CHAPTER ONE

INTRODUCTION

Development of agriculture is an integral part of overall economic development. Very few countries have attained economic development without growth in the agriculture sector. To put it in other way, the countries, which have attained significant growth in agriculture have also a better development in their overall economy. The government, the private sector, and the farmers all have a key role in bringing about agriculture development. It is firmly believed that a break-through in agricultural development in general and production in particular cannot be made unless the results of research reach the farmers in an appropriate form.

The adoption of improved farm technology depends not only on the personal characteristics of the farmers but also on the effectiveness of various extension agencies and agents involved in the transfer of technology. As a matter of fact, in the present context of India's rural economy, credit and extension work are the two important components of technological change. The central challenge to the agricultural extension service is to help farmers to adopt innovations for increasing the production of crops and live stock and thereby improving their over-all socio-economic condition. Agricultural extension service is that form of education, which goes into farmer's lobby and sets an environment conducive to strengthening of their faith in the things, which they have seen.

Agricultural development in terms of better production and income is not possible without an effective extension service supported by agricultural research relevant to the farmer's need. Therefore, for desired agricultural development there is a consistent need for proper extension work. The Training

& Visit (T &V) system is one of the many ways in which extension services are organized along effective professional lines. This system is now in operation in nineteen major states of India. T & V approach is the latest outcome of several reforms made over years on earlier agricultural extension system in India.

The overall agricultural extension system in India may be chronologically arranged into three stages as follows:

Stage-I : Pre-independence era (1866-1947)

Stage-II : Community development and extension service era (1953-1960)

Stage-III : Intensive agricultural development era (1960 to till date)

In the Pre-independence era, the department of Agriculture failed to exercise any real influence on the problems of agricultural development, except the collection of simple agricultural statistics, due to lack of extension machinery. The 'grow more food' movement initiated by colonial government during war time (1939-45) also not succeeded in attaining its objective precisely because it did not relate the need for food production with a farmer's other concerns.

In the post-independence period, particularly during 1947-1951 there was no organized effort to increase agricultural production through extension. However, as per constitutional directives (Article 48) India has been experimenting with many strategies and approaches to organize agriculture and animal husbandry on modern and scientific lines. But a concrete and comprehensive programme of rural and agricultural development was not there until the government of India launched her Community Development Programme (CDP) in 1952. Under CD Programme, the extension efforts were directed especially towards improvement of agriculture. However, after working of CDP for a few years, it was realized that the programme has failed to register any appreciable increase in agricultural production. The National Extension Service (NES) introduced in India in 1953 also failed to bring any

significant change in agricultural practices and particularly in enhancing agricultural output. In early sixties, the grave food situation in the country compelled the government to formulate a new development strategy putting greater emphasis to agricultural improvement. As a follow up, Intensive Agricultural District Programme (1960), Intensive Agricultural Area Programme (1961), High-yielding Variety Programme (1967), Multiple Cropping Programme (1970), and Integrated Rural Development Programme (1976) were introduced in succession. Currently, the National Extension Project (1985) is in operation.

Some of the above noted programmes unfortunately alienated the rural poor from the main stream of national development because the programmes were designed to accelerate agricultural production only in selected regions endowed with good natural and human resources. Higher inputs coupled with greater intensity of extension efforts resulted in faster growth in agricultural production in these areas. The efforts to augment production were helped by the availability of Mexican high yielding variety seeds of wheat. But all these production-oriented programmes led to generate a wide socio-economic gap in the rural areas due to the fact that the maximum benefits were reaped by those who had better natural resources and were well responsive to these programmes.

In the seventies, the policy emphasis shifted to the target group approach in order to overcome the shortcomings of the previous programmes. Productivity movement of this time was sought to be balanced by an egalitarian concern. A number of clientele specific programmes were launched to improve the economic condition of small farmers, marginal farmers and the landless agricultural labourers. During this time certain special programmes like Drought Prone Area Programme (DPAP), Small Farmers Development Agency (SFDA), Marginal Farmer and Agricultural Labour Agency (MFALA), Hill Area

Development Programme (HADP), Command Area Development Programme (CADP), and Tribal Development Scheme (TDS) were introduced.

The foregoing description clearly reveals that most of the earlier extension approaches and techniques evolved in improving India's agriculture and its productivity was suffering from certain shortcomings both in structural and functional terms. For instance, the National Extension Service (NES) was the main agency for extending the research findings to the field. It was found that there was information gap between scientists and farmers. As a result, in the later stages of extension approach village level workers and agricultural extension officers were employed to make a key role in transmitting messages from laboratory to the farmers' field. An analysis of several extension approaches adopted previously shows that the extension services in India are often suffered from

a) lack of staff training and incentives and channels for updating agent's knowledge,
b) inefficient organizational structures that prevent adequate supervision of field workers,
c) requirements for staff to perform tasks other than spreading information such as collecting data,
d) staff shortages, and
e) absence of organized feed back about farmer's problems from field workers to researchers.

