COMMUNICATION ROLE AND BEHAVIOUR OF CONTACT FARMERS UNDER TRAINING AND VISIT SYSTEM IN KERALA

by

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THESIS

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1984

DECLARATION

I hereby declare that this thesis entitled "Communication role and behaviour of contact farmers under 'Training and Visit' system 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 role and behaviour of contact farmers under 'Training and Visit' system in Kerala" is a record of research work done independently by Sri. Abdul Kareem, 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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CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

LIST OF ILLUSTRATIONS

1. INTRODUCTION

India is, by tradition, an agricultural country, endowed with abundant natural resources. Development of agriculture to its fullest potential, therefore, holds the key to economic prosperity in the country. Agriculture in India was in the shackles of tradition and the best way to achieve agricultural progress was to modernize the millions of farm holdings scattered throughout the length and breadth of the country. Agricultural policy was re-oriented, after independence to achieve this objective. This resulted, among other things, in the evolution of plant types with high productivity potential in the form of high yielding varieties of crops and their related production technologies which gave birth to the "green revolution" in the late 1960's.

Indian agriculture in recent years has shown encouraging signs of development by the conversion of agricultural technology into production accomplishments. Unfortunately these changes have been confined to limited areas, specific types of farmers and to certain crops only. The main reason for this is not the lack of technology but its easy and ready availability to the ultimate users.

INTRODUCTION

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Indian agriculture in recent years has shown encouraging signs of development by the conversion of agricultural technology into production accomplishments. Unfortunately these changes have been confined to limited areas, specific types of farmers and to certain crops only. The main reason for this is not the lack of technology but its easy and ready availability to the ultimate users.

Kerala, the land of palm fringed coastal line and criss-crossed by numerous water ways, is endowed with agricultural resources. However, the mounting population pressure on land and the declining productivity of important crops could present only a not-too-rosy picture of agriculture in Kerala. To stem the rot, the only way left out to the Kerala farmers is to reap the benefits of new technology rapidly generated in the farm front.

Technology transfer through the multitude of agricultural development programmes designed and implemented in Kerala during the past few decades has been the crux of the governmental efforts to bridge the widening chasm between the potential and achieved yields on majority of those farms. Current in the series is the 'Training and Visit' system of Agricultural Extension introduced on a pilot basis in three districts of the state, viz., Trivandrum, Quilon and Alleppey during 1981. The results of two-year-old implementation of this system have paved the way for its extension to the other districts in the state during 1983. This system has convincingly demonstrated the importance of the concept of 'Communication of innovations'. Drawing liberally from time-tested extension approaches, the system eulogises the need for enhancing the technical

competence of the extension functionaries and the systematic transfer of technologies through established and credible means of communication. The training component of this system has a direct focus on specific agricultural practices and recommendations relevant to the farm operations during a specific period of time. Another notable feature of the Training and Visit system is the efforts made to materialise the 'multiplier effect' in communication by selecting representatives from identified groups to serve as 'contact farmers'. The Training and Visit system visualises the contact farmers as 'communication leaders' relying to a large extent on the credibility attached to them by the fellow farmers.

It has been established unequivocally that the process of 'technology transfer' at the grass-root-level is taking place mainly through 'word-of-mouth' communication in a face-to-face interaction. But, a farmer needs to know not only about the technical messages necessary for improving production, but should also possess the much desired 'communication skills' to give effect to the transfer of technologies thus known. And obviously, the success of 'Training and Visit' system would depend on the efficiency with which the contact farmers communicate these technologies to their peers.

Diffusion researches conducted in the past bring evidence to the fact that farmers consulted more of interpersonal information sources than mass media sources to gather information on agricultural aspects. The epochal statement made by Rogers (1973) bears ample testimony to this. He epitomised: "The 'word-of-mouth' communication that occurs in face-to-face interaction between two or more individuals is the most potential source in the diffusion of innovations the world over, particularly in the developing countries". And according to Murthy and Singh (1974), research studies, which throw light on the intricacies of interpersonal communication behaviour of farmers, are very hard to come by. Practically, no research evidence has been recorded on the nature and extent of interpersonal communication that typify the interaction between farmers in Kerala. Another significant aspect that could be cited here is the interplay of the farmers' socio-economic and psychological characteristics in their interpersonal communication behaviour. It has been repeatedly pointed out that a study on farmers' communication behaviour would be incomplete if their socio-economic and psychological characteristics are not taken into account (Sandhu and Darbarilal (1976); Channegowda (1977); Bhaskaran (1979).

In view of the foregoing observations, the present investigation was undertaken to study the communication

role and behaviour of contact farmers under Training and Visit system in Kerala with the following objectives:

1. To measure the interpersonal communication behaviour of contact farmers including their patterns of information input, processing, output and feedback.
2. To study the role perception and role performance of contact farmers.
3. To measure the socio-economic and psychological characteristics of the contact farmers.
4. To assess the relationship between interpersonal communication behaviour of contact farmers and their role perception and role performance and socio-economic and psychological characteristics.

Importance and limitations of the study

As stated earlier, in the Training and Visit system of agricultural extension, contact farmer is the crucial link between the Agricultural Demonstrators and other farmers. The success or failure of the system, largely depends upon the efficiency of contact farmers in communicating the messages received from the Agricultural Demonstrators to their fellow farmers. Therefore, scientific indepth studies on the interpersonal communication behaviour of contact farmers are important. In Kerala, no such systematic study

has been conducted so far. Hence, there is an immediate need to probe the interpersonal communication role and behaviour of contact farmers. Hopefully, the study will provide scientific information which can be made use of for the more efficient functioning of the contact farmers and the Training and Visit system as a whole.

The study was undertaken in a limited time and with limited resources available to the student-researcher. It was rather impossible to study a large sample covering the entire state and hence the study was limited to Trivandrum district, which is one among the three districts where the Training and Visit system was first introduced in the state. The number of respondents and variables also were limited due to lack of time and sufficient resources. Therefore, the generalisations made in the study and the inferences drawn are applicable mostly to the area where the study was conducted.

Presentation of the report

The theoretical orientation developed for the study is presented in chapter 2 and the methodology followed in the study is given in chapter 3. In chapter 4, the results of the study are furnished and the salient results of the study are discussed in chapter 5. A brief summary is given in the last chapter (chapter 6), wherein some important recommendations and suggestions are made.

THEORETICAL ORIENTATION

2. THEORETICAL ORIENTATION

In this chapter it is aimed to develop a theoretical frame-work based on past research studies. Theory is viewed as a set of related concepts which represent the basic realities. A well developed theoretical frame-work will help to form realistic hypotheses and to draw meaningful conclusions. In the case of the present study, there was the serious limitation of dearth of literature directly related to the study. However, every effort was made to review the available literature on the subject. They are presented under the following heads:

2.1. Communication process

2.2. Models of communication

2.3. Communication behaviour

2.4. Interpersonal communication behaviour

2.5. Factors associated with interpersonal communication behaviour

2.1. Communication process

Lasswell (1948) explained the communication process in the form of five questions, who says what, to whom, through what channels, and with what effect?

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 also pointed out that each person in the communication process acts at once as a source and a receiver.

Leagans (1961) considered 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 message.

Lerner (1967) recognised communication as a stimulus for peasant modernisation and social change. He emphasised 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) advanced a general viewpoint that communication processes are integral, vital elements of modernization 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.

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

2.2. Models of communication

Some sociologists, educationalists, psychologists, anthropologists and rural sociologists have described the communication process through various models.

A model of communication, according to Singh (1973), is an attempt to represent in symbolic form the underlying relations existing among the elements that make up a particular event or a system.

Berlo (1960) presented S-M-C-R model of communication process in which a source (S), sends a message (M), through certain channels (C) to the receiving individual (R).

Likert (1961) opined that communication is a complex process involving many dimensions viz., (a) transmission of material from the sender to the target audience (b) its reception and comprehension (c) its acceptance or rejection.

The Mc Groskey model (1968) first prescribed in some detail some of the steps involved in encoding and decoding. This model illustrates the process of

feedback and states that it can go on and on and the process is circular. The model indicates that noise can be present in the source and the receiver as well as in the channel.

Applebaum et al. (1973) prescribed a summary model with no specific beginning or ending. They felt that the principles presented in the summary model can open up the insights and responses with each person for communicating effectively.

According to Chatterjee (1973) communication has two distinct meanings. One is transmission of message from source to receiver and the other is concerned with physical, facilitatory or the constraining factors, intervening between the source and the recipient of messages.

Tubbs and Moss (1977) presented a helical model of communication and the time component was also included in the model.

Evans (1978) presented a model suited to communication in organisations with distinct stages such as message conceived, message encoded, communication media selected, message decoded, message interpreted and feedback supplied.

2.3. Communication behaviour

The term communication behaviour was used by

Schramm (1960) while reporting the study of radio audience.

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

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

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.

2.4. Interpersonal communication behaviour (IPCB)

It was Katz and Lazarsfeld (1955) who decisively introduced the concept of interpersonal influence in the communication process. Based on their results of research in personal influence, they generally devalued the idea that mass media had greater power over their audience and substituted it with the concept that personal influence was responsible for most of the social control within the mass media audience.

Frey (1966) pointed out that when asked what prompted the adoption of a new idea, respondents were likely to recall a recent conversation with a neighbour than a

radio programme heard several months before.

Katz and Kahn (1966) generally concluded that in a well functioning system, interpersonal communication must flow both ways freely and that informal communication bypasses and parallels the formal hierarchial pattern.

Rogers and Svenning (1969) delineated the distinguishing characters of interpersonal and mass media channels in the following manner.

Characteristics	Interpersonal channels	Mass media channels
Direction of message flow	Two way	One-way
Reach to a large audience	Slow	Rapid
Message accuracy to a large audience	Low	High
Ability to select receiver	High	Low
Ability to overcome selectivity process	High	Low
Amount of feedback	High	Low
Possible effect	Attitude change	Knowledge

Reddy and Sahay (1971) found that key leaders exhibited more intense interpersonal communication than ordinary leaders.

Duck (1973), while discussing interpersonal attraction in communication process, emphasised that

similarity leads to attraction because cognitive similarity leads to communication effectiveness.

The major barrier in interpersonal communication, Rogers (1973) suggested, is our very natural tendency to judge, to evaluate, to approve or disapprove the statement of other persons or groups.

Singh, Mishra and Sinha (1973) reported that pattern of interpersonal communication in rural areas generally follow a sociometric structure. They also indicated that the key communicator appeared to be the best farmer from whom most of the other farmers seek advice on agricultural matters.

Afanasov and Arkadyi (1974) made a distinction between the informal approach to the social phenomena and the informational theory wherein they made a typology of interpersonal information according to its function viz., managerial, educational, agitational and propaganda.

Murthy and Singh (1974) opined that interpersonal relations depend upon the efficiency of communication. They also emphasised the need for indepth studies on the nature of interpersonal communication behaviour of farmers.

Rath and Sahoo (1974) from their study of the role of Panchayat Leaders in agricultural production

concluded that only middle and upper class members and not lower class members were effective in their role as interpersonal channels.

According to Dubey (1975) in the developing societies interpersonal networks of communication continue to be strong. Face-to-face communication carries a considerable volume of message, he contended.

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

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

Von Blackenburg (1976) maintained that in most rural areas of developing countries, the social disparities could be minimised through maximising interpersonal communication.

Rahiman (1978) used sociometric technique to identify the interpersonal communication patterns in the farmers' discussion groups in Kerala and emphasised the need for strengthening the farmers'

discussion groups so that they will play the role expected of them.

In a study to find the sources through which village leaders came to know about adult education, Nagarajan and Selvam (1979) found that around 79 per cent of the total respondents got the information through interpersonal communication.

According to Dahama and Bhatnagar (1980), 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, expression, language, the manner of expression 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.

Rao and Reddy (1980) found that majority of the contact farmers had appreciable interpersonal communication behaviour compared to their fellow farmers.

2.5. Factors associated with the interpersonal communication behaviour

The following factors reported to be associated with the interpersonal communication behaviour are

examined here:

2.5.1. Extension orientation

2.5.2. Scientific orientation

2.5.3. Management orientation

2.5.4. Pattern of preference of information sources

2.5.5. Mass media participation

2.5.6. Socio-economic status

2.5.7. Attitude towards contact farmer system

2.5.8. Role perception

2.5.9. Role performance

2.5.1. Extension orientation

Bhaskaran (1979) found that there was significant difference in the interpersonal communication behaviour efficiency of farmers belonging to low and high levels of extension orientation both in less progressive and more progressive villages.

Reddy and Reddy (1980) found extension contact as an essential variable associated with interpersonal communication behaviour of contact farmers.

Shailaja (1981) found that extension agency contact of opinion leaders was related to their information seeking and diffusing behaviour.

The above studies point out to the significant association of extension contact and extension participation with farmers' communication behaviour.

Therefore, it would be worthwhile to test the validity of this association with reference to contact farmers' interpersonal communication behaviour in the present study.

2.5.2. Scientific orientation

Murthy (1972) reported significant correlation between value-orientation and communication behaviour of farmers.

Singh (1973) observed that key-communicators of agricultural innovations were characterised by more scientism compared to communicators and non-communicators.

Sandhu and Darbarilal (1976) studied the communication behaviour of Punjab farmers and found that value orientation had positive and significant correlation with communication behaviour.

Reddy and Reddy (1975) found that farmers with high scientific orientation were more innovative and less prestige-oriented than the farmers with medium and low scientific orientation.

Rao and Reddy (1980) found scientific orientation as one of the essential characteristics associated with interpersonal communication behaviour of contact farmers.

Vijayaraghavan and Subramanian (1981) reported that scientific orientation had significant and positive

correlation with information input and information output of farmers, but it had no significant association with information processing.

The above studies revealed positive and significant correlation between scientific orientation and communication behaviour of farmers. Therefore, scientific orientation was included in this study as an independent variable to examine its association with interpersonal communication behaviour of contact farmers.

2.5.3. Management orientation

Except Bhaskaran's (1979) study wherein he found significant association between management orientation and interpersonal communication behaviour efficiency of farmers, no other study could be located on this aspect.

Therefore, based on the above study, management orientation was included as an independent variable in the present study also.

2.5.4. Pattern of preference of information sources

Closely related studies establishing the relationship between pattern of preference of information sources by farmers and their interpersonal communication behaviour were not available. However, Rao and Moulik (1966) and Lakshmana and Satyenarayana (1967) have reported that

individual contact and neighbours were the most utilised sources at awareness stage in the adoption of agricultural practices. However, the design of the present study necessitates probe into the relationship of pattern of preference of information sources by contact farmers with their interpersonal communication behaviour.

2.5.5. Mass media participation of farmers

Basha et al. (1975) found that media participation of farmers was significantly associated with their innovativeness.

Reddy and Reddy (1975) found that farmers with high mass media exposure were more innovative, ideal and less motive oriented than those with medium and low mass media exposure.

Bhaskaran (1979) found that media participation of farmers was positively and significantly related to their interpersonal communication behaviour.

Nagarajan and Selvam (1979) found that the village leaders' level of mass media exposure and the flow of information through mass media such as radio, television and newspapers were very low.

Rao and Reddy (1980) observed that majority of the contact farmers were having high mass media exposure compared to the fellow farmers.

Reddy and Reddy (1980) found mass media exposure of contact farmers not significantly related to their interpersonal communication behaviour.

Based on the above research studies, it was decided to include mass media participation as an independent variable to test its association with the interpersonal communication behaviour of contact farmers.

2.5.6. Socio-economic status

Viswanathan, Oliver and Menon (1975) found that education of small farmers had reduced their contact with informal sources.

Singh and Ambastha (1975) found that educational level of farmers was not significantly correlated with their information input.

Sandhu and Dharbarilal (1976) found that education and communication behaviour of farmers were significantly correlated.

Kalamegam and Menon (1977) indicated that the small farmers' communication behaviour was dependent on their characteristics such as age, education and farm size.

Rao and Reddy (1980) found that majority of contact farmers were having better education compared to their fellow farmers.

Rao and Reddy (1980) reported education as one of the essential characteristics associated with interpersonal communication behaviour of contact farmers.

Level of education was not significantly associated with the interpersonal communication behaviour of contact farmers in the study conducted by Reddy and Reddy (1980).

Vijayaragavan and Subramaniam (1981) found that education has non-significant association with information processing of, farmers.

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

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

Vijayaraghavan and Subramaniam (1981) found that economic status had significant and positive correlation with information input of farmers.

Balasubramonian and Knight (1977) found that socio-economic status of the farmers was significantly contributing to the prediction of communication fidelity of farmers.

In view of the above revelations, it was decided to include this variable as an independent variable in the study in order to establish its influence on the interpersonal communication behaviour of contact farmers.

2.5.7. Attitude towards contact farmer system

In the absence of directly related research studies conducted on the relationship of attitude of contact farmers towards contact farmer-system and their interpersonal communication behaviour, some of the

related studies are reviewed here.

Basran (1966) found that sociological, psychological and economic variables are important in explaining farmers' attitude towards new ideas and techniques.

Singh, Jaiswal and Thakur (1966) opined that farmer-respondents of their study had favourable attitude towards IADP programme.

Rao and Reddy (1979) found that majority of the farmers and officials had moderately favourable attitude towards the Training and Visit system.

In the light of the above findings it was decided to study the relationship of attitude of contact farmers towards the contact farmer system with their interpersonal communication behaviour.

2.5.8. Role perception and

2.5.9. Role performance

In its broad sense, the concept of role comprises role perception and role performance.

Davis (1949) defined role performance as how an individual actually performs a task in a given situation as distinct from how he is supposed to perform.

Sargent (1951) defined role perception as a pattern or type of social behaviour which seems situationally appropriate to an actor in terms of

demands or expectations of those in his group.

Gross, Ward and Alexander (1958) stated that a role is a set of expectations or in terms of the definition of expectations, it is a set of evaluation standards applied to an incumbent of a particular position.

Linton (1959) has defined roles as normative or ideal patterns of behaviour that are culturally defined and which regulate the relationships between persons as well as between individual and society.

Ogburn and Nimkoff (1966) defined role as a set of socially expected and approved behavioural patterns consisting of both duties and privileges associated with a particular position in a group.

Klinger and McNelly (1969) suggested that role enactments are socially supported and controlled and presumably develop as the behavioural product of social operant shaping processes.

Guttman (1971) while emphasising the significance of role perception, stated that 'perceiving is behaving'. He stated that the concepts of perceiving and behaving are systematically interchangeable.

Rahiman (1978) reported that the communication patterns that evolved among the members of "charcha mandals" were partly dependent upon their role performance.

Mitchell (1973) also reported that behaviour was a

function of one's perception and that changing perceptions would result in changing behaviour.

Muthiah (1979) reported that agricultural leaders had appreciable perception of their role in agricultural development than other categories of leaders.

Though closely related studies establishing the relationship between role perception and role performance of contact farmers and their interpersonal communication behaviour were limited, the available results point out to the possibility of definite relationship of role perception and role performance of contact farmers with their interpersonal communication behaviour. Therefore, in this study it is assumed that role perception and role performance of contact farmers would affect their interpersonal communication behaviour.

2.6. Theoretical orientation - An illustration

On the basis of the review of literature furnished in the foregoing pages, an effort is made here to develop the theoretical frame work for the present study.

As a result of the introduction of the Training and Visit system, it is assumed that the contact farmers are exposed to a greater extent to the various

technologies generating from the research system, which is conveyed through the extension system in the form of meaningful messages. However, the exposure to technology alone does not determine the resultant interpersonal communication behaviour of the contact farmers. Rather, a host of intervening variables (independent variables) come into play in the process of technology consumption by the contact farmers. The socio-economic and psychological characteristics of the contact farmers are visualised as the intervening variables. The following illustration (Fig.1) diagrammatically represents the anticipated influence of the intervening variables on the interpersonal communication behaviour consisting of information input, information processing, information output and information feedback of the contact farmers.

