the programme. Practically no research studies were conducted so far to assess the awareness about the system and the attitude towards the system of persons concerned with the implementation of the system since its inception. Training and Visit system is by nature a most disciplined programme involving farmers, agricultural extension workers and officials to increase agricultural production by improving the management practices with the available sources of energy and inputs. Hence a greater part of its success depends on the involvement and feelings of the farmers, extension workers and officials towards the programme. Its success also depends on the extent of participation by the contact farmers in the discussions and meetings organised by the Agricultural Extension workers of the unit and how and to what extent they are disseminating the technical knowhow gathered from the village extension workers to other farmers. If they possess a favourable attitude towards the system, naturally they will have better participation. It is therefore of prime need to identify the attitude of farmers towards the T&V system.

This study is an attempt in this direction with the purpose of creating events for further researches. It is hoped that the findings and the suggestions given would definitely be useful for further researches and also for successful implementation of the system.

Limitations of the study

Since all the social science researches are subjected to certain constraints, this study is not an exception. As such the limitations are listed as follows.

1. The limitation of time, finance and other resources available at the disposal of a single investigator.
2. The area of investigation was restricted to one district. As such generalization could be restricted to the area under investigation and in particular in areas where similar conditions prevail in general.
3. Since most of the data are based on the verbal response of the respondents, the chance of bias could not be eliminated from the interviewee. It is also possible that some of the answers might not fully reflect their inner thoughts and opinion about T&V system.

Neverthless, it is hoped that this study would throw some light on the attitude and awareness of farmers, officials and extension workers towards T&V system.

THEORETICAL ORIENTATION

CHAPTER II

THEORETICAL ORIENTATION

This study deals with the extent of awareness and attitude of farmers, agricultural extension workers, and officials towards T&V system of extension. Hence an attempt was made to develop a theoretical framework for the study of awareness and attitude and the factors related with them. This will help in selecting relevant independent variables and to develop a set of hypotheses, with the help of which the empirical results can be interpreted.

This chapter is divided into four parts. The first part deals with the selected dependent variables for study viz., attitude and awareness. The second part deals with the independent variables and their relationship with the dependent variables. The third part deals with the general theoretical concepts of variables selected for the study. In the final part the hypothesised relationships with respect to each of the variables are given.

I. The dependent variables

The broad objective of the study is to find out the extent of awareness and attitude of farmers, agricultural extension workers and officials towards T&V system of extension. A brief review of the studies conducted on the T&V system are presented here.

Awareness about T&V system

Gosh (1978) conducted a study on attitude of farmers and agricultural extension workers towards T&V system in West Bengal and reported that majority of the farmers and contact farmers belonged to the category of below mean value in terms of their awareness on different aspects of T&V system. Although most of the officials were aware of T&V system, majority of them did not know about the day of visit of the other functionaries.

Jaiswal et al. (1978) conducted a comparative study of T&V system in Madhya Pradesh and Rajasthan and observed that eventhough a vast majority of contact farmers knew the day of visit of village level workers, about sixty-five per cent of them were not knowing the concept of contact farmers.

Rao (1979) conducted an evaluative study on the impact of T&V system in Andhra Pradesh and reported that all most all the farmers were aware of the term contact farmers and also the year of inception of T&V system. Majority of the farmers were knowing the village extension officers and Assistant agricultural Officers by name and person but they did not know the Assistant Director of agriculture and Deputy Director. None of them were aware of the actual number

of contact farmers in their T&V unit. All most all the farmers were not aware of the day of visit of village extension officers and their frequency of visit.

Sankar (1980) studied the impact of T&V system in West Bengal and reported that all the farmers were aware of the term contact farmers and most of them were aware of the year of inception of T&V system. Most of them knew the village extension workers and agricultural extension officers and their days of visit. It was also stated that between the contact farmers and non-contact farmers the contact farmers were showing better awareness about T&V system.

Rao (1980) in his study on interpersonnel communication behaviour of farmers in Sree Ram Sagar Command area of Andhra Pradesh found that majority of farmers were aware of T&V system.

Another study on interpersonal communication behaviour of farmers under T&V system in Andhra Pradesh undertaken by Reddy (1980) revealed that almost all the contact farmers were aware of T&V system and the year of its inception. All the contact and the other farmers were knowing village extension officer by name and person. However only a few of the farmers knew Agricultural officers, Assistant Director of Agriculture and Subject Matter Specialists by name and person.

Another study undertaken by Naik (1981) revealed that majority of the farmers were unaware of the terms 'Benor's Extension system' 'T & V Programme' 'intensive extension system' and 'contact farmer'. Majority of the farmers also were not aware of the correct year of inception of T&V system. Majority of them were knowming Assistant Director of Agriculture by person only but their awareness and acquitance about the Deputy Director of Agriculture, subject matter specialists and project administrator were poor. Majority of them could not tell correctly about the number of contact farmers in their unit, frequency of visit of the village extension officers to the T & V unit. It was also revealed that all the officials covered by the study obtained highest awareness scores showing that all of them were fully aware of the different aspects and concepts of T&V system signifying their professionalism.

Attitude towards T&V system

Gosh (1978) studied the attitude of farmers and agricultural extension workers towards T&V system in West Bengal and reported that majority of the farmers had moderately favourable attitude towards T&V system. Officials had medium or less favourable attitude towards T&V system. It was found that the attitude of farmers was influenced by the degree of their awareness.

Rao (1979) conducted an evaluative study on the impact of T&V system in Andhra Pradesh and stated that the majority of the farmers and officials had moderately favourable attitude towards T&V system. However there was significant difference between possible mean attitude scores and obtained mean scores. It was therefore informed that there was still need for developing favourable attitude among those who were having unfavourable attitude towards the T&V system.

Sarkar (1980) stated that majority of the farmers and officers had moderately favourable attitude towards the T&V system. However, there was a need for developing a more favourable attitude towards the system.

Naik (1981) revealed that majority of the farmers and officials had moderately favourable attitude towards T&V system. However, there was a need for developing still a favourable attitude among those having unfavourable attitude.

II. Relationship between dependent and independent variables.

Studies on the relationship of independent variables with dependent variables are reviewed below.

A. Awareness:

1. Age

Somasundaram (1975) revealed that age had no relationship with the awareness of the farmers about demonstrations.

Sabarathnam (1975) found that there was no association between age and awareness about improved agricultural practices.

Viswanathan et al. (1975) revealed that the age had a positive influence on the awareness about the High Yielding Variety programme.

Rao (1979) reported that awareness of farmers and officials about T&V system was not related to their age.

Sarkar (1980) reported that awareness of farmers about T&V system was found to be unrelated to age.

Naik (1981) stated that the awareness of farmers about the T&V system was found to be dependent on age while in the case of officials there was no association of age with the awareness about the T & V system.

Vijaya (1982) stated that the awareness of the farmers about T&V system was independent of their age.

In the light of the results of the above studies it was decided to include age as an independent variable in this study also.

2.Education

Somasundaram (1975) revealed that education of the farmers was positively related with awareness about the demonstrations.

Viswanathan et al. (1975) stated that there was a significant and positive relationship between education and awareness about High Yielding Variety programme.

Rao (1979) reported that the awareness of farmers and officials about T&V system was fairly related to their education. But in the case of contact farmers there was no association between education and awareness.

Vijayaraghavan (1979) stated that education of farmers had positive and significant association with awareness about high yielding varieties of paddy.

Balu (1980) stated that there was a positive and significant relationship between awareness about integrated Dryland Agricultural Development programme and education.

Nandakumar (1980) concluded that education had positive and significant association with awareness of Drought Prone Area Programme.

Sarkar (1980) stated that awareness of farmers about T&V system was fairly related to education.

Naik (1981) concluded that for both contact and other farmers there exists a positive association of education and awareness of T&V system. But in the case of officials education had no association with awareness of T&V system.

Haraprasad (1982) revealed that there was positive and significant relationship between education and level of awareness of SFDA activities of farmers.

Vijaya (1982) revealed that there was positive influence of education on awareness of farmers towards T&V system.

In this study also, an effort was made to test the influence of education on the awareness about T&V system.

3. Farm size

Viswanathan et al. (1975) stated that there was significant influence of farm size on awareness of farmers about High Yielding Variety programme.

Rao (1979) reported that farm size is not related with farmers awareness about T&V system.

Vijayaraghavan (1979) concluded that farm size was positively and significantly associated with awareness of High Yielding Varieties of paddy.

Balu (1980) stated that farm size was positively and significantly associated with awareness about Integrated Dryland Agricultural Development Programme.

Sarkar (1980) stated that awareness of farmers about T&V system was fairly related to their farm size.

Naik (1981) revealed that there was significant association between farm size and awareness of other farmers while for contact farmers there was no association between farm size and awareness about T&V system.

Haraprasad (1982) revealed that the farm size of farmers was positively and significantly related with the level of awareness of activities of SFDA.

Vijaya (1982) stated that farm size had no influence on the extent of awareness of farmers about T&V system.

These studies signifies the importance of farm size in determining awareness of farmers about T&V system. In this study also, it was decided to test its influence on awareness.

4. Social participation

Somasundaram (1975) stated that social participation of farmers had no relationship with awareness about the demonstrations.

Vijayaraghavan (1979) reported that social participation was positively and significantly associated with awareness about high yielding varieties of paddy.

Nandakumar (1980) concluded that social participation was positively and significantly associated with awareness about Drought Prone Area Programme.

Naik (1981) reported that in the case of other farmers social participation had significant association with awareness while in the case of contact farmers there was no association between the social participation and awareness about T&V system.

Haraprasad (1982) concluded that there was a positive and significant relationship between social participation and level of awareness about SFDA activities.

Based on the above studies social participation was selected to test its influence on awareness of farmers about T&V system.

5. Socio-economic status

Rao (1979) reported that socio-economic status of farmers was not related and had no influence on the extent of awareness about T&V system.

Sarkar (1980) reported that awareness about T&V system of farmers was fairly related to socio-economic status.

Naik (1981) stated that the socio-economic status had a significant bearing on the awareness of contact farmers and other farmers about T&V system.

The above studies reveals the influence of socio-economic status on awareness and therefore socio-economic status was selected as one of the independent variables for the study.

6. Exposure to information source

Rao (1979) reported that mass media exposure and contact with extension agency of farmers were not related and had no influence on the extent of awareness about T&V system.

Naik (1981) revealed that mass media exposure had a significant association with awareness about T&V system of both contact and other farmers.

For this study it was assumed that exposure to information sources would be one of the deciding factors of awareness about T&V system and hence it was included for the study.

7. Scientific orientation

Naik (1981) revealed that in the case of other farmers there was no association between scientific orientation and awareness of T&V system. In the case of contact farmers there was association of scientific orientation with awareness about T&V system.

Therefore scientific orientation was selected to test the influence on the awareness of the farmers in the study.

8. Risk preference

Naik (1981) revealed that risk preference had no association with awareness of other farmers about T&V system. But in the case of contact farmers there existed a significant

relationship between risk preference and awareness about T&V system.

The above study necessitates the selection of farmers' risk preference to confirm its influence over the awareness about T&V system.

9. Experience

Rao (1979) reported that awareness about T&V system of officials was not related to their service experience.

Naik (1981) stated that the experience of officers had no association with awareness of officers about certain aspects of T&V system.

The above finding necessitated the consideration of experience for study in this context.

10. Previous training

No study closely related to relate previous trainings with awareness about T&V system could be reviewed. However, it was decided to include this factor as one of the independent variables for this study anticipating that there will be some relationship between these two variables.

B. Attitude:

According to Ross (1961) people become better integrated and some what more extreme in their attitude as they grow older.

Kher and Jha (1968) reported that farmers attitude towards primary agricultural credit society was not affected by age.

Shirpurkar and Patel (1968) stated that age had positive and significant relationship with attitude of people towards co-operative farming.

Singh and Singh (1968) reported that young farmers had significantly favourable attitude towards chemical fertilizers than old farmers.

Das and Sarkar (1970) reported that there was significant relationship between age and attitude of people towards improved farm practices.

Makkar and Sohal (1974) reported that there was significant relationship between age and attitude of respondents towards soil testing. They also reported that the respondents who were younger in age had more favourable attitude towards soil testing than those who were older in age.

Menon and Prema (1976) reported that age had positive influence on creating a favourable attitude towards Applied Nutrition Programme.

Reddy and Reddy (1977) reported that age had not significant relationship with attitude of farmers towards crop loan system.

Lekshminarayan (1978) revealed that age in the case of agricultural and non-agricultural students was not related to the attitude towards agriculture.

Rao (1979) age was not related with the attitude of farmers and officials towards T&V system.

Sarkar (1980) reported that age of farmers and officials was found to be unrelated to their attitude towards T&V system.

Kamarudeen (1981) revealed that there was negative but non significant relationship between age and attitude of farmers towards the demonstrated cultivation practices.

Naik (1981) reported that the attitude of contact and other farmers towards T&V system was independent of age while for officials also the attitude was found to be independent of age.

The above studies furnish enough evidences with respect to the role of age on attitude and so in this study an attempt was made to include this variable also.

2. Education

Shirpurkar and Patel (1968) reported that there was positive relationship between education and attitude of people towards co-operative farming.

Singh and Singh (1968) reported that the level of education was positively and significantly related to the attitude towards chemical fertilizers.

Das and Sarkar (1970) reported that education was significantly related with farmers attitude towards the High Yielding Variety programme.

Joon et al. (1970) reported that education of farmers was significantly related with their attitude towards High Yielding Variety Programme.

Singh and Singh (1971) reported that education of farmers was positively related to the attitude towards improved agricultural practices.

Makkar and Sohal (1974) reported that education of farmers was positively related to attitude of farmers towards soil testing.

Lekshminarayan (1978) found that education was not related to attitude towards agriculture in the case of agricultural and non-agricultural students.

Rao (1979) reported that education was not related with attitude of farmers towards T&V system but was related to attitude of officials.

Sarkar (1980) found that the attitude of farmers and officials towards T&V system was significantly related to their education.

Kamarudeen (1981) stated that the level of education was positively and significantly relatedto the attitude of farmers towards demonstration plots.

Naik (1981) revealed that there was a positive association of education with attitude of both contact and other farmers. But for officials it was seen that there was no association of education of officials to their attitude towards T&V system.

Vijayakumar (1982) found that education of both beneficiaries and non beneficiaries of SFDA had a significant relationship with their attitude towards improved coconut cultivation practices.

These reports necessitated the selection of education as a variable to confirm its influence over the attitude of farmers towards T&V system.

3. Farm size

Shirpurkar and Patil (1968) found a negative relationship between farm size and attitude of people towards co-operative farming.

Das and Sarkar (1970) reported that the farm size was positively and significantly related to the attitude of farmers towards improved agricultural practices.

Singh and Singh (1971) reported a positive relationship between farm size and attitude of farmers towards improved agricultural practices.

Makkar and Sohal (1974) reported that there was positive relationship between attitude and farm size of farmers towards soil testing.

Menon and Prema (1976) found out that size of holding had positive influence on farmers in creating a favourable attitude towards kitchen gardening.

Reddy and Reddy (1977) reported that farm size was significantly related to the attitude of farmers towards crop loan system.

Pillai (1978) reported that size of holding was positively related to farmers' attitude towards soil conservation measures.

Rao (1979) reported that farm size was not related with attitude of farmers towards T&V system.

Sarkar (1980) reported that attitude of farmers towards T&V system was fairly related to their farm size.

Naik (1981) revealed that farm size had no association with attitude of contact and other farmers towards T&V system.

Vijayakumar (1982) reported that the farm size of farmers was positively and significantly related to their attitude towards improved practices of coconut cultivation.

Since most of the studies repeatedly pointed out the association between these two variables, it would be of special interest to study their association in this study also.

4. Social participation

Shirpurkar and Patil (1968) found a positive relationship between social participation and attitude of farmers towards co-operative farming.

Das and Sarkar (1970) reported that social participation of farmers was significantly correlated with the attitude of farmers towards improved agricultural practices.

Reddy and Reddy (1977) reported that social participation was not significantly related with attitude of farmers towards crop loan system.

Kamarudeen (1981) revealed that social participation of farmers was positively and significantly related with their attitude towards demonstrated farm practices.

Naik (1981) concluded that the attitude of contact and other farmers towards T&V system was not associated with their extent of social participation.

Vijaya (1982) reported that farmer who had favourable attitude towards T&V system were having better social participation.

The above reports led to the selection of this variable to study its relation on the attitude of farmers towards the T&V system.

5. Socio-economic status

Shirpurkar and Patil (1968) found that socio-economic status had positive association with attitude of people towards co-operative farming.

According to Singh and Singh (1968) there was a positive and significant relationship between the socio-economic status and attitude of farmers towards chemical fertilizers.

Reddy and Reddy (1977) found that the attitude towards crop loan system was significantly associated with socio-economic status of farmers.

Rao (1979) reported that socio-economic status of farmer was not related to their attitude towards T&V system.

Reddy and Reddy (1979) found that the attitude of farmers towards the farm radio programme was found to be dependent on the socio-economic status.

Sarkar (1980) reported that attitude of farmer towards T&V system was fairly associated with their socio-economic status.

Naik (1981) stated that in the case of other farmers there was a positive association of socio-economic status with attitude towards T&V system. But in the case of contact farmers it was found to be negatively correlated.

The influence of socio-economic status over attitude is well established in the above studies which paved the way for including this variable for this study.

6. Exposure to information source

Murthy (1971) reported that mass media exposure was significantly correlated with the attitude of woman in decision making at the farm operational level.

Rao (1979) reported that the attitude of farmers towards the T&V system was significantly associated with their contact with extension agency and mass media exposure.

Kamarudeen (1981) revealed that there was a positive and significant relationship between information source utilization and attitude of farmers towards demonstrated practices.

Naik (1981) reported that for other farmers there was no association between attitude and mass media exposure while for contact farmers there was significant association with attitude towards T&V system.

Vijaya (1982) reported that there was association between the attitude of farmers towards T&V system and their mass media exposure.

Based on above studies it was decided to test the influence of exposure to information source on attitude of farmers towards T&V system.

7. Scientific orientation

Kamarudeen (1981) revealed that there was a positive and significant relationship between scientific orientation and attitude of farmers towards demonstrated cultivation practices.

Naik (1981) reported that in the case of both contact and other farmers the scientific orientation was found to be independent of their attitude towards T&V system.

The above findings necessitated the consideration of scientific orientation for study in this context.

8. Risk preference

Kamarudeen (1981) observed that there was significant relationship between risk preference and attitude of farmers towards demonstrated cultivation practices.

Naik (1981) stated that in the case of other farmers it was found that attitude towards T&V system was independent of risk preference but in the case of contact farmers it was found to be dependent.

Based on the above studies it was decided to test the

influence of risk preference over attitude of farmers towards T&V system.

9. Experience

Bhasha et al. (1975) stated that total experience was found to be significant in influencing the attitude of deputy agricultural officers towards adaptive research.

Rao (1979) reported that attitude of officials towards T&V system is not related to their service experience.

Rahiman and Menon (1980) stated that there was significant relationship between experience and attitude of supervisors of Primary Land Mortgage Banks towards training.

Sarkar (1980) reported that the attitude of officials towards T&V system is not significantly related to their service experience.

Naik (1981) reported that the attitude of officials towards T& V system was independent of their experience in agricultural extension service.

The above reports led to the selection of this variable to study whether there is any association of experience and attitude of officials towards T&V system.

10. Previous training

Bhasha et al. (1975) stated that the trainings undergone had no considerable bearing on the attitude of Deputy Agricultural Officers towards adaptive research.

Rahiman and Menon (1980) reported that there was no change in the attitude of supervisors of Primary Land Mortgage Banks due to training.

In this study also an effort was made to test the influence of previous trainings on the attitude of officials towards T&V system.

III. Theoretical concepts and operational definition of variables.

Concepts are the dimensions stated in their most basic form and they are the building blocks of theory. These concepts of the selected independent variables are derived from the past definitions as well as from the conceptional consideration.

1. Training and Visit System (T&V system)

T&V system is the re-organised agricultural extension which aims at ensuring transfer of know-how available at research station to widespread areas through an effective, systematic and time bound programme of training and visits.

2. Training

Training under T&V system is the one in which the extension agents are intensively instructed on three or four most important recommendations of the crops for the forthcoming two weeks of the crop season.

3. Visit

Under T&V system, visit is defined as the fixed regularly scheduled visits to farmers fields made by Extension staff.

4. Officials

In this study officials are the Sub Divisional Agricultural Officers (SDAOs) Subject Matter Specialists (SMSs) and Junior Agricultural Officers (JAOs) who are directly in touch with the T&V system.

5. Agricultural Extension Workers

For the purpose of this study, Agricultural Extension workers are the Village Extension Workers (VEWs) who are in direct contact with the farmers by visiting them fortnightly.

6. Contact farmers

For the purpose of this study the contact farmers are those selected farmers who are willing to adopt relevant recommendations on their fields and will assist in spreading the new practices to most farmers in the area quickly.

7. Other farmers

For the purpose of this study the other farmers are the farmers other than the contact farmers and those who are benefitted by the technical advice of the contact farmers.

8. Dependent variables

1. Awareness

The basic pre-requisite for the success of development programme is the awareness of the existance of such programmes among the people for whom they are being implemented.

Awareness according to the Dictionary of behavioural Sciences is being conscious of something or the state of perceiving and taking account of some event, occasion, experience or object.

Lionberger (1960) defined awareness as "the first knowledge about a new idea, product or practice". At the awareness stage a person has only general information about it.

In this study awareness in operationally defined as the general information possessed by a respondent with respect to T&V system.

2. Attitude

Thrustone (1946) defined attitude as the degree of positive or negative affect associated with some psychological object towards which people can differ in varying degrees.

According to Krech and Krutchfield (1948) attitude is a function of perception. NewComb (1950) speaks of

attitude as a state of readiness for motive arousal and an individuals attitude towards something is his pre - disposition to perform, perceive, think and feel in relation to it.

It can be concluded from the above reviews that attitude is a latentvariable which underlines the behaviour and which cannot be measured directly.

In the present study, attitude is operationally defined as the degree of favourable or unfavourable disposition, as experienced by the farmers, village extension workers and officials towards the T&V system.

9. Independent variables

A. Age

Age is defined as the number of chronological years the respondent has completed at the time of this study since his birth.

B. Education

Education in this study is identical with the level of literacy and refers to the ability of the respondents to read and write and the extent of formal schooling.

C. Farm size

Farm size in this study means the total area of land owned and cultivated by the farmers.

D. Social participation

Social participation in this study is the voluntary sharing in of person to group and group to group relationship beyond the immediate household.

E. Socio-economic status

Chapin (1928) defined socio-economic status as the position an individual or family occupies with reference to the prevailing average standards of cultural possessions, effective income, material possessions and participation in the group activities of the community.

For the present study socio-economic status refers to the respondents occupations, land holding, caste, education, socio-political participation, possessions, house and household.

F. Exposure to information source

Exposure to information source is conceptualised as the sources through which information is obtained by the individual and the frequency of their utilization. The sources of information include impersonal sources, formal personal sources, and informal personal sources.

G. Scientific orientation

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.

In this study it has been operationalised as the degree to which a farmer is oriented to the use of scientific methods in decision making in farming.

H. Risk preference

Supe (1969) defined risk preference as the degree to which a farmers is oriented towards risk and uncertainity and also has the courage to face the problems in farming.

For the purpose of this study, risk preference has been operationalised as the degree to which a farmer is oriented towards risk and uncertainity and has the courage to face the problems in farming.

I. Experience

Experience is operationalised as the actual number of years of service in agricultural extension field, put in by the agricultural extension workers and officials.

J. Previous training

For the purpose of study previous training is defined as any kind of training given to agricultural extension workers and officials with the intension of improving their efficiency in implementing the T&V system.

Conceptual frame work of the study

The conceptual frame work within which the present study was formulated is depicted in Fig.1.

IV. Hypothesis set up for the study

Based on the theoretical orientation and the review of literature the following general hypothesis is formulated for the study.

