

AN EVALUATION OF THE EXTENSION TRAINING PROGRAM AT
COMILLA THANA TRAINING AND DEVELOPMENT CENTER
BANGLADESH

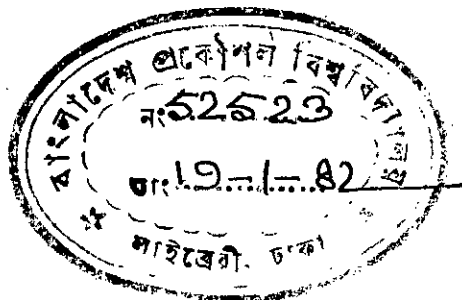
A Thesis
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ABSTRACT

The central focus of this study is to evaluate the extension training program at Comilla Thana Training and Development Center (TTDC). This center is conceived as an experimental attempt where the thana level officers of nation building departments serve as teachers and village cooperative society representatives called managers and model farmers serve as extension agents by attending continuous weekly training programs at TTDC. They maintain liaison between TTDC teachers and farmer-members of village societies. Data were collected through personal interviews using three different interview schedules designed for TTDC teachers, village representatives and farmer-members. Twenty-five village societies were selected randomly and the managers and model farmers of each selected village along with two randomly selected farmer-members were included for interview. All eligible teachers at TTDC were interviewed.

Five objectives were set for investigation - the relevance of subject-matter; strengths, weaknesses and needed changes in the training program; process of feedback; methods of training and the conditions necessary for successful role performance by teachers.

The study reveals the fact that the relevance of the subject-matter is not consistent. On one hand, more training time is spent on topics which are not high in priority of the trainees' choice, and on the other, eighty per cent of the farmers do not find adequate answers to their questions. The 'manager-model farmer' approach is appreciated by all

groups, but the low level of teachers' knowledge, the lack of facilities for conducting effective training classes, and administrative inefficiencies are mentioned as major weaknesses in the training program. The process of feedback between the teachers and village representatives and between the village representatives and farmer-members seems to be reasonably effective. The training methods believed by teachers to be effective are not used by them for lack of facilities. Economic hardship is mentioned by the teachers to be the major impediment in their successful role performance.

The findings of the study reflect a set of deteriorating conditions in the training activities at Comilla which further may signal a trend of worsening conditions in the whole Comilla program. The pipeline from where the knowledge used to flow from the TTDC to the villages in early years has now stopped due to failure in the production of new information. More collaboration with research institutes is needed to solve farmers' problems and produce new information. The findings also suggest that the curriculum of the training program needs to be changed to incorporate the priority the trainees desire. Training, being a part of the rural development program of Comilla, it needs to reinvigorate the system levels at Comilla and revitalize the institutional approach in order to have impact not only in training activities, but also the whole Comilla program.

VITA

The author was born in the district of Comilla, Bangladesh on January 8, 1944. After graduating from the University of Dacca in Agriculture, he enrolled in the Faculty of Agriculture, Bangladesh Agricultural University, Mymensingh in 1965. He obtained an M.Sc. (Ag.) Degree in Agronomy in 1966.

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In 1972, he married Shahan Ara, and they have a son, Tipu, age four.

To my wife, Shahan Ara, and son, Tipu

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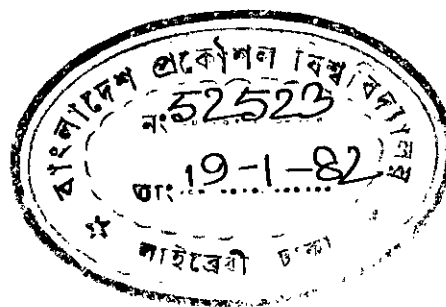
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CHAPTER I
INTRODUCTION



The present study is an evaluation of the extension training program at the Comilla Kotwali Thana Training and Development Center (TTDC) located in the eastern part of Bangladesh. Bangladesh lies roughly between 20°30' and 26°45' North Latitude and 88° and 92°56' East Longitude.¹ It is almost a flat-surfaced area with a few hills only along the eastern and southeastern border. It has a typical tropical monsoon climate with annual temperature varying from 49°F to 96°F.² A record of 73 years' average rainfall data shows that the rainfall varies from a minimum of 55 inches to a maximum of 127 inches, the average of yearly rainfall being 84 inches.³

Bangladesh, a newly independent nation, emerging in December, 1971, according to many foreign experts, presents a composite picture of all the extremes of poverty and underdevelopment in the Third World. Its poverty lies in the country's inadequately productive eco-system and in the legacies it has inherited from the systems of agricultural management of past centuries.⁴

¹ Ahmad, Nafis. An Economic Geography of East Pakistan. Oxford University Press, New York, 1968, p. 2.

² Ibid., p. 41.

³ Ministry of Agriculture, Government of the People's Republic of Bangladesh. Bangladesh Agriculture in Statistics. Agro-Economic Research Section, Dacca, 1973, p. 150.

⁴ Stevens, Robert D. et al. Rural Development in Bangladesh and Pakistan. The University Press of Hawaii, Honolulu, 1976, p. 3.

Bangladesh is a small agricultural country located in south Asia. It covers an area of fifty-five thousand square miles with 75 million population, growing rapidly at the rate of about three per cent. More than 90 per cent of the population live in its numerous villages of 64,000; the average density of population per mile being 1500. The level of literacy is low, about 20 per cent. Rice is the staple food of the people and it alone constitutes 80 per cent of the total cropped area of 22 million acres of land. Even then the country suffers from perpetual food shortage. Despite the favourable tropical climate, the per acre yield of rice is one of the lowest, and sometimes only one-third compared to some developed rice producing countries.¹

The agriculture in Bangladesh is primitive and a gamble with nature. The distribution of the total average of 84 inches of rainfall throughout the year enables the farmers to grow two monsoon rice crops. The growing season of the first crop, aus, begins with the monsoon showers of the year in March-April. Its harvesting in June or July immediately followed by the planting of the next monsoon crop, aman, are both vulnerable to the highest amount of rainfall often leading to cause waterlogging (the country suffers from drainage problems in many areas), and sometimes to flood. Again the aman crop is subject to drought at its flowering stage when the rainfall slows down in November. This leads to a failure of both monsoon crops (Figure 1).

Crop failure leaves the farmers with no alternative but to starve and look for employment which goes in vain. Growing other non-rice crops is not easy, the soil in winter under the scorching sun only adds appetite to the hungry millions. The cultivation of low yielding

¹Food and Agricultural Organization, Production Yearbook, Rome, 1973.

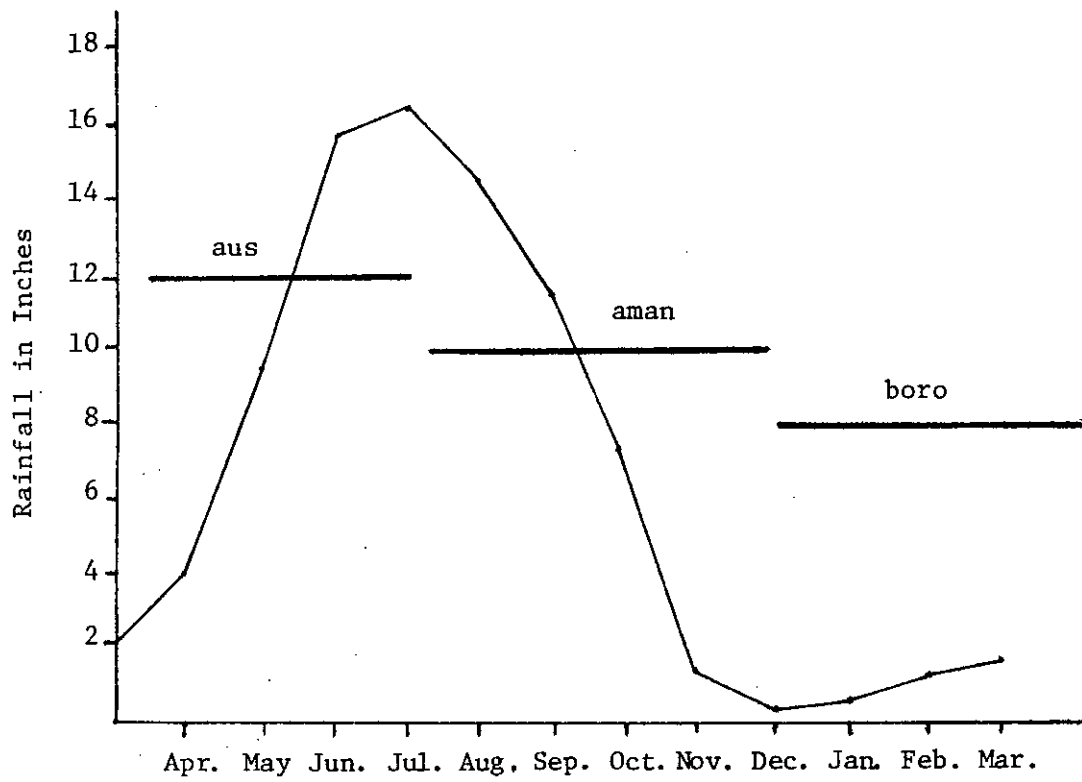
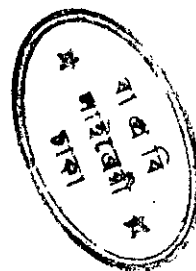


Figure 1: Distribution of Monthly Rainfall and Rice Crop Seasons in Bangladesh.



rabi crops does not provide any incentive to farmers for the expansion of land under it. The farmers during the season remain unemployed as well as go without food.

As a means to free agriculture from its dependence on monsoons, the extension of irrigation facilities was recommended by the Land Revenue Commission of the government of Bengal in 1940, but no action was taken on that decade.¹ Although the ministry of agriculture of the government of the then East Pakistan started operating some irrigational facilities in 1951, followed by the establishment of some large scale irrigation projects in the country, but the adoption of irrigation by the farmers was far from satisfactory.² It is only recently that the country's 10 per cent land could be brought under irrigation with the creation of necessary infrastructures so that all inputs are made available to the farmers.³

Politically, the country was ruled by the British people for about two hundred years. In August, 1947 India was divided and Pakistan attained independence with predominantly muslim areas in Bengal (former East Pakistan). On March, 1971 as a result of a constitutional crisis over the powers of central and provincial governments and a subsequent attack by the Pakistan army upon the Bangladesh nationals, an

¹Tarafdar, R. Islam. "Important Socio-economic and Institutional Factors Determining Efficiency of Low-lift Pump Irrigation in Bangladesh." Paper presented at the Workshop on Implementing Public Works Program. East-West Center, Honolulu, Hawaii, 1976.

²Ahmed, Badaruddin. Local Organization for Irrigation Management: A Case Study in Bangladesh. Unpublished Master's Degree Thesis, Cornell University, Ithaca, New York, 1977.

³Bari, Fazlul. "The Spread of High Yielding Varieties and Some Socio-economic Consequences." Paper presented in a Seminar on Socio-economic Implications of Introducing High Yielding Varieties in Bangladesh. Bangladesh Academy for Rural Development, Comilla, 1975.

independent Bangladesh was declared and achieved the independence after a nine-month war of liberation.

Socially, Bangladesh has a puritanic society. Eighty-six per cent of the population is muslim, the remainder are hindus, buddhists, christians and others. Bengali is the only language of the entire population. Villages in Bangladesh are arranged in clusters. The social leadership in the villages centers on the economically dominant linkages and their most prominent members are called sardars and matabbars, that is, the village leaders.

A traditional village in Bangladesh was a socio-economic unit. It used to produce almost all that it needed and consumed all it produced. A famous fourteenth century Arab traveller, Ibn Batuta, described the land as the golden land, the name for Bengal is 'Sonar Bangla'.¹ A family in the village was the basic organization having strong kinship affiliations with other families. These families were bound together by ties of mutual and reciprocal obligations.

But this traditional character of the village was disrupted by the Britishers who created a new socio-economic system by developing a land-based class. The family remained a socio-economic unit, but its kinship affiliations were weakened. The village society was divided into small educated middle class who left villages and took either shelter or whose loyalty was always directed towards urban areas. A sharp contrast is thus created with this so-called formally educated minority and the tremendous mass of un-schooled and un-lead peasant cultivators.

¹Khan A. Hameed. "Agricultural Developments in East Pakistan: A Review of East Pakistan's Efforts to Solve the Food Problem." In Community and Agricultural Development in Pakistan. Asian Studies Center, Michigan State University, East Lansing, 1969, p. 11.

The present system of formal education in Bangladesh now can educate only 20 per cent of her population, who has an overwhelming clerical and urban bias; despite the fact that 80 per cent of the people live in rural areas. Moreover, the educational system is such that it has nothing to do with the occupations of the majority of rural people who are predominantly farmers. Kusum Nair observed,

".....whoever gets educated today, irrespective of his social and cultural traditions and the economic circumstances of his family and community, acquires invariably the upper class prejudices and postures as well, the most outstanding of which is a strict aversion to and disdain for manual work. He leaves agriculture altogether, because cultivation or in fact, any kind of manual work in the rural context, is considered totally incompatible with education. The result is that the spread of literacy among the peasant classes helps to improve neither the techniques of cultivation nor agricultural production - the two most pressing problems today in the agrarian field. Instead of being utilized to improve agriculture, education is looked upon as an avenue of escape from it."¹

Such is the problem of education in Bangladesh. On the other hand, pressure on land, which has already gone beyond the scope of an economically viable unit, continues to increase due to the muslim law of inheritance - already reducing the average size of farm holding from 3.5 acres in 1960 to 3.2 acres in 1973.²

The solution of the problems is not easy. The historical evolution of the different attempts during 1920-1960 to reach rural people to solve the problems can be summarized below under the following categories.

a. The old bureaucratic approach: This approach consisted mainly of establishing a number of nation-building departments, the employees of whom will be the chief agents for spreading the educational activities.

¹Nair, Kusum. Blossoms in the Dust: The Human Element in Indian Development. G. Duckworth, London, 1961, p. 149.

²Planning Commission, Government of the People's Republic of Bangladesh. The First Five Year Plan, 1973-78. November, 1973, p. 84.

b. Rural utopia: This idea was based on 'dedicated workers', that is, a dedicated person should sacrifice his life, would renounce the city, come back to live in the villages and by sacrificing himself and the spirit of service, he would educate the people, improve the economic activities and would reform the village.

c. Christian mission approach: This approach persuaded the muslims and hindus of the country to give up their false beliefs and customs and institutions. It established schools, hospitals and colleges and attracted the village people. These institutions were attended by the people but they showed no inclination to give up their religion, faith and beliefs.

d. Village Agricultural and Industrial Development (V-AID): It was a government sponsored program to help farmers under a team leader in a thana, an administrative unit in Bangladesh, backed by a number of multi-purpose village level workers to create the spirit of self-help, initiative, leadership and cooperation among villagers.

All these approaches made at different times were the attempts to reach the rural people, to transfer the useful ideas from the 'store-house' to the people who need them. The transfer of ideas bears the importance on the capabilities of the learners to put them into practice. Here lies the significance of the concept of extension education which is considered to be an instrument of agricultural development through education. That is, extension must be oriented toward producing desired changes in agricultural production, as well as changes in patterns of living. But the history of extension service in Bangladesh, staffed by the specialists at the upper level and supported by low-level extension workers at the lower level, is typical and traditional in line

with other developing countries. It only presents the experiences of surmountable difficulties in achieving the goals of agricultural development by sending the extension agents to rural areas only to discover the practical and unavoidable difficult situations that they face in becoming 'a friend, philosopher and guide.'

Without trying to list the shortcomings of such an extension system which have been well identified by a number of authors including Leagans,¹ Coombs,² Rice,³ Whyte,⁴ and many others, let us look into another approach developed recently on the basis of a series of social experimentations done in a small social laboratory area in Bangladesh. In early 1960, the Bangladesh Academy for Rural Development (BARD) tested some of the premises of agricultural extension and community development in the laboratory area and came out with certain notions of extension principles. Akhter Hameed Khan, the founder-director of the BARD described these notions as follows.⁵

1. Ignorance or lack of awareness was not always the principal cause for non-acceptance of new methods. On the contrary, too often, there

¹Leagans, J. Paul. "Extension Education and Modernization." In Behavioral Change in Agriculture ed. J.P. Leagans and Charles P. Loomis, Cornell University Press, Ithaca, New York, 1971.

²Coombs, Phillip H. and Ahmed, Manzoor. Attacking Rural Poverty. Johns Hopkins University Press, Baltimore, 1974.

³Rice, Edward B. Extension in the Andes: An Evaluation of Official U.S. Assistance to Agricultural Extension Services in Central and South America. Agency for International Development, Washington, D.C., 1971.