2.7. Hypotheses

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

2.7.1. There would be no significant relationship between interpersonal communication behaviour of contact farmers and their extension orientation.

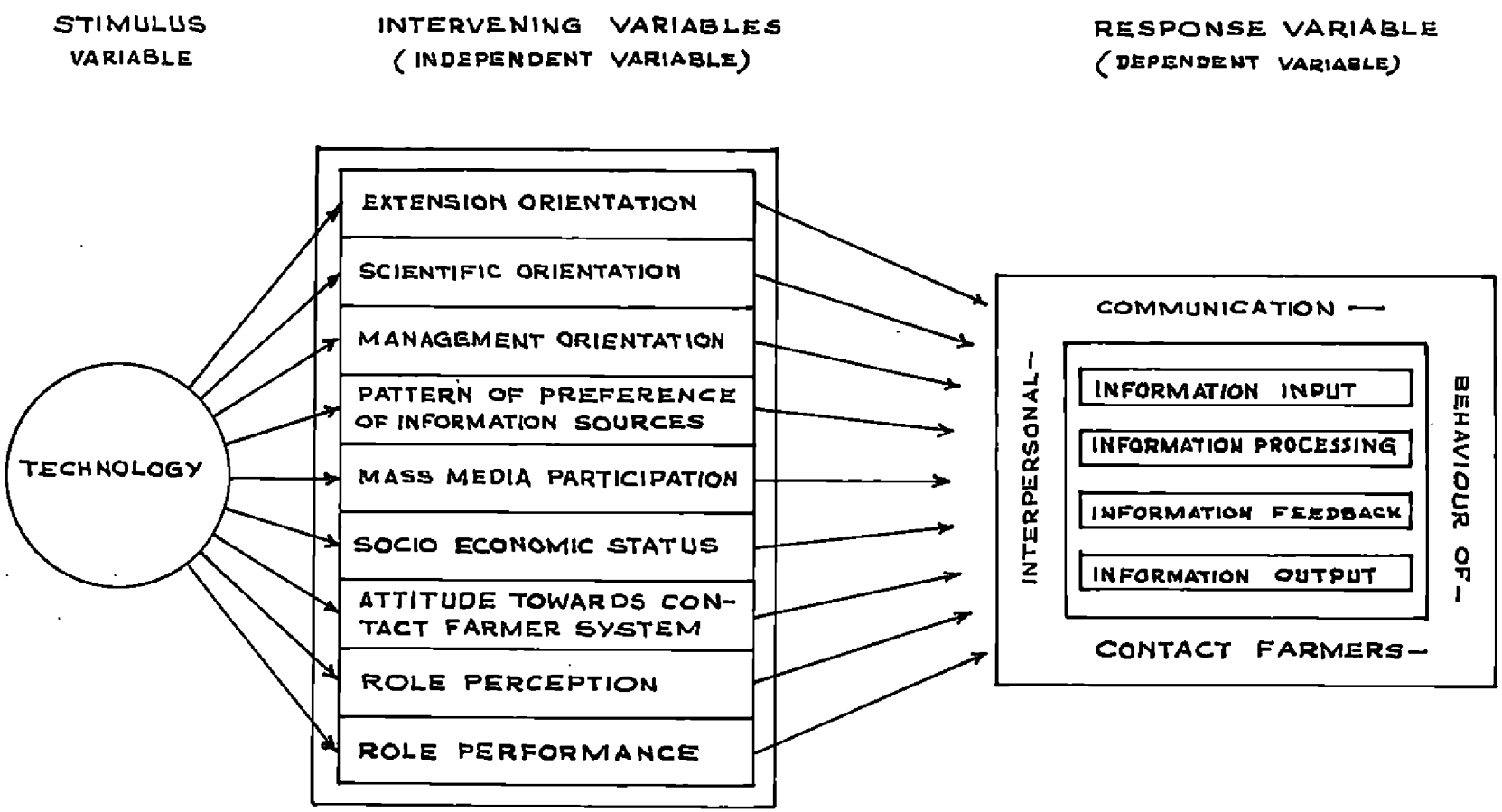


FIG: 1. THEORETICAL FRAME WORK OF THE STUDY

2.7.2. There would be no significant relationship between interpersonal communication behaviour of contact farmers and their scientific orientation.

2.7.3. There would be no significant relationship between interpersonal communication behaviour of contact farmers and their mangement orientation.

2.7.4. There would be no significant relationship between interpersonal communication behaviour of contact farmers and their pattern of preference of information sources.

2.7.5. There would be no significant relationship between interpersonal communication behaviour of contact farmers and their mass media participation.

2.7.6. There would be no significant relationship between interpersonal communication behaviour of contact farmers and their socio-economic status.

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

2.7.8. There would be no significant relationship between interpersonal communication behaviour of contact farmers and their role perception.

2.7.9. There would be no significant relationship between interpersonal communication behaviour of contact farmers and their role performance.

METHODOLOGY

3. METHODOLOGY

The methodology employed for the study is furnished in this chapter under the following main headings:

3.1. Selection of locales for the study

3.2. Selection of the sample

3.3. Methods used for data collection

3.4. Measurement of variables

3.4.1. Measurement of dependent variables

3.4.2. Measurement of independent variables

3.5. Statistical tools used

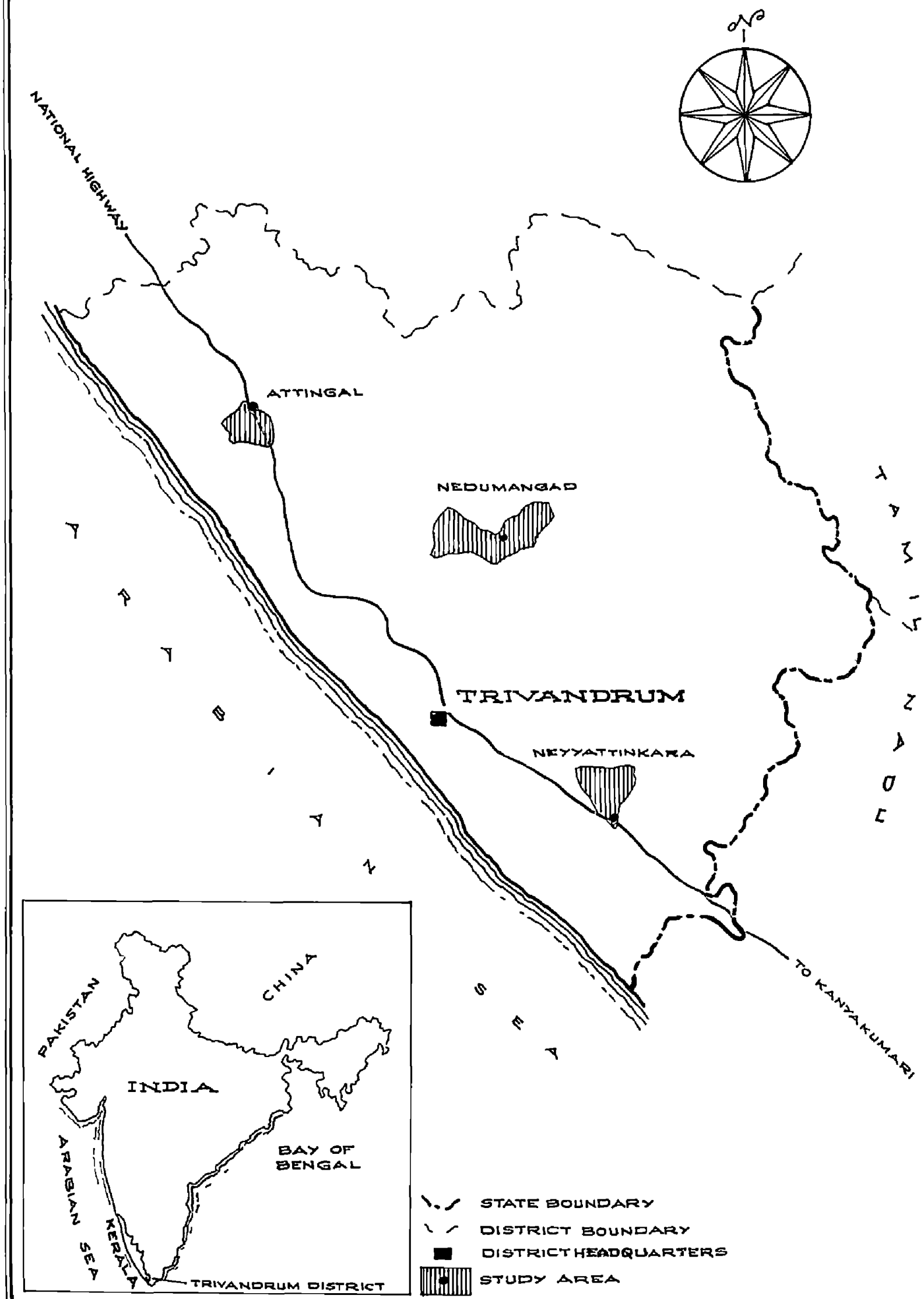
3.1. Selection of locale for the study

Trivandrum district was randomly selected from the three districts (Trivandrum, Quilon and Alleppey), where the Training and Visit system of Agricultural Extension was first implemented in the state. Trivandrum district consists of three agricultural sub-divisions, viz., Attingal, Neyyattingara and Nedumangad under the Training and Visit system and all the three sub-divisions were selected for the study. The map showing the area of the study is furnished as Fig. 2.

3.2. Selection of the sample

The unit of analysis identified for the present study was the 'contact farmer'. Contact farmers are those farmers who are the primary receivers of messages from the Agricultural Demonstrators (the grass-root-level

FIG 2 MAP OF TRIVANDRUM DISTRICT
SHOWING STUDY AREA



agricultural extension workers) and whom the Agricultural Demonstrators meet once in a fortnight to transfer the seasonal messages.

Three stage random sampling method was used to select the respondents. A list of all the Agricultural Extension Units was obtained from all the three Agricultural Sub-Divisional Officers of Trivandrum district. From among the Agricultural Extension Units, four units each from Attingal and Neyyattinkara Agricultural Sub-Divisions and three units from Nedumangad Agricultural Sub Division were selected based on probability proportionate random sampling at the first stage. In the second stage, from each of the selected Agricultural Extension Units, a list of all the Agricultural Demonstrators was obtained. From among this list, one or two Agricultural Demonstrators from each Agricultural Extension Unit were randomly selected according to the size of population. Thus from 11 Agricultural Extension Units, 14 Agricultural Demonstrators were selected. In the third stage, from each of the selected Agricultural Demonstrators a list of all contact farmers was obtained. An Agricultural Demonstrator was having eight groups of contact farmers with 10 contact farmers in each group. A contact farmer was randomly selected from each of the eight groups under an Agricultural Demonstrator and they

were included in the sample for data collection. Thus from each of the 14 Agricultural Demonstrators' area eight contact farmers, at the rate of one contact farmer for each group, were selected. Out of the total sample of 112 contact farmers, 12 contact farmers could not be interviewed as they were not available whenever the researcher went to interview them. Hence, for the present study there were 100 contact farmers as respondents. The sampling procedure followed in the study is illustrated in Fig. 3.

3.3. Methods used for data collection

An interview schedule containing appropriate questions for obtaining the required data was prepared. The interview schedule was discussed with a group of experts and necessary modifications were made to avoid ambiguity and redundance in the questions. The schedule was protected before it was finalised. The data were collected through personal interview method by the researcher using the final interview schedule. The researcher developed rapport with the respondents before the interview.

3.4. Measurement of variables

3.4.1. Dependent variable

Interpersonal communication behaviour of contact farmer was considered as the dependent variable for the study.

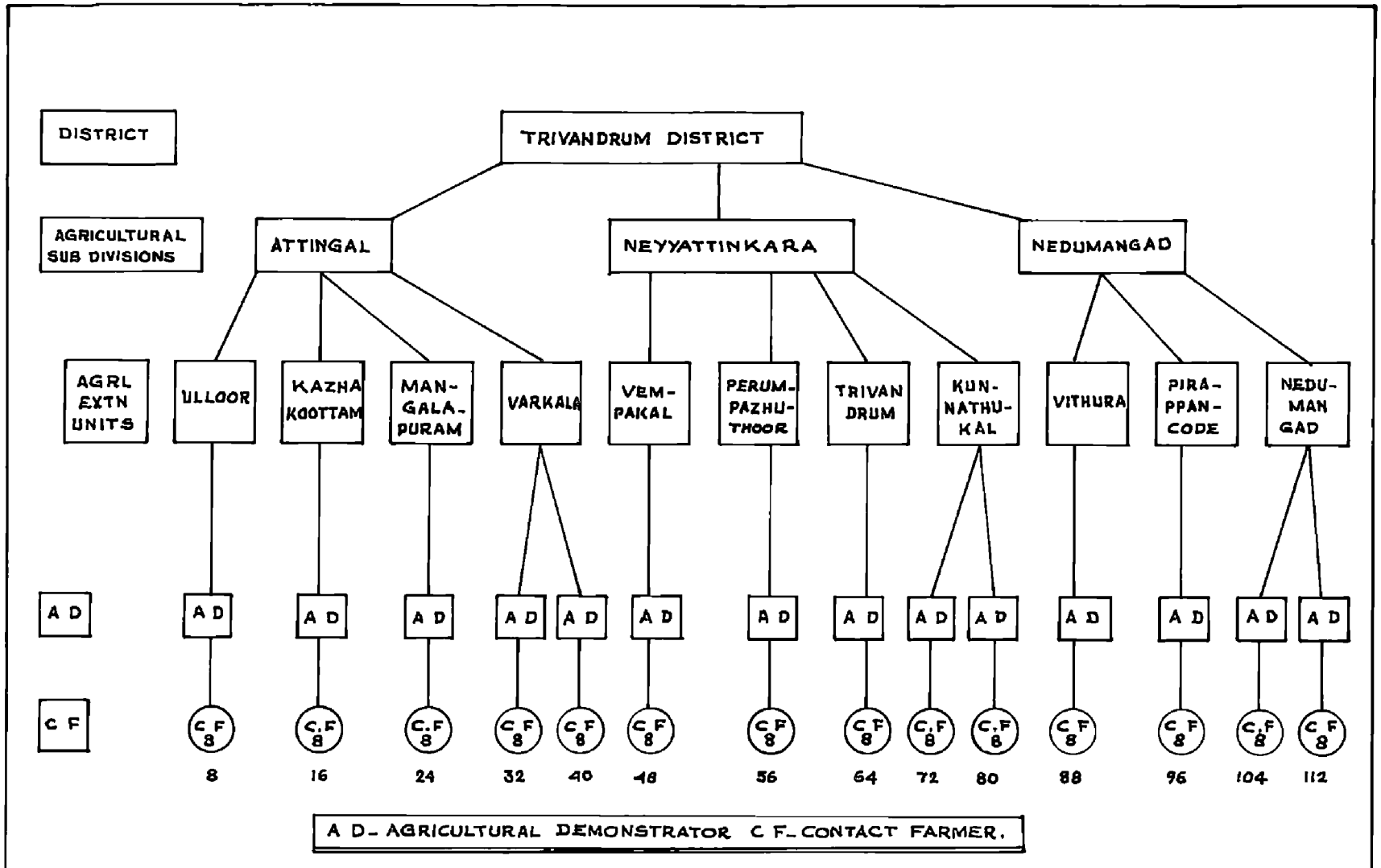


FIG 3 SELECTION OF SAMPLE

3.4.2. Independent variables

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

Extension orientation
Scientific orientation
Management orientation
Pattern of preference of information sources
Mass media participation
Socio-economic status
Attitude towards contact farmer system
Role perception
Role performance

3.4.1. Measurement of dependent variable - Interpersonal Communication Behaviour of contact farmers

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

Katz and Lazarsfeld (1955) measured communication behaviour from listening and reading habits of the respondents.

Singh and Sahay (1970) operationalized communication behaviour of farmers as their information seeking habits based on the use of information sources such as

personal-localite, personal-cosmopolite and mass media sources.

Murthy and Singh (1974), in their study, conceptualized 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. They studied communication pattern of farmers in terms of information input pattern, information processing pattern and information output pattern.

The above procedure has been extensively employed by various researchers to measure the communication pattern of various categories of respondents.

Ambastha and Singh (1976) and Ambastha (1980) made use of this methodology to study the communication pattern of farm scientists.

Sanoria and Singh (1980) also used the system analysis technique to measure the communication pattern of extension personnel.

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 Barbarilal (1976) identified the components of 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 communication behaviour of Junior Agricultural Officers of Kerala in terms of information input, information processing, information

output and information feedback indices. Communication behaviour index was a composite measure of all these indices in terms of information encoding and information decoding.

Somu, Menon and Kalamegam (1978) quantified the 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. This referred to the cumulative score obtained by a respondent and indicates the effectiveness of his interpersonal communication behaviour as measured with reference to the selected sub-dimensions of interpersonal communication behaviour, such as reciprocity, inertia, intension, directness, transitivity etc. Operationally it indicated a person's extent of effective interaction in interpersonal information exchange situations.

Reddy and Singh (1979) developed a communication behaviour index to measure the communication behaviour of Village Level Workers. The index represented different components of communication behaviour, viz., awareness of the 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.

Among the different methods discussed above, the method followed by Pandyaraj (1978) was found useful for studying the pattern of receipt of technical information (information input) by contact farmers; information processing pattern of contact farmers; communication pattern of technical information (information output) by contact farmers and the pattern of receipt of feedback information by contact farmers as envisaged in the study. Hence, for the present study, this method was used with some modifications to measure the interpersonal communication behaviour of contact farmers.

The communication behaviour of contact farmers was measured as a composite of the following specific activities.

1. Information receipt or input
2. Information processing consisting of information decoding and information encoding
3. Information communication or output
4. Information feedback

These sub-dimensions of communication behaviour are briefly explained below:

3.4.1.1. Information receipt or input of contact farmers

The process of transmission of technology at the grass root level is taking place largely through 'word-of-mouth' communication in a face-to-face interaction. Moreover, there are relevant research information which indicates that farmers consulted more of interpersonal sources than mass media sources. Hence, for the present study it was decided to include only interpersonal sources of information to study the information input pattern of contact farmers.

Information input was operationalised as the 'oftenness' of receipt of information about improved cultivation practices from different interpersonal information sources by the contact farmers. This was named as 'pattern of receipt of technical information'.

Selection of messages

While this study was being conducted, the Department of Agriculture, Kerala was transmitting technical messages on the improved cultivation aspects of paddy, coconut, banana, pepper and vegetables. Of those crops, coconut was the crop cultivated by all the selected contact farmers. Besides, the role of coconut crop in the economy of the state is crucial. There is considerable scope for increasing coconut yields in the state by adopting improved cultural and management practices. Accordingly, under the Training

and Visit system major emphasis is given for the identification of critical impact points, in relation to coconut cultivation. Therefore, messages on cultivation of coconut were selected to measure the interpersonal communication behaviour of the contact farmers in the present study.

For this purpose, fortnightly messages identified and communicated during the last one year only were considered for selection. Care was taken to include representative messages on improved varieties of coconut and its various after cultivation aspects such as plant protection, fertilizer application and irrigation.