General hypothesis:

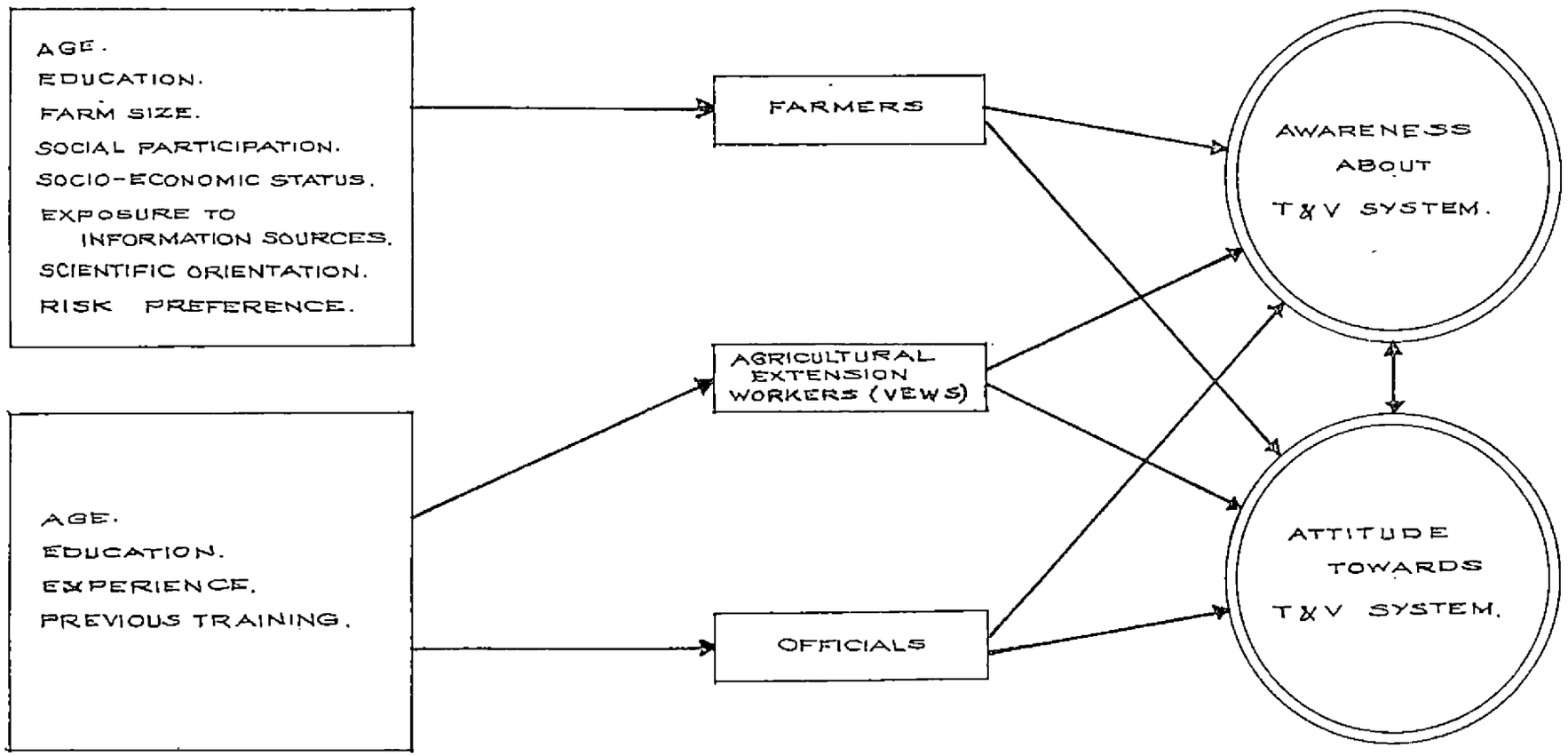
The extent of awareness and attitude of farmers, village extension workers and officials towards T&V system are in part a function of their structural characteristics and situational factors.

Sub-hypotheses:

Based on the above general hypothesis the following sub-hypotheses were set up for the study.

1. There will be some positive significant relationship between awareness of farmers about T&V system and independent variables.
2. There will be some positive significant relationship between attitude of farmers towards T&V system and the dependent variables.

FIG. 1. CONCEPTUAL FRAME WORK OF THE STUDY.



3. There will be some positive significant relationship between awareness of VEWs about T&V system and independent variables.

4. There will be some positive significant relationship between attitude of VEWs towards T&V system and independent variables.

5. There will be some positive significant relationship between awareness of officials about T&V system and independent variables.

6. There will be some positive significant relationship between attitude of officials towards T&V system and independent variables.

METHODOLOGY

CHAPTER III

METHODOLOGY

This chapter deals with the methodology followed in the study and consists of the following sections.

I. Locale of the study
II. Selection of respondents for the study
III. Variables and their measurements.
IV. Procedure followed for data collection
V. Statistical methods employed in the analysis of data.

I. Locale of the study

This study was conducted in Trivandrum district of Kerala State. This is one of the three districts where the T & V system was first implemented in Kerala in 1981. This district was purposely selected for undertaking the investigation as the researcher was much familiar with the socio-cultural milieau of the farmers, village extension workers and the officials of the district which will be helpful in establishing quick rapport and obtaining correct information from the respondents. The study was confined to one district due to the limited time and resources available at the disposal of the investigator.

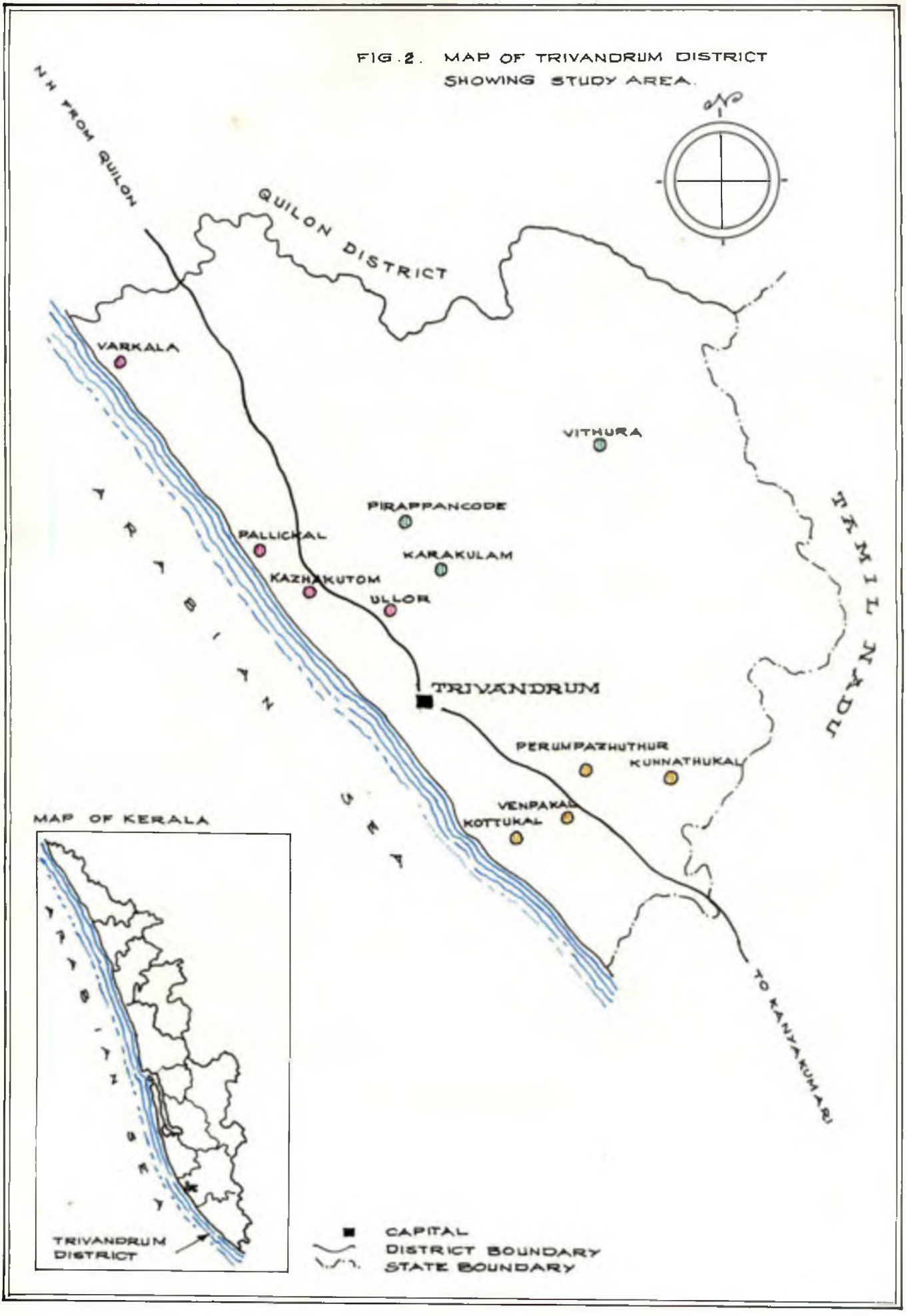


FIG.2. MAP OF TRIVANDRUM DISTRICT
SHOWING STUDY AREA.
NH FROM QUILON
QUILON DISTRICT
VARKALA
VITHURA
PIRAPPANCODE
PALLICHAL
KARAKULAM
KAZHAKUTOM
ULLOR
TRIVANDRUM
PERUMPAZHUTHUR
KUNNATHUKAL
VENPAKAL
KOTTUKAL
TAMIL NADU
TO KANYAKUMARI
ARABIAN SEA
MAP OF KERALA
TRIVANDRUM DISTRICT
CAPITAL
DISTRICT BOUNDARY
STATE BOUNDARY

The Trivandrum district is divided for administrative convenience of T&V system into three sub-divisions viz. Attingal, Neyyatinkara and Nedumangadu. These three sub-divisions consist of 10,10 and 8 numbers of Agricultural Extension Units (AE Units) respectively. Each AE unit is under charge of a Junior Agricultural Officer (JAO). Based on the density of population, cropping intensity, accessibility and local conditions each unit has 5 to 8 circles managed each by a Village Extension Worker (VEW). Each circle will have 1000-1200 farm families and these are again divided into eight groups each group with 120-150 families. Ten per cent of the farmers of each group are selected as contact farmers. VEW visits the contact farmers in each group on a fixed day of the week in a two weeks cycle. The list of Agricultural Extension Units in the three sub-divisions of Trivandurm district is given in Table 1.

Table I - Sub-division-wise distribution of the Agricultural Extension Units of Trivandrum district

Attingal	Neyyatinkara	Nedumangadu
1. Ulloor	1. Ottasekharamangalam	1. Karakulam
2. Kazhakootam	2. Marukil	2. Kattakkada
3. Mangalapuram	3. Perumpazhuthoor	3. Vellanadu
4. Attingal	4. Kunnathukal	4. Vithura
5. Chirayinkeel	5. Kollayil	5. Nedumangadu
6. Varkala	6. Venpakal	6. Palode
7. Vakkom	7. Venganoor	7. Nellanadu
8. Pallikal	8. Pallichal	8. Pirapinkodu
9. Manampur	9. Kottukal	
10. Kilimanoor	10. Trivandrum	

II. Selection of Respondents

A. Selection of farmers

i) Selection of contact farmers

Multistage random sampling plan was adopted in selecting the respondents to conduct the study. The sampling was done at four stages. The AE Units formed the first stage, circles managed by the VEWs in each AE Unit formed the second stage, the group of farmers under

each VEW in each circle of AE unit formed the third stage and the farmers from the selected group of farmers formed the fourth and the final stages of sampling plan. Thus the selection of the respondents was limited to cope up with the time limit of the study. Since the number of AE Units in each sub-division of Trivandrum district varied, viz. 10 units each in Attingal and Neyyatinkara and 8 units in Nedumangadu sub-division, the selection of AE Units was done according to probability proportional to size of AE Units. Thus the most efficient method of sampling was adopted in the selection of contact farmers. Thus 56 contact farmers were selected from the 56 contact farmer groups of the selected 56 circles from the selected 11 AE Units of three sub divisions. The list of contact farmers was obtained from the VEWs of the respective circles. The sampling design for the selection of contact farmers is given in Fig.3.

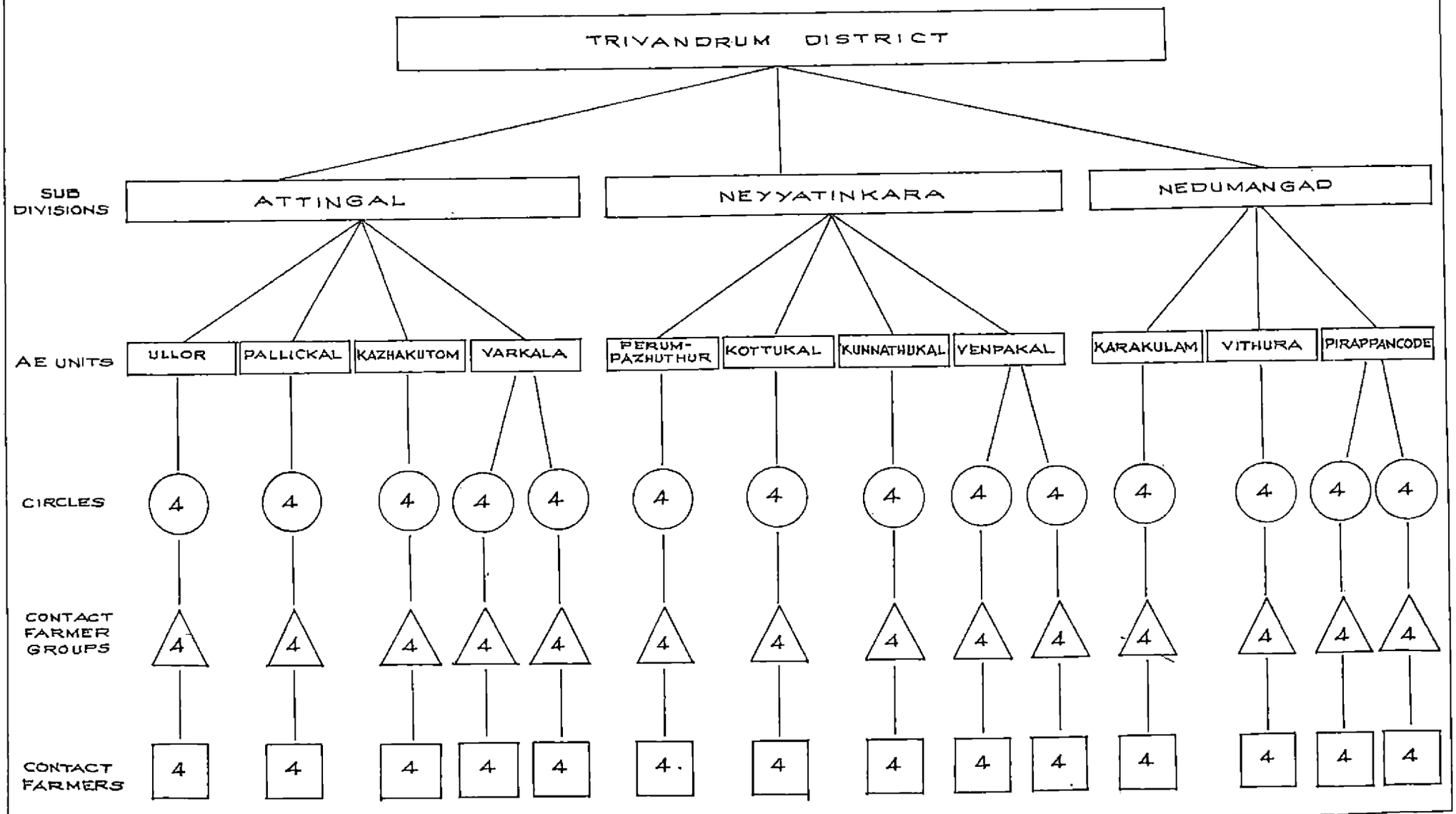
2. Selection of other farmers

For the purpose of comparison 56 other farmers were selected at random from the selected circle making the total sample size of 112 farmers (N = 112).

B. Selection of Agricultural Extension workers (VEWs)

The number of VEWs in the Attingal, Neyyatinkara and Nedumangadu sub division were 57, 58 and 43 respectively.

FIG.3. SAMPLING DESIGN FOR SELECTION OF CONTACT FARMERS.



From these 20, 20 and 18 VEWs were selected at random from Attingal, Neyyatinkara and Nedumangadu sub-divisions respectively by adopting the procedure of probability proportional to size making a total of 58 VEWs.

C. Selection of officials

Since the number of officials working the T&V system in the district was very low, all the officials were brought under the study. These included three sub-divisional Agricultural Officers, 12 Subject Matter Specialists and 28 Junior Agricultural Officers making a total of 43 officials.

III. Variables and their measurement

Based on the specific objectives and the review of the past studies conducted the following variables were selected for the study.

A. Dependent variables

1. Awareness about T&V system.
2. Attitude towards T&V system.

B. Independent variables (Farmers)

1. Age
2. Education
3. Farm size
4. Social participation

5. Socio-economic status

6. Exposure to information source

7. Scientific orientation

8. Risk preference.

C. Independent variables (Officials and VEWs)

1. Age

2. Education

3. Experience

4. Previous training

Measurement of dependent variables

i. Awareness

Gaikwad (1971) studied the awareness of participant farmers of Integrated Area Development Scheme, by asking a few questions to find out whether they were aware or not about the scheme and awareness was measured by calculating percentage of the farmers aware and percentage of the farmers unaware of the programme.

Salunkhe (1977) measured awareness of farmers by asking questions on different aspects of SFDA activities and giving scores for each correct answer.

Khan (1978) measured awareness by asking the respondents whether they were aware of certain measures of the government for improving the conditions of small farmers.

Naik (1981) studied the awareness of respondents about T&V system by asking a number of questions on several aspects of the system. The scoring index developed for the purpose of the study was used as a guideline to score each response. By summing up these scores on individual items the total score on awareness was obtained.

In the present study the method followed by Naik (1981) was adopted with slight modification to measure the awareness of respondents about T&V system. A list of questions was prepared in consultation with the officials, VEWs and farmers and reviewing the relevant literature. The questions were pretested among 40 farmers in a non study area. Pretesting was not done in the case of VEWs and Officials. The farmers and VEWs were asked a few questions on T&V systems and a score of 'One' was given for every correct answer and 'Zero' for the wrong answers. But the officials were given a few statements on the general principles and working of T&V system and were asked to indicate whether they agree or disagree with the statements, and a score 'One' was given for 'agree' and 'zero' for 'disagree' responses for positive statements and vice-versa for negative statements.

The scores were added up and the total score on awareness was obtained for farmers, VEWs and officials. The means and standard deviations were worked out separately for contact farmers, other farmers, VEWs and officials and categoriesed into three as follows.

	Contact farmers	Other farmers	VEWs	Officials
i. Low (Mean -1SD)	10 and below	7 and below	7 and below	6 and below
ii. Medium (Mean ±1SD)	11 to 14	8 to 10	8 to 11	7 to 9
iii. High (Mean +1SD)	15 and above	11 and above	12 and above	10 and above

Attitude

Attitude was measured by attitude scale. An attitude scale in one which assesses the degree of affect the individual may associate with some psychological object.

In this study to measure the attitude of farmers towards T&V system, a scale was developed following the method of summated ratings as described by Likert (1932). A few statements which were the items that make up the attitude scale, regarding the different aspects of T&V system were prepared in consultation with experts working in the field, reviewing the relevant literature and following the informal criteria for preparation of attitude

statements as given by Edwards (1957). These statements were edited and finally 30 statements both positive and negative were selected for administration.

The statements were then given to the respondents who were asked to respond to each one in terms of their own agreement or disagreement with the statements on a five point continuum namely strongly agree (SA), Agree(A), undecided (UD), Disagree (DA) and Strongly disagree(SDA).

The responses were assigned numerical weights varying from 5-strongly agree, 4-agree, 3-undecided, 2-disagree, 1-strongly disagree for positive statements. This order was reversed for negative statements. For each respondent the total score was obtained by summating the scores for individual items.

For the selection of statements to make up the final scale, item analysis was done. The scored papers were placed in rank orders of the total scores. Twenty-five per cent of the subjects with the highest total scores and 25 per cent of the subjects with lowest total scores were selected from among the respondents. These two groups provided criterion groups in terms of which to evaluate the individual statements. In evaluating the responses of the high and low groups, to the individual statements

't' value was computed using the formula

$$t = \frac{\bar{X}_H - \bar{X}_L}{\sqrt{\frac{SH^2}{nH} + \frac{SL^2}{nL}}}$$ where

X_H = the mean score on a given statement for the high group

X_L = the mean score on the same statement for the low group

SH^2 = the variance of the distribution of responses of the high group to the statement

SL^2 = the variance of the distribution of responses of the low group to the statement

nH = the number of subjects in the high group

nL = the number of subjects in the low group

After finding out the 't' values for each statements these statements were arranged in the rank order of 't' value. A set of 20 statements with the highest 't' values were selected for the final attitude scale. The selected attitude statements with their computed 't' value are given in Table II.

Table II. The selected attitude statements with their 't' value

Sl.No.	Statements	t value
1	T&V system if implemented properly will increase agricultural production	2.41
2	After the introduction of T&V programme, there has been considerable improvement in agricultural production	4.64
3	The information given by the VEWs are problem oriented and useful	2.33
4	The frequent visits of the VEWs are disturbances to the farmers	5.38
5	The fortnightly visits of VEWs helps to get timely information and solve current problems	6.94
6	In the T&V system advisory work should be clubbed with supply of inputs	5.46
7	The VEW is wasting the time of the farmers by giving some theoretical information	2.95
8	The messages given by the VEWs involves mostly low cost technology	4.10
9	The messages given are not practicable in the field conditions	4.53
10	The VEWs teach some skills through method demonstrations too.	4.53
11	T&V system is not useful hence should be abolished	3.45
12	In this sytem as the extension services has been found mainly on contact farmers, the weaker sections of the society are dissatisfied.	5.16

continued..

Table II (continued)

Sl.No.	Statements	t value
13	With the introduction of the T&V system larger portion of the farmers are reached very fast	1.929
14	Quite a good job is done through the T&V system for the betterment of farmers	2.86
15	T&V system has brought good changes in the methods of cultivation practices	8.45
16	Publications and training aids do not reach the farmers in time as recommended in the T&V system	1.958
17	T&V system has created more problems rather than solving problems	2.61
18	T&V system is not practicable in Kerala because of the big population	3.2
19	There is little work and more propaganda made about the T&V system	7.85
20	The introduction of T&V system has helped the farmer to face farm problems with confidence	2.84

Reliability of the scale

A scale is reliable only when it will consistently produce the same or similar results when applied to the same sample. Guilford (1954) has defined "reliability as the proportion of variance in obtained test stores".

In this study the reliability of the scale was found by using the split-half method.

Split-half method

The scale was administered to 30 respondents of the study area. The statements were split into two equal halves on the basis of odd and even numbers, and their scores added up. Thus two sets of scores were obtained. Correlation coefficient between the two sets of scores was calculated. The correlation coefficient (r) between the two sets of scores (0.865) showed the scale was reliable.

Validity of the scale

The validity of a scale means the fidelity with which it measures what it is supposed to measure. The developed scale was tested for the following two types of validity.

a) Content validity

The main criterion for content validity is how well the contents of the scale represent the subject matter under study. This was insured during the preparation of the scale itself taking utmost care to include all the items to represent universe of contents.

b) Construct validity

The construct validity was tested by calculating the correlation coefficient between socio-economic status and attitude scores. The attitude and socio-economic status scores of the 30 respondents were measured and correlation between these two scores were worked out. The correlation was 0.829 which was significant. Hence it was concluded that the scale had the construct validity also.

The responses were collected on a five point continuum as explained earlier. The maximum attitude scores that could be obtained by a individual was 100 and the minimum that could be obtained was 20.

To measure the attitude of VEWs and officials towards T&V system, scale developed by Gosh (1978) was adopted. The scale contained 20 statements. The responses collected on a five-point continuum as above.

After computing the attitude scores, the contact farmers, other farmers, VEWs and officials were categorised into three as follows.

	Contact farmers	Other farmers	VEWs	Officials
i. Low (Mean - 1SD)	71 and below	58 and below	63 and below	71 and below
ii. Medium (Mean ± 1SD)	72 to 81	59 to 75	64 to 79	72 to 85
iii. High (Mean + 1SD)	81 and above	75 and above	79 and above	85 and above

B. Measurement of independent variables

1. Age

In this study age was measured as the number of years completed by the respondents at the time of investigation. Categorisation of the respondents based on age was done by finding out the mean and standard deviation as follows:

	Contact farmers	Other farmers	VEWs	Officials
i. Young (Mean-1SD)	31 years and below	33 years and below	28 years and below	29 years and below
ii. Middle (Mean ± 1SD)	32 to 53 years	34 to 57 years	29 to 42 years	30 to 47 years
iii. Old (Mean + 1SD)	53 years and above	57 years and above	42 years and above	47 years and above

2. Education

In the present study, the level of education of farmers was measured by adopting the item in the socio-economic status scale developed by Venkataramaiah (1983) with slight modification. The scoring system used was as follows:

No schooling (illiterates)	- 0
Functionally literate	- 1
Primary education	- 2
Middle school	- 3
High school	- 4
College	- 5

For the purpose of statistical analysis and discussion also the farmers were categorised into four groups based on their level of education as follows viz. illiterates, primary education, high school education and college education.