The World Bank, the Governments of India and West Bengal all recorded similar weaknesses of the extension programme. One major organizational weakness as identified is that a village extension worker, the key-man in extension services was required to work for at least three masters: the Department of Agriculture, the Development Department and the Panchayat Samiti but the field worker failed to satisfy the need of the farming masses. In

order to overcome the aforesaid constraint in the extension system, Benor (1977) suggested a new model of extension system known as "Training and Visit" (T & V) system. This system has been introduced in projects financed by the World Bank in the state of West Bengal covering all its 352 Blocks with the prime objective of improving and expanding agricultural extension services or educational knowledge directly to the farmers faster and at relatively low cost[1].

The Training and Visit system of extension has already covered several million farming families in many developing countries. It was first introduced in 1967 in the Seyian Irrigation Project in Turkey by Daniel Benor for cotton and wheat crops. This system has also been accepted in several other countries including Bangladesh, Pakistan and Sri Lanka.

In India this particular system of extension has been introduced through the World Bank during 1974 as a component of command area development projects in Rajasthan and Madhya Pradesh. In mid seventies, it was initially introduced in six districts of West Bengal. Later on the T & V system has been adopted in all other districts of this state and as the principal means of agricultural extension. The unique approach of Training and Visit system is that it is a systematic time bound programme of training and visits of field extension workers combined with clearly specified working schedules and close supervisions. The operation of the T & V system as suggested by Daniel Benor (1977) and subsequently adopted by our State Government has been carried out on the following lines.

i. A single line of command between full-time village extension workers (VEWs) and extension head quarters.
ii. Regular in service training of the extension staff.
iii. Fixed schedule of visits by VEWs to farmer's fields.

1. For details of earlier proposal of Benor on new model of extension system known as "Training and Visit " see Benor and Baxter 1984.

iv. Improving in the working linkage between extension operations and agricultural research activities.

v. Regular monitoring and evaluation of the working programme of the state.

The administrative set up of agricultural development work in India consists of several tiers. The Department of Agriculture has its offices located throughout the state and is responsible for implementation of various agricultural programmes. The district level offices are headed by Principal Agricultural Officer / Joint Director of Agriculture. There are Subdivisonal units, and Agricultural Developmental Units at Subdivision and Block Level. In this set-up, the agricultural information flows in the direction as shown in the following diagram.

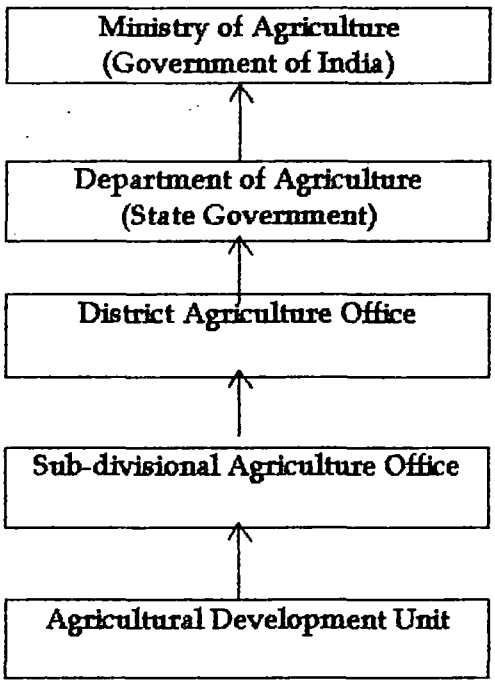
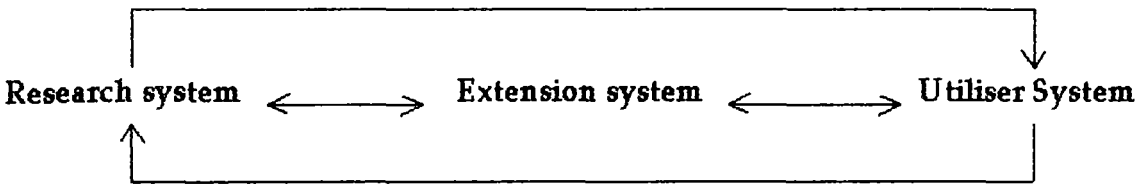


Figure 1.1: Information flow in Agriculture Sector

Under Training and Visit system of each Agricultural Development Unit the extension personnel are expected to devote their time exclusively to professional agricultural extension work. Trainings as well as visits are undertaken every fortnight according to a fixed schedule. Training provides the transfer of know-how from research scientists to village level extension workers (VEWs). The training is followed by visit of VEWs to eight sub-groups (800-1200 farm families) on a fixed day of the fortnight. Ten farmers from each sub-group are selected by VEWs as "contact farmers" representing all categories of farms on the basis of their receptivity and leadership qualities. Contact farmer is the key person of the agricultural information network who makes a bridge between village extension workers and common farmers. An effective linkage is established through subject matter specialist in sub divisional office who are expected to spend one-third of their time at the research stations and thus transmits the knowledge of research to the contact farmers through village extension workers. The present model of agricultural information flow in this system is shown in the diagram below.