To measure the extent of information input, the contact farmers were asked to indicate how often they received information relating to coconut cultivation from different interpersonal sources listed for the study. The different interpersonal sources listed were:

Agricultural Demonstrators

Junior Agricultural Officers

Friends

Neighbours

Relatives

Fellow contact farmers

Non-contact farmers of the area

Commercial agents

Personnel of the research stations

Personnel of the village institutions (Panchayats and Co-operatives) and local leaders

The respondents were asked to indicate their responses on a three point continuum ranging from "always" to "never". The responses were assigned scores as follows:

Sl.No.	Category of response	Score
1	Always	2
2	Sometimes	1
3	Never	0

The total information input score of the respondents was obtained by adding the scores obtained in respect of each type of interpersonal 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

For the purpose of this study, information decoding was operationalized as the "oftenness" of difficulty felt by the contact farmers in understanding the technical message related to coconut cultivation. To measure this, the respondents were asked to indicate how frequently they felt difficulty in understanding the technical messages related to improved varieties

of coconut, plant protection measures, fertilizer application and irrigation practices for coconut cultivation. The responses were rated on a three point continuum ranging from "always" to "never". The scoring pattern was as follows:

Sl.No.	Category of response	Score
1	Always	0
2	Sometimes	1
3	Never	2

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

3.4.1.2.2. Information encoding

In this study, the information encoding was operationalized as the "oftenness" of difficulty felt by the contact farmers in processing a technical information connected with coconut cultivation into a meaningful message of simple words.

The information encoding pattern of the respondents was measured in the following manner. The respondents were asked to indicate how frequently they felt difficulty in communicating the messages related to

improved varieties of coconut, plant protection measures, fertilizer application and irrigation practices of coconut cultivation. The responses were rated on a three-point continuum ranging from "always" to "never". The responses were scored as shown below:

Sl.No.	Category of response	Score
1	Always	0
2	Sometimes	1
3	Never	2

The information encoding score for each respondent was obtained by adding up the scores corresponding to the response patterns of the respondent to the nine messages given for this purpose. The scores of all the respondents for each item were added for ranking the items.

3.4.1.3. Information output

In this study, the information output was operationalized as the "oftenness" of utilization of different interpersonal communication methods by the contact farmers for dissemination of technical information related to coconut cultivation to fellow farmers.

To measure the information output, each respondent was asked to indicate how frequently he communicated the technical information related to coconut cultivation to the fellow contact farmers of its area, non-contact farmers outside his area, neighbours, friends and others (communicatees). 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 coconut cultivation to these communicatees. The interpersonal communication methods included in the study are given below:

1. Personal talk during casual every day meetings
2. Personal talk during farm visits
3. Personal talk during house visits
4. Group discussions during informal meeting at some specific meeting place
5. Personal talk when the farmers approach for advice
6. Personal talk during informal meeting at contact points
7. Personal talk during method demonstrations
8. Personal talk during field trips

The responses as to whom the contact farmers communicated the messages and with what frequency were obtained on a three-point continuum ranging from "always" to "never". The scoring pattern was as follows:

Sl. No.	Category of response	Score
1	Always	2
2	Sometimes	1
3	Never	0

The information output score for each respondent was obtained by adding the scores corresponding to the response patterns of the respondents on the two items. The scores obtained by all respondents for each category of communicatees and interpersonal communication

methods were added separately for ranking them.

3.4.1.4. Information feedback

In the present study, information feedback was operationalized as the "oftenness" of receipt of opinion, feeling, doubts, ideas and thoughts as a result of information given by the contact farmers on technical, managerial and input supply aspects of coconut cultivation from fellow farmers through different interpersonal communication methods.

The procedure followed for measurement of information feedback is given below. The respondents were asked to indicate how frequently they received information feedback from fellow farmers through the different interpersonal communication methods listed earlier. They were also asked to indicate how frequently they received different types of information feedback from fellow farmers. The types of information feedback are given below:

1. Communication of informations related to technical aspects
2. Communication of information regarding sanction of loans
3. Communication of information regarding supply of inputs

The responses were obtained on a three-point continuum ranging from "always" to "never". The responses were scored as follows:

Sl.No.	Category of response	Score
1	Always	2
2	Sometimes	1
3	Never	0

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

Computation of scores for interpersonal communication behaviour

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

Categorisation of the respondents on the basis of their interpersonal communication behaviour

The respondents were categorised into "low", "medium" and "high" levels of interpersonal communication behaviour based on the formula, Mean $\pm$ standard error. The score range of each category was as follows:

Low interpersonal communication behaviour : below 35-81 score

Medium interpersonal communication behaviour : 35.81 - 40.19 score

High interpersonal communication behaviour : Above 40.19 score

3.4.2. Measurement of independent variables

3.4.2.1. Extension orientation

Extension orientation was operationally defined as the extent of contact of the contact farmers with extension agencies and their extent of participation in extension activities.

The method used by Bhaskaran (1979) was used for quantifying this variable.

The extension orientation by the respondents was measured on the following two dimensions.

Extension contact

Extension participation

3.4.2.1.1. Extension contact

The extent of extension contact by the respondent was computed by giving scores to the items as below:

Sl. No.	Frequency of meeting Agricultural Demonstrator/Junior Agricultural Officer	Scores
1	Two or more times a week	3
2	Once a week	2
3	Once to thrice a month	1
4	Never	0

3.4.2.1.2. Extension participation

The following activities were included to evaluate the extension participation of the respondents:

Study tours

Meetings

Farmers' days

Demonstrations

The respondents' participation in the above extension activities for the past one year was the index used to arrive at extension participation scores as below:

Sl. No.	Frequency	Scores
1.	Never	0
2.	Not attending all activities	1
3.	Whenever conducted	2

The scores obtained for both the sub-items by each of the respondents were calculated and the total score for extension orientation was obtained by summation. After computing the extension orientation score, the respondents were classified into three categories, taking the mean value as the measure of check.

Sl. No.	Categories of extension orientation	Scores
1.	Low	Below 3.87
2.	Medium	3.87 - 5.09
3.	High	Above 5.09

3.4.2.2. Scientific orientation

Scientific orientation, in this study, was operationally defined as those aspects of respondent's orientation, which commits him to the observance of certain norms, standards and criteria for selection based on scientific principles, which directly or indirectly influence his behaviour.

The scale developed by Supe (1969) was followed, with some modifications to measure the extent of scientific orientation of the respondents in this study.

The scale consisted of six items (see appendix). The scoring for positive items in the scale was given below:

Sl. No.	Category of response	Score
1.	Agree	1
2.	Disagree	0

The scoring pattern was reversed in the case of negative items.

Scientific orientation score for each individual was found out by adding the scores corresponding to each response pattern. Based on the mean, the respondents were classified into the following three groups:

Sl. No.	Categories of scientific orientation	Scores
1.	Low scientific orientation	Below 5.49
2.	Medium scientific orientation	5.49 - 5.86
3.	High scientific orientation	Above 5.86

3.4.2.3. Management orientation

Management orientation refers to the degree to which a contact farmer is oriented towards scientific farm management comprising of planning, production and marketing functions of farm enterprise.

In order to know the respondents' management orientation the scale developed by Samantha (1977) was used. The scale consisted of 18 statements, six statements each for planning, production and marketing orientation (see Appendix). In each group, positive and negative statements were mixed retaining at the same time a more or less psychological order of the statements. The scores for each respondent in the management orientation scale was obtained by summation.

Thus, after computing the respondents' management orientation score, they were grouped into three categories as below:

Sl. No.	Categories	Scores
1.	Low	Below 11.37
2.	Medium	11.37 - 12.37
3.	High	Above 12.37

3.4.2.4. Pattern of preference of information sources

Pattern of preference of information sources was operationally defined as the degree to which contact farmers like to get information from different sources.

Pandyaraj (1978) measured the information seeking behaviour of Junior Agricultural Officers by preparing a list of all the information sources and asking the respondents to indicate their preference in respect of each of the sources. This method was modified and used in this study. The respondents were asked to indicate how frequently they preferred to seek information from those sources. The response was rated on a three-point continuum ranging from "always" to "never".

Sl. No.	Category of response	Score
1.	Always	2
2.	Sometimes	1
3.	Never	0

The score of the respondents for preference of information sources worked out by adding the scores corresponding to each response. Based on the mean value, the respondents were classified into three groups according to their pattern of preference of information sources.

Sl. No.	Categories	Score
1.	Low	Below 7.55
2.	Medium	7.55 - 9.53
3.	High	Above 9.53

The scores of all respondents for each item were added for ranking the items.

3.4.2.5. Mass media participation

Mass media participation was operationally defined

as the extent to which contact farmers are exposed to the different mass media sources.

Bhaskaran (1979) measured the mass media participation of farmers by preparing a list of different mass media sources and the respondents were asked to indicate as to how often they used each of these sources. The same procedure was followed in this study also.

The mass media sources included are given below:

1. Newspaper
2. Radio (general)
3. Radio (Rural programme)
4. Magazine and other literature on agriculture.

The weightage for each item with reference to frequency is given below:

Sl. No.	Frequency	Score
1.	Two or more times a week	4
2.	Atleast once a week	3
3.	Atleast once a fortnight	2
4.	Atleast once a month	1
5.	Never	0

Thus, the score of each respondent was calculated. After computing the mass media participation score, the respondents were grouped into the following three categories keeping the mean value as a measure of check.

Sl.No.	Categories	Score
1.	Low	Below 6.70
2.	Medium	6.70 - 8.12
3.	High	Above 8.12

The scores of all respondents for each item were added for ranking the items.

3.4.2.6. Socio-economic status

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

To measure this variable, the scale developed by Venkataramaiah (1983) was used. The scale consisted of eight main items, viz., occupation, land holding, caste, education, socio-political participation, possessions, house and house-hold. The respondent was given a score under each of these eight categories so that the final socio-economic status index was the total of these scores. Only the maximum possible score was considered under each category. The score depends on the weightage of the items. For instance (see Appendix), under eighth category, "possessions", the farmer may possess a farm animal as well as a radio, and no other possessions. One farm animal has a weight of one, and radio has a weight of two, so the farmers' score under

this category is two. Eventually, the scores of all eight categories were added and this represented the socio-economic status.

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

Sl. No.	Socio-economic status category	Score range
1.	Upper socio-economic status	Below 18.60
2.	Middle socio-economic status	18.60 - 19.60
3.	Lower socio-economic status	Above 19.60

3.4.2.7. Attitude towards contact farmer system

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

The 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. In this way, 40 statements were collected. The various statements of opinion thus collected were then edited to eliminate the items which fail to meet the prescribed standards as suggested by Edwards (1957). Of the 40 statements selected, 31 statements were retained after editing.

The method of 'equal appearing intervals' of Thurstone and Chave (1929) has been widely used for obtaining scale values for a large number of statements. As per this technique, after the statements were edited, they were presented to a group of judges who were asked to sort the statements into "extremely favourable" through "neutral" to "extremely unfavourable" categories on a nine point continuum in which '1' represented the most unfavourable expression, '5' neutral and '9' 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 statement. The judges' responses were tabulated indicating the number of judges who placed each item in each category. From this data scale values for the individual items 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 31 statements.

Final selection of statements

For selection of the attitude statements to constitute the final scale, the following criteria were used.

1. The statements should have smaller 'Q' values as far as possible. A low 'Q' value indicated that there is

good agreement among the judges while a high 'Q' value indicated lack of agreement. The statements with lowest 'Q' values are believed to be the least ambiguous.

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

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

4. There should be equal number of statements indicating favourable and unfavourable statements.

Based on these criteria, twelve statements, six favourable and six unfavourable, were selected to constitute the final scale.

Validity of the scale

The validity of a scale depends upon the fidelity with which it measures what it purports to measure. The scale developed for the study was tested for the following two types of validity.

a. Content validity

This is a kind of validity by assumption (Guilford, 1954). 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 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.

This was tested by calculating the correlation coefficient between management orientation scores and attitude scores. Thirty farmers were selected from a non-sample area. The management orientation scores and attitude scores of these 30 respondents were calculated and the correlation between the two sets of scores was calculated. The correlation coefficient was found to be highly significant ($r = 0.5168$) and hence it was concluded that the scale had construct validity.

Reliability of the scale

A test score is called reliable, when we have reason to believe the scores to be stable and trustworthy. Guilford (1954) defined reliability as "the proportion of the variance in 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 attitude scale was administered to 30 respondents selected from a non-sample area. The scale divided into

two halves based on odd-even numbers of statements. Two sets of scores were thus derived for the same group of respondents and the scores were correlated. The coefficient of correlation between the two sets of scores was found to be highly significant (r = 0.7332). The reliability coefficient thus obtained indicated that the internal consistency of the attitude scale was quite high.

Administration of the scale

The attitude scale constructed as described above was administered to the sample respondents during the interview. The attitude statements selected finally were arranged randomly. In the final format 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' and 'Disagree' with weights of 2, 1 and 0 respectively for the favourable statements and with weights of 0, 1 and 2 respectively for the unfavourable statements.

While administering the scale, 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 by the 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. Eysenck and Crown (1949) reported that this method of scoring led to 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.

Sl. No.	Categories	Score
1.	Low attitude (unfavourable)	Below 76.12
2.	Medium attitude (neutral)	76.12 - 87.36
3.	High attitude (favourable)	Above 87.36

3.4.2.8. Role perception

Role perception was operationally defined as the degree to which contact farmers perceive their role as contact farmers as envisaged under the Training and Visit system.

A role perception schedule was prepared. For this, the various roles that should be played by the contact farmers were identified. Possible roles were collected from different sources, ie., by review of literature and by consulting the officers of the Department of Agriculture. A comprehensive list of such roles was prepared. After editing, 11 roles were selected.

Administration of the scale

At the time of the interview, the respondents were asked to indicate their opinion regarding the

importance of these roles. The response to each role was obtained on a three point continuum. The following scoring pattern was used.

Sl.No.	Category of response	Score
1.	Most important	3
2.	Important	2
3.	Least important	1

The role perception score of an individual was obtained by adding up the scores of the corresponding responses for all the listed roles. The scores of all the respondents for each role were added up for ranking the roles. After computing the role perception score the respondents were categorised into three groups taking the mean value as a measure of check.

Sl. No.	Categories of role perception	Score
1.	Low	Below 17.42
2.	Medium	17.42-19.27
3.	High	Above 19.27

3.4.2.9. Role performance

Role performance was operationally defined as the extent to which contact farmers perform their role as contact farmers as envisaged under the Training and Visit system.

In the present study, the role performance of contact farmers was measured by asking the respondents to indicate how frequently they performed the identified roles. The responses were obtained on a three-point continuum ranging from 'always' to 'never'. The scoring of the different response categories was as follows:

Sl.No.	Category of response	Score
1.	Always	2
2.	Sometimes	1
3.	Never	0

The total role performance scores of the respondents were obtained by adding up the scores corresponding to the response pattern of the roles. The relative importance of the various roles performed by contact farmers was ascertained by calculating the rank for each role. The ranks were determined by adding the scores of all respondents for each role.

On the basis of mean value obtained, contact farmers were classified into three groups as given below:

Sl.No.	Categories of role performance	Score
1.	Low	Below 7.52
2.	Medium	7.52 - 9.67
3.	High	Above 9.67

3.5. Statistical measures used

The following statistical measures were used in the analysis of the data.

3.5.1. Correlation

3.5.1.1 Correlation coefficient is a measure of the association between two or more variables. Correlation coefficient was worked out to test the association between interpersonal communication behaviour and different independent variables. Intercorrelation analysis was worked out to find the correlation among the different independent variables.

3.5.1.2. Test of significance

The observed value of correlation coefficient was compared with the tabulated value for (n-2) degrees of freedom for 0.05 level of significance. To test the significance of correlation coefficient, the table for the values of the correlation coefficient for different levels of significance was used (Pillai, 1957).

3.5.1.3. Path Analysis

Path analysis was developed by Wright (1921) for the purpose of interpretation in terms of paths of causation. If the cause and effect relationship is well-defined, it is possible to represent the whole system of included variables in the form of a qualitative diagram, known as path diagram. It is assumed that all relations are linear.

It is observed that there will be not only direct effect (or influence) of independent characters on dependent character, but also indirect effect (or influence) on it through independent characters. Path analysis is a method of measuring influence along each separate path in such a system of variables and finding the degree to which variation of a given effect is determined by each particular cause. This analysis is based on the degree of knowledge of correlation among the variables in the system with such knowledge as may be possessed by causal relations. So, the list of variables

chosen for path analysis is important and should be well balanced.

The linear relationship between the dependent and independent variables is denoted by

$$r_{iy} = P_{1y}r_{i1} + P_{2y}r_{i2} + P_{3y}r_{i3} + \ldots + P_{ky}r_{ik}$$

in a system of k independent variables, ($i = 1, 2, \ldots\ldots k$), where P_{iy}, $i = 1, 2 \ldots k$ are the path coefficients and P_{iy} measures the direct effect of i^{th} variable on dependent variable, Y. $P_{ky}r_{ky}$ measures the indirect effect through k^{th} variable, and r_{iy}, $i = 1, 2, \ldots, k$ denotes the correlation between the i^{th} independent variable and dependent variable y.

In addition to these, there are certain uncontrollable causes of variation, which is designated as residual variation and this residual effect is determined from the relation,

$$P_{RY} = \sqrt{1 - \sum_{i=1}^{k} P_{iy}r_{iy}}$$

If the correlation coefficient between a causal factor and the effect is almost equal to its direct effect, then the true relationship is explained by the correlation coefficient and a direct selection through this character will be effective. If the correlation coefficient between a causal factor and the effect is negative or negligible, the indirect effect seem to be the cause of correlation. If the correlation coefficient is negative

but the direct effect is positive and high, restrictions are to be imposed to multify the undesirable indirect effects in order to make use of the direct effect (Singh and Kakar, 1977).

RESULTS

4. RESULTS

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

4.1. Dependent variable

The dependent variable, namely the overall interpersonal communication behaviour of contact farmers consisted of the following components.

4.1.1. Pattern of receipt of technical information (information input) on coconut cultivation by contact farmers.

4.1.2. Information processing pattern of contact farmers.

4.1.3. Communication pattern of technical information (information output) on coconut cultivation by contact farmers.

4.1.4. Pattern of receipt of feedback information by contact farmers.

4.1.5. Overall interpersonal communication behaviour of contact farmers.

4.2. Independent variables

The independent variables included in the study consisted of the following socio-phychological characteristics.

4.2.1. Extension orientation of contact farmers

4.2.2. Scientific orientation of contact farmers

4.2.3. Management orientation of contact farmers

4.2.4. Pattern of preference of information sources by contact farmers

4.2.5. Mass media participation by contact farmers

4.2.6. Socio-economic status of contact farmers

4.2.7. Attitude of contact farmers towards contact farmers system

4.2.8. Role perception of contact farmers

4.2.9. Role performance of contact farmers

4.3. Results of path analysis

4.3.1. Inter-correlation among dependent and independent variables

4.3.2. Direct and indirect effects of dependent variables on the dependent variables

4.1. Dependent variable

4.1.1. Pattern of receipt of technical information (information input) on coconut cultivation by contact farmers

The pattern of receipt of technical information (information input) by contact farmers is presented in Table 1.

