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**AN ACTION-TRAINING STRATEGY FOR
PROJECT MANAGEMENT**

**By Morris J. Solomon, Flemming Heegaard
and Kenneth Kornher**

AN ACTION-TRAINING STRATEGY FOR
PROJECT MANAGEMENT*

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This paper describes a strategy for achieving indigenous project management capability in developing countries. Parts of the strategy have been tested in a number of countries with encouraging results. The strategy is now being applied in one country and is under consideration by a number of others.

Development requires the creation of new capacity to deliver goods and services to improve the quality of people's lives. "Capacity" implies a capability to deal with social and institutional as well as physical change. The project is the prototype activity for creating such capacity. It encompasses planning for and establishing new capacity as well as preparation for the subsequent ongoing operation of the activity.

Every country needs its own capability to build new organizational capacity from its own resources. This is far more important, but often receives less attention, than specific capabilities to execute projects financed from international sources.

* This paper describes an evolving model arising from research and development work sponsored by the Agency for International Development with applications testing supported by the U.S. Department of Agriculture. Numerous development professionals have contributed to the ideas we are trying to express; we would welcome additional suggestions. Please address comments to: Development Project Management Center, International Training, ERS/FDD, U.S. Department of Agriculture, Washington, D.C. 20250.

What Project Management Is All About

Project management is the direction of a project from the idea stage to the point where the repetitive flow of output begins. It is a process which provides for activities and material inputs (investigations, construction, equipment, training etc.) that are necessary before the actual generation of output can begin. While there may be overlap between project management and what we call ongoing management, it is useful to distinguish between the two. Project management is a one-time function. Ongoing management is a continuing activity, basically repetitive. Project management is typically more innovative, uncertain and interdisciplinary. It achieves results that are time sensitive and relatively irreversible. When intermediate outputs are not carefully controlled, substantial damage and cost may be incurred. These qualities make effective project management dependent on:

- good teamwork among participants
- high interaction among disciplines
- rapidly paced action
- prompt adjustment for new information and error
- an organizational environment which facilitates sharing of information

The Context of Project Management

There is general recognition that a low level of project management is one of the most serious bottlenecks to economic and social development. While the problem is generally seen as a shortage of trained

people, it is far more complex. It involves political, cultural, social and institutional, as well as economic dimensions. The milieu within which project management operates contains many organizational, political, social and cultural forces which may be helpful or dysfunctional from the point of view of development. These forces have to be dealt with in ways which facilitate the desired development outcomes while respecting the legitimate interests of the groups involved.

The traditional project management training effort isolates itself from this milieu. It creates an artificial environment in which individuals are temporarily taken out of their organization to be taught concepts and techniques of project management. Upon returning from training, each individual is surrounded by colleagues and superiors whose experience, knowledge and customary ways of working are different from what the trainee has learned. It is the rare individual who can apply what was learned in training within his organization, even where the training was appropriate and effective. ^{1/}

Projects generally involve activities that are new for the country and/or are carried out under changing conditions. The requirements for effective project management training go beyond those of academic education where the transfer of knowledge and skills is seen as a sufficient goal. The real test of effective project management training is whether those being trained behave in such a way as to be effective in planning

1/ Some difficulties with past training has been an undue concentration on economic and engineering variables with relative neglect of organizational and behavioral considerations; preoccupation with appraisal and relative neglect of project design and implementation process; neglect of the role of values; neglect of creative opportunities in the training situation and little attempt to stimulate creative thinking; and lack of attention to the management requirements of the operating organization.

and carrying out actual projects. The critical behavior required is that which results in the full collaboration of those associated with the effort. Effective project management requires profound changes in relations among colleagues, superiors and subordinates, between organizations and their clients and among collaborating organizations. Where a project involves a large number of people with many different roles and jurisdictions, problems of coordination and behavior change become particularly difficult. For "people projects" the problems connected with physical structures and technology are often dwarfed by problems arising from behavior and organizational patterns that run counter to the attainment of project objectives. This highlights the need to take much fuller account of cultural perceptions, social organization and human needs in the management of all development projects.

