REVIEW OF LITERATURE

A review of literature is an essential part for any type of empirical investigation. The main functions of review of literature are:

i) Determination of the prior work carried out and stating the problems of the area.

ii) Developing a basis for theoretical framework.

iii) Providing insight into procedures and methods.

iv) Suggesting operational definition of major concepts.

v) Providing the basis for interpretation of the results.

vi) Providing avenues for the comparison of the results obtained.

The critical review of past researches and reports etc. provides a sound basis for scientific investigations. On the other hand, it initiates in the decision of appropriate methods and procedures and also support in the interpretation of the findings.

In order to execute these functions, review of the relevant literature are incorporated in this study.

The training and visit system of agricultural extension is fundamentally based on the communication of message through
individual contact farmers as well as extension personals. An effort has been made to present related literature pertaining to the study.

ATTITUDE OF BENEFICIARIES TOWARDS TRAINING & VISIT SYSTEM

Panda (1979) found that farmers held unfavourable attitude towards T&V System even though they wanted it to continue with little improvement in all aspects.

Rao (1979) observed that majority of farmers and officials had moderately favourable attitude towards T&V system. However there was significant difference between possible mean attitude score and the obtained mean scores by officials and farmers.

Kulhari (1980) found that contact farmers and other farmers were alike in their attitude towards T&V System.

Singh et al., (1980) observed that small farmers had strongly favourable attitude towards large adoption of wheat varieties and chemical fertilizers to achieve better yield and income.

Ghosh et al., (1981) found that majority of the farmers were having favourable attitude towards T&V System.

Saikia (1982) found that both the farmers and extension personals were having favourable attitude towards T&V System.
Vasaya et al., (1983) revealed that sixty percent of contact farmers had more favourable attitude and only two out of five had less favourable attitude towards T&V system.

Satya Narayan & Tripathi (1984) found that attitude of farmers towards T&V System was found to be neither favourable nor unfavourable. The contact farmers and non-contact farmers were found alike in their attitude towards T&V System.

Singh (1988) concluded that Extension functionaries had favourable attitude towards the T&V System, while farmers had neither favourable nor unfavourable attitude towards T&V System.

**KNOWLEDGE AND ADOPTION**

Wilkening (1950) stated that the adoption of new practices is the decision of an individual farmer and his family and is influenced by a series of events or activities bearing upon the decision making process.

Wilkening (1952) in his study of adoption of improved farm practices included to stages, trial and full adoption. He further stated that farmers decision to adopt an improved farm practices may be considered as a process in which he (a) hears about the practice, (b) discuss its advantage and disadvantages with other farmers or with agricultural experts and (c) makes the decision to adopt the practice and obtains the specific information neces-
ecessary to carry out the practice. This process may occur over a period of few days or week or over a period of years. On the basis of findings of this study on adoption of improved farm practices as related to family factors.

Copp (1958) reiterated his earlier views on adoption and expressed the adoption of recommended farm practices as a latent behavioural predisposition which is manifested in the acceptance of specific recommended practices. He further, added that adoption could be viewed as a product of the farm operators life situation, including such aspect as economic status, social position and characteristics work orientation.

Lion Berger (1960) defined the adoption as the last stage of the adoption process. He explained that at this stage a person decides that the new idea, product or practice is good enough for full scale and continued use. A complete change is made with that end in view.

English and English (1961) defined "knowledge" as a body of understood information processed by an individual or by a culture. Knowledge in present study included those behaviour and test situations which emphasized remembering by recall of ideas, material or phenomenon.

According to Havens (1962) the adoption process is mental process through which an individual passes from first hearing about an innovation to final adoption.
Roger (1962) defined adoption as a decision to continue and full use of an innovation. This definition implies that the adoption is satisfied with the innovation. He further defined "adoption process" a mental process through which an individual passes from the first hearing about an innovation to final adoption. Furthermore, he distinguished the adoption process from diffusion process. "Which is the appread of new idea from its sources of invention or creation to its ultimate users or adopters". He also compared the adoption process with "decision making process" and concluded that "the adoption process is one type of decision making it is a special type of decision making, however with some attributers not found in other kind of situation."

Chattopadhyoy (1963) while discussing measurement of adoption pointed out that with a view of ensuring accurate collection of dependable evidence, it was better to follow the preposition forwarded by Ramsey et.al., (1959) where they conceived the whole adoption process of two types namely (a) Cognitive adoption (b) Behavioural adoption.