In the case of VEWs the categorisation was done into 2 groups viz. High school education and college education by giving a score 'one' for High school education and 'two' for college education.

But in the case of officials, the categorisation was done into 3 groups viz. Post-graduates, graduates and non-graduates, by giving a score to 'one' for non-graduates, 'two' for graduates and 'three' for post-graduates.

3. Farm size

In the present study farm size was measured in land units. The number of acres of land possessed and cultivated by the respondents was taken as an index of farm size. This included both dry and wet lands. The farm size was measured by adopting the socio-economic status scale developed by Venkataramaiah (1983) with necessary modification to suit the local condition. The modified scoring system was as follows:

No land	- 0
Less than one acre	- 1
1-5 acres	- 2
above 5 acres	- 3

For the purpose of discussion the farmers were grouped into 3 categories viz. small, medium and large farm size based on the mean and standard deviation.

	Contact farmers	Other farmers
i. Small (Mean -1SD)	1.5 acres and below	1 acre and below
ii. Medium (Mean ± 1SD)	1.5 to 3.5 acres	1 to 3 acres
iii. Large (Mean + 1SD)	3.5 acres and above	3 acres and above

4. Social participation

This variable was measured by adopting the scoring system followed in the socio-economic status scale developed by Venkataramaiah (1983). The scoring was done as follows:

1) Without any official position in sound political organization	- 0
2) Official position in one as more organization	- 1
3) Official position in social and political committee	- 2
4) Financial contribution on raising fund for common work	- 3
5) Active office bearer	- 4
6) Involvement in community work	- 5

Categorisation of farmers into low, medium and high social participation was done based on the scores as follows:

		Contact farmers	Other farmers
i) Low	-	2 and below	2 and below
ii) Medium	-	2 to 4	2 to 4
iii) High	-	4 and above	4 and above

5. Socio-economic status

The socio-economic status cale developed by Venkataramaiah (1983) was used for the present study to measure the socio-economic status of farmers. The scale consisted of

seven items viz. occupation, land holding, caste, education, socio-political participation, possessions, house and house-hold.

The assignment of scores for the various socio-economic status items are given in Appendix I. Based on socio-economic status, the respondents were categorised into three after computing the mean and standard deviation, as follows.

	contact farmers	other farmers
i) Low (Mean -1SD)	21 and below	15 and below
ii) Medium (Mean ± 1SD)	22 to 32	16 to 26
iii) High (Mean + 1SD)	32 and above	26 and above

6. Exposure to information source

To measure the exposure to information source, the scale developed by Prasad (1983) was used. The items and scoring procedure adopted in quantifying the variable were as follows.

A. Impersonal source	Frequency		
	Regularly (Daily) (2)	Occasionally (Once in a week) (1)	Never (0)
1) Radio			
2) News paper			
3) Printed material			

B. Formal Personal sources	Regularly (2)	Occasionally (Once in a month) (1)	Never (0)
1) VEW/Agricultural Demonstrator			
2) Agricultural Officer			
3) Block Development Officer			

C. Informal personal sources

1) Family members

2) Friends/relatives

3) Neighbours/fellow farmer

The total scores were added up and based on the mean and standard deviation categorisation was done as follows.

	Contact farmers	Other farmers
i. Low (Mean -1SD)	7 and below	6 and below
ii. Medium (Mean ±1SD)	8 to 12	7 to 12
iii. High (Mean +1SD)	13 and above	12 and above

7. Scientific orientation

The scientific orientation scale developed by Supe (1969) was suitably modified and used for the present study. His scale consisted of six statements of which one was negative. The responses were collected on a two point continuum of 'agree' or 'disagree'. The scores 'two' and 'one' were given for agree and disagree respectively for positive statements and the scoring was reversed for the negative statement.

Based on the mean score the farmers were classified into 2 categories as follows.

	Contact farmers	Other farmers
i. Low scientific orientation (below mean)	10 and below	9 and below
ii. High scientific orientation (above mean)	above 10	above 9

8. Risk preference

This variable was measured with the help of the scale developed by Supe (1969) after making suitable modifications. The scale consisted of six statements. Out of the six statements two were negative. The responses were collected on a two point continuum as 'agree' or 'disagree'. The scoring was given as 'two' for agree and 'one' for disagree for

positive statements and the scoring was reversed for negative statements.

Based on the mean score the respondents were categorised into two as follows:

	Contact farmers	Other farmers
i. Low risk preference (below mean)	8 and below	10 and below
ii. High risk preference (above mean)	above 8	above 10

9. Experience (VEWs and officials)

Experience in service of VEWs and officials was measured in years. The total number of years put in service was calculated, the mean score was worked out and the respondents were classified into two groups.

	VEWs	Officials
i. Less experience (below mean)	13 years and less	14 years and less
ii. More experience (above mean)	More than 13 years	More than 14 years

10. Previous training (VEWs and officials)

Previous training was measured by finding out the total duration of training the respondents had undergone, irrespective of nature of the training. Based on the mean score the VEWs and officials were categories into as follows.

		VEWs	Officials
i. Less training	(below mean)	21 days and less	25 days and less
ii. More training	(above mean)	More than 21 days	More than 25 days

C. Problems in the implementation of T&V system as perceived by farmers, VEWs and officials

Based on the review of literature and discussions with farmers, VEWs and officials a list of possible field problems being encountered by the farmers, VEWs and officials in the implementation of T&V system was prepared. Problems were prepared separately for three categories of respondents. For the farmers there were eight items and their responses elicited on a dichotomous pattern as 'agree' or 'disagree'. A score of 'one' was given for 'agree' and 'zero' for 'disagree' responses. The total scores were then found out for each item and the frequency table was worked out separately for contact and other farmers.

For the VEWs and officials separate questionnaires were prepared and used. The questionnaire for VEWs consisted of 12 statements and for the officials there were nine statements. They were asked to rank the problems in order of their importance as perceived by them. The total scores and percentage for each of these items were worked out and based on this rank was assigned.

IV. Procedure followed for collection of data

In this study the following tools were used for data collection.

1. Interview schedule
2. Questionnaire

Data from contact and other farmers were collected by using a schedule developed for the purpose. The schedule consisted of four parts. The first part dealt with information on personnal and socio-economic background of respondents. Second part was meant for knowing the awareness about T&V system. The third part explored the attitude of respondents towards T&V system. The fourth part was meant to study the problem as perceived by the farmers in the implementation of T&V system.

The Questionnaires were used for collection of data from the VEWs and Officials. The questionnaire for the VEWs was prepared in Malayalam, but for officials it was prepared in English. These questionnaires also consisted of four parts. The first part was meant to know respondents' personal educational and professional background. The second part dealt with questions to measure their awareness about T&V system. The third part consisted of 20 attitude statements to measure the attitude towards T&V programme, whi[illegible]e

the fourth part dealt with problems in the implementation of T&V programme as perceived by them.

Rapport

Establishing rapport with the respondents especially with farmers is very important to elicit correct information from them. For this purpose, the selected respondents were contacted sufficiently in advance by the researcher with the help of local VEWs. These preliminary visits helped in the establishment of rapport with the respondents and they were interviewed individually at their residences or in the field. The purpose of the visit and study was clearly explained to them and the data were recorded in the schedule directly by the investigator.

The officials and the VEWs were contacted in person during the fortnightly training sessions at the headquarters of sub-divisions and questionnaires distributed. The data were collected during September-October 1983.

The data collected were coded, tabulated and statistically analysed and presented in tables to make the findings easily understandable. The findings resulted from the data were suitably interpreted and necessary conclusions were drawn.

V. Statistical methods employed in the analysis

A brief description of the statistical methods used in the study are given below.

1. Mean

The arithmetic mean $\bar{x}$ is the quotient that results when sum of all items in the series is divided by the number of the items. The formula in terms of symbol is

$$\bar{x} = \frac{\Sigma x}{N}$$ where $\bar{x}$ = mean

Σx = sum of individual items

N = number of items

2. Standard deviation (SD)

The standard deviation was found out by taking the differences of each items in the series from the arithmetic mean, squaring this differences, summing all the squared differences, dividing by the number of items and then extracting the square root.

The formula in terms of symbol is

$$SD = \frac{\sqrt{\Sigma x^2}}{N}$$ where,

SD = standard deviation

Σx^2 = sum of the squared deviations from the mean

N = number of items.

3. t test was employed to find out the significant differences between the mean scores of the dependent and independent variables for contact and other farmers. The following formula was used for the purpose of analysis.

When $SD_1 = SD_2$

$$t_{(n-1)} = \frac{(\bar{x}_1 - \bar{x}_2)}{\sqrt{\frac{S_1^2 + S_2^2}{n-1}}}$$

when $SD_1 \neq SD_2$

$$t_{(n-1)} = \frac{(\bar{x}_1 - \bar{x}_2)}{\sqrt{\frac{S_1^2 + S_2^2}{n}}}$$

Where $\bar{x}_1$ = mean of x_1 series

$\bar{x}_2$ = mean of x_2 series

S_1^2 = Variance of x_1 series

S_2^2 = Variance of x_2 series

n = Total number of observations

(The equality of SD_1 and SD_2 was tested by F-test)

4. Frequency and percentage

Some of the data were subjected to and interpreted in terms of frequency and percentages.

5. Correlation coefficient (r)

The correlation coefficients were computed to find out the relationship between the dependent and independent variables and also among the dependent and independent vaiables.

$$r_{xy} = \frac{P_{xy}}{\sigma_x \sigma_y}$$

where r = correlation between x and y.

P_{xy} = product moment of x and y.

σ_x, σ_y = standard deviations of the distributions of x and y.

6. Path analysis

In this study path coefficient was worked out as explained by Wright; S. - (1923) to find out the influence as well as the direct and indirect effects of the independent variables on awareness and attitude.

RESULTS

CHAPTER IV

RESULTS

In this chapter the results of the study are presented in the following sequences.

I. Distribution of contact farmers, other farmers, village extension workers and officials according to their personal socio-psychological characteristics (Independent variables).

II A. Extent of awareness of contact and other farmers about T&V system.

B. Correlation between awareness about T&V system of contact and other farmers and the independent variables.

III A. Attitude of contact and other farmers towards T&V system.

B. Correlation between attitude of contact and other farmers towards T&V system and the independent variables.

IV.A. Interrelationship between the dependent variables, awareness and attitude of contact and other farmers.

B. Interrelationship among the independent variables of contact and other farmers.

V. Path analysis of awareness and attitude among contact and other farmers.

VI. A. Extent of awareness of village extension workers about T&V system.

B. Correlation between awareness of village extension workers about T&V system and the independent variables.

VII. A. Attitude of village extension workers towards T&V system.

B. Correlation between attitude of village extension workers towards T&V system and the independent variables.

VIII. A. Extent of awareness of officials about T&V system.

B. Correlation between awareness of officials about T&V system and the independent variables.

IX. A. Attitude of officials towards T&V system.

B. Correlation between attitude of officials towards T&V system and the independent variables.

X Problems as perceived by farmers, village extension workers and officials in the implementation of T&V system.

I. Distribution of contact farmers, other farmers, village extension workers and officials according to their personal and socio-psychological characters (independent variables).

A. Distribution of contact and other farmers according to their personal and socio-psychological characteristics.

1. Age

Distribution of contact and other farmers according to their age is given in Table 1.

Table 1. Distribution of contact and other farmers according to their age

Age Category	Contact farmers		Other farmers	
	No.	Per cent	No.	Per cent
Young	7	12.50	12	21.43
Middle	39	69.64	38	67.71
Old	10	17.86	6	10.86
Total	56	100.00	56	100.00

A cursery view of the Table 1 shows that majority of contact farmers (69.64%) and other farmers (67.71%) belonged to middle age category. Of the remaining 12.50 per cent of contact farmers and 21.43 per cent of other farmers belonged to young age category. In old age category there were 17.86 per cent and 10.86 per cent respectively of contact and other farmers.

Mean age scores of contact and other farmers

The data on mean age scores of contact and other farmers were subjected to statistical analysis. The results of the analysis are shown in Table 2.

Table 2. Mean age scores of contact and other farmers

	Mean	SD	cv	t value
Contact farmers	42	11.28	26.86	
				1.373 NS
Other farmers	45	11.64	25.87	

cv - Coefficient of variation
NS - Not significant

The data presented in Table 2 shows that the 't' value was not significant. Hence the data presented in the Table 2 indicated that contact farmers and other farmers did not differ significantly with respect to their mean age scores. Further it was found that there was 26.86 per cent and 25.87 per cent variation in the age range of contact and other farmers respectively.

2. Education

The distribution of contact and other farmers according to their level of education is given in Table 3.

Table 3. Distribution of contact and other farmers according to their level of education

Level of Education	Contact farmers		Other farmers	
	No.	Per cent	No.	Per cent.
Illiterate	0	0	4	7.14
Primary education	18	32.14	22	39.29
High school education	31	55.16	20	35.71
College education	7	12.50	10	17.86
Total	56	100.00	56	100.00

An examination of the Table 3 shows that majority (55.36%) of the contact farmers had high school level of education, followed by primary education (32.14%). Only 12.50 per cent had college education. But none of the contact farmers were illiterate. Among the other farmers majority (39.29%) had only primary education and 35.71 per cent had high school education. Though there was 17.86 per cent of other farmers with college education, 7.14 per cent were illiterate.

Mean education scores of contact and other farmers

The data on mean education scores of contact and other farmers were subjected to statistical analysis. The mean education scores given in Table 4.

Table 4. Mean education scores of contact and other farmers

	Mean	SD	cv	t value
Contact farmers	2.98	1.27	42.6	
				0.6555 NS
Other farmers	2.82	1.29	45.7	

NS - Not significant

The data presented in Table 5 indicates that the computed 't' value was not significant. Hence the mean education scores of contact and other farmers did not differ significantly. Further, level of education was found to be more variable among other farmers (45.70%) than contact farmers (42.60%).

3. Farm size

The distribution of contact and other farmers according to their farm size is given in Table 5.

Table 5. Distribution of contact and other farmers according to the farm size

Category	Contact farmers		Other farmers	
	No.	Per cent	No.	Per cent
Small	8	14.28	18	32.14
Medium	26	46.44	30	53.58
Large	22	39.28	8	14.28
Total	56	100.00	56	100.00

It could be seen from the Table 5 that majority of the contact farmers (46.44%) and other farmers (53.58%) had medium farm size. Of the remaining 39.28 per cent of the contact farmers had large farm size and only 14.28 per cent had small farm size. But 32.14 per cent of other farmers had small farm size and only 14.28 per cent had large farm size.

Mean farm size scores of contact and other farmers

The mean scores relating to the farm size of the contact and other farmers were analysed and data presented in Table 6.

Table 6. Mean farm size scores of contact and other farmers

	Mean	SD	CV	t value
Contact farmers	2.48	1.05	42.34	2.474*
Other farmers	2.07	0.66	31.90	

* Significant at 1 per cent level

As evident from the Table 6 the 't' value is significant showing that the farm size scores of the contact farmers and other farmers differed. It may also be pointed out that farm size was more variable among contact farmers (42.34%) than other farmers (31.90%).

4. Social participation

The distribution of contact and other farmers according to their social participation is given in Table 7.

Table 7. Distribution of contact and other farmers according to their social participation

Category	Contact farmers		Other farmers	
	No.	Per cent	No.	Per cent
Low	14	25.00	18	32.14
Medium	23	41.07	25	44.64
High	19	33.93	13	23.22
Total	56	100.00	56	100.00

A perusal of the data in Table 7 shows that majority of the contact farmers (41.07%) and other farmers (44.64%) had medium social participation. When 33.93 per cent of the contact farmers had high social participation, the corresponding figure for other farmers was 23.22 per cent. Among the contact farmers, only 25 per cent had low social participation but the corresponding figure for other farmers was 32.14 per cent.

Mean social participation scores of contact and other farmers

The mean social participation scores of contact and other farmers are given in Table 8.

Table 8. Mean social participation scores of contact and other farmers

	Mean	SD	cv	t value
Contact farmers	2.34	1.58	67.52	0.1391 NS
Other farmers	2.30	1.43	62.26	

NS - Not significant

As evident from the Table 8 the mean social participation scores did not differ significantly among the contact and other farmers. The 't' value also supported this result. It is also pertinent to note that the social participation was more variable among contact farmers (67.52%) than among other farmers.

5. Socio-economic status

The distribution of contact and other farmers according to their socio-economic status are presented in Table 9.

Table 9. Distribution of contact and other farmers according to the socio-economic status

Category	Contact farmers		Other farmers	
	No.	Per cent	No.	Per cent.
Low	9	16.07	17	21.43
Middle	34	60.71	30	44.64
High	13	23.22	9	33.93
Total	56	100.00	56	100.00

The Table 9 shows that majority of the contact farmers (60.71%) and other farmers (44.64%) belonged to middle socio-economic status category. Among contact farmers 23.22 per cent belonged to high socio-economic status category while among other farmers 33.93 per cent belonged to this group. But 16.07 per cent of contact farmers and 21.43 per cent of other farmers belonged to lower socio-economic status category.

Mean socio-economic status scores of contact and other farmers

The data indicating the mean socio-economic status score of the contact and other farmers are given in Table 10.

Table 10. Mean socio-economic status scores of contact and other farmers

	Mean	SD	CV	t value
Contact farmers	26.71	6.09	22.54	0.4910*
Other farmers	20.52	5.37	26.17	

* Significant at 5 per cent level

The Table 10 shows that the 't' value was significant which shows that mean socio-economic status scores differed significantly. Also it was seen that the variation in socio-economic status scores was more among other farmers (26.17%) than among contact farmers (22.54%).

6. Exposure to information sources

The distribution of contact and other farmers according to their extent of exposure to various information source is given in Table 11.

Table 11. Distribution of contact and other farmers according to their exposure to information sources

Category	Contact farmers		Other farmers	
	No.	Per cent	No.	Per cent
Low	12	21.43	10	17.86
Medium	13	23.21	26	46.43
High	31	55.36	20	35.71
Total	56	100.00	56	100.00

A cursery view of the Table 11 shows that majority of the contact farmers (55.36%) had high exposure to information source followed by medium exposure to information source (23.21%). Only 21.43 per cent had less exposure to information source. But majority of the other farmers (46.43%) had medium exposure to information source (35.71%).

Mean score of exposure to information source of contact and other farmers

The data representing the mean scores on exposure to information sources are given in Table 12.

Table 12. Mean score of exposure to information sources for contact and other farmers

	Mean	SD	cv	t value
Contact farmers	10.88	3.01	27.64	2.184*
Other farmers	90.2	3.95	39.81	

* Significant at 5 per cent level

The computed 't' value shows that there was significant difference in the mean score of exposure to information sources for contact and other farmers. Hence the contact farmers and other farmers differed significantly among each other with reference to their exposure to information sources. Further, the scores were variable more among other farmers (39.81%) than contact farmers (27.67%).

7. Scientific orientation

The distribution of contact and other farmers according to their scientific orientation is presented in Table 13.

Table 13. Distribution of contact and other farmers according to their scientific orientation

Category	Contact farmers		Other farmers	
	No.	per cent	No	Per cent
Low	23	41.07	30	53.57
High	33	58.93	26	46.43
Total	56	100.00	56	100.00

It is evident from the Table 13 that majority of the contact farmers (58.93%) had high scientific orientation while 41.01 per cent had low scientific orientation. But in the case of other farmers 53.57 per cent had low scientific orientation while 46.43 per cent had high scientific orientation.

Mean scientific orientation scores of contact and other farmers

The data indicating the mean scientific orientation of contact and other farmers are given in Table 14.

Table 14. Mean scientific orientation scores of contact and other farmers

	Mean	SD	CV	t value
Contact farmers	10.23	1.96	19.15	
				1.978 NS
Other farmers	9.96	2.07	20.78	

NS - Not significant

The results presented in Table 14 shows that the 't' value was not significant. Hence the contact farmers and other farmers did not differ significantly among each other in respect of their mean scientific orientation scores. The variation in mean scores of scientific orientation of other farmers was more (20.78%) than that of contact farmers (19.15%).

8. Risk preference

The distribution of contact and other farmers according to their risk preference is given in Table 15.

Table 15. Distribution of contact and other farmers according to their level of risk preference

Category	Contact farmers		Other farmers	
	No.	Per cent	No.	Per cent
Low	18	32.14	26	46.43
High	38	67.86	30	53.57
Total	56	100.00	56	100.00

A cursory view of the Table 15 shows that majority of contact farmers (67.86%) and other farmers (53.57%) had high risk preference.

Mean risk preference scores of contact and other farmers

The data relating to the mean risk preference scores of contact and other farmers were analysed and presented in Table 16.

Table 16. Mean risk preference scores of contact and other farmers

	Mean	SD	cv	t value
Contact farmers	8.95	1.58	15.82	2.649*
Other farmers	10.05	1.19	11.84	

* Significant at 1 per cent level

A critical examination of the Table 16 revealed that there was significant difference between the contact and other farmers with reference to their mean risk preference scores, though the mean scores did not differ much. The variation in mean scores of contact and other farmers were 15.82 per cent and 11.84 per cent respectively.

B. Distribution of village extension workers according to their independent variables.

1. Age

The distribution of village extension workers according to their age is given in Table 17.

Table 17. Distribution of VEWs according to their age

Category	No.	Per cent
Young	18	31.04
Middle	32	55.17
Old	8	13.79
Total	58	100.00

From the Table 17 it could be seen that majority of the village extension workers came in the middle age group (55.17%) 31.04 per cent under young age groups and the remaining 13.79 per cent under old age group.

2. Education

The distribution of village extension workers according to their level of education is given in Table 18.

Table 18. Distribution of VEWs according to their level of education

Level of education	No.	Per cent
High school	40	68.97
College	18	31.03
Total	58	100.00

According to Table 18 majority of the village extension workers (68.97%) had only high school education, having Secondary School Leaving Certificate and the remaining 31.02 per cent had college level education.

3. Experience

The distribution of village extension workers according to their experience is given in Table19.

Table 19. Distribution of VEWs according to their experience

Category	No.	Per cent
Less experience	28	48.28
More experience	30	51.72
Total	58	100.00

As could be seen from Table 19 majority (51.72%) of the village extension workers fell into more experience category in the field and the remaining 48.28 per cent into less experience category.

4. Previous training

The distribution of village extension workers on the basis of previous training is given in Table 20.

Table 20. Distribution of VEWs according to their previous training

Category	No.	Per cent
Less training	19	32.76
More training	39	67.24
Total	58	100.00

It can be seen from the table that majority (67.24%) of VEWs come under more previous training category and the remaining 32.76 per cent under less previous training category.

C. Distribution of officials with respect to the independent variables.

1. Age

Distribution of officials with respect to their age is given in Table 21.

Table 21. Distribution of officials according to their age

Category	No.	Per cent
Young	5	11.63
Middle	30	69.77
Old	8	18.60
Total	43	100.00

From the Table 21 it could be seen that majority (69.77%) of the officials come in the middle age group. Of the remaining 18.60 per cent and 11.63 per cent come under old and young age group respectively.

2. Education

The distribution of officials according to their educational background is given in Table 22.

Table 22. Distribution of officials according to their educational background

Educational background	No.	Per cent
Under graduate	9	20.40
Graduate	28	65.12
Post graduate	6	13.95
Total	43	100.00

From the Table 22 it can be seen that majority (65.12%) of the officials were graduates in Agricultural Science. It can also be seen that there were 13.95 per cent of post-graduates and 20.93 per cent of under-graduates in Agricultural Science.

3. Experience

The distribution of officials with respect to their experience is given in Table 23.

Table 23. Distribution of officials according to their experience

Category	No.	Per cent
Less experience	13	30.23
More experience	30	69.77
Total	43	100.00

From the Table 23 it can be seen that majority (69.77%) of the officials had more of field experience and the remaining 30.23 per cent had less of field experience based on the mean score of field experience.

4. Previous training

The distribution of officials with respect to their previous training is given in Table 24.

Table 24. Distribution of officials according to their previous training

Category	No.	Per cent
Less training	26	60.47
More training	17	39.53
Total	43	100.00

From the Table 24 it can be seen that 60.47 per cent of the officials come under less previous training category and the remaining 39.53 per cent under more previous training category.

II. Extent of awareness of contact farmers and other farmers about T&V system.

Data on extent of awareness about T&V system of contact and other farmers are presented in Table 25.

Table 25. Distribution of contact and other farmers according to their level of awareness about T&V system

Awareness category	Contact farmers		Other farmers	
	No.	Per cent	No.	Per cent
Low	0	0	22	39.28
Medium	45	80.36	28	50.00
High	11	19.64	6	10.72
Total	56	100.00	56	100.00

A cursory view of the Table 25 shows that majority of the contact farmers (80.36) and other farmers (50%) had medium awareness about T&V system. Only 19.64 per cent and 10.72 per cent of contact and other farmers respectively had high awareness about T & V system. It can be seen that there were none among contact farmers with low awareness whereas 39.28 per cent of other farmers were having only low awareness about T&V system.