⁴Whyte, William F. Organizing for Agricultural Development: Human Aspects in the Utilization of Science and Technology. Transaction Books, New Jersey, 1975.

⁵Khan, A. Hameed. "A Review of Extension Principles in the Context of Non-Formal Education." Paper Presented at the Seminar on Non-Formal Education and the Rural Poor, Michigan State University, 1976.

were physical, social or economic impediments. As an example, in our area, flood control and irrigation were necessary preconditions for modern agriculture.

2. Faith in an official village level worker was not well-founded. He was neither a reliable teacher nor a trusted organizer because of two grave handicaps: he was a transient outsider in a closed society, and, too frequently, his know-how was inadequate. Moreover, while information may be enough for solvent landowners, it was not enough for tiny cultivators. The former could, as enterprising individuals, follow the village level worker's advice; the latter could only rarely do so without group organization. Obviously for peasants an institutional infrastructure was another precondition which the village level workers could scarcely fulfill.

As a consequence, the BARD introduced several alterations that brought three structural changes in the extension education system. Again, in the words of Khan,¹ these changes were:

A. The setting up of an institutional training and development center, with a composite team of departmental experts, and a regular routine of meetings and workshops for delegates from village groups.

B. The formation of a group in each village and the feedback by every delegate to his group members in regular meetings, corresponding to the pattern at the center.

C. The organization of small farmers, for their special advancement, the village cooperatives were federated into a central association, and the selection by the members of each cooperative from their own ranks and class, of a manager and a model farmer for learning at the center,

¹Ibid., pp. 4-5.

and in turn, educating the group, were continued.

However, since the present study is designed to evaluate the extension training program conducted for managers and model farmers of the village cooperative societies of the laboratory area, brief activities of the Academy's contribution in developing programs needs worth mentioning. Over time, the Academy developed four major programs by undertaking some adaptive researches in the 107 square miles area of the social laboratory, called Comilla Kotwali Thana. These programs were later accepted by the government as national programs. These are briefly as follows.

1. Thana Training and Development Center (TTDC): The concept of the center emphasized the need for coordination among departmental officials and the leaders of local government. The role of government technical experts at the thana level as routine reporters of periodical reports and doing some administrative duties, was changed to the role of teachers by bringing a group of farm leaders for practical training, and who also participate in the process of planning and coordination. All services and supplies were located in the same building for the convenience of the people.

2. Rural Works Program: It was an attempt to construct a network of roads, drainage channels, embankments, etc., in the villages. Engineers, in participation of local councils, train the local people in building such infrastructures as essential for rural development. This also creates employment opportunities for landless laborers.

3. Thana Irrigation Program: The program was designed to use all kinds of water resources that were available to the fullest extent through the mobilization of farmers. The farmers were to organize

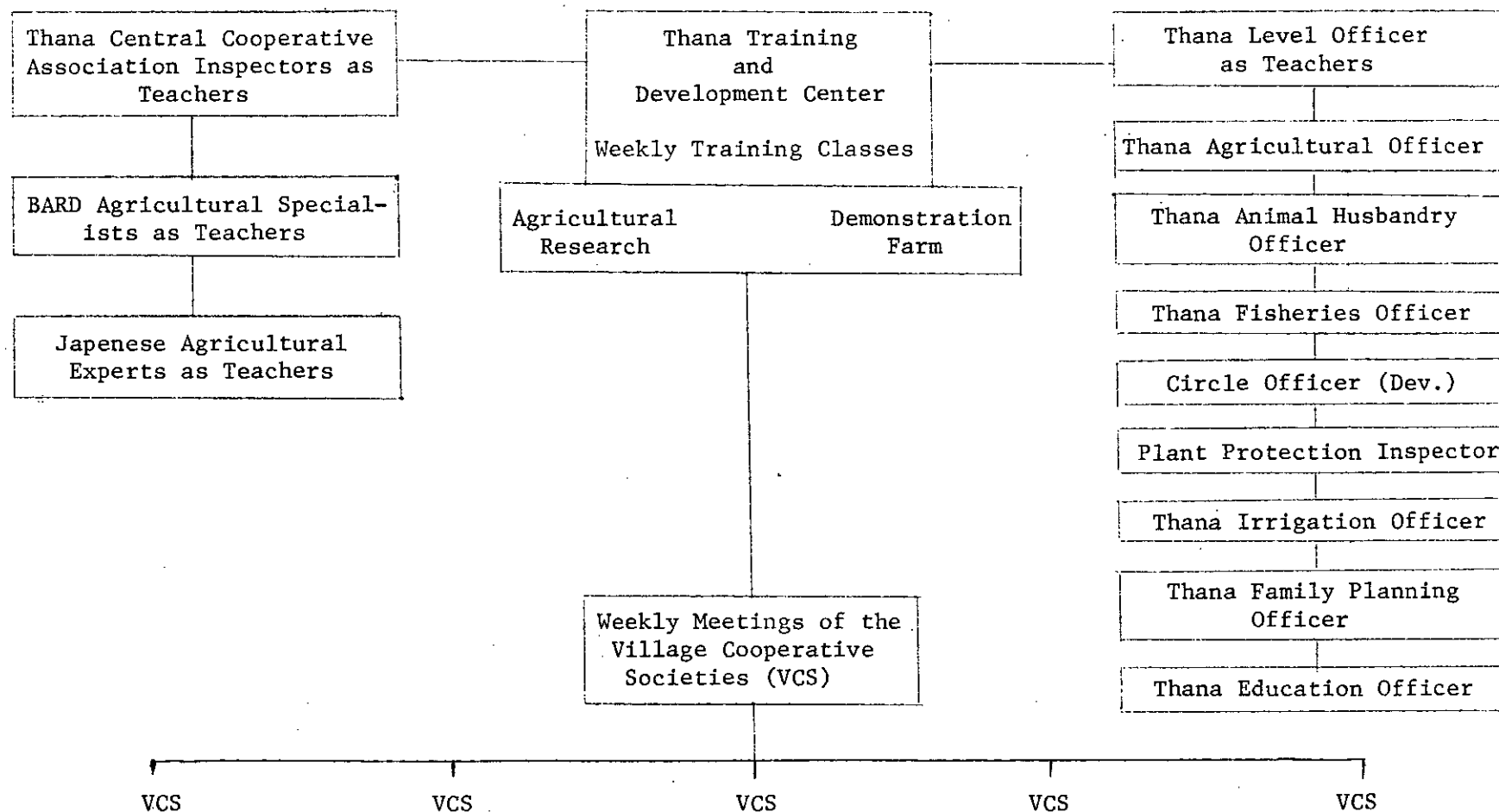
themselves into irrigation groups for adoption of a 2-cusec pump machine or a 6-inch diameter tubewell. A workshop was located at the training center where villagers were to be trained as pump drivers. Trained mechanics were available at the center, and inputs like pumps and fuel were stored.

4. Cooperative Groups: Under this, the farmers were organized into groups in every village. They are supported from the center with necessary services and supplies including credit to adopt new innovations. They have their own representatives who are being constantly trained by the experts located at the center. The training includes such subjects as organization and management of cooperatives, improved agricultural practices, livestock and poultry farming, pump maintenance, water management, mechanized cultivation, literacy and education, etc. Each village cooperative society sends a number of representatives for receiving training in each subject.

The relationship between each of the above four programs is very close and vital. The programs help the farmers to develop the productive capacity of land, to increase the farmers' income, to safeguard them from money-lending and to enable them to increase their knowledge to modernize their farming methods, to build up capital through thrift and to promote managerial and technical skills through training.

The training program at the TTDC is a coordinating effort between the TCCA, the thana level officers and the village representatives. The relationship of these three components are shown in Figure II. The TCCA coordinates the training activities while the thana level officers and the employees of TCCA take classes and the village representatives act as extension agents at the village level. A training committee

Figure II: Diagram showing the relationships between the TCCA, the thana level officers and the village representatives in organizing and functioning of the training program at the TTDC.



composed of thana level officers, other teachers of TCCA and some faculty members from the BARD, headed by Deputy Director (Training) of TCCA, is responsible for running the training program.

Problem Statement and Its Significance

The Bangladesh Academy for Rural Development has the responsibility for research, teaching and extension in agriculture. Although extension education programs have made some progress in the area, it has not attained the desired level of efficiency considering the enormous social and economic responsibilities. There might be various causes for this situation, but to a certain degree it has been the consequence of ineffectiveness in its training program. Various studies indicate that although the initial operation of the Academy evolved extension approach was encouraging, but the recent performance had some lucuna. Recently, a committee appointed by the government of Bangladesh noted the following shortcomings in the training program.¹

- a. Training has become peripetatic in nature. The duration of a weekly training class has declined from a full day to an average of two to three hours.
- b. The attendance of model farmers has fallen and become more irregular. Higher percentage of managers than the model farmers visited the training center for clearing problems on supplies and services. The important role of thana as the training center has declined with the increase of focus on logistic problems.
- c. Training is mostly one-way traffic in which the band of the thana

¹ Ministry of Agriculture, Government of the People's Republic of Bangladesh, "Report of the Committee on Farmers' Education and Training." In Khan, L.R., Rural Communication and Farmers' Education. Unpublished report (mimeo). November, 1974, p. 18.

officers inflict pedagogical lectures on disinterested listeners.

d. Demonstration has become a minor element in training program.

Extension education as an instrument for agricultural development requires certain preconditions and prerequisites for making the training effective. Qualified and competent teachers, new and continuous supply of research findings, good and effective training methods, availability of supplies and services, etc. are some of the prerequisites for the success of extension education. And the success can be judged through the extent of ability of the teachers in disseminating new information; the understanding, acceptance and the act upon it by the desired clientele. Therefore, systematic and continuous evaluation is of utmost importance in guiding the organizations towards specific goals. Without evaluation, the extension educational cycle is incomplete and there are no evidences for its further improvement. Frequent evaluation of any extension teaching program is essential to determine progress, to learn if the objectives of the program are being accomplished, to identify the effectiveness of certain methods and actions.¹

Objectives of the Study

The general objectives of the study are to identify the strengths and weaknesses of the training program at the Comilla Kotwali Thana Training and Development Center in order to suggest modifications for increasing its effectiveness. Within the general objectives the study will focus on the following specific objectives.

1. To identify the relevance of the subject-matter taught to the

¹Leagans, J. Paul. Evaluation in Extension Education. A Class Note Distributed in Course Education 524, Fall Semester, Cornell University, Ithaca, New York, 1975.

managers and model farmers, to the time-frame and the social contract of these village representatives with the farmers.

2. To identify the strengths, weaknesses and the needed changes in the training program as perceived by the teachers, trainers and farmers, and any kind of incongruencies that may exist.
3. To identify the process of feedback and the extent of two-way communication between the teachers and the village representatives.
4. To identify the methods of training used by the trainers and its suitability as viewed by the trainees, that is, village representatives.
5. To identify the conditions necessary for successful role performance as viewed by the trainers and the village representatives.

CHAPTER II

THEORETICAL FRAMEWORK

The present world is now passing through the age of expanding resources and expanding awareness of problems. Development is based on the solution of problems through the utilization of resources. An imbalance is, therefore, created between the developed and the underdeveloped countries, because of ways and capabilities of utilizing the resources to keep pace with the growing awareness of the problems.

For effective utilization of resources, many experts emphasize the need for "building people" in all countries regardless of the social values, political ideologies, cultural factors or economic variations. Building people means the designing of effective methods of training which is needed at various levels.

Training is defined by Morrow as 'an educational situation or process by which the skills and abilities of employees to perform specific jobs are increased.'¹

DePhillips, Berliner and Cribben point out that 'training is the process by which an organization seeks in a planned, coordinated and continuous manner to develop in all employees those understandings, skills and attitudes that will maximize an individual's present and future efficiency and the effectiveness of overall company

¹Morrow, E.N. The Personal Interview as a Method in Agricultural Supervision. Minneapolis: University of Minnesota, Institute of Agriculture, Agricultural Extension Service, 1954, p. 15.

(organization) operation.¹

The individual's maximization of efficiency collectively produces the effective utilization of resources. According to World Bank, 'Of the 2000 million people in the World Bank's developing member countries, roughly 1500 million live on the land, that is, agriculture being their principal occupation; and nearly half of those are entrapped in what can only be described as absolute poverty.'² The solution lies, according to McNamara, in raising the productivity of land.³ This can be done by building people through training so that their efficiency can be increased to exploit the soil so as to modernize their agriculture as that of other developed countries.

The attempts at building people for modernization of agriculture in different countries were not new. But the extent of success in doing so varied tremendously. Until recently, when the world situation took a grave shape, there were some people who believed that creating technology (such as seed, chemicals, etc.) would enable modernization of agriculture. Others thought that diffusion of innovations to the clients were more important. But the complex process of modernization and the need for coordination among the related premises were not felt long before. As a result, most of the early efforts in reaching the rural people to persuade them to adopt innovations in underdeveloped countries was done by various methods, but these were done independently and in isolation.

¹DePhillips, F. et al. Management of Training Programs, Homewood, Ill.: Richard D. Irwin, Ind., 1960.

²World Bank, Rural Development: Sector Policy Paper, New York, The World Bank, 1975.

³McNamara, Robert. Address to the Board of Governors, World Bank Group, Nairobi, Kenya, 1973, p. 16.

A brief review and an analysis of the efforts made in Bangladesh (the then Bengal with India and Pakistan) will not be out of context here.

In 1947, when the British left, India and Pakistan inherited the colonial rules. The independence was a little break from the past, but not a fundamental change. Three kinds of dominations were prominent during the British rule - 1) the political subordination, 2) the economic exploitation, particularly in rural areas, and 3) the urban domination by the growth of cities and setting up of industries helpful for export. The rural areas were more affected by privileges enjoyed by the government officials, landlords and the moneylenders.

After 1860, the recurrence of famine due to low productivity and the rural indebtedness which virtually collapsed the rural economy, made the British rulers conscious about the consequences. The government's awareness about the problem was aroused with the creation of nation-building departments, like agriculture, education, cooperatives, etc. to combat the rising problems of scarcity, low productivity, disparity (between urban and rural areas), and disaffection, a sense of non-participation.

Following the recommendations of the Famine Commissions set up to find out the reasons of famine and to indicate measures for prevention, a provincial department of agriculture was established in 1885. The department initially was concerned with collection of crop statistics. Subsequently, following another famine in 1900, the department was further strengthened with more staff, and extension and research functions. But its extension activities were limited within making propaganda and arranging demonstrations at frequent places. The department's early effort was growing industrial crops as international products for



exports. However, its role of collecting crop statistics still remained to be dominant.

The independence inherited this precarious conditions of the economic and social system, the administrative structure and the attitude of the officials with their rural reconstruction system that the peasants are ignorant. ?

The perennial food shortage was an awakening problem facing the new government. The government launched a series of new programs, grow more good campaigns, package programs, crash programs, etc. Much emphasis was placed on the department of agriculture. But adoption was slow. Civil administration was linked with the agricultural department to strengthen overall effectiveness. But the result was disappointing. Conflict grew between the agricultural specialists and generalists. Special programs were launched with the ideas and principles of community development promoted by American sociologists and development economists. The strength of the program came from financial aid and technical assistance provided by the United Nations. In India, there were Community Development programs, and in the then East Pakistan, it was Village Agricultural and Industrial Development program (V-AID). The leaders of the program wanted the approach to be new, revolutionary and a break from the past. It encompassed a comprehensive approach to raise productive output, to multiply community services, to create a spirit of self-help, to coordinate the working of different departments, to give a welfare bias to the administrative structure or in other words, to stop poverty and remove disaffection.

The V-AID program emphasized special areas for development and worked through the village level workers (VLWs) who served as links with

all departments, services and supplies. A village level worker was a technical adviser, an activist, a catalytic agent, a guide and a missionary. His role was to work through the established leaders of the villages.

Rahim observes that 'the V-AID program created a great deal of awareness within the rural people about the needs and possibilities of development activities. For the first time, the majority of the rural population came in direct contact with the development agents of the government. But the agent's effectiveness as a communicator of technical information was dependent on the availability of support from the specialists at the thana level. In this regard the program's resources were inadequate.¹

Khan thinks that it was a great idea to train some intermediaries in large numbers and send them to the villages to work with farmers. But these village level workers, mostly high school graduates with two years of technical training remained strangers to the majority of the farmers, most of the time unwilling to stay in the villages and all the time pointed their eyes to the urban center.² And this trend towards urbanization, under the existing socio-economic situations is irreversible. Malassis comments that if the educational system tries to raise the level of aspiration and expectation, and each attempt is choked by tradition, outdated agrarian structure, etc., then the rush to the city by the

¹ Rahim, S. Ataur. Communication and Rural Development in Bangladesh, East-West Communication Institute, Case Study No. 3, Honolulu, Hawaii, 1976, p. 18.

