COMMUNICATION BEHAVIOUR OF NONCONTACT FARMERS UNDER TRAINING AND VISIT SYSTEM OF AGRICULTURAL EXTENSION IN KERALA

By

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THESIS

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DECLARATION

I hereby declare that this thesis, entitled "Communication behaviour of noncontact farmers under 'Training and Visit' System of Agricultural Extension in Kerala" 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 or other similar title of any other University or Society.

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CERTIFICATE

Certified that this thesis, entitled "Communication behaviour of noncontact farmers under 'Training and Visit' System of Agricultural Extension in Kerala is a record of research work done independently by Shri Sherief, A.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 him.

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INTRODUCTION

INTRODUCTION

Agriculture is one of the major sectors of Indian economy. Seventy per cent of our population depends on Agriculture for livelihood. This sector contributes over 40 per cent of the Gross National Product. The performance of Indian agriculture during the past few decades has been remarkable, setting in motion the process of transformation of an age-old traditional agriculture into a modern farming system. Great strides have been made in the agricultural front since the sixties following large scale application of Science and Technology. This has helped substantially in achieving self-sufficiency in food grain production. From a modest annual food grain production of 51 million tonnes in 1950-51, a record production of over 150 million tonnes has been reaped in 1983-84.

Inspite of all these glorious achievements, the farm front doesn't present a rosy picture as yet. It is an admitted fact that improved technologies churned out by research institutions have not percolated down the line uniformally to all the farmers. Yawning gaps are observed in the production performance of individual states in the country. And Kerala, is no exception to this variation. With an area of about 38,855 sq.km

and a population of 25.45 millions, Kerala is one of the smallest states in the country (Anon.1984). It is bestowed with abundant natural resources. However, the mounting population pressure on land and the declining productivity of important crops stand as stumbling blocks in the path of agricultural progress. The only way left out to the Kerala farmers, to extricate themselves from the coils of population pressure on land, obviously is to plough in the fruits of research in their farm lands and to enhance productivity per unit of land per unit of time.

Sustained high levels of agricultural production and incomes are not possible without an effective agricultural extension service ably supported by agricultural research that is relevant to the farmers' need. Although there can be agricultural development with weak agricultural extension and research services, continued and massive improvement requires professionally sound and functionally effective extension and research systems. The State Government have implemented a plethora of development programmes for increasing the agricultural production and current in the series is the Benor's 'Training and Visit (T & V) System' of Agricultural Extension. In Kerala, the T & V System was introduced

on a pilot basis in three districts of the State, viz. Trivandrum, Quilon and Alleppey in 1981. Experience gained in the implementation of this system has encouraged its extension to the remaining ten districts in the state during 1983. This system has convincingly demonstrated the importance of the concept of 'Communication of innovation' in augmenting agricultural production.

The T & V System of Agricultural Extension offers many advantages compared to other development programmes. The main idea of the system is to have competent, well-informed village-level extension worker or agricultural demonstrator who will visit the 'contact farmers' frequently and regularly with relevant technical messages and bring farmers' problems back to research for finding out suitable solutions. The agricultural demonstrator does not concentrate on the small number of contact farmers to favour the few, but rather to focus on the impact of recommended practices and spread them to the majority of the noncontact farmers quickly. If contact farmers represent the range of socio-economic and farming conditions in the farmers' group to which they belong, the results of recommended practices adopted by them should convince most of these noncontact farmers of

what can be achieved. Imitable contact farmers become demonstrators of introduced recommended practices and their example leads to wider adoption of these practices by the noncontact farmers. Many factors affect the 'transfer of technology' at the grass root level. Obviously, the acid test for the success of the T & V System would be the extent of progress made by the non-contact farmers, who are the ultimate users of the technology.

Exposure to various communication media can undoubtedly bring about the desired changes in the knowledge, attitude and adoption behaviour of noncontact farmers. Diffusion researches conducted in the past bring to focus that farmers consulted more of interpersonal sources than mass media to gather information on agriculture. Interpersonal communication, however, is not always adequate and effective enough, all by itself, to bring about speedy dissemination of new innovations. As Schramm (1963) observes: "The required amount of information and learning is so vast that only by making use of the great information multipliers, the mass media, can the developing countries hope to provide information at the rates their time tables for development demands". Similarly Rogers and Shoemaker (1971) have

stated that the effects of mass media channel especially among peasants in less developed countries are better when these media are coupled with interpersonal communication in media forums. This obviously points to the fact that mass media in combination with other media of communication could be more effective for the simple reason that they would re-enforce the message and would also supplement and complement each other. Although results of researches on interpersonal communication between farmers and change agents are available, practically no research evidence has been recorded on the nature and extent of communication that typifies the interaction between farmers in Kerala.

The ultimate purpose of the research and extension systems is to communicate the needed information to the farmers - the ultimate beneficiaries of the research and extension efforts. But the communication behaviour of farmers is greatly influenced by their personal, socio-psychological and economic characteristics. In many research studies on communication behaviour of farmers, it has been repeatedly established that communication behaviour is a product function of the traits of the farmers and the situational factors. However, no research

study has established this relationship in the case of noncontact farmers in Kerala. Therefore, with the objective of studying the communication behaviour of noncontact farmers in the T & V System, and also to explore its relationship with their personal, socio-psychological and economic characteristics, a research study was undertaken in the three southern districts of Kerala, where the system was introduced first. The specific objectives of the study were:

1. To measure the communication behaviour of noncontact farmers including their patterns of information input, processing, output and feedback.

2. To measure the personal, socio-psychological and economic characteristics of noncontact farmers.

3. To assess the relationship between communication behaviour of noncontact farmers and their personal, socio-psychological and economic characteristics, and

4. To study the predictive power of the selected personal, socio-psychological and economic characteristics of noncontact farmers in explaining the variations in their communication behaviour.

Scope of the study

'Training and Visit' is a new system of agricultural extension, introduced in Kerala in 1981. The new methodology is simple and provides an efficient management system for more effective utilisation of agricultural innovations for promoting agricultural production. The success or failure of the system, largely depends upon the diffusion of innovations through contact farmers to noncontact farmers. Therefore, systematic indepth studies on communication behaviour of noncontact farmers are important. In Kerala, no such study has been reported so far. Hence, a study of this type will help to understand the communication behaviour of noncontact farmers, who constitute the major chunk of the farming community. An understanding of their communication behaviour will certainly help the planners and administrators to streamline the field extension activities to make the T & V System function more effectively.

Limitations of the study

The study was undertaken as a part requirement for the M.Sc.(Ag.) programme and so it was not possible for the student-investigator to explore the area in

greater depth and in a more comprehensive manner. Evonthen, with limited time and resources available to the student researcher, all the three districts where T & V System was first introduced in the state have been included as the study area. But the number of respondents and variables selected were limited due to lack of time and sufficient resources at the disposal of the researcher. Despite all these, sincere and devoted efforts have been made to make this study as objective and systematic as possible. Yet, the generalisations made in the study, based on the research findings, may have only limited application to the non-sample areas.

Presentation of the study

The study is presented in eight chapters. The introduction, objectives, importance and limitations of the study are presented in the first Chapter. The second Chapter deals with relevant review of literature and the theoretical framework of the study. The third Chapter of the study is devoted to the material and methods used in the investigation and categorisation procedure followed in arriving at the findings. This

is followed by the presentation of the results of the study in Chapter IV. The findings of the study have been discussed in Chapter V, followed by summary and conclusions, references, appendices in subsequent Chapters.

THEORETICAL ORIENTATION

2. THEORETICAL ORIENTATION

This study deals with the communication behaviour of the noncontact farmers in the Training and Visit System of agricultural extension. In this Chapter an attempt has been made to develop a theoretical framework for the study of communication behaviour of the noncontact farmers in relation to their personal, socio-psychological and economic characteristics. A well developed theoretical framework will help to form realistic hypotheses and provide the necessary focus for the research study. Research studies bearing direct relevance to the present study were very limited in number. However, every effort was made to review the available literature on the subject. In accordance with the objectives of the study, the review of the previous works is furnished on the following lines.

2.1. Communication process

2.2. Communication behaviour

2.3. Communication effectiveness

2.4. Factors associated with communication behaviour.

2.1. Communication process

Communication is a fundamental social process. According to Loomis (1960) communication is the process in which information decisions and directives are transmitted among factors and the way in which knowledge, opinions and attitude are formed or modified by interaction.

Schramm (1960) opined that communication is the process of establishing "commonness" with some one. He explained communication process with elements such as source, encoder, signal, decoder, destination and feedback. He explained that each person in the communication process acts atonce as a source and a receiver.

Leagans (1961) defined communication as a process by which two or more people exchange ideas, feelings or impressions so that each gains a common understanding of the meaning, intent and use of the message.

Lerner (1967) recognised communication as a stimulus for peasant modernisation and social change. He enphasised that since communication is central to diffusion of innovations an analysis of social change must intimately focus upon the communication process.

Rogers and Svenning (1969) putforth a general theoretical view point that communication processes are integral vital elements of modernisation and development. They concluded that it is hardly possible to design research in any field of human behaviour without making some assumptions about human communication.

Ward (1969) stated that there is need to analyse audience to determine who they are, where they are and what is the level of their understanding in relation to the specific messages which are delivered to them.

Agee, Ault and Emery (1979) defined communication as the act of transmitting information, ideas and attitude from one person to another.

It could be surmised from the above reviews that communication is there at the root of all human behaviour. While some authors confined in explaining and defining communication process others dealt with the identification of the various elements involved in communication process. This clearly focuses on to the fact that for planning effective communication strategy, it is necessary to understand the communication behaviour of farmers.

2.2. Communication behaviour

The term, communication behaviour was used by Schramm (1960) while reporting the study of radio audience by Lazarsfeld[1] and Kendall (1948). He identified the behavioural components of the effects of communication in questions like: What does a given communication do to the people? By what persons, under what conditions it is likely to be attended to? (attention/awareness). By whom it is likely to be understood? (understanding and comprehension). By whom favourably received? What attitudes or action will it lead to? (attitude and action). He observed that, "questions like this are in the mind of a communicator when he constructs and sends a message".

Communication behaviour, according to Berlo (1960), explains how, why, when, with whom, and with what consequences man behaves.

Leagans (1961) observed that communication should lead to the information being accepted, understood and acted upon and not just received.

Rogers (1962) considered communication behaviour as the degree to which an individual is willing to seek information and advice.

Nafeziger and White (1966) related communication behaviour to modification in knowledge, attitude and overt action following the attention given to a message.

According to Mares (1966) human communication has to do with sending and receiving messages. It contains all kinds of different activities and forms of behaviour which may be described as: intentive behaviour, encoding behaviour and transmitting behaviour on the sender's part; decoding behaviour and interpretive behaviour on the receiver's part.

Inkeles and Bauer (1967) identified some factors influencing the communication behaviour. They include educational and occupational factors, environmental factors and attitude towards the media of communication.

Murthy and Singh (1974) conceptualised communication behaviour as a composite measure of awareness of technologically competent information sources, comprehension, attitudinal change and adoption of the referent.

Singh and Singh (1974) considered communication behaviour as the extent to which an individual is exposed to the different messages from various communication sources for the sake of adopting a particular message.

Gangappa (1975) studied the communication behaviour of small farmers and found that the small farmers consulted more of formal and informal interpersonal sources than mass media sources.

In a study reported by Shipley (1976), the mass communication and interpersonal communication behaviour of persons in the United States were analysed; They found that the respondents exhibited three types of communication behaviour namely saturation, selection and avoidance of media.

Chesterfield and Ruddle (1976) studied the role of intermediaries in Venesuelan agricultural extension programme and reported that well chosen intermediaries enhance the effectiveness of interpersonal communication in the diffusion of agricultural innovation in the rural communities.

Babu (1977) found that opinion leaders were the better users of mass media and cosmopolitan interpersonal sources, whereas opinion seekers were the better users of personal localite sources for getting information on improved cultivation practices.

Bhatnagar (1978) stated that in the agriculturally non-progressive villages, exposure to mass media was negligible and interpersonal channels were predominantly used.

Colette and Easley (1978) pointed out that the mass media in communicating information were of little use whereas face-to-face contacts ensured higher effectiveness of communication.

Narayanappa (1978) identified neighbours and relatives as the most important sources of information in the different stages of adoption of improved agricultural practices among Karnataka farmers.

Obibuaku and Mustafa (1978) reported that demonstrations, films and lectures were more effective than other media which relied on reading ability among rural people.

Reddy and Singh (1979) considered that communication behaviour consists of two parts, such as receiver's communication behaviour and sender's communication behaviour. The sender's communication behaviour includes the components of communication ability, skills and channel use effectiveness and the receiver's communication behaviour includes components of awareness, comprehension and attitude change.

Dahama and Bhatnagar (1980) stated that in a face-to-face situation, communication is not a mere exchange of information but something more, because in such a situation, along with the information one passes, the gestures, expressions, languages, the manner of expressions and tone-all these combined together, create a sort of impact on both. Some kind of change occurs as a result of interaction. This change may be visible in interactions of knowledge and behaviour.

2.3. Communication-effectiveness

Communication effectiveness is said to be achieved when there is meaningful interaction among the communicator, message treatment, channel, audience and audience response.

Hovland, Janis and Kelly (1953) studied the communication effect or responsiveness to communication as attention to the verbal content of the communication, comprehension and acceptance. Three elements of comprehension they studied were translation, interpretation and extrapolation.

Emery and Oeser (1958) developed a communication model - 'exposure-adoption' and applied this model to Australian farmers and observed that exposure to information ultimately leads to adoption.

Schramm (1960) identified four conditions to successful communication. They are:

(a) the message must be so designed and delivered as to gain attention at the intended destination

(b) the message must employ signs which refer to experience that is common to both source and destination

(c) the message must arouse personality needs in the intended recipient, and

(d) the message must suggest a way to meet those needs which are appropriate to the group situation in which the intended recipient finds himself at the time when he is moved to make the desired response.

Leagans (1961) observed that communication in order to be effective, should lead to the information being accepted understood and acted upon and not just received. He also observed that successful communication requires skillful communicator sending a useful message through proper channels effectively treated to an appropriate audience to elicit the desired response.

Chatterjee (1973) pointed out that out of many factors, feedback was one of the important factors associated with the communication effectiveness of the change agents.

Duck (1973), while discussing interpersonal attraction in communication process, emphasised that similarity leads to attraction because cognitive similarity leads to communication effectiveness.

Mehrabian and Reed (1973) hypothesised that accuracy of communication is correlated with the availability of feedback to the communicator.

Sinha et al (1976) identified the dimensions of effective communication such as clarity, consistency, adequacy, timeliness, suitability, use of channel, distribution, interest and acceptance.

Tubbs and Moss (1977) observed that communication was effective when the stimulus, as it was initiated and intended by the sender, corresponded closely with the stimulus as it is perceived by the receiver. They represented communication-effectiveness by the following equation:

$$\frac{P \text{ meaning}}{G \text{ meaning}} = 1$$

where G stands for the person who generates the response and P for the receiver of the response. Communication is effective and complete when the response G intends and the response P perceived are identical.

Dahama and Bhatnagar (1980) stated that ineffective communication, feedback is of paramount importance. An experienced communicator is attentive to feedback and constantly modifies his message in the light of what he observes in or hears from the audience.

Hunt (1980) stated that effective communication is important in its own right and need not be justified by relating to organisational effectiveness.

The above reviews on communication behaviour and communication-effectiveness reveal that communication behaviour is not synonymous with communication-effectiveness. But it is evident that communication-effectiveness encompasses the recipients of message. The above observations bear ample testimony to the fact that communication is effective when communicator is able to transfer the meaning accurately and satisfactorily to the intended receivers of message. This however, indirectly points out that communication-effectiveness is an important component of the communication behaviour of an individual.

2.4. Factors associated with communication behaviour

Several research studies in India and elsewhere have shown that certain personal, socio-psychological and economic characteristics were associated with adoption of new farm practices. Their relationship to communication

behaviour which subsumes adoption behaviour is implied. A brief review of past researches is given below to get a glimpse of the possible relationship of the independent variables with the dependent variable - the communication behaviour.

2.4.1. Age

Kanalsen (1971) observed an increase in the rate of adoption of improved agricultural practices among the farmers with increase in their age.

Anbalagan (1974) found that young farmers adopted more improved agricultural practices for high yielding varieties of paddy than older farmers.

Murthy and Singh (1974) found negative relationship between age and communication behaviour of farmers.

Sandhu and Darbarilal (1976) observed positive but non significant relationship between age and communication behaviour of farmers.

Kalamegam and Menon (1977) stated that communication behaviour of small farmer was dependent on their age.

Nehru (1980) reported that age was not significantly related to the communication behaviour of listeners of farm broadcasts.

Kamarudeen (1981) observed negative but non-significant relationship between age and adoption behaviour of farmers.

Batara (1983) in his study on the impact of communication on the acceptance of technological innovations in a rural community found that the age of the farmers was negatively related to the adoption of technological innovations.

Sanoria and Sharma (1983) found that age of beneficiaries of T & V System had significant association with their adoption behaviour.

Siddaramaiah and Rajanna (1984) found that gain in knowledge of the farmers about agricultural aspects was significantly associated with their age.

Most of the above studies point out to the significant association between age and farmers behaviour. Therefore, it would be worthwhile to test the validity of this association with reference to communication behaviour of noncontact farmers also.

2.4.2. Farm size

Viswanathan, Oliver and Menon (1975) stated that there was significant influence of farm size on the adoption of high yielding varieties of paddy by farmers.

Sandhu and Darbarilal (1976) observed positive but non significant relationship between farm size and communication behaviour of farmers.

Vijayaraghavan (1976) concluded that farm size was positively and significantly associated with adoption of high yielding variety of paddy.

Kalamegam and Menon (1977) indicated that small farmers' communication behaviour depended on their farm size.

Sarkar and Reddy (1980) reported that awareness and attitude of farmers about T & V System was fairly related to their farm size.

Naik (1981) observed that there was significant association between size of the farm holding of farmers and their awareness about T & V System.

Vijaya (1982) stated that farm size had no influence on the extent of adoption among farmers under T & V System.

Ferreira, Marahado-Filho and Francis (1983), in their study on adoption of maize production technology, staied that owners of larger farms had a higher index of adoption of improved farm technology.

Sanoria and Sharma (1983) illumined that size of holding was significantly related to adoption behaviour in the case of beneficiaries of T & V System.

Siddaramaiah and Rajanna (1984) found that farmers with larger farms scored significantly higher in the test of knowledge about agricultural aspects.

Based on the above research findings, it was decided to include farm size as an independent variable to test its association with the communication behaviour of noncontact farmers.

2.4.3. Awareness about T & V System

Gosh and Reddy (1978) reported that majority of the contact farmers and other farmers were not fully aware of the different aspects of T & V System.

Rao and Reddy (1979) reported that all farmers were aware of the term 'contact farmer' and also the year of inception of T & V System. But none of the farmers was aware of the actual number of contact farmers in the area. Also, all the farmers were not aware of the day of visit of village extension worker and his frequency of visit.

Rao and Reddy (1980) in their study on the interpersonal communication behaviour of contact farmers found that majority of the farmers had fairly high awareness about T & V System.

Another study by Naik (1981) indicated that majority of the farmers were unaware of the terms 'Benor's extension system', 'T & V Programme' and 'contact farmer'. Majority of the farmers also were not aware of the correct year of inception of T & V System. Majority of the farmers could not tell correctly about the number of contact farmers in their area and about the frequency of visit of the village extension worker to T & V Unit.

Cheriyan (1984) observed that majority of contact farmers and noncontact farmers in Kerala had medium awareness about T & V System.

In the light of the findings cited heretofore, it was decided to explore the relationship between communication behaviour and awareness about the T & V System of noncontact farmers in the study.

2.4.4. Attitude towards the contact farmer system

Jaiswal, Kolte and Arya (1978) in a comparative study of T & V System in Madhya Pradesh and Rajasthan, observed that majority of the contact farmers and other farmers were not knowing the concept of contact farmer system.

Gosh and Reddy (1978) reported that majority of the farmers had moderately favourable attitude towards T & V System.

Rao and Reddy (1979) found that majority of the farmers had moderately favourable attitude towards the contact farmer system.

Naik (1981) reported that there was significant association between attitude of the farmers and their exposure to mass media.

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

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

Kareem (1984) reported from his study on the interpersonal communication behaviour of contact farmers under T & V System in Kerala that there was significant and positive relationship between interpersonal communication behaviour and attitude of contact farmers towards contact farmer system.

The above results lead to the inclusion of attitude towards contact farmer system as an independent variable in the present study.

2.4.5. Socio-economic status

Ambastha and Singh (1975) found that socio-economic status of the farmers was significantly correlated with their information input.

Sandhu and Darbarilal (1976) found that socio-economic status and communication behaviour of farmers were significantly correlated.

Kalamegam and Menon (1977) also reported the positive association of socio-economic status with the small farmers' communication behaviour.

Bhaskaran (1979) found significant influence of economic status on the interpersonal communication behaviour of farmers in less progressive and more progressive villages.

Ogunfiditimi (1981) observed that economic status of farmers showed a positive and significant relationship with their adoption behaviour.

Singh and Singh (1981) found that socio-economic status of the farming couples was not significant in predicting their adoption behaviour.

Ferreira, Machado-Filho and Francis (1983) also reported that all farmers with higher social participation tended to adopt more of the improved farm technology.

Sanoria and Sharma (1983) have established significant relationship between socio-economic status and adoption behaviour of the beneficiaries under T & V System.

Kareem (1984) found positive and significant relationship between socio-economic status and interpersonal communication behaviour of contact farmers.

From the above review, it could be observed that socio-economic status is an important factor affecting the communication behaviour of farmers and hence an attempt has been made in this study to know the relationship between socio-economic status of noncontact farmers and their communication behaviour.

2.4.6. Extent of cosmopoliteness

Singh (1973) reported that key communicators were distinctly characterised by more cosmopoliteness compared to communicators and noncommunicators.

Murthy and Singh (1974) also reported positive and significant correlation between cosmopoliteness and communication behaviour of farmers.

Ambastha and Singh (1975) also found positive and significant correlation between cosmopoliteness and information input and output indices of farmers.