Projects involving a large number of people and complex organizations, such as rural development projects, may involve informal education, new agricultural technology, extension, credit, health and feeder roads--all of which impact on each other. The farmer may distrust government on the basis of previous experience. Government officials may stick to their historic role of ordering peasants about when a more participative approach is required. The farmer may regard government-extended credit as a gift. Competitive and independent action by the different organizations involved may prevent the collaboration that is required for effective action. Finally, at the farm level, new behavior may be required. For example, if the project calls for the farmer to use insecticides on a particular crop it may be necessary for him to learn how to recognize signs of particular insect

and take appropriate action. A crucial objective of training for many projects must be to change behavior (community; personal and organizational) toward collaboration and participation.

A Strategy of Increasing Indigenous Project Management Capability

In the proposed strategy for project management training the learning process is closely related to the forces which bear on the real world of organizations and people. It is concerned with a multi-dimensional understanding of that real world so that analysis and action is not too strongly dominated--as it has been in the past--by economic or technological concerns.

The Indigenous Training and Consulting Team

Perhaps the best way to build a substantial indigenous capability in project management and simultaneously generate a flow of successful projects is to create an in-country training and consulting team. Such a team should include a minimum of three and preferably four indigenous full-time people: e.g. an engineer; a financial manager/economist who can handle financial and cost benefit analysis; a person broadly skilled in management, organization development and training; and an agricultural economist of wide scope. Members of the team should have some knowledge of fields outside their immediate specialty and should be interested in increasing their knowledge and skills in other areas--notably in the social sciences. They should be able to relate well to others in a collaborative rather than a professorial or bureaucratic mode. They

should bring to their work some experience in either planning or implementation of projects, preferably both.

The availability of suitable team members will vary among countries; but if national leaders recognize the potential impact of a training team they will place high priority on recruiting such persons. To the extent that inexperienced or untrained persons are recruited, greater stress has to be placed on training of the team itself.

The indigenous training and consulting team will generally require some help from outside consultants until desired patterns of operation have been well established. Even where the indigenous team members have an initial mastery of the content and some understanding of the process of project management, an outside consultant or two can play an extremely important role in facilitating intra and inter-organizational communication and in helping to establish a collaborative climate in the training process. Consultants can function as part of an augmented team with the understanding that the indigenous members of the team are to assume all responsibilities for consulting at the earliest possible date. The stance of learner is healthy for all concerned, perhaps most of all for the expatriate "experts." It is vital that the outsiders exemplify the ideas of continuous learning, team building, and information sharing. The recruitment of the expatriates, their orientation and the plan of action must be carried out with these objectives in view. Henceforth in this paper the combined host country/expatriate team will be referred to as "the team."

It is generally useful for the team to spend some time in "team building" activities which focus on how a group can function more effectively, goals of the group, the functions which the various members will perform, a mutually agreed on program for future action, and how they can function more effectively in their environment. Such team building activities are best carried out in an atmosphere where people feel free to practice new patterns of relationships in a non-threatening atmosphere. A specialist in organizational development can help a group organize itself more effectively for its tasks. In addition, the team can and should achieve a capability to help others function in a similar way.

The Operating Organization As Client

The team is seen as a service arm of the organization that has overall responsibility for projects. A model currently developed for one country places the team in a centrally located Projects Division and all the operating organizations and Ministries of the government are regarded as clients. Before the training team can start any training, it will require guidance on what to teach (format, criteria, and general terms of reference). This guidance can be sought from and provided by the Central agencies involved (Finance, Budget, Planning) in cooperation with the operating organizations. The team should interact with policy-makers, and not be merely passive receivers of information. Because conditions, knowledge and perceptions can be expected to change, whatever guidance is provided is regarded as provisional, pending later review.

The team approaches operating organizations with an offer to help them plan and carry out projects. If the organization is interested, a session is arranged with senior personnel, at which time questions such as the following are raised:

What goals of the organization are or can be served by development projects? How do organizational goals relate to the national goals?