Mean scores on the level of awareness about T&V system

The data on mean scores indicating the level of awareness of contact and other farmers about T&V system were subjected to statistical analysis and the results are presented in Table 26.

Table 26. Mean scores on the level of awareness about T&V system of contact and other farmers

	Mean	SD	cv	t value
Contact farmers	12	1.94	16.17	5.74*
Other farmers	9	1.10	12.22	

* Significant at 1 per cent level

A critical examination of the Table 26 reveals that there was difference in awareness about T&V system between contact and other farmers. The computed 't' value also shows that there was significant difference in the mean scores of awareness of contact and other farmers. The variation in scores among contact farmers was more(16.17%) than that of other farmers (12.22%).

B. Correlation between awareness about T&V system of Contact and other farmers and various independent variables.

The relationship of awareness of contact and other farmers towards T&V system and the independent variables was worked out by computing the correlation coefficient. The results obtained are given in Table 27.

Table 27. Correlation between awareness of contact and other farmers about T&V system and the independent variables

No.	Independent variables	Correlation coefficient (r)	
		Contact farmers	Other farmers
1	Age	-0.3056*	-0.2148
2	Education	0.2032	0.7409**
3	Farm size	0.3902**	0.0671
4	Social participation	0.2985*	0.0354
5	Socio-economic status	0.2865*	0.4379**
6	Exposure to information sources	0.5513**	0.5256**
7	Scientific orientation	0.1925	0.1584
8	Risk preference	0.7949**	0.3527**

** Significant at 1 per cent level
* Significant at 5 per cent level

The data in Table 27 shows that in the case of contact farmers, except education and scientific orientation all the other independent variables were significantly related with their awareness about T&V system. But age was negatively and significantly correlated while farm size, social participation, socio-economic status, exposure to information sources and risk preference were positively correlated with awareness of contact farmers about T&V system.

But in the case of other farmers education, socio-economic status, exposure to information sources and risk preference were positively and significantly related with awareness about T&V system. Age was negatively but not significantly correlated with awareness about T&V system. Farm size, social participation and scientific orientation were positively but not significantly related with awareness of other farmers about T&V system.

III. A. Attitude of contact and other farmers towards T&V system.

Distribution of contact and other farmers based on the extent of attitude towards T&V system is shown in Table 28.

Table 28. Distribution of contact and other farmers according to their extent of attitude towards T&V system

Attitude category	Contact farmers		Other farmers	
	No.	Per cent	No.	Per cent
Low	6	10.71	13	23.22
Medium	40	71.43	32	57.14
High	10	17.86	11	19.64
Total	56	100.00	56	100.00

The table 28 shows that majority of the contact farmers (71.43%) and other farmers (39.29%) had medium level of attitude towards T&V system. Only 17.86 per cent of contact farmers had high attitude towards T&V system, but 19.64 per cent of other farmers came under this category. Among the contact farmers 10.71 per cent had low attitude whereas 23.21 per cent of other farmers fall under this category.

Mean scores on attitude towards T&V system

The data on scores indicating the attitude of contact and other farmers towards T&V system were subjected to statistical analysis. The results are presented in Table 29.

Table 29. Mean scores on the attitude towards T&V system of contact and other farmers

	Mean	SD	CV	t value
Contact farmers	75.82	4.79	6.3	7.44*
Other farmers	66.10	8.52	12.89	

* Significant at 1 per cent level

A critical examination of the Table 29 shows that there was significant difference between contact farmers and other farmers with respect to their attitude towards T&V system. The mean attitude scores of contact farmers was higher than

that of other farmers. The computed 't' value also show that there was significant difference in the mean scores of attitude of contact and other farmers towards T&V system. The variation in scores among the contact farmers was less (6.3%) when compared to that of other farmers (12.89%).

B. Correlation between attitude towards T&V system of contact and other farmers and independent variables.

The relationship of attitude of contact and other farmers towards T&V system and the independent variables was worked out by computing the coefficient of correlation. The results obtained are given in Table 30.

Table 30. Correlation between attitude of contact and other farmers towards T&V system and the independent variables

No.	Independent variables	Correlation coefficient (r)	
		Contact farmers	Other farmers
1	Age	0.0615	0.0350
2	Education	0.4196**	0.7281**
3	Farm size	0.2502	0.1862
4	Social participation	0.4781**	0.0967
5	Socio-economic status	0.3388*	0.0538
6	Exposure to information sources	0.3961**	0.6590**
7	Scientific orientation	0.0206	0.0454
8	Risk preference	0.5955**	0.3540*

** Significant at 1 per cent level
* Significant at 5 per cent level

The Table 30 reveals that in the case of contact farmers the correlation coefficient 'r' showed a significant and positive correlation for the independent variables education, social participation, socio-economic status, exposure to information sources and risk preference with attitude of contact farmers towards T&V system. Age, farm size and scientific orientation were found to be significantly correlated with attitude towards T&V system.

But in the case of other farmers only education, exposure to information sources and risk preference were positively and significantly related with attitude towards T& V system. Age, farm size, social participation socio-economic status and scientific orientation were positively but not significantly correlated with attitude of other farmers towards T&V system.

IV. A. Inter-relationship between the dependent variables of contact and other farmers.

The computed 'r' values showing the relationship of awareness about T&V system, and attitude towards T&V system of contact and other farmers were found to be 0.3091 and 0.2126 respectively. These values show positive and significant relationship between awareness and attitude in the case of contact farmers but positive and non signi-

ficant relationship in the case of other farmers.

B. Interrelationship among independent variables of contact and other farmers.

The interrelationship among the independent variables which were significantly correlated with the dependent variables of contact and other farmers were worked out.

1. Interrelationship among the independent variables which were significantly related with awareness of contact farmers.

The interrelationship among the variables which were significantly correlated with awareness of contact farmers about T&V system was worked out by computing the correlation coefficients. The results obtained are presented in Table 31.

Table 31. Interrelationship among independent variables which are significantly correlated with awareness of contact farmers

	X_1	X_2	X_3	X_4	X_5	X_6
X_1		0.0808	0.2060	0.1733	0.2925*	0.2178
X_2		..	0.0783	0.1262	-0.1867	0.7152**
X_3			..	0.4321**	0.2105	0.2206
X_4				..	0.2040	0.4029**
X_5					..	0.0802
X_6						..

** Significant at 1 per cent level
* Significant at 5 per cent level

X_1 - Age.
X_2 - Farm size.
X_3 - Social participation.
X_4 - Socio-economic status.
X_5 - Exposure to information sources.
X_6 - Risk preference.

It could be observed from the Table 31 that in the case of contact farmers age (X_1) was having a positive and significant relationship with exposure to information sources (X_5). It is also evident that farm size (X_2) had a positive and significant relationship with risk preference (X_6). Social participation (X_3) had positive and significant relationship with socio-economic status (X_4). Also socio-economic status (X_4) had a positive and significant relationship with risk preference (X_6).

2. Interrelationship among the independent variables which were significantly correlated with attitude of contact farmers.

The interrelationship among the variables which were significantly correlated with attitude of contact farmers towards T&V system was worked out by computing the correlation coefficients. The results are presented in Table 32.

Table 32. Interrelationship among independent variables which are significantly correlated with attitude of contact farmers

	X_1	X_2	X_3	X_4	X_5
X_1	..	-0.1340	-0.0789	0.2802*	-0.1655
X_2		..	0.4321**	0.2105	0.2206
X_3			..	0.2040	0.4029**
X_4				..	0.0802
X_5					..

** Significant at 1 per cent level

* Significant at 5 per cent level

X_1 - Education

X_2 - Social participation

X_3 - Socio-economic status.

X_4 - Exposure to information sources.

X_5 - Risk preference.

The Table 32 shows that education (X_1) was positively and significantly related with exposure to information sources (X_4). Social participation (X_2) was positively and significantly correlated with socio-economic status (X_3). Also it was seen that socio-economic status (X_3) was positively and significantly correlated with risk preference (X_5).

3. Interrelationship among the independent variables which are significantly related with awareness of other farmers.

The interrelationship among the variables which were significantly correlated with attitude of other farmers towards T&V system was worked out by computing the correlation coefficients. The results are presented in Table 33.

Table 33. Interrelationship among the independent variables which were significantly correlated with awareness of other farmers

	X_1	X_2	X_3	X_4
X_1	..	0.0392	0.1982	0.3681**
X_2		..	0.1048	-0.0720
X_3			..	0.3164*
X_4				..

** Significant at 1 per cent level
* Significant at 5 per cent level

X_1 - Education X_2 - Socio-economic status

X_3 - Exposure to information sources

X_4 - Risk preference

It could be seen from the Table 33 that education (X_1) was significantly correlated with risk preference (X_4). Exposure to information sources (X_3) was significantly correlated with risk preference (X_4).

4. Interrelationship among the independent variables which were significantly related with attitude of other farmers

The interrelationship among the variables which were significantly correlated with attitude of other farmers towards T&V system was worked out by computing the correlation coefficients. The results are presented in Table 34.

Table 34. Interrelationship among independent variables which are significantly correlated with attitude of other farmers

	X_1	X_2	X_3
X_1	..	0.1822	0.3681**
X_2		..	0.3164*
X_3			..

** Significant at 1 per cent level
* Significant at 5 per cent level

X_1 - education
X_2 - Exposure to information sources
X_3 - Risk preference

It could be seen from the Table 34 that education (X_1) was positively and significantly related with risk preference (X_3). Exposure to information sources (X_2) was positively and significantly related with risk preference (X_3).

Path Analysis of awareness and attitude among contact and other farmers.

Since certain independent variables were found to be significantly correlated with awareness and attitude of contact farmers and other farmers and also since there was strong inter correlation between certain pairs of independent variables, path coefficient analysis has been taken up to understand the contribution of these factors directly and indirectly on the dependent variables.

A. Path coefficient analysis of awareness of contact farmers

Path analysis of awareness was performed by taking the factors age, farm size, social participation, socio-economic status, exposure to information sources and risk preference, by taking into consideration of the significant correlation of these factors with awareness. This path analysis helped to analyse the factors which directly and indirectly influenced the awareness. The results are represented in Table 35.

Table 35. Direct and indirect effects of component factors on awareness of contact farmers

	X_1	X_2	X_3	X_4	X_5	X_6	Total
X_1	0.5794	-0.6663	-0.4204	-0.5366	0.5214	0.2169	-0.3056
X_2	0.8165	0.3025	-0.7429	-0.3431	0.0775	0.2797	0.3902
X_3	0.6052	-0.1321	-0.1326	-1.3748	0.0874	1.2459	0.2985
X_4	0.6973	-0.7707	-0.0069	-0.2189	0.0847	0.5009	0.2865
X_5	0.8647	-0.6992	-0.2910	-0.5547	0.4252	0.8063	0.5513
X_6	0.1333	-0.0402	-0.2235	-0.0954	0.0332	0.9875	0.7949

NB - The underlined figures show direct effect.

X_1 - Age X_2 - Farm size

X_3 - Social participation. X_4 - Socio-economic status

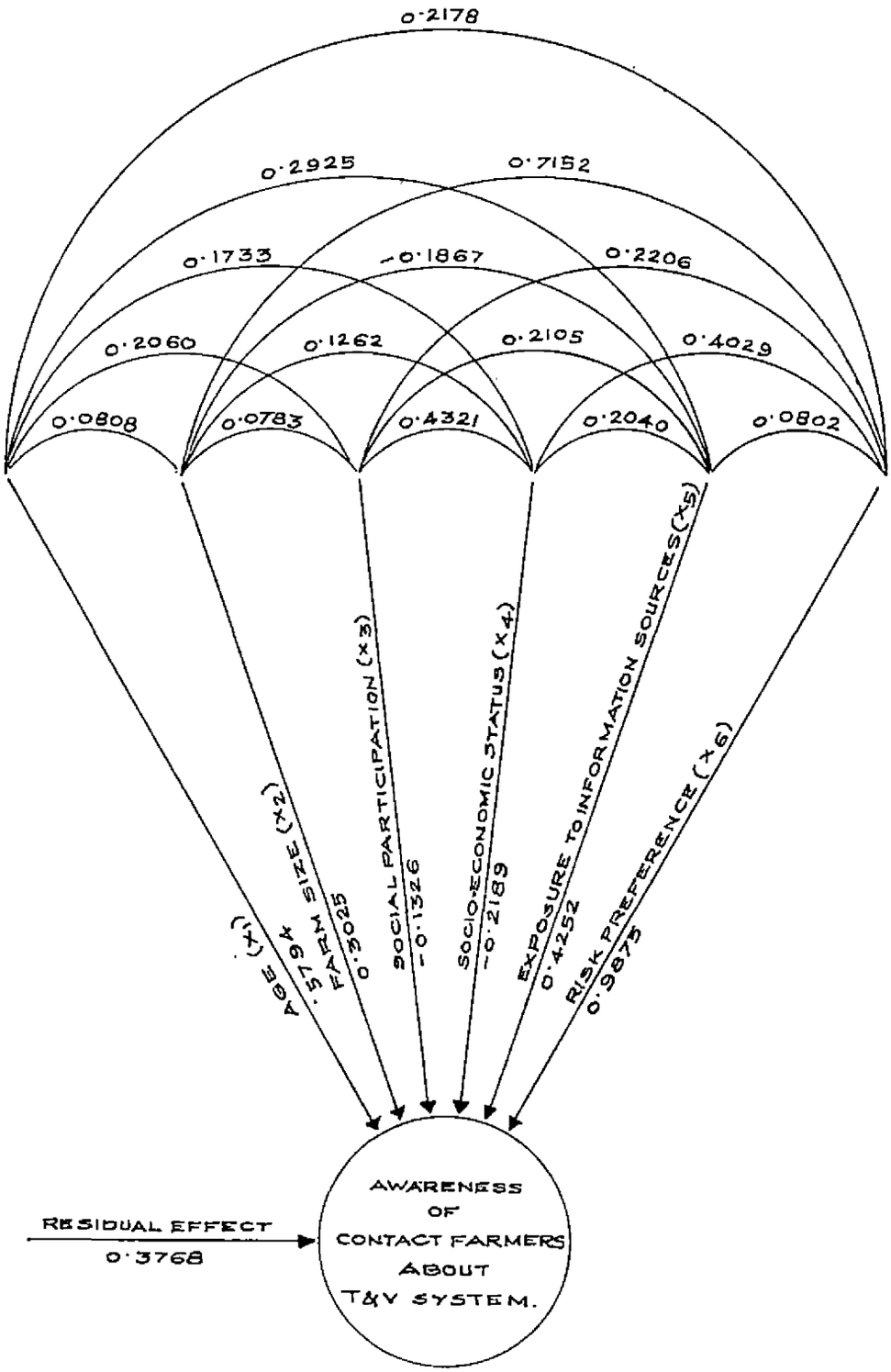
X_5 - Exposure to information sources

X_6 - Risk preference.

From the Table 35 it could be seen that the maximum direct effect was found for risk preference (0.99) followed by age (0.58). The direct effect of farm size was 0.32. Direct effects of social participation and socio-economic status was found to be negative (-0.13, -0.22). The direct effect of exposure to information sources was 0.42 .

The high indirect effect via farm size (-0.67) contributed maximum for the negative correlation of age with awareness. The indirect effect via. Socio-economic status and social participation were also negative but the

FIG. 4. PATH ANALYSIS AND CORRELATION STUDIES IN THE CASE OF AWARENESS OF CONTACT FARMERS ABOUT T&V SYSTEM.



indirect effect of exposure to information sources and risk preference were positive. The positive correlation of farm size with awareness was (0.39) mainly due to the indirect effect via. age and risk preference (0.82 and 0.28). The indirect effects via. social participation and socio-economic status were negative but that of exposure to information source was positive. The factors contributed to the correlation of social participation with awareness (0.30) were age and risk preference, as in the previous case. Exposure to information source also contributed little for the correlation. But farm size and socio-economic status were found to have negative and indirect effect onwareness.

With respect to the characteristics socio-economic status also, age and risk preference helped to get positive correlation with awareness (0.29). Farm size and social participation were found to have negative indirect effect. The factors which helped the significant correlation of exposure to information sources with awareness were through age and risk preference. Farm size social participation and socio-economic status were negatively contributed for the correlation. These factors were found to have negative direct influence towards awareness with respect to risk preference.

The factors age, exposure to information sources and risk preference were found to have positive direct and indirect effects in contributing the correlation coefficients while for the other factors direct and indirect effects were negative.

B. Path coefficient analysis of attitude of contact farmers.

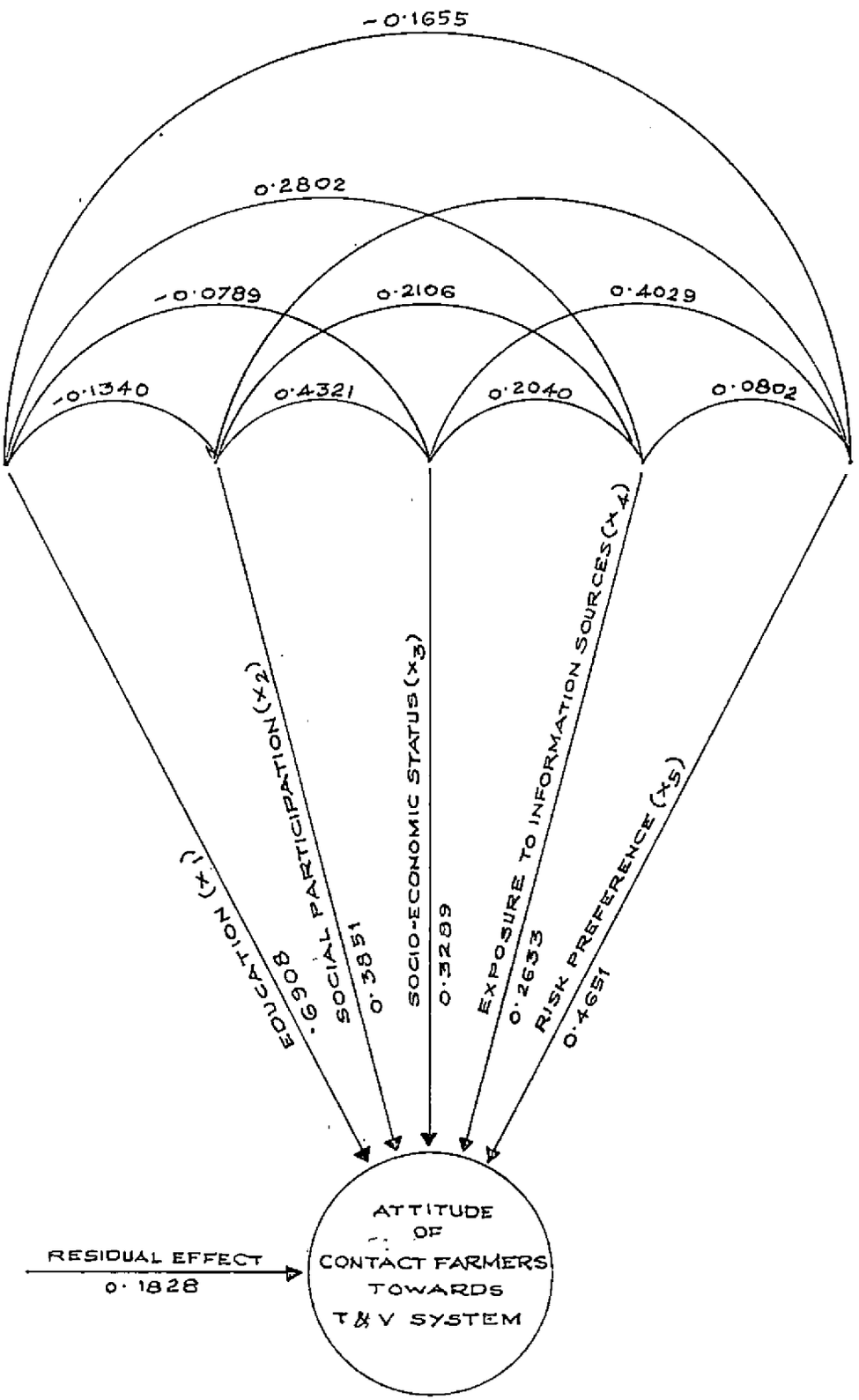
Path analysis of attitude with related factors was performed by taking the independent variables education, social participation, socio-economic status, exposure to information sources and risk preference by taking into consideration of the significant correlation of independent characters with attitude. This path analysis helped to analyse the factors which directly or indirectly influenced the attitude. The results are presented in Table 36.

Table 36. Direct and indirect effects of component factors on attitude of contact farmers

	X_1	X_2	X_3	X_4	X_5	Total
X_1	0.6908	-0.1842	-0.0149	0.0357	-0.1078	0.4196
X_2	-0.0507	0.3851	0.0816	0.0134	0.0487	0.4781
X_3	-0.1698	0.0790	0.3289	0.0118	0.0889	0.3388
X_4	0.0359	0.0350	0.0342	0.2633	0.0277	0.3961
X_5	-0.0626	0.1488	0.0391	0.0051	0.4651	0.5955

NB The underlined figures show the direct effects

FIG. 5. PATH ANALYSIS AND CORRELATION STUDIES IN THE CASE OF ATTITUDE OF CONTACT FARMERS TOWARDS T & V SYSTEM.



X_1 - Education

X_2 -Social participation

X_3 - Socio-economic status

X_4 -Exposure to information sources

X_5 - Risk preference.

The Table 36 reveals that the maximum direct effect was observed for education (0.69) followed by risk preference (0.47). The direct effects of social participation, and socio-economic status was found to be positive (0.39, 0.33) But the direct effect of exposure to information sources was 0.26. But all the direct effects were positive.

The correlation of attitude with education was (0.42) through its direct effect was 0.69. The reduction in correlation coefficient was due to the negligible indirect effect in social participation, socio-economic status and risk preference.

Correlation of social participation with attitude was 0.48 while its direct effect on attitude was 0.39. The high correlation is the resultant of the negligible indirect effects of socio-economic status, exposure to information sources and risk preference. The correlation of socio-economic status with attitude was 0.34, of which 0.33 was contributed directly by socio-economic status and the remaining via socioal participation, exposure to information sources and risk preference. The correlation of

exposure to information sourcces with attitude was 0.39 but the direct effect contributed was 0.26 for this correlation. But the indirect effects of education, social participation, socio-economic status and risk preference enhanced the correlation of exposure to information source with attitude. The direct effect of risk preference towards attitude was 0.4651 while its correlation was 0.59. The indirect effects were social participation, socio-economic status and exposure to information sources and education helped in getting a significant correlation.

C. Path coefficient analysis of awareness of other farmers.

Path analysis was performed by taking the factors age, education, socio-economic status, exposure to information source and risk preference with awareness by taking into consideration of the significant correlation of these variables with awareness. This path analysis helped to analyse the factors which directly and indirectly influenced the awareness of other farmers. The results are presented in Table 37.