From the methodological point of view the concept of behavioural adoption provides the advantage of getting clear, concrete and tangible evidence in terms of adoption behaviour. Such evidence can be measured more scientifically and objectively. In this investigation Chattopadhyoy (1963) defined the behavioural adoption as "that stage in the adoption process where decision making is incomplete regarding the use of practice and action with
Singh (1968) reported that adoption of improved seed of paddy was higher in the studied sample followed by wheat.

Jaiswal (1968) noted that a large percentage of farmers in package districts had adopted more of improved seeds, manure, fertilizers, insecticides and fungicides as compared to non package districts.

Karl et al., (1970) observed that higher adoption in villages under university extension service and lower rate of adoption in villages covered under block extension system.

Gaikward (1970) concluded that prior to 1955 not many people adopted new practices even when they were aware of such practices. Between 1955-1965 the adoption rate of all the new practices specially ammonium sulphate, insecticide and line sowing of wheat increased considerably. In general the rate of adoption was high in villages having high rate of awareness. It was estimated that by 1985, there will be cent percent adoption of all the new practices in 50 percent of villages, in 60 percent of the villages by 1980, in 72 percent of the villages by 1985, in 75 percent of the villages by 1999 and in all the villages by about 2000 A.D.

Muthiya (1971) stated that whether a person experiences success or failure as a result of some understanding, depends upon the level of aspirations which he has set for himself. It was also observed that farmers' aspiration were realistic and they seemed
to be conscious in aspiring for material things which involve expenditure.

Rao et al., (1972) reported the different motivation patterns for adopting the high yielding varieties of wheat as under:

i) To provide better food, clothing and education for one's children.

ii) To make country self sufficient.

iii) To explore new ideas and adventure.

iv) To make best use of one's abilities.

v) To be free from debt.

vi) To be best farmer of one's village.

vii) To provide security for old age.

viii) To be in conformity of community.

ix) To wield power.

Muthiah et al., (1978) inferred there was no difference in adoption behaviour of practices recommended in training by the different literate group of farmers. It was also found that participants of different farm size adopt the recommended practices irrespective to their size of holdings.

Roy et al., (1979) reported that the introduction of T & V system
had resulted in increasing the cultivated area of high yielding varieties crops. That the new knowledge of farming disseminated the cropping intensity, employment of family labour, marginal value productivities of all input and the extent of adoption of recommendations on both categories of farmers i.e small and large farmers.

Sarkar (1979) observed that significant increase in adoption and yield of farmers after the introduction of T&V system.

Ray and Parsad (1979) reported that farmers adoption of demonstrated practices is more in contact farmers than non-contact farmers.

Rao (1979) found that gain in knowledge and extent of adoption of practices were inter related.

Pathak (1979) found that there was no significant difference in the levels of knowledge between national demonstration farmers and non-national demonstration farmers.

Singh et.al. (1980) observed that small farmers had strongly favourable attitude towards large adoption of wheat varieties and chemical fertilizers to achieve better yield and income.

Kulhari (1980) observed that contact farmers of paddy and wheat technology were having significantly higher knowledge than that of non-contact farmers. He further observed that significant
increase in adoption and yield at the start of T&V system and five years after T&V system.

Ogunfidentimi Titus (1981) reported that farm size, perceived risk and uncertainty had negative correlation to adoption of new farm practices. Age of farmers in relation to the adoption was positive but really not significant. The level of education of farmers yielded positive significant relationship to adoption.

Nagarajaiah (1981) found that introduction of T&V system in contact farmers was significantly instrumental in increasing their knowledge and level of adoption as compared to follow up farmers.

Roy et al., (1982) reported that T&V system has increased the cropping intensity income and employment and adoption of recommended practices of inputs in tribal farms.

Bharali (1982) found that contact farmers were superior to non-contact farmers with respect to their technical know-how and their utilization part concerning to crop relations and high yielding varieties etc.

Waghmare et al., (1982) concluded the major constraints in using high yielding varieties and improved wheat seed were educational which was followed by the socio-culture economic and practical constraints in that ordered sequence. Lack of knowledge and guidance were main constraints in transfer of wheat technology.
Saikia (1982) found that extent of adoption of package of practices by the contact farmers was significantly higher over non-contact farmers.

Erasmus (1983) reported that progressive farmers were having significantly higher knowledge than that of non-progressive farmers.