What forces and conditions support these goals?

What forces and conditions serve as constraints to reaching these goals?

What terms of reference should be given to the groups working on projects?

What will the program consist of, including measures to be taken to strengthen development projects?

As part of an agreed-on program, it might be desirable to have a short orientation on the project management training program for all professional employees of the organization and to get continuing feedback from them.

The Project Working Group

Once the top management of the responsible operating organization decides which project prospects it wants to pursue, it then appoints a project working group with knowledge and skills appropriate for the project. Depending on the time urgency of the project and the availability of the project's working group, the training of this group may be full time or part time, this option being left to the top management of the operating organization. Instructions for the working group will be provided by top management, including important considerations such as objectives,

budget constraints, coverage, and general constraints. These instructions should be regarded as provisional, and subject to re-negotiation by the working group as conditions change.

Where a project is inter-ministerial in nature, the project working group should be drawn from the relevant ministries and report to a joint Committee of Ministers or to the office of the President or Prime Minister. Where projects are closely related, it is desirable that the working groups for the related projects undergo joint training with a stress on coordination of plans in both the training and application components. For social impact projects, local representation on the working group is particularly vital.

Initial Training of Project Working Groups

The initial period of training is designed to give a project group skills to operate effectively as a group along with the basic tools and understanding to prepare their project. The same kind of team training that the training and consulting team underwent should now be received by the working groups with a strong focus on their particular project and the skills and understanding necessary to plan the project. Great stress is placed on establishing and maintaining close linkages with beneficiaries and participants in the project as well as an alertness to the forces operating in the environment of the project.

There are a variety of exercises that specialists in team building and organizational development can use with great effectiveness provided they are planned and carried out as an integral preparation of the task

facing the working group--to plan their project. While structured exercises and content are important in this training, at least as powerful is the actual style and manner in which the trainers relate to each other and the working groups. The climate established is crucial. The way in which different disciplines are integrated, the degree of collaboration among trainers, the openness to change that each trainer exhibits, and the genuine interest of trainers in getting the trainees' inputs are all powerful factors in creating a collaborative climate in which working groups behave in a way that draws on the talents, experience and enthusiasm of all its members.

As concepts and techniques are presented and discussed, they are applied by each working group to its own project. For example, after objectives are dealt with in class, each working group will draw up the objectives for its own project. Where it is awkward or too time-consuming to apply techniques to the group's own project in the classroom setting, participants may be given practice exercises or case studies, but this is a much less desirable alternative.

Creative approaches to problem solving (e.g. brainstorming, force field analysis, diagnostic approach, creative design) are introduced and utilized in a natural way to generate project alternatives to be considered by the group. For example, the group could list difficulties experienced in designing and implementing previous projects similar to their own and then consider what action could have been taken to minimize such difficulties. These corrective actions are then pooled among groups to be used as a checklist when they design their own projects.

At the end of the initial training the project groups prepare a short summary of what they propose to do on their own projects and present them orally to the decisionmakers of the sponsoring organization, with a request for guidance. Included in this summary would be relevant issues to be considered by the decisionmakers. Of particular importance are value-laden or political issues that could have an impact on the project design. These must, of course, be raised tactfully.

This first period is a very intensive period of learning. It provides the group with the basic tools and understanding needed to prepare its project and establishes firmly the collaborative mode essential to cooperative planning and problem solving.

Drawing Up A Preliminary Project Plan

In the next training phase each working group operates on its own to prepare a preliminary plan for the project on the basis of the terms of reference and other guidance it has received from its top management and/or sponsors. It can call on the training/consulting team as needed. As issues or opportunities arise, the project working group or a representative consults with the decisionmakers. A preliminary project plan is a detailed plan, based on readily available data. Each working group would be responsible for evaluating the data it is using and proposing what further steps have to be taken for a final project plan.