Table 37. Direct and indirect effects of component factors on awareness of other farmers

	X_1	X_2	X_3	X_4	Total
X_1	0.6951	-0.0265	0.3433	-0.2710	0.7409
X_2	0.0468	0.3121	0.0244	0.0546	0.4379
X_3	0.1317	-0.0710	0.2332	0.2317	0.5256
X_4	-0.4261	-0.0492	0.2692	0.5588	0.3527

NB. The underlined figures show the direct effects

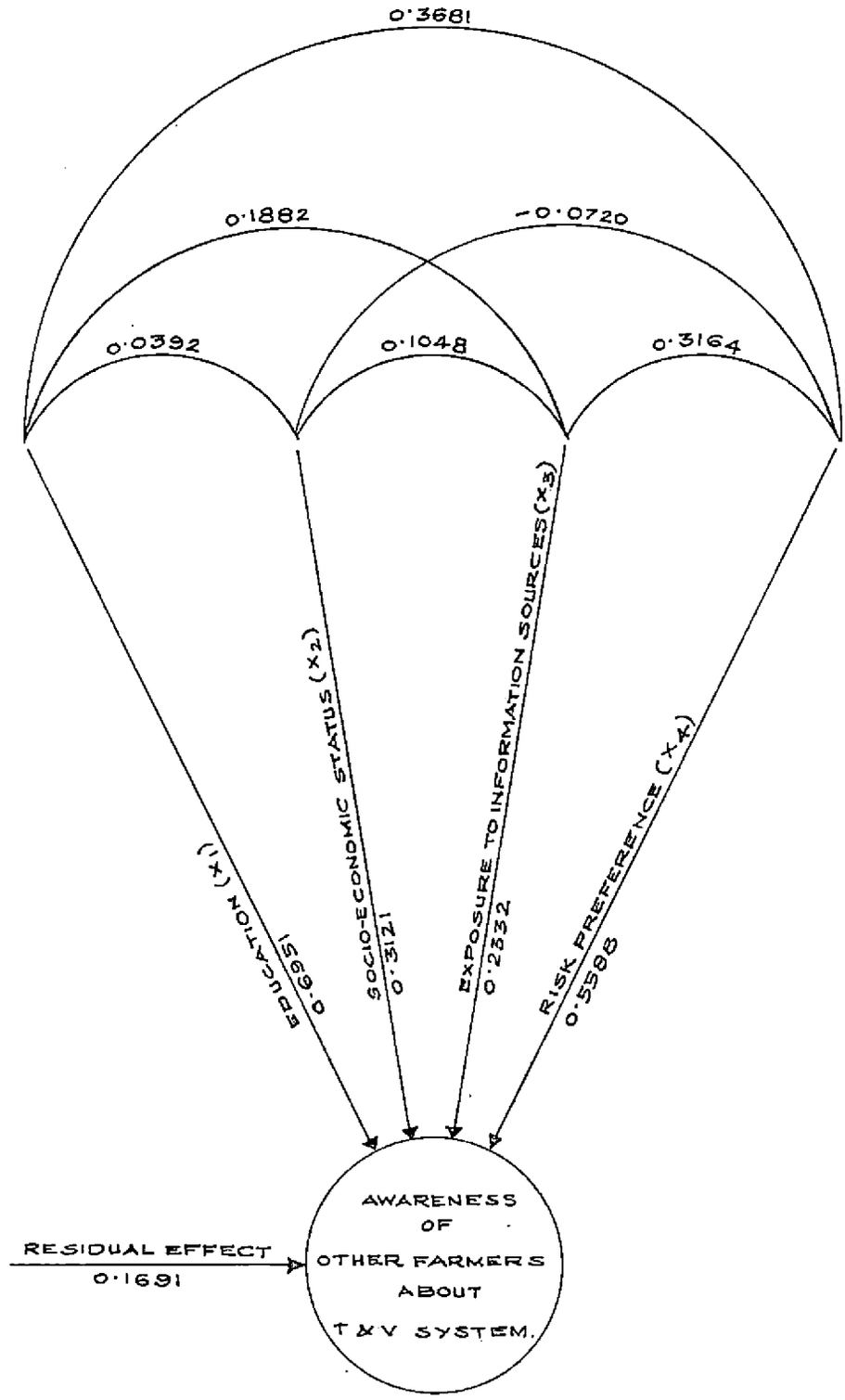
X_1 - Education X_3 - Exposure to information sources

X_2 - Socio-economic status X_4 - Risk preference.

The maximum positive direct effect was found for education (0.70) followed by risk preference (0.56). The correlation of education with awareness was 0.74 through its direct effect was (0.70). The high correlation coefficient must be due to the positive indirect effect of exposure to information sources and the positive direct effect of education.

The correlation of socio-economic status with awareness was 0.44 though its direct effect was 0.31. This difference was due to the negligible indirect effects of exposure to information sources, risk preference and education.

FIG.6. PATH ANALYSIS AND CORRELATION STUDIES IN THE CASE OF AWARENESS OF OTHER FARMERS ABOUT T&V SYSTEM.



Similarly the correlation of exposure to information sources with awareness was 0.53 and its direct effect was 0.23. The high correlation was the resultant of direct and indirect effects of exposure to information sources, education and risk preference.

The correlation of risk preference with awareness was 0.35 while its direct effect was 0.56. The reduction in correlation was due to the negative indirect effects of education, socio-economic status.

D. Path coefficient of attitude of other farmers.

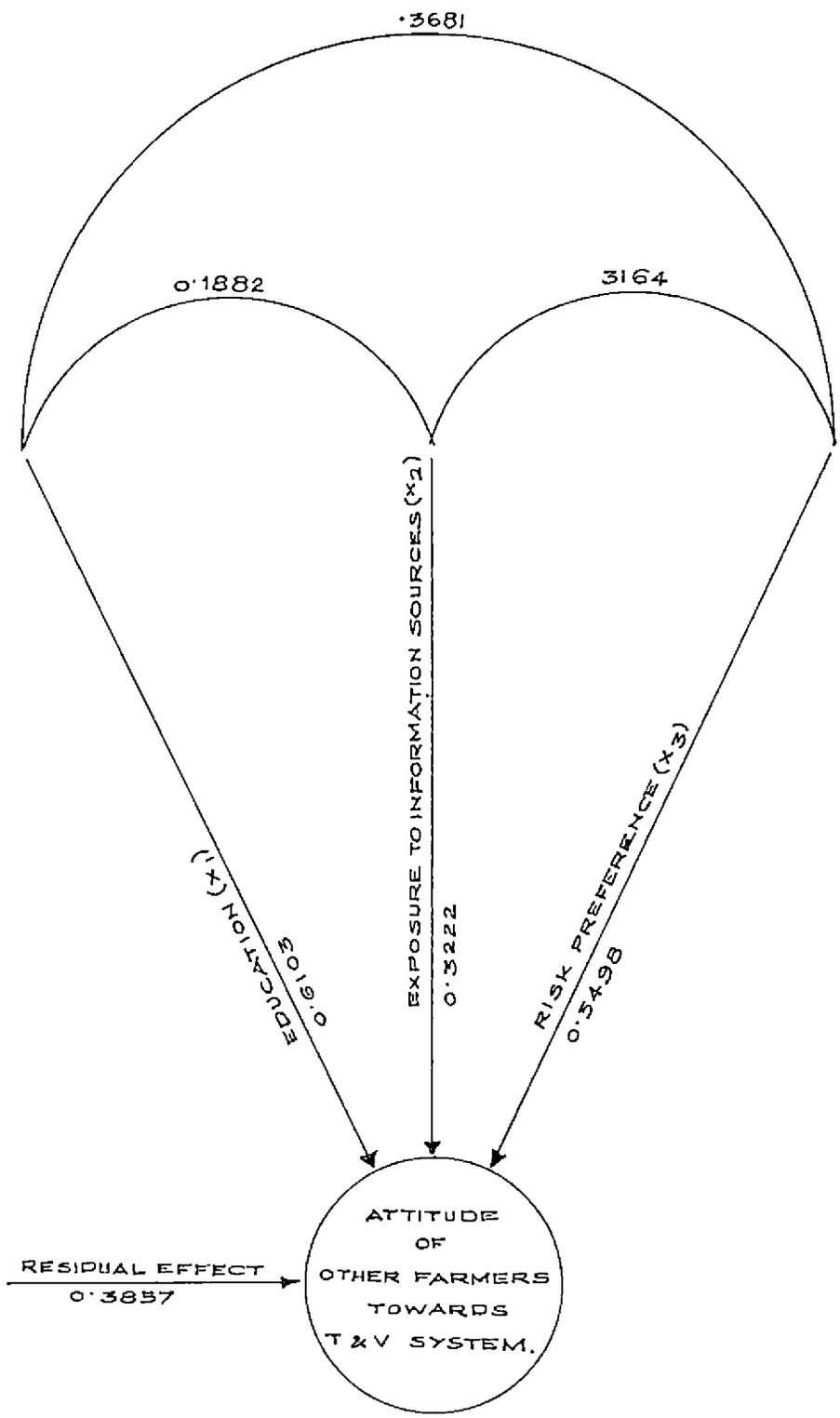
Path analysis of attitude with related factors was performed by taking the variables education, exposure to information sources and risk preference with attitude by taking into consideration of the significant correlation of independent variables with attitude. This path analysis helped to analyse the factors which directly or indirectly influenced the attitude. The results are presented in Table 38.

Table 38. Direct and indirect effects of component factors on attitude of other farmers

	X_1	X_2	X_3	Total
X_1	0.6103	0.3141	-0.1963	0.7281
X_2	0.1185	0.3222	0.2183	0.6590
X_3	-0.2179	0.0221	0.5498	0.3540

NB. The underlined figures show the direct effects

FIG. 7. PATH ANALYSIS AND CORRELATION STUDIES IN THE CASE OF ATTITUDE OF OTHER FARMERS TOWARDS T&V SYSTEM.



X_1 - Education X_2 - Exposure to information sources

X_3 - Risk preference

The maximum positive direct effect was found for education (0.61) followed by Risk preference (0.55). But a positive direct effect of 0.32 was observed exposure to information sources.

The correlation of education with attitude was 0.73 though its direct effect was 0.61. The high correlation coefficient was due to the indirect effects exposure to information sources and risk preference.

The correlation of exposure to information sources to attitude was 0.66 while its direct effect on attitude was 0.32. The high correlation was the resultant indirect effects of risk preference and education.

The correlation of risk preference with attitude was 0.35 while its direct effect was 0.55. The reduction in correlation was the resultant of the negligible indirect effect of education and exposure to information sources.

VI. A. Extent of awareness of Village Extension Workers about T&V system.

The data regarding the extent of awareness about T&V system of the village extension workers are given in Table 39.

Table 39. Distribution of VEWs according to their awareness about T&V system

Category	No.	per cent
Low	18	31.03
Medium	30	51.72
High	10	17.25
Total	58	100.00

It can be seen from the Table 39 that majority (51.72%) of the village extension workers had only medium awareness about T&V system, and only 17.25 per cent of them had high awareness.

B. Correlation between awareness of VEWs about T& V system and their independent variables.

The correlation coefficient was worked out between awareness of T&V system and independent variables. The results are given in Table 40.

Table 40. Correlation between awareness of VEWs about T&V system and independent variables

No.	Independent variable	Correlation coefficient
1	Age	0.2387
2	Education	0.1283
3	Experience	0.1909
4	Previous training	0.2934*

* Significant at 5 per cent level

The results in Table 40 reveals that there was positive and significant relationship between previous training and the awareness of village extension workers about T&V system. But all the other variables viz., age, education and experience had positive but non significant relationship with awareness of village extension workers about T&V system.

VII. A. Extent of attitude of Village Extension Workers towards T&V system.

The Table 41 shows the distribution of VEWs on the basis of attitude.

Table 41. Distribution of VEWs according to their attitude towards T&V system

Category	No.	Per cent
Low	39	67.24
Medium	10	17.24
High	9	15.52
Total	58	100.00

The Table 41 shows that the majority of VEWs (67.24%) belonged to low attitude category, followed by medium attitude (17.24%). Only 15.52 per cent belonged to high attitude group.

B. Correlation between attitude of VEWs and the independent variables.

The correlation between the attitude and the independent variables are given in Table 42.

Table 42. Correlation between attitude of VEWs towards T&V system and the independent variables

No.	Independent variables	Correlation coefficient
1	Age	0.0938
2	Education	0.0677
3	Experience	0.1627
4	Previous training	0.3215*

* Significant at 5 per cent level

The result in Table 42 reveals that only previous training was positively and significantly related with attitude of VEWs towards T&V system. But age, education and experience were found to be not significantly related.

VIII. A. Extent of awareness of officials about T&V system.

The data regarding the extent of awareness of officials towards T&V system are given in Table 43.

Table 43. Distribution of officials according to their awareness about T&V system

Awareness category	No.	Per cent
Low	6	13.95
Medium	13	30.23
High	24	55.82
Total	43	100.00

A cursory view of the Table 43 shows that majority of the officials (55.82%) had high awareness followed by medium awareness (30.23%). Only 13.95 per cent had low awareness above T&V system.

B. Correlation between awareness about T&V system and the independent variables of officials

The correlation coefficient has been worked out among the independent variables age, education, experience and previous training with the dependent variable awareness. The results are given in Table 44.

Table 44. Correlation between the awareness of officials and independent variables

No.	Independent variables	Correlation coefficient (r)
1	Age	0.1480
2	Education	0.0841
3	Experience	0.3170*
4	Previous training	0.8571**

** Significant at 1 per cent level
* Significant at 5 per cent level

It is seen from the Table 44 that all the variables were positively related with awareness of officials about T&V system. But experience and previous training were found to be significantly correlated with awareness.

IX A. Attitude of officials towards T&V system.

The distribution of officials according to their attitude towards T&V system is given in Table 45.

Table 45. Distribution of officials according to their attitude towards T&V system

Attitude category	No.	Per cent
Low	15	34.88
Medium	18	41.86
High	10	23.26
Total	43	100.00

The Table 45 reveals that majority of the officials belonged to medium attitude category (41.86%) followed by low attitude category (34.88%). Only 23.26 per cent of officials had high attitude towards T&V system.

B. Correlation between attitude of officials towards T & V system and independent variables.

The correlation coefficient between the independent variables and the attitude of officials towards T&V system has been worked out and was presented in Table 46.

Table 46. Correlation between attitude towards T&V system of officials and independent variables

No.	Independent variables	Correlation Coefficient
1	Age	0.1651
2	Education	0.0572
3	Experience	0.2920*
4	Previous training	0.6500**

** Significant at 5 per cent level
* Significant at 1 per cent level

The table 46 reveals that experience and previous training had positive and significant relationship with attitude of officals. But age and education were found to be non significantly related with attitude.

X. Problems as perceived by farmers, village extension workers and officials in the implementation of T&V system.

The data on problems as perceived by farmers, VEWs and officials were subjected to statistical analysis and are given below.

1. Problems as perceived by farmers

The problems as perceived by the farmers are presented in Table 47 in the order of their importance.

Table 47. Problems as perceived by farmers

Sl.No.	Problems	No.	Per cent	Rank
1	After the introduction of T&V system the availability of the inputs is very much delayed	80	71.43	III
2	The messages given by VEWs are of high cost technology	24	21.43	VII
3	The time of visit of VEWs does not suit to the convenience of farmers	59	52.68	IV
4	Most of the messages are not convincing	15	13.39	VIII
5	VEWs are not visiting regularly as per the schedule	36	32.14	VI
6	Proper supervision by the higher officials seems to be a deficiency in T&V programme	61	54.46	V
7	Lack of credit facilities is one bottleneck for implementing the messages	96	85.71	II
8	Increasing cost of cultivation stands in the way of adopting the new technology	99	88.39	I

Taking only the first three problems into consideration, it could be seen from Table 47 that increasing cost of cultivation was the most important problem as felt by the farmers followed by the lack of availability of credit. Delay in getting inputs in time was stated to be the third important problem as perceived by the farmers.

Problems as perceived by the Village Extension Workers

The rank order of the problems as perceived by the VEWs are given in Table 48.

Table 48. Problems as perceived by the Village Extension Workers

Sl.No.	Problems	Per cent	Rank
1	Contact farmers are not available at their farms during the time of visit of VEWs	41	III
2	The number of contact farmers in one group is unwieldy	35	IV
3	Absence of independent office facilities in the localities of VEWs affects the efficiency of the work of VEWs	53	I
4	The frequent transfer of the VEWs is a disincentive for efficient working	42	II
5	The places of visit are very remote and not easily accessible	16	IX

Sl.No.	Problems	Per cent	Rank
6	Inadequate and untimely supply of inputs stands in the way of adopting newer technologies by farmers	28	VI
7	The facilities for practical training for the VEWs are quite inadequate	20	VIII
8	VEWs do not possess the required skills to transfer the message to the farmers in an understandable manner	8	XII
9	During the time of training the VEWs are not getting chances to clear their doubts	22	VII
10	The work done by the VEWs is not being duly recognised	29	V
11	The SMSs do not transfer the technical knowledge in understandable and digestible doses	13	XI
12	Training in the use of audio-visual aids is quite inadequate for the VEWs	14	X

From the Table 48 it could be seen that absence of independent office facilities is the most important problem as perceived by the VEWs followed by the problem that the VEWs are frequently transferred, so that the efficiency of the work is affected. The absence of the farmers at their farms is the third important problem as perceived by them.

Problems as perceived by officials

The problems as perceived by the officials according to their order of importance are given in Table 49.

Table 49. Problems as perceived by officials

Sl.No.	Problems	Per cent	Rank
1	The work load of T&V staff is too much for the time specified	65	II
2	The conveyance facilities now available are quite in sufficient	68	I
3	The places of visit are mostly not easily accessible	54	III
4	The office facilities now provided are quite insufficient	51	V
5	The facilities available for training of VEWs are not adequate	39	VI
6	The feed back from farmers to officials is not adequate	26	VIII
7	The work of the officers are purely advisory in nature and hence quite monotonous	28	VII
8	The timely and adequate supply of inputs to farmer is not ensured for successful implementation of T&V system	52	IV
9	The selection of contact farmer is not done properly	15	IX

A cursory view of the Table 49 shows that the non-availability of conveyance facilities ranks first in the order of importance as perceived by the officials. The second important problem is that the work load of the T&V staff is too much for time specified.

DISCUSSION

CHAPTER V

DISCUSSION

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

I. Distribution of contact farmers, other farmers, Village extension workers and officials according to their personal and socio-psychological characteristics (independent variables).

II. A. Extent of awareness of contact and other farmers about T&V system.

B. Correlation between awareness about T&V system among contact and other farmers with respect to independent variables or related factors.

III. A. Attitude of contact and other farmers towards T&V system.

B. Correlation between attitude towards T&V system and independent variables among contact and other farmers.

IV. A. Interrelationship between the dependent variables among contact and other farmers.

B. Interrelationship among the independent variables among contact and other farmers.

V. Path analysis of awareness and attitude among contact and other farmers.

VI. A. Extent of awareness of Village extension workers about T&V system.

B. Relationship between awareness of Village extension workers about T&V system and the independent variables.

VII. A. Attitude of Village extension workers towards T&V system.

B. Relationship between attitude of Village extension workers towards T&V system and the independent variables.

VIII. A. Extent of awareness of officials about T&V system.

B. Relationship between awareness of officials about T&V system and the independent variables.

IX. A. Attitude of officials towards T&V system.

B. Relationship between attitude of officials towards T&V system and the independent variables.

X. Problems as perceived by farmers, Village extension workers and officials in the implementation of T&V system.

I. Distribution of contact farmers, other farmers, Village extension workers and officials according to their personal and socio-psychological characteristics (Independent variables).

A. Distribution of contact and other farmers according to their personal and socio-psychological characteristics.

1. Age

An appraisal of the Table 1 revealed that majority of contact farmers and other farmers were from the middle age group. The mean age scores of contact and other farmers also did not differ significantly (Vide Table 2). Even-though there is no stipulation about the age group of contact farmers, it is hoped that the middle and old aged contact farmers could command respect as farmers and as people from other sections of the society. They also could be identified with and initiated by a member of farmers in the society.

2. Education

A perusal of the Tables 3 and 4 brought to focus that majority of contact and other farmers had education upto high school level and a good percentage among the remaining had primary education. It is also worthwhile to note that there were 12.50 per cent and 17.86 per cent respectively of contact and other farmers had education upto College level.

All the selected contact farmers were literate though a small percentage of other farmers were illiterate. The mean education scores of contact and other farmers did not differ significantly. The results indicate that while selecting contact farmers due attention has been paid to select only educated farmers, who would be more responsive to try and adopt recommended practices in their field than illiterate farmers.

3. Farm size

An appraisal of Table 5 showed that majority of contact farmers had medium farmsize and farmers with large farm size came next in order. This distribution of contact farmers proportionately represent the range of farm size (small, medium and large) as envisaged in the T&V system. The Table 6 shows that there was significant difference in the average Farm size of contact and other farmers which shows that the farm size of contact farmers appear to be high when compared to other farmers. This could be attributed to the fact that other farmers under study were selected from farmers without giving due consideration to their farm size.

4. Social participation

The data in Tables 7 and 8 bring to the light that majority of contact farmers have medium social participation

followed by high and then low social participations. This indicates that the contact farmers would be willing to innovate and to show and explain their activities to other farmers. There is also likely that good rapport can be established between such contact farmers and the extension workers. The mean social participation scores of contact farmers and other farmers do not differ much in their social participation showing that the other farmers selected are also having medium level of social participation in general.

5. Socio-economic status

The Tables 9 and 10 indicate that majority of contact farmers belongs to middle socio-economic status and farmers with high and low socio-economic status came next in order. This indicates that contact farmers selected represent the range of socio-economic and agricultural production and farming conditions of their group.

The fact that the mean socio-economic status scores of the contact farmer is significantly higher than that of other farmers may be reasoned out with the help of analysis of the various components which constitute the socio-economic status scale.

6. Exposure to information sources

Results presented in Table: 11 and 12 reveal that majority of contact farmers were highly exposed to information sources

and contact farmers with medium and low exposure were almost equally distributed. The regular fortnightly visits of Village extension workers and Junior agricultural officers can be attributed as the main reason for this finding. More over, eversince the start of T and V programme scientific information about agriculture is being disseminated through All India Radio and agricultural columns of leading newspapers regularly. Majority of the contact farmers are exposed to these information sources and this helps the contact farmers, to establish an awareness of actual farm conditions and needs.

The mean scores of this variable of contact and other farmers differed significantly, though their scores in general was high because the use of mass media especially newspaper is very common among the people in Kerala.

7. Scientific orientation

As it could be seen from the Tables 13 and 14 that majority (58.93%) of contact farmers had high scientific orientation and the rest had low scientific orientation. This is an encouraging result, as good contact farmers shall be willing to adopt relevant recommendations on atleast a part of their land and allow other farmers to observe the practices. It can be reasonably concluded that farmers with high scientific orientation will have this characteristics.

The mean scores of scientific orientation of contact and other farmers also do not differ significantly showing that the other farmers selected are also having equally good scientific orientation.

8. Risk preference

The Tables 15 and 16 show that majority of the contact farmers and other farmers had high risk preference. In the T&V system, the extension workers are expected to recommend, improved practices to the contact farmers to adopt first on only a small part of their land. This reduces the farmer's risks and hesitations and allows to compare the results of the improved practices along with traditional practices in farmer's own field. The finding here that the majority of farmers had high risk preference indicates that they will be willing to try out the new technologies in their own field conditions.

In the case of other farmers selected for comparison also a relatively high risk preference was noticed.

B. Distribution of Village Extension Workers according to their independent variables

1. Age

An appraisal of the Table 17 shows that majority of the Village extension workers came under middle age category. A good percentage of them belonged to the younger age group

and only 13.79 per cent belonged to the old age group. The finding shows that the majority of the VEWs are physically capable of undertaking the intensive series of fortnightly visits to the farmers fields as expected of them.

2. Education

Table 18 shows that majority of the VEWs had high school education, which is the minimum required qualification to become a Village extension worker. It is also worthwhile to note that 31 per cent of VEWs had education upto college level. This finding indicates that the VEWs are intellectually fit enough to digest the messages they receive and can develop a better understanding of what they are recommending.

3. Experience

The Table 19 shows that majority (51.72%) of the VEWs had 13 years and more field experience and the remaining persons had less than 13 years of service. The total number of years the VEWs have put in service seem to be quite adequate to make them effective field workers.

4. Previous training

From Table 20 it could be seen that the mean value for the previous training for the VEWs was 21 days. Thus majority of VEWs had more than 21 days of training in different fields of Agricultural Extension before they joined the T&V system.

From the collected data it could be gathered that these training programmes were conducted on different occasions and of various durations. Previous training will definitely help in developing a better attitude towards their work. It can be presumed that deficiency in previoustraining will be offset by the fortnightly training being received by the VEWs.

C. Distribution of officials with respect to the independent variables

1. Age

An examination of the Table 21 shows that majority of the officials came under the middle age group. The officials include Junior Agricultural Officers, Subject Matter Specialists and Sub Divisional Agricultural Officers of the three sub-divisions. The findings clearly indicate that the majority of the officials working in the T&V system are capable of undertaking extensive field work as envisaged in the programme.

2. Education

Table 22 indicates that majority of officials had required minimum educational qualification of graduation in agriculture, and nearly 14 per cent had post-graduate degree in agriculture. Thus the majority of officials have required

technical competence for imparting agricultural technology to their village extension workers. It may also be pointed out that 21 per cent of officials did not have a basic degree in Agriculture. They were people recruited to the cadre of Junior Agricultural Officers from the category of Senior agricultural demonstrators and hence they had sufficient field experience. It is hoped therefore that lack of a basic degree in Agriculture will be amply compensated by their field experience.

3. Experience

The Table 23 shows that majority of the officials came under high experience category. Mean value for the experience was 14 years and it could be seen that majority of the officials working in the field had fairly sufficient field experience to undertake the duties and responsibilities entrusted to each category of officials.

4. Previous training

From Table 24 it can be seen that majority of the officials came under the category of personnel with less previous training (60.47%) and the remaining (39.53%) had sufficient previous training in their field of specialisation. This must be due to the fact that majority of the officials before coming to the T&V system were put in charge if administrative type of work wherein no inservice training is essential.