Chauhan and Sinha (1976) found significant but negative relationship between cosmopoliteness and adoption of farm technology among farmers.

Kalamegam and Menon (1977) in their study on the communication behaviour of small farmers found that personal cosmopolite sources were utilised to a greater extent in the progressive villages than in a less progressive village.

Vijayaragavan and Subramanyan (1981) found that farmers' cosmopoliteness had significant and positive correlation with information input and output, and that it had significant association with information processing by farmers.

Ferreira, Machado-Filho and Francis (1983) in their study also indicated that cosmopolitan farmers were more inclined to adopt new technology.

Siddaramaiah and Rajanna (1984) found that farmers with high cosmopoliteness had significantly higher gain in knowledge about agricultural aspects.

The above studies point out to the significant association of cosmopoliteness with farmers' communication behaviour. Therefore, it would be worthwhile to test the validity of this association with reference to the communication behaviour of noncontact farmers in the present study also.

2.4.7. Level of aspiration

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

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

Sanoria and Sharma (1983) established significant relationship between aspiration and adoption behaviour of the beneficiaries of T & V System.

Though closely related studies establishing the relationship between level of aspiration of farmers and their communication behaviour were limited, the available results point out to the possibility of definite relationship between level of aspiration and communication

behaviour. Therefore, this variable was included as an independent variable in the study to test its relationship with the communication behaviour of noncontact farmers.

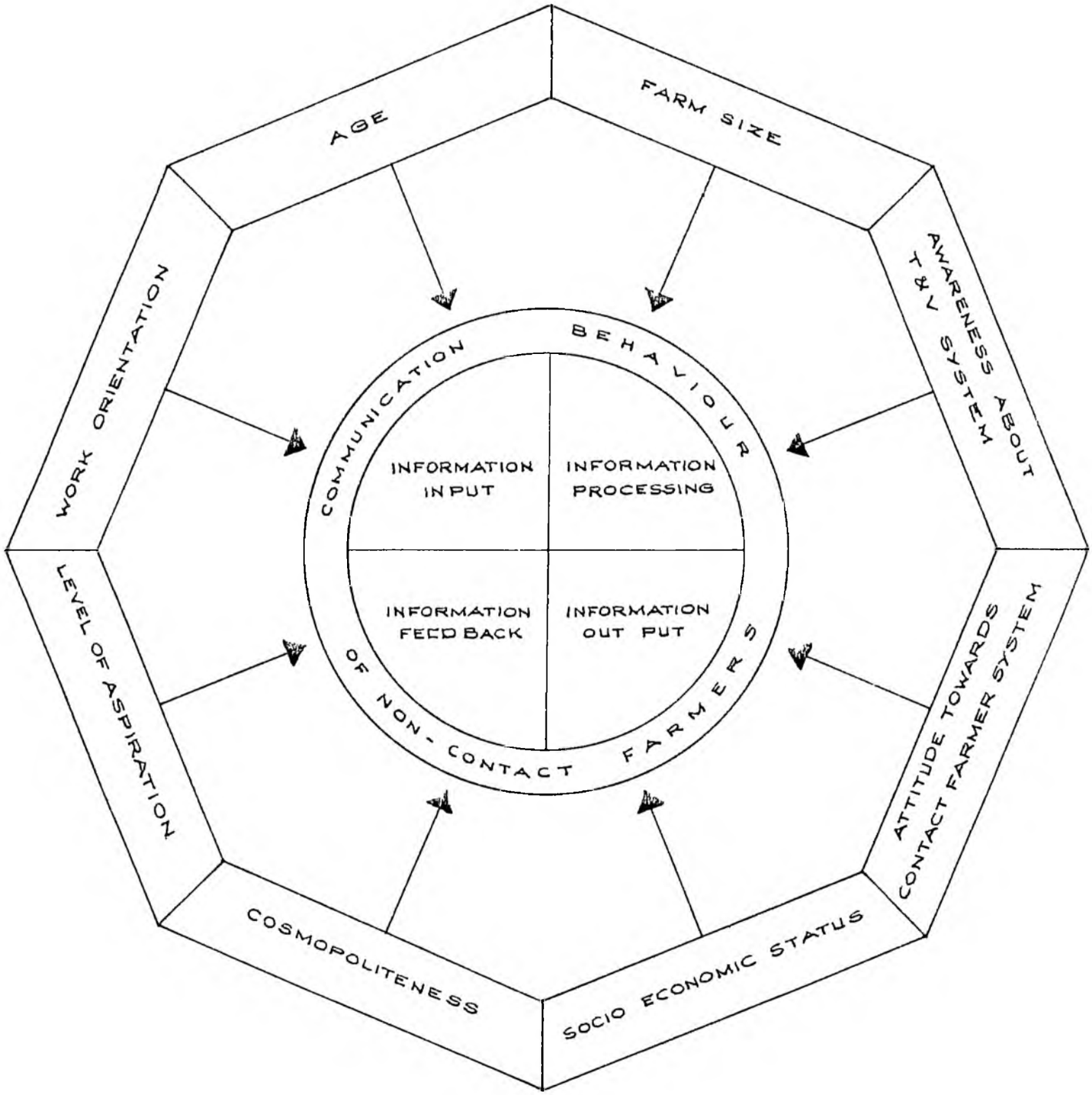
2.4.8. Work-orientation

The extent of one's ego involvement in work decides the nature of work-orientation. In this context, work-orientation was conceived operationally to include the method of work, time spent on work, work-attitudes, levels of interest in work etc. of the noncontact farmers.

Studies establishing the relationship between communication behaviour and work-orientation of farmers were not available. However, a closely related study by Muthayya (1971) established the relationship between one's work-orientation and the level of aspiration. He further pointed out that work-orientation was an important determinant of one's level of aspiration. The higher the work-orientation, the higher was the level of aspiration and vice-versa.

The above study indirectly points out that work-orientation might have strong influence in the communication behaviour of the noncontact farmers and, therefore, this variable was also included in the study. The theoretical orientation of the study is illustrated in Fig.1.

FIG 1 THEORETICAL FRAME WORK OF THE STUDY



2.5. Hypotheses

Based on the theoretical orientation of the study the following null hypotheses were formulated to test the relationship between the dependent variable and the selected independent variables.

2.5.1 There would be no significant relationship between communication behaviour of noncontact farmers and their age.

2.5.2 There would be no significant relationship between communication behaviour of noncontact farmers and their farm size.

2.5.3 There would be no significant relationship between communication behaviour of noncontact farmers and their awareness about T & V System.

2.5.4 There would be no significant relationship between communication behaviour of noncontact farmers and their attitude towards contact farmer system.

2.5.5 There would be no significant relationship between communication behaviour of noncontact farmers and their socio-economic status.

2.5.6 There would be no significant relationship between communication behaviour of noncontact farmers and their extent of cosmopoliteness.

2.5.7 There would be no significant relationship between communication behaviour of noncontact farmers and their level of aspiration.

2.5.8 There would be no significant relationship between communication behaviour of noncontact farmers and their work-orientation.

2.5.9 There would be no significant contribution by the selected independent variables, in the variations in the communication behaviour of noncontact farmers.

2.5.10 There would be no significant contribution by the selected independent variables, in the variations in the information-input of noncontact farmers.

2.5.11 There would be no significant contribution by the selected independent variables in the variations in the information-processing of noncontact farmers.

2.5.12 There would be no significant contributions by the selected independent variables, in the variations in the information-output of noncontact farmers.

2.5.13 There would be no significant contribution by the selected independent variables, in the variations in the information-feedback of noncontact farmers.

METHODOLOGY

3. METHODOLOGY

In this Chapter, the methodology employed for the study is presented under the following headings:

3.1. Selection of the locale for the study

3.2. Selection of the sample

3.3. Methods used, for data collection

3.4. Measurement of the variables

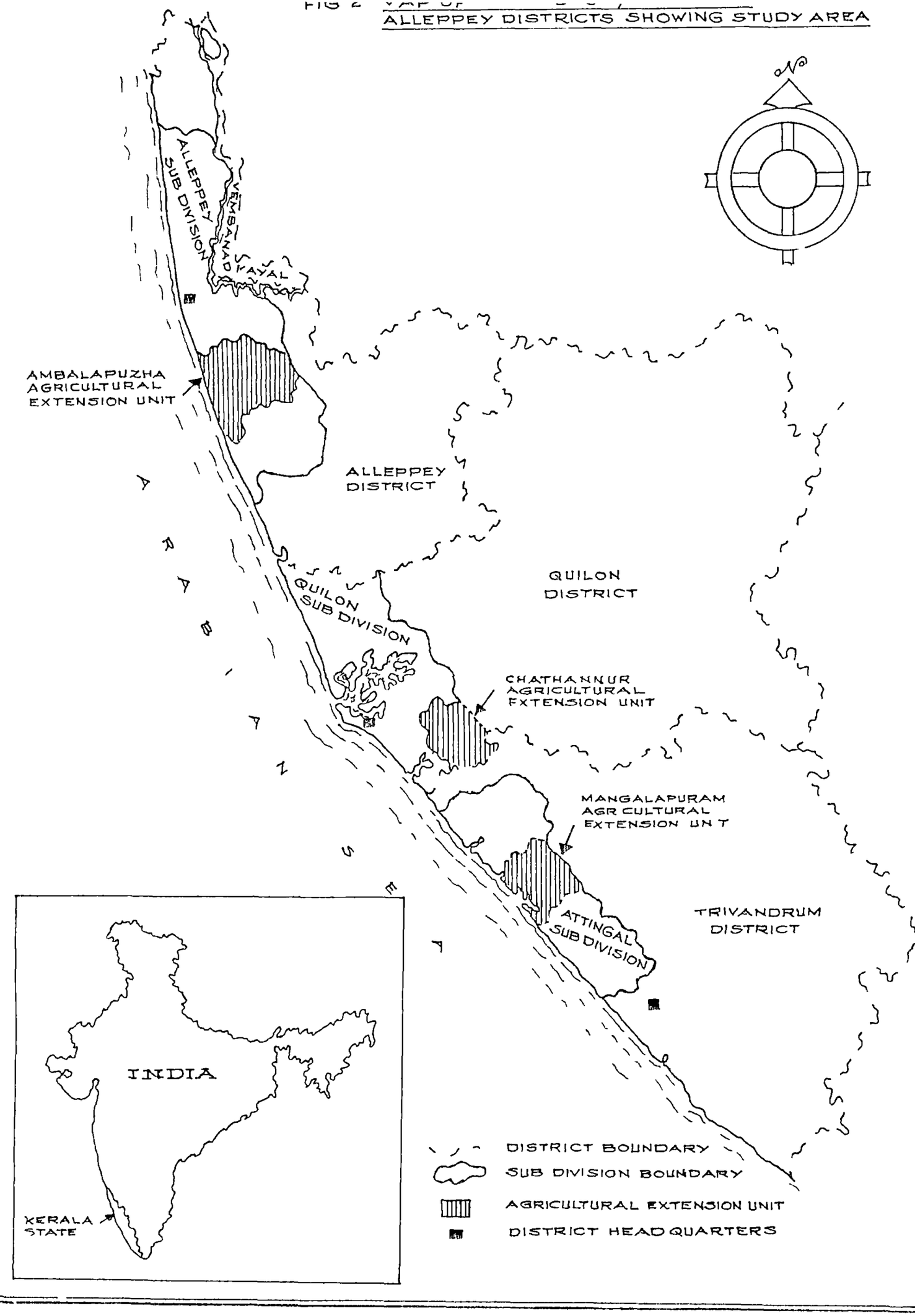
3.4.1 Measurement of the dependent variable
3.4.2 Measurement of the independent variables

3.5 Statistical tools used

3.1. Selection of the locale for the study

In Kerala, the Training and Visit System was first implemented in Trivandrum, Quilon and Alleppey districts in 1981. All the three districts were included in the study area. Trivandrum district consists of three agricultural Sub-Divisions, viz. Attingal, Neyyattinkara and Nedumangad. Quilon district consists of three agricultural Sub-Divisions viz. Kottarakkara, Adoor and Quilon. Alleppey district also consists of three Sub-Divisions, viz. Mavelikkara, Chenganoor and Alleppey. The map showing the area of the study is furnished as Fig.2.

FIG 2 MAP OF ALLEPPEY DISTRICTS SHOWING STUDY AREA

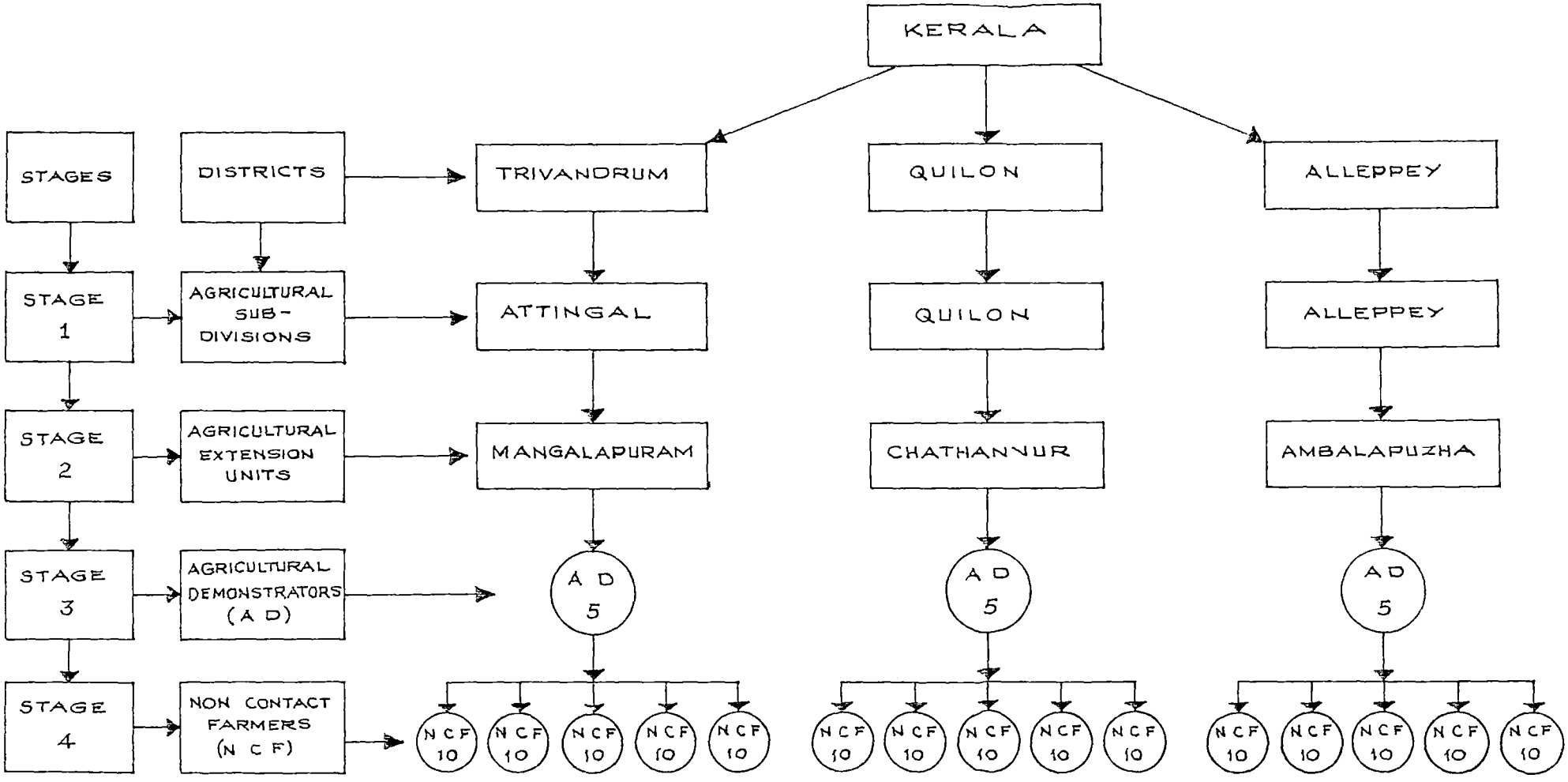


3.2. Selection of the sample

The unit of analysis identified for the present study was the noncontact farmer. Noncontact farmers are those farmers, other than the contact farmers, who are not constantly visited by extension personnel on their regular and scheduled visits.

Four stage random sampling method was used to select the respondents. A list of all the Sub-Divisional Offices with the number of Agricultural Extension Units were obtained from each district. From among these Sub-Divisions, one Sub-Division was randomly selected from each district. They include Attingal (Trivandrum district), Quilon (Quilon district) and Alleopey (Alleopey district). In the second stage, from each of the three selected Sub-Divisions one Agricultural Extension Unit was selected randomly. The selected Agricultural Extension Units were Mangalapuram (Attingal Sub-Division), Chathanoor (Quilon Sub-Division) and Ampalapuzha (Alleppey Sub-Division). In the third stage, five Agricultural Demonstrators from the three selected Agricultural Extension Units were selected randomly and in the fourth stage, ten paddy growing non-contact farmers from each of the Agricultural Demonstrator's area were randomly selected for the study. Thus a total of

FIG 3 DIAGRAMATIC REPRESENTATION OF SAMPLING PROCEDURE FOLLOWED IN THE STUDY



TOTAL NON CONTACT FARMERS SELECTED	150
TOTAL NON CONTACT FARMERS INTERVIEWED	120

50 noncontact farmers from each of the three selected districts were chosen as respondents, making the total sample size to 150. Out of this only 120 noncontact farmers could be interviewed as the rest were not available whenever the researcher went to interview them. The sampling procedure followed in the study is digramatically represented in Fig.3.

3.3. Methods used for data collection

A structured interview schedule was prepared, including the appropriate questions for obtaining the required data relating to the various socio-psychological and economic characteristics and communication behaviour of the respondents. The interview schedule thus formed was discussed with a group of experts and necessary modifications were made to avoid ambiguity and redundance in the questions. The schedule was pre-tested in nonsample area, and necessary modifications were made in the schedule. The data were collected through personal interview method by the researcher using the final interview schedule. Interview schedule used for the study is furnished in Appendix-I.

3.4. Measurement of the variables

3.4.1. Measurement of the dependent variable

Communication behaviour of noncontact farmers was considered as the dependent variable for the study.

Communication behaviour has been operationalised by different researchers in different ways.

Singh and Sahay (1970) operationalised communication behaviour of farmers as their information seeking habits based on the use of information sources such as personal-localite, oersonal-cosmopolite and mass media sources.

Murthy and Singh (1974), in their study, conceptualised communication behaviour of farmers as a composite measure of awareness of technologically competent information sources, comprehension, attitudinal change and adoption of the referent.

Singh and Prasad (1974) measured communication behaviour of the farmers as the extent to which farmers are exposed to different messages from various communication sources for the sake of adopting these messages.

Ambastha and Singh (1975) used the system analysis technique to study the communication pattern of farmers, in terms of information-input pattern, information-processing pattern and information-output pattern.

Reddy (1976) measured communication behaviour of village level workers as a composite measure of awareness, comprehension, attitude, education, skills and effective use of communication channels.

Sandhu and Darbarilal (1976) measured communication behaviour as inward exposure and outward exposure. Inward exposure was measured as the exposure of farmers to those information sources through which they received information and outward exposure was measured in terms of their use of the information sources to pass on information to fellow farmers.

Channegowda (1977) identified the following dimensions of farmers' communication behaviour:

Comprehension

Recall behaviour

Information reinforcing behaviour

Credibility

Symbolic adoption

Attitude

Information disseminating behaviour

Balasubramaniam and Menon (1978) measured communication behaviour of research personnel in terms of activities related to acquisition, processing and dissemination of agricultural information.

Pandyaraj (1978) measured the communication behaviour of Junior Agricultural Officers of Kerala in terms of information-input, information-processing, information-output and information-feedback indices.

Somu, Menon and Kalamegam (1978) measured communication behaviour of opinion leaders as the extent to which opinion leaders were exposed to the messages through different sources and channels. The components considered were the newspaper reading habit, radio listening habit, extension agency contacts and participation in the activities arranged by extension workers.

Bhaskaran (1979) developed an interpersonal communication behaviour efficiency index. It indicates the effectiveness of the interpersonal communication behaviour of farmers which is measured in terms of the sub-dimensions such as inertia, intension, directness, transitivity,.... The cumulative score obtained from the above measure indicates the extent of effective interaction among farmers in interpersonal information exchange situations.

Reddy and Singh (1979) measured the communication behaviour of village level workers using an index developed for that purpose. The different components of communication

behaviour index include awareness of selected agricultural messages through technologically competent sources, knowledge-cum-translation behaviour in respect of selected messages, communication abilities, skills and qualities and channel-use-effectiveness.

In a study conducted among contact farmers to measure their communication role and behaviour, Kareem (1984) followed the procedure adopted by Pandyaraj (1978) with slight modifications. He measured it as a composite of the specific activities such as information receipt or input, information-processing, information communication or output and information-feedback.

The reviews presented above indicate a diversity of quantification procedures followed by various research workers in studying the communication behaviour. The method followed by Kareem (1984) was found useful for studying the pattern of receipt of technical information of noncontact farmers (information-input); information-processing of noncontact farmers; communication of technical information (information-output) by noncontact farmers and the pattern of information-feedback of non-contact farmers. Hence for the present study, the above method was used with some modifications to measure

the communication behaviour of noncontact farmers. The measurement procedure is explained below:

The communication behaviour of noncontact farmers was measured in terms of the following subdimensions.

3.4.1.1. Information-input or inward exposure

3.4.1.2. Information-processing consisting of information-decoding and information-encoding

3.4.1.3. Information-output or outward exposure, and

3.4.1.4. Information-feedback.

These subdimensions of communication behaviour are briefly explained below.

3.4.1.1. Information-input or inward exposure

Information-input relates to all activities performed by an individual for acquisition of scientific and technical information from various sources. The flow of technical information at the grassroot level is taking place largely through word-of-mouth communication in a face-to-face interaction. Now a days, mass media sources like radio, newspapers, television, etc. also give much importance to the transmission of agricultural technologies. Therefore, for the present study, it was decided to include both interpersonal sources as well as

mass media sources in measuring the information-input pattern of noncontact farmers.