² Khan, A. Hameed. "The Rural Development Program at Comilla." In Rural Development in East Pakistan. Asian Studies Center. Michigan State University, East Lansing, 1964, pp. 40-43.

youths can appear to them as the only way out.¹

Despite efforts by various programs including V-AID, no miracle could have been happened. It could not make any breakthrough from the past. The socio-economic order remained as it was earlier, the dominant role of government people was prevalent and the dominant role of the existing elites continued as it was before. However, in the face of mounting criticisms against V-AID regarding its efficiency and utility, the new military government of the then Pakistan abolished the V-AID in 1960.

Failure of these attempts called for setting up of Commissions for recommendations. This time it was recommended for allowing autonomy to agricultural specialists. As a result, autonomous agricultural development corporations were set up. The assumption was that the food crisis could be solved by the agricultural technologists. But Schultz and many others argue that change cannot take place partially or individually. It has to be a total change. A complete package program is needed. This package is based on sound and continuous research, and there should be provision of necessary supplies and services.

Subsequently, two vehicles were used for rural development, the local government and the cooperatives. Although cooperative was introduced in 1904 in Bengal, it was reorganized in Bangladesh in the 1960s. Cooperative was thought to be the alternative to capitalism and communism. While local government emphasized institutional aspects, cooperative served the ideological purposes. It was thought that the

¹Malassis, L. "Rural and Agricultural Education and Economic Development." In Agricultural Policy in Developing Countries ed. N. Islam, Seminar Proceedings by International Economic Association, West Germany, 1974, p. 491.

reconstruction, participation and equity problems could be solved through these. At the same time, the seed technology came up. There was green revolution, but in many areas it was reported to be turning into red.¹ The green revolution, of course, made a break in the traditional agriculture, produced marketable surplus but the food problem was not solved. Disparity widened causing social and political tensions. The result demanded new emphasis on equity and distribution, separate methodology for modernizing small farmers and the need for decentralized planning, including even the need for separate organization for small farmers to serve their purpose.²

Experiences show that the illiterate farmers of Bangladesh have the quality of surviving under most crucial and difficult situations. They showed higher empathy and the people with higher empathy are more convincing. People, being the basic resources, are to be developed.

'Economic growth lies in the investment in the development of human resources through education - the education primarily designed for the adults to help them in their life setting.'³ This type of institutionalized education is defined by Leagans, as Extension Education, more recently called Continuing Education.

The Extension Education, in the modern world, still plays a vital role in the transformation of traditional agriculture through the education

¹To understand the social and economic consequences and tensions developing within the rural society due to the introduction of new technology see Griffin, Keith, The Green Revolution: An Economic Analysis, UN Research Institute for Social Development, Geneva, 1972; also see Ladejinsky, Wolf, How Green is Indian Green Revolution? Economic and Political Weekly, 1973.

²McNamara, R. op.cit., pp. 17-18.

³Leagans, J.P., op. cit., p. 106.

of farmers. The theory of extension and continuing education suggests that it is possible to produce desirable changes in human behavior; the extension education not only accelerates change, but makes changes persist and, is an ongoing function of effective teaching and leadership development. 'To make change serve and not dominate our future is an underlying role of continuing education.'¹

However, the crucial questions remain, what type of education, for whom, by whom and how to be implemented? Axinn and Thorat² identify the problem and find the following common features that are inherent in the function of any kind of extension education.

1. The target system, refers to the people of an area to be served.
2. The change system, is the organization designed to bring about change.
3. The change agent, is an individual, group or agency, involved in initiating these changes.

The target system covers the potential utilizers of educational information. A number of studies analyzing the 'diffusion model' concluded that the approach tended to be 'progressive farmer' oriented leaving behind millions of smallholders, tenants and landless laborers, and indeed led to inequality.

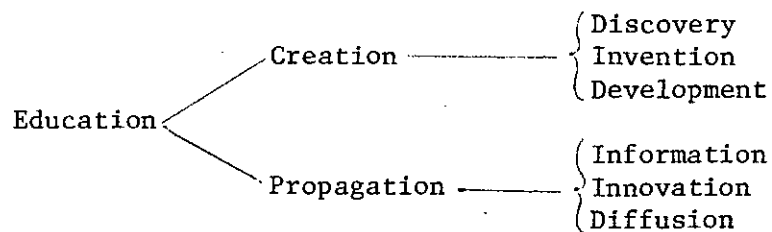
Extension education organizations are entrusted with the responsibility of establishing linkages with the target system. This necessitates the extension education organizations to coordinate and to make close

¹Leagans, J.P. "Continuing Education: A Fourth Dimension." In A New Look at Progressive Education, ASCD Yearbook, 1972, p. 277.

²Axinn, G.H. and Thorat, S. Modernizing World Agriculture: A Comparative Study of Agricultural Extension Education Systems, Praeger, New York, 1972, p. 4.

links with a number of research and professional organizations who are responsible for creation of new information.

Malassis¹ considers the extension education as the fundamental base of the process of creating and propagating technical progress. According to him, a progressive society is one in which both creation (institutes of research and development) and diffusion (systems of training and information) are organized, and which can thus reduce the delays which separate creation from diffusion.



Roling² cautions that in the creation-diffusion process, one must be aware of the situations of the smallholder and adapt one's work to it. If one does not, one produces recommendations which will not be utilized by farmers. He blames that the agricultural research and development workers are not utilizer-oriented, rather he finds their orientations to be of promoting official policies, status of the agency or the researcher; or pushing or hammering on a vision or idea, regardless of the relevance of message to the utilizer. Similar views are also maintained by Coward who views 'research not simply for publication in international journals or for top decision makers' eyes only.'³ Roling

¹Malassis, op.cit., p. 492.

²Roling, Niels. "Knowledge Brokerage for Increasing the Relevance of Agricultural Research to African Smallholders." In Rural Africana ed. Alfred E. Opubor, African Studies Center, Michigan State University, No. 27, 1975, p. 114.

³Coward, E. Walter. "Implications of an Extended Rural Development Strategy for Training and Research." In Training and Research for Extended Rural Development in Asia ed. Norman Uphoff, Rural Development Committee, Cornell University, Ithaca, New York, 1974, p. 14.

recommends for feed forward, collecting information on the potential utilizer which can serve as a basis for research and development efforts and feedback, pretesting research findings in actual utilizer conditions so as to adapt them to those conditions and evaluating the effectiveness of research and extension programs regularly.

A lot of debate and challenge now faces regarding the change agent. Various studies recommend to shorten the gap between the change agent and the farmer ratio. Others doubt about the competency and the technical knowledge of the change agent. Still others think that the problem of change agent is in the social distance gap between he and his clientele. The latter group advocates strongly that the change agent must be a local person other than an outside, paid stranger. According to them, local uplift takes place with local leaders. The group suggests 'rather than spending more money to reduce the number of farm families to be reached by each agent and to select and train agents with the social skill and the will to bridge the status gap, planners might experiment with inserting a linking role between agents and small farmers.'¹ This challenge is again doubted by some who think that 'when an agent's constituency consists of his friends and relatives, they are either less persistent in asking for his assistance or know him too well to want his advice.'²

More recently, the concept of extended rural development calls for an integration of expanding training to include local persons, organizing local people and leaders for training purposes and conducting

¹ Whyte, W.F., op.cit., p. 43.

² Lele, Uma. The Design of Rural Development, Lessons From Africa. The Johns Hopkins University Press, Baltimore, 1976, p. 73.

research which contributes to problem-solving capacities at all levels.¹

However, with this background, we now look into an extension education program that has, on an experimental basis, undertaken the responsibilities of providing training to local leaders and thereby disseminating the ideas to other people through their own institutions. The following chapter elaborates the setting of the problem for study and the methodological steps involved.

¹ Coward, op.cit., pp. 11-15.

CHAPTER III

METHODOLOGY

This chapter will focus on the setting of the problem and the methodological steps that were taken to elaborate the instrument for collecting the data, the procedures followed to determine the samples to be studied and the process of collecting data, their coding and their analyses. The area selected for the study was the social laboratory area used by the Bangladesh Academy for Rural Development (BARD). It is called Comilla Kotwali Thana, a 107 square mile area, one of the 417 thanas, that is, administrative units in Bangladesh. A latest report¹ of the BARD estimates that 73 per cent² of a total population of about 269,000 live in 463 villages, an average of 422 persons per village. The density of rural population is 1958 persons per square mile accommodated in 31,275 households. The average number of persons per family is six.

The BARD, established primarily as a training institute as per recommendations of a Ford Foundation report, gradually developed a series of programs described earlier as a result of its contact with the cross-section of rural population. Its primary efforts were to organize village-based cooperatives which were then federated to a Thana Central

¹Bangladesh Academy for Rural Development. Academy at Comilla: A Brief Review of Its Establishment, Programs and Contributions to Rural Development in Bangladesh. Unpublished Draft Report (mimeo.), Kotbari, Comilla, 1977, p. 15.

²The rest 27 per cent population live in the seven square mile area of Comilla town, which is a district headquarter.

Cooperative Association (TCCA) for training, credit, services and supplies, etc. The initial goals were to search for a method for developing managerial and organizational leadership, democracy, group action, group discussion, joint planning, thrift savings, accounts keeping, technical skills, adoption of practices, irrigation, mechanization, business management, etc. at the village level.

For effective organizational functions, the village cooperative societies were made to abide by certain conditions.¹ And two of them were: 1) to select a 'trusted' man to be named as manager from the group for weekly training at the TTDC, and 2) to select an energetic farmer from among themselves to be trained in agriculture as model farmer.

This concept of selecting two farmers from the villages to be trained at the TTDC was developed as a result of a series of diffusion studies conducted in the area. These studies found that the village level workers of V-AID or the Union Agricultural Assistant of the department of agriculture, although were mentioned as sources of information, but their advice was not always accepted. Conversely, the farmers went to other persons of the villages for advice. This gave birth to the idea of the local people to be trained as extension agents.

Both managers and model farmers are trained on the improved methods of crop production and are exposed to the practical demonstration at the TTDC to acquire latest knowledge.

The managers are emphasized to know more about the organizational

¹For an elaborate description of the functions of village cooperative societies and that of the TCCA, more commonly known as 'Two-tier Comilla Cooperatives' see Raper, A.F. Rural Development in Action: The Comprehensive Experiment in Comilla, Cornell University Press, New York, 1970.

matters like rules and regulations governing cooperatives, conducting weekly meetings, writing proceedings, banking, accounts keeping, preparation of joint plans, etc. The managers attend the training classes at TTDC every week.

The model farmers are emphasized to know more about agriculture including crop production techniques, fish cultivation, poultry and dairy farming, etc. To make the training program for model farmers more practical and useful, about 8-10 Village Training Centers (VTCs) were set up at different locations of the thana. The model farmers around the area attend these VTCs and are required to work for themselves. The training programs are arranged in a way that the model farmers can attend training classes both at TTDC and at VTC every alternate week. These VTC's are selected and changed their locations every year. Normally the selection is based on two aspects, 1) the village society where the model farmer is found energetic and shows his performance to be better and proves his ability to conduct practical classes at the VTC. The assumption was to raise the teaching ability of the promising model farmers, and 2) the selection is also dependent on the suitability of location convenient for majority model farmers so that they do not find difficulty in attending the VTCs.

On receiving this weekly and continuous training, both managers and model farmers are required to act in respective villages as per their learnings in organizing and running a village cooperative and in practicing in their own farm what they have learned from the training center. This involves a close interaction with their fellow members in disseminating the package of knowledge from the reservoir of training center to the place of action.

Now, in an underdeveloped country, to make a training center into a reservoir of useful knowledge is difficult. Traditionally, the 'experts' of the nation building departments at the thana level used to have their office accommodations at different locations and used to perform their individual and isolated role of routine administrative works. These 'experts' were brought to one place in the laboratory area and was named Thana Training and Development Center to have coordination among themselves and to train the managers and model farmers. A demonstration farm was attached to it. This changed the role of the 'experts' into the role of the teachers and created a challenge before them to face the reality of the farmers' day-to-day problems. This system of training envisaged more interactions between teachers, village representatives and farmers, which otherwise means, an increased amount of diffusion and adoption at the farmer's level, and an increased amount of problem solving efforts at the thana level. This study, therefore, is designed to investigate at these three levels, the teachers, the village representatives and the farmers to make an attempt to evaluate this training program.

Population and Sample

Personal familiarity of the researchers and his attachment with the training program for about nine years prompted him to select Comilla area for the proposed study. It was also hoped that the findings of the study will enable the researcher to work more effectively when he will go back to resume his duties.

For the proposed study, as stated earlier, respondents were selected at three levels. For the teacher respondents, it was thought that all eligible teachers of the TTDC would be interviewed through a structured questionnaire.

For selecting the village representatives, that is, the managers and model farmers, a simple random procedure was followed. The TCCA maintains the records of all the village cooperative societies and the names of manager and model farmer for each society. For administrative and supervisory convenience, the whole area was divided into five blocks. A block-wise list of all the village cooperative societies, that have active managers and model farmers was collected from the TCCA.¹ Considering the time limit and resources, for the purpose of our study, it was decided to select 25 village cooperative societies on a random basis. For doing so, the total number of village cooperative societies (331) was divided by 25 (which produced 13); and the first society was selected out of the first 13 societies in serial on a random basis. The next society was selected by adding 13 with the previous selected number. The procedure continued till the 25 villages were selected. This represented all the geographic locations of the five blocks in the area. The managers and model farmers of each of the selected villages were made the respondents.

Similar procedure was applied to select the farmer respondents. The complete list of the farmer-members of each selected village society was obtained from the society's office. Two farmers from each village were selected on a random basis following the exact procedure in selecting the villages as described above.

This gives rise to a total population of all teachers (10), 50 village representatives (25 managers and 25 model farmers) and 50 farmer

¹By active societies, the TCCA means those societies whose representatives, both managers and model farmers, have links with the TCCA. For example, there are now 401 village societies in the area, but TCCA mentions only 331 such active societies.

-members.

Questionnaire Development

Keeping in view the theoretical background and the objectives of the study, three separate questionnaires were designed for three-level respondents, although some questions were common to all three groups. The first draft of the questionnaires was prepared in English and given to the researcher's Bengali colleagues of the BARD, studying at Cornell University to predict its potentials and implications in the field. The questionnaires were then consulted with the researcher's academic advisory committee, and some other professors at Cornell University; and through a series of meetings and discussions, revisions and modifications were made.

The questionnaires were then translated into Bengali dialect of which the researcher is a native. All the questionnaires included both closed and open-ended questions. Before the pretesting of the questionnaires, the researcher was also benefited from the discussions made with his colleagues at the BARD when he arrived there for administering the questionnaires. The pretest was carried out by the researcher himself seeking clarity, comprehensibility and ease of operation. This resulted in the modifications of some questions and inclusion of a few more.

Collection of Data

The collection of data was personally undertaken by the researcher with the help of a field assistant and the cooperation from the TCCA. Most of the interviews took place in the houses of the respondents as the farmers had some leisure time after the harvest of the aman crop and awaiting to start the planting of irrigated boro crop; in some cases

where the irrigation started, the interviews took place in farms. The data were collected during January and February, 1977. This was a winter season and irrigation was about to begin. The weather of the country at that time was just fine for moving around the villages. The selected villages were all linked by either pucca or mud roads.¹ The researcher also had a good gesture from one of his friends at BARD to be provided with a motor bike which was very helpful throughout the data collection period.

In the initial stage of data collection, there were some difficulties in contacting the selected respondents, particularly the managers who were at that time busy with the local government elections. But this problem along with other problems of non-availability of respondents could be overcome through revisits or by sending advance information requesting them to stay in the house for the purpose of interview.

The teacher-respondents were given the questionnaires to write it for themselves. This was done to allow them sufficient time and opportunity so that they can pass their opinions after careful thoughts. Later, some of the answers were clarified from the respondents by the researcher to have the full view of the teacher's response.

Data Analysis

This study is considered as a descriptive-survey investigation. Therefore, descriptive statistics are used. Frequency distribution by number and percentages, mean, standard deviation, etc. are the methods employed. The detailed analyses and interpretations of the data follow in the next chapter.

¹In fact, all villages in Comilla area are well linked by road communications in the winter season.