A professional extension service is not possible without technically competent, skilled and highly motivated Junior Agricultural Officers and Subject Matter Specialists and hence their effective training is very critical. It is hoped that the fortnightly training imparted to JAOs by the SMSs and the monthly workshops for the SMSs will serve as the main means of inservice training for the officials. To be effective, these trainings should have a strong practical orientation in the field of transfer of technologies.

II. A. Extent of awareness of contact and other farmers about Training and visit system

An appraisal of the Table 25 and 26 shows that majority of the contact farmers and other farmers had medium awareness about T&V system. But in general contact farmers had high awareness about T&V system. Another salient feature of this finding is that there were no contact farmers with low awareness score. The high awareness of contact farmers must definitely be due to the regular fortnightly visits of the VEWs and officials and also due to mass media exposure especially newspapers and their participation in seminars and informal meetings. The mean scores of the awareness of contact and other farmers also differed supporting the fact that the contact and other farmers differed much with respect to their awareness about T&V system. This emphasises the need

to develop more awareness among other farmers. Farmers' awareness of the extension system and their knowledge about the VEW's visit can be best achieved through personal contact and regular visit. Hence, on each visit, in addition to contact farmers the VEW should make it a point to visit as many other farmers as possible and of calling neighbouring farmers to any discussion he has with a contact farmer.

B. Correlation between awareness about T&V system of contact and other farmers and their independent variables

1. Age

A significant negative correlation was observed between age and awareness among contact farmers. But this correlation was negative among other farmers, though not significant. This indicates that as age increases their awareness about T&V system decreases and therefore more efforts are needed to develop awareness about T&V system among old age group. In the case of other farmers awareness about T&V system was independent of their age. However, Rao (1979) and Vijaya (1982) reported that awareness of farmers about T&V system was independent of their age.

The hypothesis set up for the study is that there would be a positive and significant relationship between age and awareness of contact and other farmers about T&V system. In the light of the above finding the hypothesis is rejected.

2. Education

Education was found to be positively but not significantly correlated with awareness about T&V system in the case of contact farmers and positively and significantly correlated in the case of other farmers. Formal schooling has been valued as a means of increasing knowledge for awareness. The results of the study clearly indicated that majority of contact and other farmers had high school and above level of education. Among the contact farmers there were no illiterate also. But in the case of contact farmers 7.14 per cent of them were illiterate. The reason for low awareness among the other farmers can be attributed to their low level of education and therefore results of the study clearly indicate that the extension agents should focuss more attention on other farmers by way of contact and involving them in informal meetings. This study is in conformity with the finding of Naik (1981) that awareness about T&V system and education of both contact and other farmers were positively correlated.

The hypothesis set up for the study is that there would be a positive and significant relationship between education and awareness of contact and other farmers. In the light of the results discussed above, the hypothesis is rejected in the case of contact farmers and accepted in the case of other farmers.

3. Farm size

The computed 'r' values were found to be positively and significantly correlated in the case of contact farmers but positively and nonsignificantly correlated in the case of other farmers. As farm size increases, there is enough chance for the increase of information need leading the farmers to seek details of the programmes which might ultimately help them in enhancing their farm income. The results of the study stress the need for selecting contact farmers with atleast medium farm size so that the messages received by them can be put into practice at least on a part of their farm. Naik (1981) showed that there was significant association between farm size and awareness of other farmers while for contact farmers there was no association. Rao (1979) found no relationship between farm size and awareness of farmers about T&V system.

The hypothesis set up for the study that there would be a positive and significant relationship between awareness about T&V system and farm size is therefore accepted in the case of contact farmers but rejected in the case of other farmers.

4. Social participation

Table 27 brings out a positive and significant relationship between social participation and the level of awareness about T&V system. There is reason to believe that farmers

by virtue of their participation in different organisations will gain information on T&V system due to their interactions with other well informed farmers, officials and VEWs and they will assist in spreading new practices to most of the other farmers in the area quickly. Naik (1981) reported that in the case of other farmers social participation had significant association with awareness about T&V system while in the case of contact farmers there was no association.

The hypothesis set up for the study that there would be a positive and significant relationship between social participation and awareness about T&V system is therefore accepted in the case of contact farmers and rejected in the case of other farmers.

5. Socio-economic status

Positive and significant relationship was found between the awareness and socio-economic status of both contact and other farmers. This implies that as socio-economic status increases one's awareness also increases. The constituents of socio-economic status scale namely education, occupation, social participation etc. might have helped them to obtain more information about T&V system. Moreover only such farmers will be of good standing in their community so that their views on new practices will be respected by other farmers. This finding is in conformity with the findings of Sarkar (1980) and Naik (1981).

The hypothesis set up for the study is that there would be a positive significant relationship between the socio-economic status of farmers and awareness about T&V system. In the light of the above findings the hypothesis is accepted in the case of both contact and other farmers.

6. Exposure to information sources

The relationship between the exposure to information sources and the level of awareness of contact and other farmers about T&V system was found to be positive and significant. It is quiet reasonable that farmers exposed to various information sources will have high awareness. The study also revealed that the contact farmers were exposed more to formal information sources than informal sources. This result must be due to the fact that the VEWs are giving regularly fortnightly visits. This result is in conformity with the finding of Naik (1981).

Hence the hypothesis set up for the study that there would be a positive and significant relationship between exposure to information source and awareness about T&V system is accepted in the case of both contact and other farmers.

7. Scientific orientation

Scientific orientation was found to be positively but not significantly related with awareness of contact farmers and other farmers about T&V system. Eventhough it was statistically not significant majority of the contact farmers had high scientific orientation. Scientific outlook is essential to make a farmer an imitable contact farmer and therefore eventhough the relationship is not statistically significant, scientific orientation will help in increasing the awareness of farmers about T&V system. Naik (1981) found that in the case of other farmers, there was no association between scientific orientation and awareness but in the case of contact farmers there was association of scientific orientation with awareness about T&V system.

The hypothesis set up for the study that there would be a positive and significant relationship between awareness about T&V system and scientific orientation is rejected in the case of both contact and other farmers.

8. Risk preference

The 'r' values show that there was positive and significant relationship between risk preference and awareness of contact and other farmers about T&V system. As the risk preference behaviour increases the curiosity to know,

understand and acquire more information about a particular thing increases. This reason can be attributed to the positive and significant relationship between risk preference and awareness. Naik in 1981 revealed that risk preference had no association with awareness of other farmers but in the case of contact farmers there existed a significant relationship between risk preference and awareness about T&V system.

In the light of the above finding, the hypothesis set up for the study that there would be a positive and significant relationship between awareness about T&V system and risk preference of contact and other farmer is therefore accepted.

III. A. Attitude of contact farmers and other farmers towards Training and Visit system

An appraisal of the Table 28 shows that majority of the contact farmers had medium attitude towards T&V system. In general contact farmers were having high attitude than other farmers towards T&V system. This must be due to the fact that the contact farmers are constantly in touch with the VEWs. The finding also support the fact that change in attitude can be brought about through interpersonal contact. Hence visiting as many other farmers as possible by the VEWs will help to develop better attitude among them towards T&V system.

The mean of attitude scores of contact and other farmers also showed that contact and other farmers differed significantly.

B. Correlation between attitude and related factors among contact and other farmers towards Training and Visit system.

1. Age

The relationship between attitude towards T&V system and age of contact and other farmers was found to be positive but not significant. Hence age was not found to be a discriminating factor for the attitude of contact farmers and other farmers. Whoever is exposed to the activities of T&V system either gets favourably or unfavourable influenced irrespective or cnronological maturity. This might be the reason why age was not found to be significantly associated with attitude of contact and noncontact farmers. This finding is in agreement with the finding of Naik (1981), Rao (1979), Sarkar (1980).

Hence the hypothesis set up for the study that there would be a positive and significant relationship between age and attitude of contact and other farmers is rejected.

2. Education

The computed 'r' values as per Table 30 indicates a positive and significant relationship between attitude of contact and other farmers towards T&V system and education.

The 'r' value was found to be higher in other farmers than contact farmers. Formal schooling has been viewed as a means of increasing knowledge which would instill a favourable attitude towards T&V system. This result is in conformity with the result of Naik (1981) and Sankar (1980).

The hypothesis set up for the study is that there would be a positive and significant relationship between attitude towards T&V system and education. In the light of the above discussion the hypothesis is accepted for both contact and other farmers.

3. Farm size

The computed 'r' values revealed that there was positive but no significant relationship between farm size and attitude of contact and other farmers towards T&V system. The contact farmers with limited piece of land would attach more value and significance for their landed property withobviously reflected on their attitude. On the contrary, farmer with a relatively larger farm size might not attach much of stigma to their way of farming as larger farm size induces a sense of complacency among them which results in a less favourable attitude. This result is in conformity with the results of Rao (1979), Naik (1981).

Hence the hypothesis set for the study that there would be a positive and significant relationship between farm size and attitude of contact and other farmers towards T&V system is therefore rejected.

4. Social participation

The computed 'r' value show that social participation is positively and significantly related with attitude of contact farmers while positively but not significantly related in the case of other farmers towards T&V system. The interaction between the fellow farmers in social organisation help in exchanging knowledge about T&V system which indirectly help to develop a favourable attitude towards the system. Naik (1981) concluded that the attitude of contact and other farmers towards T&V system was not associated with their extent of social participation.

Hence the hypothesis set up for the study that there would be a positive and significant relationship between social participation and attitude towards T&V system is accepted in the case of contact farmers but rejected in the case of other farmers.

5. Socio-economic status

Positive and significant relationship between socio-economic status and attitude towards T&V system was noted in the case of contact farmer and in the case of other farmers they are not related. This implies that as socio-economic status increases attitude of contact farmers towards T&V system also increases. The constituent items of socio-

economic status might have helped them to obtain knowledge about T&V system and they will grasp fast what the VEWs tell them and take positive decisions. Moreover educated farmers come into contact with various organisations and agencies in order to acquire more information about the T&V system. All these might have contributed to the positive and significant relationship of socio-economic status with attitude of contact farmers. The non-significant relationship in the case of other farmers might be due to the fact that they are not being contacted based on a time bound programme. Naik (1981) found that the relationship between attitude and the socio-economic status was positive in the case of other farmers but negative in the case of contact farmers.

The hypothesis developed was that there would be a positive and significant relationship between the socio-economic status and attitude towards T&V system of contact and other farmers. In the light of the above result the hypothesis is accepted in the case of contact farmers and rejected in the case of other farmers.

6. Exposure to information sources

The computed 'r' values as per Table 30 have shown that there was positive and significant relationship between exposure to information sources and attitude of contact and

other farmers towards T&V system. Every exposure of an individual to information sources such as impersonal sources, formal and informal sources produces some change in knowledge, skill and attitude. Hence the exposure to different information sources will have cumulative effect in increasing knowledge which in turn would influence the attitude. This result of contact farmers is in conformity with the finding of Rao (1979). But Naik (1981) reported that there was significant association between exposure to information sources and attitude in the case of contact farmers but not associated in the case of other farmers.

Hence the hypothesis set up for the study that there would be a positive and significant relationship between the attitude towards T&V system and exposure to information sources is accepted in the case of contact farmers and other farmers.

7. Scientific orientation

Scientific orientation is found to be uncorrelated with attitude towards T&V system among contact and other farmers. Contact and other farmers showed different degrees of attitude towards T&V system irrespective of the level of scientific orientation. This result is inconformity with the finding of Naik (1981).

The hypothesis set up for the study is that there would be a positive and significant relationship between the scientific orientation and attitude towards T&V system. In the light of the above finding the hypothesis is rejected in the case of both contact and other farmers.

8. Risk preference

From Table 30 it can be seen that there was positive and significant relationship between attitude of contact and other farmers and risk preference. As the capacity to take risk increases, farmers try to understand the practices clearly which lead to the development of favourable attitude towards T&V system. Naik (1981) stated that in the case of other farmers, attitude towards T&V system was independent of risk preference but in the case of contact farmers it was found to be dependent.

Hence the hypothesis set up for the study that there would be a positive and significant relationship between risk preference and attitude of contact and other farmers towards T&V system is therefore accepted.

IV. A. Interrelationship between the attitude and awareness among contact and other farmers

In the case of contact farmers the computed 'r' values showed a positive and significant relationship, between

attitude and awareness but in the case of other farmers it was found to be positive but not significant. Awareness has been considered as a pre-requisite for developing a favourable attitude leading to the success of any programme. A farmer who is well aware of the T&V system is likely to utilise the services of extension personnel to the maximum extent. Moreover a farmer who is having high awareness is likely to have high education, high social participation, high socio-economic status and greater exposure to information sources, which help in acquiring more information about the T&V system. The awareness thus gained might have instilled in him a favourable attitude towards the T&V system. This might be the reason for the positive and significant relationship between the level of awareness about T&V system and attitude towards it, of contact farmers.

B. Interrelationship between the independent variables among contact and other farmers.

In the case of contact farmers it was found that age, farm size, social participation, socio-economic status, exposure to information sources and risk preference were significantly related with awareness and the variables education, social participation, socio-economic status, exposure to information source, risk preference were

significantly related with attitude. The interrelationship worked out among the above mentioned independent variables showed that positive and significant association exist between the variables age and social participation, age and exposure to information source, education and exposure to information sources, farm size and risk preference, social participation and socio-economic status, socio-economic status and risk preference.

As age increases, it is quite possible that good contact farmers come into contact with more number of social organisations and hence social participation also increases and also they get more opoortunities to get themselves exposed to various formal information and impersonal sources. It was found that education and exposure to information source were positively and significantly related. This relationship might be due to the fact that highly educated farmers are in a better position to make use of various sources of information. They become more accustomed to impersonal formal and informal information source. The positive and significant relationship between farm size and risk preference can be attributed to the reason that people with less farm size will not be prepared to take new practices since the fear of risk factor is involved in it. A person having high socio-economic status is likely to have more of social partici-

pation than those who are with low socio-economic status. This explains that farmer having more social participation are likely to have high socio-economic status because social participation is very important constituent of socio-economic status scale. Positive and significant relationship between the socio-economic status and risk preference might be due to the fact that as the socio-economic status increases they get more contact with specialists and hence their risk taking capacity also increases. High socio-economic status acts as a buffer for taking up risk in putting newer technology into practices.

In the case of other farmers it was found that education, socio-economic status and risk preference were positively and significantly related with awareness about T&V system and the variables education, exposure to information sources and risk preference were found to be positively significantly related with attitude towards T&V system. The interrelationship was worked out among the mentioned variables and found that positive and significant relationship was found between education and risk preference exposure to information source and risk preference.

The association between education and risk preference might be due to the fact that highly educated farmers will

have the courage to take the risk of trying out new informations in their own field. Also the farmers who are exposed to various information sources will be in a better position to make use of those information and they too will develop a sort of risk taking capacity to try out new practices in their field. This might be the reason for the positive and significant relationship between the exposure to information sources and risk preference.

V. Path Analysis of awareness and attitude among contact and other farmers.

Results of path analysis showed that in the case of contact farmer, risk preference had maximum direct effect on the awareness about T&V system followed by age, exposure to information source. Though risk preference had maximum direct effect, age is also an important factor contributing to the awareness of contact farmers. But the direct effects of farm size, social participation; and socio-economic status had negative direct effect on the awareness of contact farmers.

Education had maximum direct effect on the attitude towards T&V system of contact farmers followed by risk preference. Social participation and socio-economic status have significant direct effect on the attitude of contact farmers.

But in the case of other farmers maximum direct effect was noted for education on awareness followed by risk preference. The socio-economic status and exposures to information source also had considerable direct effect on the awareness of other farmers.

In the case of attitude of other farmers, education had maximum direct effect on the attitude towards T&V system followed by risk preference.

VI. A. Extent of awareness of Villege extension workers about training and visit system.

From the Table 30 it can be seen that majority of the VEWs had medium awareness about the T&V system. The number of VEWs having high or low awareness is comparatively low. The low awareness among the VEWs must be due to the fact that they must not be completely familiar with the basic principles and objectives of the system. It appears that majority of them feel that transfer of message to contact farmers through biweekly visits is the main duty expected of them. Hence efforts are needed to make the VEWs aware of the fact that he is not only responsible for presenting relevant recommended practices to farmers but also teaching and demonstrating related skills to farmers, motivating them to adopt recommended practices and bringing farmers' production problems to the research.

B. Correlation between awareness of Village extension workers about training and visit system and their independent variables.

1. Age

The computed 'r' values show that there was positive but nonsignificant relationship between age and awareness of VEWs about T&V system. Hence the result indicates that there was no association between age of VEWs and their awareness about T&V system. This finding is in conformity with the findings of Rao (1979 and Naik (1981).

Hence the hypothesis set up for the study that there would be a positive and significant relationship between the age and awareness of VEWs is therefore rejected.

2. Education

The computed 'r' values have shown that education was positively but not significantly associated with the awareness of VEWs about T&V system. Majority of the VEWs had minimum required educational qualification of a pass in Secondary School Leaving Certificate and the remaining 31 per cent had college level education. This indicates that educational background of the respondents determines to a greater degree their awareness about the programme. This result is in conformity with the findings of Naik (1981).

Hence the hypothesis set up for the study that there would be a positive and significant relationship between

the awareness about T&V system and education of VEWs is therefore rejected.

3. Experience

It is seen that experience of VEWs was positively but not significantly related with awareness of VEWs about T&V system. Eventhough majority of the VEWs under study had mean experience value of 13 years and above, the results indicate that experience coupled with other personal characteristics might help in creating a better awareness about the T&V programme. This result is in conformity with the findings of Naik (1981).

The hypothesis set up for the study is that there would be a positive and significant relationship between awareness about T&V system and experience of VEWs. In the light of the above finding, the hypothesis is rejected.

4. Previous training

Previous training was found to be positively and significantly related with awareness of VEWs about T&V system. Training of any kind will help to refresh the knowledge in subject matter and sharpen their skills and therefore training prior to their appointment to the T&V system will definitely help to develop better awareness about the T&V system.

The hypothesis set up for the study is that there would be a positive and significant relationship between the awareness about T&V system and previous training of VEWs. On the basis of the above finding the hypothesis is therefore accepted.

VII. A. Attitude of Village extension workers towards training and visit system

It is seen from the Table 41 that the VEWs were having low or medium attitude towards T&V system. Only a very low percentage had high attitude towards the system. The VEWs are the key persons in the T&V system who are expected to be in constant touch with the farmer for the transfer of technology. Unless the VEWs have got a better attitude towards the programme, it is bound to become a failure. Therefore the result of the study emphasises the need for the development of better attitude among VEWs towards the programme by way of providing more facilities in the field or by recruiting only those persons who have better attitude towards the work.

B. Correlation between attitude of Village extension workers and the independent variables

1. Age

Computed 'r' values have shown that there was positive but nonsignificant relationship between the attitude towards

the T&V system of VEWs and their age. Hence age is not found to be a discriminating factor in determining the attitude of VEWs. This finding is in conformity with the finding of Naik (1981).

Hence the hypothesis set up for the study that there would be a positive and significant relationship between the attitude towards T&V system and age of VEWs is therefore rejected.

2. Education

The correlation coefficient shows that there was positive but nonsignificant relationship between education and attitude of VEWs towards T&V system. This indicates that educational background of the respondents alone may not help to develop a better attitude towards the programme. This result is in conformity with the findings of Naik (1981).

Hence the hypothesis set up for the study that there would be a positive and significant relationship between attitude of VEWs towards T&V system and their education is therefore rejected.

3. Experience

The computed 'r' values have shown that there was positive but nonsignificant relationship between the attitude towards T&V programme and experience of VEWs. This may be due to the fact that development of attitude towards

the programme is a cumulative function of other independent variables under study. This result is in confromity with the findings of Naik (1981).

Hence the hypothesis set for the study that there would be a positive and significant relationship between experience and attitude of VEWs towards T&V system is therefore rejected.

4. Previous training

The computed 'r' values as per the Table 42 have shown that there was positive and significant relationship between the previous training and attitude of VEWs towards T&V system. Training of any kind will help to refresh the knowledge of subject matter and sharpen the skills and thereby develops a favourable attitude towards the T&V system. Hence the training prior to their appointment to the T&V system will definitely help to develop better attitude towards the T&V system.

Hence the hypothesis set up for the study that there would be a positive and significant relationship between the previous training and attitude of VEWs towards T&V system is therefore accepted.

VIII. A. Extent of awareness of officials about T&V system

From the Table 43 it can be seen that majority (55.82%) of the officials had high awareness about the T&V system.

Eventhough the number of officials having low and medium awareness is comparatively low a much higher percentage of officials under high awareness category was expected. The low awareness of the officials must be due to their lack of familiarity of the basic principles and objectives of the programme which is likely to occur during the initial stages. The result points out the necessity for developing more awareness regarding the basic principles and objectives of T&V system.

B. Correlation between awareness of officials about T&V system and their independent variables

1. Age

The computed 'r' values have shown that there was positive but nonsignificant relationship between age and awareness of officials about T&V system. Hence age was not associated with awareness. This finding is in conformity with the findingsof Rao (1979) and Naik (1981).

Hence the hypothesis set up for the study that there would be a positive and significant relationship of age with awareness of officials is therefore rejected.

2. Education

The computed 'r' values have shown that education was not significantly associated with awareness of officials about T&V system. This indicates that educational background is not a criterion for determining the awareness of officials

about T&V system. This result is in conformity with the results of Naik (1981).

In the light of the above discussion the hypothesis set up for the study that there will be some positive and significant relationship between education and the awareness of officials about T&V system is therefore rejected.

3. Experience

From the Table 44 it can be seen that the computed 'r' value shows a positive and significant relationship with awareness of officials about T&V system. It would be worthwhile to point out here that the mean value of experience of officials was 14 years and this field experience can be attributed to the higher awareness of officials about T&V system. This result is in conformity with the studies of Naik (1981).

Hence the hypothesis set up for the study that there would be a positive and significant relationship between experience and the awareness of officials about T&V system is therefore accepted.

4. Previous training

A positive and significant relationship was noted between awareness of officials about T&V system and their previous training. Training of any kind will definitely

help to refresh the knowledge in subject matter and help to sharpen the skills in their work. Hence the training will help to develop better awareness about T&V system.

The hypothesis set up for the study that there will be a positive and significant relationship between the awareness about T&V system and previous training of officials is accepted.

IX. A. Attitude of officials towards T&V system

It is seen from the Table 45 that the majority of officials had only medium attitude towards T&V system followed by low awareness. High attitude was found among the subject matter specialists and the sub-divisional agricultural officers. The success of a programme will partly depend on the attitude of people who implement it. The result of the study emphasises the need for the development of better attitude among the junior agricultural officers towards the T&V system by way of providing more facilities in the field or by recruiting only those persons who have better attitude towards their work.

B. Correlation between attitude of officials towards T&V system and their independent variables

1. Age

There was positive but nonsignificant relation between age and attitude of officials towards T&V system. Hence

age is not found to be a discriminating factor in determining the attitude of officials. This result is in line with the findings of Naik (1981).

The hypothesis set up for the study that there will be some positive and significant relationship between age and attitude of officials towards T&V system is therefore rejected.