An important part of a preliminary plan is a statement of sensitivity of project payoff or cost to policy and procedural parameters (e.g. sensitivity to foreign exchange rates, price policy,

marketing, land tenure, customs procedures, cultural and community relations patterns, etc.). It would be desirable that a separate memorandum be addressed to policymakers showing the effects of a range of policies on important project indicators. A routine reporting of such effects from each project could furnish valuable information to policymakers.

Such a memorandum on sensitivity would have two purposes. First, it would point up issues which require decisions or action by the decisionmakers along with estimated consequences. Normally it would call for a response in the form of guidance in drawing up the final project plan. Second, such a memorandum would provide information that would have a bearing on general policy.

In both the training component and the applied work the project working group must be continually oriented toward constituency analysis and toward a design of the project that makes it most acceptable and beneficial to those affected.

Critique of Preliminary Project Plan

The preliminary project plans are then received and evaluated by the operating agency, by the training and consulting team, and if possible, by a potential funding source or lender. These critiques are oriented to project authorization. After receiving whatever technical assistance was recommended in the analysis, the working group proceeds to draw up a final project plan and submits it for approval.

Implementation Working Group

When there are indications that the project will be approved, an implementation working group is constituted, which may or may not be the identical pre-approval group. It is highly desirable that at least one member of the planning group be included in the implementation group in order to assure continuity. It is also desirable to include representatives of the intended beneficiaries. The Implementation group would receive training in planning with greater concentration on implementation concepts and techniques. The implementation group would then consult the team as needed.^{2/}

Before authorization, it is necessary to plan for all aspects of implementation that require resources or have a bearing on the soundness of the project. The hallmark of good planning is to plan for implementation of both the investment (and/or social change) and operating phases. Once the project is authorized the planning for implementation takes on a more detailed character.

Work breakdowns, job descriptions, staffing, team building, detailed budgeting and scheduling, preparation and award of bids, provision for other procurement and storage, setting up an accounting and management information system all have to take place. Creativity and teamwork as well as control are key ingredients. Projects involving social impact require continuing field work, social and institutional analysis, and group process planning.

^{2/} In spite of its long-recognized need, training for project implementation is relatively new and experimental. The authors would especially appreciate receiving ideas and materials on implementation training.

Because development projects have an element of novelty or uniqueness, no previous management experience is exactly pertinent. Since the project is not a precise replication of activities that occurred in the past, managers are not able to anticipate all of the factors that eventually will influence the success of the project. As implementation of the project begins, unanticipated problems occur. For example, scarcity of human or physical resources or the inapplicability of technology cause delays or changes in the configuration of the final project output system. After control processes direct managerial attention to these unanticipated problems, analysis may reveal that initial plans must be modified. Specifications must be changed, schedules adjusted, and new sources of project inputs sought. The ramifications of these managerial corrective actions must be examined in terms of their effect upon project plans, particularly budgets (human and financial) and schedules. Replanning and rescheduling is necessary to assure proper coordination as project implementation activities change, and project supporters and participants must be consulted on the problems and remedial actions to be taken.

Before and during implementation, the group has to strive for a number of capabilities. First, it must understand the proposed project. Second, it must be able to evaluate the project as authorized, especially from the point of view of implementation. Third, it must be able to modify the proposed project in the light of its understanding and its findings. Fourth, it must get the work done in a timely fashion that

produces clear benefits to sponsors and constituents. The training of the implementation working group is designed to give them these four capabilities.

In many environments, the idea of an implementation working group modifying the project would seem bizarre. This is because planning is often conceived of as finished once the project is authorized and the task of the implementing group is seen as strictly "implementation." This concept is reinforced by the generally lower status of implementers vis-a-vis the planners. It is the task of the team to convey to all concerned a much broader and more dynamic role for the implementation working group, particularly to top management and the working group itself.

By definition, development projects are new for the environment. Conditions seldom unfold exactly as planned. Unforeseen conditions call for innovative solutions. Unless an implementing working group maintains a creative and problem solving atmosphere it cannot meet the challenges that are commonly faced in the investment or social change phases of a project. These challenges could be late deliveries of equipment, shifts in demand, transportation difficulties, contractor unreliability, changes in project perceptions by beneficiaries, changes in local or national conditions, and a host of other problems.