Gaur and Srinivasan (1983) reported that there was significant impact of T&V system on the extent of knowledge adopted and diffusion of improved from practices among the trained farmers. They found that the training had contributed to increasing the knowledge, adoption of home practices but not be diffusion of home practices.

Ariullah (1983) found in Changal Pattu district that majority of selected contact farmers were marginal farmers, had good standard of agriculture production, were highly influential and commanded respect, had high degree of constructive criticism, had low political affiliation, were highly receptive to new ideas, were good evaluators of new knowledge, were men of action not self centred, were highly enthusiastic, were good channelisers of new ideas and good interpreters of new ideas.

Singh, Parender (1984) found that the knowledge and adoption of improved farm practices were lowest in T&V system than that I.A.D.P and Panchyati Raj system. They also emphasized that
creation of organisation for education of farmers like T&V system did not help for effective extension work unless it was effectively operated in the field. They further stressed that in all the above systems, extension effort was not concentrated on small farmers.

Tripathi and Satya Narayana (1984) found that the level of adoption of recommended practices of paddy of contact farmers was significantly higher than non-contact farmers of T&V system. Further, there had been significant increase in level of adoption of paddy by both contact and non-contact farmers during the period of T&V system.

Mukherji (1984) said that our farmers were very keen in learning and adoption of new methods of agriculture operation and it was the duty of extension workers to quench their thrust for information in an effective manner.

Satya Narayana and Tripathi (1984) found that contact farmers possessed significant higher knowledge than non-contact farmers under T&V system.

Satya Narayana and Tripathi (1984) found that there had been significant increase of paddy yield obtained during the period of T&V system among contact and non-contact farmers.

Anonymous (1986) it was found that full adoption of recommended practices of wheat was proportionately higher in case of contact
farmers rather than the non-contact farmers.

Mala (1986) concluded that contact farmers were superior to non-contact farmers with respect to level of their knowledge about improved farm practices of paddy cultivation.

Singh (1987) observed that majority of contact farmers (65 percent) were having crucial level of knowledge and few farmers were having good and poor level of knowledge regarding paddy cultivation.

Hebber (1987) reported that adoption of high yielding varieties is increasing, however the area under improved varieties in relation to wheat was showing negative trend. The use of nitrogen and phosphorous fertilizers had been increased during five years.

Singh (1988) also expressed a difference in yield of contact farmers was significantly higher than the non-contact farmers. Thus in case of paddy the impact of higher adoption of technology could be made visible.

FEED BACK BEHAVIOUR.

Wiener (1954) remarked that a communication circuit must be circular rather linear, that is the system must have some way of linking output to input so that it might control its own performance. He further explained that positive feedback from the
output could reinforce successful actions and negative feedback from output could counteract error or inefficiency.

Westlabcay and Maclean (1957) reflected as a system is a set of interrelated relationships and these relationships are controlled by feedback. This description had to the conclusion that the feedback mechanism makes a communication circuit complete and it plays a vital role in controlling the communication acts of senders and receivers. Further feedback increases the accuracy of message and also enhances the confidence of the receiver and sender in what they accomplished.

For the purpose of present study, the feedback was defined as the degree of positive and negative response a receiver gives back to the sender about the message transmitted by the sender to receiver. Feedback at present was studied at three level as:

a) Feedback between client system and research System.

b) Between client system and extension System.

c) Between extension system and research system

According to Berlo (1960) when a source decodes the message that he encodes and if the message is put back into his system, we have a feed back:

In a perfect communication act, a source must seek feedback to check on himself and decode his own message to make sure he encode which he has intended. Thus the reaction of the receiver
in terms of the sender's message serves as an important measure of the effectiveness of the sender and also a guide to sender's future action.

Berlo further explained that communication often involves an action reaction inter-dependence. The action of the source affects the reaction of the receiver, the reaction of the receiver affects the subsequent reaction of the source. The source or receiver can make use of the reaction of the other and such reaction serves as feedback.

Miles Mathews (1964) considered system as a collection of independent parts devoted to accomplishment of some goal as goals with the parts maintained in a state in relation to each other and the environment by means of:

a) Standard modes of operation.

b) Feedback from environment about the consequences of the system action.

Client system :- This system consists of different category of farmers who serve as components of this system. It is these farmers who have finally to receive, understand and act upon the farm innovations. The farmers as the components of the system constantly interact with each other towards a common goal of achieving higher agriculture production with the use of improved farm technology. These interacting components also function within a boundary which distinguishes it from other two systems.
research and extension system. This boundary also controls the kind and rate of flow of inputs and outputs to and from the client system. For instance, there may be several innovations in the research system. But the entry of most relevant ones is allowed by this boundary to reach the research system or extension. Likewise the boundary regulates the rate of inputs and outputs also.