To measure the extent of information-input or inward exposure the noncontact farmers were asked to indicate the sources from which they received information regarding improved cultivation practices for paddy. The different interpersonal and mass media sources listed for the study are given below:

Contact farmers
Other farmers
Agricultural Demonstrators
Junior Agricultural Officers
Agricultural Scientists
Farm Broadcasts
Leaflets and Bulletins
Newspapers
Agricultural Journals
Campaigns
Demonstrations
Seminars
Exhibitions

The response of each farmer was obtained with reference to each selected message. A score of 1 was assigned to each response if he considered it as the

information source and '0' if there was no response. The total information-input score of each respondent was obtained by adding the score obtained in respect of each source and for each message. The scores of all the respondents for each source were added for the purpose of ranking the sources on the basis of frequency of contact.

3.4.1.2. Information-processing

To measure the information-processing pattern of the respondents two specific dimensions were considered. They were information-decoding and information-encoding.

3.4.1.2.1. Information-decoding

In the present study, information-decoding was operationalised as the extent of difficulty or ease felt by the noncontact farmer in understanding the technical messages related to paddy cultivation practices. To measure this, the respondents were asked to indicate the difficulty or ease in understanding the technical messages related to the improved cultivation practices of paddy. The responses were rated on a three point continuum ranging from 'difficult' to 'easy'. The scores assigned were as follows:

Sl.No.	Category of response	Score
1.	Difficult	0
2.	Neither difficult nor easy	1
3.	Easy	2

This method of scoring was done in order to facilitate the respondents with efficient information-decoding abilities to score maximum. The information-decoding score for each respondent was obtained by adding the scores corresponding to the pattern of response of the respondent to the ten messages given for this purpose. The scores of all the respondents for each message were added for ranking the message.

3.4.1.2.2. Information-encoding

In the present study, information-encoding was operationally defined as the extent of difficulty or ease felt by the noncontact farmer in processing a technical information with regard to the improved cultivation practice of paddy into a meaningful message of simple words.

The pattern of information-encoding of the respondents was measured in the following manner. The respondents were asked to indicate the difficulty or ease in processing each of the selected messages related to the improved cultivation aspects of paddy. The

responses were rated on a three point continuum ranging from difficulty to easy. The responses were scored as shown below:

Sl.No.	Category of responses	Score
1.	Difficult	0
2.	Neither difficult nor easy	1
3.	Easy	2

The information-encoding score for each respondent was obtained by adding up the scores corresponding to the response pattern of the respondent to the ten messages given for this purpose. The scores of all the respondents for each message were added for ranking the messages.

3.4.1.3. Information-output or outward exposure

In this study, the information-output was operationalised as the extent of utilisation of different interpersonal communication methods by the noncontact farmers for disseminating technical information related to paddy cultivation to other farmers.

To measure the information-output, each respondent was asked to indicate to whom he communicated the technical information related to selected message viz. contact farmers, other farmers, farmers outside his village.

The respondents were also asked to indicate how frequently they used the different interpersonal communication methods for the purpose of communicating technical information related to paddy cultivation to these communicatees. The interpersonal communication methods included in the study are given below:

1. Personal talk during casual meeting
2. Personal talk during farm visit
3. Personal talk during house visit
4. Group discussion during informal meeting
5. Personal talk during method demonstration

The responses as to whom the noncontact farmers communicated the messages and with what frequency were obtained on a two-point continuum with the scoring pattern of '0' for no response, and '1' if there was response. The information-output score for each respondent was obtained by adding the scores corresponding to the patterns of response of the respondents for each category of communicatees. The scores for interpersonal communication methods were added separately for ranking the methods.

3.4.1.4. Information-feedback

In the present study, information-feedback is operationalised as the sending of feedback information

to original source with respect to the message given, in case he has a difference of opinion, feeling or doubts about it.

The procedure followed for measurement of information-feedback was as follows. The respondents were asked to indicate the sources and the method of communication, if he has to enquire more about the improved cultivation practices of paddy. The different sources listed for feedback communication include:

Contact farmers

Friends and neighbours

Other noncontact farmers

Agricultural Demonstrators

Junior Agricultural Officers

Agricultural Scientists

The various interpersonal communication methods for feedback communication include:

1. Personal talk during casual meeting
2. Personal talk during farm visit
3. Personal talk during house visit
4. Group discussion during informal meeting
5. Personal talk during method demonstration
6. Discussion during office call

The responses for feedback information and interpersonal communication method were obtained on a two-point continuum with a pattern of scoring of '0' for no response and '1' if there was response.

The information-feedback score for each respondent was obtained by adding the scores corresponding to the pattern of response of the respondent. The scores obtained by the respondents for each method of information-feedback and each source of information-feedback were added separately for ranking them.

Selection of messages

In the T & V System, transmission of technical messages on the improved cultivation practices of principal crops for each locality is being done through the Department of Agriculture. Paddy is the most important food crop of Kerala and the statistics available shows a decreasing trend both in area and production of paddy due to various reasons. Taking into consideration the various factors in promoting paddy cultivation, it is necessary that communication aspects should be given prime importance. Recent developments in agriculture and practice of low-cost technology are still unknown to majority of farmers in Kerala. Therefore, important messages on cultivation of paddy were selected to measure

the communication behaviour of noncontact farmers for the present study. Fortnightly messages identified and communicated by the State Department of Agriculture during the last one year only were considered for selection. Care was taken to include representative messages on improved varieties of paddy and their various cultivation aspects such as seed selection, nursery practices, seed rate and planting, weed control measures, water management, fertilizer application and plant protection. The messages were selected in consultation with the scientists of Kerala Agricultural University and the extension personnel of the State Department of Agriculture. There were 10 messages selected and the list of these messages is furnished in Appendix-II. These messages were considered as the stimuli to measure the communication behaviour of noncontact farmers.

Computation of scores for communication behaviour

The scores for communication behaviour of the respondents were obtained by adding the scores of each respondent on all the components of communication behaviour included in the study ie. information-input, information-processing, information-output and information-feedback.

Categorisation of the respondents on the basis of their communication behaviour

The respondents were categorised into 'Low', 'Medium' and 'High' levels of communication behaviour based on the formula mean ± standard deviation. The score range of each category was as follows:

S.No.	Level of communication behaviour	Score range
1.	Low	Below 167.05
2.	Medium	167.05 - 209
3.	High	Above 209

3.4.2. Measurement of the independent variables

On the basis of the theoretical orientation of the present study, the following personal, socio-psychological and economic characteristics were selected as the independent variables to test their relationship with the communication behaviour of noncontact farmer.

3.4.2.1. Age

3.4.2.2. Farm size

3.4.2.3. Awareness about the T & V System

3.4.2.4. Attitude towards contact farmer system

3.4.2.5. Socio-economic status

3.4.2.6. Extent of cosmopoliteness

3.4.2.7. Level of aspiration

3.4.2.8. Work-orientation

3.4.2.1. Age

Age was measured as the number of years the respondent has completed, since his date of birth at the time of interview.

The classification suggested by Shankariah et al (1980) was followed here. According to the above classification, the respondents were classified into three groups, viz. young, middle age and old age.

S.No.	Category of farmers	Age
1.	Young	Below 30 years
2.	Middle age	30-50 years
3.	Old age	Above 50 years

3.4.2.2. Farm size

Farm size was measured in land units. The area of paddy lands possessed and cultivated by the respondents was taken as an index of measure for farm size. The range of farm size of the respondents was from 0.1 ha to 2.5 ha. The method used by Cheriyan (1984)

for classifying the noncontact farmers in T & V System under Kerala condition was adopted in the study also. Accordingly the respondents were classified into three categories as follows:

S.No.	Category of farmers	Area
1.	Marginal	Below 0.4 ha
2.	Small	0.4 - 1.2 ha
3.	Medium	Above 1.2 ha

3.4.2.3. Awareness about T & V System

Awareness about T & V System was operationally defined as the extent to which a noncontact farmer is conscious about T & V programme.

Naik (1981) measured the awareness about T & V System by a schedule consisting of 20 items. For the present study, the same procedure was followed with slight modifications.

There were 15 items and the scoring was done on 'yes' or 'no' response basis, with '1' or '0' score, respectively. But for the items 2,3,7 and 8, it was trichotomous with scoring of '0', '1', and '2'.

According to this method the maximum score that a respondent could obtain was 19.

Following the above method the respondents were classified into three categories keeping the mean value as a measure of check.

Sl. no.	Level of awareness about the T & V System	Score
1.	Low	Below 14.62
2.	Medium	14.62-16.84
3.	High	Above 16.84

3.4.2.4. Attitude towards contact farmer system

Attitude towards contact farmer system was operationally defined as the degree of positive or negative affect of the noncontact farmer towards the contact farmer system.

For this, statements regarding different aspects of contact farmer system were collected from all possible sources. These statements were written carefully to include the universe of content about the psychological object viz., the contact farmer system. This way, 35 statements were collected. These statements were then

edited to eliminate the items which fail to meet the prescribed standards as suggested by Edwards (1957). Of the 35 statements selected, 28 statements were retained after editing.

Thurstone and Chave (1929) suggested the technique of 'equal appearing intervals' for obtaining scale values for large number of statements. As per this method, the edited statements were presented to a group of judges who were asked to sort the statements into 'extremely unfavourable' through 'neutral' to 'extremely favourable' categories on a five point continuum in which '1' represented the most unfavourable expression, '3' the neutral and '5' the most favourable expression of opinion. The judges were asked not to give their opinion, but merely to estimate the degree of favourableness or unfavourableness expressed by each statements. The questionnaire containing these statements sent to 60 judges comprising of Junior Agricultural Officers, Assistant Directors and Deputy Directors of the Kerala State Department of Agriculture, Agricultural Scientists of Kerala Agricultural University. Out of these 60 judges, 35 judges responded to the questionnaire. The responses of the judges were tabulated indicating the number of judges who placed each item in each category. From this data, the scale values

for individual statements were computed. A statistical criterion of ambiguity, according to Edwards and Kenny (1946), in this technique is the distance between the points on the scale marking of the 25th and 75th centiles. The distance interquartile range--called the 'Q' value, was worked out for each of the 28 statements.

The selection of the attitude statements to constitute the final scale, was done based on the following criteria.

1. The statements having lowest 'Q' values were selected. A low 'Q' value indicated that there was good agreement among the judges while a high 'Q' value indicated lack of agreement. Therefore the statements with lowest 'Q' values are believed to be the least ambiguous.

2. The statements selected represented the universe of opinions or content with respect to contact farmer system.

3. The scale values have equal appearing intervals ie. distributed uniformly along the continuum.

4. There were equal number of favourable and unfavourable statements.

Based on the above criteria, 14 statements, seven favourable and seven unfavourable, were selected to constitute the final scale.

. Validity of the scale

The validity of a scale indicates the fidelity with which it measures what it purports to measure (Guilford, 1954). The scale developed for the study was tested for the following two types of validity.

(a) Content validity

Content validity is a kind of test of validity by assumption. The main criterion of the content validity is how well the contents of the scale represent the subject matter under study. This was taken into consideration in the collection and selection of statements for the scale. Care was taken to include all possible statements which represent the universe of content.

(b) Construct validity

When a validity of a measuring instrument cannot be directly measured and certain other measuring instruments are needed to find out the validity of an instrument, the approach followed is known as construct validity.

The construct validity was tested by calculating the correlation coefficient between the socio-economic

status and the attitude scores of 30 respondent farmers from a nonsample area. The attitude and socio-economic status scores of the respondents were measured and correlation between these two scores were worked out. The correlation coefficient was 0.829 which was highly significant. Hence it was concluded that the scale had the construct validity also.

Reliability of the scale

Guilford (1954) defined reliability as "the proportion of the variance in the obtained test scores". A scale can be said to be reliable only when it will consistently produce the same result when applied to the sample at any time. The reliability of the attitude scale constructed for the present study was tested by applying 'split-half method' as follows:

The constructed attitude scale was administered to 30 respondents selected from a nonsample area. The scale was divided into two halves based on odd-even numbers of statements. Two sets of scores were thus derived for the same group of respondents. These two sets of scores were correlated. The coefficient of correlation between the two sets of scores was 0.7332 which was found to be highly significant. The reliability coefficient

thus obtained indicated that the internal consistency of the attitude scale was quite high.

Administration of the scale

The attitude statements selected finally were arranged randomly. In the final schedule of the scale, there were three columns representing a three-point continuum of 'agreement' to 'disagreement' through 'neutral'. The three points on the continuum were 'Agree', 'Neutral' or 'Undecided' and 'Disagree'. Scores of 2,1 and 0 were given for the Agree, Neutral or Undecided and Disagree responses, respectively for favourable statements. The scoring procedure was reversed for the unfavourable statements.

The attitude scale constructed as described above was administered to the sample respondents during the interview. The respondents were asked to respond to each statement in terms of their own degree of agreement or disagreement. After getting the responses the scoring was done using the scale product method suggested by Eysenck and Crown (1949). According to this method, the weights of Likert and scale values of Thurstone were combined in the form of product. The total score for a respondent was the sum of the products over all the statements. This type of scoring assured higher reliability.

Based on the mean attitude score of the respondents, they were categorised into three groups, according to their attitude towards contact farmer system as indicated below:

Sl.No.	Attitude category	Score range
1.	Unfavourable	Below 22.75
2.	Neutral	22.75-25.61
3.	Favourable	Above 25.61

3.4.2.5. Socio-economic status

Socio-economic status was operationally defined as the position a noncontact farmer occupies in the community with reference to his occupation, size of land-holding, education, socio-political participation, possessions, house and house-hold.

To measure this variable, the scale developed by Venkataramaiah (1983) was used with slight modifications. The scale consisted of seven main items, viz. occupation, land holding, education, socio-political participation, possessions, house and house-hold. The respondent was given a score under each of these seven categories so that the final socio-economic index was the total of these scores. Only the maximum possible scores was

considered under each category. The score depends on the weightage of the items. For instance (see Appendix-I) under fifth category, "possessions", the farmer may possess a farm animal as well as the radio, and no other possessions. One farm animal has a weight of one, and radio has a weight of two, so the farmer's score under this category is two. Eventually, the scores of all seven items were added and this represented the socio-economic status score.

The respondents were classified into three socio-economic status categories on the basis of the mean value as given below:

Sl.No.	Level of Socio-economic status	Score range
1.	Low	Below 21.19
2.	Medium	21.19-23.83
3.	High	Above 23.84

3.4.2.6. Extent of cosmopoliteness

Extent of cosmopoliteness was operationally defined as the degree to which a noncontact farmer is oriented to his immediate social system outside his locality. The cosmopolite farmer is likely to be a unique individual in that he is motivated to look beyond his

environment when most others are content to maintain a localitistic frame of reference.

This variable was measured using the scale developed by Desai (1981). The two dimensions of the variable are here.

(a) the frequency of visit to the nearest town in a month; and

(b) the purpose of visit to the town in a month.

The scoring pattern was as follows:

(a) Frequency of visit to the nearest town in a month

Sl.No.	Frequency of visit	Scores assigned
1.	Twice or more a week	5
2.	Once a week	4
3.	Once a fortnight	3
4.	Once a month	2
5.	Very rarely	1
6.	Never	0

(b) Purpose of visit to thetown in a month

S.No.	Purpose of visit	Score assigned
1.	All visits relating to agriculture	5
2.	Some relating to agriculture	4
3.	Personal or domestic matters	3
4.	Entertainment	2
5.	Any other purpose	1
6.	No response	0

The total score of cosmopoliteness for each respondent was found out by adding the scores of the above two dimensions of cosmopoliteness. Based on the mean score, the respondents were classified into three groups as follows:

S.No.	Level of cosmopoliteness	Score range
1.	Low	Below 7.45
2.	Medium	7.45--8.57
3.	High	Above 8.57

3.4.2.7. Level of aspiration

Level of aspiration was operationally defined as

the desired state of future being expressed by the noncontact farmers. In this study, level of aspiration was measured using the scale developed by Muthayya (1971) with slight modifications to suit the farmers under T & V conditions. The main areas included in this scale were education to their children, occupation to their children, income, land-holding, crop produce, type of house, agricultural implements, furniture and material possession, general contentment, possession of livestock and other home reared animals and shelter for livestock. The details of the scale are furnished in Appendix-I. For each of these items, alternatives were provided but the questions were treated as open-ended and the alternatives were used to mark the answers. It was decided to use the question, 'what would you expect to have' to find out the level of aspiration, as it was thought to bring about a realistic orientation. Information available in the field of level of aspiration studies do indicate that the way the questions are asked to elicit the aspiration decide the realistic-unrealistic dimension of the aspiration.

In the interview schedule there were 12 statements with three alternatives provided for each item. Relative weights of 1,2,3 were also assigned for the three

alternatives. The respondents were asked to indicate their opinion on these alternatives suggested as guidelines and the respective score was assigned on the basis of the response. Three-year period was considered relevant as a time-dimension of the future, as a higher time span may serve as an obstacle for predicting in view of the uncertainties that a farmer may confront in his day to day interaction.

The scores obtained for each item were added to get the total score, which formed score for level of aspiration. Then the respondents were grouped into the following three categories keeping the mean value as a measure of check.

S.No.	Level of aspiration	Score range
1.	Low	Below 27
2.	Medium	27-30.84
3.	High	Above 30.84

4.2.8. Work-orientation

Work-orientation was conceived operationally to include the method of work, time spent on work, work attitude, level of interest in work etc. The method

followed by Muthayya (1971) was used with some modifications. The three sub-aspects considered here were:

a) man aspect including personal-social aspects oriented to person's habit and involvement in work;

b) work-aspect including method of improvement of work and care of livestock; and

c) work-attitude

A total of 33 statements relevant to this study were included for measuring the extent of work-orientation of the noncontact farmers. The statements are furnished in Appendix-I. The answers were dichotomised into work-oriented and not work-oriented ('yes' or 'no' basis) and arbitrary weights of 1 and 0 were assigned respectively. But for the items 3,4,5,10,11,15,19,23 and 27, the treatment of the answers was trichotomous and arbitrary weights of 2,1 and 0 were assigned respectively. The maximum score that could be obtained was 54.

Based on the mean work-orientation score the respondents were classified into the following three categories.

Sl. No.	Level of work-orientation	Score range
1.	Low	Below 42.40
2.	Medium	42.40-49.14
3.	High	Above 49.14

3.5. Statistical measures used

Parametric statistical methods were used to test the empirical hypotheses. The hypotheses were tested by using correlation analysis. Multiple correlation and regression analyses were done to find out the contribution of independent variables to dependent variables. For making simple comparisons percentages were worked out. The statistical methods employed in the study are detailed as follows:

3.5.1. Simple correlation analysis

Correlation coefficient is a measure of the association between two or more variables. Correlation coefficient was worked out to test the association between the selected dependent and different independent variables. The formula used to compute the simple correlation coefficient was:

$$r_{xy} = \frac{P_{xy}}{S_x S_y}$$ where

r_{xy} = correlation between x and y

P_{xy} = product moment of x and y

S_x and S_y = standard devisions of the distributions of x and y respectively.

3.5.2. Multiple correlation and regression analysis

In the simple correlation analysis each one of the independent variables was hypothesised to have an amount of independent effect on the dependent variables. The relationship was expressed in terms of simple correlation coefficients. But the dependent variable is not solely influenced by any one of these independent variables, but by all of them, through their reciprocal and interactive relationships. Thus the need for multiple regression analysis arises.

The multiple correlation coefficient (R) represents the zero-order correlation betueen the actual scores and predicted scores of the dependent variables obtained from the independent variables under consideration. If the predicted score for each farmer corresponds exactly to his actual score obtained in the study, the multiple correlation

coefficient would be unity or 1.00. The square of the multiple correlation coefficient (R^2) represents the proportion of the total variation explained by the independent variables in the regression equation, taken together.

Multiple regression analysis was done to determine the relative importance of each of the selected independent variables in explaining the changes in the dependent variables. The partial regression coefficients or partial b's were therefore obtained for the variables included in the regression equation. There were five dependent variables, viz. overall communication behaviour, information-input, information-processing, information-output and information-feedback.

The following prediction equation was used in the present study to determine the multiple regression.

$$Y_1 = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + b_8x_8$$

where

a = constant

b_1 = the coefficient which appears in the equation which represents the amount of change in Y_1 that can be associated with unit increase in 'x_1' with the remaining independent variables held fixed. This is referred to as partial regression coefficient or partial 'b'.

Y_1 = Overall communication behaviour

Y_2 = Information-input

Y_3 = Information-processing

Y_4 = Information-output

Y_5 = Information-feedback

x_1 = age

x_2 = farm size

x_3 = awareness about T & V System

x_4 = attitude towards contact farmer system

x_5 = socio-economic status

x_6 = extent of cosmopoliteness

x_7 = level of aspiration

x_8 = work-orientation

Partial coefficients or b's could not be considered as such, as the relative abilities of the independent variables to predict changes in the dependent variables, since the independent variables were measured in different units. For example age was measured in years, farm size in hectares, etc. Therefore comparison of a unit change in one variable with unit change in another becomes meaningless without some form of correction. Hence a correction was made to bring the measurements of the independent variables to a single unit

of measurement. The correction was effected by standardising each partial 'b' value using the standard deviation of the respective variable. A standard 'b' called the beta weight of the partial coefficient was computed by the following formula.

$$\text{Beta weight} = \frac{\text{S.D. of independent variable}}{\text{S.D. of dependent variable}} \times \text{partial 'b'}$$

The absolute values of these beta weights indicated the relative importance of the independent variables in the regression equation.

RESULTS

4. RESULTS

The results of the study are presented in this part of the report. Keeping in view the objectives of the study, the results are presented on the following lines.

4.1 Pattern of receipt of technical information (information-input) on improved paddy cultivation by the noncontact farmers.

4.2. Pattern of information-processing by the noncontact farmers.

4.3. Pattern of communication of technical information (information-output) on improved paddy cultivation by the noncontact farmers.