CHAPTER IV
ANALYSIS AND INTERPRETATION OF DATA

A. The TTDC Teachers

This chapter will elaborate the findings about the teacher's observations on the training program at the TTDC. The teachers who are the traditional thana level government officials belonging to different departments, were not specially trained to be the teachers at the TTDC. It is to be remembered that these low educated and low paid officers are, for a considerable period of time, trained and exposed to the "official way," which was a product both of paternalism of colonial bureaucracy and of the related sense that fear and awe were the emotions most likely to cause farmers to pay taxes and otherwise cooperate with the representatives of an extractive bureaucracy.¹ The thana officers who were made more comfortable in their works with paternalistic attitudes of bureaucrat-supervisors have already developed the habit of agreeing to any proposal, target or any kind of work than to set out the difficulties or to present their objections. In 1960, in the social laboratory area these officer's attitude of behaving like 'masters' was changed to that of 'servants of people.' But as the word 'servant' has clear and different association of meaning in the country, they were

¹For an excellent description of the dynamics of motivation and control systems in managing field operations and the farmer-bureaucrat relationships in the underdeveloped country situation, see Heginbotham, S.J. Cultures in Conflict: The Four Faces of Indian Bureaucracy. Columbia University Press, New York, 1975.

named 'teachers' to upkeep and boost their morale.¹ But it is to be clearly remembered that when these people were entrusted with this extra role of teachers to take classes at the TTDC, their identities and work responsibilities continued to be with their respective higher officials in the department, who despite their 'more' technical knowledge remained disassociated with the training program.

Service and Educational Background

With this background let us look into the details of our observations with these teachers' notions about the training program. Altogether, there were ten teachers who were interviewed. Four of them belong to their respective departments and the other six were the employees of the TCCA. The four departmental officials were: 1) agricultural officer, 2) animal husbandry and veterinary surgeon, 3) fisheries officer and 4) plant protection assistant. There were other thana level officials, but the present thana education officer and the sanitary inspector (public health) did not take any classes at the TTDC and the family planning officer was a newcomer to the area. However, the four officials interviewed are all secondary school graduates with a diploma in their respective fields.² They have an average service length of 11 years and are working in Comilla kotwali thana for the last five years. Two of the departmental officials, the animal husbandry and veterinary surgeon and the plant protection assistant did not attend any kind of refresher courses in their 26 and 18 years of service life respectively. The agricultural officer attended one course on agriculture for a period of

¹Khan, A.H., op.cit., p. 44.

²The thana fishery officer attended a three-month training course but did not receive a diploma as there is no such facility in the country.

nine months, and the fishery officer attended three short courses on improved methods of fish cultivation for a period of a total of one and a half months.

Out of the six employees of the TCCA, two were arts graduates, three had passed the higher secondary and one got the secondary school certificate with a diploma in agriculture. They have been working with the TCCA for the last 11 years having an average length of service of 14 years. Five of them attended some kinds of refresher courses mostly organized by the BARD while one received neither any diploma nor any kind of training course.

Reasons for Failure in Teaching Classes

Every teacher is required to take at least four classes in a week.¹ All the teachers mentioned the reasons for not being able to take classes at the TTDC was their preoccupations with other emergency official works. Among other reasons, 50 per cent of the teachers mentioned their inability due to their absence from the headquarters on official tour to villages, 20 per cent mentioned that they did not take classes if the attendance appeared to be too low and 10 per cent said that the reason was due to their leave of absence from duties.

Teachers' Views on Importance of Programs

Roughly there were eight major programs that need special attention for rural development in the area. Some of the programs were emphasized, some are still lagging behind. The teachers were asked to rank the programs as they found it important under the conditions prevailing in

¹With the increase in number of village societies and thereby in the number of village representatives, they are presently grouped into four, and four groups turn out in the classes on four different days of the week. Each of the teachers is required to take at least one class a week and repeat it to other groups.

the area. Below is their response.

Table 1: Ranking of the Different Programs
According to Their Importance as
Viewed by the TTDC Teachers.

Programs	Thana level officers (N=4)	TCCA employees (N=6)	Total (N=10)
Crop production	2	2	3
Animal Husbandry	5	7	5
Fisheries	7	6	7
Family planning	6	5	6
Public health	8	8	8
Crop protection	4	4	4
Cooperatives	3	1	1
Education	1	3	2

It is interesting to note that what the thana level departmental officers view the program according to the importance, is completely opposite, at least for the first three programs in order, that is, education, crop production and cooperatives, than viewed by the TCCA employees. All the teachers rated the public health program as the least important one.

View of the Teachers About the Training Program

As stated earlier, the concept of providing training to the village representative is a new idea. It has been about 16 years now that this program has been running. With the experience of these village representatives' attitude and their participation with the training program, the teachers are perhaps the best judges and closest colleagues to

comment on it. It is for this reason that the teachers were asked to give their opinions on the strongest and weakest parts of the training program with their suggestions for any kind of changes that they might feel necessary.

Strong Parts of the Training Program

The majority of the teachers (60 per cent) think that the unique part of the training program is that it provides the opportunity to train a large number of people at a time within a short period. It facilitates the easy contact with the clients having face-to-face dialogues. The best point, mentioned by 40 per cent respondents is that it provides the necessary services and supplies from a common place (as all departmental offices are located in one place) and helps the farmers' learning and understanding to be more meaningful and enables them to utilize their knowledge. A few other advantages were also mentioned, such as, joint efforts can be made in problem solving, topics can be adjusted according to seasonal variations, mutual understanding among departmental activities are increased, a few managers and model farmers are highly interested in the training program and are emerging as leaders, etc.

Weak Parts of the Training Program

It is agreed by all the teachers that the quality, enthusiasm and the standard of the training program at Comilla had been deteriorating with the passage of time. In fact, the weaker points were mentioned by the teachers more than its strong side and some of these are as follows.

1. There is a lack of coordination among the different departmental officials including that of TCCA. Administrative inefficiency on the part of personnel involved in training to coordinate its activities is seriously affecting the program. There is organiza-

tional mismanagement in structuring the training schedule and its follow up.

2. There is heavy shortage of training materials, so much so that it can safely be said that there is nothing.
3. There is no facility for any kind of practical demonstration.
4. Teachers sometimes remain absent without any prior notices. If the village representatives face such situations, they leave the class and do not come back.
5. Teachers are not kept abreast of new knowledge, hence they repeat the contents which might be known to the trainees.
6. Teachers have the traditional outlook towards teaching methods and there is little scope of improving it, for which trainees feel bored.
7. Old and new village representatives in a common class do not feel comfortable with respect to their interest in the topics.
8. Trainees' inconveniences in getting the services and supplies from each individual department along with their preoccupations regarding organizational activities puts pressure on their time to allow them to attend the training classes.

Suggested Changes

All the teachers are of the opinion that some changes are needed in the training program for its improvement. The following list elaborates their suggested changes.

1. There should be facilities for more practical and useful demonstrations.
2. Training contents and topics for classes are to be selected as per demands of the village representatives and be included in the

training agenda accordingly.

3. Facilities for training materials and audio-visual aids are to be created. Teachers are to be supplied with, at least, minimum materials to conduct the classes.
4. Separate and smaller groups of the trainees are to be formed to train them as per their interest to have more effectiveness.
5. A competitive attitude is to be developed among managers, model farmers as well as teachers by awarding prizes, certificates, honour, etc.
6. Economic incentives are needed to ensure attendance both by teachers and the trainees.
7. Arrangements are to be made to provide new relevant and updated information to the teachers.

Feedback

It appears that the teachers have a good contact with the managers and model farmers. All the teachers admit that the village representatives do put questions to them and consult them, although forty per cent of the respondents say that they cannot provide any solution of their problems. Even ninety per cent of the respondents find that the farmers, other than the village representatives, visit the TTDC and contact them to know about a variety of problems that they are facing. These village representatives who are supposed to bring their problems to the teachers, and other farmers who also visit the teacher, put questions normally in two different aspects - agricultural and organizational. The nature of some of the typical questions that are frequently being asked is provided in Appendix A. These questions which the teachers find difficult to answer demonstrate the needs of the trainees, their deep sense of

interest and inquisitiveness as well as their concern for the institutions.

Training Methods

Training methods are important tools in making a training program effective. It helps the teachers, not only in explaining and disseminating ideas, it also helps to keep the learners' attention and concentration towards it. The more varied the methods, the more effective will be the program. This study shows that the methods in which the teachers believe are effective in a training program, are not actually used by them. Following is a table elaborating the statement, (Table 2).

Table 2: Methods of Training Used by the TTDC Teachers.

Methods	Number of Teachers Responded (N=10)		
	used normally	used frequently	believes to be effective
Lecture	10	8	--
Demonstration	1	--	10
Discussion	10	2	2
Audio-Visual aid	--	--	4
Work group	--	--	6
Others	--	--	1

The reason for such a position can perhaps be attributed to the non-availability of training materials. The earlier reports published by the BARD indicate that these facilities were available in the initial years of organizing the training program. Not only were there facilities for printing lecture scripts, posters, booklets, etc., there were projectors for showing films that were locally produced on the needs of

the trainees. The following table shows the teachers' response to the availability of such materials at the present time, (Table 3).

Table 3: Availability of Training Materials as Responded by the TTDC Teachers (N=10).

Kinds of training materials	Sufficiently available	Available but less than requirement	Not available
Books	-	3	7
Booklets	-	9	1
Posters	2	7	1
Film-show	-	-	10
Demonstration	-	2	8
Lecture scripts	-	5	5
Projector	-	-	10
Bulletin	-	4	6

Teachers as Individuals in Society

However, the teachers are maintaining their administrative and teaching jobs under the circumstances. Obviously, they might be facing some problems with regard to their performances as an officer, as a teacher and as an individual living in the society. When inquired about those types of problems, two of them reserved their opinions, while the others spoke out. All the teachers mentioned about the economic hardships that they are facing. One officer thinks that he is overburdened with the routine activities like collecting statistics, preparing reports, etc. One thinks that his job is of emergent in nature and he is to go out to the villages every off and on, and as such he cannot maintain the structural time-schedule of the training program. The departmental

officials mention about the transportation problems and irregularity in the payment of travelling allowances. Two of them are of the opinion that their additional and better works are neither appreciated nor rewarded.

The TCCA employees complain about the administrative inefficiency and the organizational mismanagement of the everyday affairs. They are more cautious about their temporary jobs and are in favour of protecting it rather than to point out those irregularities. They think that more time is lost in such miscellaneous activities as could be avoided. Good decisions frequently have been taken but are not followed up. They also find non-cooperation and jealousy between and interdepartmental officials.

Regarding the problems that they find as teachers, they repeat the shortcomings that they have mentioned earlier. Principal among these are the shortages of training materials, lack of facilities for demonstration, inadequacies in coordinating the training program, low level of knowledge of the teachers themselves, decrease in attendance of training classes by the trainees and so on.

Living as an individual in the society, the teachers confront various problems. While they view the other people to be 'individualistic' and 'self-oriented', they also find the reason of dissatisfaction to be of poverty and economic hardships. They realize that the society is developing a schizm - a division of higher and lower status where the teachers, according to them, are placed in between. This group can neither cope with the higher status society, nor can identify themselves with the lower. Having being serving for more than a decade, the departmental officers find no economic incentives or promotion or any kind of prestige or honour to develop themselves. Some of the statements

that they have made when asked about how do they feel as an individual in the society, are translated and reproduced below.

"...It is difficult to analyze the problems that we are facing as an individual in our society. Perhaps money is the factor which determines the status of societies. A poor man always bears a poor soul, living like a thief, running away from the social functions and always afraid of facing any kind of social obligations. With the inherent state of our poverty, it is ridiculous to try to educate our children or to get them married in a higher society status. We belong to such a status of society that neither should we stop our children's aspirations nor could we afford it."

"...The society around me is a very complex one. Most of them are individualistic in nature and everyone seems to be busy with oneself. It is hard to lead a simple life and work selflessly."

"...A society which fails to ensure the minimum requirements of life, is confronted with two problems that are difficult to solve: 1) the coordination problem and 2) to keep the morale high. ...Insecurity of my job always disturbs me as this is the only way of my and my family's livelihood."

B. The Village Representatives

The village representatives interviewed for the study are the managers and model farmers. As stated earlier, the concept of providing training to the village representatives was evolved as a result of a series of local studies done in the laboratory area. These studies showed the necessity of farmers' own institutions at the village level for group or collective adoption of innovations.¹ These representatives are selected by the members of their own institutions, that is, the village cooperative societies. According to the by-laws of the societies, these representatives are supposed to be elected by the majority

¹For the importance, necessity and effectiveness of collective adoption of innovations under the socio-economic conditions of Bangladesh, see Rahim, S. Ataur, Diffusion of Innovations in a Development System: A Study of Collective Adoption of Innovations by Village Cooperatives in Pakistan, Unpublished Ph.D. Thesis, Michigan State University, East Lansing, 1968.

votes of the members, but they are usually selected by the members, perhaps mainly because of the smaller size of the group.¹ A number of such representatives is selected for a variety of jobs both in agriculture and in non-agricultural fields.² In case of agricultural societies, two representatives from a society play important roles, the manager and the model farmer. These representatives work primarily on voluntary basis, although they are paid nominal travelling allowances for enabling them to attend classes at TTDC and at VTC.³

The responsibilities of the manager of a society includes: 1) attending weekly training classes, 2) holding weekly village society meetings, 3) collecting thrift deposits, 4) maintaining society records and writing proceedings of the weekly meetings, 5) preparing production

¹The average number of members per society of 401 societies in Comilla thana was 34 in 1973-74; and that of 25 selected societies in our study was 39. (Appendix Table 9.)

²With the increase in number of village cooperative societies, the TCCA created two federations, the Agricultural Cooperative Federation looking after the village level agricultural cooperatives and Special Cooperative Societies Federation (SCSF) for mostly urban centered non-agricultural cooperative societies. A list of various kinds of societies that send representatives for training at TTDC is furnished in Appendix B.

³The managers and model farmers are paid a travelling allowance when they attend training classes at TTDC and at VTC. This payment is based on the distance that they are to travel for the purpose. For a distance of five miles or less they are paid Tk. 2.25 (US \$0.15), and for those who cover more than five miles are paid Tk. 5.00 (US \$0.33). The furthest distance that some of the representatives are required to cover is about 25 to 30 miles (both ways). The rate of travelling allowance for attending sessions at VTC is Tk. 2.00 (US \$0.13) only.

The managers, of course, can earn commissions on the basis of performances of their society activities. For example, the managers are paid at the rate of Tk. 1.00 (US \$0.07) per month for each member of their societies who are regular in attending the weekly meetings of the village societies and in making thrift deposits. The managers can also earn at the rate of one per cent for the repayment of loans and interest and service charges that are due to the TCCA. Besides, the managers are provided with facilities for earning commissions from time to time when such programs are launched as there is scope to do so.

plans and loan requirements, 6) collecting and distributing loans, 7) to work as a liaison between the thana center and the village farmers, 8) to arrange for necessary inputs for the farmer-members and so on.

And the responsibilities of a model farmer are: 1) to attend the regular classes at TTDC and at VTC every alternate week, 2) to practice in his own farm whatever he learns from the training center so that it serves the purpose of demonstration, 3) to attend weekly meetings of the village society and make other members aware of the new knowledge gained from the training center, 4) to take the problems of the village members related to agriculture to the TTDC teachers, etc.

As these representatives are required to do a variety of jobs on voluntary basis, the success of their activities will depend on the type of farmers the village society members select. Let us see some of the characteristics of these managers and model farmers and their views on the training program.

Age

The age distribution shows that majority of the managers (64 per cent) and model farmers (56 per cent) are between the age group of 25 and 44 years. While 10 per cent managers are over 45 years, 40 per cent of the model farmers come from the same group. More young people are selected as managers, whereas older people become model farmers (Appendix Table 1).

Education

More literate persons are selected as managers than the model farmers. Forty-four per cent of managers have the higher secondary education (grades 9 and 10), 36 per cent have secondary education (grades 6 to 8) and 20 per cent have primary education; and the reverse is true for

model farmers, the percentages being 16, 24 and 52 respectively.

Peculiarly, eight per cent model farmers are illiterate. But model farmers are required to have some educational background so that they can read extension materials and write notes during deliberations at classes, in order that they are able to consult their notes and extension materials at the time of reproducing these to other members, particularly in village weekly meetings. The educational backgrounds of managers and model farmers are shown in Appendix Table 2.

Size of Land Holding

Bangladesh farmers, particularly in Comilla areas, have a small average size of land holding. The mean area of farm size for managers and model farmers is 3.34 and 2.09 acres respectively. Forty per cent of the managers and 32 per cent of the model farmers fall in the category of one to two acres. Farmers with a comparatively higher land holding are selected as managers than the model farmers. It is surprising that four per cent of the model farmers have no land for cultivation. It is essential for a farmer to have land to be elected as a model farmer for obvious reasons. The distribution of land holding for managers and model farmers are shown in Appendix Table 3.