Above discussions conceptualise the research, extension and client system in the system perspective. Besides these three system are also interlinked and extension system occupies the control position. Flow of information from research to farmers involves two way process. In this conceptual frame as discussed by Jain (1970), (Akhoori 1973), (Shete 1974), and (Ambastha 1974).

1) The need of the farmers (clients) reflected by themselves or through extension personals.

2) The researches who after receiving the problem complete their research on (client) farmers problems and so on to.

3) produce innovations which flow to farmers either directly from the innovation development system or through extension system. The next cycle may begin when feedback about the clients (farmers) adoption of innovations, is transmitted to the researchers directly by the farmers themselves or by the extension personal. In this way these three system and their communication linkages forms a supra-complex communication
system in the process of agriculture development.

Mayers and Mayers (1978) defined feedback as "the response a receiver gives the sender as a result of sender's message". They further explained that a feedback that a sender receives from receiver may be used to adopt, adjust, or change subsequent messages. Feedback is thus a corrective mechanism which tells the communicators how they are going and it serves a key to understand the transactional nature of communication.

COMMUNICATION BEHAVIOUR.

Marsh and Coleman (1962) observed that farmers learn new ideas about the improved farm practices through certain channels. Further, they stated that different sources of information are applied for different types of practices.

Marsh and Coleman (1962) observed that farmers learn new idea about the improved farm practices through certain channels. Further, they stated that different sources of information are applied for different types of practices.

Legans (1963) defined as communication is the process by which two or more persons exchange their ideas, facts, impressions in such a way that each gains a common understanding of meaning, content and use of message.
Jain (1963) reported that adoption of improved agricultural practices is influenced by several communication channels like personal contacts, demonstrations, group discussion, meetings, exhibition, radio and indirect influence. He further reported that the indirect influence has greatest impact accounting for the adoption of 51.8 percent practices and 65.1 percent effectiveness percentage. In this study indirect influence is followed by demonstration accounting for the adoption of 16.5 percent practices, group discussion for 12.5 percent practices and 45.4 percent effectiveness percentage. Personal contact for 11.2 percent practices and 39.3 percent effectiveness percentage meetings for 5 percent, exhibition for 2.2 percent and radio for only 0.79 percent practices. He also reported that the demonstration which have to be found most effective did not have much influence on the adoption of green manuring and improved seeds. Similarly, meetings have been reported effective on the adoption of plant protection measures but these had little effect on the adoption of improved implements.

Hussain (1964) reported that effectiveness of demonstration as source of information 69 percent for improved seeds, 81 percent for fertilizers, 71 percent for improved implements and 62 percent for plant protection measures. The effectiveness of demonstration is influencing the adoption of improved farm practices have been reported by him to the extent of 39 percent of improved seeds, 58 percent for fertilizers, 37 percent for improved implements and 29 percent for plant protection measures. He further
reported that relative effectiveness of demonstration as 50 percent for improved seeds, 72 percent for fertilizer, 52 percent for implements and 47 percent for plant protection measures. He revealed that demonstration as the most effective methods for the dissemination and adoption of fertilizers, lesser effective for improved seeds and least in case of plant protection measures.

Lahria (1964) found that group meetings are the source of information for 68.9 percent of the total adopted agriculture practices. In case of improved implements, fertilizers and plant protection measures he reported the group meetings as the source of information for 80 percent of the practice units. Further he revealed that only 25.5 percent of the credit to the group meetings, 37.1 percent for the adoption of improved agricultural practices. Further, he reported that the farmers who have adopted the improved agricultural practices through the influence of group meetings belong to higher caste, younger in age, highly educated large size of holdings and of higher social status.

Singh and Jha (1965) reported that the sources chosen for information were predominantly personal in nature. However, the order of preference as VLWs, agriculture college and agriculture extension service of the non institutionalized sources, neighbours, relatives and friends and village leaders were used in order of preference as source of information. Among media, demonstration was the best channel of communication followed by the exhibition and film shows.
Sankatla Ram (1965) in a study on "Relative effectiveness of extension teaching methods in relation to age, education and size of holdings of farmers" reported that the adoption of agricultural practices was found mainly due to indirect influence followed by personal contact, meetings, demonstrations, exhibitions and radio. He reported that the indirect influence as the most effective means of communication responsible for the adoption of 44.03 percent practices with 57.3 percent effectiveness percent age followed by personal contact accounting for the adoption of 28.6 percent practice. Demonstrations and meetings were other communication channels effecting significantly the adoption of improved practices (accounting for 13.98 percent and 11.48 percent practices respectively) exhibits and radios were found to be significantly effecting the adopting of the practices. After grouping the channels according to their use individual contact methods were found most effective (28.6 percent) practices followed by group contact methods (25.5 percent) practices and mass contact methods (4.87 percent) practices.