4.4. Pattern of information-feedback by the noncontact farmers.

4.5. Overall communication behaviour of the noncontact farmers.

4.6. Relationship between the dependent and independent variables.

4.6.1. Relationship between age of the noncontact farmers and their communication behaviour

4.6.2. Relationship between farm size of the noncontact farmers and their communication behaviour.

4.6.3. Relationship between awareness of the noncontact farmers about T & V System and their communication behaviour.

4.6.4. Relationship between attitude of noncontact farmers towards contact farmer system and their communication behaviour.

4.6.5. Relationship between socio-economic status of the noncontact farmers and their communication behaviour.

4.6.6. Relationship between extent of cosmopoliteness of the noncontact farmers and their communication behaviour.

4.6.7. Relationship between level of aspiration of the noncontact farmers and their communication behaviour.

4.6.8. Relationship between work-orientation of the noncontact farmers and their communication behaviour.

4.7 Relationship between the sub-dimensions of the dependent variable and the independent variables.

4.8 Intercorrelation among the independent variables.

4.9 Predictive power of the independent variables in explaining the variations in the dependent variables:

Results of multiple correlation and regression analysis.

4.1. Pattern of receipt of technical information (information-input) on improved cultivation practices for paddy by the noncontact farmers

The results on the pattern of the receipt of technical information by the noncontact farmers are presented in Table 1.

It could be observed from Table 1, that from among the interpersonal sources, noncontact farmers received most of the information on improved cultivation practices for paddy from 'Other Farmers' in their locality (39.42 per cent). The 'Contact Farmers' acted only next to 'Other Farmers' as a source of information (30.89 per cent). The other information sources the noncontact farmers used frequently were 'Agricultural Demonstrators' (18.58 per cent) and 'Junior Agricultural Officers' (8.64 per cent). The least consulted source was the 'Agricultural Scientists' (2.4 per cent).

Among the mass media sources 'Newspapers' emerged as an important source in transfer of information on improved cultivation practices for paddy (29.28 per cent). Next to 'Newspapers', 'Farm Broadcasts' were considered as the most preferred information source (25.72 per cent).

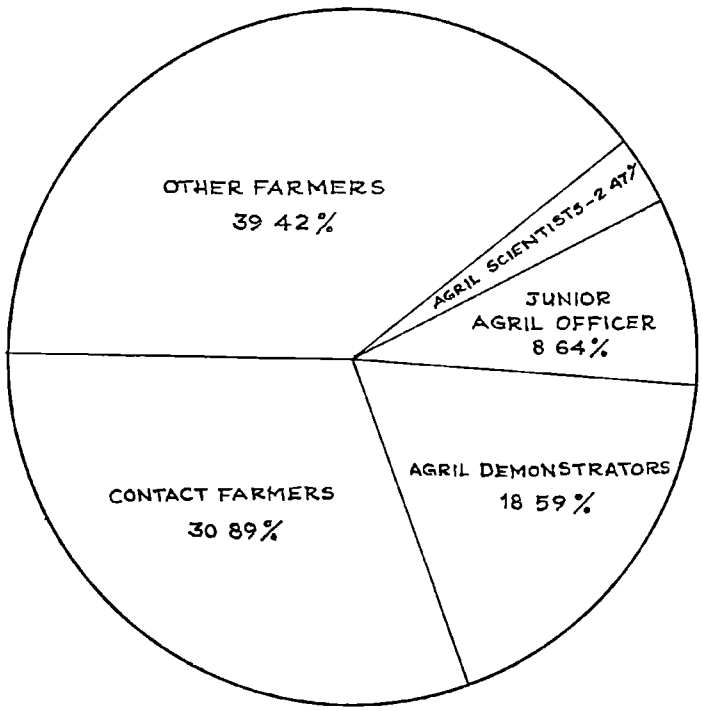
Table 1. Pattern of receipt of technical information (information-input) on improved cultivation practices for paddy by noncontact farmers.

(n=120)

Sl. No.	Source	Frequency*	Percentage	Rank
A. Interpersonal sources				
1.	Contact farmers	798	30.89	II
2.	Other Farmers	1063	39.42	I
3.	Agricultural Demonstrators	480	18.58	III
4.	Junior Agricultural Officers	223	8.64	IV
5.	Agricultural Scientists	64	2.47	V
B. Mass media sources				
1.	Farm Broadcasts	720	25.72	II
2.	Leaflets and Bulletins	30	1.08	VII
3.	Newspapers	820	29.28	I
4.	Agricultural Journals	310	11.07	IV
5.	Campaigns	10	0.35	VIII
6.	Demonstrations	180	6.43	VI
7.	Seminars	300	10.72	V
8.	Exhibitions	430	15.35	III

* The frequency exceeded the sample size since multiple responses were allowed.

Fig-4 PATTERN OF RECEIPT OF TECHNICAL INFORMATION ON IMPROVED PADDY CULTIVATION PRACTICES [INTERPERSONAL SOURCES]



'Exhibitions' (15.35 per cent), 'Agricultural Journals' (11.07 per cent), 'Seminars' (10.72 per cent) were the other sources preferred in that order. 'Demonstrations' (6.43 per cent), 'Leaflets and Bulletins' (1.08 per cent) and 'Campaigns' (0.35 per cent) were the least consulted sources of information on paddy cultivation by the noncontact farmers.

After getting the responses of the respondents regarding the sources from which they get information about the improved agricultural practices, the respondents were classified into different groups according to the number of sources both interpersonal and mass media, they contacted. The results are furnished in Table 2.

From the data in Table 2, it is evident that all the respondents consulted one or the other interpersonal source for getting information on paddy cultivation. Majority of the respondents (46.67 per cent) used 3 or 4 sources, while 32.5 per cent of respondents used 1 or 3 sources. Only 20.83 per cent of the respondents consulted more than four interpersonal sources for obtaining information on the improved paddy cultivation practices.

With regard to the mass media sources, none of the respondents contacted all the mass media sources.

Table 2. Distribution of the respondents according to the number of information sources consulted.

(n=120)

S.No.	Number of sources used	Frequency	Percentage
	A.Interpersonal sources		
1.	More than 4 sources	25	20.83
2.	3-4 sources	56	46.67
3.	Less than 3 sources	39	32.50
4.	Not even one	0	0
	B.Mass media sources		
1.	More than 6 sources	0	0
2.	4-6 sources	30	25
3.	Less than 4 sources	59	49.17
4.	Not even one source	31	25.83

Nearly half of the respondents (49.17 per cent) consulted less than four mass media sources. Only 25 per cent of the respondents used more than four mass media sources. It is interesting to note that over 25 per cent of the respondents had never consulted any of the mass media sources for getting information on the improved cultivation practices for paddy.

4.2. Pattern of information-processing of the noncontact farmers

The data on the information-processing pattern of the technical message on paddy cultivation are presented in Tables 3 and 4. Table 3 shows the information-decoding pattern and Table 4 gives the information-encoding pattern of the technical messages by the noncontact farmers.

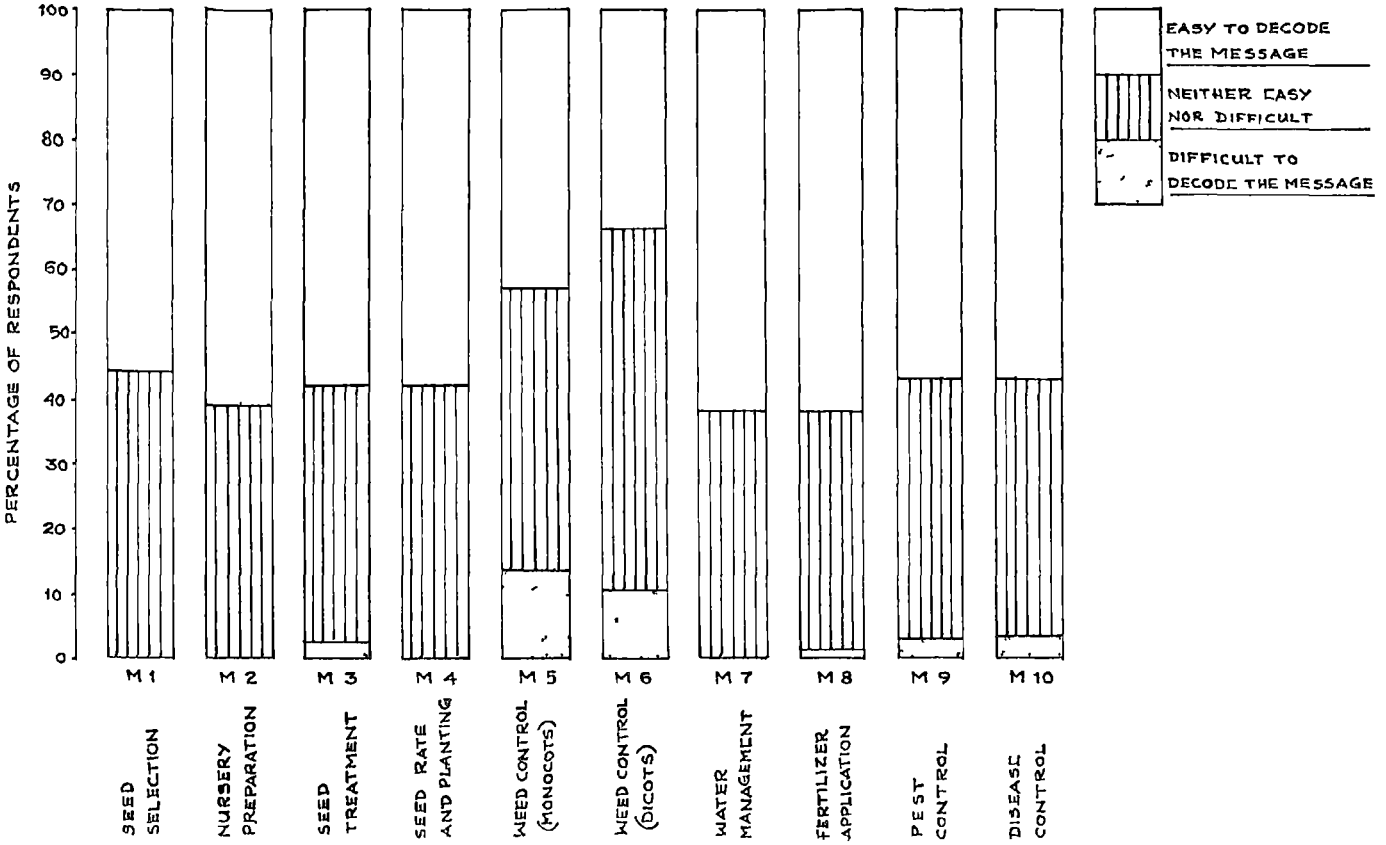
It could be inferred from the results presented in Table 3 that the noncontact farmers expressed difficulty in decoding the technical messages of paddy on 'weed control measures' (M_5 and M_6), 'pest control'(M_9) and 'disease control' (M_{10}), 'seed treatment' (M_3) and 'fertilizer application' (M_8). As high as 13.33 per cent of the respondents expressed their difficulty in understanding the technical message relating to 'weed control measures for monocot weeds in paddy lands' (M_5). About

Table 3. Pattern of information-processing by the noncontact farmers:information-decoding

(n=120)

Sl. no.	Messages	Difficult		Neither difficult not easy		Easy	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1.	Selection of HYV of seeds	-	-	53	44.17	67	55.83
2.	Nursery preparation	-	-	47	39.17	73	60.83
3.	Seed treatment	3	2.5	48	40.00	69	57.50
4.	Seed rate and planting	-	-	51	42.50	69	57.50
5.	Weed control (monocot weeds)	16	13.33	53	44.17	41	34.17
6.	Weed control (dicot weeds)	13	10.83	67	55.83	40	33.34
7.	Water management	-	-	46	38.33	74	61.67
8.	Fertilizer application	2	1.67	44	36.67	74	61.67
9.	Pest control measures	4	3.33	48	40.00	68	56.67
10.	Disease control measures	4	3.33	48	40.00	68	56.67

Fig-5 PATTERN OF INFORMATION-PROCESSING BY THE NONCONTACT FARMERS: INFORMATION-DECODING



11 per cent of the respondents reported that they felt difficulty in understanding the message on the 'control of dicot weeds' (M_6). The other messages which was felt difficult by respondents were the 'pest and disease control measures'(M_9 and M_{10}). About 3.33 per cent of the respondents expressed their difficulty in understanding the above messages on pest and disease control. The messages on 'seed treatment' (M_3) and 'fertilizer application' (M_8) were also found to be difficult to decode by a few respondents.

More than 60 per cent of respondents opined that technical messages on 'nursery preparation' (M_2), 'water management'(M_7) and 'fertilizer application' (M_8), 'weter easy to understand and comprehend. But only 34 per cent of the respondents described the decoding of the messages on 'weed control' (M_5 and M_6) as easy. The messages on 'seed treatment' (M_5) and 'seed rate and planting' (M_6) were reported to be easy to decode by 57.5 per cent of respondents. Similarly 56.67 per cent of the respondents expressed that the decoding of the messages on 'pest and disease control' (M_9 and M_{10}) was easy. The other messages viz. 'selection of HYV of seeds' (M_1) was reported to be easy for decoding by 55.83 per cent of respondents.

From the Table 3 it could also be observed that a majority of noncontact farmers expressed that they found it neither difficult nor easy in processing the majority of these messages. The highest frequency (67 per cent) of respondents was found for the message on 'weed control' (M_6) and the lowest (44 per cent) was found for the message on 'water management' (M_8). For all other messages, the percentage of respondents was between 38 and 44 per cent in this category.

The data on the pattern of information-encoding by the noncontact farmers for the technical messages on paddy are furnished in Table 4.

The results furnished in Table 4, brings to focus that 4.16 per cent of the respondents expressed their difficulty in encoding the technical message on 'weed control measures' (M_5 and M_6). Similarly, 2.5 per cent of the respondents reported that they found difficulty in encoding the technical message on 'seed treatment of paddy' (M_3). The other messages such as 'pest control' (M_9), 'fertilizer application' (M_8) and 'disease control' (M_{10}) were also reported to be difficult for encoding by a few respondents.

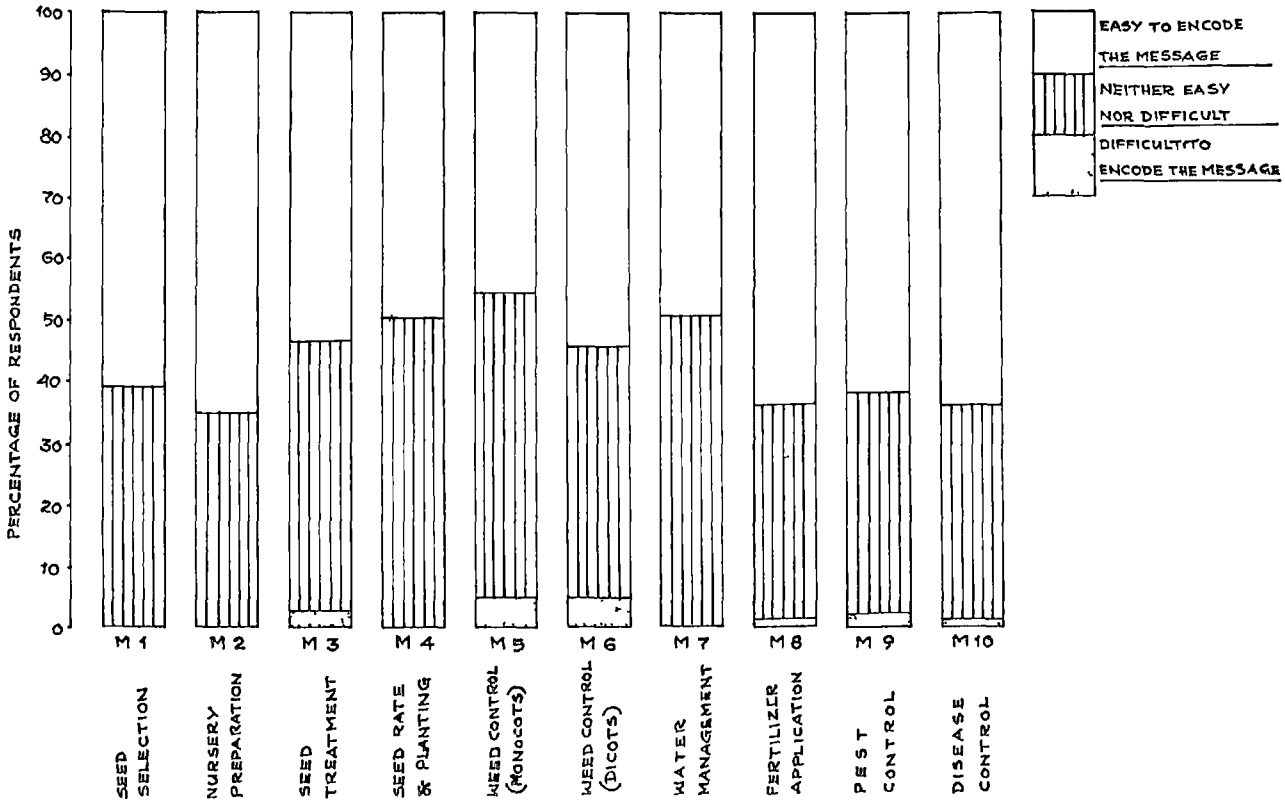
Contrary to this, except for the message on 'weed control' (M_5) it could be observed that more than

Table 4. Pattern of information-processing by the non-contact farmers: information encoding

(n=120)

l. o.	Message	Difficult		Neithor difficult nor easy		Easy	
		Freq- uency	Perce- ntage	Freq- uency	Perce- ntage	Freq- uency	Perce- ntage
.	Selection of HYV seeds	-	-	47	39.16	73	60.84
.	Nursery preparation	-	-	42	35.00	78	65.00
.	Seed treatment	3	2.50	53	44.17	64	53.33
.	Seed rate and planting	-	-	60	50.00	60	50.00
.	Weed control (monocot weeds)	5	4.16	60	50.00	55	45.84
.	Weed control (dicot weeds)	5	4.16	50	41.66	65	54.16
.	Water management	-	-	51	42.50	69	57.57
.	Fertilizer application	1	0.03	43	35.83	76	63.34
.	Pest control	2	1.67	44	36.67	74	61.67
0	Disease control	1	0.83	44	36.67	75	62.50

Fig-6 PATTERN OF INFORMATION-PROCESSING BY THE NON CONTACT FARMERS : INFORMATION-ENCODING



50 per cent of the respondents expressed that it was easy for them to translate the technical messages given on paddy cultivation, into simple and meaningful words. The highest percentage was observed, for the messages on 'nursery preparation' (M_2) (65 per cent), 'fertilizer application' (M_8) (63.34 per cent), 'disease control'(M_{10}) (62.5 per cent) and 'pest control' (M_9) (61.6 per cent). The lowest frequency was observed for the message on 'seed rate and planting' (M_4) (50 per cent).

On a close perusal of the results furnished in the Table 3 and 4, it becomes evident that around 35-50 per cent of the noncontact farmers had expressed unequivocally that they didn't find the messages either difficult or easy while processing them.

4.3. Pattern of communication of technical information (information-output) on improved paddy cultivation by the noncontact farmers

The two aspects studied under information communication were the frequency of communication with different categories of farmers by the noncontact farmers and the extent of use of interpersonal communication methods by the noncontact farmers for communication information on improved paddy cultivation practices.

4.3.1. Frequency of communication with different categories of farmers

The data pertaining to the frequency of communication with different categories of farmers by the noncontact farmers are presented in Table 5.

It is evident from the data presented in Table 5 that the noncontact farmers communicated technical information to 'Other Farmers' of their own area more frequently. As much as 77.73 per cent of the technical information they communicated were to the above category. They were also found to communicate to the 'Farmers outside their village' (13.93 per cent) and the 'Contact Farmers' (8.34 per cent).

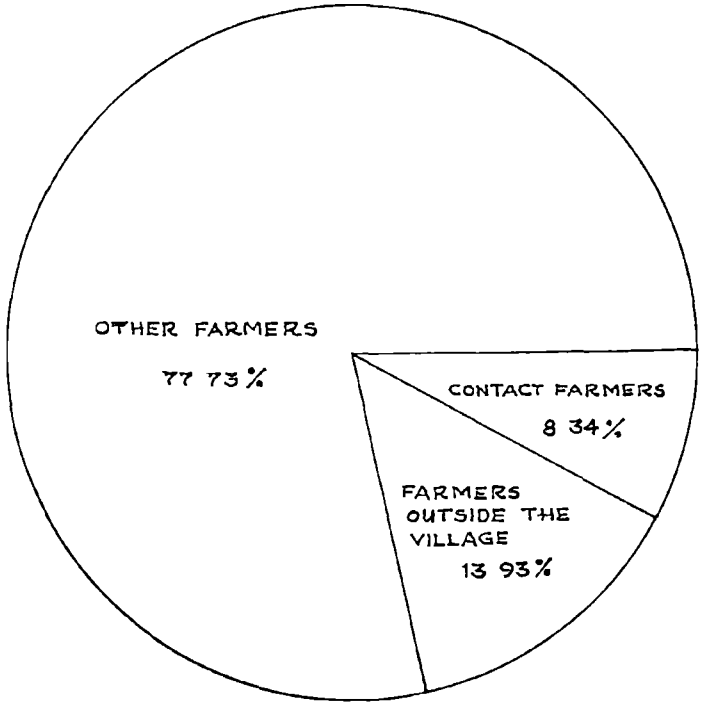
Table 5. Frequency of communication with different categories of farmers

(n=120)

S.No.	Source	Frequency*	Percentage
1.	Contact Farmers	103	8.34
2.	Other Farmers	960	77.73
3.	Farmers outside the village	172	13.93
		1235	100.00

* The frequency exceeded the sample size since multiple responses were allowed.

Fig-7 FREQUENCY OF COMMUNICATION WITH DIFFERENT CATEGORIES OF FARMERS [INFORMATION-OUTPUT]



4.3.2. Extent of use of interpersonal communication methods

Data regarding the extent of use of interpersonal communication methods by the noncontact farmers are presented in Table 6.

It could be seen from Table 6 that among different interpersonal communication methods, 'Personal talk during casual meeting' emerged as the most often used method by the noncontact farmers for communicating with other farmers. This was followed by 'Personal talk during farm visit' and 'Personal talk during house visit'. Only 2.2 per cent of the respondents used 'Group discussions' to communicate technical information to other. 'Personal talk during method demonstrations' was not common and only 20 respondents reported that they used this opportunities to communicate information to other farmers.