2. Education

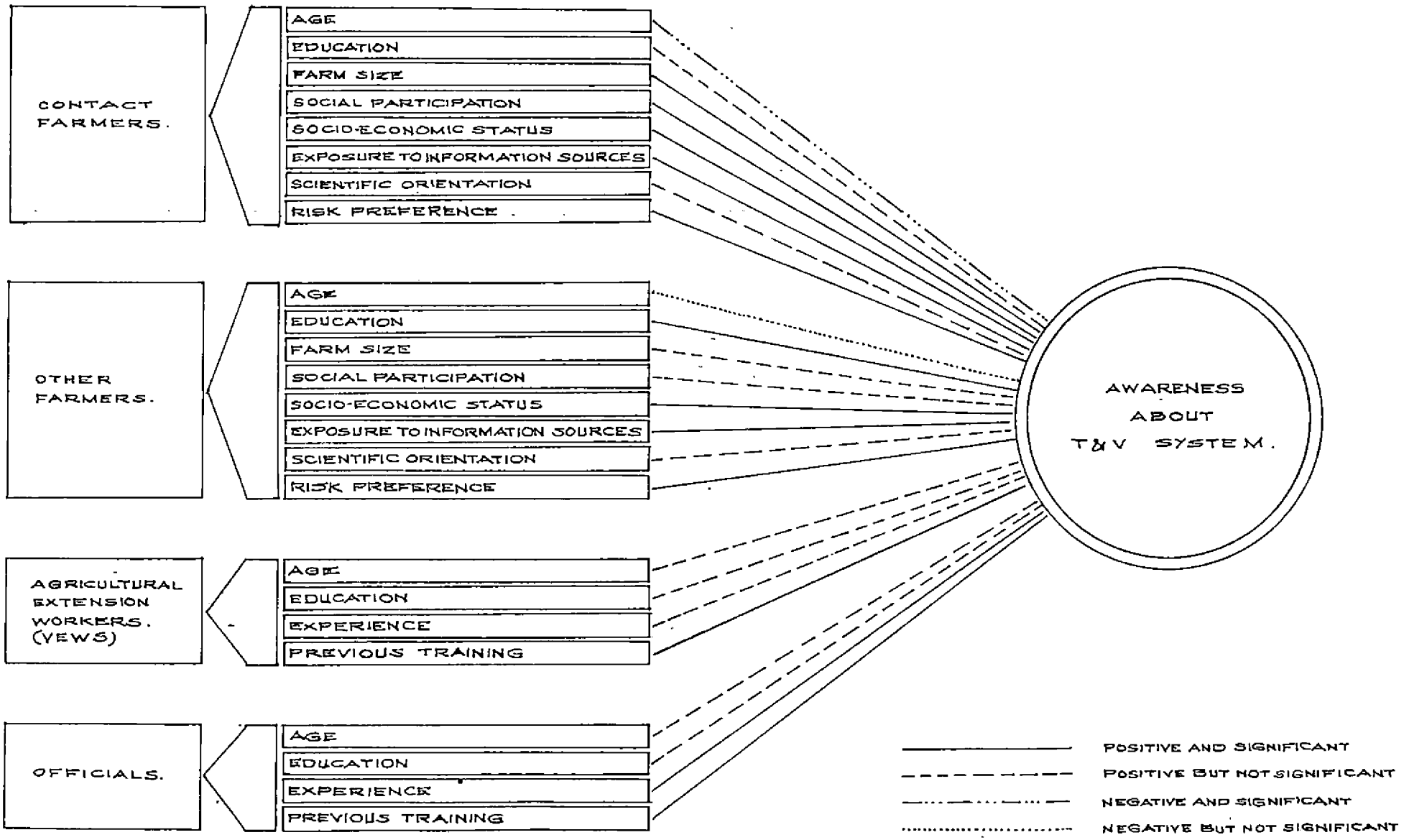
The correlation coefficient shows that there is positive but non-significant relationship between the education of officials and their attitude towards T&V system. All the officials except very few are either graduates or post-graduates in agriculture. This indicates that higher educational background did not influence their attitude towards T&V system. This result is in conformity with that of Naik (1981).

Hence the hypothesis set up for the study that there would be a positive and significant relationship between education and attitude of officials towards T&V system is therefore rejected.

3. Experience

The result of the Table 46 shows that there was positive and significant relationship between experience

FIG. 8. DIAGRAM SHOWING THE RELATIONSHIP BETWEEN AWARENESS ABOUT T & V SYSTEM AND THE INDEPENDENT VARIABLES OF RESPONDENTS.



and attitude of officials towards T&V system. As the experience increases the attitude of officials towards T&V system also increases. This indicates that the higher officials with more field experience will have high attitude towards T&V system. This result is in conformity with the result of Naik (1981).

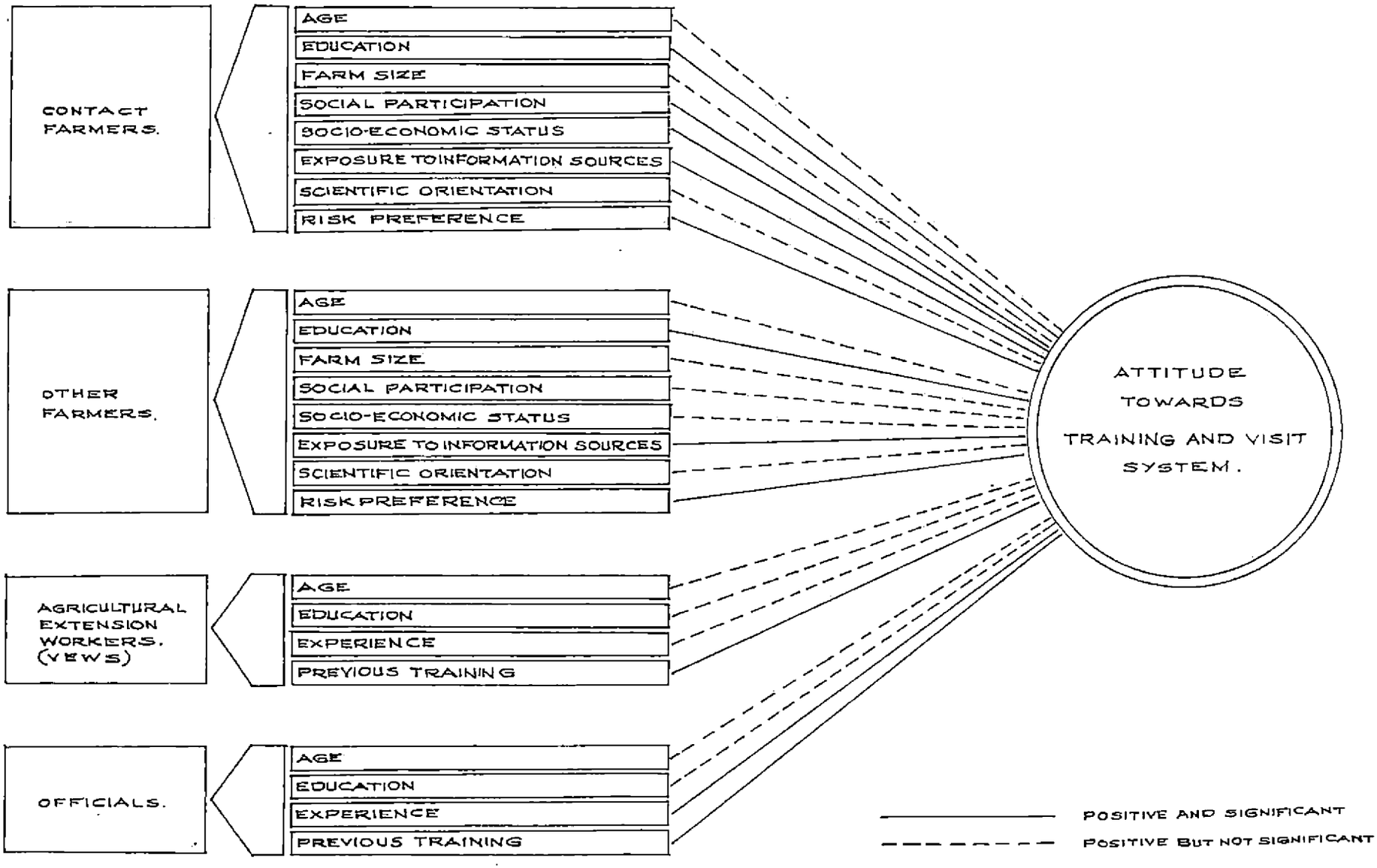
The hypothesis set up for the study that there would be a positive and significant relationship between experience and attitude of officials towards T&V system is therefore accepted.

4. Previous training

The computed 'r' value has shown that previous training is positively and significantly related with attitude of officials towards T&V system. As training of any kind will help to acquire more knowledge in subject matter, it is also likely to develop a bettor attitude towards the T&V system. This finding emphasises tho importance of previous training in influencing attitude of officials towards T&V system.

The hypothesis set up for the study is that there would be a positive and significant relationship between the previous training of officials and their attitude towards T&V system. In the light of the above finding the hypothesis is accepted.

FIG. 9. DIAGRAM SHOWING THE RELATIONSHIP BETWEEN ATTITUDE TOWARDS T & V SYSTEM AND INDEPENDENT VARIABLES OF RESPONDENTS.



Problems as perceived by farmers, Village extension workers and officials in the implementation of training and visit system

Problems as perceived by farmers

Problems as perceived by more than 75 per cent of the farmers were taken into consideration for discussion. As it could be seen from the Table 47 the three problems viz. increasing cost of cultivation, lack of timely availability of credit, and lack of timely availability of other inputs were ranked as first, second and third respectively in the order of importance by the farmers. The increasing cost of cultivation can be attributed to the spiraling increase in the cost of inputs. This always acts as an impediment in the adoption of newer technologies by the farmers. Therefore the extension workers should pay attention to recommend only low cost technologies which will not call for incurring additional expenditure on the part of the farmers. The results also call for paying more attention to make available the credits and other inputs at the appropriate time and in required quantities to both contact and other farmers. The next problem in the order of importance in the case of contact farmers is that the time of visits of the VEWs to their farm is not convenient to them. This is only a

matter of adjustment between the extension workers and farmers so as to make the visit to suit the convenience of the contact farmers.

Problems as perceived by Village extension workers

Taking only the first three problems into consideration for discussion, absence of independent office facilities is said to be the most important problem as perceived by Village extension workers. Under the T&V system, the work of VEWs is mainly advisory in nature and hence provision of office is not essential. The VEWs can attend to their reporting work in the Agricultural Development office of the Agricultural Extension Unit during their fortnightly training day.

The next problem in order of importance as perceived by the VEWs was that frequent transfers act as a disincentive in their effective functioning. This is a pertinent point which deserves consideration. Success of extension work depends on the extent of rapport built up by the extension worker with the farmers. Informal relationship between the extension worker and farmer for a reasonable period is also important in the success of the programme.

Hence it would be advisable to retain the extension workers in the same area at least for three years continuously.

The third problem as perceived by the VEWs was absence of farmers in their farm/home during the visits of VEWs. Since farming is not the main occupation of majority of the contact farmers, they may not be available in the farm at the appointed time. Hence this problem could be solved by a mutual adjustment between the farmer and the extension worker.

Problems perceived by officials

The first three problems in the order of importance were taken for discussion. As it could be seen from the Table 49, lack of adequate conveyance facilities, heavy work load for the time specified and inaccessibility of the places of visit were perceived as the most important problems in the descending order.

The field level extension officials especially the Junior Agricultural Officers need to be very mobile so that they can visit the different contact farmers' groups in his jurisdiction in rotation. To facilitate their mobility it would be desirable to advance loan for purchase of two wheeler to the JAOs. The problem of inaccessibility to the interior areas and heavy work load within the time specified could also be solved by this arrangement.

Staff at the sub divisional level also need to be highly mobile to make random visits to the farmers group in the sub division. This also calls for adequate conveyance facilities and these may be provided where ever there is dearth.

SUMMARY

CHAPTER VI

SUMMARY

The training and visit system of agricultural extension aims at building up a professional extension service capable of assisting the raising of farmers' production and incomes and providing appropriate support for agricultural development.

In Kerala the training and visit system was introduced in 1981 on a pilot basis in Trivandrum, Quilon and Alleppey districts and later in 1983 it was extended to other districts also. It was hoped that a period of three years, since the system has been put into operation, quite sufficient to study the reaction of farmers and officials about the Training and Visit system.

The new system provides for a single line of command under the extension personnel. In the reorganised extension set up the field level extension workers have been relieved of all duties other than extension and they are being given frequent training in order to keep them abreast with latest technologies in agriculture. Inspite of all the physical changes taking place, the real impact of training and visit system would largely depend on how farmers have been benefited in terms of gain in knowledge,

extent of adoption of new technologies, yield and profit obtained which in turn depends on their favourable attitude and extent of awareness about the system. Likewise extent of awareness and favourable attitude developed in the minds of officials also will reflect to a great extent on its working. Hence it was felt worthwhile to undertake a study on the extent of awareness and attitude of all those involved in the programme viz. farmers, agricultural extension workers and officials towards Training and Visit system. The following objectiveswere formulated for the study.

1. To study the awareness about T&V system among the farmers, agricultural extension workers and officials.
2. To develop a scale to measure the attitude of farmers towards T&V system.
3. To measure the attitude of farmers, agricultural extension workers and officials towards T&V system and isolate the factors related with it.
4. To elucidate the problems if any, in the implementation of T&V system as perceived by farmers, agricultural extension workers and officials and to suggest suitable solutions.

The study was undertaken in Trivandrum - one of the three districts where the programme was first introduced in Kerala State. All the three sub divisions of the district

namely, Attingal, Neyyatinkara and Nedumangad were included for study. Fifty six contact farmers ie. 20 each from Attingal and Neyyatinkara sub divisions and 16 from Nedumangad sub division were selected by multi-stage random sampling method. Equal number of other farmers were also selected from the study area for comparison. Apart from this 43 officials and 58 VEWs were also selected from the three sub divisions. The total respondents for the study thus worked out to be 213. The independent variables selected for the study were age, education, farm size, social participation, socio-economic status, exposure to information source, scientific orientation and risk preference of the farmers and age, education, experience and previous training of the officials and VEWs. The dependent variables for the study were extent of awareness about training and visit system and attitude towards training and visit system. The variables were measured by using scale as adopted and developed for the purpose. The data from farmers were collected by interviewing individually with the help of a schedule developed. Data from the VEWs and officials were collected through questionnaires. The collected data were tabulated, analysed statistically and results interpreted.

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

1. Majority of the contact farmers, other farmers, VEWs and officials belonged to middle age category. Majority of contact farmers had high school level of education while 75 per cent of other farmers had primary and high school education. Majority of contact and other farmers had medium farm size, medium social participation and middle socio-economic status. It was also found that majority of the contact farmers had high exposure to information sources while majority of other farmers had only medium exposure to information sources. But majority of the contact farmers came under high scientific orientation and high risk preference category, while majority of other farmers came under low scientific orientation and risk preference category.

Majority of VEWs had high school level of education (SSLC) while majority of officials had graduation in agriculture. Majority of the VEWs and officials had experience more than the mean experience values. The majority of VEWs had previous training more than the mean training value, but majority of officials came under less training category.

2. It was found that majority of contact and other farmers had medium awareness about T&V system. The independent varia-

bles farm size, social participation, socio-economic status, exposure to information sources and risk preference of contact farmers and education, socio-economic status, exposure to information sources and risk preference of other farmers were positively and significantly related with their awareness about T&V system. But age in the case of contact farmers was negatively and significantly related with their awareness.

3. Majority of contact farmers and other farmers had medium attitude towards T&V system. It was also found that education, social participation, socio-economic status, exposure to information sources and risk preference of contact farmers were significantly related to their attitude towards T&V system. Education, exposure to information sources and risk preference of other farmers were significantly related with their attitude towards T&V system.

4. The dependent variables awareness and attitude of contact farmers were significantly correlated while those of other farmers were not significantly correlated. The interrelationship among the independent variables which were significantly correlated with the awareness and attitude of both contact and other farmers were worked out. The results of the intercorrelation analysis showed that

positive and significant relationship existed between age and social participation, age and exposure to information sources, education and exposure to information sources, farm size and risk preference, social participation and socio-economic status, socio-economic status and risk preference of contact farmers. But in the case of other farmers positive and significant relationship was found between education and risk preference, exposure to information sources and risk preference.

5. Results of path coefficient analysis showed that in the case of contact farmers, risk preference had maximum direct effect on awareness followed by age. But education followed by risk preference had the maximum direct effect in determining the attitude of contact farmers. But in the case of other farmers education had maximum direct effect on awareness and attitude followed by risk preference.

6. Majority of the VEWs had medium awareness about training and visit system. The independent variable previous training was positively and significantly correlated with awareness of VEWs about T&V system.

7. Majority of VEWs had low attitude towards T&V system and the independent variable previous training had positive and significant correlation with attitude of VEWs towards T&V system.

8. Majority of the officials had high awareness about T&V system. The independent variables experience and previous training were positively and significantly correlated with their awareness about T&V system.

9. Majority of the officials had only medium attitude towards T&V system and the variables experience and previous training were positively and significantly correlated with their attitude towards T&V system.

10. The increasing cost of cultivation, lack of timely availability of credit and other inputs were the three most important problems in the descending order as perceived by the farmers. Lack of office facilities in the area of operation of VEWS and the frequent transfers were the important problems as perceived by the VEWs. The lack of conveyance facilities, the heavy work load for the time specified were the important problems as perceived by the officials.

Implications and recommendations

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

1. The scale developed to measure the attitude of farmers was found to be valid and reliable. This and other measurement devices applied would open up new avenues of research resources on similar lines in other parts of the State.

2. The relationship established in the present study between the selected independent and dependent variables would serve as guidelines to the extension agency in the selection of contact farmers and implementation of the Training and Visit system.

3. The launching of Training and Visit system of extension programme shall not only orient the farmers to take more risks but also to think in terms of maximisation of agricultural production. But it is important to point out the fact that even if the farmers are favourably disposed towards newer agricultural technologies given by the extension workers, their socio-economic and cultural barriers may deter them from translating these into action. Hence it is suggested that only those practices which can ensure better yields and income alone should be recommended.

4. Findings of the study also suggest the need for bestowing more attention in making available timely inputs and credit facilities to farmers.

5. Keeping in view of the fact that majority of the VEWs had medium awareness about T&V system, it requires to keep them exposed of to the principles and philosophy of the T&V system so that will play the role expected of them in a better manner.

6. The results of the study also suggest the need for ensuring adequate mobility for the field level extension workers.

Suggestions for future research

1. The study was confined to only one district. For generalization of findings, similar studies could be conducted with wider and larger areas in the State.

2. Studies may be undertaken to find out the ways and means for motivating farmers to associate themselves more effectively with the T&V system and adopt new practices.

3. A study may also be undertaken to examine the existing and required technical competency and different steps needed to motivate and suitably equip the village extension workers for better performance in the Training and Visit system.

REFERENCES

REFERENCES

Allport, G. (1935). Attitude. A hand book of social psychology. Mirickson, G (Eds) Lorcestor, Mass Clark University Press.

Balu, S.R.A. (1980). A study on the functioning of Integrated Dryland Agricultural Development Programme. Unpublished M.Sc.(Ag) Thesis. Agricultural College & Research Institute, T.N.A.U., Coimbatore.

Basha Javeed, A.W.Md., Radhakrishna Menon, K., and Chandrakandan, K. (1975). A study on the attitude of Deputy Agricultural Officers towards adaptive research programme. The Madras Agric. J. 62(10-12): 799-803.

Baweja, G.S. (1980). An effective approach to Agricultural Extension Training and visit system. Agricultural situation in India 35(5): 337-342.

Bose, S.P. (1961). Characteristics of farmers who adopt Agricultural Practices in Indian villages. Rural Sociology 26: 138-145.

*Brunner, Edmund. (1945). Farmers of the world- The development of Agricultural Extension, Columbia University Press, New York, pp 3.

*Chapin, F.Stuart (1928). Cultural Changes. Century Crafts. New York.

Daniel, Benoy and James Q. Harrison (1977). Agricultural Extension - The Training and Visit System. World Bank 1818 H Street, N.W. Washington, U.S.A.

Das, K.K. and Sarkar, R.D. (1970). Economic Motivation and adoption of farming practices. Indian J. Extn. Edn. 6(1&2): 103-107.

Edwards, A.L. and Kenney, K.C. (1949). A comparison of Thurstone and Likert techniques of Attitude scale Construction. Journal of Applied Psychology. 30: 72-83.

Edwards, A.L. (1957). Techniques of Attitude Scale construction Appleton Centry Crofts, Inc. New York.

Gaikwad, V.R. (1971). Small farmers-State policy and programme Implementation. National Institude of Community Development, Hyderabad.

Gosh, Hardhan and Venku, Reddy, S. (1978). Attitude of Farmers and Agricultural Extension workers towards Intensive Agricultural Extension System (T&V system) in West Bengal. Research Studies in Extension Education. Andra Pradesh Agricultural University.

Guilford, J.P. (1954). Psychometric methods. Mc.Graw Hill Book Company, Tokyo. (1956). Fundamental Statistico in Psychology and Education. Mc Graw Hill Company, Tokyo. 510-515.

Goode, W.J. and Hatt, P.K. (1951). Methods in Social Science Research Mc Graw Hill Book Company, INC. 53

Gopal, M.H. (1964). An introduction to research procedure in Social Science, Bombay Asia Publishing House.

Haraprasad, D. (1982). Study on the Impact of Agricultural Programmes implemented by the Small Farmers Development Agency among farmers in Trivandrum District. Unpublished M.Sc. Thesis. College of Agriculture, Vellayani.

*Howell, J. (1982). Managing agricultural extension: The T&V system in practice. Discussion paper, Agricultural Administration Network, Agricultural Administration Unit. Overseas development Institute, U.K. (8): 17.

Jaiswal, N.K. Kotte; Arya (1978). Management of Agricultural Extension. A study of T&V approach in Rajasthan and Madhya Pradesh. Behavioural Sci. and Rural dev. 1 (2); 75-105.

Jayaram, T.K. (1978). Evaluation of Agricultural Extension in Mahi Kandana irrigation Project. Indian J. of Agril. Econ. 34 (4): 40-48.

Joon, B.S., Singh, J. and Rana, O.P. (1970). Response of farmers towards the High Yielding Varieties. Indian J. Extn. Edn. 6 (3&4): 58-62.

Kamarudeen, M. (1981). A study on the impact of National Demonstration programme on paddy cultivation in Trichur District. Unpublished M.Sc. Thesis, College of Agriculture, Vellayani.

Katz, D. and Scotland, E. (1959). A preliminary statement to a theory of attitude, structure and change. Psychology: A study of science Koch, S.(Eds) Mc Graw Hill Book Company, New York.

Khan, M.A. (1978). Sociological analysis of the working of small Farmers Development Agency. Indian Institute of Advanced study. Rashtrapathi Nivas, Simla.

Kher, A.O. and Jha, P.N. (1978). Factors Associated with farmers attitude towards Primary Agricultural Credit Society in Gujarat. Indian J. Extn. Edn. 15(1&2):23-29.

Krech, D. and Krutchfield, R.S. (1948). Theory and problems of Social Psychology. Tata Mc Graw Hill Publishing Company, Ltd. New Delhi.

Krishna Daya (1982). Need to reorient Extension Service. Yojana 26(20):10-13.

Lakshminarayan, G. (1978). A study on the influence of Agricultural Courses on Rural youth at Secondary School Level. M.Sc. Thesis, T.N.A.U., Coimbatore.

*Likert, R. (1932). A technique for the measurement of Attitudes. Arch Psychol.

Lionberger, H.F. (1960). Adoption of New ideas and practices. Iowa University Press. America.

Mahajan, B. and Petry, F. (1981). Monitoring an extension programme: T&V experience in Rajasthan India. FAO Economic and Social development paper 12: 157-185.

Makkar, S.L. and Sohal, T.S. (1974). Association of certain Personal characteristics of farmers with their attitude towards Soil Testing. Indian J. Extn. Edn. 10(3&4):50-51.

Menon, A.G.G. and Prema, L. (1976a). A study on the attitude of Rural women of Kerala towards Kitchen gardening. Indian J. Home Science 10(4): 130-133.

Menon, A.G.G. and Prema, L. (1976b). An investigation into differential attitude of village women of Kerala towards Applied Nutrition Programme. Agri.Res. J. Kerala 14(1): 27-32.

Murthy, P.V.S. (1971). Role of women in decision at the Farm operational level. Behavioural Sci. and Commun. Dev. 10(2): 100-106.

Nandakumar, A.C. (1980). Critical analysis of the functioning of D.P.A.P. Unpublished M.Sc. Thesis. Agricultural College and Research Institute, T.N.A.U., Coimbatore.

Naik, Balram, K. (1981). Awareness and attitude of farmers and Extension workers towards Intensive Agricultural Extension System (T&V system) in Andhra Pradesh. Unpublished M.Sc. Thesis. Dept. of Extension Education, S.V. Agricultural College, Thirupathi.

Newcomb, Theodore, M. (1950). Social Psychology. The Dryden Press. New York: 291-517.

Oliver, J. and Annamalai, R. (1975). Awareness of audio-visuals. The Madras. Agri. J. 62(10-12): 604-608.

Panse, V.G. and Sukhatme, P.V. (1954). Statistical Methods for Agricultural Workers. Indian Council of Agricultural Research. New Delhi.

Pathak, S. and Pal, M.K. (1979). Impact of National Demonstration of knowledge attitude and adoption level of farmers in West Bengal. Indian J. Extn. Edn. 15(1&2):49-54.

Pathak, S. (1981). A Multiple regression Analysis of factors related with attitude of farmers. Indian J. Extn. Edn. 17(3-4): 73-80.

Pillai, K.G.S. (1978). A study on swine farming and pork consumption. Unpublished M.Sc.Thesis. Agricultural and Research Institute, T.N.A.U., Coimbatore.

Prakash, R. (1980). A study on the impact of Agricultural Development programmes among the Tribals of Kerala. Unpublished M.Sc. Thesis. Department of Agricultural Extension, College of Agriculture, Vellayani.

Prasad R.M. (1983). Comparative analysis of achievement motivation of rice growers in 3 States in India. Unpublished Ph.D. Thesis. University of Agricultural Science, Bangalore.