The Present Study

India with 2.4 per cent of global geographical area, supports more than 16 per cent of the world's population and of whom 75 per cent depend on agriculture. It also supports nearly 15 per cent of total livestock population of the world. One third of the gross national product (GNP) comes from agricultural sector. By the turn of the century, 240 million tones of food, 17.2 million tones of vegetable oil and 64.4 million cubic meter of industrial wood shall be needed for

approximately 1,000 million people. The Indian population is expected to be stabilised at approximately 1,500 million by the middle of the next century. By that time, the food and feed requirements will be nearly doubled than that of current estimate at the end of the present century. To meet up that need, an appropriate agricultural extension system would be required compatible to the agrarian structure of the country.

The training and visit system comes as a latest model in transforming agriculture not only because of its extension efficiency but also its adaptability to a wide range of agricultural and administrative environments in developing countries. It was considered highly suitable in Indian situation. The Training and Visit System of extension focuses on the improvement of low cost basic agricultural practices (such as better seed, seed bed preparation, weeding etc.) that requires more work but little investment. So the system is an instrument that may help to change agro-ecological and socio-cultural conditions of the farmer. In this system *Krishi Prajukti Sahayak* (KPS) is the key person of the agricultural information network who makes a bridge between extension system and farmers.

Despite considerable development in technological innovations during the recent past, the common farmers have not been able to satisfactorily reap the benefit of it due to their poor knowledgeability about many of those innovations. In many areas, technology was available but it could not be effectively transferred to farmers. There were wide gap between production potential and actual field harvest in the case of most crops. For these gaps, many factors were found responsible, and among them an important one was the weak extension service. The present study attempts to understand the level of knowledge of the farmers about new agricultural technology and its adoption rate in terms of their nature of exposure to the information disseminated

through T & V system of extension in particular and other means of communication in general.

The Objectives

The principal objective of present study is to assess the effect of Training and Visit system of extension on agricultural practices in the districts of Cooch-Behar and Jalpaiguri of West Bengal State. An attempt has been made to examine the knowledge, attitude and response of the farmers in terms of their contact with KPS and adoption of agricultural innovations. The study will try to identify the socio-economic and cultural constraints of the farmers in building their contact with KPS and subsequently adopting new agricultural practices and thus ultimately impede the very aim of the Training and Visit system. More specifically, efforts have been taken to examine the credibility of the T & V system of agricultural extension in transforming traditional agricultural practices. Present findings may help to comprehend the progress and shortcomings of extension ~~and~~ services through the latest model of T & V system and advice the project management to adopt appropriate corrective measures wherever necessary for the improvement of the extension system concerned.

Research Questions

i. What kind of knowledge, attitude and perception is there among the farmers about T & V system of extension and about improved farm technology?

ii. To what extent the farmers are contacted by and are benefited from extension personnel with regard to agricultural information?

iii. What is the present state of agriculture and the condition of the farmers in two northern districts of West Bengal?

iv. What is the role of the KPS in functioning of the ongoing extension services?

v. What is the uniqueness and special utility of the T & V system of extension in diffusion of agricultural innovations?

vi. What are the major weaknesses of Training and Visit system of extension and what types of corrective measures could be taken by the project management to make the extension services more effective and useful to the farmers?

vii. What is the knowledgeability of the farmers about scientific cultivation and their particular adoption behaviour towards recommended practices of the principal crop?

viii. Whether there is any association between the status of land holding, age, income and education of farmers and the attitude towards T & V system, and level of adoption of recommended farm practices?

Some Limitations of the Study

The present study was carried out with certain limitations of time and resources. A survey of all the Blocks from two selected northern districts was not possible because the researcher had to depend entirely on his own limited personal resources and time. The researcher had to find some spare time to do the field survey outside his specific and routinized official duties in his service organization. Even then, utmost care and thought were given in making the study as objective and systematic as possible.

The study involved collection of considerable amount of data from the farmers at village level. So the official organizational personnel involved in agricultural administration were kept outside interview. It was also not possible to collect data from training centers. Despite aforesaid limitations, it is expected that the findings of this study would be of some use to the social scientist, agricultural extension workers, planners and policy makers concerned with agrarian economy and its development in India.