4.4. Pattern of information-feedback by the noncontact farmers

This aspect was studied on the following lines.

4.4.1. The frequency of communication with different categories of farmers, and

4.4.2. The extent of use of interpersonal methods used for feedback information

4.4.1. The frequency of communication with different categories of farmers

The data pertaining to the frequency of communication

Table 6. Extent of use of interpersonal communication methods by noncontact farmers

(n=120)

Sl. No.	Different methods	Frequency*	Percentage
1.	Personal talk during casual meeting	1377	62.85
2.	Personal talk during farm visit	492	22.45
3.	Personal talk during house visit	254	11.60
4.	Group discussion during informal meeting	48	2.20
5.	Personal talk during method demonstration	20	0.90
	Total	2191	100

* The frequency exceeded the sample size since multiple responses were allowed.

of feed back information with different categories of interpersonal sources by the noncontact farmers are presented in Table 7.

The results showed that the noncontact farmers communicated most of the feedback information to the 'Other Farmers' or more frequently.

As high as 42.40 per cent of the respondents communicated feedback to 'Other Farmers'. Over 35 per cent of farmers communicated their feedback to the 'Contact Farmers'. The other interpersonal sources to whom feedback information was conveyed by the noncontact farmers were the 'Agricultural Demonstrators' (14.60 per cent) and the 'Junior Agricultural Officers' (5.42 per cent). 'Agricultural Scientists' of the Kerala Agricultural University and other Research Institutes in Kerala had a very poor rating in this respect.

Data on the extent of use of interpersonal communication methods by the noncontact farmers for feedback information are presented in Table 8.

It could be observed from the Table 8 that among the various interpersonal communication methods 'Personal talk during casual meeting' emerged as the most often used

Table 7. Extent of feedback communication with different categories of information sources by the noncontact farmers

(n=120)

Sl. no.	Source	Frequency*	Percentage
1.	Contact Farmers	717	35.64
2.	Other Farmers	853	42.40
3.	Agricultural Demonstrators	294	14.60
4.	Junior Agricultural Officers	109	5.42
5.	Agricultural Scientists	39	1.94
	Total	2012	100

* The frequency exceeded the sample size multiple responses were allowed

Fig-8 EXTENT OF FEEDBACK COMMUNICATION WITH DIFFERENT CATEGORIES OF INFORMATION SOURCES

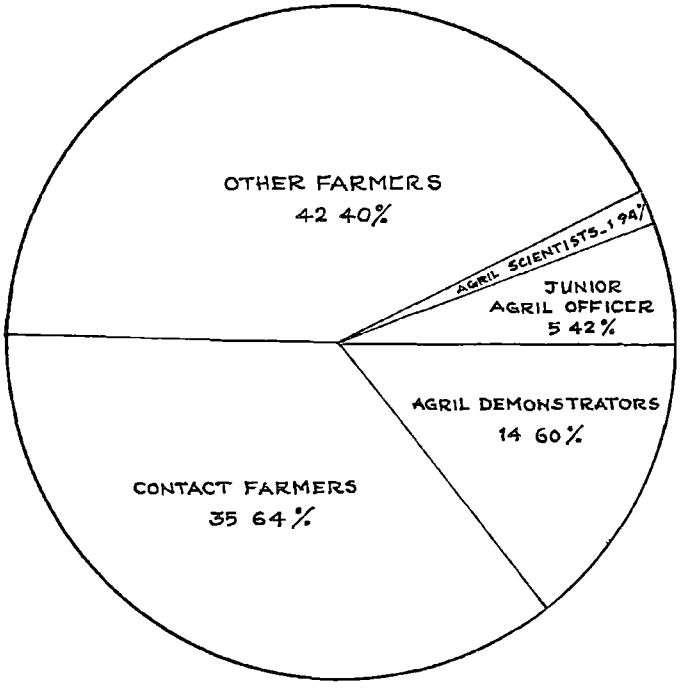


Table 8. Extent of use of interpersonal communication methods for feedback communication by the noncontact farmers

(n=120)

S.No.	Methods	Frequency*	Percentage
1.	Personal talk during casual meeting	1481	51.47
2.	Personal talk during farm visits	651	22.63
3.	Personal talk during house visit	426	14.80
4.	Group discussion during informal meeting	174	6.05
5.	Personal talk during method demonstration	92	3.20
6.	Discussion during office call	53	1.85
	Total	3877	100

*The frequencies exceeded the sample size since multiple responses were allowed.

method of feedback by noncontact farmers. More than half of the respondents used this method more frequently than the other methods mentioned. This was followed by 'Personal talk during farm visit' and 'Personal talk during house visit'. Only six per cent of respondents used 'Group discussions' to communicate feedback information. Less than five per cent of the respondents used 'Personal talk during method demonstration' and 'Discussion during office call' to communicate feedback information. It emerges that 'Personal talk during casual meeting' was the most important method of information-feedback.

4.5. Overall communication behaviour of the noncontact farmers

The scores obtained by the respondents on each of the four sub-dimensions of communication behaviour, viz. information-input, information-processing, information-output and information-feedback were added and the total score for each respondent was worked out to denote his overall score for communication behaviour. On the basis of this score, the respondents were classified into low, medium or high categories of communication behaviour, keeping mean as the measure of check. The results in this respect are furnished in Table 9.

Table 9. Distribution of the respondents according to their overall communication behaviour score.

(n = 120)

Sl. no.	Level of communication behaviour	Frequency	Percentage
1.	Low	61	50.83
2.	Medium	37	30.84
3.	High	22	18.33

Mean overall communication behaviour score: 188.02

Data on Table 9 showed that as high as 50.83 per cent of the respondents had only low level of communication behaviour. About 31 per cent of the respondents belonged to the medium category of communication behaviour and only 18.33 per cent had high level of communication behaviour. Considering that the maximum overall communication behaviour score possible was 280, the mean score of 188.02 for the total sample is very low.

4.6. Relationship between the dependent and independent variables

4.6.1. Relationship between age of the noncontact farmers and their communication behaviour

The data on the relationship between age of the noncontact farmers and their communication behaviour is furnished in Table 10.

Fig-9 DISTRIBUTION OF THE NONCONTACT FARMERS ACCORDING TO THEIR OVERALL COMMUNICATION BEHAVIOUR

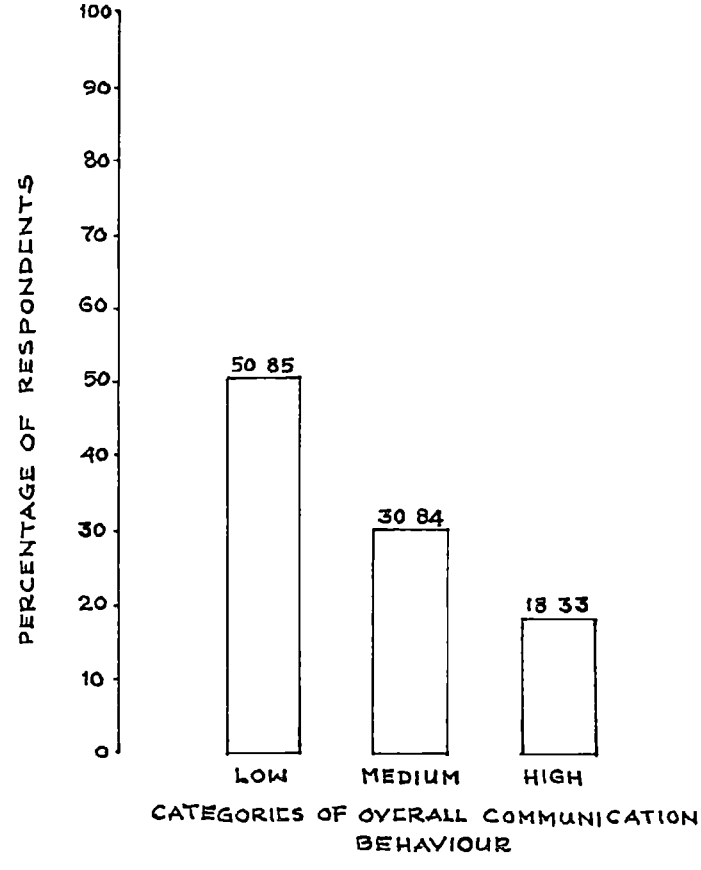


Table 10. Relationship between age of the noncontact farmers and their communication behaviour.

Sl. no.	Category	Frequency	Percentage.	Mean communication behaviour score	Correlation coefficient
1.	Young	5	4.17	232	
2.	Middle	60	50.00	192.35	-0.8038**
3.	Old	55	45.83	134.41	

** Significant at 1% level

The data in Table 10 revealed that 50 per cent of respondents were middle aged, while only 4.17 per cent were young. About 45.83 per cent of the respondents were old. The mean communication behaviour score worked out showed an decreasing trend with the increase in age. The mean communication behaviour score for 'young' category was 232 which was the highest followed by the 'middle age' group with 192.35 and the 'old' category with 134.41.

The correlation coefficient between communication behaviour and age was found to be negative and highly significant.

4.6.2. Relationship between farm size of the noncontact farmers and their communication behaviour

The results pertaining to the distribution of the respondents according to their farm size are presented in Table 11.

Table 11. Distribution of the respondents according to their farm size

(n=120)

Sl. no.	Category of farmers	Frequency	Percentage	Mean communication behaviour score	Correlation coefficient
1.	Marginal	45	37.50	160.06	
2.	Small	67	55.83	167.64	0.1509 NS
3.	Medium	8	6.67	199	

NS = non-significant

A glance at the results furnished in Table 11 reveals that majority of the respondents (55.83 per cent) were small farmers. Over 37 per cent of the respondents were marginal farmers. The mean communication behaviour score of the noncontact farmers was found to vary according to their farm size also. The highest mean communication behaviour score was obtained by the farmers with medium farm size (199). This was followed by the small and

marginal farmers category with mean scores of 167.64 and 160.06, respectively. The coefficient of correlation between communication behaviour and farm size of the respondents was 0.1509, which was found to be not significant.

4.6.3. Relationship between the awareness about T & V System by the noncontact farmers and their communication behaviour

The results pertaining to the awareness of the respondents about T & V System are presented in Table 12.

Table 12. Distribution of the respondents according to their level of awareness about T & V System.

(n=120)

Sl. no.	Level of awareness	Frequency.	Percentage.	Mean communication behaviour score	Correlation coefficient
1.	Low	55	45.83	139.54	
2.	Medium	34	28.33	176.70	0.8148**
3.	High	31	25.84	212.41	

** Significant at 1% level

It is evident from the Table 12 that over 45 per cent of the respondents had low level of awareness about the T & V System. The mean communication behaviour score of the farmers with high awareness about T & V System was

the highest (212.41). This was followed by the medium category with 176.70 score and low category with mean communication behaviour score of 139.54. The correlation coefficient worked out between communication behaviour and awareness about the T & V System was 0.8148 which was significant at 1 per cent level.

4.6.4. Relationship between attitude of the noncontact farmers towards contact farmer system and their communication behaviour

Data in Table 13 relate to the distribution of the respondents according to their attitude towards contact farmer system.

Table 13. Distribution of the respondents according to their attitude towards contact farmer system

(n=120)

Sl. no.	Attitude category	Frequency	Percentage	Mean communication behaviour score	Correlation coefficient
1.	Unfavourable	55	45.83	139.43	
2.	Neutral	38	31.67	179.34	0.6686**
3.	Favourable	27	22.50	210.62	

** Significant at 1% level

The data in Table 13 illustrate that majority of the respondents (45.83 per cent) had unfavourable attitude

towards contact farmer system. It was followed by 28.33 per cent of the respondents having neutral attitude. Only 22.50 per cent of the respondents had favourable attitude towards contact farmer system. It could be observed that the mean communication behaviour score of noncontact farmer was found to vary appreciably with their attitude also. The highest mean score of 210.62 was obtained by the noncontact farmers who had favourable attitude followed by the noncontact farmers with neutral, and unfavourable attitude towards contact farmer system, with mean communication behaviour scores of 179.34 and 139.43, respectively. The correlation coefficient between the communication behaviour and the attitude of the respondents towards contact farmer system was 0.6686 which was significant at 1 per cent level.

4.6.5. Relationship between the socio-economic status of the noncontact farmers with their communication behaviour

The distribution of the respondents according to their socio-economic status is presented in Table 14.

Table 14. Distribution of respondents according to their level of socio-economic status

(n=120)

Sl. no.	Level of socio-economic status	Frequency.	Percentage.	Mean	Correlation coefficient
1.	Low	61	50.83	150.11	
2.	Medium	34	28.33	184.82	0.4538**
3.	High	25	20.84	186.76	

** Significant at 1% level

Data in Table 14 illumine that the majority of the respondents (50.83 per cent) had low socio-economic status. This was followed by the medium and high socio-economic status categories with 28.33 and 20.84 per cent of the respondents in each category, respectively. But the communication behaviour score of the respondents belonging to the high socio-economic status group was the highest (186.76). This was closely followed by the medium socio-economic status category (184.82). The lowest mean communication behaviour score was found in the low socio-economic status category (150.11). The correlation coefficient between communication behaviour and socio-economic status was 0.4538, which was significant at 1 per cent level.

4.6.6. Relationship between extent of cosmopoliteness of the noncontact farmers with their communication behaviour

The distribution of the respondents according to their level of cosmopoliteness is presented in Table 15.

Table 15. Distribution of the respondents according to their level of cosmopoliteness

(n=120)

Sl. no.	Level of cosmopoliteness	Frequency	Percentage	Mean	Correlation coefficient
1.	Low	57	47.50	142.64	
2.	Medium	42	35.00	180.30	0.4736**
3.	High	21	17.50	209.80	

** Significant at 1% level

As indicated in Table 15, majority of the respondents (47.50 per cent) had low level of cosmopoliteness. Only 17.50 per cent of the respondents had high level of cosmopoliteness where as 35 per cent of the respondents had medium level of cosmopoliteness. With regard to their mean communication behaviour score, the highest mean score was found in the 'high level of cosmopoliteness' category (209.80) followed by the 'medium' and 'low' categories with mean scores of 180.30 and 142.64, respectively. The coefficient of correlation between

communication behaviour and cosmopoliteness of the noncontact farmer was 0.4736, which was significant at 1 per cent level.

4.6.7. Relationship between level of aspiration of the noncontact farmers with their communication behaviour

The data pertaining to the level of aspiration of the respondents are presented in Table 16.

Table 16. Distribution of the respondents according to their level of aspiration

(n=120)

Sl. no.	Level of aspiration	Frequency	Percentage	Mean	Correlation coefficient
1.	Low	52	43.33	142.15	
2.	Medium	47	39.17	179.04	0.6170**
3.	High	21	17.50	204.14	

** Significant at 1% level

It is evident from the Table 16 that the majority of the noncontact farmers (43.33 per cent) had low level of aspiration. Only 17.5 per cent had high level of aspiration and the rest of the respondents (39.17 per cent) belonged to the medium category. The mean communication behaviour score worked out on the basis of the level of aspiration showed an increasing trend from the 'low' to 'high' groups. The mean scores were 142.15, 179.04 and

204.14 for the low, medium and high groups, respectively. The correlation coefficient worked out between communication behaviour and level of aspiration was 0.6170 which was significant at 1 per cent level.

4.6.8. Relationship between work-orientation of the noncontact farmers with their communication behaviour

The data pertaining to the level of work-orientation of the noncontact farmers are presented in Table 17.

Table 17. Distribution of the respondents according their level of work-orientation

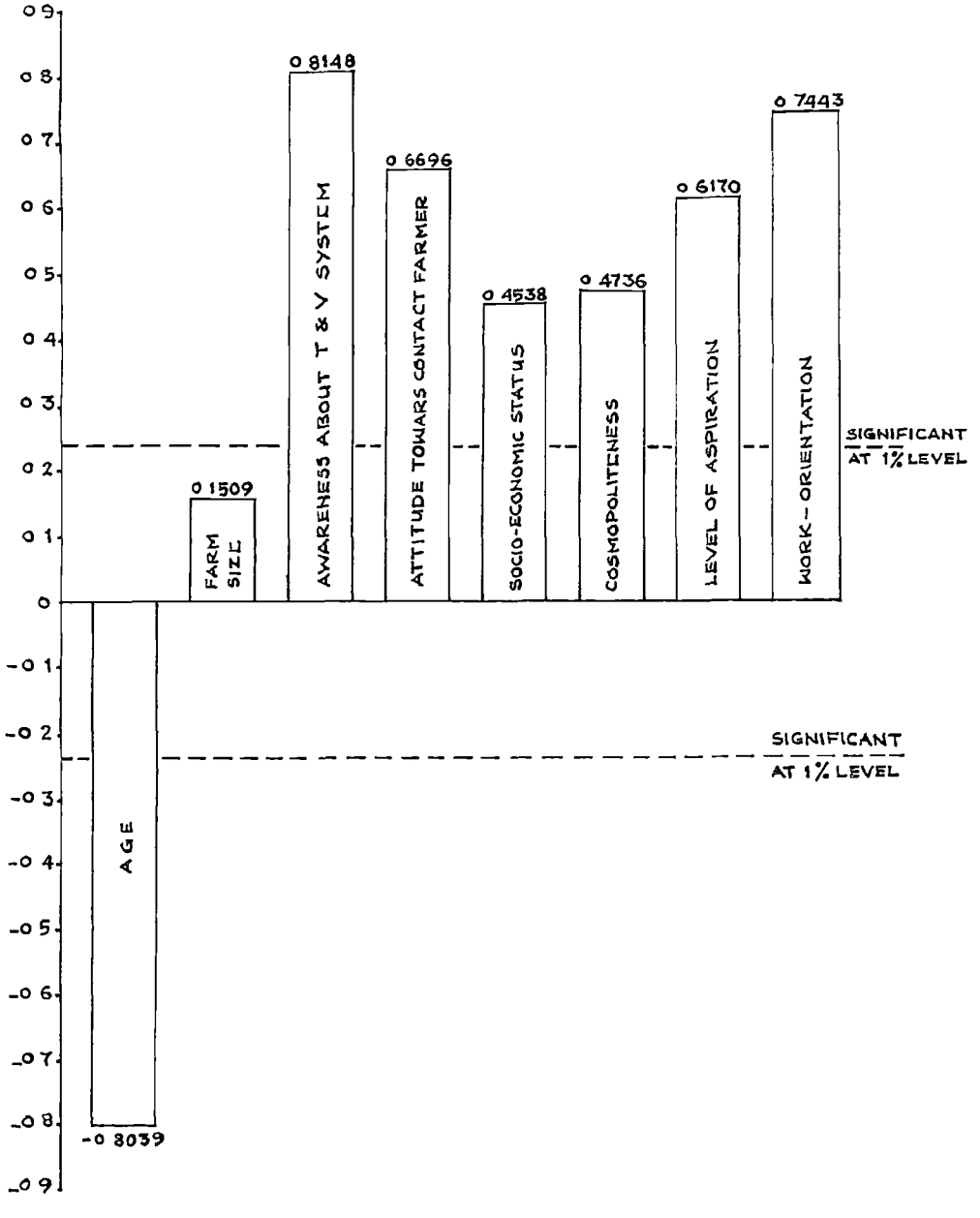
(n=120)

Sl. no.	Level of work-orientation	Frequency	Percentage	Mean	Correlation coefficient
1.	Low	50	41.67	132.52	
2.	Medium	58	48.33	187.67	0.7443**
3.	High	12	10.00	216.41	

** Significant at 1% level

A cursory glance at the results presented in the Table 17 clearly shows that the majority of the respondents (48.38 per cent) had medium level of work-orientation. This was followed by the 'low' category (41.67 per cent). Only 10 per cent of the respondents had 'high' work-orientation. The mean communication behaviour scores of the respondents in each of the above categories were

Fig-10 CORRELATION BETWEEN COMMUNICATION BEHAVIOUR AND INDEPENDENT VARIABLES



worked out and the highest mean score (216.41) was found in the 'high' group followed by the 'medium' and 'low' group with mean score of 187.67 and 132.52 respectively. The correlation coefficient between communication behaviour and the work-orientation was 0.7443, which was significant at 1 per cent level.

4.7. Relationship between the independent variables and the sub-dimensions of the dependent variable

Detailed correlation analysis was done to assess the nature of relationship between the independent variables and the sub-dimensions of the dependent variable, viz. information-input, information-processing, information-output and information-feedback. The results are furnished in Table 18.

A perusal of the results in Table 18 brings to focus some interesting findings. Information-input of the respondents was found to be positively and significantly correlated with all the independent variables, except in the case of 'age', where it was found to be negatively and significantly correlated. The other dependent variables viz. information-processing, information-output and information-feedback were found to be significantly correlated with the independent variables such as 'awareness about T & V System', 'attitude towards contact farmer system', 'socio-economic status', 'extent of

Table 18. Correlation between the independent variables and the sub-dimensions of the dependent variable

(n=120)

Sl. no.	Independent variables	Sub-dimensions of communication behaviour			
		Information-input	Information-processing	Information-output	Information-feedback
1.	Age	-0.6120**	-0.6738**	-0.6593**	-0.7093**
2.	Farm size	0.3321**	0.1663NS	0.0741NS	0.0413NS
3.	Awareness about T & V System	0.6061**	0.6422**	0.6716**	0.7497**
4.	Attitude towards contact farmer system	0.4614**	0.6033**	0.5239**	0.7185**
5.	Socio-economic status	0.3024**	0.4696**	0.3940**	0.4306**
6.	Extent of cosmopoliteness	0.3783**	0.3618**	0.3041**	0.4475**
7.	Level of aspiration	0.3896**	0.5433**	0.4653**	0.6706**
8.	Work-orientation	0.5549**	0.6107**	0.5299**	0.7426**

** Significant at 1% level
NS Not significant

cosmopoliteness', 'level of aspiration' and 'work-orientation'. 'Farm size' was found to be non-significantly correlated with the latter three sub-dimensions of the dependent variable. 'Age' of the respondents was negatively and significantly correlated with all the four sub-dimensions of communication behaviour.