During the training of the Implementation working group, just as in the training of the planning working group, the concepts and techniques presented would be followed by their application by the group to its own project. As issues of policy arise or potential obstacles became evident, policymakers would be consulted for decisions. For example, after

discussing how one deals with beneficiaries of a project, each working group would analyze these for its project and initiate appropriate action. After a discussion of the various ways in which a project can be organized, a specific analysis can be made by each working group of how its particular project can be organized. The training and consulting team would be available for assistance throughout the implementation process.

Whatever the makeup of the implementation working group, the previous plan for the project would be regarded as provisional, to be modified on the basis of the facts available to the group and any new developments. Such changes would have to receive approval by the responsible authorities but the initiation of changes should be the clearly stated responsibility of the implementation working group.

A particularly valuable function performed by the team during implementation is to participate in periodic reviews of progress, in discussions of corrective action to be taken and ways of taking advantage of previously unforeseen opportunities. The instructor/consultants can help establish a future-oriented climate and overcome a tendency to inaction. They can also provide a discriminating reinforcement of what was learned in the more structured training.

An important function of the team is to promote continuity of effort between projects. Many projects are experimental or pilot projects or the first in a series of similar projects. Other projects make possible or point to opportunities for additional projects. Participation in a project as consultants and concern with future projects puts the team in a good position to regard each project either as an experimental

or pilot project which will provide valuable information for future projects. It is quite reasonable to expect the team to be an important catalyst for future projects, and a reservoir of experience for launching such projects.

Applicability of the Strategy

Various parts of the strategy described have been tested and adapted to different countries and found to be very effective. It will be useful to point up factors that will affect the success of the strategy and the kinds of modifications that may be necessary.

(1) The strategy will work best where top management is thoroughly committed to development goals, but is open on specific means to achieving the goals. This presupposes that top management is willing to share on a de-facto basis their influence on the shaping of projects with their subordinates, even though they reserve the final decisions to themselves. Contacts with the training and consulting team and the project working group can help decisionmakers be more open ended in their thinking. (2) A corollary to such commitment by decisionmakers is a reward system that supports successful project planning and implementation. Where rewards are related to project performance, it will be relatively easy to sustain successful development. (3) To the extent possible, some personnel involved in the initial planning should be carried over to implementation.

The strategy can be used as a starting point for a country that wants to upgrade its ability to plan and carry out projects and it can

be modified to fit country circumstances. A large country may require a number of indigenous training and consulting teams (e.g. one for each state or district). In some situations it may be advantageous for indigenous training and consulting teams to operate exclusively within a particular Ministry, such as Agriculture. In the one ongoing country effort the team is being closely integrated with a newly appointed agricultural task force. The team's training of project working groups will be followed up by task force consultation to agricultural working groups.

Where professionals are in short supply there would have to be greater stress on the training component and sharing of scarce professionals by several working groups. Where indigenous specialists and university graduates are scarce there may have to be greater stress on training of the team as well as members of the working group. In such cases projects would also be smaller and simpler.

For local projects, the project working groups being trained can be composed of local functionaries who are in close contact with local beneficiaries and participants of the project. A part-time arrangement can facilitate local participation in the design as well as implementation.

Needless to say, the proof will be in how projects work out. The first projects covered should have relatively short gestation periods so that future training and consulting efforts can be improved promptly on the basis of experience with projects. While all aspects of project management are important and need to be dealt with in detail none is more critical to its success than establishing a creative and collaborative climate where members of the working group freely offer and utilize each

others diverse talents, thoughts and experience, all directed toward accomplishing project goals.