Adoption of High Yielding Varieties (HYVs)

All the managers and model farmers have adopted high yielding varieties of rice. In fact, after the introduction of HYVs in 1966, a fast and high rate of adoption was reported in earlier reports of BARD.¹ The critical question is now, to what extent the HYVs were adopted by the farmers. The survey of our sample shows that highest percentage of

¹ Crop Survey Reports, various seasons and years, BARD, Comilla.

land under HYVs is put in aus season followed by aman and boro.¹ The model farmers, on an average, grow 57 per cent of their lands with HYVs which is 13 per cent higher than the managers (Appendix Tables 4 and 5).

It appears that the adoption of HYVs in the area is not such a problem as it is difficult to find the reasons for lower per acre yield and non-coverage of total farm with HYVs. The reasons for growing local varieties instead of HYVs, as stated by the managers and model farmers, are described in the following table.

<u>Reasons</u>	<u>Per cent</u> ²
Not applicable	18.0
Lack of irrigation	46.0
Land not suitable for HYVs	34.00
Lack of capital	12.0
Others	12.0

The data indicates that 18 per cent of the managers and model farmers do not grow any local variety of rice. Almost half (46 per cent) of the respondents report that they need irrigation facilities to cover all their lands under HYVs. This means that they cannot either grow HYVs in boro season for lack of irrigation water and/or they do not like to take the risk of growing HYVs in monsoon seasons without the irrigation surity. Thirty-four per cent respondents inform that part of their

¹With the availability of irrigation water in Comilla thana the crop season of aus and boro are difficult to be differentiated as monsoon and irrigated crops. Due to late operations of pumps and tubewells, the HYVs cultivated under irrigated conditions are considered as aus rather than boro. For further details see Bari, F., Causes and Effects of Later Operations of Pumps and Tubewells in Comilla Thana, BARD (mimeo), 1975, p. 12.

²A respondent might have more than one answer.

lands is in low lying areas, not suitable for cultivation of HYVs.

Lack of capital, maintaining time-limit to grow successive HYVs, damage of seedlings, etc. are other causes for non-adoption of HYVs.

Importance of Programs

Like the TTDC teachers, the managers and model farmers were also asked to rank the eight programs, as mentioned earlier, according to the importance as they viewed the programs. The managers ranked highest on the crop production while the model farmers went for education. The programs on crop production, education and cooperatives were turned out as first three important programs. Family planning program was ranked higher both by managers and model farmers to the programs on public health, animal husbandry or fishery, (Table 4).

Table 4: Ranking of the Different Programs
According to Their Importance as
Viewed by the Managers and Model
Farmers.

Programs	Managers (N=25)	Model Farmers (N=25)	Total (N=50)
Crop production	1	2	2
Animal husbandry	7	7	7
Fisheries	8	8	8
Family planning	4	5	5
Public health	6	6	6
Crop protection	5	4	4
Cooperatives	3	3	3
Education	2	1	1

Importance of Topics

The managers and model farmers are required to attend four sessions of 45 minutes each on the training day at TTDC. A number of topics on a variety of subjects is exposed to them by teachers. Ten such topics were selected from the syllabus of one year (1976) and given to managers and model farmers to rate them on the basis of the importance as they attach to the topics. Their rating was then compared with the rating calculated on the basis of total time that the training committee of the TTDC allotted to the topics during the whole year. It appeared that the training committee made an unusual allotment of time (42 per cent) during the whole year to discuss organizational matters. The managers who are the pivots of organizational activities at the village level, found the discussions to be least important and ranked it to be next to lowest. Both managers and model farmers ranked the topic on winter vegetable cultivation highest which was third important topic according to the training committee and only 8.8 per cent time is devoted to that topic. The ranking of the topics by the managers and model farmers demonstrates the inconsistency in designing the routine for the clientele it served, (Table 5).

Sources of Information

It is one of the important objectives of designing the training program to impart knowledge to the trainees. A number of items from a variety of subjects related to agriculture was selected to inquire whether the managers and model farmers are aware of the items, their sources of knowledge, whether they used them and whether they tried to inform others about them. Both managers and model farmers mentioned their sources of knowledge to be the training class in all the items

Table 5: Comparative Ranking of a Few Selected Subject-Matter Topics
by the TTDC Training Committee and its Clientele, 1976.

Topics	Percent of time all- oted	Rank accord- ing to time allocation	Rank by training committee	Ranking done by:		
				Managers	Model Farmers	Both
1. Organizational matters	41.8	1	1	9	4	7
2. Winter vegetable cultivation	8.8	3	3	1	1	1
3. Cultivation of HYVs	12.9	2	2	3	2	2
4. Need for training	0.5	12	10	6	6	6
5. Cultivation of fishes	7.9	4	4	8	8	8
6. Role of machineries	2.4	10	8	4	3	3
7. Importance of family planning	3.3	8	7	5	7	5
8. Artificial insemination	1.1	11	9	10	10	10
9. Importance of irrigation in boro	5.9	6	5	2	5	4
10. Loan transactions	3.4	7	6	7	9	9
-----	-----	-----	-----	-----	-----	-----
11. Poultry and dairy farming	6.4	5	--	--	--	--
12. Cultivation of non-rice crops	2.5	9	--	--	--	--
13. Others	2.7	--	--	--	--	--
TOTAL	100.0					

which they practiced. Only two items, white leg horn and rhode island red, two poultry breeds were not known to all the model farmers and to 88 per cent manager; perhaps for the reason that these are not cultivated in the area. Some managers and model farmers (20-28 per cent) mentioned their sources of information for condom and birth control pills to be the radio, neighbours or family planning agents. All the managers and model farmers who are aware of the items are in the habit of telling it to others.

A further analysis of the sources with whom the managers and model farmers consult for taking some decisions reveals that for agricultural practices, such as, selection of varieties, planting distance, use of fertilizer and pesticides, etc. they take their own decisions. For other purposes like social disputes, land sale or land purchase, 50 per cent of the managers and model farmers take the help of other members who are traditional village leaders. Twenty-five per cent of them go to the non-members who are village leaders. The rest is solved by the managers as they themselves hold the positions of village leaders.

Notions About the Training Program

Unlike the TTDC teachers the managers and model farmers were not found to be vocal in commenting on the training program. The general replies on the strong parts of the training program was that it was good. Not many of the managers and model farmers (40 per cent) could see the weaker parts of the training program, although more than 50 per cent of them suggested changes or commented for its improvement. However, a majority of the trainees found that the TTDC provides a good opportunity to meet the teachers and other managers and model farmers of the thana to learn from them, to discuss with them and, to build

social relations with them. The representatives agree that the deliberations of the teachers on various subjects were useful to them. About the weaker parts of the training program the respondents mentioned that 1) the teachers demonstrate negligence in maintaining time and in taking classes, 2) routines of the training program are not made available to the trainees, 3) repetition of the topics is too much, 4) some of the topics are so selected that there is little scope for their implementation, 5) there is too heavy a discussion on loan business so much so that no time is left to discuss other subject-matter, 6) the departmental officials take less number of classes, only TCCA teachers discuss more about loan and organization, etc.

The managers and model farmers also find the nonavailability of training materials as a major weakness of the training program. During the last one year, they received only a few copies of posters and booklets related to crop cultivation. The managers, very recently, are receiving a copy of a monthly journal 'Samajatra' but the model farmers are reported to be not aware of the resumption of the publication of the journal.¹

No Practical Training at VTC

The village training centers are designed to impart practical training at village levels. For this purpose, the model farmers are separated from the managers and are exclusively trained on practical demonstrations. But 92 per cent model farmers report that during the last year they did not have to do any practical work at the VTCs. Forty-

¹The 'Samajatra' is a monthly journal first published in 1967 by the TCCA. It contains articles on agriculture and news of the TCCA and village cooperative societies. The publication of the journal since its inception was twice discontinued, once in 1971 and another in 1973. It has resumed its publication about a year back.

four per cent of the model farmers complained that the teachers were not at all regular in attending VTCs and many a time classes were not held at the VTCs. Thirty-two per cent of the model farmers admit that they were not regular in attending VTC classes as the travelling allowance was very low and the classes were non-attractive.

Teaching Role

Managers and model farmers, after attending training classes, are required to teach their fellow members. All the managers and model farmers think that they do not find any difficulty in communicating their learnings to other members. Their communication medium is always the discussion. But they think that the availability of audio-visual aids will help them in the effective dissemination of information. However, most of the managers feel comfortable in discussing methods of crop production, cooperative principles, family planning, poultry and dairy farming, fish cultivation, etc. while the model farmers think that they can discuss topics on crop production techniques, use of quality seeds, fertilizers and pesticides, cultivation of new crops, etc.

However, both groups agree that they cannot practice a number of items that they are taught in the training classes. For example, no medicines are available for dairy and poultry birds' diseases, seedlings are not available for improved varieties of fishes, family planning materials are difficult to arrange, cultivation of irrigated crops are impossible in areas where water is not available and so on.

About the availability of other inputs like seeds, fertilizers, pesticides and water, one third of the respondents say that they do not find the inputs in required quantities. Pesticides are not sufficiently available to most of them. Twenty-six per cent of the managers and

model farmers are deprived of irrigational facilities and one-third of the rest of the beneficiaries complain about the insufficient amount of water availability.¹

However, more managers are satisfied about the teaching role that they are to perform and express their willingness to help others than do the model farmers; although both groups like their jobs and want to continue for a period as decided by the members of their respective societies. While 96 per cent model farmers view the teaching assignment as an acceptable job and only four per cent find it to be interesting; the corresponding figure for managers are 64 and 36 per cent showing a greater interest in the managers than the model farmers.

The managers are more mobile than the model farmers. None of the model farmers visit the TTDC on an average of more than two times a month whereas 28 per cent of the managers visit the TTDC more than four time a month.² During their visits in the last six months the managers, on an average, met the TTDC teachers 11 times while the model farmers met them four times. The general problems that the managers discussed with them were irrigation problems, loan receipt and realization, insecticide use, vegetable seeds and so on; and the model farmers mainly discussed the problems related to insect and disease control, irrigation problems, use of fertilizer and seeds, availability of spray machines and their use, etc. The basis of their discussions with the teachers seems related to the problems that the farmer-members put to

¹The command area of irrigation under the pumps and tubewells is showing a gradual decrease over the years. Also there is mismanagement about the distribution of available water to individual plots. See, Evaluation of Thana Irrigation Programs, various years, BARD, Comilla.

²The requirement for a model farmer to visit TTDC is twice a month and that of a manager is four times a month.

them. The farmer-members ordinarily inquire to them about the availability of implements like spray machines, pedal thresher, etc., the problems about irrigation and the ways to increase the per acre yield of crops. Twenty per cent of both managers and model farmers find their problems solved by the TTDC teachers. Eighty per cent of both groups say that they do not find satisfactory answers or solutions to their problems.

Reasons For Not Attending Training Classes

The average attendance in the training classes at TTDC by the managers and model farmers shows a decreasing trend, (Appendix Table 6). When asked about the reasons for not being able to attend classes, the managers and model farmers made modest replies mentioning the difficulties as illness, urgent family works or bad weather. Sixteen per cent of the managers, of course, cited the reason to be the non-collection of thrift deposits.¹ However, the decline in the attendance indicates weaknesses in organizing the training activities and in serving the clientele's interests. Both managers and model farmers overcome their loss of information due to absence from the classes by contacting the neighbouring managers and model farmers.

Problems Faced by Managers and Model Farmers

Managers and model farmers, to be effective, are required to do a number of jobs. They, being the liaison between the thana and the village, the effectiveness will depend on the proper functioning of the TTDC, TCCA and the village cooperative societies. These programs are so related that if one weakens, the others will automatically be affected,

¹The managers do not receive their commissions if they cannot deposit thrift savings collected from the members.

and the activities of the managers and model farmers will be lessened and they are likely to be confronted with various problems. Some of the problems that they are now facing are as follows.

1. Attendance in the weekly meetings of the village cooperative societies is low.
2. The members are irregular in making thrift deposits.
3. Loan realization is becoming difficult and fresh loans are not available for new or genuine members.
4. Services and supplies, particularly insecticides, spray machines, spare parts for pump machines, vegetable seeds, diesel oil, electric power for running pump machines, etc. are not available.

Suggestions

In the midst of such difficulties the managers and model farmers think that the learning from the training classes are difficult to implement and thereby lead to non-interest for all groups, that is, teachers, trainees or the farmers. However, the managers and model farmers have the following suggestions to improve the training program at the TTDC.

1. More useful demonstrations are to be organized to create interest for the trainees.
2. Discussion in organizational matters, particularly on loan transactions is to be reduced and more topics on subject matters are to be included.
3. More audio-visual aids and training materials are to be supplied.
4. Travelling allowances are to be increased.
5. All inputs are to be made available.
6. Higher and qualified people are required to take classes and visit villages.
7. Routines for training are to be made available to all managers and

model farmers.

8. Tour for managers and model farmers may be organized to areas wherefrom they can find the opportunity to learn.

C. The Farmer-Members

The farmers are the ultimate clientele to be served by the extension training program. The 'manager-model farmer' system was evolved with the hope that this would better serve the interest of common farmers who are expected to join the village cooperative societies. Following are some of the characteristics of the selected farmer members.

Age

The age of the selected farmers ranged between 20 and 65 years. Majority of the farmers (58 per cent) belonged to the age group of 35 and 44 years. Twenty-four per cent of the farmers were from the age group of 45-54 and the equal percentage was represented by the age group of 34 and less, (Appendix Table 1).

Education

Forty per cent of the selected farmers have no educational background. Twenty-four per cent have primary education and equal percentage of farmers have secondary education. Twelve per cent of the farmers have qualifications higher than the secondary level, (Appendix Table 2).

Size of Land Holding

The mean area of the total land holding of the selected farmers is 2.25 acres. The distribution of the farm size according to various land categories shows that 84 per cent of the farmers have less than 3.00 acres of land while only 16 per cent has more than that. Again, the higher group (42 per cent) belongs to the land category between 1.01 and 2.00 acres, (Appendix Table 3).

Adoption of HYVs

All the selected respondents were the adopters of high yielding varieties, but all their lands are not put under it, they do not or cannot grow HYVs in all their lands in all seasons. A distribution of the area of land under the HYVs, local varieties, other non-rice crops and the area of land lying fallow are shown in Appendix Table 7. A total average of 56 per cent of their land is grown with high yielding varieties, 21 per cent with local varieties and four per cent with other non-rice crops. Nineteen per cent of the land remains without cultivation during the year.

Reasons for Growing Local Varieties

Thirty-four per cent of the farmers do not grow any kind of local varieties of rice in their plots. The reasons for others to grow local varieties as pointed out by themselves are: 1) fifty per cent says that in the absence of irrigation water they cannot grow HYVs in the boro season or cannot take the risk of growing HYVs in the monsoon season, 2) twenty-five per cent mentions that their lands are in low-lying areas and hence not suitable for growing HYVs, 3) twelve per cent of the farmers could not cope with time in accomodating successive HYVs in their plots, 4) eleven per cent of the farmers mentioned about the lack of credit facilities and 5) two per cent of the farmers think that local varieties need to be grown to conserve the fertility of the soil.

Importance of Programs

The similar development programs, as stated in earlier cases of TTDC teachers and the village representatives, were also rated by the selected farmers. According to their rating, the most important program to them was crop production followed by education, cooperatives and crop

protection. The least important program to the farmers was the fishery program, (Table 6).

Table 6: Ranking of the Different Programs According to Their Importance as Viewed by the Farmer-Members.

Programs	Farmers (N=50)
Crop production	1
Animal husbandry	5
Fisheries	8
Family planning	7
Public health	6
Crop protection	4
Cooperatives	3
Education	2

Sources of Information

The similar items that are selected from different subject areas related to agriculture to know whether the managers and model farmers are aware of, are also asked to the farmer-members to know whether the farmers are also aware of, and if so what are the sources of their information. The responses of farmers are almost similar to that of managers and model farmers. The items which are known to the managers and model farmers are also known to the farmers. Eighteen per cent of the farmers say that they have heard it from both managers and model farmers, 36 per cent mentions only from the manager and 46 per cent has heard it from the model farmers.

As to the availability of information from the managers and model

farmers, 68 per cent of the farmers said that they get more information from the manager while the rest get it from the model farmers. These informations are mostly related to HYVs, the cultivation methods, use of fertilizer and pesticides, cooperative principles, family planning, etc.

For farm practices like selection of varieties, planting distance, use of fertilizer and pesticides, the farmers in 90 per cent of the cases take their own decisions. The rest seek the help of manager or model farmer in such decision-making processes. For other purposes like purchase of share in the village societies, all of them consult the managers; for social disputes 52 per cent will seek the help of members who are traditional village leaders, 20 per cent will go to the managers while 22 per cent will seek the help of non-members who are village sardars or matabbars. Six per cent did not reply.