It could be observed from the data furnished in Table 1 that contact farmers received most of the information on coconut cultivation from 'Agricultural Demonstrators' of the Department of Agriculture and 'Local Leaders' were the least consulted source of information. As high as 99 per cent of the respondents never received information from 'Local Leaders'. Only three per cent of the respondents reported receipt of information from

Table 1. Pattern of receipt of technical information (information input) on coconut cultivation by contact farmers

(n = 100)

Sl. no.	Information sources	Response pattern in percentage				Total Score	Rank
		Always	Sometimes	Never	Total percentage		
1.	Agricultural Demonstrators	74	22	4	100	170	1
2.	Junior Agricultural Officers	8	29	63	100	45	2
3.	Friends	7	16	77	100	30	3
4.	Neighbours	4	14	79	100	28	4
5.	Relatives	4	18	78	100	26	5
6.	Fellow contact farmers	5	8	87	100	18	6
7.	Non-contact farmers of the area	2	4	94	100	8	7
8.	Commercial agents	1	5	94	100	7	8
9.	Personnel of the research station	2	1	97	100	5	9
10.	Personnel of the village institutions (Panchayats and Co-operatives)	0	3	97	100	3	10
11.	Local leaders	0	1	99	100	1	11

'Personnel of the research stations'. Only six per cent respondents had indicated that they always received information from 'Commercial agents'. Similarly, only six per cent of the respondents received information from 'Non-contact farmers' of their area. Thirteen per cent of the respondents received information always or sometimes from their 'Fellow contact farmers'. The role of 'Friends' and 'Neighbours' as interpersonal sources of information was also negligible since about 80 per cent of the respondents reported that they never received information on coconut cultivation from their 'Friends' and 'Neighbours'. As much as 63 per cent of the respondents reported that they never received information from 'Junior Agricultural Officers'. From these results, it is crystal clear that the 'Agricultural Demonstrator' acted as the most consulted interpersonal source of information to the contact farmers. The pattern of receipt of technical information by contact farmers is illustrated in Fig. 4.

4.1.2. Information processing pattern of contact farmers

Information processing pattern of contact farmers is presented in Table 2.

The results furnished in Table 2 showed that contact farmers experienced 'least difficulty' in understanding the message relating to 'improved varieties of coconut (M1)'. They had 'more difficulty' in understanding the message on 'control of red palm weevils (M3)'. In the case of encoding also, they reported 'least difficulty' for

E n c o d i n g			
ttern in age nes Never	Total per-cent-age	Total score	Rank
94	100	193	1
82	100	175	2
76	100	168	4
78	160	167	3
57	100	151	5
54	100	127	6
36	100	111	7
33	100	94	9
36	100	100	8

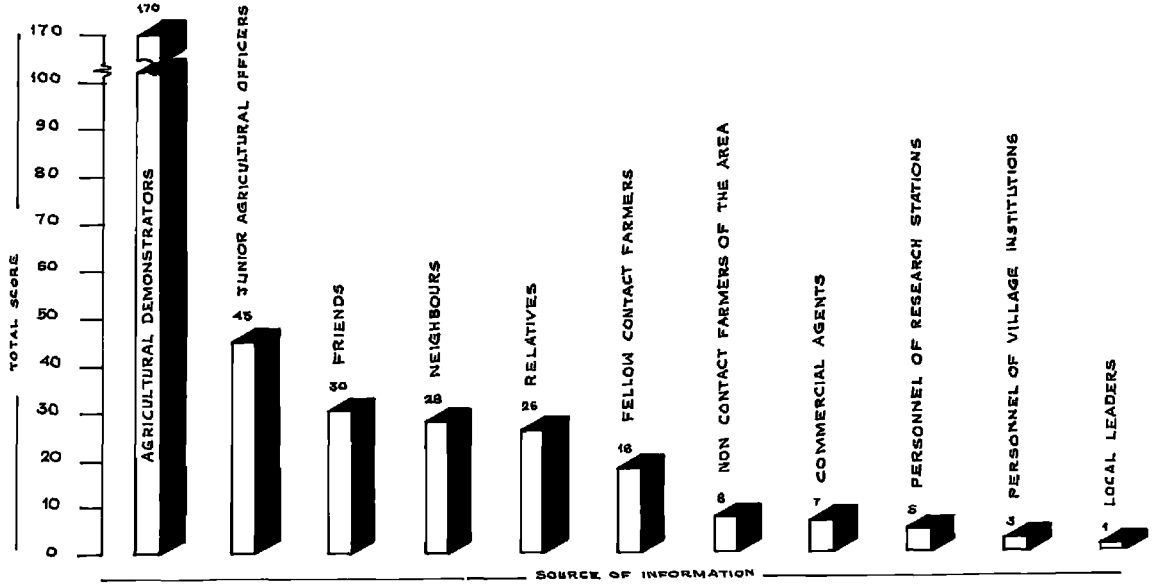


FIG 4 PATTERN OF RECEIPT OF TECHNICAL INFORMATION
(INFORMATION INPUT) BY CONTACT FARMERS

'Message M1' and 'highest difficulty' for the message on 'control of rhinoceros beetle (M2)'.

4.1.3. Communication pattern of technical information (information output) on coconut cultivation by contact farmers

The two aspects studied under information communication were the extent of use of interpersonal communication methods by contact farmers for communicating information and the frequency of their communication with different categories of farmers.

4.1.3.1. Extent of use of interpersonal communication methods

Data regarding the extent of use of interpersonal communication methods by contact farmers are presented in Table 3.

It could be seen from Table 3 that among different interpersonal communication methods, 'Personal talk during casual everyday meeting' emerged as the most often used method by contact farmers for communicating with other farmers. This was followed by 'Personal talk during farm visit and house visit'. Only 14 per cent of the respondents used 'Group discussions' to communicate technical information to others. 'Personal talk during informal meeting at contact points' and 'Method demonstration' were not common and 97 per cent of

Table 3. Extent of use of interpersonal communication methods by contact farmers

(n = 100)

Sl. no.	Interpersonal communication methods	Response pattern in percentage				Total score	Rank
		Always	Sometimes	Never	Total percentage		
1.	Personal talk during casual every day meeting	10	16	74	100	36	1
2.	Personal talk during farm visit	9	12	79	100	30	2
3.	Personal talk during house visit	11	3	86	100	25	3
4.	Group discussion during informal meeting at some specific meeting place	10	4	86	100	24	4
5.	Personal talk when the farmers approach for advice	6	1	93	100	13	5
6.	Personal talk during informal meeting at contact points	3	—	97	100	6	6
7.	Personal talk during method demonstration	1	2	97	100	4	7
8.	Personal talk during field trips	1	—	99	100	2	8

of the respondents reported that they never used these opportunities to communicate information to other farmers. Only seven per cent of the respondents engaged in personal talk to communicate information on coconut cultivation 'When the farmers approach for advice'. 'Personal talk during field trip' was also seldom used as only one per cent of the respondents had indicated this channel as a means of communication.

4.1.3.2. Frequency of communication with different categories of farmers

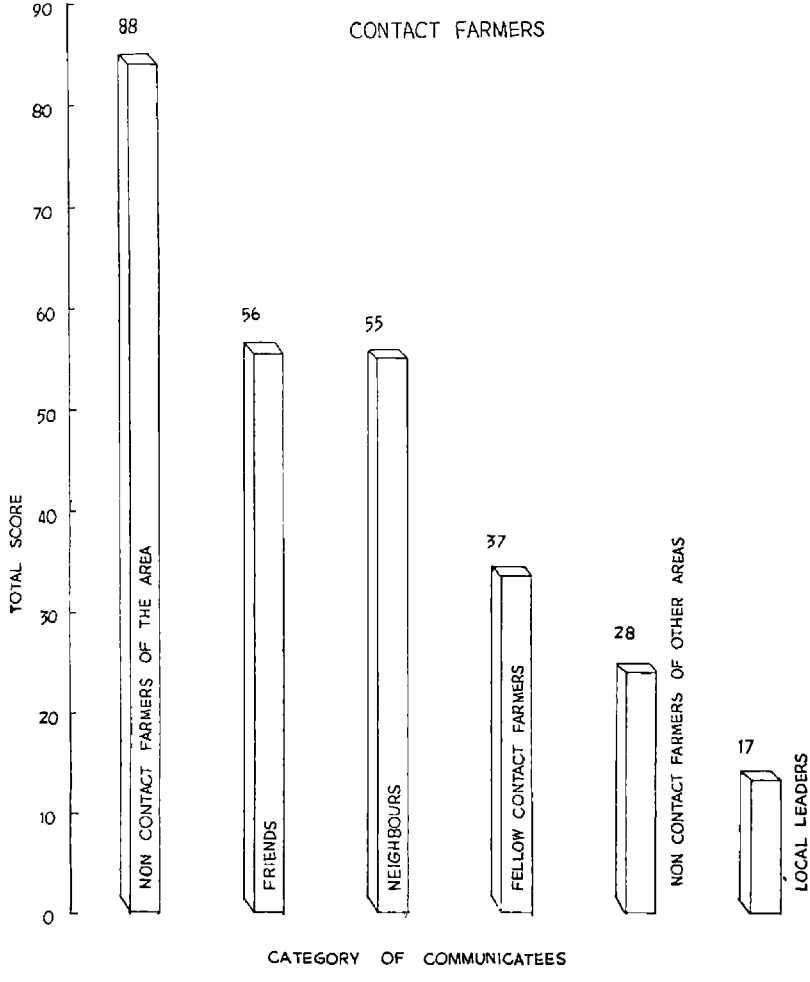
The data pertaining to the frequency of communication of contact farmers with different categories of farmers are presented in Table 4.

It was evident from the data presented in Table 4 that contact farmers communicated technical information to 'Non-contact farmers of their own area' more frequently. As much as 58 per cent of them reported that they communicated technical information to 'Other farmers of their area' either 'always' or 'sometimes'. It was also observed that other categories of farmers to whom the contact farmers communicated technical information, to a lesser extent, were their 'Friends' and 'Neighbours'. Communication of technical information by the contact farmers to the 'Non-contact farmers outside their area' and to 'Local leaders' was also found to be minimum. The frequency of communication with different categories of farmers is furnished in Fig. 5.

Table 4. Frequency of communication with different categories of farmers (n = 100)

Sl. no.	Categories of communicatees	Response pattern in percentage				Total score	Rank
		Always	Sometimes	Never	Total percentage		
1.	Non-contact farmers of the area	30	28	42	100	88	1
2.	Friends	11	34	55	100	56	2
3.	Neighbours	11	33	56	100	55	3
4.	Colleagues (Fellow contact farmers)	5	27	68	100	37	4
5.	Non-contact farmers of other areas	4	20	76	100	28	5
6.	Local leaders	6	5	89	100	17	6

FIG 5 FREQUENCY OF COMMUNICATION WITH DIFFERENT CATEGORIES OF FARMERS BY CONTACT FARMERS



4.1.4. Pattern of receipt of feedback information by contact farmers

This aspect was studied on the following lines:

4.1.4.1. Type of information feedback received by contact farmers

4.1.4.2. The methods through which feedback information was received

4.1.4.1. Type of information feedback received by contact farmers

Data pertaining to different types of information feedback received by contact farmers are presented in Table 5.

Data showed that most of the feedback information received by contact farmers was on 'Technical aspects' followed by'Information regarding sanction of loans' and on 'aspects related to supply of inputs'. In general, the extent of feedback was poor since most of the respondents had indicated that they 'never' received feedback information from fellow farmers.

4.1.4.2. Data related to the ways through which information feedback occurred are presented in Table 6 given below:

It was observed that among all the listed methods, 'information feedback during casual everyday meeting' was the important method used by the respondents as indicated by the highest total score for this item (29 score). The second and third ranks were assigned to

Table 5. Types of information feedback received by contact farmers

(n = 100)

Sl. no.	Types of information feedback	Response pattern in percentage				Total score	Rank
		Always	Sometimes	Never	Total percentage		
1.	Communication of information related to technical aspects	16	10	74	100	42	1
2.	Communication of information regarding sanction of loans	6	8	86	100	20	2
3.	Communication of information regarding supply of inputs	1	4	95	100	6	3

Table 6. Methods of receipt of information feedback

(n = 100)

Sl. no.	Methods of information feedback	Response pattern in percentage				Total score	Rank
		Always	Sometimes	Never	Total percentage		
1.	During casual everyday meeting	10	9	81	100	29	1
2.	Home call by fellow farmers	8	5	87	100	21	2
3.	House visit	5	5	90	100	15	3
4.	While meeting at contact points	2	1	97	100	5	4
5.	During group meeting at some specific meeting place	2	-	98	100	4	5

'home-call by fellow farmers' and 'house visit'. Only two per cent of the respondents reported receipt of feedback information during 'group meeting at some specific meeting place' and 'while meeting at contact points'. The results pointed out to the generally poor pattern of use of information feedback methods in the study area.

4.1.5. Overall interpersonal communication behaviour of contact farmers

The scores obtained by the respondents on each of the four dimensions discussed above were computed and the total score for each respondent was worked out to denote his interpersonal communication behaviour score. On the basis of this score, the respondents were classified into low, medium or high categories of interpersonal communication behaviour, keeping mean as the measure of check. The results in this respect are furnished in Table 7.

Data on Table 7 showed that as high as 43 per cent of the respondents had only low level of interpersonal communication behaviour. Thirty-eight per cent of the respondents belonged to the high category of interpersonal communication behaviour and 19 per cent of the respondents had medium level of interpersonal communication behaviour. Considering that the maximum score possible on all these items is 102, the mean score of 38 for the total sample is very low.

Table 7. Distribution of respondents according to their interpersonal communication behaviour score

(n = 100)

Sl. no.	Interpersonal communication behaviour	Score ranged	Frequency	Percentage
1.	Low	below 35.81	43	43
2.	Medium	35.81 - 40.19	19	19
3.	High	Above 40.19	38	38

Mean score : 38

4.2. Independent variables

Socio-psychological characteristics of contact farmers.

4.2.1. Extension orientation of contact farmers

The distribution of respondents according to their level of extension orientation is presented in Table 8.

Table 8. Distribution of respondents according to their level of extension orientation

(n = 100)

Sl. no.	Level of extension orientation	Score range	Frequency	Percentage
1.	Low	Below 3.87	46	46
2.	Medium	3.87 - 5.09	26	26
3.	High	Above 5.09	28	28
	Total		100	100

Mean score : 4.48

Correlation coefficient : 0.2162 (significant)

It is evident from the results presented in Table that majority of the respondents (46 per cent) were found to have only low level of extension orientation. This was followed by contact farmers having high level (28 per cent) and medium level (26 per cent) of extension orientation. The mean score of 4.480 does not compare well with the maximum score possible (11). The

computed correlation coefficient between interpersonal communication behaviour and extension orientation of the respondents was significant.

4.2.2. Scientific orientation of contact farmers

The distribution of respondents according to their level of scientific orientation is shown in Table 9.

Table 9. Distribution of respondents according to their level of scientific orientation

(n = 100)

Sl. no.	Level of scientific orientation	Score range	Frequency	Percentage
1.	Low	Below 5.49	12	12
2.	Medium	5.49 - 5.86	0	0
3.	High	Above 5.86	88	88
	Total		100	100

Mean score : 5.6

Correlation coefficient = 0.1496 (Not significant)

The data presented in Table 9 reveal that towering percentage of the respondents (88 per cent) came under 'high' category in respect of scientific orientation and the remaining 12 per cent possessed low level of scientific orientation. While the maximum score possible in this dimension was six, the mean score of the respondents was as high as 5.680. The correlation coefficient between interpersonal communication behaviour

and scientific orientation of contact farmers was 0.1496 which was not significant.

4.2.3. Management orientation of contact farmers

The distribution of respondents according to their level of management orientation is presented in Table 10.

Table 10. Distribution of respondents according to their level of management orientation

(n = 100)

Sl. no.	Level of management orientation	Score range	Frequency	Percentage
1.	Low	Below 11.37	40	40
2.	Medium	11.37 - 12.37	15	15
3.	High	Above 12.37	45	45
	Total		100	100

Mean score = 11.070

Correlation coefficient= 0.2993 (significant)

As indicated in Table 10 majority of the contact farmers (45 per cent) had high level of management orientation. It was closely followed by low level category (40 per cent). Only 15 per cent of the respondents came under medium level of management orientation. It is to be pointed out that in general,

the management orientation of the contact farmers was appreciably higher with a mean score of 11.870 as compared to the maximum score possible (18). The correlation coefficient between interpersonal communication behaviour and management orientation of contact farmers worked out to 0.2993, which was significant.

4.2.4. Pattern of preference of information sources by contact farmers

The data pertaining to the pattern of preference of information sources by contact farmers are presented in Table 11 and illustrated in Fig. 6.

It is evident from Table 11 that Agricultural Demonstrators were by far the most important source preferred by contact farmers for seeking from information. Newspapers, Junior Agricultural Officers and radio farm broadcasts were also preferred to a great extent. Agricultural seminars, personnel of the research stations, agricultural books, agricultural exhibitions, agricultural training and agricultural journals were preferred by a fewer percentage of contact farmers. Agricultural guide/diaries was reported to be the least preferred source of farm information and as high as 92 per cent of the contact farmers never preferred it. Agricultural Demonstrators as the most preferred source

Table 11. Pattern of preference of information sources by contact farmers (n = 100)

Sl. no.	Information sources	Response pattern in percentage				Total score	Rank
		Always	Sometimes	Never	Total percentage		
1.	Agricultural Demonstrators	78	5	17	100	157	1
2.	Newspaper	40	30	30	100	110	2
3.	Junior Agricultural Officers	51	7	42	100	109	3
4.	Radio farm broadcast	41	23	36	100	105	4
5.	Agricultural Seminars	30	16	54	100	76	5
6.	Personnel of research stations	29	4	67	100	62	6
7.	Agricultural books	18	11	71	100	47	7
8.	Agricultural exhibition	18	9	73	100	45	8
9.	Agricultural training	16	11	73	100	43	9
10.	Agricultural journals	17	7	76	100	41	10
11.	Agricultural guides/ diaries	6	2	92	100	14	11

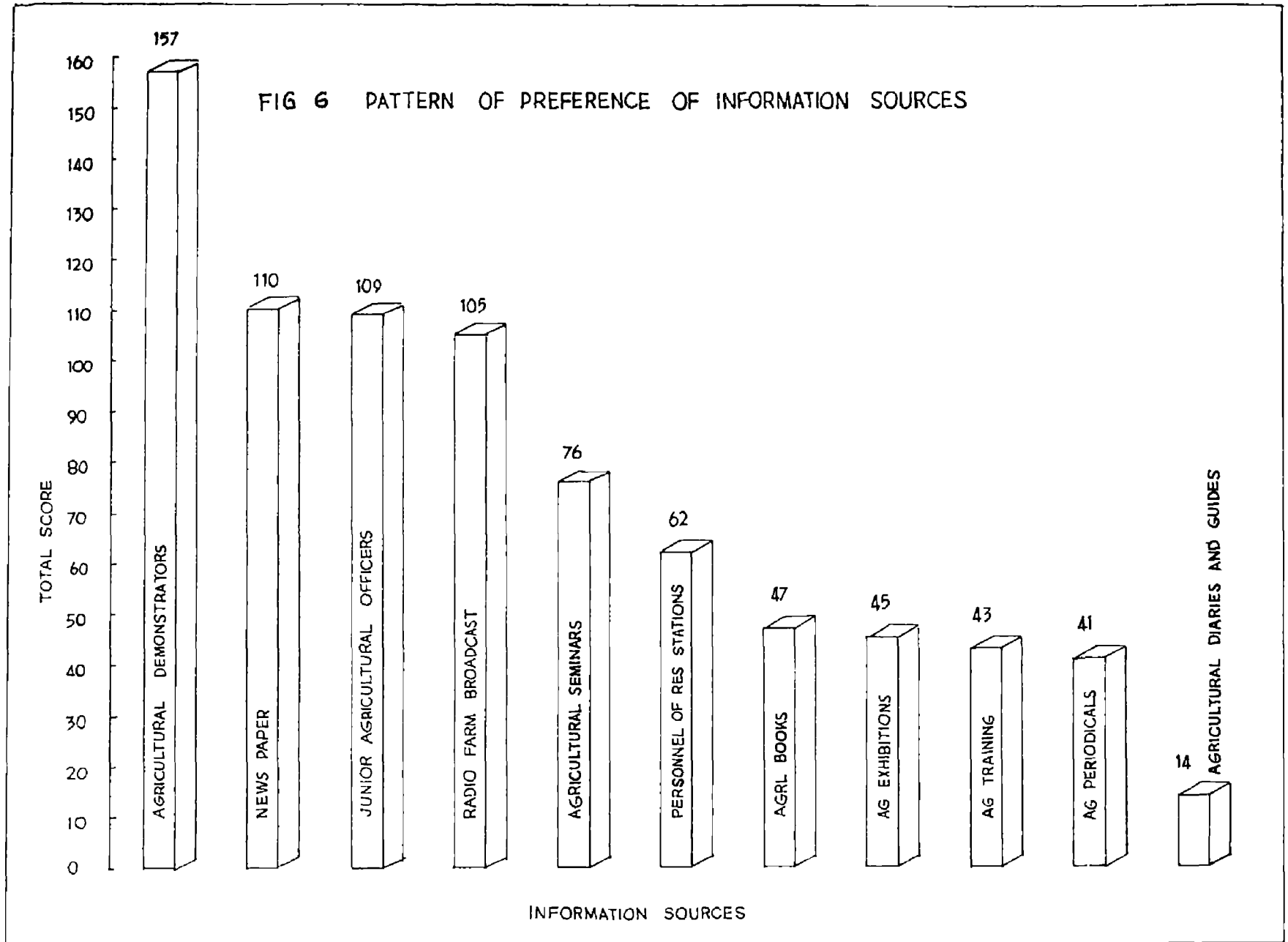


FIG 6 PATTERN OF PREFERENCE OF INFORMATION SOURCES
TOTAL SCORE
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
157
110
109
105
76
62
47
45
43
41
14
AGRICULTURAL DEMONSTRATORS
NEWS PAPER
JUNIOR AGRICULTURAL OFFICERS
RADIO FARM BROADCAST
AGRICULTURAL SEMINARS
PERSONNEL OF RES STATIONS
AGRL BOOKS
AG EXHIBITIONS
AG TRAINING
AG PERIODICALS
AGRICULTURAL DIARIES AND GUIDES
INFORMATION SOURCES

of information was indicated by as much as 78 per cent of the farmers and this result is particularly encouraging.