4.8. Intercorrelation among the independent variables

Coefficients of correlation among the independent variables selected for the study were computed to test the interrelationships among the eight socio-psychological characteristics. The correlation coefficients are furnished in Table 19.

Data presented in Table 19 reveal that out of the eight socio-psychological characteristics studied, six characteristics were positively and significantly inter-correlated. These characteristics were 'awareness about 'T & V System', 'attitude towards contact farmer system', 'socio-economic status', 'extent of cosmopoliteness', 'level of aspiration of farmer' and 'work-orientation'. 'Age' was found to be negatively and significantly correlated with all the other independent variables. 'Farm size' was found to be positively and significantly correlated with only 'attitude towards contact farmer system'

Table 19. Intercorrelation Matrix. Correlation among the independent variables

(n=120)

Variables	Age	Farm size	Awareness about T&V system	Attitude towards contact farmer system	Socio-economic status	Cosmo-politeness	Aspiration	Work-orientation
Age (X_1)	-	-0.2386*	-0.8135**	-0.7415**	-0.5511**	-0.4297**	-0.6802**	-0.7759**
Farm size (X_2)	-	-	0.1157NS	0.2319*	0.0120NS	0.0298NS	0.0186NS	0.1655NS
Awareness about T & V System (X_3)	-	-	-	0.7627**	0.5606**	0.4431**	0.6797**	0.7478**
Attitude towards contact farmer system(X_4)				-	0.5504**	0.3833**	0.6800**	0.7377**
Socio-economic status(X_5)					-	0.3499**	0.5411**	0.5136**
Cosmopoliteness (X_6)						-	0.3345**	0.3231**
Aspiration (X_7)							-	0.6684**
Work-orientation (X_8)								-

** significant at 1% level
* significant at 5% level
NS Not significant

and for all the other characteristics the correlation coefficient was positive but not significant.

4.9. Predictive power of independent variables in explaining the variation in the dependent variable: Results of multiple correlation regression analysis

In the previous method, each one of the independent variables was hypothesized to have an amount of independent effect on the dependent variable. The relationship was expressed in terms of zero-order correlation coefficients derived. However, communication behaviour is not solely influenced by any one of these elements, but by all of them as a part of an inter-dependent system. In this section, the degree of relationships between various statistical combinations of the independent variables and the dependent variable, communication behaviour, has been determined.

The following five sets of dependent variable were used for the purpose of regression analyses.

4.9.1 Regression model of overall communication behaviour (Y_1) with the independent variables(X_1 to X_8)

4.9.2 Regression model of information-input(Y_2) with the independent variables (X_1 to X_8)

4.9.3 Regression model of information-processing (Y_3) with the independent variables (X_1 to X_8)

4.9.4 Regression model of information-output (Y_4) with the independent variables (X_1 to X_8)

4.9.5 Regression model of information-feedback (Y_5) with the independent variables (X_1 to X_8)

The results of the regression analyses in terms of beta weights have been discussed under different sets in the following pages.

4.9.1. Multiple regression analysis of independent variables with overall communication behaviour (Y_1)

The results in this context are presented in Table 20. It appears from the results that out of the eight independent variables, only four variables were highly significant, viz. awareness about T & V System(X_3), age (X_1), work-orientation (X_8) and extent of cosmopoliteness (X_6). The partial 'b' values were significant at 0.05 level and had positive relationship (variables X_3, X_8 and X_6). The coefficient of determination (R^2) with the eight independent variables under study, however, explained 75.23 per cent of variation in the overall communication behaviour of noncontact farmers. The corresponding beta weights are presented in column 4 of Table 20. They were arranged in descending order of

Table 20. Standardised partial regression coefficients for overall communication behaviour and independent variables

(n=120)

Rank order	Variable number	Name of the variable	Beta weight	't' values
1	X_3	Awareness about T & V System	0.4065	4.4385*
2	X_1	Age	-0.3220	-3.3126*
3	X_8	Work-orientation	0.2245	2.6614*
4	X_6	Extent of cosmopoliteness	0.1289	2.3945*
5	X_5	Socio-economic status	0.0902	1.4788
6	X_4	Attitude towards contact farmer system	-0.0610	-0.7125
7	X_7	Level of aspiration	0.0114	0.1553
8	X_2	Farm size	-0.0003	-0.0004

R^2 = 0.7523

* significant at 5% level

their (absolute) value. For regression equation 1, the variable X_3 (awareness about T & V System) was the most important one with the highest beta weight.

4.9.2. Multiple regression analysis of the independent variables with information-input behaviour (Y_2)

The eight independent variables and the dependent variable ie. information-input were fitted in multiple regression analysis and the results are shown in Table 21.

It is evident from Table 21 that out of the eight independent variables under study, only two,viz. awareness about T & V System (X_3) and farm size (X_2) were found tobe significant in explaining the variation in the information-input behaviour of noncontact farmers. The 't' values corresponding to the variables X_3 and X_2 indicated that these two variables were contributing most to the prediction of information-input scores. However, all the eight independent variables explained 50.02 per cent of variation in the information-input behaviour of the noncontact farmers.

The beta weights are presented in column 4 of Table 21. The beta weights were arranged in descending order of their absolute values. Awareness about the T & V System (X_3) and farm size (X_2) had greater influence on information-input behaviour, as was evident from their beta weights also.

Table 21. Standardised partial regression coefficients for information-input and independent variables

(n=120)

Rank order	Variable number	Name of the variable	Beta weight	't' value
1	X_3	Awareness about T & V System	0.4025	3.0154*
2	X_2	Farm size	0.2418	3.3063*
3	X_1	Age	-0.2255	-1.9432
4	X_8	Work-orientation	0.2204	1.8434
5.	X_4	Attitude towards contact farmer system	-0.2112	-1.7363
6	X_6	Extent of cosmopoliteness	0.1485	1.6416
7	X_5	Socio-economic status	0.0657	0.7581
8	X_7	Level of aspiration	-0.0597	-0.5716

R^2 = 0.5002

* Significant at 5% level

4.9.3. Multiple regression of independent variables with information-processing (Y_3)

The independent variables were fitted in the regression analysis and the results are presented in Table 22.

It is obvious from Table 22, that all the eight independent variables explained 50.21 per cent of variation in the information-processing of the noncontact farmers. However among these independent variables, only age (X_1) was found to be significantly but negatively related to information-processing of the noncontact farmers.

The corresponding beta weights were also worked out and were arranged in descending order of their absolute values. The variable X_1 (age of the farmer) was the only variable which was the most important one in relation to the information-processing by the noncontact farmers.

4.9.4. Multiple regression analysis of the independent variables with information-output (Y_4)

The results presented in Table 23 depict that the variation caused by the eight independent variables in the dependent variable-information-output (Y_4) was 49.71 per cent

Table 22. Standardised partial regression coefficients for information-processing and independent variables

(n=120)

Rank order	Variable number	Name of the variable	Beta weight	't' value
1	X_1	Age	0.2958	-2.1591*
2	X_3	Awareness about T & V System	0.1519	1.1401
3	X_8	Work-orientation	0.1142	0.9561
4	X_4	Attitude towards contact farmer system	0.0798	0.8571
5	X_5	Socio-economic status	0.0706	0.8171
6	X_6	Extent of cosmopoliteness	0.0572	0.7491
7	X_7	Level of aspiration	0.0501	0.5801
8	X_2	Farm size	0.0365	0.5114

R^2 = 0.5021

* significant at 5% level

Table 23. Standardised partial regression coefficient for information-output and independent variables

(n=120)

Rank order	Variable number	Name of the variable	Beta weight	't' value
1	X_3	Awareness about T & V System	0.4486	3.3500*
2	X_1	Age	-0.4289	-3.1149*
3	X_7	Level of aspiration	-0.0651	-0.6211
4	X_2	Farm size	-0.0636	-0.5701
5	X_8	Work-orientation	-0.0557	-0.4651
6	X_6	Extent of cosmopoliteness	-0.0262	-0.3419
7	X_4	Attitude towards contact farmer system	-0.0215	-0.1761
8	X_5	Socio-economic status	0.0079	0.0915

R^2 = 0.4971

* significant at 5% level

which was significant at 5 per cent level of probability. However, it is observed from the 't' values that only two variables ie. awareness about T & V System (X_3) and age (X_1) had significant influence on the information-output. While awareness about T & V system (X_3) was positively related to information-output, the age of the farmer (X_1) was found to be negatively related.

The beta weights calculated are presented in column 4 of the Table 23. They were arranged in descending order of their absolute values.

4.9.5. Multiple regression analysis of independent variables with information-feedback (Y_5)

All the eight independent variables studied were fitted in the regression model and the findings are presented in Table 24.

The eight independent variables when fitted together in the regression model explained 69.90 per cent of the variation in the information-feedback of the noncontact farmers. Of the eight variables except for the three variables, viz. level of aspiration (X_7), farm size (X_2) and age (X_1), all the other variables were found to be significantly related to the 'information-feedback'. These variables include work-orientation (X_8), awareness about T & V System (X_3), attitude towards contact farmer

Table 24. Standardised partial regression coefficient for information-feedback and independent variables

(n=120)

Rank order	Variable number	Name of the variable	Beta weight	't' value
1	X_8	Work-orientation	0.3021	3.2550*
2	X_3	Awareness about T & V System	0.2317	2.2869*
3	X_4	Attitude towards contact farmer system	0.2177	2.3068*
4	X_5	Socio-economic status	0.1492	2.0859*
5	X_6	Extent of cosmopoliteness	0.1370	2.3085*
6	X_7	Level of aspiration	0.1291	1.8380
7	X_2	Farm size	-0.1072	-1.8915
8	X_1	Age	-0.0674	-0.8915

R^2 = 0.6990

* significant at 5% level

system (X_4), socio-economic status (X_5) and extent of cosmopoliteness (X_6).

The beta weights were calculated and presented in column 4 of the Table 24. The beta weights were arranged in descending order of their absolute values. Work-orientation (X_8) had the highest influence on information-feedback as was evident from its beta weight also.

DISCUSSION

5. DISCUSSION

A detailed discussion of the salient results of this study is presented in this Chapter. The discussion is presented on the following lines:

5.1 Pattern of receipt of technical information (information-input) on improved cultivation practices for paddy by the noncontact farmers.

5.2 Pattern of information-processing by the noncontact farmers.

5.3 Pattern of communication of technical information (information-output) on improved paddy cultivation by the noncontact farmers.

5.4 Pattern of information-feedback by the noncontact farmers.

5.5 Overall communication behaviour of the noncontact farmers.

5.6 Relationship between the dependent and independent variables.

5.6.1 Relationship between age of the noncontact farmers and their communication behaviour

5.6.2 Relationship between farm size of the noncontact farmers and their communication behaviour.

5.6.3 Relationship between awareness about the T & V System by the noncontact farmers and their communication behaviour.

5.6.4 Relationship between attitude of noncontact farmers towards contact farmer system and their communication behaviour

5.6.5 Relationship between socio-economic status of the noncontact farmers and their communication behaviour.

5.6.6 Relationship between extent of cosmopoliteness of the noncontact farmers and their communication behaviour.

5.6.7 Relationship between level of aspiration of the noncontact farmers and their communication behaviour

5.6.8 Relationship between work-orientation of the noncontact farmers and their communication behaviour.

5.7 Relationship between the sub-dimensions of the dependent variable and the independent variables.

5.8 Intercorrelation among the independent variables.

5.9 Predictive power of the independent variables in explaining the variations in the dependent variables: Results of multiple correlation and regression analysis.

5.1. Pattern of receipt of technical information (information-input) on improved cultivation practices for paddy by the noncontact farmers

From the results furnished in Table 1, it is very clear that the most utilised interpersonal source of information by the noncontact farmers for receiving messages on improved paddy cultivation was the 'Other Farmers'. The 'Contact Farmers', whom the extension officials would be visiting every fortnight to transfer the seasonal messages and who are envisaged to be the primary source of information to the noncontact farmers were adjudged only next to the 'Other Farmers' as a source of information. The reasons for this phenomenon might be that in traditional rural communities as in Kerala, the neighbourhood influence in diffusion of innovations, still holds the sway. Moreover in T & V System of Agricultural Extension the ratio of the contact farmer : noncontact farmers envisaged is very wide and obviously the number of contact farmers selected to serve a particular farming community is too inadequate.

And therefore it cannot be expected that these contact farmers will cater to the entire information needs of the fellow farmers in their area.

Past researches have proved that in the various stages of adoption, friends and neighbours play a vital role. The 'Other Farmers' in rural areas closely identify themselves with the noncontact farmers. The concept of 'homophily', wherein there is similarity in certain characteristics between individuals in interaction situation, may be related here. This may be another reason for the emergence of 'Other Farmers' as one of the oft-consulted source of information.

However, over 30 per cent of the respondents indicated that they contacted the 'Contact Farmers' for getting information on improved cultivation practices for paddy. This points out to the fact that the 'Contact Farmers' are looked upon by the noncontact farmer as competent source of ag-information. This also reflects the emerging pattern of personal influence in the rural areas consequent upon the introduction and extension of the T & V System of Agricultural Extension.

The other important sources of information as pointed out by the respondents were the 'Agricultural Demonstrators' and the 'Junior Agricultural Officers'.

This might be due to the technical competence of the extension personnel and the credibility attached to these extension officials by the noncontact farmers. The contact between noncontact farmer and 'Agricultural Scientists' leaves much to be desired as indicated by the results furnished in Table 1. The major reason for this might be that the 'Agricultural Scientists' of agricultural institutions, due to statutory limitations, have very little time and facilities at their disposal for establishing extensive contact with the farmers. Therefore, the noncontact farmers cannot be hoped to be in frequent contact with the Scientists.

From among the mass media sources 'Newspaper' emerged as the most consulted information source. The obvious reason in this context could be the very high literacy rate prevailing in Kerala. In the study area also the literacy rate was as high as 68. per cent. Moreover, comparatively large number of Newspapers are published in Kerala and weekly agricultural columns are published in about 15 daily newspapers. Therefore it could be deduced logically that the newspaper reading habit among the respondents would be very high resulting in the finding that the newspapers emerged as the most consulted mass media source.

The second important farm information source utilised by the noncontact farmers turned out to be the 'Farm Broadcast'. The daily broadcast of programmes designed for farmers by the stations of All India Radio in Kerala have considerably helped in exposing the farmers to new techniques in agriculture. The target-group-oriented agricultural programmes broadcast regularly in the morning and evening are probably one of the most popular agricultural programmes broadcast by All India Radio in Kerala. The convenient timing might also have helped the farmers to listen to these programmes. The low-cost transistor sets available in the market might also have contributed to the popularity of this particular medium which in turn might have helped the farmers to attend to their favourite agricultural programmes in radio.

'Exhibitions' emerged as the next important source of farm information. Exhibitions are conducted in connection with important festivals in Kerala. Agricultural stalls in these exhibitions form an important place of attraction to the people. Stalls of show and sales are erected by the State Farm Information Bureau, Kerala Agricultural University and

other organisations interested in agricultural development. The farmers visiting these stalls are likely to gather a lot of information regarding agricultural techniques. As regards the 'Agricultural Journal' only about 11 per cent of the respondents indicated as an information source. This low key response may be due to the fact that these journals generally contain articles on agriculture generally written in a scholastic manner, full of technical words and jargons, which are not easily understood by the farmers. The response to other mass media sources like 'Seminars', 'Demonstrations', 'Leaflets and Bulletins' in general was very poor. Compared to the neighbouring states, farmers in Kerala exhibit a high quest for news. This might be due to their high literacy level and the consequent involvement in political affairs, particularly in rural Kerala. The major source that conflagrates their interest in this sphere are the newspaper and radio, which by themselves quench the thirst for knowledge of the farmers to a considerable extent. And therefore, their reliance in other mass media sources, particularly for ag-information turns out to be lesser. However, the limited scope for feedback in mass media sources might have prompted the

noncontact farmers to depend more on interpersonal sources. This may be the reason that about 25 per cent of the respondents reported that they never contacted mass media sources (Table 2). Contrary to this 32 per cent of the respondents reported that they contacted one or two interpersonal sources for technical information. It is heartening to observe that majority of the respondents reported that they consulted 3-4 interpersonal sources and 1-3 mass media sources for agricultural information. This could be attributed to the prevailing high literacy rate and the farmers' quest for information on improved agricultural practices.

5.2. Pattern of information-processing by the noncontact farmers

The data presented in Table 3 and Table 4 brought to focus some interesting findings. With increase in the complexity of the technical content of the messages, both decoding and encoding processes became difficult. The message M_1 (selection of High Yielding Variety of paddy) a comparatively easy message, was reported to be easy for decoding and encoding by majority of the farmers. Similar was the result obtained for the messages M_7(water management), M_4 (seed rate and planting) and M_2

(nursery practices). A close look at the contents of the above messages reveal that these messages are relatively simple and do not involve much complex technical details relating to various practices involved in these messages are very little. Thus, it becomes easy even for an unsophisticated farmer to understand these messages and to transmit to other farmers. But this was not the case with other messages, such as M_3 (seed treatment), M_5 and M_6 (weed control measures), M_8 (fertilizer application) and M_9 and M_{10} (pest and disease control measures). These messages involve use of fertilizer, weedicide, fungicide or insecticide that are to be prepared in correct doses and applied in a recommended manner, and on a specific time. Since the messages are given at a stretch involving all these operational aspects, an average farmer may not be able to decode the full content of the messages at one exposure. So naturally he finds it difficult to encode these messages also. Another factor which indirectly affects the decoding and encoding process of the noncontact farmers, is their low-economic status. The high price for the chemical fertilizers, fungicides and insecticides and their non-availability in the nearby markets also cause

problem to these farmers. So a farmer with low purchasing power often pays no heed to these messages and manages his farm with locally available resources like coudung, ash, greenmanures, etc.

These results also point out that there is a latent relationship between decoding-encoding difficulty and the cost aspect implied in the message. Most of the technical messages, which were perceived as relatively easy as far as information-decoding was concerned were less cost-intensive. Naturally, the interest of the farmers will be focussed on these technical messages since they are amenable for practice adoption. Therefore, the relevance of these messages in terms of practice adoption might have resulted in comprehending and processing these messages by the noncontact farmers without much difficulty.

5.3. Pattern of communication of technical information (information-output) of the noncontact farmers

It is evident from the results furnished in Table 5 that the noncontact farmers gave out most of the information relating to paddy cultivation to the 'Other Farmers'. The reason for this may be that the noncontact farmers will be in contact with their friends,

neighbours and relatives, who are living near their houses or farms. These friends and neighbours form the bulk of the 'Other Farmers'. Moreover, they could talk to these farmers and visit their houses or farms, whenever they find it convenient and discuss issues related to agriculture. So there will be relatively higher frequency of contact with these 'Other Farmers'. The results also point out that a few farmers gave advice to 'Farmers outside their village'. A possible reason is that in a 'Ela' (A contiguous stretch of cropped land) cultivated lands of a number of farmers in and outside the village may lie together. So it is natural that when a noncontact farmer goes to his field, come into contact with a number of other farmers, who may also be from other villages, and enters into information exchange situations with them. The farmers would be toiling in the field from morning till evening and in between work, it is possible that they will be discussion about different aspects related to farming. Another interesting result that emerged in this study was that a few of the noncontact farmers reported that they gave advice to 'Contact Farmers' also. This is quite possible since it is not the prerogative of the contact farmers alone

to communicate information to other noncontact farmers. The mutuality that typifies interpersonal communication in rural areas may be related here.

As regard the communication methods used, it is evident from the results furnished in Table 6 that 'Personal talk during casual meeting' followed by 'Personal talk during farm visit' and 'Personal talk during house visits' were the interpersonal communication methods often used by the noncontact farmers in communicating information to other farmers. 'Personal talk during casual meeting' is the most common method among the rural people. In their casual meetings, among other personal matters, their agricultural concerns are also discussed. Similarly a farmer could talk to his fellow farmers about agricultural subjects when he visits their houses or farms whenever convenient. These results corraborate the prevailing pattern of social contacts among rural folk. But on the other hand, 'Discussion during informal meetings' or 'during method demonstrations' is found to be a less popular method of communication, as indicated by the results. The possible reason could be that most of the farmers may not be aware of such meetings and demonstrations

and even if they are aware of the same, they would have found it difficult to attend such meetings and demonstrations which are conducted at far off places and during inconvenient timings. Obviously the contact between the farmers on such occasions will be very low.

5.4. Pattern of information-feedback by noncontact farmers

From the data in Table 7, it is evident that the feedback from noncontact farmers was communicated mostly to the 'Other Farmers'. 'Contact Farmers' were involved in this process only to a lesser extent. The reasons attributed in the case of 'information-input' may be quoted here also. The T & V System was introduced in the study area recently and majority of the fellow farmers may not know the 'Contact Farmers' in their area. So a farmer seeks advice and clarifications from the nearest source, which may be from a friend or neighbour living near to his home or farm. Another reason may be that a contact farmer selected by the extension personal may not be meeting all the qualifications prescribed for selecting contact farmers under T & V System. He may not be a good communicator and the fellow farmers may not consider him as a competent source of ag-information and for clarifying their doubts on farming. This

underlines the fact that if effective communication is to take place, the selection of contact farmers should be made on the basis of choice pattern of the noncontact farmers in that area. The results showed that feedback was also given to 'Agricultural Demonstrators' and 'Junior Agricultural Officers', though to a limited extent. This may be due to the fact that farmers who are aware of the T & V System and its working will clarify their doubts regarding complex agricultural practices with the extension officials of the Department of Agriculture. These farmers are certain that they would get complete and reliable information from competent extension personnel, than from other sources.

The information-feedback to 'Agricultural Scientists' was to a very limited extent only. This points out to the limited role played by the scientists in innovation-diffusion process in the area.