All of the respondents mention that they do discuss about agriculture with either manager or model farmer or both of them. They find these discussions useful and are beneficial to them. Ninety-six per cent of the farmers think that the selected managers are the best possible persons among the members for the job while 82 per cent of the farmers think in the same way regarding the selection of model farmers.

Availability of Inputs

The majority of the farmers (74 per cent) have no complaints against the availability of rice seeds. This is perhaps due to the reason that they use their own seeds. Sixty per cent of the farmers do not get enough pesticides, four per cent do not get it at all. Forty-six per cent of the farmers complain about the non-availability of required quantities of fertilizers. Twenty-six per cent of the farmers are

deprived of irrigational facilities and of those who receive irrigation water, half of them complain that they do not get the water in time and in sufficient amount.

Notions About Weekly Meetings

All the farmers are of the opinion that the weekly meetings serve the purpose of learning about new knowledge on high yielding varieties and their cultivation practices, cooperative principles, art of savings, family planning, etc. Sixty-four per cent of the farmers who are members of the village cooperative societies for more than five years are all of the view that the effectiveness of the village weekly meetings has deteriorated over the years. The reason, they believe, is due to discussions centering around loan business, less or little discussion about new ideas, inefficiency on the part of managers and model farmers to solve village problems, such as, irrigation management, irrigation facilities, supply of equipment, loans, pesticides, fertilizer, etc.

Suggestions

The farmers, in order to make an overall improvement of the agricultural conditions of the villages, made several suggestions. These suggestions were mainly to facilitate the availability of certain facilities. Some of them include: 1) the supply of irrigational facilities in areas where water is not available, 2) the repair and availability of spare parts for pump machines and deep tubewells, 3) the supply of agricultural implements, mainly sprayer machines, pedal threshers, etc., 4) the supply of winter vegetable seeds, 5) new information and ideas, 6) facilities and timely availability of loans, fertilizers and pesticides, 7) more number of dealers in villages, 8) farm experts to visit villages and so on.

D. Major Findings

The findings of our observations with the TTDC teachers, the village representatives and the farmer-members were described separately in earlier chapters. There were some common questions asked to all three groups which were of common interests to them. The present chapter will mainly be devoted to analyzing those findings to see the comparative views of the three different groups of respondents.

Some Characteristics

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The characteristics of the managers and model farmers who are selected from the farmer-member groups reveal that younger people with comparatively higher educational background are selected as managers of the village cooperative societies, and conversely, older people having less educational qualifications come out as model farmers. Although higher qualified farmer-members (above grade X) are available in the villages, none of them seem to be interested in the positions of managers or model farmers.

The farmers having more than average size of land holding are made the managers while the model farmers have less than the average size of land holding of the rest of the farmers. The managers although grow high yielding varieties in comparatively lesser percentage of area than the model farmers or the farmers, but they cultivate on an average of higher amount of land than theirs. The model farmer, among the three categories, have the least area cultivated under HYVs. But they also have the least area that remain fallow during the whole year. In other words, model farmers, being the comparatively small farmers utilize their land better.

Views on the Importance of Programs

Out of the eight programs, the TTDC teachers find the cooperative program to be the most important one while the village representatives and the farmers ranked it to the third important program. The village representatives ranked the educational program as the highest, while the farmers emphasized the program on crop production. The teachers thought the public health program to be the least important one while both village representatives and the farmers ranked it to be the sixth important one. The village representatives tend more to the family planning program than the farmers, (Table 7).

Table 7: Ranking of the Different Programs
According to Their Importance as
Viewed by the TTDC Teachers, the
Village Representatives and the
Farmers

Programs	TTDC Teachers (N=10)	The Village Repre- sentatives (N=50)	Farmers (N=50)
Crop production	3	2	1
Animal husbandry	5	7	5
Fisheries	7	8	8
Family planning	6	5	7
Public health	8	6	6
Crop protection	4	4	4
Cooperatives	1	3	3
Education	2	1	2

Views About the Training Program

Both teachers and the village representatives view the TTDC as the 'meeting place'. Both of them think that they find it convenient for

the purpose it intends to serve. It saves the teachers from roaming about, and gives the opportunity to the village representatives to have regular and interpersonal contact. But both agree about the deterioration in the quality, enthusiasm and standard of the training program. The teachers pointed out about the lack of coordination, administrative inefficiency, lack of training materials, absence of demonstrations, low level of knowledge of teachers themselves, etc. The trainees in the similar way find teachers' negligence, poor organization in management of training activities, discussion on non-interest subjects (such as loan business), less number of teachers as subject matter specialists, deliberations not applicable for implementation, etc. to be the reasons for its deterioration. However, the solutions of the problems, as suggested by them are obvious in the removal of the bottlenecks and in the creation of facilities which helps them in practical usage of the learnings from the training classes.

Flow of Information

Some of the selected items that are tested to see the flow of information between the teachers and the representatives and between the representatives and the farmers indicate that within these three groups these informations have the up and down flow, perhaps because of the regular contacts among the group members. The village representatives have the direct contact with the farmer members as well as the teachers and it appears that they act as good mediators by bringing the farmers' and their own problems to the TTDC teachers. Of course, forty per cent of the teachers say that they cannot provide any solution to their problems, whereas 80 per cent of the village representatives demand that their problems remain unsolved. Either the information beyond the

thana level does not flow, or practical steps are not taken to solve their problems.

Training Methods

The only method of training followed at the TTDC is the lecture followed by discussions. The village representatives hold only discussions in the village weekly meetings. Despite the teachers' beliefs that the other methods of teaching are more useful and effective, they find no facilities to use them. Even, in the village training center, where only practical classes and demonstrations are to be held, the method of training there also is the same - the discussion.

Teaching Role

Both TTDC teachers and village representatives express their satisfaction over the role that they are to perform as teachers. The TTDC teachers find economic hardship as a major handicap and a source of frustration in discharging their duties, and perhaps they do it as a part of their routine activities. The village representatives do it primarily for themselves, and perhaps for this reason they continue to attend the training classes at TTDC at the cost of their economic losses.

CHAPTER V

SUMMARY

Both training and education are instructional processes designed to modify human behavior. As such, their basic foundations are dependent on learning and transfer processes. In the concept of rural development, training and educational processes are the most integral and crucial parts. For underdeveloped regions, these processes are more vital as the masses are illiterate and unaware of the development activities. The gigantic task of educating the rural people can only be possible through the continuous training program. And designing of the training program for its successful implementation and positive impact upon its clientele, evidences suggest that the designers should relearn from the local situations so that they can combine the modern knowledge with the real situation for its greater applicability and for achieving higher participation.

The training program at Comilla was conceived as a vital part of the many components of the rural development concept. The BARD which was established primarily as a training institute was responsible for providing training to various top and low level officers, administrators, volunteers, etc. concerned with rural development activities, and farmers and other villagers. The BARD, staffed with social scientists, soon realized that their theoretical knowledge and the trainees' practical experience created a gap between them. This was a difficult problem for the BARD members to design a successful training program that could

help the trainees in improving their knowledge. The BARD staff then exposed themselves to a new learning process. It started interactions with the rural people through a series of continuous conferences, workshops and meetings to relearn from the village people, to help them articulate their needs, to make them prepare their plans and participate in implementation of the plans. This required a continuous interaction between the BARD members and the village people resulting in the accumulation of valid and relevant knowledge about the rural areas through the 'indegenization' of social science techniques.¹ This gave birth to the idea of designing a training program, 'the aim of which is not just to impart knowledge and skills in one-shot intensive training courses, but to make training a continuous process week after week as the rural people become involved in the rural development activities. Training is an integral part of the continuous process of development. It does not end with a fixed course or a diploma or a certificate of completion.'²

The success of any training program depends on the diffusion of knowledge and in the provision of supplying necessary inputs and services in utilizing the knowledge. The former depends on the creation of technical progress based on local conditions while the latter calls for building infrastructures suitable for adoption. The training program at Comilla started its functions with simultaneous efforts in

¹This indegenization of the social science techniques is thought to be one of the significant contributing factors in the successful rural development program of Comilla. For further details, see Inayatullah, An Analysis of the Emergence of a Rural Development Innovation in Comilla, Bangladesh. The Journal of Developing Areas, Vol. 11, No. 1, 1976, p. 87.

²Rahim, S.A. Non-Formal Education Aspects of the Comilla (Bangladesh) Project. Paper presented at the workshop on Non-Formal Education and the Rural Poor, Michigan State University, East Lansing, 1976, p.

building and developing both aspects. The creation of knowledge depended on the interactions of BARD members with farmers through conferences, workshops, meetings, surveys, etc.; establishment of agricultural research farm at TTDC to conduct adaptive research, establishment of demonstration farm at the TTDC; close links and constant supervision of farmers' plots by agricultural specialists from BARD, Japanese experts and inspectors (teachers) from the TCCA. The infrastructures were developed by 'action programs' at village levels through cooperatives, works program, irrigation program, etc. and the inputs and other services were ensured by establishing a Thana Central Cooperative Association (TCCA).

Gradually this role of the BARD members was shifted to and entrusted with the TCCA employees and the thana level officials. This attempt was done to allow autonomy and to institutionalize the system so that this model, if found successful, could be duplicated in other areas of the country without the influence of the BARD. The BARD members continued to study and evaluate the project activities and to advise the project staff. They were not directly responsible for the administration and management of the project activities.

In the initial years, the success was heartening. There was a high rate of adoption, fast accumulation of capital, satisfactory increase in growth of village cooperative societies and their membership, good amount of disbursement of loans and its realization, etc. But as the time passed on, everything seemed to be deteriorating.¹ In the selection of our samples of village cooperative societies, we found 83 per

¹For the current position of the TCCA, see Uddin, K. A New Rural Cooperative System for Comilla Thana, 1973-74, BARD, 1976.

cent of societies as active, that is, the societies where managers and model farmers still maintaining their liaison with the TCCA. If a further investigation is done as to carrying out their responsibilities by the managers and model farmers, we find only 35 per cent of the societies to be active (Appendix Table 8). During our field investigations and discussions with the respondents and local farmers, many of them raised allegations against TCCA and expressed their distrust towards the organization. But 'trust, not cleverness, was the medium of communication.'¹

However, the present study is not concerned to find out the reasons for the overall deterioration of the project, nor it is possible to do so within the existing study plan, but as the present study concerns with a part of the whole Comilla program, the overall situation needs to be considered as the whole concept is vitally and closely interlinked with each other.

We have earlier tried to define the status of the thana level officers, who are the teachers at the TTDC, and their typical 'official way' of behaving in the bureaucratic-supervision set up. These officers, in addition to their normal routine activities and their responsibilities in line with the higher departmental officials, are left alone in the training program. Despite the tremendous increase in the number of trainees, the strength of the TTDC teachers remained the same. They receive neither support nor facilities in coping with the farmers' enormous demands on seeking the type and nature of information. The types of questions that the farmers put to these teachers demonstrate not only

¹Khan, A.H. My Lessons in Communication, Paper presented in a seminar at the East-West Communication Institute, East-West Center, Honolulu, Hawaii, 1975, p. 6.

their deep sense of needs and interests, but also their practical usefulness. Some of the questions are such that the farmers at Comilla are not satisfied with mere knowledge, but they want to know their implications. They go beyond the researchers to test certain ideas for themselves (such as, use of less amount of nitrogenous fertilizer as a basal dose, use of oil-cake in rice fields, adoption of 'china' variety of rice before its recommendation, cultivation of 'pajam' variety of rice although it was not recommended by the specialists, etc.).

But with the growing demands of the farmers' thirst for knowledge and their increasing inquisitiveness for innovations, the agricultural research farm attached to the TTDC was abolished, the demonstration farm of the training center produces lower per acre yield and earns less profit than what the farmers do, the services of the Japanese agricultural experts are withdrawn,¹ the link of the BARD members with the project and the villages is lessened,² the rate of visits of the TCCA staff to the villages also shows minimal.³ The effort, therefore, to build the TTDC as the reservoir of knowledge is becoming difficult. The thana

¹The Japanese agricultural experts worked in Comilla for 10 years from 1960 to 1970. The researcher does not feel in any way that they should be posted again. What is lacking is the failure of the local counterparts to provide services to the farmers as the Japanese used to render.

²This question is raised by the farmers (Appendix A). The same question is put informally by the TTDC and TCCA employees, and also by some BARD members at the formal BARD faculty council meetings.

³A report from the Japanese agricultural experts working at BARD says that the average visit of an inspector (TTDC teacher) to a village society is 2.01 times a month, the maximum is four times and minimum one time in six months; and in 84 per cent of the cases the inspectors did never supervise their fields. The rest of the 16 per cent visited the field but could give no guidance for agricultural extension work. See Misawa, K. and Adachi, J., Agricultural Practices in Comilla, BARD, 1971, p. 6.

level officers, in such a condition, find themselves helpless as teachers.

Under the situation, the training program at the TTDC is running as a mere routine activity. The 1976 routine program for different months collected by the researcher bears the clear signs that the same program was run in 1975. It was neither changed nor modified. The importance on the topics that the trainees attach are highly inconsistent with the actual topics by which the routine is designed. The lower attendance by the village representatives at TTDC reflects their non-interest in the training activities. This lower attendance and non-interest of the village representatives in the training program due to their disappointment in finding answers from the TTDC and their listening to non-useful topics included in the training program, is visualized by many as the system to be ineffective and blame the farmers and the training activities to be dull, non-interesting, monotonous, etc. But our study shows the increasing demands from the managers and model farmers for inclusion of new topics in the training curriculum, ask for more qualified people to become teachers, claim for more demonstrations and more training materials. Eighty per cent of the managers and model farmers do not find the solutions of their problems from the TTDC or the TCCA but still a good percentage of them (34 per cent) attend the training classes despite their economic losses.¹

It is evident that the TTDC is playing a weaker role both in providing knowledge and in storing necessary services and supplies. The teachers, therefore, ask for facilities to gain new knowledge and for

¹This is the researcher's view also that the travelling allowances paid to the managers and model farmers are insufficient to meet the present cost of conveyance.

the availability of more training materials to become effective in training classes, while the farmers ask for more information and more inputs, equipments, etc.

It appears from the study that the two-step flow of information and the feedback between the TTDC teachers and the village representatives and between the village representatives and the farmers is satisfactory. The information that is released from the TTDC appear to reach the farmer-members through the mediators, that is, managers and model farmers. On the contrary, the information that is received from the farmers by the teachers is either not communicated to the higher levels or is not possible to solve by them also.

As to the credibility of this information from the mediators, the farmers appear to continue to consult them and use accordingly as far as the farm practices are concerned. But for other kinds of problems, such as, disputes in the village cooperative societies, complaints against mismanagement, information on loan receipt and repayment, etc. the farmers ask the opinions of the TCCA inspectors than trying to solve it by themselves. Here the social contract between the village representatives and the farmers seems to suffer from the lack of credibility. This is, on one hand, a serious impediment in the growth of building self-reliant farmers' institutions and, on the other, helping the cooperative employees to develop their tendencies more to the 'official way.'

The majority of the managers and model farmers, the study shows, are young people with comparatively higher educational backgrounds coming from the middle class group, as regards to their size of land holding is concerned. To that end, this system of extension education is successful in avoiding the 'progressive farmer' oriented strategy and its slow

or little impact of 'trickle down' effects.

However, the main findings of the study can be summarized as follows:

1. The relevance of the subject-matters that are taught to the trainees is inconsistent with the needs and interests of the clients. There is a dearth of knowledge in the training center to which its clients seek information.
2. The social contract of the village representatives and the farmers is credible as far as the farm practices are concerned. For organizational activities (such as mismanagement, misappropriation, complaints, loans, etc.), the farmers tend to rely and depend on TCCA employees, than trying to solve by themselves.
3. The 'manager-model farmer' approach is viewed by all groups (teachers, village representatives and farmers) to be a good and useful system, but teachers' low level of knowledge, inadequacy of new information, lack of facilities for conducting effective training classes, administrative inefficiency, etc. contribute to the negligence of training activities at the TTDC.
4. The extent of two-way communication between the TTDC teachers and the village representatives and that of village representatives and farmers is satisfactory, but the feedback between the TTDC teachers and the higher officials about the problems of farmers seems to be either lacking or the problems are avoided.
5. The training methods believed by the teachers to be effective are not used by them for lack of facilities. Lecture followed by discussions is the only method found to be used. Training materials, demonstrations, audio-visual aids were found absent.

6. Although there is a general satisfaction over the teaching role by the TTDC teachers, they find economic hardships and other emergency official works as major impediments in taking classes, while the village representatives (34 per cent) continue to join classes and discharge their duties at the cost of economic losses and despite their freedom either to attend classes or not.