Based on the frequency of information seeking from these sources by the contact farmers, they were classified into three groups.

Table 12. Distribution of respondents according to their pattern of preference of information sources

(n = 100)

Sl. no.	Level of preference of information sources	Score range	Frequency	Percentage
1.	Low	Below 7.55	40	48
2.	Medium	7.55 - 9.53	16	16
3.	High	Above 9.53	36	36

Mean score = 8.540

Correlation coefficient = 0.3814 (significant)

As shown in Table 12 majority of the contact farmers (48 per cent) had low level of preference of information sources. This was followed by 36 per cent of the contact farmers with high level of preference of information sources. Only 16 per cent of the respondents were found to have medium level of preference

of information sources. The maximum score possible in this dimension was 22 and the mean score of the sample was 8.540 which is comparatively low. The correlation coefficient worked out between interpersonal communication behaviour and pattern of preference of information sources by contact farmers was 0.3014, which was significant.

4.2.5. Mass media participation of contact farmers

The data pertaining to the mass media participation of contact farmers are presented in Table 13.

It was evident from Table 13 that majority of the respondents (68 per cent) were reading newspapers two or more times a week and only seven per cent of the respondents indicated that they never read newspaper. Though 79 per cent of the respondents listened to radio, only 68 per cent of the respondents were listening to radio rural programmes. The least favoured mass media source turned out to be the farm magazines and other literature on agriculture as they were used by only seven per cent of the respondents.

Based on the frequency of mass media participation, the respondents were categorised into three groups keeping mean as the measure of check. The results of this analysis are presented in Table 14.

Table 13. Mass media participation of the respondents

(n = 100)

Sl. no.	Mass media sources	Frequency of participation					Total percentage	Total score	Rank
		Two or more times a week	Atleast once a week	Atleast once a fortnight	Atleast once a month	Never			
1.	Reads newspaper	68	10	11	4	7	100	328	1
2.	Listens to radio	38	13	19	10	21	100	237	2
3.	Listens to radio rural programmes	25	12	18	13	32	100	185	3
4.	Reads farm magazines and other literature on agriculture	--	1	1	5	93	100	10	4

Table 14. Distribution of respondents according to their level of mass media participation

(n = 100)

Sl. no.	Level of mass media participation	Score range	Frequency	Percentage
1.	Low	Below 6.70	42	42
2.	Medium	5.70 - 8.12	16	16
3.	High	Above 8.12	42	42
	Total		100	100

Mean score : 7.410

Correlation coefficient = 0.3076 (significant)

A perusal of the data presented in Table 14 indicates that an equal percentage (42 per cent each) of respondents were found to have low level and high level of mass media participation. The remaining 16 per cent of the respondents belonged to the medium level of mass media participation. Taking into consideration, the maximum score obtainable in this dimension (16), the preformance of respondents in general was very poor as indicated by the mean score of 7.410. The computed correlation coefficient between interpersonal communication behaviour and mass media participation was 0.3076 which was significant.

4.2.6. Socio-economic status of contact farmers

The distribution of respondents according to their socio-economic status is presented in Table 15.

Table 15. Distribution of respondents according to their level of socio-economic status

(n = 100)

Sl. no.	Level of socio-economic status	Score range	Frequency	Percentage
1.	Lower socio-economic status	Below 18.60	41	41
2.	Middle socio-economic status	18.60 - 19.60	19	19
3.	Upper socio-economic status	Above 19.60	40	40
	Total		100	100

Mean score : 19.10

Correlation coefficient = 0.3090 (significant)

Data in Table 15 emit the finding that while 41 per cent of the respondents had lower socio-economic status, an almost equal percentage (40 per cent) of the respondents was coming under higher socio-economic status category. The percentage of respondents coming under middle socio-economic status category was only 19 per cent. In general, the socio-economic status of the respondents was found to be low. The correlation coefficient between interpersonal communication behaviour and socio-economic status of contact farmers was 0.3090, which was significant.

4.2.7. Attitude of contact farmers towards contact farmer system

Data in Table 16 relate to the distribution of respondents according to their level of attitude towards contact farmer system.

Table 16. Distribution of respondents according to their level of attitude towards contact farmer system

(n = 100)

Sl. no.	Level of attitude	Score range	Frequency	Percentage
1.	Low	Below 76.12	39	39
2.	Medium	76.12 - 87.36	16	16
3.	High	Above 87.36	45	45
	Total		100	100

Mean score : 81.741

Correlation coefficient = 0.5396 (significant)

The data in Table 16 illustrate that majority of the respondents (45 per cent) had high level of attitude towards contact farmer system. It was followed by respondents (39 per cent) having low level of attitude. Only 16 per cent of the respondents had medium level of attitude towards contact farmer system. It could be observed that mean score obtained for this dimension was appreciably high (87.741), considering the maximum score possible (122.2). The correlation

coefficient between the dependent variable and attitude of contact farmers towards contact farmer system was computed as 0.5396 which was significant.

4.2.8. Role perception of contact farmers

The data pertaining to the role perception of contact farmers are presented in Table 17.

It could be observed from Table 17 that majority of contact farmers (88 per cent) rated 'Maintaining regular and frequent contact with the Agricultural Demonstrators' followed by 'Explaining the messages and their experiences to other farmers' (22 per cent) and 'Demonstrating the introduced recommended practices to other farmers in the area quickly' (82 per cent) as the most important roles. Eighty per cent of the respondents felt 'Assisting in spreading the new technology to most farmers in the area quickly', 'Willing to try out practices recommended by the extension worker' (79 per cent) and 'Allowing other farmers to visit contact farmers' field (80 per cent) as important roles. The role of 'Maintaining regular and frequent contact with the other farmers' was perceived as most important by 74 per cent of the respondents. 'Active participation in the extension activities organised by the extension staff in agriculture' and 'Helping other farmers to obtain bank loans, supply and services and other facilities

Table 17. Role perception of the respondents

(n = 100)

Sl. No.	Role of contact farmers	Response pattern in percentage				Total score	Rank
		Most important	Important	Least important	Total percentage		
1.	Maintaining regular and frequent contact with Agricultural Demonstrators.	86	9	3	100	185	1
2.	Explaining the messages and their experiences to other farmers	82	15	3	100	179	2
3.	Demonstrating the introduced recommended practices to other farmers in the area quickly	82	14	4	100	178	3
4.	Assisting in spreading the new technology to most farmers in the area quickly	80	15	5	100	175	4
5.	Willing to try out practices recommended by the extension workers	79	16	5	100	174	5
6.	Allowing other farmers to visit contact farmers' field	80	14	6	100	174	5
7.	Motivating the fellow farmers to adopt recommendations on part of their land	75	17	8	100	167	7

Contd.....

Table 17. (Contd.....)

(n = 100)

Sl. no.	Role of contact farmers	Response pattern in percentage				Total score	Rank
		Most important	Important	Least important	Total percentage		
8.	Maintaining regular and frequent contact with other farmers	74	18	8	100	166	8
9.	Participating the fellow farmers in the discussions to hear the recommendations	70	17	13	100	157	9
10.	Active participation in the extension activities organised by the extension staff in agriculture	55	11	34	100	121	10.5
11.	Helping other farmers to obtaining bank loans, supply and services and other facilities necessary for agricultural development	55	11	34	100	121	10.5

necessary for agricultural development' were the roles perceived as important by 55 per cent of the respondents. The distribution of respondents according to their level of role perception is furnished in Table 18.

Table 18. Distribution of respondents according to their level of role perception

(n = 100)

Sl. no.	Level of role perception	Score range	Frequency	Percentage
1.	Low	Below 17.422	35	35
2.	Medium	17.422 - 19.278	10	10
3.	High	Above 19.278	55	55
	Total		100	100

Mean score : 18.35

Correlation coefficient = 0.2546 (significant)

It is evident from the results presented in Table 18 that majority of the respondents (55 per cent) were found to have high level of role perception. This was followed by 35 per cent respondents having low level of role perception. Ten per cent of the respondents belonged to the medium category of role perception. In general, as the mean role perception score indicates, the role perception by the respondents was appreciable. The

correlation between interpersonal communication behaviour and role perception of contact farmers was significant (0.2546).

4.2.9. Role performance of contact farmers

The data pertaining to the role performance of contact farmers are presented in Table 19.

It is evident from Table 19 that an appreciably higher percentage (81 per cent) of the respondents were 'Maintaining regular and frequent contact with the Agricultural Demonstrators'. In the role performance hierarchy, the other important roles performed were 'Explaining the messages and other experiences to other farmers', 'Maintaining regular and frequent contact with other farmers', and 'Willing to try out practices recommended by the extension workers'. The least performed roles were 'Active participation in the extension activities, organised by the extension staff in agriculture', and 'Helping other farmers to obtain bank loans, Supply and Services and other facilities necessary for agricultural development'. The roles, 'Participating the fellow farmers in the discussions to hear the recommendations' and 'Motivating the fellow farmers to adopt the recommendations on part of their land' were performed only to a negligible extent by the respondents. The distribution of respondents according to their level of role performance is furnished in Table 20.

Table 19. Role performance of the respondents

(n = 100)

Sl. no.	Role of contact farmers	Response pattern in percentage			Total percentage	Total score	Rank
		Always	Occasionally	Never			
1.	Maintaining regular and frequent contact with the Agricultural Demonstrators	81	14	5	100	176	1
2.	Explaining the messages and their experiences to other farmers	47	21	32	100	115	2
3.	Maintaining regular and frequent contact with other farmers	40	25	35	100	105	3
4.	Willing to try out practices recommended by the extension workers	37	20	43	100	94	4
5.	Assisting in spreading the new technology to most farmers in the area quickly	25	34	41	100	84	5
6.	Allowing other farmers to visit contact farmers field	26	30	44	100	82	6
7.	Demonstrating the introduced recommended practices to other farmers in the area quickly	21	32	47	100	74	7

Contd.....

Table 19. Contd.....

Sl. no.	Role of contact farmers	Response pattern in percentage			Total percentage	Total score	Rank
		Always	Occassionally	Never			
8.	Participating the fellow farmers in the discussions to hear the recommendations	4	37	59	100	45	8.5
9.	Motivating the fellow farmers to adopt the recommendations on part of their land	4	37	59	100	45	8.5
10.	Active participation in the extension activities organised by the extension staff in agriculture	-	21	79	100	21	10
11.	Helping other farmers to obtain bank loans, supply and services and other facilities necessary for agricultural development	-	12	88	100	12	11

Table 20. Distribution of respondents according to their level of role performance

(n = 100)

Sl. no.	Level of role performance	Score range	Frequency	Percentage
1.	Low	Below 7.522	40	40
2.	Medium	7.522 - 9.678	11	11
3.	High	Above 9.678	49	49
	Total		100	100

Mean score = 8.60

Correlation coefficient = 0.4748 (significant)

Data presented in Table 20 reveal that 40 per cent of the respondents had high level of role performance. This was closely followed by 40 per cent of respondents having low level of role performance. The percentage of respondents with medium level of role performance was only 11 per cent. The mean score for role performance by the respondents was 8.60 which is very low as compared to the maximum possible score of 22. The computed correlation coefficient between interpersonal communication behaviour and role performance of contact farmers was 0.4748 which was significant.

4.3. Results of Path Analysis

4.3.1. Intercorrelation among dependent and independent variables

Intercorrelations among dependent and independent

variables were computed to test the inter-relationships between these variables and to facilitate the selection of independent variables for inclusion in the 'Path Analysis'. The correlation coefficients are furnished in Table 21 and are illustrated in Fig. 7 and Fig. 8.

Data presented in Table 21 reveal that out of the nine socio-psychological characteristics studied, eight characteristics were positively and significantly correlated with interpersonal communication behaviour of the contact farmers. These characteristics were extension orientation, management orientation, pattern of preference of information sources, mass media participation, socio-economic status, attitude towards contact farmers system, role perception and role performance of the respondents. Scientific orientation was not significantly correlated with interpersonal communication behaviour of the respondents.

It was also evident from data in Table 21 that extension orientation of the respondents was positively and significantly correlated with their management orientation. Pattern of preference of information sources, mass media participation, attitude towards contact farmer system, role perception and role performance. Pattern of preference of information sources was positively and significantly correlated with mass media participation. Socio-economic status attitude towards contact farmer system, role perception and role performance. Mass media participation was positively and significantly correlated with socio-

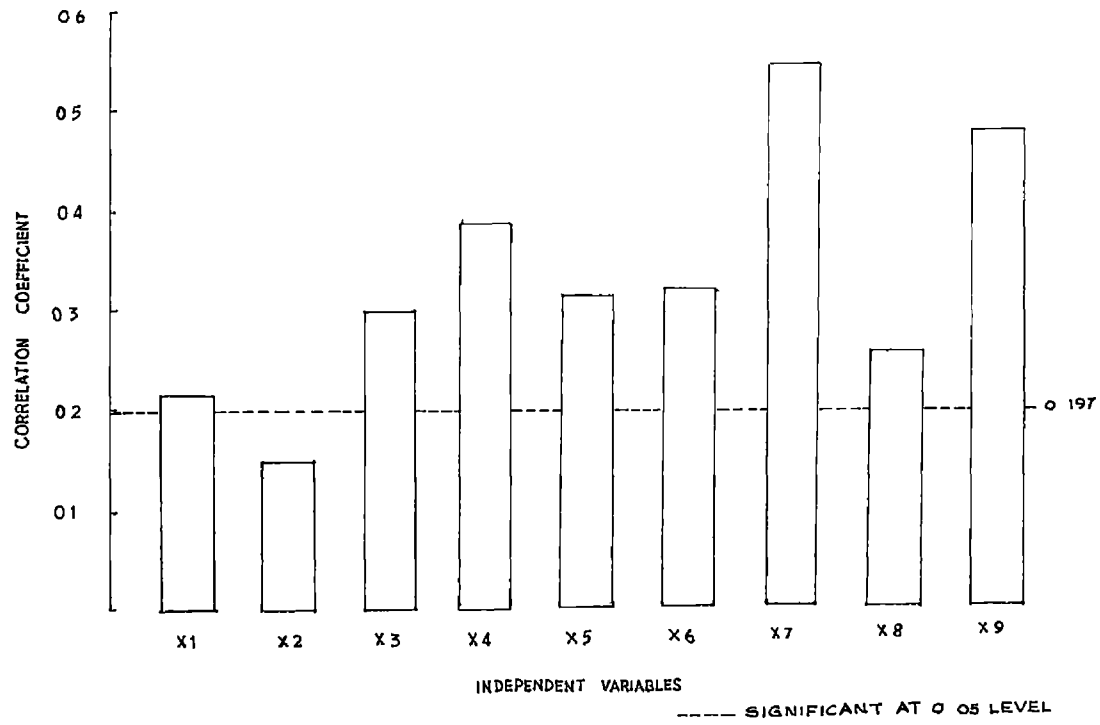
Table 21. Correlation Matrix

	X	X1	X2	X3	X4	X5	X6	X7	X8	X9
X	1.000	0.2162*	0.1496	0.2993*	0.3814*	0.3076*	0.3095*	0.5396*	0.2546*	0.4748*
X1			0.0520	0.2453*	0.2601*	0.2381*	0.0745	0.2248*	0.3779*	0.3919*
X2				0.0116	0.0300	0.1063	-0.0960	0.0589	-0.1107	-0.0540
X3					0.2270*	0.1985*	0.3600*	0.3900*	0.3665*	-0.3088*
X4						0.1511	0.3046	0.2877	0.2319*	0.2292*
X5							0.1874	0.3180*	0.0835	0.1781
X6								0.1275	0.0730	0.0355
X7									0.4376*	0.5669*
X8										0.6423*
X9										1.000

X Interpersonal communication behaviour
X1 Extension orientation
X2 Scientific orientation
X3 Management orientation
X4 Pattern of preference of information sources
X5 Mass media participation
X6 Socio-economic status
X7 Attitude towards contact farmer system
X8 Role perception
X9 Role performance

0.05 level

FIG 7 CORRELATION BETWEEN DEPENDENT AND INDEPENDENT VARIABLES



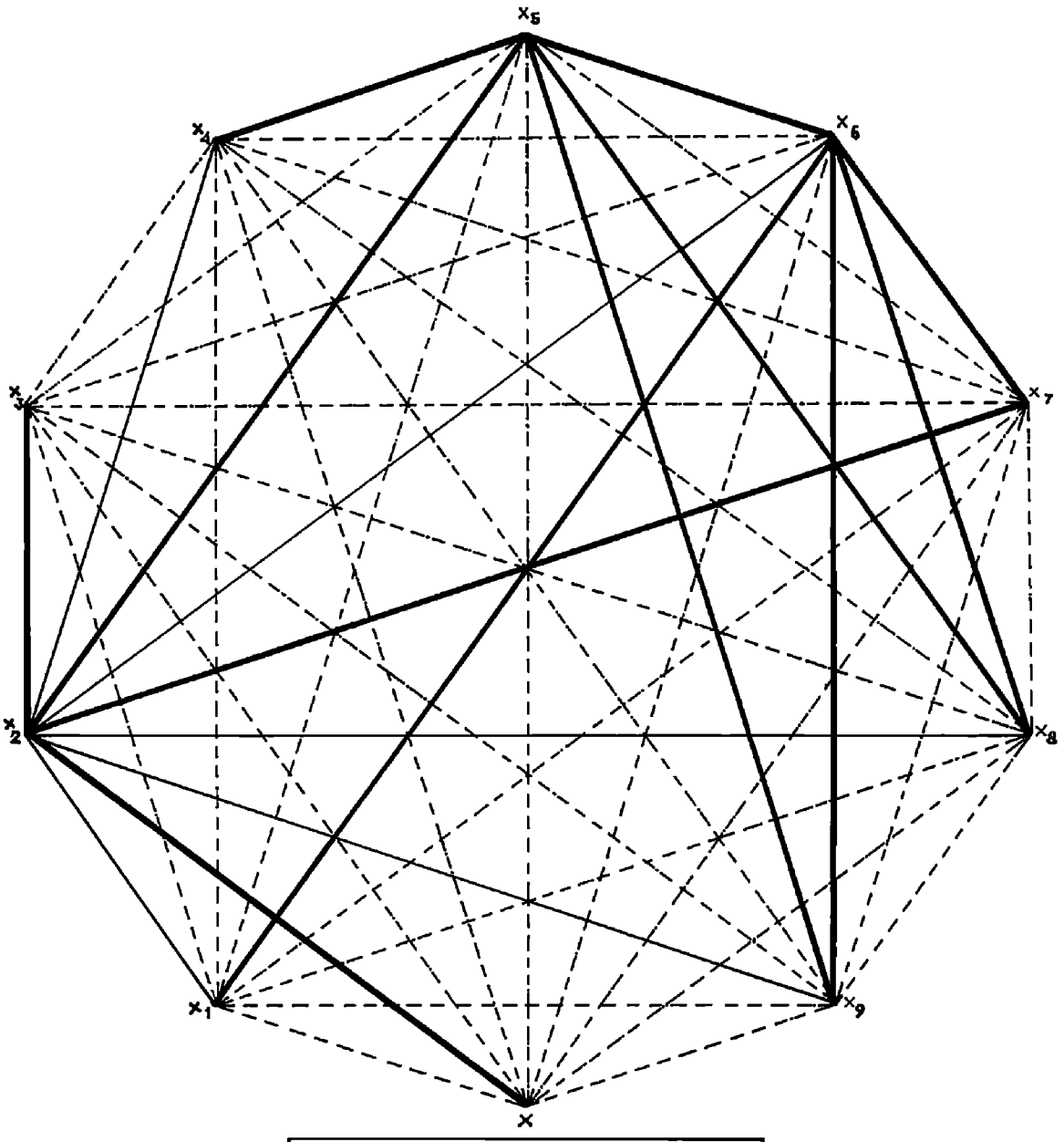


FIG 8 INTERCORRELATIONS AMONG DEPENDENT AND INDEPENDENT VARIABLES

economic status and attitude towards contact farmer system. Socio-economic status had positive and significant correlation with the attitude of contact farmer towards contact farmer system. Attitude of contact farmer towards contact farmer system was positively and significantly correlated with role perception and role performance and role perception had positive and significant correlation with role performance.