Among the methods used for feedback (Table 8), 'Personal talk during casual meeting' emerged as the most important method. As explained elsewhere, in the rural areas customary talks and courtesy queries are the major forms of interaction among farmers. The informal

meeting of farmers is a casual occurrence and it is not premediated. Hence it is no wonder that 'Personal talk during casual meeting' was the most important occasion of communicating feedback. Similarly in rural areas 'Personal talk during farm visit' and 'Personal talk during house visit' are established forms of interaction and therefore, quite a number of farmers utilised these occasions for exchanging feed-back information. 'Discussion during informal meeting' and 'Personal talk during method demonstration' were considered less important and only few respondents indicated that they used such methods for exchanging feedback information. The possible reason is that the farmers who attend such meetings and demonstrations are very low and hence the chances of utilising these occasions for feedback obviously are not bright. The least resorted method was 'Discussion during office call'. This finding points out to the fact that 'Office calls' are still unpopular among the farmers and that even with the introduction of T & V System of agricultural extension, the frequency of farmers visiting the offices of the Department of Agriculture, for seeking clarification of their doubts, has not increased to any appreciable extent.

5.5. Overall communication behaviour of noncontact farmers

From the data presented in Table 9 it is clear that the mean overall interpersonal communication behaviour score of 188.02, for the total sample was low when compared to the maximum score possible, ie. 280. This could be due to the following reasons. T & V System of extension is a recent approach in agricultural development in Kerala. And this programme is still in a nascent stage and the concept of contact farmers as carriers of message on improved agricultural practices has not become popular among the farmers in general. Besides, agriculture is considered as a subsidiary enterprise by many farmers and enterprise perfection through discussion and consultation with reference groups has not established its foot-hold in Kerala. A cursory glance of the results also points out that over 50 per cent of the noncontact farmers had low level of communication behaviour as against 18.33 per cent of the noncontact farmers belonging to the high category. The need for building an information threshold with respect to ag-information among the majority of farmers remains still unfelt. This phenomenon is quite surprising when viewed in the perspective of a very high literacy rate among the

farmers of Kerala. This also highlights the dismal performance of the agencies involved in agri-development work in the State in generating adequate awareness among the farmers regarding latest technologies developed in the farm front.

5.6. Relationship between the dependent and independent variables

5.6.1. Relationship between age of the noncontact farmers with their communication behaviour

From the results presented in Table 10 it is evident that majority of the respondents of the study were either 'middle aged' or 'old aged'. Only 4.17 per cent of the farmers were below 30 years of age. But the mean communication behaviour score of the 'young farmers' was the highest when compared to the other two categories. The 'age' of the farmers and their communication behaviour were found to be negatively and significantly correlated. This clearly points out that age was a discriminating factor in influencing the communication behaviour. It is a common belief that young farmer have a greater tendency to adopt new agricultural techniques than old farmers. The young farmers also stand on good chance of increased exposure to latest agroinformation due to their cosmopolitan nature.

The change proneness of the young farmers will also be appreciable. The old farmers are relatively conservative and conditioned to follow the traditional practices. The studies of Anbalagan (1974), Murthy and Singh (1974), Batara (1983), confirmed the above findings of the present study.

In view of the above, the null hypothesis that there would be no significant relationship between communication behaviour and age of the noncontact farmers was rejected.

5.6.2. Relationship between farm size of the noncontact farmers and their communication behaviour

As could be seen in Table 11, the farm size of the noncontact farmers and their communication behaviour were positively but not significantly correlated. Over 37 per cent of the noncontact farmers had land holding below 0.4 ha, 55.83 per cent had land holding between 0.4 and 1.2 ha and only 6.67 per cent had land holding of size above 1.2 ha. Their mean communication behaviour score was found to be increasing with their land holding size.

As might be expected, new technological advances, like that of growing improved varieties of paddy, require

large doses of fertilizers and careful and periodic plant protection operations. This warranted substantial resource mobilisation on the part of the farmers. Farmers with microscopic and miniscule operational holdings, as in Kerala, cannot be expected to command the required resources for adopting the cost-intensive agricultural technologies. And quite naturally their access and their quest for ag-information may also be marginalised leading to poor overall communication behaviour score as has been found out in the present study. The above findings conforms to those reported by Sandhu and Darbarilal (1976), Vijaya (1982) and Ferreira et al (1983).

In the light of the above, the null hypothesis that there would be no significant relationship between communication behaviour and farm size of the noncontact farmers was accepted.

5.6.3. Relationship between awareness about T & V System by noncontact farmers and their communication behaviour

A close perusal of results furnished in Table 12 highlights some of the important findings of the study. Majority of the respondent-farmers had low awareness about T & V System. About 28 per cent of the respondents

had medium level of awareness and only 25 per cent of the respondent had high awareness about T & V System. Low awareness about T & V System among the noncontact farmers could be justified with the following reasons: Firstly, this system is a recent introduction in Kerala and so the concept and working of this system could be unknown to majority of farmers. The agricultural demonstrators who are supposed to meet some of the noncontact farmers also as envisaged under T & V System reported to be unable to meet them, because of the vastness of the area and the limited time at their disposal. Whenever drastic changes, like T & V System of Agricultural Extension, are introduced by government agencies, the majority of the farmers come to know of such changes only through their more 'exposed' counterparts. In the T & V System, the local agent through whom technologies were to be spread among the farming community, was the 'Contact Farmer' and obviously the awareness and perception about the whole system and its operation depend upon the selected contact farmers. The present results once again point out that the contact farmers hadn't been effective in their ascribed roles, reflecting in the poor awareness about the system among the noncontact farmers.

his need for enlightenment and intence quest for latest information. Moreover, when the value system is expected to be favourable in slow changing semi-rural areas as in Kerala, the farmers do not mind sharing the experience of their cosmopolitan neighbours. Therefore, the enhanced position of the noncontact farmer in the ladder of cosmopoliteness would have helped them to score high in respect of the communication behaviour.

Similar results have been reported by Murthy and Singh (1974), Ambastha and Singh (1975), Vijayaragavan and Subramanyan (1981) and Ferreira et al (1983).

Keeping in view the above discussion, the null hypothesis that there would be no significant relationship between the extent of cosmopoliteness and communication behaviour of the noncontact farmers were rejected.

5.6.7. Relationship between level of aspiration of the noncontact farmers with their communication behaviour

A perusal of Table 16 brings to focus some interesting results. As seen from the data, out of the 120 respondents only 21 had high level of aspiration and their mean communication behaviour score was 204.14.

Fifty two respondents had low level of aspiration and their communication behaviour score was only 142.15. The mean score obtained for the medium category in this respect was 179.04. The correction coefficient computed with this contest also showed that there was positive and significant relationship between communication behaviour of the noncontact farmers and their level of aspiration.

Level of aspiration is one of the important variables of personality. During the course of the investigation, it was observed that the farmers, whose level of aspiration was either low or medium were cautious in projecting their aspiration in resoect of items like material possessions, livestock, furniture, house, land-holdings, etc. which envisage considerable expenditure. Their aspirations have been very realistic probably as a measure of caution or as a defence against failure as they do not want to aspire for something which they think they may not achieve. In other words, it represent a form of depression and reflects their lack of confidence. It is quite natural that one will aspire for a thing only when he has some information about it. The noncontact farmer whose level of aspiration was low might not have been exposed to worldly things. Lack of adequate

relationship between attitude of the noncontact farmers towards contact farmer system and their communication behaviour.

5.6.5. Relationship between socio-economic status of the noncontact farmers and their communication behaviour

Findings in Table 14 reveal that there was significant and positive relationship between socio-economic status and communication behaviour of the noncontact farmers. As the socio-economic status of the noncontact farmers increased their communication behaviour also increased. This could be explained in the following way. In rural areas a person with high socio-economic status is looked upon as 'role model'. He is looked upon as a reliable source of information. He, with the resources at his disposal, could try out many agricultural innovations in his farm, and his high socio-economic status also makes him risk-prone. Therefore, with his experience in adopting latest agricultural technology he could well serve as an authentic source of first hand information. For adopting the latest agricultural techniques, he would also try to build up his agricultural information base. To reach this objective he would seek ag-information from a variety of sources which results in his appreciable communication behaviour. On the contrary, a person with low socio-economic status will be

handicapped in adopting the latest agricultural technologies which are capital intensive. So for him, building up an ag-information base is an excercise in futility. Conscious of this fact the farmer with low socio-economic status does not seek information from many sources, which results in his poor communication behaviour. The result of this study, that the socio-economic status of the noncontact farmer was positively and significantly related to their communication behaviour draws support from earlier studies conducted by Sandhu and Darbarilal (1976), Bhaskaran (1979), Ferrira et al (1983), Sanoria and Sharma (1983) and Kareem (1984).

In view of the above discussion, the null hypothesis set for the study that there would be no significant relationship between the communication behaviour of noncontact farmers and their socio-economic status was rejected.

5.6.6. Relationship between extent of cosmopoliteness of the noncontact farmers and their communication behaviour

A perusal of the results furnished in Table 15 brings to focus the finding that the extent of cosmopoliteness of the noncontact farmers was significantly related to their communication behaviour.

A cosmopolitan farmer has opportunity to come into contact with a variety of communication sources in

The other important finding was that the awareness about T & V System among the noncontact farmers and their communication behaviour were positively and significantly correlated. The reason for this is obvious. The farmers who are well aware of T & V System will also be in a position to gather ag-information from the 'Contact Farmers', 'Agricultural Demonstrators', 'Junior Agricultural Officers' and others involved in T & V System, thus enhancing their score on communication behaviour.

The result of the present study are in conformity with those reported by Reddy (1980), Naik (1981) and Cheriyan (1984).

The above discussion substantiates the rejection of the null hypothesis of the study that there would be no significant relationship between awareness about T & V System and communication behaviour of the noncontact farmers.

5.6.4. Relationship between attitude of the noncontact farmers towards contact farmer system and their communication behaviour

A scrutiny of the results furnished in Table 13 reveals some interesting findings about the attitude of the noncontact farmers towards contact farmer system. It was evident from the data that over 45 per cent of the respondents

had unfavourable attitude towards contact farmer system, followed by 28 per cent having neutral attitude towards contact farmer system. Only 22 per cent of the farmers had favourable attitude towards contact farmer system. These results could also be related to awareness of the noncontact farmers about T & V System as detailed elsewhere.

The improper selection of the contact farmer may also lead to the unfavourable attitude among the noncontact farmer towards the contact farmer system. It could be also be seen that attitude of the noncontact farmers towards the contact farmer system had positive and significant relationship with their communication behaviour. Those of the noncontact farmer who had favourable attitude towards contact farmers system would have consulted the contact farmers, for getting latest information on agriculture and for clarifying their doubts relating to farm problems. This would have reflected in their communication behaviour score also.

These findings of the study are in agreement with those reported by Rao and Reddy (1979) and Kareem (1984). The above discussion justifies the rejection of the null hypothesis of the study that there would be no significant

external exposure might be one of the underlying reasons for this phenomenon. Viewed in this perspective, it could also be expected that their contact with various sources of information will also be very low. This might also have resulted in their poor communication behaviour.

The findings of the study are in conformity with those reported by Chauhan (1976), Sanoria and Sharma (1983). The above findings of the study lead to the rejection of the null hypothesis, that there would be no significant relationship between communication behaviour of the noncontact farmers and their level of aspiration.

5.6.8. Relationship between work-orientation of the noncontact farmers and their communication behaviour

From the results presented in Table 17 it was evident that there was positive and significant relationship between work-orientation and communication behaviour of the noncontact farmers. It also indicated that work-orientation is an important determinant of one's communication behaviour--the higher the work-orientation, appreciable would be the communication behaviour.

If a detailed analysis of the components of work-orientation is made, the reasons for the positive and significant relationship between work-orientation and communication behaviour will become obvious. The three sub-dimensions of work-orientation viz., man-aspect, work-aspect and work-attitude are highly suggestive of the desirable qualities the farmers should possess in relation to farming. A farmer with high work-orientation will have a high sense of attachment to farming as an enterprise, will meticulously schedule his activities related to farming and will have favourable disposition towards farming as an occupation. These traits will be commensurate with his communication behaviour, since a desirable communication behaviour will help in shaping his work-orientation. Similarly these traits of a farmer will also help him in effecting lasting developments in farming and to achieve this he will be more inclined to gather as much information on new farming techniques resulting in an appreciable communication behaviour.

In the study by Muthayya (1971) it has been bbrought out that the level of socio-economic status and work-orientation of the farmers should be taken into

account in this regard, as they serve as leverage points of motivation and in turn leads to adoption of an innovation.

In the light of above discussion the null hypothesis that there would be no significant relationship between communication behaviour and work-orientation of noncontact farmer was rejected.

5.7. Relationship between the independent variables and the sub-dimensions of the dependent variable

Except for the independent variable age, all the other seven independent variables, viz., Farm size, awareness about T & V System, attitude towards contact farmer system, socio-economic status, extent of cosmopoliteness, level of aspiration and work-orientation were found to be positively and significantly correlated with information-input (Table 18). Age was found to have negative and significant correlation with information-input. The reason may be that young farmers are usually more interested in innovations which involve risk, when compared to their older counterparts. For this they seek information from various sources. This may be the reason why young farmers had a higher information-input. It is also quite natural that a farmer with larger land holding, high socio-economic status, high cosmopoliteness,

high level of aspiration, high work-orientation, better awareness about T & V System and with positive attitude towards contact farmer system will contact many sources of information to gain complete knowledge about improved agricultural practices. These progressive characteristics will certainly enable him to have an appreciable information-input behaviour.

Similar was the pattern of the results obtained in the case of the other three sub-dimensions of communication behaviour, viz., information-processing, information-output and information-feedback, with an exception that 'farm size' which was not significantly related to these variables. The reason for the finding that only 'farm size' was not related to the information-processing, information-output and information-feedback behaviour of the noncontact farmers could be traced to the fact that these sub-dimensions of communication behaviour largely reflect the capability of a farmer to comprehend, process and convey agricultural messages. And for achieving these capabilities one need not necessarily be in possession of large land holding. The scale-neutral nature of the agricultural messages in general, may be related here to explain the above findings.

5.8. Intercorrelation among the independent variables

The intercorrelation analysis was carried out to test on principle the assumption that the selected independent variables will be significantly related among themselves also. The results furnished in Table 19 bring substantial evidence to this assumption.

'Awareness about T & V System', 'attitude towards contact farmer system', 'socio-economic status', 'extent of cosmopoliteness', 'level of aspiration' and 'work-orientation' were significantly and positively correlated with each other variables. 'Age' was found negatively and significantly correlated with 'farm size', 'awareness about T & V System', 'socio-economic status', 'extent of cosmopoliteness', 'level of aspiration' and 'work-orientation'. But 'farm size' was found to be non-significantly correlated with 'awareness about T & V System', 'socio-economic status', 'extent of cosmopoliteness', 'level of aspiration' and 'work-orientation'. The only independent variable with which 'farm size' was positively and significantly correlated was the 'attitude of the noncontact farmers towards contact farmer system'.

In view of the above results, the tacit assumption

of the study that these independent variables will be significantly intercorrelated among themselves was held valid except in the case of the variable 'farm size'. These results also justify the selection of these factors as independent variables.

5.9. Predictive power of the independent variables in explaining the variations in the dependent variables: Results of multiple correlation and regression analysis

The technique of multipls regression analysis was employed to get estimates of the predictive abilities of the eight selected independent variables on the communication behaviour and its sub-dimensions. Accordingly, five regression models were obtained and they are presented in the Tables 20, 21, 22,23 and 24. The predictive power of each multiple regression model was estimated with the help of the coefficient of determination (R^2). The various independent variables had their own units of measurement which did not permit a comparison of the partial 'b' values. To facilitate meaningful comparison, the partial 'b' values were converted into "standard partial 'b' values" or "beta weights", which were neutral to the units of measurement. The independent variables were then ranked on the basis of the beta weights, to find out their relative importance in predicting the

dependent variables.

The salient points of theoretical and practical importance which emerged from the above finding are that different independent variables were important in predicting the overall communication behaviour and the sub-dimensions of communication behaviour of the noncontact farmers. There were some common variables also. The significant results in this context are discussed as follows:

5.9.1. Multiple regression analysis - overall communication behaviour with independent variables

The data in Table 20 brought to focus that 'awareness about the T & V System' contributed significantly and positively to the prediction of the overall communication behaviour. A farmer with better awareness of T & V System is expected to be a keen observer of the developments in the agricultural front. In his eagerness to know about the T & V System, he would have contacted the contact farmers, Agricultural Extension personnel and others. These contacts would have helped him to know not only about the details of the T & V System but also to know about improved agricultural practices in that process. The other variables in their order of importance were 'age', 'work-orientation' and

'extent of cosmopoliteness'.

In view of the above discussions, the null hypothesis set for the study that there would be no significant contribution by the selected independent variables in the variations in the overall communication behaviour of the noncontact farmers was rejected.

5.9.2. Multiple regression analysis -information-input with independent variables

The result furnished in Table 21 indicated that 'awareness about T & V System' (X_3) and 'farm size' (X_2) contributed positively and significantly to the prediction of information-input of the noncontact farmers. The reason for the significance of the variable 'awareness about T & V System' in the context of information-input have been stated elsewhere. The need for more and more of ag-information as the size of operational holding increased could be cited to explain the significant predictive function of farm size in explaining the variations in the information-input of the noncontact farmers. In view of the above discussion, the null hypothesis set for the study that there would be no significant contribution by the selected independent variables in the variations in the information-input of the noncontact farmers was rejected.

5.9.3. Multiple regression analysis - information-processing with independent variables

With regard to the information-processing behaviour of the noncontact farmers; the 'age' (X_1) of the farmer was found to be significant, but negatively related with information-processing. The other independent variables did not have significant predictive function. This clearly indicates that the younger farmers tend to understand and transmit technical messages more easily when compared to older farmers. Moreover, the fading memory power associated with ageing could also be related to explain the negative relationship between age and information-processing behaviour of the noncontact farmers.

The above findings of the study lead to the rejection of the null hypothesis set for the study that there would be no significant contribution by the selected independent variable in the variations in the information-processing of the noncontact farmer.

5.9.4. Multiple regression analysis--information-output with independent variables

It is evident from Table 23, that 'awareness about T & V System' (X_3) and 'age' (X_1) had significant predictive function in determining the information-output.

This indicated that the 'awareness about T & V System' (X_3) was positively influence on the information-output, whereas age (X_1) was found to have negative influence on information-output. The reasons explained earlier hold good here also. The other independent variables had only insignificant predictive function in this regard.

The above discussion leads to the rejection of the null hypothesis set for the study that there would be no significant contribution by the independent variables in the variations, in the information-output of the noncontact farmers.

5.9.5. Multiple regression analysis - information-feedback with independent variables

It is evident from Table 24, that the multiple regression equation with eight independent variables explained 69.90 per cent of the variations in the information-feedback behaviour. Of these variables only five variables were found to have significant predictive function in explaining the variables in the information-feedback of the noncontact farmers. These variables were 'work-orientation' (X_8), 'awareness about T & V System' (X_3), 'attitude towards contact farmer system' (X_4), 'extent of cosmopoliteness' (X_6) and

'socio-economic status' (X_5). The plausible reasons for these relationships have been explained earlier.

In view of the above discussion, the null hypothesis set for the study that there would be no significant contribution by the selected independent variables in the variation in the information-feedback of the noncontact farmers was rejected.

SUMMARY

6. SUMMARY

The Training and Visit (T & V) System of Agricultural Extension that was initiated by Daniel Benor has been adopted in either an explicit or implicit form by thirteen major States in India. But in Kerala, this system was first introduced in 1981 in Trivandrum, Quilon and Alleppey districts and later on was extended to cover the remaining districts of the State. The system emphasizes simplicity in organisation, objectives, and operation. It has a well-defined organisation with a clear mode of operation, and it provides continuous feedback from farmers to extension and research, and continuous adjustments to their needs. It has spread rapidly because of its attractiveness both as a means to increase the agricultural production and incomes of farmers, and as a flexible management tool that is well suited to the needs of the Department of Agriculture in Kerala. But, the success of the system hinges on the effective and systematic transfer of feasible technology to the farming community and the way they perceive it and adopt in their field.

This process of transfer of technology is taking place largely through the web of word-of-mouth communication in a face-to-face interaction. Realising this, the T & V System envisages the selected contact farmers to serve as the spark plugs in transfering technologies to the farmers at large. Indirectly, the extent to which the other farmers or the noncontact farmers perceive and adopt these latest agricultural technologies, is the determinant of the success of the T & V System. Research studies to explore the patterns and determinants of the communication behaviour of the noncontact farmers in Kerala are hard to come by. Therefore, the present study was undertaken with the following specific objectives.

1. To measure the communication behaviour of noncontact farmers including their patterns of information-input, processing, output and feedback.

2. To measure the personal, socio-psychological and economic characteristics of noncontact farmers.

3. To assess the relationship between communication behaviour of noncontact farmers and their personal socio-psychological and economic characteristics.

4. To study the influence of the personal, socio-psychological and economic characteristic of noncontact farmers with communication behaviour.

Trivandrum, Quilon and Alleppey districts where this system was first introduced, were selected as the locale for the study. Four stage random sampling method was used to select the respondents. Three sub-divisions at the rate of one sub-division from each district, were selected at the first stage. The selected sub-divisions were Attingal, Quilon and Alleppey. In the second stage one Agricultural Extension Unit was randomly selected from each of the above sub-divisions. Mangalapuram, Chathanoor and Ampalapuzha were the selected Agricultural Extension Units. In the third stage, five Agricultural Demonstrators were randomly selected, from each of the selected Agricultural Extension Units. In the fourth stage, ten paddy growing noncontact farmers from each of the Agricultural Demonstrator's area were randomly selected. Thus there were 150 noncontact farmers selected originally for this study. But only 120 noncontact farmers could be interviewed and they constituted the respondents of the study.

Communication behaviour was considered as the dependent variable in this study. Ten selected messages, relating to improved cultivation practices for paddy, served as the stimuli to measure the communication behaviour. The sub-dimensions of communication behaviour, viz. information-input, information-processing, information-output and information-feedback were also studied in detail. Eight independent variables, viz. age, farm size, awareness about T & V System, attitude towards contact farmer system, socio-economic status, extent of cosmopoliteness, level of aspiration and work-orientation, were studied to find out their relationship with the communication behaviour of noncontact farmers.

The data were collected by interviewing the respondents individually with the help of a structured and pretested schedule developed by the investigator for the present study. The data were subjected to various statistical analyses such as correlation analysis, intercorrelation analysis and multiple correlation and regression analysis. The salient findings of the study are summarised below.