Rahiman, O.A. and Menon, A.G.G. (1980). Gain in knowledge and attitude towards training of supervisors of primary Land Mortgage Banks. Agri. Res. J. Kerala 18(1)

Rao, V.K. and Reddy, V.S. (1979). An evaluative study on the impact of Intensive Agricultural Extension System (T&V system) in Andhra Pradesh. Research studies in Extension Education. Andhra Pradesh Agricultural University.

Rao Rajender M. and Venku Reddy, S. (1980). A study on the inter-personal communication behaviour of contact farmersin Sriram Sagar Command area of Andhra Pradesh. Research studies in Extension Education, Andhra Pradesh Agricultural University.

Ratrakar Ramadyu. (1981). An evaluative study on the impact of Intensive Agricultural Extension System (Training and Visit system) in Sreeram Sagar command area of Andhra Pradesh. Unpublished M.Sc. Thesis Department of Extension Education, S.V. Agricultural College, Tirupathi.

Ray, A.K., Atteri, B.R., Sen, A.C., Mathur P.N. (1979). Quantitative and qualitative impact of training and visit system on different groups of farmers. A case study on Hooghly district of West Bengal. Indian J. Agril. Econ. 34(4): 11-20.

Ray, A.K., Sirohi, A.S., Sinhan, B.P., Vijayaraghavan, K. (1982). Impact of training and visit system of Extension on Iribal farms in Hooghly district. A case study. Indian J. Extn. Edn. 18(1&2):59-65.

Reddy, M.S. and Reddy, S.V. (1977). A scale to measure the attitude of farmers towards crop loan system. Behavioural Sci. and Commun. Dev. 2(1): 33.

Reddy, M.S. and Reddy, S.V. (1977). Personal and socio-economic characteristics associated with attitude of farmers towards crop loan system. Indian J. Extn. Edn. 13(3&4): 68-70.

Reddy, Ramakrishna S and Reddy Yella, N. (1979). Attitude of farmers towards Farm Radio Programmes. Research studies in Extension Education. Andhra Pradesh Agricultural University

Reddy Bhaskar (1980). A study on interpersonal communication Behaviour of farmers under T&V system in Andhra Pradesh. Research studies in Extension Education. Andhra Pradesh Agricultural University

Ross, Stagner (1961). Psychology of Personality Mc.Graw Hill Book Co., New York.

Sabarathnam, V.E. and Rajaram, J. (1975). Awareness of Agricultural Practices through farm broadcast of All India Radio in Madurai District. Madras Agric. J. 62(10 & 12): 678-683.

Salunkhe, V.G. (1977). A Critical analysis of the functioning of Small Farmers Development Agency. Ph.D.Thesis. Division of Agricultural Extension. IARI., New Delhi.

Salunkhe, V.G. (1978). A scale to measure Small Farmers Attitude towards SFDA. Indian J. Extn. Edn. 14(1&2) 66-69.

Samad, K.A. (1979). Response to special package programme for Agricultural Development in Kerala. M.Sc.Thesis College of Agriculture, Vellayani.

Sarkar, A.B. and Reddy, V.S. (1980). A study on the impact of Intensive Agricultural Extension System (T&V system) in West Bengal. Research Studies in Extension Education. Andhra Pradesh Agricultural University.

Shirpurka, G.R. and Patel, S.O. (1968), Village people's impression about co-operative farming. Indian J. Extn. Edn., 4(1&2): 22-28.

Singh, R.P. and Singh, K.N. (1968). Attitude of farm people towards Chemical fertilizers. Indian J. Extn.Edn. 4(1&2)

_____(1971). An investigation into differential attitude of farmers towards improved agricultural practices. Indian J. Extn.Edn.7(1&2): 12-18.

Singh, B.K. (1975). Path analysis in social science research. Indian J. Extn. Edn. 11(3&4): 54-62.

Siegal, Sidney (1956). Non parametric statistics for the Behavioural Science. Mc Graw Hill Book Company, New York.

Wright; S. - 1923 (a) The theory of Path Coefficients. Genetics. 8: 239-55.

Somasundaram, D. and Duraiswami, K.N. (1975). A study on the awareness of the Farmers about demonstration in Coimbatore District. Madras Agric. J. 62(10&12): 626-628.

Sood, R.G. (1978). Training and Visit system in Agricultural extension. Kurukshetra 26(22); 7-10.

Sood, R.G. (1980). Effective involvement of Training and Visit extension on pulses and oil seeds development. Training Guide, Directorate of Extension, Ministry of Agriculture, Govt. of India., New Delhi.

Subramaniam, V.S. and Menon, K.R. (1975). Differential characteristics of Growers and non-growers of High yielding varieties. The Madras Agri. J. 63(10-12): 712-716.

*Supe, S.V. (1969). Factors related to different degrees of Rationality in decision making among farmers in Buldana District. Ph.D. Thesis. Division of Agricultural Extension, IARI, New Delhi.

_____(1970). Factors related to different degrees of Rationality in decision making among farmers. Behavioural Sci. and Commun. Dev. 4(1):29.

Thurstone, L.L. and Chave, E.J. (1929). The measurement of Attitude. Chicago University Press. Chicago: 61-63,78.

Thurstone, L.L.(1946). "Comment". American J.Sociology 52: 39-50.

*Venkataramaiah, P. (1983). Development of a socio-economic scale for farm families in North Karnataka. Unpublished Ph.D. Thesis. College of Agriculture, Dharwar

Vijaya, K. (1982). An evaluative study on the impact of Intensive Agricultural Extension System (T&V system) in Thungabadhra Command Area in Anatpur district of Andhra Pradesh. Unpublished M.Sc. Thesis S.V.Agricultural College, Tirupathy.

Vijayakumar P. (1983). Impact of special Agricultural Development unit on the Agricultural Development of Rural areas in Kerala. Unpublished M.Sc.thesis. College of Agriculture, Vellayani.

Vijayaraghavan, R. (1979). A study on the factors affecting knowledge and adoption of High yielding varieties of paddy by Small and marginal farmers. Unpublished M.Sc. Thesis Agricultural College and Research Institute, T.N.A.U., Coimbatore.

Wilson, M.J. and Moham,Rao, V. (1978). Evaluation of the farmer's Training programme conducted on High Yielding varieties of paddy, dairy and poultry in Guntur district in Andhra Pradesh. Andra Agricultural Journal, 24

Wolman, B.B. (1973). Dictionary of Behavioural Science Van Nortrand Reinhold Company, New York. p.38.

Young K. and Veldman, J. (1965). Introductory statistics for the Behavioural Sciences. Holt Rinehart and Wiston. Inc. USA.

* Original not seen.

APPENDICES

APPENDIX I

Awareness and attitude of farmers, agrl.extension workers and officials towards training and visit system.

Interview Schedule

PART A

Sl.No.

i. A. Name of the sub division :

B. Name of the agrl.extn.unit:

C. Name of respondent :

ii. Socio-economic status scale

1. Occupation

No occupation	0
Unskilled	1
Semiskilled	2
Skilled	3
Farming	4
Professional	5

2. Land holding

No land	0
Less than one acre	1
1-5 acres	2
above 5 acres	3

3. Caste

Scheduled	1
Most backward	2
Backward	3
Forward	4
Dominant	5

4. Education

No schooling illiterate	0
Functionally literate	1
Primary school	2
Middle school	3

continued..

High school	4
College	5

5. Socio-political participation

Without any official position in socio-political organisation	0
Official position in one or more organisation	1
Official position in social and political committee	2
Financial contribution or raising fund for common work	3
Active office bearer	4
Involvement in community work	5

6. Possessions

None	0
One farm animal (bullock, buffallow, cow)/Cycle/furniture	1
Two farm animals/bullock cart/ radio	2
Three to four farm animals/ improved farm implement/news paper/ electricity	3
Five to ten farm animals/gobar gas plant/pumpset/mobile	4
More than 10 farm animals/ tractor/automobile	5

7. House

Shed thatched	1
Mud wall and thatched	2
Brick wall and tiled	3
Concrete house	4
Concrete and double storied	5

8. Household

Small	1
Medium	2
Large	3
Very large	4
Special feature	5

III. Exposure to information sources

Sources	Frequency		
	Regular (Daily) (2)	Occasional (Once in a week) (1)	Never (0)
A. Impersonal sources			
1. Radio			
2. Newspaper			
3. Printed materials			
B. Formal personal sources	Regularly (2)	Occasionally (Once in a month) (1)	Never (0)
1. V.L.W/A.D.			
2. Agrl.Officer			
3. B.D.O.			
C. Informal/personal sources			
1. Family members			
2. Friends/ relatives			
3. Neighbours/fellow farmers			

IV. Scientific Orientation.

Statements	A	DA
1. New methods of farming give better results to a farmer than the old methods.		
2. The way of farming by our forefathers is still the best way to farm today.		

(continued)

	A	DA
3. Even a farmer with lot of farm experience should use new methods of farming.		
4. A good farmer experiments with new ideas in farming.		
5. Though it takes time for a farmer to earn new method in farming, it is worth the efforts.		
6. The traditional methods of farming have to be changed in order to raise the standard of living of a farmer		

V. Risk Preference

Statements	A	DA
1. A farmer should resort to multiple cropping to avoid greater risk involved in growing a single crop.		
2. A farmer should rather take more of a change in making a big profit than to be content with a similar but less risky profits.		
3. A farmer who is willing to take greater risks than the average farmer, usually does better financially.		
4. It is good for a farmer to take risks when he knows his change of success is fairly high.		
5. It is better for a farmer not to try new farming unless most others have used them with success.		
6. Trying an entirely new practice in farming by a farmer involves risks but it is worth it.		

(continued)

Appendix I (continued)

PART B

Awareness about T & V system

1. Have you heard of T&V system? Yes/No.

2. If yes, when was it started?
   i. Don't /no answer
   ii. Two years ago
   iii. Three years ago

3. What do you understand by this system?

   ( ) i. It is systematic time bound programme of Trg. & visits by Extn.workers in order to increase agrl.production.

   ( ) 2. It is a programme to give some advise regarding agriculture to farmers

   ( ) 3. It is purely an official programme of VEWs.

4. Do you know your VEW? Yes/ No.

5. If yes,
   i. Know him by name
   ii. Know him in person
   iii. Know him by name and person.

6. Do you know your J.A.O? Yes/No.

   if Yes,
   i. Know him by name
   ii. Know him by person
   iii. Know him by name and person

7. Do you know your S.M.S.? Yes/ No.

   if yes,
   i. Know him by name
   ii. Know him by person
   iii. Know him by name and person.

8. Do you know your SDAO ? Yes/No.

   if yes,
   i. Know him by name
   ii. Know him by person
   iii. Know him by name and person.

(continued)..

9. Have you heard of contact farmer Yes/ No

10. If yes, do you know the functions of contact farmers?

11. How many contact farmers are there in your unit?

i. Don't know

ii. Know (Please mention the number)

12. Are you a contact farmers? Yes/No

13. Do you give your information to others Yes/No

If yes, whom do you give

i. Friends

2. Neighbours

3. relatives

4. All

14. To how many people do you transfer your information approximately.

i. 0-5

ii. 5-15

iii. 10-15

iv. More than 15.

15. Do you get your problems solved by the VEWs & JAOs? Yes/No.

16. Do you participate in group discussions seminar etc. Yes/No.

17. Are they useful Yes/No.

18. Do you know the day of visit of your unit by VEWs? (JAOs)

i. Don't know

ii. If yes, please mention the day.

19. How frequently does the VEWs visit your Village? (JAOs)

i. Daily
ii. Twice a week
iii. Thrice a week
iv. Once a week
v. Fortnightly
vi. Monthly
vii. Never.

(continued)

Appendix I (continued)

PART C

Attitude towards T&V programme

A few statements on various aspects of T&V system are given below. Please indicate your degree of agreement on appropriate columns about the statements.

Statements	SA	A	UD	D	SDA
1. T&V system if implemented properly will increase agrl.production.					
2. After the introduction of T&V system there has been considerable improvement in agricultural production.					
3. The informations given by the VEWs are problem oriented and useful.					
4. The frequent visists of the VEWs are disturbances to the farmers.					
5. The fortnightly visit of VEWs help to get timely information and solve current problems.					
6. In the T&V system, advisory work should be clubbed with supply of inputs.					
7. The VEW is wasting the time of the farmers by giving some theoretical information.					
8. The messages given by the VEWs involve mostly low cost technology.					
9. The messages given are not practicable in the field conditions.					
10. The VEWs teach some skills through method demonstrations too.					
11. T&V system is not useful hence should be abolished.					

contd...

Appendix I (continued)

Statements	SA	A	UD	DA	SDA
12. In this system as the extension services has been focçused mainly on contact farmers, the weaker sections of the society are dissatisfied.					
13. With the introduction of the T&V system larger portion of the farmers are reached very fast.					
14. Quite a good job is done through the T&V system for the betterment of farmers.					
15. T&V system has brought good changes in the methods of cultivation practices.					
16. Publication and training aids do not reach the farmers in time as recommended in the T&V system.					
17. T&V system has created more problems rather than solving problems.					
18. T&V system is not practicable in Kerala.					
19. There is little work and more propaganda made about the T&V system.					
20. The introduction of T&V system has helped the farmers fo face farm problems with confidence.					

continued..

Appendix I (continued)

PART- D

Problems perceived by farmers

Please indicate whether you agree or disagree with these statements.

Sl. No.	Statements	A	DA
1.	After the introduction of T&V system the availability of inputs is very much delayed.		
2.	The messages given by VLWs are of high cost technology.		
3.	The time of visit of the VLWs are not convenient to farmers.		
4.	Most of the messages are not convincing.		
5.	The VLWs are not visiting regularly as per schedule.		
6.	Proper supervision by the higher officials seems to be a deficiency in T&V programme.		
7.	Lack of credit facilities is one bottleneck for implementing the messages.		
8.	Increasing cost of cultivation stands in the way of adopting the new technology.		

In the light of the above problems, please sugge of the solutions for effecting improvement for t working of the T&V system in your area.

1.

2.

3.

4.

5.

APPENDIX II

Awareness and attitude of farmers, Agricultural Extension Workers and officials towards Training and Visit system.

(Village Extension Workers)

(Note:- Kindly go through the questionnaire and give your response as per the instructions. The data collected will be utilised for research purpose. If you have no objection, you may give your name and signature at the end)

PART-A

1. Age (Completed years) -

2. Address -

3. Educational Qualifications:

   1. General :

   2. Technical :

4. Experience in years:

Name of scheme under which you were working	Designation	Duration

5. Trainings undergone:

	Duration	No. of trainings
a) Training before the inception of T&V.		
b) In-service training		

(continued)

PART- B

II.

1. Do you know the year of starting T&V system in Kerala .. Yes/ No.

   If yes, when was it started? .. (Mention the year)

2. Have you heard about the following (indicate Yes/ No.)

   1. Bernor's Extension system .. Yes/ No.

   2. T & V system/ programme .. Yes/ No.

   3. Contact farmers .. Yes/ No.

   4. Agril.Extension Unit .. Yes/ No.

3. How many days in a month the following functionaries receive training under T&V system.

Name of functionary	No. of days of training.
1. VEO	
2. JAO	
3. SDAO's & SMS	

4. How many days the following functionaries are supposed to visit the T&V unit in a week.

Functionary	No. of days visited
1. VLW	
2. JAO	
3. SMS	
4. SDAO	

5. How many days in a fortnight the VEOs make visit farm familities actually.

   a) Once in week

   b) Once in 2 weeks

   c) as frequent as possible.

PART--C

III Below are given a few statements on T& V system. The items are categorised as Strongly agree (SA), Agree (A), not sure (NS), disagree (DA) and Strongly disagree (SDA) expressing the relevance of the items for the purpose. Kindly put a '√' mark on appropriate columns showing your degree of agreement or disagreement.

	SA	A	NS	DA	SDA
1. The extension workers credibility has increased due to T&V system.					
2. T&V system is not useful hence should be abolished.					
3. After the introduction of T&V system desired has been created among small and marginal farmers to adopt new techniques in agriculture.					
4. Farmers do not like to waste their time in perceiving guidance from VEO's under T&V system.					
5. T&V system has helped the farmers in reducing risk & hesitation in adopting new practices.					
6. Contact farmers are very much interested to attend the trainings, meeting on the visit day of VEWs as they are immensively benefited.					
7. More time is spent for lecture than for practical field demonstrations with the implementation of T&V system.					
8. Publications and training aids do not reach the farmers in time as recommended under T&V system.					
9. Due to the T&V system there is rapid progress in training on agricultural technology at village level.					
10. There is little work and more of propaganda made about the T&V system.					
11. In this system, as the Extension service has been focussed mainly on contact farmers, the weaker section of the society are dissatisfied.					

12. Due to the introduction of T&V system there has been an upliftment of the rural economy.

13. T&V system could not achieve the desired impact among the farmers.

14. The efficiency of VEWs has increased a lot due to T&V system.

15. With the introduction of T&V system larger proportionof the farmers are reachad very fast.

16. The T&V system is more a waste of time and energy of both officials and farmers.

17. There is a single line of command under the T&V system and therefore it has made rapid strides in improving agricultural production.

18. The T&V programme is running well as the multipurpose role of field level workers is abolished and all extension activities have been combined into unified extension service.

19. Most of the scheme under T&V system are on papers and only small portion of them are being implemented in Villages.

20. The participation of VEWs is T&V programme is nominal, as he is not aware of the entire system.

PART- D

Below are given a few problems, You are likely to come across while working in the T&V system. Kindly read them and rank them in order of importance as felt by you. (For the most important-1, next '2' and so on upto '12'.

1. Contact farmers are not available at their farms during the time of visit of VEWs.

2. The number of contact farmers in one group is unwieldy. ( )

3. Absence of independent office facilities in the localities of VEWs affects the efficiency of VEWs. ( )

4. The frequent transfers of the VEWS is a disincentive for efficient working ( )

5. The places of visit are very remote and not easily accessible ( )

6. Inadequate and untimely supply of inputs stands in the way of adopting newer technologies by farmers. ( )

7. The facilities for practical training for the VEWs are quite inadequate ( )

8. VEWs do not possess the required skills to transfer the message to the farmers in an understandable manner ( )

9. During the time of training the VEWs are not getting chances to clear the doubts. ( )

10. The work done by the VEWs is not being duly recognized ( )

11. The SMSs do not transfer the technical knowledge in understandable and digestable doses ( )

12. The training in the use of audio-visual is aids quite inadequate for the VEWs ( )

APPENDIX III

AWARENESS AND ATTITUDE OF AGRL. EXTENSION WORKERS AND OFFICIALS TOWARDS TRAINING AND VISIT SYSTEM.

(Officials)

PART A

(Note: Kindly go through the questionnaire and give your response as per the instructions. The data collected will be utilised only for research purpose. If you have no objection you may given your name and signature at the end)

1. Designation
2. Age (in completed years)
3. Educational qualification
   (1) General
   (2) Technical
4. Experience in years

Name of the scheme under which you have been working	Designation	Duration

5. Training undergone

	Duration	Name and No. of Training
a. Pre-service training		
b. Inservice training		

continued..

Appendix III (Continued)

PART B.

Below are given a few statements on T&V system. Kindly read them and then put a ✓ mark on appropriate column showing whether you agree or disagree with these statements.

	Agree	Disagree
1. Training & Visit system in a reorientation of the whole system of extension.		
2. The main emphasis of T&V system is increasing agricultural production by the adoption of improved practices.		
3. The key elements in T&V system are training & visits.		
4. The ultimate objective of T&V system is making the farmer a competant professional agriculturist rather than a generalist.		
5. The monthly workshops and fortnightly training promote research extension linkage.		
6. The village extension workers (ADS) should concentrate as most important crops of that area cand a few practices rather than covering all crops		
7. During visits all the contact formers should not necessarily be met and if possible other farmers too.		
8. Contact farmers should be with large farm size farmers and inevitable too.		
9. One advantage of T&V system is the unified service of agricultural extension.		
10. The village extension personnel are not concerned with supply of inputs.		

continued..

	Agree	Disagree
11. Before the introduction of T&V system, the research extension linkage was very poor.		
12. The key persons in T&V system are the village level extension personnel and farmers.		

PART C

Below are given a few statements on T&V system. The items are categorised as strongly agree (SA), Agree (A), Undecided (UD), Disagree (DA) and Strongly disagree (SDA) expressing the relevance of the items for the purpose. Kindly put a ' ✓ ' mark on appropriate columns showing your degree of agreement or disagreement.

	SA	A	UD	DA	SDA
1. The extension workers credibility has increased due to T&V system.					
2. T&V system is not useful hence should be abolished.					
3. After the introduction of T&V system desire has been created among small and marginal farmers to adopt new techniques in agriculture.					
4. Farmers do not like to waste their time in perceiving guidance from Village Extension Officers under T&V system.					
5. T&V system has helped the farmers in reducing risk and hesitation in adopting new practices.					
6. Contact farmers are very much interested to attend the trainings, meeting on the visit day of VEWs as they are immensively benefited.					
7. More time is spent for lecture than for practical field demonstrations with the implementation of T&V system.					

continued..

Appendix III (continued)

	SA	A	UD	DA	SDA
8. Publications and training aids do not reach the farmers in time as recommended under T&V system.					
9. Due to the T&V system there is rapid progress in the training of agricultural technology at village level.					
10. There is little work and more of propaganda made about the T&V system.					
11. In this sytem, as the Extension service has been possessed mainly on contact farmers, the weaker section of the society are dissatisfied.					
12. Due to the introduction of T&V system there has been an upliftment of the rural economy.					
13. T&V system could not achieve the desired impact among the farmers.					
14. The efficiency of VEWs has increased a lot due to T&V system.					
15. With the introduction of T&V system larger proportion of the farmers are reached very fast.					
16. The T&V system is more a waste of time and energy of both officials and farmers.					
17. There is a single line of command under the T&V system and therefore it has made rapid strides in improving agricultural production.					
18. The T&V system is running well as the multipurpose role of field level workers is abolished and all extension activities have been combined into unified extension service.					

continued..

	SA	A	UD	DA	SDA
19. Most of the schemes under T&V system are on papers and only small portion of them are being implemented in villages.					
20. The participation of VEWs in T&V system is nominal, as he is not aware of the entire system.					

PART D

Below are given a few problems you are likely to come across while working in the T&V system. Kindly read and rank them in the order of importance as felt by you. (For the most important-1, next '2' and so on upto '9'

1. The work load of T&V staff is too much for the time specified	( )
2. The conveyance facilities now available are quite insufficient	( )
3. The places of visit are mostly not easily accessible	( )
4. The office facilities now provided are quite insufficient	( )
5. The facilities available for training of VEWs are not adequate	( )
6. The feed back from farmers to officials is not adequate	( )
7. The work of the officers are purely advisory in nature and hence quite monotonous	( )
8. Timely and adequate supply of inputs to farmers is not ensured for successful implementation of T&V programme.	( )
9. The selection of contact farmers is not done properly.	( )

Others if any please specify.

AWARENESS AND ATTITUDE OF FARMERS, AGRICULTURAL EXTENSION WORKERS AND OFFICIALS TOWARDS TRAINING AND VISIT SYSTEM

BY

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ABSTRACT OF THE THESIS
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ABSTRACT

In order to assess the awareness and attitude of farmers, agricultural extension workers and officials towards T&V system, a study was carried out in Trivandrum district of Kerala State. In the case of farmers, age, education, farm size, social participation, socio-economic status, exposure to information source, scientific orientation and risk preference were selected as independent variables. Age, education, experience and previous training were the independent variables for agricultural extension workers and officials.

Results revealed that majority of contact and other farmers had medium awareness about T&V system. The independent variables farm size, social participation, socio-economic status, exposure to information sources and risk preference had positive and significant correlation while age had negative and significant correlation with awareness of contact farmers. But education, socio-economic status, exposure to information source and risk preference had positive and significant correlation with awareness of other farmers. Majority of contact and other farmers had medium attitude towards T&V system. It was also found that education, social participation, socio-economic status, exposure to information sources and risk preference of

contact farmers were significantly related with attitude towards T&V system. Education, exposure to information sources and risk preference of other farmers were significantly related with their attitude towards T&V system.

Inter-correlation analysis between dependent variables showed that awareness and attitude of contact farmers were significantly related. And positive and significant relationship were found between age and social participation age and exposure to information sources, education and exposure to information sources, farm size and risk preference, social participation and socio-economic status, socio-economic status and risk preference of contact farmers. In the case of other farmers positive and significant relationship was found between education and risk preference, exposure to information sources and risk preference. Results of path analysis showed that risk preference had maximum direct effect on awareness and education had maximum direct effect in determining the attitude in the case of contact farmers. But in the case of other farmers education had maximum direct effect on awareness and attitude.

Majority of VEWs had medium awareness and low attitude, towards T&V system. Previous training was found to be positively and significantly correlated with their awareness and attitude. The officials had high awareness and medium attitude and the variables experience and previous training were positively and significantly correlated.