

a) Researchers' Identity

1. A.J. Minhaj Uddin Ahmad, Director
M.A. (Public Administration), Dhaka University
2. Mahmud Hossain Khan, Deputy Director
M.Sc. (Irrigation), University of Newcastle Upon-Tyne, U.K
3. Md. Habibur Rahman, Deputy Director
M.A. (Geography and Environment Science), Rajshahi University

b) Objectives

The main objective of the proposed evaluation was to assess the effectiveness of the training courses and their economic impact on the beneficiaries. The other objectives were :

- i. assess the extent of the application of the participants' knowledge and skills acquired from their respective courses;
- ii. assess the effectiveness of the training in terms of increase in command area of the irrigation equipments, production, income and creation of self-employment;
- iii. examine the changes in the management of irrigation schemes as well as maintenance of its equipment;
- iv. Identify the nature and causes of constraints on the application of participants' knowledge and skills in their respective fields; and
- v. Suggest some tentative measures for redesigning the training programmes and overall improvement of the management of the programme

c) Executive summary

The present study was intended to assess the effectiveness of irrigation technology transfer training under Integrated Training, Research and Technology Transfer (ITRTT) project. It is mostly based on the findings of a survey conducted in 18 sample schemes and data were collected through interviews with the participants of the three core courses; Pump Operators' course, Mechanics' course and On-Farm Water Management course. The study collected data on the performance of these three courses concentrating on seven broad areas: agronomical aspect, institutional aspect, repairing and maintenance of irrigation equipments, level of knowledge and skills and their application by the participants, changes in command area of the irrigation equipments, production, income and creation of self-employment and changes in the management of irrigation schemes and nature and causes of constraints on the application of participants' knowledge and skills in their respective fields. As the study deals with three different courses, the subsequent pages are devoted of give the summary of the findings of these courses separately.

d) Conclusion

A major trust of ITRTT is on the effective transfer of irrigation technology intending to ensure efficient utilization and management of irrigation equipments and expansion of command area under irrigation equipments. Training has been chosen as a strategy for effective transfer of technology. The present study was aimed of assessing the effectiveness of the training in the process of technology transfer. However, the study has tried to assess the situation by covering the data on one irrigation season only, since the participants got one season immediately after the training. In consideration of this fact, one may raise question about orthodoxy of the findings drawn on the basis of information covering such a limited period of time. In spite of this limitation, some guarded observations can be made in the light of the findings. The study indicates some positive achievements of training courses.

Firstly, Pump Operators have acquired some basic knowledge which is instrumental for good maintenance of the irrigation equipments and the overall management of the schemes as well. Besides, the duties of the pump operators are clearly spelled out and as such they can assist the managing committee in streamlining the efficient operation of their respective schemes. Another positive aspect of the involvement of the Pump Operators is that all of them get reasonably good amount of remuneration which contributes to the enhancement of their economic condition. In fact, there was a slight indication of positive changes in respect of maintenance of log book, creation of self-employment and income.

Secondly, majority of the trained Mechanics (85%) are reportedly in a position to utilize their acquired knowledge by way of their involvement in repairing three categories of equipment ; DTWs, STW, and LLPs. Beside from this, majority of them claim that they are successful in repairing work and they are competent enough to do their job without any outside help. As regards the mechanical hazards, there was a slight decline by comparison with the past. This decline is ascribed by better maintenance of the irrigation equipments following the training of the Mechanics and Pump Operators.

Thirdly, a year-wise picture shows a gradual rise albeit small in amount, in the income of the Mechanics from the repairing work. It is important to note that one trained Mechanic has achieved a very tremendous success in respect of employment opportunities. He has set up a workshop at a cost of Tk. 2.46 lakh. In that workshop, two workers are employed while each having an average wage of Tk.800 per month.

Fourthly, crop-wise sources of seeds suggest that except for Rabi crops, a majority of the farmers use seeds from their own sources in the case of Boro and Aman.

Fifthly, majority of the schemes follow the method of group discussion. In spite of several anomalies with respect to the observance of management principles, majority of the scheme Managers (88.89%) claim that their respective schemes are in a good condition.

Sixthly, out of 18 sample schemes, only five affiliated to the GKF come under the areas from where the field level officials attended the orientation course. The study suggests that the concerned officials maintain linkage with irrigation schemes in the point of monitoring and supervision. This linkage is maintained through group meeting and scheduled visit.

The success of any training depends upon the favorable existence of certain conditions: adequacy of this course in terms of course contents and duration, proper selection of trainees in terms of their backgrounds, interests, relevance of the course, availability of financial and technical resources, congenial atmosphere in terms of management and institutional supports and proper cooperation among the concerned people of an organization or community. Looked at from this perspective, the training programmes under ITRTT appear to be achieved a considerable degree of success in attaining the desired results despite the prevalence of several constraints in the field. But nevertheless, it appears to lay some scope for further improvement in future.

It can be noted that, it is neither possible nor desirable to achieve hundred per cent success or perfection or an overnight change in the field of irrigation management. Any this kind of programme can have both successes and challenges. But there must be continuous efforts to improve the situation. For

that matter, there is a need for correct analysis of the nature of problems in order to find out some probable solutions. A perusal of the problems can lead one to conclude that they may be divided into two broad categories depending on their nature.

Firstly, there are some problems which are very complicated and related to many other factors which are partly beyond the control of any particular category of persons involved in the management of the schemes. As for instance, shortage of financial and technical supports for improved system of water conveyance, constraint on the expansion of command area caused by installation STWs which is the outcome of privatization, technical hazards happened due to old age of the equipments, negligence of the managing committees, non-availability of spare parts, increase of cost because of price hike and crisis in fertilizers are some of the important areas. At times, the increased distribution of medium term loans for cooperatively-owned irrigation equipments certainly made the KSSs more attractive. But in recent privatization of irrigation equipments ownership can be a threat to the movement. It is hard to understand how donors can support this policy while at the same time claiming to assist cooperatives, (Line-Minded Group, 1990: 184). Another sticky problem relates to the application of chemical fertilizers and pest management. The study shows that in majority of the cases neither the general farmers nor the recipients of on-farm management training are interested in the proper method of applying the fertilizers. Many respondents are rather guided by an illusion that the more use of fertilizers would lead to increase the yield. Likewise, farmers of the majority schemes are not inclined to follow the 'Integrated Pest Management' (IPM) which is good for crop production and at the same time less harmful to the overall environment. Instead of that they are heavily depend upon the chemical method which gives very prompt results. But by contrast, some methods as included in the IPM are inconvenient in the eyes of the farmers. As for instance, mechanical method is relatively laborious and takes much longer time. Moreover, as the plots of individual farmers are scattered over too many places, it takes a lot of time for frequent movement from place to place leading to wastage of time and energy. Thus many farmers depend on chemical method than other methods of control. Evidently training can not solve them. Instead, they demand a combined effort of all the relevant groups including the government in order to manage the problem. Secondly, there are certain issues which should be taken care of by the training programmes. As a matter of fact, attempts should be made to revise the training courses in the light of the findings of the study. With this end in view, the subsequent paragraphs are intended to discuss the nature of tentative solutions.