The Training Component in Tropical Agriculture: A Management Perspective

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By the year 2000 a world population of more than 6 billion will require an agricultural output some 50 to 60 percent greater than in 1980. Demand for food and agricultural products in developing countries will double. It is essential, within the next few years, to make many of the decisions that will determine the world food situation in 1990, or even 2000. (FAO, 1980)

The challenge for agriculture is clear. And for the training component in tropical agriculture, there is a large role to play if agricultural production is to keep pace with population growth. This paper will elaborate on training and training methodologies in tropical agricultural settings.

Mosher (1981) in his publication, *Three Ways to Spur Agricultural Growth*, suggests improving the efficiency of regular agricultural agencies as one way to accelerate a nation's rate of agricultural growth. He cites six instrumental means for achieving that objective: 1.) Promote professional staff growth; 2.) Provide incentives for more efficient staff performance; 3.) Create more appropriate patterns of organization; 4.) Improve agricultural planning; 5.) Adopt more efficient operating procedures; 6.) Use appropriate styles of administration.

Taken as a whole, these means suggest the need for a training component to ensure their actualization. Individually, each of these six items would require specific training tactics and strategies. Thus, training can be viewed as an important component in the process of agricultural development.

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A Definition of Training

To begin a discussion of training in tropical agriculture it is first necessary to describe what training is not. Training is not lectures or seminars or conferences. These techniques may be part of the training process, but in and of themselves they are not training.

Training is not telling. Telling assumes one-way communication in an environment which is trainer centered. One-way communication does not encourage learning and should not be thought of as part of the training process. In the same vein, a learning environment that focuses on the trainer is not training. What then *is* training?

First, training is participant centered. The prime objective of training must be the participant and his needs vis-a-vis the organization for which he works.

Training is also two-way communication. Participants and trainers must work in an environment open to a variety of interchanges.

Learning by doing is also part of training. Participants must be able to practice the skills they are learning. The hands-on aspect of training is crucial to its long term success and implementation.

In summary, training is a participant centered, two-way communication environment, and a hands-on activity.

The Training Process

Implementation of the training process includes five key steps. The first of these is planning. Roger Kaufman (1977), a consultant on systems management and educational technology, wrote: "It has come to me as a growing conviction that we must first identify and assure the usefulness and reality of our problems before we choose solutions."

The planning step in a training program should identify and assure the usefulness of certain problems. It is only when problems have been identified that training can be thought of as a solution. If it is determined that training is part of a solution, then another activity related to planning, specifying objectives and participant outcomes, should be taken. A training program can then be engineered and implemented with these objectives in mind.

The second part of the training process is to present the necessary information. This process briefs participants on the expectations of the training program, defines the tasks to be covered, explains the importance of the training, and answers questions.

Participant practice comes next. This part of the training process includes drills, exercises, and problems necessary to assist the participants in acquiring the specific behaviors needed. Practice stipulates that the participants receive feedback regarding the adequacy of their performances. Practice usually consists of presenting material to the participants and then requiring a response (Merrill and Goodman, 1972).

The fourth phase of training evaluates performances. In the planning phase, specific objectives for the trainees are developed in behavioral terms. These behaviors are evaluated by the trainers to ascertain whether the participants have yet achieved the required skills. This testing process also underscores for the participants the serious nature of the training program.

The final part of the training process, follow-up, is one which is often overlooked. A check should be made on participants to verify the quality of learning, trainer performance, and the relevance of the training program for real, on-the-job needs. This check should occur when the participants have returned to the job and have been functioning there for some time. This is the true evaluation of training.

Criteria for Designing Training Programs

Since the planning process is so crucial to the success of training programs, there are some criteria that can be used to design training programs. These criteria (suggested by Dr. Robert Casey, University of Southern California, personal communication) include:

1. Specific objectives written in behavioral terms. These are the objectives the participants will be working toward with explicit descriptions of the target behaviors the trainees should demonstrate upon mastery.

2. A multimedia experience. At each stage of the training program, participants should be exposed to many types of media and presentation styles in order to facilitate learning. During the presentation, practice, and performance stages, a variety of techniques should be applied to deliver, drill, and evaluate participants.

3. Document to which participants can refer. This document could be a training manual, a book of readings, or a text. This document may be used by participants as a reference before, during, and after the course.

4. A person in close proximity. Someone, the trainer or content expert, needs to be in close proximity to the participants during the training program to answer questions and clarify procedures. Training requires that a person be available to assist participants when necessary.

5. Reward for accomplishment. Trainees desire and need some form of recognition. The sponsoring organization should also consider, before the training program, the criteria of reward to participants who have successfully undergone training, whether it be an immediate or a delayed reward. Certificates of completion, notations in personnel files, or letters from upper management are some ways to reward accomplishment.

This last point—reward—brings another training issue to the front, and that is the commitment of organizations and individuals involved in the tropical agricultural training process. The sponsoring organizations need to be committed to training in terms of participant and financial support. Organizational commitment also means consideration of rewards for participant placement after the course and future rewards.

A second commitment is on the part of the trainees. A recent publication in the Wiley Professional Development Programs (nd.) notes, "the success of a training program is enhanced by voluntary participation. And it is well established in modern management theory that involvement leads to commitment (p.5)."

A third commitment needed is from the trainers. They must be willing to localize programs and develop materials for special audiences. Whether the trainers are internal or external to an organization, they need to be committed to the training process and to the success of the program in the overall

management plan. (The three training commitments were developed by Dr. Dale Smeltzer, The Rockefeller Foundation, personal communication.)

Training Needs for Tropical Agriculture

Given what training is, what the training process should include, what the criteria for effective training are, and what commitments are needed, what are the areas in which there are training needs for tropical agriculture? From a management perspective, there are five major areas:

1. *Organizational development*. Organizational development includes many of the traditional training program elements—quality circles, supervisory skills, employee relations, management by objectives. For survival in the future, research organizations must take their own development seriously and manage it like they would research projects.

2. *Time management*. There are three facets of time management. First is the need of managers to organize their own time and gain control over the timing and content of what they do. Second is the need, in cross cultural settings, for managers to understand the different cultural concepts of time. Third is the need to maintain a perspective on agricultural time sequences, which often take many months of laboratory work, greenhouse testing, and field trials to produce visible results.

3. *Communication*. This is such an important issue that it should be considered by itself. Areas for training such as internal organizational communication and interpersonal relationships should be an ongoing part of every organization's program. There is also a need for training in external communication skills. Continued communication with government officials, teachers, universities, the general public, and the specific targeted publics is vital for every organization.

4. *Quality control*. Successful agricultural innovation demands quality control. Standards must be developed, practiced, applied, evaluated, and monitored. Ongoing training in this area is a must for an organization to continue its work and build its name.

5. *Futures*. Both management and other workers need training in the area of futures. Both groups need skills in problem solving and in discussing alternative methods and

processes, and in examining the implementation ramifications of these on current situations. This type of training can develop creativity and realistic problem solving approaches.

Summary

In summary, training is but one part of any organization's strategy for change (Rosow, 1981). It cannot solve all problems, and may, when misapplied, create unanticipated problems. But at its heart, training is organizational self-development because it involves people interested in self-development. Peter Drucker (1966) wrote, "We know very little about self-development. But we do know one thing: People in general, and knowledge workers in particular, grow according to the demands they make on themselves. They grow according to what they consider to be achievement and attainment. If they demand little of themselves, they will remain stunted. If they demand a good deal of themselves, they will grow to giant stature—without any more effort than is expended by nonachievers."

Training in tropical agricultural settings poses a great challenge, and offers much, because there is much to do.

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