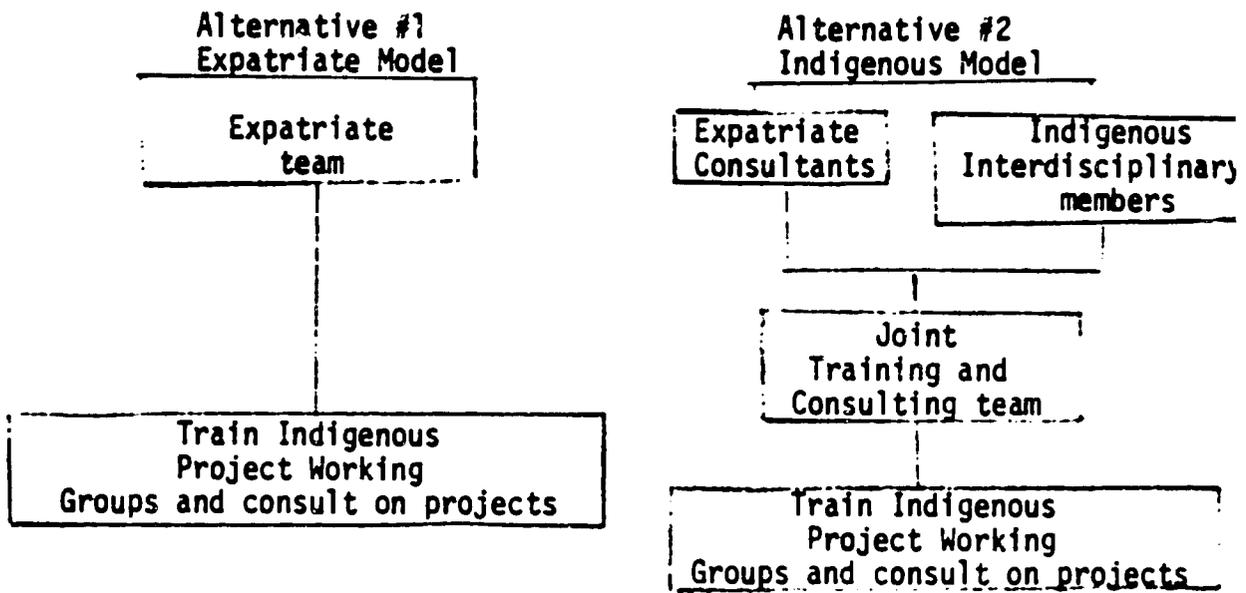
Experience With the Strategy

In the early implementation stages of the strategy a number of lessons have emerged:

1. It is important to choose the members of the indigenous training team very carefully. Commitment and openness to change are both essential qualities. Unless a team member is a "learner" and also has high commitment he cannot fulfill the complex role of trainer/consultant. There may have to be some trial on the job before the right team is in place.

2. The approach works best where there is a sense of urgency about getting things done and the approach is seen as a vehicle for accomplishing ambitious goals. This implies that in the beginning one should work only with those organizations which are highly committed to early accomplishments.

3. A country may find it difficult to immediately provide four experienced nationals to serve on a training and consulting team. In civil service terms it means setting up four "permanent positions." The detailing of persons to serve for a short stint makes it difficult to achieve commitment and erodes the learning orientation. Under such circumstances an alternative may be to use an expatriate training and consulting team to carry out the action-training strategy. This alternative is contrasted with the indigenous based alternative discussed previously.



Under alternative #2 the training and consulting team would require an indigenous coordinator who would have formal responsibility for the team effort.

Alternative #2 is clearly preferable from the host country point of view, providing that the host country can make available several highly skilled and motivated professionals on a full time basis.

A third alternative is to start with alternative #1 (an exclusively expatriate training and consulting team) and plan to move to alternative #2 on a phased basis. An advantage of alternative #3 is that it permits the identification of indigenous trainers in the first or second cycle of training who would be outstanding members of the training and consulting team. But to be successful, alternative #3 requires a high priority on recruitment of such persons when they are identified.

The developing countries have legitimate aspirations for increasing autonomy. The proposed strategy is fully consistent with such aspirations. A country will have taken a significant step in the direction of national autonomy when it has the capability to design and carry out projects that it wants both for and by itself.