4.3.2. Direct and indirect effects of independent variables on the dependent variable

The significant results of the path analysis are furnished in Tables 22 and 23.

From the data in Tables 22 and 23 it could be deduced that the most important variables with substantial direct effects on the interpersonal communication behaviour of contact farmers were their role performance, socio-economic status, attitude towards contact farmer system, pattern of preference of information sources and mass media participation in that order. The data clearly indicated that the role performance and socio-economic status were the main deciding factors of interpersonal communication behaviour of contact farmers. Those variables accounted for 73 per cent and 72 per cent of the total effect respectively. The attitude of contact

Table 22. Direct and indirect effects (percentages are given in brackets)

	X1	X2	X3	X4	X5	X6	X7	X8	X9	r
X1	-0.001 (0)	0.0082 (-4)	-0.0070 (-3)	0.0477 (22)	0.0177 (8)	0.0165 (8)	0.0667 (30)	-0.0512 (-23)	0.1366 (62)	0.2181 (100)
X2	0.0 (0)	0.1571 (0.104)	-0.0026 (-2)	-0.0055 (-4)	0.0088 (6)	-0.0212 (-14)	0.0675 (12)	0.0150 (10)	-0.0188 (-12)	0.1496 (100)
X3	0.0 (0)	0.0144 (5)	-0.0204 (10)	0.0416 (14)	0.0165 (5)	0.0701 (27)	0.1156 (39)	-0.0437 (-17)	0.1076 (36)	0.2993 (100)
X4	0.0 (0)	-0.0047 (-1)	-0.0064 (-2)	0.1834 (48)	0.0125 (3)	0.0674 (18)	0.0853 (22)	-0.0314 (-8)	0.0799 (21)	0.3814 (100)
X5	0.0 (9)	0.0167 (5)	-0.0056 (-2)	0.0277 (9)	0.0830 (27)	0.0415 (13)	0.0943 (31)	-0.0113 (-4)	0.0621 (20)	0.3076 (100)
X6	0.0 (0)	-0.0151 (-5)	-0.0102 (-3)	0.0559 (18)	0.0156 (5)	0.2213 (72)	0.0378 (12)	-0.0099 (-3)	0.0124 (4)	0.3096 (100)
X7	0.0 (0)	0.0093 (2)	-0.0111 (-2)	0.0528 (10)	0.0264 (5)	0.0282 (5)	0.2965 (55)	-0.0592 (-11)	0.1976 (37)	0.5396 (100)
X8	0.0 (0)	-0.0174 (-7)	-0.0104 (-4)	0.0425 (17)	0.0069 (3)	0.0162 (6)	0.1297 (51)	-0.1354 (-53)	0.2239 (87)	0.2546 (100)
X9	0.0 (0)	-0.0085 (-2)	-0.0088 (-2)	0.0420 (1)	0.0148 (3)	0.0079 (2)	0.1681 (35)	-0.0870 (-18)	0.3486 (73)	0.4748 (100)

X1 Extension orientation
X2 Scientific orientation
X3 Management orientation
X4 Pattern of preference of information sources
X5 Mass media participation
X6 Socio-economic status
X7 Attitude towards contact farmer system
X8 Role perception
X9 Role performance

Table 23. Results of path analysis

Sl. no.	Independent variables	Direct effects	Substantial indirect effect	
1.	Extension orientation	-0.001	0.1366 (62%)	through role performance and
		(0)	0.0667 (30%)	through attitude towards contact farmer system
2.	Scientific orientation	-0.1571	0.0675 (12%)	through attitude towards contact farmer system and
		(0.104)	0.0150 (10%)	through role perception
3.	Management orientation	-0.0284	0.1156 (39%)	through attitude towards contact farmer system and
		(-10)	0.1076 (36%)	through role performance
4.	Pattern of preference of information sources	0.1834	0.0853 (22%)	through attitude towards contact farmer system and
		(48)	0.0799 (21%)	through role performance
5.	Mass media participation	0.0830	0.0943 (31%)	through attitude towards contact farmer system and
		(27)	0.0621 (20%)	through role performance
6.	Socio-economic status	0.2213	0.0559 (18%)	through pattern of preference of information sources
		(72)	0.0378 (12%)	through attitude towards contact farmer system
7.	Attitude towards contact farmer system	0.2965 (55)	0.1976 (37%)	through role performance
8.	Role perception	-0.1354	0.2239 (87%)	through role performance and
		(53)	0.1297 (51%)	through attitude towards contact farmer system
9.	Role performance	0.3486 (73)	0.1681 (35%)	through attitude towards contact farmer system

farmers towards contact farmer system showed maximum correlation eventhough, it was having only a standing below that of role performance and socio-economic status with respect to direct effect on interpersonal communication behaviour.

It was also found that role performance was having maximum indirect effect on interpersonal communication behaviour, closely followed by attitude towards contact farmer system. While considering the total effect, role performance had 87 per cent of the indirect effect via role perception, 62 per cent via extension orientation, 37 per cent via attitude towards contact farmer system, 36 per cent via management orientation, 21 per cent via pattern of preference of information sources and 20 per cent via mass media participation. Whereas, attitude towards contact farmer system exercised its indirect influence via all the independent variables in the following order. Fifty one per cent of indirect effect via role perception, 39 per cent via management orientation, 35 per cent each via role performance, 31 per cent via mass media participation, 30 per cent via extension orientation, 21 per cent via pattern of preference of information sources, 12 per cent via scientific orientation and socio-economic status are

having maximum direct bearing on interpersonal communication behaviour. Role performance and attitude towards contact farmer system were having the highest and next best indirect influence on interpersonal communication behaviour. The 'R' value was 0.728 which shows that only 27.2% of the variations in the interpersonal communication behaviour of contact farmers were explained by the independent variables included in the study. The diagram showing the cause and effect relationship is given in Fig.9.

PATH ANALYSIS STUDY IN INTERPERSONAL BEHAVIOUR

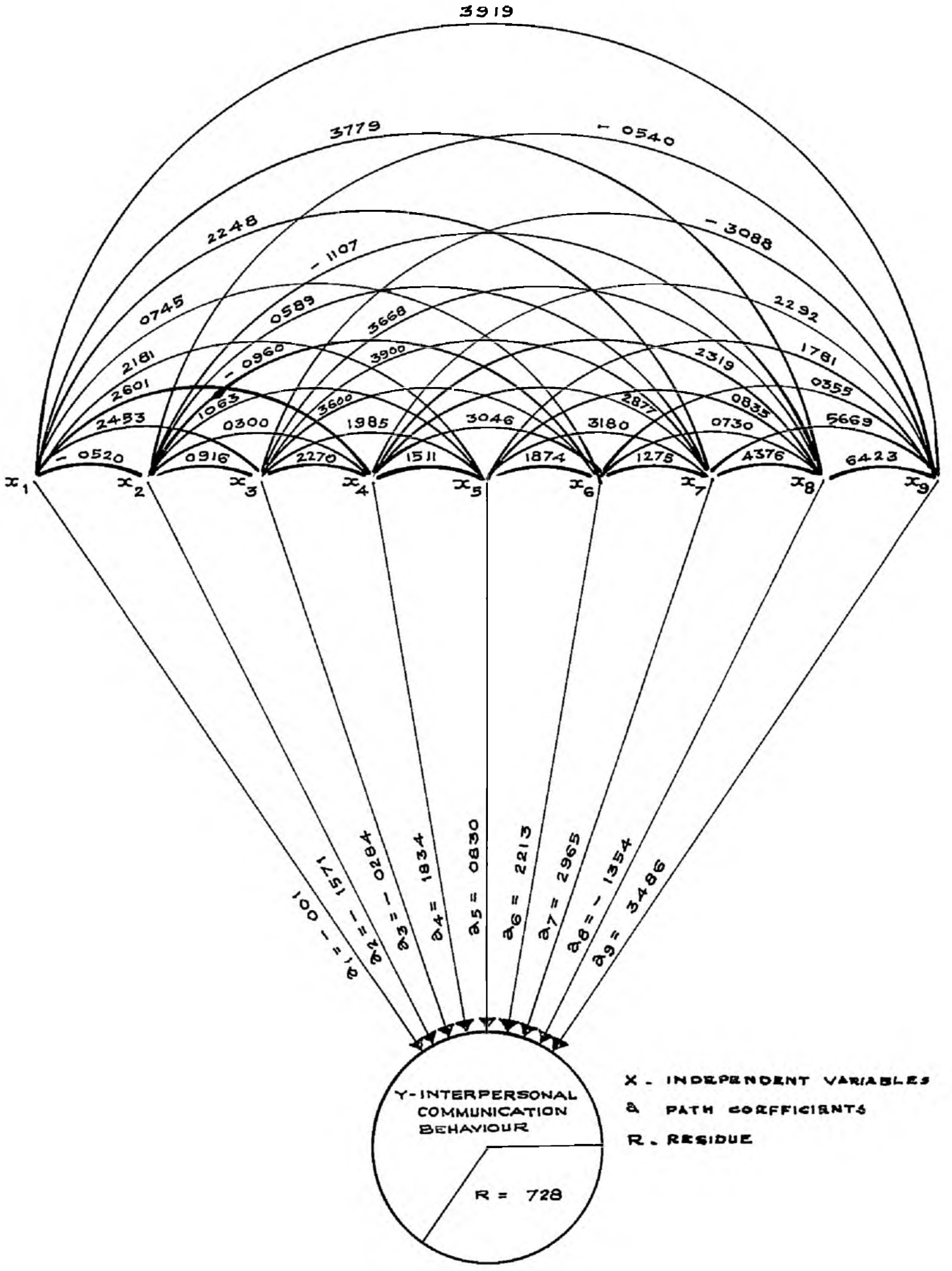


FIG 9 DIAGRAM SHOWING
CAUSE AND EFFECT RELATIONSHIP

DISCUSSION

5. DISCUSSION

In this chapter, the salient results of the study are discussed in the following sequence.

5.1. Dependent variable

The dependent variable, namely the overall interpersonal communication behaviour of contact farmers consisted of the following components:

5.1.1. Pattern of receipt of technical information (information input) on coconut cultivation by contact farmers

5.1.2. Information processing pattern of contact farmers

5.1.3. Communication pattern of technical information (information output) on coconut cultivation by contact farmers

5.1.4. Pattern of receipt of feeback information by contact farmers

5.1.5. Overall interpersonal communication behaviour of contact farmers

5.2. Independent variables

The independent variables included in the study consisted of the following socio-economic and psychological characteristics.

5.2.1. Extension orientation of contact farmers

5.2.2. Scientific orientation of contact farmers

5.2.3. Management orientation of contact farmers

5.2.4. Pattern of preference of information sources by contact farmers

5.2.5. Mass media participation by contact farmers

5.2.6. Socio-economic status of contact farmers

5.2.7. Attitude of contact farmers towards contact farmer system

5.2.8. Role perception of contact farmers

5.2.9. Role performance of contact farmers.

5.3. Intercorrelation among dependent and independent variables

5.4. Results of path analysis

5.1. Dependent variable

5.1.1. Pattern of receipt of technical information (information input) on coconut cultivation by contact farmers

The results furnished in Table 1 revealed that Agricultural Demonstrators were the most utilized interpersonal source of information by contact farmers for receiving messages on coconut cultivation. As contemplated in the Training and Visit system of Agricultural Extension, Agricultural Demonstrators would be visiting the contact farmers every fortnight to transfer the seasonal messages. These personnel of the Department of Agriculture would be communicating latest technical information on different aspects of coconut cultivation by

establishing a firm rapport with the contact farmers. Easy accessibility to the Agricultural Demonstrators, ready advice given by them and periodical contacts between the Agricultural Demonstrators and contact farmers envisaged under Training and Visit system could also be attributed as the reasons for this phenomenon. And, therefore, the contact farmers depend on this interpersonal source of information to a great extent. The results also indicated that Junior Agricultural Officers were the second most important source of information for the contact farmers. This might be due to the technical competence of Junior Agricultural Officers and the credibility attached to them by the contact farmers. More contacts between Junior Agricultural Officers and contact farmers under the Training and Visit system given an opportunity for the contact farmers to clarify their doubts easily and more effectively with a competent and credible source. It has also been established that in various stages of adoption, friends and neighbours play a vital role. Friends and neighbours in rural areas particularly, closely identify themselves with contact farmers. Moreover, the concept of 'homophily', wherein there is similarity in certain characteristics between individuals in an interaction situation, may also be attributed to the emergence of friends and neighbours as one of the

oft-consulted sources of information. The finding that commercial agents, research personnel and personnel of village institutions were least consulted by contact farmers to obtain information on coconut cultivation is quite interesting. In Kerala, the commercial agents have still to establish a strong base of extension work particularly among farmers in the plains. Moreover, the commercial agents are propagandists with more orientation on sales promotion of their products. This approach cannot cut much ice with the contact farmers under the Training and Visit system. This may be the reason for the poor interaction between the contact farmer and the commercial agents. As regards the contact between contact farmer and research personnel and personnel of village institutions, it leaves much to be desired. The research personnel with very little time at their disposal for establishing extensive contacts with contact farmers cannot be hoped to be consulted frequently by contact farmers. The fact that personnel of village institutions have seldom been consulted by contact farmers speaks volumes about the tardy involvement of village institutions in agricultural development activities. The local leaders were also reported to be consulted only to a limited extent by the contact farmers. In Indian villages, particularly under Kerala conditions, the local leadership is mostly based

on ecclesiastical and/or political considerations. Hence, it is only obvious that their role in information communication was negligible.

5.1.2. Information processing pattern of contact farmers

The data presented in Table 2 brought to focus some interesting findings. With the increase in the complexity of technical content of the messages, both encoding and decoding became difficult. The message M1 (Plant improved varieties of coconut), which was ranked first in both the dimensions of information processing, ie., encoding and decoding is comparatively an easy one. But, the message, M2 (For the control of rhinoceros beetle use 35 g of 50% BHC or carbaryl for every 0.3 M^3 of breeding material), which is relatively a difficult message, was assigned eighth and ninth ranks (more difficult) for decoding and encoding respectively. Similar was case with message M3 (For the control of red palm weevils, inject attached palms with carbaryl (20 g/lit.) or apply 1% DDVP or Aluminium Phosphide (Celphos, Phostoxin and Phosphene). These results also point out that there was a latent relationship between decoding - encoding difficulty and the cost aspect of the messages. The result that message, M4 (For the control of red palm weevil, when green leaves are cut from the palms,

stumps of not less than 120 cms may be left on the trees), which is a no cost technology, having obtained fourth rank for encoding difficulty and third rank for decoding difficulty testifies this relationship.

5.1.3. Communication pattern of technical information (information output) on coconut cultivation by contact farmers

It is obvious from the results furnished in Tables 3 and 4 that 'Personal talk during casual everyday meeting' followed by 'Personal talk during farm visit and house visit'were the interpersonal communication methods often used by the contact farmers for communicating information to fellow farmers. It might be due to the fact that a contact farmer could talk to his follow farmers and visit their houses and farms, whenever he found it convenient. This conforms the prevailing pattern of social contacts/visits in rural areas. But it would be quite difficult for him to hold formal discussions with his fellow farmers, because from morning till evening they would be toiling in the field and in the evening they would be moving in different directions in search of some recreation. The findings also revealed that 93 per cent of the respondents were not approached for advice on agricultural matters. This might be due to lack of awareness among fellow farmers about contact farmers' identify as farms leaders under the Training and

Visit system and about the enhanced competence of contact farmers as effective agricultural communicators due to their frequent contacts with change agents. Improper selection of contact farmers by the extension personnel may have resulted in their poor performance as communicators. Moreover, these results reveal that interpersonal interaction among farmers in the rural areas is not always aimed at exchange of scientific ideas on agriculture. It is rather of a passing interest for the farmers to deliberately enter into conversation on agricultural aspects. Another finding, which has to be highlighted here is that only little time was spent by farmers for communication of information to peers. This could be explained as follows: contact farmers were not finding it necessary to communicate technical information to their peers as these fellow farmers were also receiving similar information from Agricultural Demonstrators. In addition, the tendency of 'give-advice-only-when-asked-for', which is not so infrequently observed among farmers in rural areas, could also be accounted to explain this phenomenon.

5.1.4. Pattern of receipt of feedback information by contact farmers

From Tables 5 and 6 it is evident that the extent of feedback was poor since most of the respondents had indicated that they 'never' received feedback information from fellow farmers. The Training and

Visit system was introduced in the area only very recently and hence the fellow farmers may not be considering the contact farmers as competent for clarifying their doubts. 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 fellow farmers. The contact farmers selected by the extension personnel may not be meeting all the qualifications prescribed for selecting contact farmers under the Training and Visit system. Data showed that whatever little feedback information received by contact farmers was on technical aspects. Considering the general tendency among farmers to clarify doubts with knowledgeable farmers on complex problems related to technical aspects in agriculture, this finding is only too obvious. Among the methods of information feedback, 'casual everyday meeting' and 'group meeting at some specific place' emerged as the most important methods. In typical rural areas of Kerala, for that matter in every state, customary talks and courtesy queries are the major forums of interaction among farmers. The informal meeting of farmers is a casual every day occurrence and it is not premediated. Hence, it is no wonder that 'casual every day meeting' was the most

important occasion for getting feedback information. 'Home calls by fellow farmers' are predetermined forums of interaction and feedback on technical information among farmers. In view of this, the result that 'Home calls by fellow farmers' was considered as the second most important method of information feedback could be justified. It is also discerning to note that 'group meeting' was referred to as the least used method of information feedback. This could be due to the limited number of 'group meetings' arranged in the study area.