Suggestions for Further Study

The present study, however, fails in dealing with two important aspects. First, the impact of the training program on the farmers who have not yet joined the village cooperative societies. It appears from the data that the village societies can attract only about half of the total farm families available in the villages. Since 1969-70, there has been practically no change in the growth of membership, rather the membership dropped with increase in number of village societies (Appendix Table 9). It is not clear why the number of members is not increasing. The fact that about one-fourth of the managers, model farmers or farmer-members, in cases of social disputes, seek the help of non-members who are traditional village leaders also demonstrates that the village leaders, without joining the cooperatives, play vital roles in the social life.

Secondly, it will be interesting to study the process of feedback between the TTDC teachers and their higher officials to identify whether the higher officials are aware of the difficult problems and what happens to those problems which are beyond the capacity of the teachers at thana levels.

CHAPTER VI

RECOMMENDATIONS

The preceding chapter describes the summary of the major findings of the study. On the basis of those findings, the study puts forward the following recommendations.

1. The curriculum of the training program at the TTDC has to be changed and reorganized on the basis of the needs and interests of the trainees.
2. The TTDC has to be made a center of creative thought where farmers will find answers to their problems.
3. Economic incentives and physical facilities (such as, training materials, audio-visual aids, etc.) are to be provided.

Research for Research's Sake?

What are the implications of these recommendations? Is it optimistic to expect that the recommendations are easy to follow; and the declining trend of the training program at Comilla could be reversed within a few years? The reason for posing these questions is to raise another one: Will this study remain a piece of research or will it have some practical use? To quote a respondent of the study, 'good decisions frequently have been taken but are not followed up.' But why can't good decisions be implemented?

Institutional Arrangement in Comilla

To answer these questions, further studies may be required. But

the findings of this study reflect a set of deteriorating conditions in the training activities at Comilla which further may signal a trend of worsening conditions in the whole Comilla Program. Comilla Program in its beginning emphasized the need for an institutional approach for modernizing agriculture. As a result of the experiences of the early survey and adaptive researches carried out in the area, the Comilla Program advocated several new approaches such as voluntary cooperatives at village levels, establishing the TCCA as a supporting institution to continue to create practical knowledge and inputs through the experimental research and demonstration farms. The BARD technical specialists were directly responsible for the research and demonstration farms where new knowledge continued to be created. The thana level officers were not connected with these farms. The BARD member's direct link with the village representatives facilitated the arrangement where both creation of new knowledge (institutes of research and development) and its systematic diffusion (systems of training and information) were organized.

Generation of New Information

Such was the position in the initial years of the Comilla Program. In 1966, the BARD technical specialists started production trials with high yielding varieties released by the International Rice Research Institute. The new flow of information and knowledge, and the systems of training harnessed the fast rate of adoption by a majority of the farmers - whether cooperative members or nonmembers. The replacement of local varieties by high yielding ones gave a dramatic change in the production figures in the Comilla thana - from a deficit area to a surplus one.

Gap in the System Level

But later when the BARD member's role was gradually shifted to the TCCA employees and the thana level officials; and the system's flow of new knowledge was diminished by abolishing the research farms, the teachers were forced to revert to the old more patterns which treated research in one sector and Extension and diffusion as a separate sector.

Integrating Extension with Research

The above does not, of course, necessarily advocate for the reestablishment of the research farms at the TTDC; it is obviously not possible to do so. The nature of problems that are now cropping up need higher levels of treatment which the technical research institutes can only handle. Still the Extension service cannot have any impact if there is no profitable flow of research results to diffuse. Schultz¹ mentions Peru, India and the United States in the early years as examples where the Extension service 'ran dry' because of inadequate supply of profitable technologies to diffuse.

Feed Forward

To improve the situation in Comilla, BARD should seriously consider the development of strong collaboration with the technical research institutes. Just as the village farmers have direct and continuous links with the TTDC teachers, the teachers should have similar links with the researchers. The research institutes need to be better tuned into the research needs of the farmers. Only in this way will the research and extension become meaningfully integrated. The BARD can act

¹ Schultz, T.W. Economic Crises in World Agriculture. Ann Arbor, University of Michigan Press, 1965.

to bridge the gap between the two. The social scientists of BARD should now engage themselves to what Roling calls feed forward, and can accumulate valid and relevant problem areas to feed the research institutes which in turn can produce useful technologies to be delivered to the TTDC teachers.

Training is Only a Component of Rural Development

Still the question remains - will it solve the problem that Comilla is now facing or is it enough to revitalize the training program at Comilla? Our findings of TCCA's efforts at allocating almost half of the total training curriculum to organizational matters relating to loan recovery reveal some basic weaknesses and serious defects in the current programs. The present roles of the TCCA employees are quite incompatible as they are now constantly struggling for the realization of loans rather than promoting and advancing the Comilla Program towards betterment. The TCCA employees now suffer from insecurity of their jobs, low morale and incompatible role functions. The loans become somewhat of a liability to both TCCA employees as well as to farmers.

Extension is a Complex Process

The early progress achieved at Comilla cannot be retained or advanced any further under these conditions. Stier¹ mentions that in an extension system when the first technical phase of increasing farmers' output through improved farming practices is successful, the system enters into an economic stage where the farmers need more and more advice

¹Stier, Harald. "Extension Service, Education and Agricultural Development." In Agricultural Policy in Developing Countries. ed. Nurul Islam. Seminar Proceedings by International Economic Association. West Germany, 1974, p. 451.

on market outlets, distribution channels, prices, quality standard and similar problems. In the third phase, the farmers need to use industrial production methods and will need advice on these and financial management problems. Stier clearly, of course, points out that 'a shift from one phase to the next does not mean that advice on problems belonging to preceding phases is or can be abandoned. On the contrary, extension work is becoming more and more complex with economic development and the advisory service must, in order to remain effective, include specialists in an ever increasing number of subjects.'

Strength of Village Institutions

The efforts of the Comilla approach in building necessary infrastructures to sustain and accelerate the progress has not achieved the desired goals. The farmers have not shown their enthusiasm for joining the village cooperative societies, although all of them adopted high yielding varieties. The membership figure recorded a slight push in 1967-68 when the new technology of IRRI varieties was considered by the farmers as 'miracle rice.' Since that time, the membership figure has been declining and has remained at a standstill for the last five years. The successive increase in the number of village cooperative societies has been mainly due to a 'split' of the existing societies or by forming more than one society in one village for reasons of having some advantage from the TCCA, such as, receiving loans, getting irrigation benefits and so on.

Failure in Second Phase Attempts

The TCCA tried to provide some benefits to the farmers, when after an initial push in the production figure, the system entered into its

second phase as described by Stier, by creating some business units like rice mills, cold storages, etc. But the economic losses suffered by these units did not allow them to achieve that goal either. There were allegations against some managers and some TCCA staff. Because of this the village people started to lose their trust in the TCCA.

Vacuum in the BARD

Meanwhile when Khan left the Comilla Program, the leadership within the BARD suffered heavily. The qualified social scientists who became convinced of the need for relating social science theories to rural development and of the need of learning from the village people left the program either to accept higher positions in the government or to attain higher academic pursuits. The BARD failed both in retaining qualified social scientists and in building the younger ones to replace them.

Revitalizing the System Levels

It has been amply demonstrated in the above discussions that the pipeline from which the new knowledge used to flow from the TTDC to the villages is now close to coming dry. It is nearly the opposite of what Raper said of the potential of Comilla. But the belief that new knowledge be acquired through unending research, the urgency to make scientific knowledge useful by the extension were the basic attitudes in the early attempts of the Comilla Program. Because 'it was designed to conduct both training and research programs ... To emphasize merely the number of trainees in the training courses and not allow time and energy for research and extension would destroy the original idea behind the scheme viz., of an institution where fresh thinking would be done... and where knowledge provided by social scientists would be made applicable

to rural conditions.¹

The present study shows evidence that farmers do not find answers to their questions. With the increase in adoption of HYVs by the farmers, the nature of their problems are now beyond the scope of less qualified thana level officials with their limited resources. The various research institutes of the country capable of handling such problems are not integrated with the system. BARD social scientists should now, therefore, engage themselves in collecting information on the potential farmer users whose needs can serve as a basis for research and development efforts and test the findings in actual user conditions. This will provide a renewed flow of information through the pipeline for diffusion to the village people and thereby the research and extension systems of the country can be integrated and can be made more effective and useful to each other.

Revitalizing the Institutional Approach

The efforts that were applied in building institutions in the initial years now seem lacking. The loss of trust by the village farmers, low morale of the employees, less coordination among different organizational structures, financial loss by TCCA, less economic incentives to thana level officers, heavy default of loans by some cooperative members, etc. are evidences of institutional decline. The depletion of facilities, lack of training materials, audio-visual aids, demonstration facilities, and administrative inefficiency, have all contributed to total program deterioration.

Under the circumstances, the whole institutional revitalization of

¹Raper, A.F., op.cit., p. 43.

Comilla Program needs to be addressed. The dynamic institutional philosophy of the Comilla Program needs to be recaptured in order to attract more people to participate, to build up professional careers of the related personnel, to extend future facilities needed by the farmers, to provide economic incentives to keep the morale high, and above all, to create committed leadership. Otherwise, the band aid approach may only provide temporary relief to the ailing patient.

APPENDIXES

APPENDIX A

TYPE OF QUESTIONS PUT TO TEACHERS WHICH
THEY FIND DIFFICULT TO SOLVE

Type of Questions Put to Teachers Which They
Find Difficult to Solve

Questions About Crop Production

By Village Representatives and Farmers

1. Why the per acre yield of HYV rice is decreasing over years, despite our best efforts in maintaining the cultural practices same? Or in other words, why do we not get the same amount of yield with the same cultural practices as we used to get earlier?
2. Why 50 per cent of the total dose of nitrogenous fertilizer is recommended to be applied as a basic application? Is there any loss of that fertilizer due to that? Our experience is, less amount of nitrogenous fertilizer as a basic dose produces the similar yields.
3. You talk about spacing from line to line and plant to plant. But how this can be exactly followed in the field situation to ensure the exact number of plants per unit area?
4. Why do you not recommend for oil-cake in rice cultivation? It seems that the oil-cake helps in increasing the per acre yield. But the farmers use a wide range of its dose, what should be the optimum amount?
5. Is successive growth of rice in the same field causing any damage to the fertility of our soil?
6. Why 'nodules' come up in the roots of rice seedlings successively in particular fields? Is it harmful? How can we be cautious?
7. Why sometimes the rice grains are matured earlier than the recommended maturity period? Are we loosing in terms of yields due to that? How can this be remedied?
8. What are the reasons for wilting of tomato plants and curling of their leaves? How these can be controlled?
9. The potato fields are attacked with insects. How these insects are to be controlled? What kinds of insecticides and at what dose?
10. Why grapes could not be grown in our country? Why the oranges grown in our soil are sour in taste? Can you provide us facilities so that we can make experiments in our village farms?

11. Why some of the jackfruit and mango trees do not bear fruits? How can you help us in this regard?
12. We have heard that there are many rare and some foreign plants being grown in the BARD campus, why do you not tell us anything about these?
13. Is this profitable to grow sugarcane in place of rice?
14. Should we cultivate 'nilotica' fish in place of 'carp' for a higher profit?

Questions About Organizational Activities

A. By Village Representatives

1. The TCCA is depleting our accumulated savings, what will happen to us?
2. We are asking for irrigational facilities, how can we get it?
3. There is arrangement for electric network, but why can't we get the connection?
4. The rich farmers are not repaying loans. Neither these loans can be realized nor the other genuine farmers in defaulting village cooperative societies can be allowed fresh loans. What is the remedy?
5. Why the BARD's contact with the TCCA, its projects and with the village cooperative societies is reducing?

B. By Farmers

1. Where and how the accumulated amount of shares and savings are maintained by the TCCA?
2. Why are we not getting loans in time as we used to get earlier? The TCCA seems not as prompt as it was before in deciding loan cases. Why it happened?
3. What are difficulties in collecting loans from rich farmers?
4. Why annual general meetings of the village cooperative societies, in most cases, are not being held?
5. Why do you not interrupt in village cooperative society's corruption or mismanaged accounts, illegal actions by village society's managing committee, water distribution anomalies, etc.?

APPENDIX B

LIST OF VILLAGE REPRESENTATIVES
OF DIFFERENT PROGRAMS

List of Village Representatives of Different Programs

<u>Program</u>	<u>Designation of the Representatives</u>
1. Agricultural Cooperative	a) Manager b) Model Farmer c) Chairman
2. Non-agricultural Cooperative	a) Manager b) Chairman
3. Rural Works Program	a) Union Councillors b) Project Committee members
4. Adult Education	a) Imam teacher b) Women Adult Education Teacher
5. Women's Program	a) Women Organizer b) Health Agent c) Village Midwife
6. Family Planning	a) Male Organizer b) Female Organizer
7. Youth Program	a) Program Teacher b) Youth Leader

APPENDIX C

DESCRIPTIVE STATISTICS

Appendix Table 1: Age of Different Groups of Respondents

Age Group	Managers		Model Farmers		Farmers		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Under 25	2	8.0	1	4.0	4	8.0	7	7.0
Between 25 and 34	7	28.0	5	20.0	8	16.0	20	20.0
Between 35 and 44	9	36.0	9	36.0	17	34.0	35	35.0
Between 45 and 54	6	24.0	5	20.0	12	24.0	23	23.0
Over 55	1	4.0	5	20.0	9	18.0	15	15.0
Total	25	100.0	25	100.0	50	100.0	100	100.0

Mean	37.92	42.76	40.78	40.56
Standard deviation	8.99	12.57	11.91	11.45
Variance	77.67	151.62	138.93	129.77
Minimum	20	23	20	20
Maximum	60	75	65	75

Appendix Table 2: Education of Different Groups of Respondents

Education	Managers		Model Farmers		Farmers		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
No schooling	-	-	2	8.0	20	20.0	22	22.0
Between grade I and V	5	20.0	13	52.0	12	24.0	30	30.0
Between grade VI and VIII	9	36.0	6	24.0	5	10.0	20	20.0
Between grade IX and X	11	44.0	4	16.0	7	14.0	22	22.0
Above grade X	-	-	-	-	-	-	6	6.0
Total	25	100.0	25	100.0	50	100.0	100	100.0

Appendix Table 3: Size of Land Holding of Different Groups of Respondents

Size of Land Holding	Managers		Model Farmers		Farmers		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Owens no land	-	-	1	4.0	-	-	1	1.0
0.01 - 1.00 acre	1	4.0	6	24.0	11	22.0	18	18.0
1.01 - 2.00 acres	10	40.0	8	32.0	21	42.0	39	39.0
2.01 - 3.00 acres	6	24.0	5	20.0	10	20.0	21	21.0
3.01 - 5.00 acres	7	28.0	5	20.0	5	10.0	17	17.0
Above 5.00 acres	1	4.0	-	-	3	6.0	4	4.0
Total	25	100.0	25	100.0	25	100.0	50	100.0
Mean	3.34		2.17		2.25		2.51	
Standard deviation	2.78		1.38		1.56		1.95	
Variance	7.44		1.82		2.40		3.76	
Minimum	0.05		0.10		0.10		0.05	
Maximum	15.00		5.00		7.00		15.00	

Appendix Table 4: Size of Land Holding and Per cent of Land Used for Growing HYVs, Local Rice Varieties and Other Non-Rice Crops for Different Growing Seasons by the Managers.

Size of Land Holding	No. of Farmers	Mean Area in Acres	AUS				AMAN				BORO				TOTAL			
			HYVs	Local	Non-Rice Crops	Fallow	HYVs	Local	Non-Rice Crops	Fallow	HYVs	Local	Non-Rice Crops	Fallow	HYVs	Local	Non-Rice Crops	Fallow
0.01 - 1.00	1	0.05	-	-	-	100	100	-	-	-	100	-	-	-	67	-	-	33
1.01 - 2.00	10	1.82	68	22	-	10	43	57	-	-	21	-	9	70	48	26	2	24
2.01 - 3.00	6	2.90	48	35	-	17	41	59	-	-	25	-	16	59	38	32	6	25
3.01 - 5.00	7	4.69	36	49	4	11	36	54	10	-	37	-	11	52	39	33	7	21
Above 5.00	1	15.00	95	5	-	-	53	47	-	-	40	-	3	57	63	17	1	19
Average		3.34	53	31	1	15	43	54	3	-	30	-	11	59	44	28	4	24

Appendix Table 5: Size of Land Holding and Per cent of Land Used for Growing HYVs, Local Rice Varieties and Other Non-Rice Crops in Different Growing Seasons by the Model Farmers.