1. The study revealed that majority of the noncontact farmers received most of the information on paddy cultivation from 'Other Farmers' in their locality. The 'Contact Farmers' came only next to the 'Other Farmers' as a source of information. 'Agricultural Scientists' were the least consulted source of ag-information. Among the mass media sources, 'Newspapers' emerged as an important information source. The next important mass media source was the 'Farm Broadcasts'. The least consulted source were 'Leaflets and Bulletins' and 'Campaigns'.

2. For both decoding and encoding, the respondents experienced 'highest difficulty' for the messages relating to weed control (M_5 and M_6) and pest and disease control (M_9 and M_{10}) and 'least difficulty' for the messages relating to nursery preparation (M_2) and water management (M_7). The study brought to light the increasing difficulty the noncontact farmers experienced as the complexity and cost implications of the messages increased.

3. As regards the information-output, the noncontact farmers gave out most of the information

related to paddy cultivation to 'Other Farmers'. The communication method 'Personal talk during casual meeting' was the most often used method of inter-personal communication by the respondents.

4. Most of the feedback from the noncontact farmers was mainly communicated to 'Other Farmers' and 'Contact Farmers' were involved in this process only to a lesser extent. 'Personal talk during casual meeting' was found to be the most important occasion for feedback. 'Personal talk during farm visit' and 'Personal talk during house visit' were also found to be used by the noncontact farmer to a lesser extent.

5. The study revealed that over 50 per cent of the noncontact farmers had low level of communication behaviour as against only 18.33 per cent of them belonging to the high category. Thirty per cent of the respondents had medium level of communication behaviour.

6. Out of the eight independent variables studied, six variables, viz. 'awareness about T & V System', 'attitude towards contact farmer system', 'socio-economic status', 'extent of cosmopoliteness', 'level of aspiration' and 'work-orientation' were positively and significantly

correlated with the communication behaviour of the noncontact farmers. 'Age' was found to be negatively and significantly correlated with communication behaviour. 'Farm size' was the only independent variable which was not significantly correlated with communication behaviour.

7. The multiple regression analysis indicated that 'awareness about the T & V System' contributed positively and significantly in the prediction of communication behaviour of the noncontact farmers. The other variables in their order of importance were 'age', 'work-orientation' and 'extent of cosmopoliteness' of the noncontact farmers.

8. In the case of information-input, 'awareness about T & V System' and 'farm size' had significant predictive function.

9. With regard to the information-processing, age of the noncontact farmers was found to be significantly but negatively related. The other variables did not have significant predictive power.

10. 'Awareness about T & V System' and 'age' had significant predictive function in determining the information-output of the noncontact farmers.

11. 'Work-orientation', 'awareness about T & V System', 'attitude towards contact farmer system', 'socio-economic status' and 'cosmopoliteness' were the independent variables which had significant predictive function in determining the information-feedback of the noncontact farmers under T & V System of Agricultural Extension.

Implications and suggestions

The following implications and suggestions emerge from the findings of the study.

1. The methodology followed in the present study may be advantageously utilised by the extension personnel to scientifically identify the communication patterns among noncontact farmers and also to select the appropriate channels and methods for the quick dissemination of innovations under T & V System.

2. The relationship established in the study between communication behaviour, the dependent variable, and the various independent variables would serve as a guideline for designing appropriate communication strategies for use in the T & V System.

3. The study has brought to light the fact that in general, the contact farmers in the T & V System have not made much of an impact among the noncontact farmers in disseminating latest information. This calls for proper identification and adequate training of the contact farmers to make the T & V System more effective.

4. Periodic assessment should be made on the progress of contact farmers in their adoption and communication behaviour, and 'sub-standard' contact farmers should be replaced with effective ones.

5. Extension activities such as demonstrations campaigns, seminars and agricultural exhibitions are to be intensified and they are to be conducted in a planned and systematic manner, enabling the farmers to participate in these extension activities.

6. It was an interesting and encouraging finding of the study that among mass media sources of information, 'Newspapers' were rated as the most important and useful source of ag-information. As a short term measure the 'Karshika Rangam' page of the leading Malayalam newspapers has to be further intensified and efforts should be taken to publish this page in all the Malayalam

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newspapers and other periodicals. The possibilities and potentials of starting a 'Rural Newspaper' are also bright as a long-term perspective. Strengthening information support programmes of the other mass media and introducing agricultural programmes in new media such as television, video, etc. should also merit attention.

7. The finding that most of the farmers did excellently well in encoding and decoding low-cost, no-cost and simple technical messages, favours the generation of more and more of such appropriate technologies by the research system.

8. Along with the technical advise, efforts should be made to streamline the input supply and services required by farmers for practising the recommendations advocated by the extension agency.

Problems for future research

1. To render the generalisations made in the study more applicable a comprehensive study covering more geographical area and more crops, and including more independent variables should be designed, to develop a proper typology for predicting the communication behaviour of noncontact farmers.

2. Evaluative studies on the performance of Contact Farmers, Agricultural Demonstrators, Junior Agricultural Officers, Subject Matter Specialists and other agricultural extension personnel in T & V System may be designed.

3. Studies on the utility and impact of extension methodology in T & V System may be undertaken.

4. Comparative studies on the differential impact of T & V and other systems of agricultural extension on the agricultural production could be taken up.

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APPENDICES

APPENDIX-I

COMMUNICATION BEHAVIOUR OF NONCONTACT FARMERS UNDER TRAINING AND VISIT SYSTEM OF AGRICULTURAL EXTENSION

Interview Schedule

Respondent Number.....

1. General information

1. Name of farmer:
2. Age (in completed years:
3. Address:
4. Educational level:
5. Farm size:

2. Communication behaviour

2.1. Information-input

Please indicate the source(s) from you have received information regarding the technical information on improved paddy cultivation practices.

.....contd.

Messages	Sources 1	2	3	4	5	6	7	8	9	10	11	12	13	Total
M_1 Seed Selection														
M_2 Nursery preparation														
M_3 Seed treatment														
M_4 Seed rate and planting														
M_5 Weed control (Monocots)														
M_6 Weed control (Dicots)														
M_7 Water management														
M_8 Fertilizer application														
M_9 Pest control measures														
M_{10} Disease control measures														

1 = Contact farmers
2 - Other Farmers
3 = Agricultural Demonstrators
4 - Junior Agricultural Officers
5 - Agricultural Scientists
6 - Farm broadcast
7 - Newspapers
8 - Leaflets and Bulletins
9 - Agricultural Journals
10.- Campaigns
11.-Demonstrations
12 -Seminars
13 -Exhibitions

.....contd.

2.3. Information-output - Please indicate to whom and by what method did you communicate the following messages

Sources	Messages / Methods*	M_1 1 2 3 4 5	M_2 1 2 3 4 5	M_3 1 2 3 4 5	M_4 1 2 3 4 5	M_5 1 2 3 4 5	M_6 1 2 3 4 5	M_7 1 2 3 4 5
Contact farmers								
Other Farmers								
Farmers outside the village								

.....contd.

Sources	Messages / Methods*	M_8 1 2 3 4 5	M_9 1 2 3 4 5	M_{10} 1 2 3 4 5	Total score
Contact farmers					
Other Farmers					
Farmers outside the village					

* Methods 1 - Personal talk during casual meeting
2 - Personal talk during farm visit
3 - Personal talk during house visit
4 - Group discussion during informal meeting
5 - Personal talk during method demonstration

2.4.Information-feedback - Please indicate to whom and by which method did you communicate back about the technical information in case you have doubt or difference of opinion about the following messages

Sources	Messages / *Methods	M_1						M_2						M_3						M_4						M_5					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
1.Contact farmers																															
2.Other Farmers																															
3.Agricultural Demonstrators																															
4.Junior Agricultural Officers																															
5.Agricultural Scientists																															

(.....contd.)

Sources	Messages / *Methods	M_6						M_7						M_8						M_9						M_{10}						Total score
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	
1.Contact farmers																																
2.Other Farmers																																
3.Agricultural Demonstrators																																
4.Junior Agricultural Officers																																
5.Agricultural Scientists																																

*Methods 1 - Personal talk during casual meeting
2 - Personal talk during farm visit
3 - Personal talk during house visit
4 - Group discussion during informal meeting
5 - Personal talk during method demonstration
6 - Discussion during office call

3. Independent variables

3.1. Awareness about T & V System

1. Have you heard of T & V System? Yes/No

2. If yes, when was it started? No answer/2 years ago/3 yrs.ago (tick the appropriate)

3. What do you understand by this system?

   ( ) It is purely an official programme of Agricultural Demonstrator

   ( ) It is a programme to give some advice regarding agriculture to farmers

   ( ) It is a systematic timebound programme of Training and Visit by extension worker, in order to increase agricultural production.

4. Have you heard of contact farmers? Yes/No

5. Do you know the contact farmer in your area? Yes/No

6. Do you know the functions of contact farmer? Yes/No

7. Do you know the Agricultural Demonstrator in your area? Yes/No

   If yes ( ) know him by name

   ( ) know him by person

   ( ) know him by name and person

8. Do you know your Junior Agricultural Officer? Yes/No

   If yes ( ) know him by name

   ( ) know him by person

   ( ) know him by name and person

9. Do you seek advice of contact farmer, for your field problems? Yes/No

10. Do you get your problems solved by Agrl. Demonstrator or Junior Agricultural Officer? Yes/No

11. Do you participate in group discussion, seminars? Yes/No

12. Are they useful? Yes/No

13. Do you know the day of visit of your unit by Agricultural Demonstrator? Yes/No

14. How frequently does the Agrl.Demonstrator visit your area? Don't know/fort-nightly

15. If you are selected as a contact farmer in your area are you willing to take up that position? Yes/No

3.2.Attitude of noncontact farmers towards contact farmer system

Please indicate the extent of your agreement or disagreement with the following statements.

S.No.	Statements	Agree	Undecided	Disagre
1.	In T & V System, the contact farmers help to spread newer technologies quickly.			
2.	Noncontact farmers can do well even without the assistance of contact farmer			
3.	After the inception of T & V System there has been significant improvement in the econonic cordition of noncontact farmer.			
4.	Contact farmers are not capable of assimilating new messages and trans-mitting to noncontact farmers.			
5.	T & V System promotes mutual co-operation among noncontact farmers.			
6.	Contact farmer system should be abolished since tney don't play the role expected of them.			
7.	The noncontact farmers have more credibility on contact farmers than anybody else.			
8.	Communication becomes more effective if noncontact farmers are directly exposed to ag-information by extension agent than contact farmer.			

9. Contact farmers can influence noncontact farmers only to a little extent.

10. T & V System has helped to increase the knowledge of noncontact farmer through contact farmer:

11. Contact farmer system should be abolished and old extension system should be revised:

12. Knowledge of noncontact farmer can be increased by participating them in the discussion with extension officials:

13. The contact farmer is the 'king-in' in the T & V System of extension

14. Contact farmer system should be continued since it brings new farm technologies to the door-step of the noncontact farmers, through contact farmer:

3.3.Socio-economic status	Score
(a) Occupation	
1. No occupation:	0
2. Unskilled	1
3. Semi skilled	2
4. Skilled	3
5. Farming/business	4
6. Professional	5
(b) Land-holding	
1. Landless	0
2. Marginal	1
3. Small	2
4. Semi medium	3
5. Medium	4
6. Large	5

(c) Education

1. No schooling	0
2. Functionally literate	1
3. Upto Primary School level	2
4. Upto Middle School level	3
5. Upto High School level	4
6. Upto and above College level	5

(d) Socio-politico participation

1. Without any official position in socio-political organisation	0
2. Official position in one or more organisation	1
3. Official position in social and political committees	2
4. Financial contribution or raising funds for commonuork	3
5. Active office bearer	4
6. Involvement in community work	5

(e) Possession

1. None	0
2. One farm animal/bullock/buffaloe/cow/bicycle/furniture	1
3. Two farm animals/bullock cart/radio	2
4. 3-4 farm animal/Improved farm implement/neuspaper/ electricity	3
5. 5-10 farm animal/pumpset	4
6. More than ten farm animals/tractor/automobiles	5

(f) House

1. Shed/thatched	1
2. Mudwalled and thatched	2
3. Brick wall tiled	3
4. Concrete house	4
5. Concrete and double storied	5

(g) House-hold

1. Small (1 to 3 members)	1
2. Medium (4 to 6 members)	2
3. Large (7 to 9 members)	3
4. Very large (9 and above)	4
5. Special features	5

3.4. Extent of cosmopoliteness

Please indicate how frequently did you visit the nearest town and the purpose of your visit also.

3.4.1. Frequency of visit to nearest town

1. Two or more times a week	5
2. Once a week	4
3. Once in 15 days	3
4. Once in a month	2
5. Occationally	1
6. Never	0

3.4.2. Purpose of visit

1. All visit relating to agriculture	5
2. Some relating to agriculture	4
3. Personal or domestic matters	3
4. Entertainments	2
5. Other purpose	1
6. No response	0

3.5.Level of aspiration

Here are a few questions regarding some of the areas with which you may be mostly concerned. Don't bother about whether you are really going to make it or not, but still you may expect certain of these events to happen in the near future. Please indicate your opinion frankly.

1. What is the extent of education that your children to have?

   School level/College level/Technical or Professional

2. What kind of job or work your children should take after their education?

   Agriculture/Government job/Business or professional

3. Compared to previous years what would be the increase in the annual income you expect to get in the next three years?

   After one year...../two years...../three years.....

4. What would you expect to be the increase in your land holding in the next three years?

   No increase/Increase to some more/Double the area

5. What would be the type of house you expect to have in the next three years?

   No improvement/Improve it to some extent/Make it a pucca house

6. What would be the furniture you expect to possess in the next three years?

   No improvement/Improve to some extent/definitely furnish well

7. What would be the material possession you expect to have in the next three years?

   Radio/Television/Pumpset or biogas plant

8. What would be the agricultural implements you expect to possess?

   No increase/Purchase some more/purchase all the required ones

9. What would you expect to be your general contentment?

   Somewhat better/Mostly better/Certainly better

10. What would you expect to be the increase in your livestock in the next three years?

    No increase/have one or two animals/have it on large-scale

11. What would be the kind of shelter you expect to provide for your livestock in the next three years?

    Shed/mud walled/full-mud-walled.

12. What would be the other animals, like sheep, poultry, pigs, you expect to possess?

    Don't want/only for house purpose/want to possess on a large scale

3.6.Work-orientation

We would like to know something about the method of your work, the time you spend on it and other such activities connected with farming. Please indicate the answers frankly.

3.6.1. Man aspect

1. Do you go to field for inspection every day morning during season? yes/no

2. Do you return to your house only after finishing all your field works? yes/no

3. Approximately how many hours of work you put in the field? 2-3 hrs/4-6 hrs/7-9 hrs.

4. Do you take rest in between your work during the day?

    Often/sometimes/seldom

5. Do you cultivate your land with the assistance of your family?

    Never/to some extent/always

6. Do you always look for improved agricultural implements for better work? Yes/No

7. When you visit any exhibition, are you curious to see films, photographs or actual exhibits of new implements? Yes/No

8. Have you heard of farmers programme over radio? Yes/No

9. Do you listen to radio or see films to collect information of new practices? Yes/No

10. Whenever you confront any problems, in your farming, whom do you consult?

Co-farmer/Agrl.Demonstrator/Junior Agrl.Officer

11. Do you seek help from other farmers for your work?

Seldom/sometimes/often

12. Do you employ labours to do the work which can be done by you/your family?

Employ labours/do not employ labours

13. Do you participate in any other group works? Yes/No

3.6.2. Work-aspect

14. Have you adopted any improved methods in your work?

No/To some extent/Fully adopted

15. How do you rate yourself as farmer compared with other farmers?

Poor/Average/Better

16. Do you believe that you can work much better than you do now? Yes/No

17. Are you satisfied, if you just put in as much work as others do? Yes/No

18. Do you take risk in trying out improved agricultural practices? Yes/No

19. Whenever you get some information about improved agricultural practices do you?

Try it out/Consult with others/wait till others try it

20. Do you think that you could get little more produce than what you get now if you adopt the messages given by Agricultural Demonstrator? Yes/No

21. Do you prepare the organic matter required for your field? Yes/No

22. Are you always lookout for new information about new practices? Yes/No

23. Apart from paddy farming what are the other crops you cultivate in your field?

None/only one crop/2 or more crop in an year

3.6.3. Work-attitude

24. Are you inclined to take rest than do work?

To take rest/to do work

25. How long can you work without wanting to rest?

Not till the work is over/In between the work

26. Do you believe in collective farming? Yes/No

27. By any goodluck, if you get a large sum of money what do you purpose to do with it?

Utilise it for agricultural purpose/domestic matters/ other aspects.

28. Are you satisfied being a farmer or repant having settled into this kind of life?

Satisfied/not satisfied

29. Do you believe that you are being a farmer is pre-determined by God? Yes/No

30. Whenever you confront a problem in your work, do you depend upon your own judgement? Yes/No

31. Do you believe that if a farmer works with more interest he become prosperous? Yes/No

32. Do you believe that your children should take to your profession after yours? Yes/No

33. Do you believe that agricultural vocation is paying in the long run? Yes/No

APPENDIX II

Technical messages on improved paddy cultivation practices selected for the study of communication behaviour of noncontact farmers:

M_1 Seed Selection:

Select high yielding varieties most suited to the soil and region such as Triveni, Jyothi, Annapurna (short duration varieties) or Aswathi, Sabari, Jaya (medium duration varieties).

M_2 Nursery preparation:

Select sites receiving ample sunlight and having good drainage. Plough and harrow the field two or three times until the soil is thoroughly puddled and levelled. Construct raised bed 5 to 10 cm high, 1 to 1½ m wide and of convenient length with drainage channels between the beds. Apply compost/farm yard manure at the rate of 1 kg/sq.m.

M_3 Seed treatment:

Treat seeds with dry formulation of organo-mercury fungicides at the rate of 125 g or Captan at 80 g/100 kg of seed.

M_4 Seed rate and planting:

For transplanting 60-85 kg/ha and for broadcasting 80-100 kg/ha is required. Transplant seedlings at a spacing of 15 x 10 cm in the case of short duration varieties and 20 x 10 cm in the case of medium duration variety at a depth of 3-4 cm.

M_5 Weed control measures:(Monocot weed):

Apply Benthiocarb (EC) at the rate of 2 kg ai/ha or Pendimethalin (G) @ 1.5 kg ai/ha may be applied on the 6th day after transplanting.

M_6 Weed control measures (Dicot weeds):

Apply sodium salt of 2,4-D at 1 kg/ha in 400 litres of water at 25 days after transplanting

M_7 Water management:

In areas where water for irrigation is assured, draining and reflooding every 15 days is necessary. Maintain the water level at about 5 cm and reduce it to 3 cm at the time of tillering.

M_8 Fertilizer application:

Variety	N	P_2O_5	K_2O	kg/ha
Medium duration variety	90	45	45	
Short duration variety	70	35	35	

Apply 1/2 dose of N, full dose of P_2O_5 and 1/2 dose of K_2O at 5-7 days prior to panicle initiation stage. Apply lime 10 days prior to the application of fertilizer.

M_9 Pest Control:

(a) Brown Plant Hopper:- If there is the attack of BPH, apply 10% BHC at 25 kg/ha or Metacid at 500 ml/ha in 500 lit.of water. Spraying should reach the base of the plant.

(b) Sten borer:- If there is severe attack of rice stem borer, apply Ekalux 1 lit/ha or Sevin 2½ kg/ha or Nuvacron 600 ml/ha

M_{10} Disease control:

(a) Blast: To control the disease, use Kitazin 500 ml/ha or Carbendazim 500 g/ha

(b) Sheath blight: For controlling sheath blight, spray any one of the fungicides - Hinosan 500 ml/ha, H-Phos 500 ml/ha.

COMMUNICATION BEHAVIOUR OF NONCONTACT FARMERS UNDER TRAINING AND VISIT SYSTEM OF AGRICULTURAL EXTENSION IN KERALA

By

SHERIEF A. K.

ABSTRACT OF THE THESIS

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A B S T R A C T

A research study was conducted in Trivandrum, Quilon and Alleppey districts of Kerala, India to study the following:

1. The Communication behaviour of noncontact farmers including their pattern of information-input, processing, output and feedback;

2. The personal, socio-psychological and economic characteristics of noncontact farmers;

3. The relationship between communication behaviour of noncontact farmers and their personal, socio-psychological and economic characteristics; and

4. The predictive power of the selected personal, socio-psychological and economic characteristics of noncontact farmers in explaining the variations in their communication behaviour.

One hundred and twenty noncontact farmers were selected for the study using a four stage random sampling procedure. The study illumined that majority of the respondents received information on improved cultivation practices for paddy from 'Other Farmers'

in their locality. 'Contact Farmers' served only as a secondary source of ag-information. Among mass media sources, 'Newspaper' emerged as the most important information source, followed by 'Farm broadcasts'. The study brought to light the increasing difficulty the noncontact farmers experienced in processing of information as the complexity and cost implication of the message increased. 'Personal talk during casual meeting' was the most often used method of interpersonal communication by the respondents and they communicated the information to 'Other Farmers' in their area more frequently. Similarly, most of the feedback was communicated to 'Other Farmers', and 'Contact Farmers' were involved in this process to a lesser extent. Majority of the respondents had low level of communication behaviour.

Out of the eight independent variables studied, six variables, viz., 'awareness about T & V System', 'attitude towards contact farmer system', 'socio-economic status', 'extent of cosmopoliteness', 'level of aspiration' and 'work-orientation' were positively and significantly correlated with the communication behaviour of the noncontact farmers. 'Age' was found to be negatively and significantly correlated and 'Farm size' was the only independent variable which was not significantly correlated

with the communication behaviour of the noncontact farmers.

The multiple regression analysis pointed out that 'awareness about T & V System' had contributed significantly in the prediction of overall communication behaviour, information-input and information-output behaviour of the noncontact farmers. 'Age' and 'work-orientation' had significant predictive function in determining the information-processing and information-feedback behaviour of the noncontact farmers under T & V System of Agricultural Extension in Kerala.