5.1.5. Overall interpersonal communication behaviour of contact farmers

From the data presented in Table 7 it is clear that the mean score of 38 for overall interpersonal communication behaviour for the total sample is very low when compared to the maximum score possible (102). This could be due to the following reasons. Contact farmer system under the Training and Visit project of extension in Kerala is in the nascent stage and the understanding that contact farmers will be carriers of messages on improved agricultural practices has not yet developed adequately among the contact farmers. Besides, agriculture is no way considered as a commercial enterprise and enterprise perfection through discussion and consultation with reference groups has not yet

established its foot-hold in Kerala, particularly in the plains where the study was conducted. This may add to the inadequacy of interpersonal communication in relation to agricultural practices among contact farmers.

5.2. Independent variables

5.2.1. Extension orientation of contact farmers

It is evident from the results presented in Table 8 that the mean score of 4.48 does not compare well with the maximum score possible (11). In this study, extension orientation was measured as a composite of two specific items viz., frequency of contact of contact farmers with extension workers and frequency of their participation in various extension activities. Though the contact farmers are getting ample opportunities under the Training and Visit system for coming in contact with the extension workers their participation in extension activities might have been quite infrequent, because of many reasons. Firstly, these extension activities might not have been systematically organised in the study area. When these extension activities are not regularly organised in a planned manner the contact farmers are likely to lose interest in these activities as they may not meet their interests. Besides, if at all they are conducted, the

elements of proper timing and topicality in these extension activities may be missing. Therefore, it could be plausibly explained that the contact farmers' poor extension participation might have resulted in their poor extension orientation.

The results of the study present an encouraging finding that extension orientation was significantly correlated with the interpersonal communication behaviour of contact farmers. There are relevant research studies which indicate that although farmers learnt from other farmers to a considerable extent, they did not learn from just anybody. The contact farmers with high level of extension orientation would not be satisfied with the informations they received from some persons alone. On the other hand, they would try to verify the validity of such informations, thus acquired, through other reliable sources. This tendency of contact farmers to judge and evaluate information on the basis of their experience and knowledge would enable them not only to establish contact with various kinds of extension agencies but also to participate in various extension activities. This builds up the information level of contact farmers and obviously, would enhance their interpersonal communication behaviour. This reason would be offered to explain the positive and significant association of

extension orientation of contact farmers with their interpersonal communication behaviour.

The results of two closely related studies by Bhaskaran (1979) and Reddy and Reddy (1980) corroborate the findings of this study.

The above findings and explanation justify the rejection of the null hypothesis that there would be no significant relationship between extension orientation of contact farmers and their interpersonal communication behaviour.

5.2.2. Scientific orientation of contact farmers

The data presented in Table 9 reveal that while the maximum score possible on this dimension was six, the mean score of the respondents was as high as 5.680. While living in a state of flux farmers in Kerala, with very high literacy rate, have been witnessing remarkable advances in the spheres of science and technology including agriculture. These impressions about science have made them to compare scientific agriculture with the traditional. Invariably they eschew the old to embrace the new. This is in nutshell, the possible explanation for the high mean score obtained on this dimension.

The findings of the present study revealed that scientific orientation was not significantly correlated with the interpersonal communication behaviour of contact

farmers. This finding of the present study is contrary to the findings of Murthy (1972), Singh (1973), Sandhu and Darbarilal (1976) and Rao and Reddy (1980). A perusal of the data presented in Table 9 reveals that about 88 per cent of the contact farmers had a high level of scientific orientation. This disparity in the distribution of contact farmers on scientific orientation could be offered as an explanation for the lack of significant relationship between scientific orientation and interpersonal communication behaviour. This finding also helps to draw a line of distinction between the purely psychological variables and the applied behaviour - oriented variables, such as interpersonal communication behaviour. The farmer is a 'perceptual' field while the later is a 'behavioural' one. Hence, the incongruence in the nature of these two variables studied could amount to the lack of significant relationship between the two.

In the light of the above discussion, the null hypothesis formulated in the study that there would be no significant relationship between scientific orientation and interpersonal communication behaviour of contact farmers was accepted.

5.2.3. Management orientation

As indicated in Table 10 management orientation of the contact farmers was appreciably higher with a

mean score of 11.870 as compared with the maximum score possible (18). Every farmer would like to take rational decisions with respect to farming because farming is his means of subsistance. This tendency may prompt the farmers to follow the tenet of 'plan and prosper'. With the limited resources, farmers explore the ways and means of maximising profit in farming which eventually opens up new vistas of knowledge on planning, production and marketing. Viewed in the background of high literacy rate among the farmers of Kerala, this tendency among them to develop a proper management prespective is only natural.

Results obtained in this study revealed the positive and significant relationship between management orientation and interpersonal communication behaviour. Management orientation emphasises systematisation of production and marketing of enterprises. A farmer would require timely information for proper planning, production and marketing of his enterprise. The following explanation would substantiate this statement. On the one hand, a farmer has a certain set of farm resources, such as land, labour, capital, etc., that are relatively scarce. On the other hand, the same farmer has a set of goals or objectives to achieve, may be maximising net farm income. In between there two

poles is the farmer himself with specific degree of ability and awareness. This gap would be bridged by the concentration of desire and will power of an individual farmer, to use his scarce resources in a way that desired objectives are achieved. This bridging up process would certainly entwine him in various acts of communication with his peers and other interpersonal agencies in respect of planning, production and marketing of his enterprises. As a result, the farmer with high degree of management orientation will also exhibit an appreciable interpersonal communication behaviour.

The results of the present study are in conformity with the finding of Bhaskaran (1979).

In view of the above explanation, the null hypothesis that there would be no significant relationship between management orientation and interpersonal communication behaviour of contact farmers was rejected.

5.2.4. Pattern of preference of information sources by contact farmers

A scrutiny of the results furnished in Table 11 brings to focus the very interesting finding that Agricultural Demonstrators and Junior Agricultural Officers were the most important interpersonal sources

of information preferred by the contact farmers. During the past decade, the role of village level workers (VLWs) was a conflicting issue. According to Bhaskaran (1971) "as a multi-purpose worker, the Agricultural Demonstrators were regarded only as a first-aid-man sometimes only as a contact person. His role as an extension worker in promoting modern agricultural programmes has become weak. In recent times, most of the village level workers have tended to become demoralised and as a consequence ineffective". The findings of the present study helps to remove such misgivings. It is an indication that Agricultural Demonstrators and Junior Agricultural Officers are the potential sources of agro-information for farmers in the villages today.

Besides this, it was also found that the contact farmers preferred newspapers and radio broadcasts to an appreciable extent. The role of mass media like newspaper and radio, in agricultural information communication has assumed significance in recent times with more newspaper pages and broadcast schedules allotted to agricultural programmes. This may be attributed to the preference attached to these sources by contact farmers.

The results on Table 12 indicated that the mean score of contact farmers for information source

consultancy was low (8.540) when compared with the maximum score possible (22). This points at the general tendency of lack of adequate exposure of contact farmers to these information sources.

The results obtained in this study revealed positive and significant relationship between pattern of preference of information sources and interpersonal communication behaviour of contact farmers. Contact farmers with high preference for information sources would have acquired relatively more information. The reliance on various sources of agro-information would certainly enhance their competence as farm leaders and boost their confidence among fellow farmers as key communicators of agricultural information.

The findings of the present study conform to the findings of Pandyaraj (1978) and Joseph (1983).

In the light of the above discussions the null hypothesis that there would not be any significant relationship between pattern of preference of information sources and interpersonal communication behaviour of contact farmers was rejected.

5.2.5. Mass media participation of contact farmers

A close examination of the results in Table 13 reveals the important mass media sources used by contact farmers.

sixty eight per cent of the contact farmers were reading newspapers as frequently as two or more times a week and only seven per cent of the contact farmers reported that they never read newspapers. This finding is obvious since the literacy rate in Kerala is as high as 70 per cent and that practically every household in Kerala subscribes to atleast one newspaper. The contact farmers with their new status as information store houses, would certainly wish to know the latest events happening around them. Though 51 per cent of the respondents were listening to radio, the percentage of contact farmers listening to rural radio programmes was only 37 per cent. This could be because the timing of the radio rural programmes might not be convenient to the farmers who return home after the day's hard work only after dusk. Moreover, they would be preferring entertainment programmes such as radio drama, film songs, etc., to the radio rural programmes. Reading farm magazines and other literature on agriculture would demand more concentration on the part of the contact farmers. In addition, the farm magazines available in Kerala are only a few. Hence, only few farmers pointed out to the farm magazines and other literature on agriculture as mass media sources of information used by them.

A perusal of the data presented in Table 14 indicates that the mass media contact of respondents in general was very poor as the means score was only 7.410 compared to the maximum score obtainable in this dimension (16). 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 development, particularly in rural Kerala, the citadel of unionism. The unique source, that conflagrates his interest in this sphere is the newspaper, which steals away a major chunk of his time. And, therefore, his reliance on other mass media sources, particularly for agro-information turns out to be negligible. As a matter of fact, for agro-information, farmers depend more on interpersonal sources than mass media sources. This could be the reason for the low mean score obtained by contact farmers on the dimension of mass media participation.

The results obtained in the study revealed positive and significant relationship between mass media participation and interpersonal communication behaviour of contact farmers. A 'potential difference' in respect of knowledge in agriculture develops between farmers with higher level of mass media participation and those with low level of mass media participation.

According to the concept of 'homophily', interpersonal interaction takes place more effectively when individuals differ atleast in one character, preferably in their knowledge level. Hence, farmers with high mass media participation would be efficient in their interpersonal communication than those with low level of mass media participation. This could be attributed to the positive and significant correlation between mass media participation and interpersonal communication behaviour of contact farmers. The results of the present study are in line with those of Bhaskaran (1979).

In the light of above explanation the null hypothesis that there would be no significant relationships between mass media participation and interpersonal communication behaviour of contact farmers was rejected.

5.2.6. Socio-economic status

Data in Table 15 emit the finding that the socio-economic status of the respondents was very low. While the maximum score possible in this dimension was 40, the mean score obtained was only 19.10. The finding unravels the truth that though there has been significant development in the fields of technology, the misery and plight of the poor farmers remain the same as what it has been decades ago. The zooming

price of commodities, escalating cost of inputs, erratic rainfall, unprecedented drought, debilitating diseases such as root (wilt) of coconut, poor infra-structural facilities - all would have undermined the confidence of farmers. This is the explanation that could be offered for the low mean score obtained by the respondents on socio-economic status.

Socio-economic status of the respondents was found to be positively and significantly correlated with the interpersonal communication behaviour. Education, occupation, caste, land-holding, socio-political-participation, possessions, house and household etc. are some of the important factors that secure influence and prestige in any society. Hence, a contact farmer's high socio-economic status would provide him enough morale to explore new vistas of interpersonal relations, wherein he would be coming in contact with various kinds of people and sources of information. With the new experience and knowledge thus acquired, he would certainly be communicating to persons of low socio-economic status as well as to those of his own status. In this materialistic society a contact farmer's socio-economic status would have a telling effect on his interpersonal interaction with fellow farmers.

Similar findings were reported by Murthy (1972), Singh and Ambastha (1975), Sandhu and Darbarilal (1976), Balasubramaniam and Knight (1977) and Bhaskaran (1979).

Hence, the null hypothesis that there would be no significant relationship between socio-economic status and interpersonal communication behaviour of contact farmers was rejected.

5.2.7. Attitude of contact farmers towards contact farmer system

From the data presented in Table 16 it could be observed that mean score obtained for this dimension was appreciably high (87.441) considering the maximum score possible (122.2). Kerala farmers being literate, they can easily glean the good from the bad and their opinion formation also is quick. After the introduction of Training and Visit system, the contact farmers are experiencing a concern hitherto unknown to them from the government. Every fortnight the change agents attend to them and establish good rapport with them. The contact farmers are perceiving the benefits accruing out of the system by way of timely and quick advice on agricultural matters. This would have helped them raise their income through scientific farming. Therefore, it is itinerant that the contact farmers developed a favourable attitude towards the Training and Visit system of extension.

Attitude of contact farmers towards contact farmer system was positively and significantly correlated with their interpersonal communication behaviour. It is interesting to find that attitude emerged as a powerful factor influencing interpersonal communication behaviour. According to Munn (1967), attitude may lead to behaviour and vice versa. The Training and Visit system was introduced in Kerala State during 1981 and with the experience of three years in the systems working the contact farmers developed positive attitude towards the system. While thinking and feeling are considered basic elements of attitudes, an important relationship is recognised between attitudes and overt behaviour (Bem , 1965, 1967). Hence, contact farmers with high level of attitude could be expected to be efficient in their interpersonal communication behaviour also.

This particular aspect had not been included specifically in any of the previous studies. However, with the support of the above explanation the null hypothesis that there would be positive and significant relationships between attitude of contact farmers and their interpersonal communication behaviour was rejected.

5.2.8. Role perception and

5.2.9. Role performance

The data in Tables 17 and 19 revealed the level of

role perception and role performance of contact farmers. All the roles except 'active participation in extension activities organised by the extension staff in agriculture' and 'helping other farmers to obtain bank loans, supply and services and other facilities necessary for agricultural development' were rated as most important roles by a great majority of contact farmers. However, except 'maintaining regular and frequent contact with the Agricultural Demonstrators', all the other roles were not performed adequately by them. With the increase in their literacy level farmers perhaps did not find difficulty in obtaining bank loans and other facilities necessary for agricultural development. From the results it was crystal clear that farmers have realised the importance of meeting agricultural extension workers. The contact farmers might have found other farmers not much interested in meeting them. This, coupled with the scarcity of inputs necessary for practising scientific agriculture would have resulted in the low level of performance by contact farmers with reference to the other roles. From the data in Tables 18 and 20 it is evident that the role perception by the respondents was appreciable as indicated by the high mean score on this dimension (18.350). The mean score of the

role performance was only 8.60 while the maximum score possible on both these diamensions was 22. These results highlight the fact that the contact farmers have realised the importance of their roles envisaged under the Training and Visit system. Training and Visit system is only three years old now. In the beginning sometime would have elapsed on account of teething trouble. And by the time the contact farmers realised their roles adequately the agricultural situation in Kerala was marked by an unprecedented drought. Owing to this situation many of the messages of extension service could not be applied in the field. Perhaps, contact farmers felt the futility of performing their roles under such adverse conditions.

Role perception and Role performance of contact farmers were found to have significant correlation with the interpersonal communication behaviour of contact farmers. The conceptualisation putforth by Pfiffner and Sherwood (1968) could be referred here in this context. According to them accuracy in role perception has a definite impact on effectiveness and efficiency in organisation. Individuals have certain abilities and are motivated in varying degrees to perform designated tasks. However, if a task is incorrectly perceived, the result may be quite

inaffective from the organisational point of view. On the other hand, an activity or role associated with a particular position could be perceived accurately and yet ineffective performance could result because of deficiencies in ability and/or motivation. Thus generally it is expected that the perception of an individual will influence his performance of an assigned job or task. A contact farmer with near perfect role perception and role performance would have adequate ability and motivation to enter into meaningful interpersonal interaction with others. This would have resulted in the significant association of role perception and role performance of contact farmers with their interpersonal communication behaviour.

These particular aspects had not been included in any of the previous studies. However, in view of the foregoing discussion the null hypothesis formulated in the study that there would be no significant relationship between role perception and role performance of contact farmers with their interpersonal communication behaviour was rejected.

5.4. Results of path analysis

A perusal of the data in Table 22 and the Fig. brings to focus the fact that role performance of contact

farmers had maximum direct effect on their interpersonal communication behaviour closely followed by their socio-economic status. Role performance and attitude towards contact farmer system were having the highest and next best indirect influence on interpersonal communication behaviour respectively. The following reasons could be cited to explain these important results. A person's high degree of role performance would foster plentiful interaction with other members of rural microcosm. A contact farmer who has correctly identified and performed his role as a potential farm leader will be held in high esteem by his peers. This enables him to enter into productive interactions with his fellow farmers. Thus his interpersonal communication behaviour also is augmented.

In a developing country like India, material riches still have a say in interpersonal relationships. A financially well off farmer would have adequate resources at his disposal which would enable him to try out innovations in the field of agriculture. As a sequal to this he is looked upon as an imitable model by other farmers. This refurbished image of the economically sound farmers helps to draw others towards him and would thus enable him to forge wider interpersonal contacts with fellow farmers. As discussed elsewhere, one's attitude would inevitably manifest in

his overt behaviour.

A contact farmer with favourable attitude towards contact farmer system will try to translate his ideas into action. He will be more than willing to share his new knowledge on agricultural aspects with his neighbouring farmers and this would entwine him in more fruitful interpersonal relationships and hence is this finding that contact farmers' attitude towards contact farmer system has a marked influence on his interpersonal communication behaviour. In the light of the above discussion, it could be concluded that, the above variables, viz., role performance, socio-economic status and attitude towards contact farmer system are to be considered while defining and explaining interpersonal communication behaviour. The 'r' value, viz., the total effect caused by factors other than those selected for the study was 0.728. This is indicative of the fact that interpersonal communication behaviour of contact farmers is a complex phenomenon to be explained by a handful of factors. Rather, it is an outcome of the interaction between over so-many socio-politico-psychological and situational variables.

SUMMARY

6. SUMMARY

In Kerala, the Training and Visit system of Agricultural Extension was first introduced in 1981 in Trivandrum, Quilon and Alleppey districts and was subsequently extended to the remaining districts of the state. The effectiveness of the Training and Visit system hinges on the effective and systematic transfer of feasible technology to the farming community. To achieve this, the messages of the extension service will be focussed mainly on selected farmers known as contact farmers, who will assist in spreading the technology to most farmers in the area quickly. This process of transfer of technology at the grass roots level is taking place through web of word-of-mouth communication in a face-to-face interaction. And, therefore, the success or failure of the system largely depends on the efficiency of contact farmers in their interpersonal communication behaviour. In Kerala, no study has so far been made on the interpersonal communication behaviour and the role of contact farmers. Hence, the present study was undertaken with the following specific objectives.

1. To measure the interpersonal communication behaviour of contact farmer including their pattern of information input, information processing, information output and information feedback.

2. To study the role perception and role performance of contact farmers.
3. To measure the socio-economic and psychological characteristics of contact farmers.
4. To assess the relationship between interpersonal communication behaviour of contact farmers and their role perception, role performance and socio-economic and psychological characteristics.

Trivandrum district was randomly selected as the locale for the study. All the three agricultural sub-divisions under the Training and Visit system in the district viz., Attingal, Neyyattingara and Nedumangad were selected for the study. Three-stage random sampling method was used to select the respondents. Eleven Agricultural Extension Units were selected at the first stage. In the second stage from 11 Agricultural Extension Units 14 Agricultural Demonstrators were selected. Each Agricultural Demonstrator was working with eight contact groups. From each such group one contact farmer was selected randomly in the third and final stage. Thus there were 112 contact farmers selected originally for this study. But 12 respondents could not be met as they were not available whenever the researcher went to interview them. Hence 100 contact farmers constituted the sample for the study.