Size of Land Holding	No. of Farmers	Mean Area in Acres	AUS				AMAN				BORO				TOTAL			
			HYVs	Local	Non-Rice Crops	Fallow	HYVs	Local	Non-Rice Crops	Fallow	HYVs	Local	Non-Rice Crops	Fallow	HYVs	Local	Non-Rice Crops	Fallow
0.01 - 1.00	6	0.52	93	7	-	-	78	22	-	-	50	-	13	37	74	9	5	12
1.01 - 2.00	8	1.69	54	44	2	-	63	35	2	-	77	-	6	17	63	26	3	8
2.01 - 3.00	5	2.88	48	52	-	-	44	56	-	-	33	-	25	42	42	36	8	14
3.01 - 5.00	5	4.20	43	57	-	-	44	53	3	-	40	-	4	56	43	37	2	18
Above 5.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Average		2.08	60	39	1	-	59	40	1	-	54	-	11	35	57	26	5	12

Appendix Table 6: Average Attendance of the Village Representatives in the Training Classes at TTDC, Comilla for the Past Four Years.

Years	Percentage of Attendance by:	
	Managers	Model Farmers
1972 - 73	68	56
1973 - 74	52	42
1974 - 75	52	32
1976	46	22

Appendix Table 7: Size of Land Holding and Per cent of Land Used for Growing HYVs, Local Rice Varieties and Other Non-Rice Crops in Different Growing Seasons by the Farmers (excluding Managers and Model Farmers).

Size of Land Holding	No. of Farmers	Mean Area in Acres	AUS				AMAN				BORO				TOTAL			
			HYVs	Local	Non-Rice Crops	Fallow	HYVs	Local	Non-Rice Crops	Fallow	HYVs	Local	Non-Rice Crops	Fallow	HYVs	Local	Non-Rice Crops	Fallow
0.01 - 1.00	11	0.59	60	22	-	18	75	25	-	-	49	-	3	48	61	16	1	22
1.01- 2.00	21	1.80	67	17	4	12	68	28	4	-	52	-	4	44	62	15	4	19
2.01- 3.00	10	2.83	59	41	-	-	39	61	-	-	17	-	16	67	39	34	5	22
3.01- 5.00	5	4.04	61	35	4	-	49	47	4	-	72	-	1	27	61	27	3	9
Above 5.00	3	6.67	45	31	5	19	51	44	5	-	19	-	31	50	39	25	14	22
Average		2.26	63	25	2	10	61	37	2	-	43	-	9	48	56	21	4	19

Appendix Table 8: Total Strengths of Village Cooperative Societies and Some of Their Performances.

Blocks	Total number of societies	Average attendance of society representatives in training classes (verbal report)	Monthly bills paid to number of societies ^a	Number of societies where annual general meetings held
I	86	50	31	16
II	96	48	35	9
III	84	30	16	8
IV	81	45	31	5
V	72	35	26	2
Total	419	208	139	40

Source: Report of the TCCA inspectors in the staff meeting held on February 11, 1977.

^a Monthly bills are paid to the managers of those societies only who deposit thrift savings collected from the members and whose members attend the village weekly meetings regularly. That means only these societies are active and this figure comes out to be 35 per cent.

Appendix Table 9: Average Number of Members in the Village Cooperative Societies in Comilla From the Years 1961-62 to 1973-74.

Years	Number of village societies	Number of members	Average number of members per society
1961-62	59	1,860	32
1962-63	110	3,156	29
1963-64	122	3,833	31
1964-65	152	4,910	32
1965-66	158	5,161	33
1966-67	225	8,462	38
1967-68	261	11,518	44
1968-69	301	11,673	39
1969-70	316	11,151	35
1970-71	328	11,261	34
1971-72	347	11,793	34
1972-73	391	13,391	34
1973-74	401	13,741	34

Source: A New Rural Cooperative System for Comilla thana, various years, BARD, Comilla.

APPENDIX D

INTERVIEW SCHEDULE FOR TTDC TEACHERS

Confidential

1. Name _____

2. Designation _____

3. (a) Educational Qualifications

Name of Examination

Year of Passing

a.

b.

c.

d.

(b) Special Training, if any, (mention details below)

4. Length of Service

Designation	Place of Posting (Include Name of District)	From	To
		Month and Year	Month and Year

5. If you were not able to take all your scheduled classes at the TTDC, would you please list the reasons?

6. Please rank below the following programs from 1-8 with 1 which you think most important and with 8 which you think least important.

_____	Crop Production
_____	Animal Husbandry
_____	Fisheries
_____	Family Planning
_____	Public Health
_____	Plant Protection
_____	Cooperatives
_____	Education

7. Please list the topics for which you were assigned classes at TTDC and also indicate how each topic was included in the syllabus (check below).

Topics	I suggested	Trainees demanded	Training Committee suggested	Imposed	Any other (specify)
--------	-------------	-------------------	------------------------------	---------	---------------------

-
8. What do you think are the best parts of the training program?

9. What do you think are the weakest parts of the training program?

10. Are there any important changes that you think need to be made in the training program?

_____ Yes

_____ No

If yes, what do you think are the most important changes that should be made?

11. Are there any difficult questions or problems the managers and model farmers put to you?

_____ Yes

_____ No

If yes, can you give some examples?

12. Are you able to find out the necessary answers to the questions or problems to help the managers and model farmers?

_____ Yes

_____ No

If yes, give a few examples.

Kinds of Problems

Types of Solutions

a.

b.

c.

d.

e.

13. Do farmers in the thana tend to make informal visits to the training center?

_____ Yes

_____ No

If yes, can you please list some of the topics that the farmers discuss informally with you.

a.

b.

c.

d.

e.

14. (a) What methods of teaching do you use in your training class?
(Check on the left hand side.)

_____	1. Lecture	_____
_____	2. Demonstration	_____
_____	3. Discussion	_____
_____	4. Audio-visual aids	_____
_____	5. Work group	_____
_____	6. Others (specify)	_____

- (b) Which of these do you use most frequently or regularly?
(Circle the numbers above.)

- (c) Which of these methods do you believe are most effective?
(Place an X on the right hand side.)

15. A teacher generally needs the following things in order to prepare his instruction materials. How much of these things do you have available for your use in preparing instruction materials? (Check below.)

Items	Sufficient	Not sufficient	Not at all
-------	------------	-------------------	---------------

Books

Booklets/Leaflets

Posters

Film-show

Demonstration facilities

Mimeograph materials

Slide/Projector

Bulletin

16. What teaching aids do you need for your training classes to be a more effective teacher?

17. How often do you visit the following institutes? (Check)

Institutes	Very often	Sometimes	Never
a. Comilla Rice Research Institute			
b. Comilla Animal Husbandry Research Institute			
c. Chandpur Fisheries Research Institute			
d. Comilla Academy for Rural Development			

18. List any refresher courses you have ever attended.

Name of the course	Who organized	When (year)	Place	Duration
a.				
b.				
c.				
d.				

19. Would you please tell me some of your major difficulties related to the conditions in which you are to perform your duties both as an officer and as an individual?

As an Officer

As a Teacher

As an Individual

20. In your assignment to the TTDC is the special responsibility of teaching? Please tell me how do you feel about your teaching assignment? (Check one.)

_____ It is the most interesting and satisfying assignment in my professional career.

_____ It is an acceptable assignment. I have no strong feelings for or against it.

_____ It is the least interesting and least satisfying assignment in my professional career.

21. From your experiences in working with the managers, model farmers and farmers in general, what are your suggestions for the improvement of the training at the TTDC?

APPENDIX E

INTERVIEW SCHEDULE FOR THE
VILLAGE REPRESENTATIVES

Confidential

1. Name _____
2. Name of the village society _____
3. Name of the union _____
4. Position in village society (check)
_____ Manager
_____ Model Farmer
5. (a) Date of joining the society
(Month and year) _____
(b) Date of joining the executive committee
(Month and year) _____
6. Years of schooling _____
7. Age _____
8. Total land owned (in acres) _____
9. Total land under irrigation (in acres) _____

10. What is the season-wise distribution of your land under crops?
(List in acres.)

Varieties	Aus	Aman	Boro
High yielding varieties of rice			
Local varieties of rice			
Other non-rice crops			
Land lying fallow			
Total			

11. If you grew local varieties of rice in some of your land instead of high yielding ones, why did you grow that?

12. Below is a list of some of the topics that were taught in the recent training classes at TTDC. Please rank those you felt most useful. Use a scale from 1-10 with 1 which is most useful and with 10 which you think is least useful.

_____ Discussions related to organizational matters

_____ Winter vegetable cultivation methods

_____ Cultivation of high yielding varieties of rice

_____ Need and importance of training

_____ Cultivation of improved varieties of fishes

_____ Role of machineries in improved methods of cultivation

_____ Role of family planning in population control

_____ Artificial insemination

_____ Irrigation management in the next boro season

_____ Loan transactions

13. Please rank below the following programs from 1-8 following the same procedure as stated above in terms of importance to your farming operations.

_____ Crop production

_____ Animal husbandry

_____ Fisheries

_____ Family planning

_____ Public health

_____ Plant protection

_____ Cooperatives

_____ Education

14. Can you please provide the following information?

Items	Did you hear? Yes/No	Source(s)	Did you use it? Yes/No	Did you tell to others? Yes/No
-------	----------------------------	-----------	------------------------------	---

Seed selection

Balanced fertilizer

Diazinon

Copper compound

Foot and mouth
disease

White leg horn

Rhode island red

Condom

Birth control
pills

15. What do you think are the best parts of the training program received from the TTDC?

16. What do you think are the weakest parts of the training program received from the TTDC?

17. (a) Are there any important changes that you think need to be made in the training program?

_____ Yes

_____ No

(b) If yes, what do you think are the most important changes that should be made?

18. Do you like your present job as manager/model farmer?

_____ Yes

_____ No

19. Do you want to continue as manager/model farmer?

_____ Yes

_____ No

If yes, how long do you want to continue?

_____ days/years

_____ others (specify)

20. Does the cooperative program expect too much of your time and ability to teach and work for so many other farmers?

_____ No

_____ About right

_____ Don't mind contributing time

_____ Willing to help

21. Which of the subject-matter topics do you feel best qualified to teach other farmers?

22. Which of the subject-matter topics do you feel least qualified to teach other farmers?

23. (a) Can you tell us about some of the ideas that you learned from the TTDC but could not practice?

(b) What do you think should be done to facilitate the practice of these things by you and other farmers?

24. How often do you visit the TTDC?

- _____ Once a month
- _____ Twice a month
- _____ Thrice a month
- _____ Four times a month
- _____ Times a month

25. How many times did you meet the TTDC teachers during the last aman season?

_____ Times

26. What topics did you discuss with them during that period?

27. What are the best examples of the most difficult questions or problems that the farmers put to you?

28. (a) Are you able to find out the answers to the questions or problems to help the farmers?

_____ Yes
_____ No

- (b) If yes, give a few examples.

Kinds of Problems

Types of Solutions

29. What kinds of problems do you usually discuss with the TTDC teachers in the training classes?

30. (a) What methods of teaching do you use in your village weekly meetings in disseminating the ideas you learned from TTDC? (Check on the left hand side.)

_____	1. Lecture	_____
_____	2. Demonstration	_____
_____	3. Discussion	_____
_____	4. Audio-visual Aids	_____
_____	5. Others (specify)	_____

- (b) Which methods do you use most regularly or frequently? (Circle the numbers above.)

- (c) Which of these methods do you believe are most effective? (Place an X on the right hand side.)

31. Which of the following items have you received for use during the last aman season?

Items	Whether provided Yes/No	Number of Copies	Kinds or topics
-------	----------------------------	------------------------	-----------------

Lesson-sheet

Film show

Poster

Booklet

Journal

Others
(specify)

32. Whom do you consult for the following activities?

Items	Name of the person(s)	Position in society ^a	Position in village leadership ^b
Varieties to be grown			
Planting distance			
Amount and type of fertilizer			
Amount and type of pesticides			
Purchase of share in village society			
Any kind of social dispute			
Purchase/sale of land			

^a State member/non-member/manager/model farmer/chairman/director

^b State sardar/matabbar

33. Do you get the following items? (Check)

Items	Get what I need	Get some but not enough	Get none
Seeds			
Fertilizers			
Pesticides			
Irrigation water			

34. List some of the reasons for which you could not attend some of the training classes at TTDC?
35. Normally how can the village representatives make up for the loss of information due to absence from the classes?

36. In your capacity as manager/model farmer you have a special responsibility of teaching your fellow villagers. Please tell me how do you feel about your teaching assignment. (Check one.)

_____ Is is an interesting and satisfying assignment

_____ It is an acceptable assignment

_____ It is a least interesting and least satisfying assignment

37. What kinds of difficulties or problems are you to face in discharging your duties as a manager/model farmer?

38. Can you think of ways the total training effort at TTDC could be improved?

Only for Model Farmers

39. What methods of training are normally used in the village training centers? (Check)

☐ Lecture
☐ Demonstrations
☐ Discussion
☐ Audio-visual aids
☐ Others (specify)

40. Did you have to do any practical work in the village training centers during the last one year?

☐ Yes
☐ No

If yes, what are the types of work you had to do?

41. Why do the model farmers usually do not tend to attend the village training centers?

2

APPENDIX F

INTERVIEW SCHEDULE FOR FARMER-MEMBERS

Confidential

1. Name _____
2. Name of the village _____
3. Name of the union _____
4. Date of joining the village society
(Month and year) _____
5. Years of schooling _____
6. Age _____
7. (a) Total land owned (in acres) _____
(b) Land under irrigation (in acres) _____
(c) Season-wise land under cultivation (in acres)

Crops	Aus	Aman	Boro
-------	-----	------	------

High yielding varieties of rice

Local varieties of rice

Other non-rice crops

Land-lying fallow

Total



- (d) If you grew local varieties of rice in some of your land instead of high yielding ones, why did you grow that?

8. Please rank below the following programs from 1-8 with 1 which you think most important and with 8 which you think least important.

_____	Crop production
_____	Animal husbandry
_____	Fisheries
_____	Family planning
_____	Public health
_____	Plant protection
_____	Cooperatives
_____	Education

9. Can you please provide the following information?

Items	Did you hear? Yes/No	Source(s)	Did you use it? Yes/No	Did you tell to others? Yes/No
-------	-------------------------	-----------	---------------------------	-----------------------------------

Seed selection

Balanced fertilizer

Diazinon

Copper compound

Foot and mouth
disease

White leg horn

Rhode island red

Condom

Birth control pills

10. What do you think are the best parts of the weekly meeting program of the village society?
11. What do you think are the weakest parts of the weekly meeting program of the village society?
12. Please note the two or three ideas you have learned from managers and model farmers that have helped you the most in your farming operations or in your family life.
13. If you get information regarding agriculture from managers and model farmers, who provides you the most helpful information (Check)

Manager

Model Farmer

14. Do you ever consult the manager or model farmer on some ideas regarding agriculture?

_____ Yes

_____ No

15. Did you ever consult the manager or model farmer on some ideas regarding agriculture that you didn't get any satisfactory answer?

_____ Yes

_____ No

If yes, can you mention a few?

What did you do with those problems?

16. Whom do you consult for the following activities?

Items	Name of the person(s)	Position in society ^a	Position in village leadership ^b
-------	-----------------------	----------------------------------	---

Varieties to be grown

Planting distance

Amount and type of fertilizer

Amount and type of pesticides

Purchase of share in village society

Any kind of social dispute

Purchase/sale of land

^a State member/non-member/manager/model farmer/chairman/director

^b State sardar/mattabar

17. Do you get the following items? (Check)

Items	Get what I need	Get some but not enough	Get none
Seeds			
Fertilizers			
Pesticides			
Irrigation water			

18. Can you name any person(s) in your village whom you think would be better manager(s) than the present one?
19. Can you name any person(s) in your village whom you think would be better model farmer(s) than the present one.

20. Do you have any suggestions of how farmers like yourself could be provided better help or information?

APPENDIX G

NAMES OF VILLAGES

Names of Villages

<u>Village</u>	<u>Union</u>
Sultanpur	Jorekaran
Batagram	Jorekaran
Dhanpur	Jorekaran
Bishnupur	Jorekaran
Rampur	Bharella
Gazaria	Barapara
Sishpur	Barapara
Tulatuli I	Barapara
Balurchar	Galiara
Tetoiara	Jagannathpur
Durlavpur	Jagannathpur
Shimra Baleswar	Amratoli
Kachua	Bijoypur
Hossainpur	Bijoypur
Dhulipara	Chowara
Goalmathan	Chowara
Dayapur	Chowara
Koteswar	Pachthubi
Bamail	Pachthubi
Changacha	Mokam
Abidpur	Mokam
Kakiarchar	Mokam
Bajehura	Mainamati
Bhaduapara	Mainamati
Fenua	Kalirbazar

APPENDIX H

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