Rao and Moulik (1966) while studying on the influence of source of information on the adoption of nitrogenous fertilizer. In Kanjrawala C.D block in Delhi Territory found that formal sources play a more important role at "awareness", "interest", and "trial" stages of adoption of nitrogenous fertilizers. It was also found that the level of adoption of nitrogenous fertilizer was not dependent on the number of different types of sources of information contacted at the interest stage of adoption and also on the choice among different group of sources of information at
the "trial" stage of adoption process.

Kapoor (1966) found that most important source of information for wheat and maize was neighbours followed by village level workers. He further indicated that neighbours were the most important source of information for fertilizers.

Upadhyaya (1968) observed that Gram Sevak is the most important source for giving first hand information to the farmers on agricultural practices such as improved seeds, fertilizers and improved implements.

Bettinghaus (1968) analysed the communication pattern in terms of their direction, their nature and formality.

Planning Research and Action Institute, Lucknow, U.P (1959) found that the method demonstration was the main communication media for popularization and implementation of the programme, other techniques were short training camps, sight seeing and use of audio-visual aids.

Patel (1969) in his study conducted in two districts of Gujarat reported that farm and home visit was most common communication channel used by extension workers.

Chaudhary (1969) working on raising the information level of the villagers; reported that the importance and efficacy of news letter can only be realized in the proportion, the farmers are
motivated to adopt new ideas, practices and other extension methods.

Tripathi and Tripathi (1969) working on relationship of effectiveness of extension teaching methods on the level of adoption of improved varieties of seeds found that personal contact was highly effective followed by demonstrations. It is, therefore, suggested that extension workers should try to make frequent farm and home visits and conclude demonstration on the farm of the cultivators.

Chauhan (1970) stated the major source of information of hybrid maize was agricultural institutes followed by the village level workers, friends and neighbours.

Singh and Sahay (1970) reported that with regards to the credibility of various sources, the VLWs has been ranked first in progressive and non-progressive villages, but the radio enjoyed the second position in the progressive village and against the village leaders (which includes progressive farmers mostly) who have been ranked second in the non-progressive village. Similarly, the demonstration has been ranked third in the non-progressive village as against the fifth in the progressive village. Therefore, one can say that VLWs is most credible source in both the villages.

Champawat and Intodia (1970) found that college extension worker and the VEWs were the main personal sources of information at
awareness, interest, evaluation, trial and adoption stages. Neighbourers were also an important source of information at the awareness and evaluation stages.

Sharma and Kishore (1970) stated that radio can effectively supplement the communication once made through television. The advocacy of practice once demonstrated through television may be followed up by broadcast to create repeated impressions in the minds of the farmers. This will economise the dissemination of information and at the same time will make the transmission effective.

Suberamanyam and Menon (1973) reported that demonstration and Radio have played very significant role in adoption of all selected practices. Exhibition, study tour and film shows have emerged as the second best group of extension method.

Singh and Prasad (1974) reported that young farmers of progressive villages had more knowledge about existing communication sources than those of non progressive villages. Poor knowledge of the communication sources on the part of young farmers in the non progressive villages demands reorientation of our communication strategy and making it more biased towards the non progressive villager.

Murthy et.al., (1974) operationized the receivers' communication behaviour as composite measure of awareness, comprehension, attitude and adoption.
Menon and Duraiswamy (1975) reported that group contact methods like agricultural meetings and trainings were found responsible for diffusing the practices such as improved implements, improved seeds and use of fertilizers.

Mathur (1976) said that the prestige leaders and family friends are important as communicators. The farmer will communicate lesser number of people but their communication is taken seriously by the receivers. This ensures a quick adoption of improved practices.

R.R.D.C Bulletin (1977) a study of communication network existing in developing countries. Based on such a study, a communication from outside the country may identify and develop channels into the existing network and also locate his target audience the perceive definition which is crucial to the effective communication.