Interpersonal communication behaviour was considered as the dependent variable in this study. Nine independent variables, viz., extension orientation, scientific orientation, management orientation, pattern of preference of information sources, mass media participation, socio-economic status, attitude towards contact farmer system, role perception and role performance were studied to find out their relationship with interpersonal communication behaviour of contact farmers.

The data were collected by interviewing the respondents individually with the help of pre-tested schedule developed by the investigator specifically for the study. The data were subjected to various statistical analysis such as correlation analysis, intercorrelation analysis and path analysis. The salient findings of the study are summarised below:

1. The study revealed that majority of the respondents received most of the information on coconut cultivation from 'Agricultural Demonstrators' of the Department of Agriculture and 'local leaders' were the least consulted source of agro-information.
2. For both decoding and encoding, the respondents experienced 'least difficulty' for the message relating to 'improved varieties of coconut (M1)' and 'highest difficulty' for the message on 'control of rhinoceros

beetle (M2)'. The study brought to limelight the increasing difficulty the contact farmers experienced as the complexity of the messages increased.

3. 'Personal talk during casual every day meeting' was the most often used method of interpersonal communication by the respondents. It was followed by 'personal talk during farm visit' and 'house visit', 'group discussion during informal meeting at some specific meeting place', 'personal talk when the farmers approach for advice' and 'personal talk during informal meeting at contact points' in that order. 'Personal talk during method demonstration' and 'personal talk during field trips' were rarely used by the respondents. The respondents communicated technical information to 'non-contact farmers of their own area' more frequently. Whereas, communication to the 'non-contact farmers outside their area' and to 'local leaders' was found to be modicum.

4. Most of the feedback information received by contact farmers was on 'technical aspects' followed by 'information regarding sanctioning of loans' and on 'aspects related to supply of inputs'. Information feedback during 'casual everyday meeting' was the important method used by the respondents. Only a very low percentage of the respondents reported receipt of feedback information 'during group meeting at some specific meeting place' and 'while meeting at contact points'.

5. 'Agricultural Demonstrators' were by far the most important source of agricultural information preferred by the respondents. Next to this the respondents preferred to seek information from 'Junior Agricultural Officers', 'radio farm broadcast', 'agricultural seminars', 'personnel of research stations', 'agricultural books', 'agricultural exhibitions', 'agricultural training', 'agricultural journals' and 'agricultural guides/diaries' in that order.

6. Majority of the respondents were reading newspapers two or more times a week and only seven per cent of the respondents indicated that they never read newspapers. The least favoured mass media source turned out to be the farm magazines and other literature on agriculture.

7. 'Maintaining regular and frequent contact with Agricultural Demonstrators' followed by 'Explaining the messages and their experiences to other farmers' and 'Demonstrating the recommended practices to other farmers in the area quickly' were the most important roles perceived by the respondents.

8. An appreciably higher percentage of the respondents were 'Maintaining regular and frequent contact with the Agricultural Demonstrators'. In the role performance hierarchy, the other important roles performed were, 'Explaining the messages and other experiences to

other farmers', 'Maintaining regular and frequent contact with other farmers', and 'Willing to try out practices recommended by the extension workers'.

9. The study revealed that 43 per cent of the respondents had only low level of interpersonal communication behaviour. Thirty eight per cent of the respondents belonged to high category of interpersonal communication behaviour and 19 per cent of the respondents had medium level of interpersonal communication behaviour.

10. Out of the nine independent variables studied, eight variables, viz., extension orientation, management orientation, pattern of preference of information sources, mass media participation, socio-economic status, attitude towards contact farmer system, role perception and role performance were positively and significantly correlated with the interpersonal communication behaviour of contact farmers. Scientific orientation was the only independent variable which was not significantly correlated with interpersonal communication behaviour.

11. Results of path analysis indicated that the independent variables, role performance and socio-economic status had maximum direct effects on interpersonal communication behaviour. With reference to indirect

effects, the contact farmers' role performance and their attitude towards contact farmer system were having substantial indirect effects on their interpersonal communication behaviour.

Implications

The findings of the study are useful in knowing the information input, information processing, information output and information feedback pattern of contact farmers. Besides this, the results also brought to light the role perception and role performance of contact farmers, their pattern of preference of information sources and mass media participation. The relationship established in the study between interpersonal communication behaviour, the dependent variable, and the various independent variables would serve as a guideline for defining and understanding interpersonal communication behaviour of contact farmers. This will help the extension programme planners to develop suitable approaches for improving the interpersonal communication behaviour of contact farmers to make them effective multipliers of agricultural development messages.

Suggestions

In the light of the results of the present study the following suggestions are made:

1. The selection of contact farmers should be based on socio-metric choices of other farmers.
2. To build up the information threshold of contact farmers, they should be exposed more to the mass media such as radio and newspapers.
3. To increase the competency of contact farmers, they should be given training in communication skills and concepts.
4. Contact farmers should be presented with some cheap hand-outs during the fortnightly visits by the Agricultural Demonstrators to serve as reference material.
5. The number of farm literature and various extension activities conducted such as demonstration, field days, campaigns etc., are to be enhanced and they are to be conducted in a planned and systematic manner enabling more number of farmers to participate in these extension activities.
6. Mere technical service in the form of advisory work alone will not be sufficient to ensure better adoption of innovations by the farmers. Therefore, efforts should be made to streamline the input supply and services required by the farmers for practising the recommendations advocated by the extension agency.

Future lines of work

Since this study was undertaken with limited scope, a comprehensive study covering more geographical area should be initiated. In the present study, only few independent variables were selected for studying their influence on interpersonal communication behaviour. It would be desirable to include more number of independent variables in order to develop proper typology for predicting the communication behaviour of contact farmers. A research study on the interpersonal communication behaviour of non-contact farmers and Agricultural Demonstrators should be carried out since they are the other two agents involved in the process of communication at the grass root level.

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APPENDIX

INTERVIEW SCHEDULE

Respondent No.

Name :

1. Interpersonal Communication Behaviour

1.1. Information input

As a 'Contact farmer' you might have received technical messages on coconut in the last year. Please indicate how often did you get the information on coconut cultivation from the following sources.

Information sources	Always	Sometimes	Never
1. Junior Agricultural Officers			
2. Agricultural Demonstrators			
3. Personnel of the Research Stations			
4. Personnel of Village Institutions (Panchayats and Co-operatives)			
5. Commercial agents			
6. Fellow contact farmers			
7. Neighbours			
8. Friends			
9. Relatives			
10. Local leaders			
11. Non-contact farmers of the area			
12. Any others			

APPENDIX

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4. Personnel of Village Institutions (Panchayats and Co-operatives)			
5. Commercial agents			
6. Fellow contact farmers			
7. Neighbours			
8. Friends			
9. Relatives			
10. Local leaders			
11. Non-contact farmers of the area			
12. Any others			

1.2. Information processing

1.2.1. Information decoding

It has been pointed out that some of the technical messages on coconut cultivation are difficult to understand. Have you felt difficulty at any time in understanding the technical messages on the following aspects:

Items	Always	Sometimes	Never
1. Plant improved varieties of coconut			
2. For the control of rhinoceros beetle use 35 g of 50% BHC or carbaryl for every 0.3M^3 of breeding material			
3. For the control of red palm weevils inject attacked palms with carbaryl (20 g in 1 lit.) or apply 1% DDVP or Aluminium phosphide (Celphos, Phostox in and Phosphone)			
4. When green leaves are cut from the palms, stumps of not less than 120 cms may be left on the trees for the control of red palm weevils			
5. For the control of black headed caterpillar, after the application of insecticides follow up by liberation of parasites from 21st day			
6. To the extent possible apply only straight fertilizers			
7. Do not apply fertilizers when there is heavy rainfall			
8. Apply fertilizers only after irrigation			
9. To seedlings upto two years from planting, irrigate at the rate of about 4.5 litres of water per seedling once in four days			

1.2.2. Information encoding

A 'Contact farmer' has to communicate the technical messages in a form which could be easily understood by other farmers before he undertakes efforts to communicate the message to other farmers. Have you ever experienced the difficulty to communicate the following messages on coconut cultivation into a simple message which could be understood clearly by the farmers.

Items	Always	Sometimes	Never
1. Plant improved varieties of coconut			
2. For the control of rhinoceros beetles use 35 g of 50% BHC or carbaryl for every 0.3M^3 of breeding material			
3. For the control of red palm weevils inject attacked palms with carbaryl (20g in 1 lit.) or apply 1% DDVP or Aluminium phosphide (Celphos, Phostoxin and Phosphene)			
4. When green leaves are cut from the palms, stumps of not less than 120 cms may be left on the trees to control red palm weevils			
5. For the control of black headed caterpillar, after the application of insecticides follow up by liberation of parasites from 21st day			
6. To the extent possible apply only straight fertilizers			
7. Do not apply fertilizers when there is heavy rainfall			
8. Apply fertilizers only after irrigation			
9. To seedlings upto two years from planting, irrigate at the rate of about 4.5 litres of water per seedling once in four days			

1.3. Information output

1.3.1. As a 'Contact farmer' you might have communicated technical messages on coconut cultivation to different people. How often did you communicate the technical information pertaining to coconut cultivation to the following fellow farmers?

Category of communicatees	Always	Sometimes	Never
1. Non-contact farmers of the area			
2. Non-contact farmers of other areas			
3. Fellow contact farmers			
4. Neighbours			
5. Friends			
6. Local leaders			
7. Any others			

1.3.2. Many methods are available for a contact farmer to communicate technical information to the fellow farmers. How often did you use the following methods for communicating technical information on coconut cultivation to 'fellow farmers'

Communication methods	Always	Sometimes	Never
a. Personal talk during farm visit			
b. Personal talk during house visit			
c. Personal talk during field trips			
d. Personal talk during method demonstration			
e. Personal talk during casual everyday meeting			
f. Personal talk during informal meeting at contact points			
g. Personal talk when the farmers approach for advice.			
h. Group discussion during informal group meeting at some specific meeting place			

1.4. Information feedback

1.4.1. On many occasions you might have received doubts, comments etc., from various people on coconut cultivation. How often did you receive opinion, feelings, doubts, ideas and thoughts about coconut cultivation from fellow farmers?

Methods of information feedback	Always	Sometimes	Never
1. Home call by fellow farmers			
2. During house visit			
3. During casual everyday meeting			
4. While meeting at contact points			
5. During group meeting at some specific meeting place			

1.4.2. What are the types of communication you receive from farmers?

Types of information feedback	Always	Sometimes	Never
1. Communication of information related to technical aspects			
2. Communication of information regarding sanction of loans			
3. Communication of information regarding supply of inputs			

2. Extension orientation

2.1. Extension contact:

Frequency of meeting Agricultural Demonstrator/Junior Agricultural Officer.

a. Two or more times a week

b. Once a week

c. Once to thrice a month

d. Never

2.2. Extension participation

Sl. no.	Activities	Whenever contacted	Not attending all the activities whenever conducted	Never
1.	Study tours			
2.	Meetings			
3.	Farmers' days			
4.	Demonstrations			

3. Scientific orientation

Below are given some statements. Please indicate your agreement or disagreement with the statements.

	Agree/Disagree
1. New methods of farming give better results to farmers than old methods	
2. The way of farming by our forefathers is the best way to farm today	
3. Even a farmer with lot of experience should use new methods of farming	
4. A good farmer experiments with new ideas in farming	
5. Though it takes time for a farmer to learn new methods in farming it is worthwhile the efforts	
6. Traditional methods of farming have to be changed in order to raise the level of living of a farmer	

4. Management orientation

What is your opinion about the following statements?

Please state the degree of your agreement or disagreement to each of the statements given below:

Statements

Production Orientation	Agree/Disagree
1. Timely planing of a crop ensures good yield	
2. One should use as much fertilizer as he likes	
3. Determining fertilizer dose by soil testing saves money	
4. For timely weed control, one should know suitable herbicide	
5. Seed rate should be given as recommended by specialists.	
6. With low water rates one should use as much irrigation water as available.	

A 'Contact farmer' can get the latest technical information from different sources. Please indicate from which of the following sources you would like to get such information (Please assure that all these sources are available to you whenever required)

Information sources	I prefer to get information		
	Always	Some-times	I never prefer to get information
1. Radio farm broadcasts			
2. Newspapers			
3. Agricultural books			
4. Agricultural guides/ diaries			

Information sources	I prefer to get information		
	Always	Some-times	I never prefer to get information
5. Agricultural journals (periodicals)			
6. Agricultural seminars			
7. Agricultural trainings			
8. Agricultural exhibitions			
9. Personnel of research stations			
10. Agricultural Demonstrators			
11. Junior Agricultural Officers			
12. Any others			

6. Mass media participation

Sl. no.	Mass media participation	Two or more times a week	Atleast once a week	Atleast once a fort-night	Atleast once a month	Ne-ver
1.	Reads newspaper					
2.	Listens to radio (general)					
3.	Listens to radio rural programmes					
4.	Reads farm magazines and other literature on agriculture					

7. Attitude towards contact farmer system

Different farmers feel differently about contact farmer system. Here are twelve statements. Please indicate your response by marking ( ) against each statement in the appropriate column.

Sl. No:	Statements	Agree	Undecided (Neutral)	Disagree
1.	The 'Contact farmer' system should be adopted in other fields such as Animal Husbandry, Dairying, Co-operation, etc.			
2.	The contact farmer system should be immediately abolished			
3.	There is no use in depending on contact farmers for the communication of agricultural information to other farmers			
4.	No farmer will willingly accept the responsibility of contact farmer			
5.	Contact farmer can effectively influence other farmers in the locality			
6.	The Training and Visit extension system will fail in the absence of contact farmers			
7.	After the start of Training and Visit system there has been significant improvement in the economic condition of contact farmers			
8.	The fellow farmers in my area will do well even without my assistance			
9.	Knowledge of the contact farmers in agriculture has increased because of frequent contacts with Extension Officers.			

Sl. No.	Statements	Agree	Undecided (Neutral)	Disagree
10.	I am wasting my time as a contact farmer			
11.	Training and Visit system promotes mutual co-operation among farmers with the help of contact farmers			
12.	In good extension work contact farmer is neither necessary nor desirable			

8. Socio-economic status

	Score
1. Occupation	
( ) No occupation	0
( ) Unskilled	1
( ) Semi skilled	2
( ) Skilled	3
( ) Farming/business	4
( ) Professional	5
2. Land holding	
( ) Landless	0
( ) Marginal (0.1 to 1.0 ha.)	1
( ) Small (1.1. to 2.0 ha.)	2
( ) Semi medium (2.1 to 9.00 ha.)	3
( ) Medium (4.1 to 10.0 ha.)	4
( ) Large (10.0 + ha.)	5
3. Caste	
( ) Scheduled	1
( ) Most backward	2
( ) Backward	3
( ) Forward	4
( ) Dominant	5

	Score
4. Education	
( ) No schooling (illiterate)	0
( ) Functionally literate	1
( ) Upto primary school level	2
( ) Upto middle school level	3
( ) Upto high school level	4
( ) Upto and above college level	5
5. Socio politico participation	
( ) Without any official position in socio-politico organisations	0
( ) Official position in one or more organisations	1
( ) Official position in social and political committees	2
( ) Financial contribution or raising funds for common work	3
( ) Active office bearer	4
( ) Involvement in community work	5
6. Possessions	
( ) None	0
( ) One farm animal (bullock, buffaloe, cow/bicycle/furniture)	1
( ) Two farm animals/bullock cart/radio	2
( ) Three to four farm animals/improved farm implement/newspaper/electricity	3
( ) Five to ten farm animals/pumpset	4
( ) More than ten farm animals/tractor/ automobile	5
7. House	
( ) Shed thatched	1
( ) Mud walled and thatched	2
( ) Brick wall and tiled	3
( ) Concrete house	4
( ) Concrete and double storyed	5

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

9. Role perception

Please place the following roles of contact farmers in the appropriate column of most important/important/least important.

	Most important	Important	Least important
1. Assisting in spreading the new technology to most farmers in the area quickly			
2. Willing to try out practices recommended by the extension workers			
3. Allowing other farmers to visit contact farmers field			
4. Demonstrating the recommended practices to other farmers in the area quickly			
5. Maintaining regular and frequent contact with the Agricultural Demonstrators			
6. Participating the fellow farmers in the discussion to hear the recommendations			
7. Motivating the fellow farmers to adopt those recommendations on a part of their land			
8. Explaining the messages and their experiences to other farmers			

	Most important	Important	Least important
9. Maintaining regular and frequent contact with other farmers			
10. Active participation in the extension activities organised by the extension staff in agriculture			
11. Helping other farmers to obtain bank loans, supply and services and other facilities necessary for agricultural development.			

10. Role performance

Please indicate the extent of your performance of the following roles by placing a tick mark ( ) in the appropriate column of always/occasionally/Never.

	Always	Occasionally	Never
1. Assisting in spreading the new technology to most farmers in the area quickly			
2. Willing to try out practices recommended by the extension workers			
3. Allowing other farmers to visit contact farmers field			
4. Demonstrating the recommended practices to other farmers in the area quickly			
5. Maintaining regular and frequent contact with the Agricultural Demonstrators			
6. Participating the fellow farmers in the discussion to hear the recommendations			

	Always	Occasionally	Never
7. Motivating the fellow farmers to adopt these recommendations on a part of their land			
8. Explaining the messages and their experiences to other farmers			
9. Maintaining regular and frequent contact with other farmers			
10. Active participation in the extension activities organised by the extension staff in agriculture			
11. Helping other farmers to obtain bank loans, supply and services and other facilities necessary for agricultural development			

COMMUNICATION ROLE AND BEHAVIOUR OF CONTACT FARMERS UNDER TRAINING AND VISIT SYSTEM IN KERALA

by

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ABSTRACT OF THE THESIS

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ABSTRACT

A research study was conducted in Trivandrum district, Kerala, India to assess and study the following:

1. The interpersonal communication behaviour of contact farmers including the pattern of information input, processing, output and feedback.

2. The role perception and role performance of contact farmers.

3. The socio-economic and psychological characteristics of contact farmers.

4. The relationship between interpersonal communication behaviour of contact farmers and their socio-economic and psychological characteristics.

One hundred contact farmers were selected for the study using a three-stage random sampling procedure. The study revealed that majority of the respondents received most of the information on coconut cultivation from 'Agricultural Demonstrators' of the Department of Agriculture. The study brought to limelight the increasing difficulty, the respondents were experiencing for both encoding and decoding as the complexity of the message increases. 'Personal talk during causual everyday meeting' was the most often used method of interpersonal communication by the respondents and they

communicated technical informations to 'Non-contact farmers of their area'more frequently then to their 'Friends', 'Neighbours', 'Fellow contact farmers', 'Non-contact farmers of other areas' and 'Local leaders'. Most of the feedback information received by the respondents was on 'Technical aspects'. Information feedback during 'casual everyday meeting' was the important method of feedback used by the respondents. 'Agricultural Demonstrators' were the most important source of agricultural information preferred by the respondents. Majority of the respondents were 'Reading newspapers two or more times a week' and the least favoured mass media turned out to be the 'Farm magazines' and 'Other literature on agriculture'. 'Maintaining regular and frequent contact with Agricultural Demonstrators' was perceived as the most important role of contact farmers by the respondents and a very higher percentage of the respondents were performing this particular role.

The study revealed that majority of the respondents had only low level of interpersonal communication behaviour. Out of the nine independent variables studied, eight variables, viz., extension orientation, management orientation, pattern of preference of information sources, mass media participation, socio-economic status, role

perception and role performance were positively and significantly correlated with interpersonal communication behaviour. The variable scientific orientation was not significantly oriented with interpersonal communication behaviour.

Results of path analysis indicated that the following independent variables, ie., role performance and socio-economic status had maximum direct effects on interpersonal communication behaviour.