Jaiswal et.al., (1978) reported that contact farmers transferred the processed information to the farmers who approached them. Next to this the neighbours were communicated the information followed by the friends and relatives in that ordered sequence. He also reported that majority of contact farmers delivered the information to other friends after three days.

Pandey (1979) reported that contact farmers were found to be mostly dependent on neighbours and friends, family members and
Village Extension Workers (VEWs) for acquisition of their farm information.

Perinbam (1981) inferred that the majority of contact farmers possessed medium level communication behaviour and just one eighth of the contact farmers had high communication behaviour.

Sethu Rao and Prasad (1983) indicated that the inadequate role of perception was more conspicuous among contact farmers in the weaker sections of the community like small and marginal farmers.

Shariat (1985) stated that 31 percent of non-contact farmers were receiving messages from contact farmers but the contribution of other sources was more. It was also observed that mass media was playing pivotal role in dissemination of information.

**Socio - Economic Status.**

Socio-economic characteristics are determined by variables like land, education, house, occupation, caste, age, drought powers, material possession, farming size and social participation etc. Review on the aspect has been organised keeping in view the relative importance of the views of important variables as under.

Hampin (1928) defined socio economic status as "the position an individual or a family occupies with reference to prevailing average standard of cultural pression, effective income, material
possession and participation in group activity of community.

Crite, Morrile and Nessel (1945) reported that virtually men of all age groups had heard the country agents programme on air. Riest (1948) concluded that the full time farmers between the age of 35-45 years were the best listeners.

Marsh and Colman (1954) concluded that the more educated farmers have the more likely to be used each of the channel of the communication and thus adopted more recommended farm practices.

Yadav (1964) reported that there is continuous increase in adoption of high yielding varieties, fertilizers, and improved agricultural implements as the educational level of the farmers increases, the reason is quite obvious that literate farmers are more exposed to mass communication method as well as to the change agency, also the literate farmers understand easily the complicated technology. Their findings are in conformity with the others also. Tripathi (1966) Awasthi (1968) and Gupta (1968) have derived the similar conclusions in their studies.

Jai Ram (1965) in a study on soil conservation practices and credit facilities found that age was significantly associated with all the practices. The proportion of adoptors were higher in young age group as compared to old age group.

Rai (1967) concluded that age has no relationship with the adoption of improved agricultural practices.
Gupta (1968) reported that age has got some effect on the adoption of package of practices. 73.3 percent farmers who fall in the category of 25 to 45 years of age, have adopted all the package of practices than those who fall in the category of 45 to 65 years of age.

Chaturvedi and Khan (1973) stated that development in other words is also called change in desired direction which can only be attained through a persistent and methodical approach known world over as 'Education'. If we study structure of the Indian society are deemed capable and possess the power of decision making, concerning any aspect of life.

Govt. of India (Sept. 1975) stated that the majority of the farmers (42.3 percent) of Puri district belong to old age group of 45 years and above. Whereas more than 50 percent of the farmers in the district of Jaipur, Udaipur and Tanjore belong to the age group of 25 to 44 years.

Govt. of India (Sept. 1976) reported that the majority of young age farmers highly participated in agricultural improvement programme. These farmers were also very receptive to agricultural innovation.

Govt. of India (Apr. 1977) reported that the majority of the participating farmers (67.5 percent) young (below 35 years of age) were dynamics and more receptive to agricultural innova-
Reddy et al. (1983) found that majority of contact farmers hailed from middle age group, middle order class, medium socio-economic status and they exhibited medium level scores in their interpersonal communication behaviour.

Jaiswal (1983) reported the characteristics of contact in few states of India. A study in Gujarat indicated that half of the contact farmers possessed more than 5 hectares of land, majority of them were literates and were the members of co-operatives and Panchayats.

According to Directorate of Agriculture (Tamil Nadu, 1982) in districts of Chengalpathu, Madurai and Coimbatore, it was reported that majority of the contact farmers were belonging to middle age group having agriculture as main occupation, literate farmers and small and marginal farmers.

Sharma and Snoria (1983) revealed that contact and non-contact farmers could be differentiated in certain socio-economic characteristics such as caste, education level, social participation, operational holding, size, irrigated area, annual income and socio-economic status.

Ojha (1984) stated that marginal farmers and illiterate farmers did not like to become contact farmers.
IMPACT OF TRAINING AND VISIT SYSTEM

Rice (1971) found that agriculture extension was only effective when it was linked (by design or not) or given an access to input supply credit and marketing.

Vidyarathi (1975) stated that impact of T&V system in Talera and Kesbani Pattan Panchayat Samiti (Rajasthan) has been encouraging the percentage of followers including contact farmers was 40-50 have adopted wholly or partially the recommendation on wheat and gram. In new areas of Kota district the percentage of the followers was between 25-30. It has been stated that average yield of followers per hectare in case of wheat and gram comes to 2.30 and 1.10 tonnes respectively as compared to 1.50 and 0.50 tonnes respectively increase of non-followers.

Benor and Harrison (1977) stated that agriculture production has increased impressively in several areas through T&V system of agriculture extension. Specially in Schayan Irrigation Project in Turkey, Chembal of Rajasthan (India), farmers increased yields. They have mentioned that these rapid increase in irrigation good climate discovery of new varieties or even more fertilizer but a professional agriculture extension service developed on the same principles. In each of these diverse areas was the major force bring these changes.

Jaishwal, Kolts et.al., (1978) from their study found that reorganised extension service have a single line command at all levels which enables the personal working in these projects.
smoothly. They were satisfied with the progress in agriculture development under this system and felt proud of their key role in it. They felt that technical knowledge of high quality is now reaching to the needful farmers.

Ali and Sharief (1978) reported that T&V system of extension has generated the required response and enthusiasm among the farming community to adopt modern technology to maximise production.

Roy et al. (1979) observed that the introduction of T&V system has resulted in increasing the high yielding varieties. The new knowledge of farming disseminated by T&V system has the potential increase of cropping intensity, employment of family labour. Marginal value productivities of all input and the extent of adoption of recommendations both the categories of farmers i.e. small and large farmers.

Ray, Atteri and Mathur (1979) viewed the achievement of T&V system of extension that there was increase in terms of cropping intensity, increased family labour and increased marginal value productivity of inputs.

Panday (1979) has highlighted achievements of T&V programme they are:

1) Like a manageable extension density, it has made, it also takes care of ration super-ordinate, subordinate ratio (1:6 or 1:8).
ii) Within one time extension workers are required to concentrate on only to those few recommendations which are capable to bring best results.

iii) T&V system trains the farmers to learn the minimum skills for modern farming.

iv) T&V system gives an ample scope to local research stations to learn the technological requirements of the people through periodic feedbacks. This also helps the researchers to assess the potentiality of the farming community and then recommendations can found more accurately.

v) Inputs monitoring system is done:

a) by identification of distribution points,

b) by working out the requirements of various inputs in each VEM circle,

c) through sanction of co-operative credits in time by central co-operative banks,

d) by advance stocking of inputs before the commencement of rains and

e) through expeditious recovery of loans.

Sinha (1980) pointed out six major achievements of T&V system:

a) Single line restructured organisational set up.
b) A family based moderate size group of farmers.

c) Regular, fixed and periodic visits to the families.

d) A timely, clear and precise form of messages.

e) An arrangement of infrastructural support for the supply of inputs and services.

f) Regular and autonomous arrangements for monitoring and evaluation of efforts and results.

Ayangha Survey Report (1980) showed that by the end of second season of T&V implementation over half of the farmers contacted knew the day on which they would be visited but less than quarter were willing to accept the advice offered. The reason was low reliability of input supply. Basic need of the farmers above all was in outlaying villages specially for market intelligence. None of these factors were the responsibility of T&V system.

Bhaskaran (1981) reported that T&V system in (A.P) has increased the production in command area project.

Singh (1981) reported that T&V system had increased the consumption of agriculture inputs and results were promising.

Howell (1982) with reference to small farmers attempted to categorise some of the extension problems which can be brought under three heads:

First category comprises of small farmers themselves, the de-
proved ones of modern technology. But the size, diversity of physical conditions, farming system and production requirement with in this sector becomes an enigma. In this target group there are large number of farmers who are growing some crops which so far are not blessed with technological advancement.

Second category of the problem concerns the quality of extension advice provided to small farmers. This he says, is due to week linkage of research station and small farmers.

Third category of the problem concerns with the extension staff themselves due to a large number of itinerant field workers are providing service in extension system. As a result, problem of poor supervision obviously emerges which often is a way of indicating that staffs are corrupt and that they do not bear a good morale.

Schultz (1982) adds another attribute of agricultural research which equally can be fitted to agricultural extension. He says, “it does not have the high national status in modernization that is associated to steel mills and airlines by Government. In science, it does not have the glamour of astronomy and physics”. He says that recommendations are not profit oriented. But then he further stressed that “Advances in knowledge are a deceive factor in achieving an increase in food supply through out the world and extension activities become useful when worth while research contribution are at hand.”
Maity et al. (1983) concluded that contact farmers should be in order of importance, well behaved, capable of explaining things, responsible, social, honest, self-confident, helpful to others and selfless.

World Bank Staff Working pp. 595 (1983) opined that staff engaged in the monitoring and evaluation of Training and Visit System of extension required highly developed knowledge in social sciences and statistics combined with substantial knowledge of T&V system and the constraints surrounding its development suffered from several operational problems. But the persons involved in this unit were kept engaged in some other duties which might extended from assistance in preparing the departmental work plan and budget, or simply undertaking urgent administrative tasks handed down or by busy superiors. This resulted in loss of topicality and hence credibility before the extension wing at large. Most serious and frequently encountered weaknesses in staffing did lie in senior ranks. In some cases, insufficient professional and supervisory posts had been provided to ensure reasonable span of command while some other posts remained vacant owing to lack of qualified staff and grading difficulties.

Patel (1984) envisaged that training and visit programme as most potent instrument in raising the productivity of one hectare.

**IMPACT OF TRAINING AND VISIT SYSTEM.**

The earliest documented evaluation of the impact of
this extension system is that prepared on extension in Schyan irrigation project in Turkey between 1967-72 the extension resources but yields were low. Over the five years period while the extension service expand to cover 1,00,000 hectares project area, farmers net profit from cotton cultivation (the main crop of the area) steadily rose from about $25 per hectares to over $30 per hectares, adjusting higher prices of cotton over this period still an increase of almost 900 percent cotton yield which had averaged 1.7 tonnes per hectare in 1966 reached over 3 tonnes by 1969 and nearly 3.8 tonnes by 1971. Cotton yield in the area are now as high as in the best cotton growing areas. Though area was given for cotton, the extension service covered all crops. However, good results were reported with respect to wheat and vegetables as well.

In India, Chambal project area in Madhya Pradesh also showed good results. Here reorganisation of extension service was introduced as a part of the broader command area development project what had also been available for years but not only fully utilized and yields were poor. In 1974-75, the extension service concentrated on increasingly paddy area which rose from 12,000 hectares to over 16,000 hectares and yield rose to 2-4 tonnes per hectare as compared to an average good weather yield of less than 2 tonnes realised in the year before the extension system started by 1975-1976, paddy area had risen to 19,000 hectares with average paddy yields of nearly 2.8 tonnes per hectare compared with the best previous yield of 1.3 tonnes obtained in 1971-72.
In Chambal (Rajasthan) the extension reorganisation was introduced in Kherif 1974 season by following all or some of the recommended practices were not followed, yield were about 1.5 tonnes per hectare rose to over all 1.1 tonne. In area covered by the reformed extension service average paddy yield rose from 2.1 tonnes per hectares to over 3.3 tonnes per hectares for all farmers fields.

In Andhra Pradesh, the T & V system was introduced during 1973 in Pochambad command area and later extended to cover command area of Nagarjun Sagar Project and Tungbhadra irrigation complex. In these command area, results of some random sampling crop cuttings experiments showed an appreciable increase in yields of all major crop in the areas exposed to intensive extension work under T & V system.

In West Bengal, the extension system was introduced in the entire state in summer 1975. In 1975-76 the extension service operated the entire state of West Bengal. An increase in the area under H.Y.V paddy from less than one million acres to about 1.4 million acres was brought out area under H.Y.V grown on 1 million acres to 1.4 million acres.

In Assam the new extension system started in April, 1976. Some case studies were conducted by Mr. Rangan Dutta, Deputy Commissioner, Nowgong district, Assam, four months after the extension system was introduced in the district. He selected three farmers on the basis of their land holdings, income level
of technological awareness and ease of religious consideration. The fact that which emerged out of the interviews reveals that the new extension system (T&V) would meet the needs of all categories of farmers and help the small farmers effectively leading to an increasing in productivity and income.

Sood (1978) reported that a strong agricultural extension machinery is essential for success of agricultural production programme.

Jayaraman (1979) reported that the irrigated agricultural extension should be of specialised nature such as soil and water management, popularising a suitable cropping pattern depending on soil characteristics and water availability.

Asopa and Tripathi (1987) reported that the impact of irrigation could be limited to increasing the cropping intensity and making marginal changes in cropping pattern.