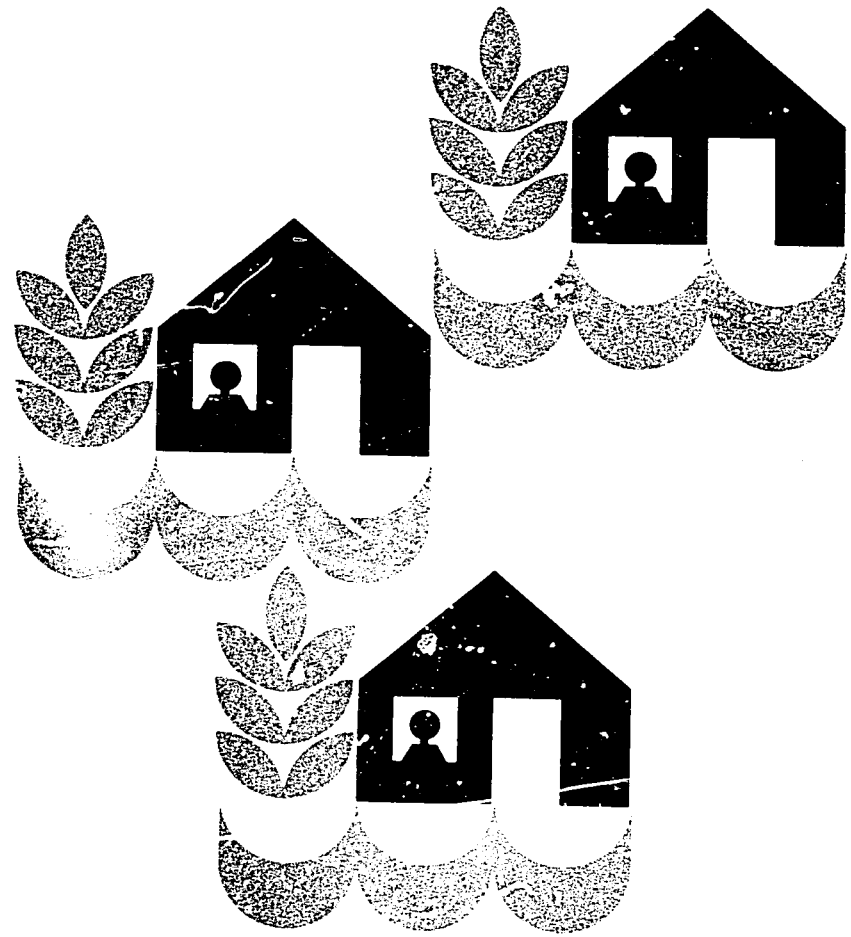
FARMER INVOLVEMENT

Planning Guide No. 2, Water Management Synthesis Project



Farmer Involvement

Planning Guide No. 2

by

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Water Management Synthesis Project

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Preface

Successful agricultural development projects usually involve farmers as an essential step in the process. This planning guide is intended for all who are concerned with irrigation development. Individuals in irrigation and agricultural ministries, donor organization planners, and personnel involved in project implementation are the audience for this guide. This guide suggests the needs and benefits of involving farmers, gives principles and guidelines for accomplishing involvement, and outlines a strategy for farmer involvement that experience has shown to be successful.

Many years of working in developing countries such as Pakistan, Egypt, India, and Ethiopia suggest the importance and value of involving farmers in irrigation projects. Techniques for successful involvement of farmers can be applied to irrigation projects around the world.

Involving farmers in irrigation programs requires developing a good relationship with farmers as these project team members are doing in Mansouria, Egypt.

What is Farmer Involvement?

INVOLVEMENT

Involvement in this guide means having farmers participate in decision-making when planning, implementing and evaluating projects and programs designed to improve the productivity and effectiveness of irrigation projects.

Farmers can be involved in irrigation projects in different ways and at different stages (steps). Here are some ways farmers have been involved in the improvement of irrigation systems:

- In identifying major problems
- In developing and testing solutions
- In planning activities for implemention of improvements
- Committing time, labor, cash and personal resources while implementing a project
- By leading the rehabilitation of farm systems; i.e., settling disputes, organizing community labor, supervision of participation in construction
- By being responsible for the operation and maintenance of improved systems.

NON-INVOLVEMENT

In our approach, the following situations are not considered to be farmer involvement. In fact, these will ultimately result in project failure:

- Manipulating farmers for political purposes
- Involving only the elite farmers
- Using farmers to make a short-term project look good
- Using farmers by issuing orders or telling them what to do
- Using tricks to gain farmers' cooperation
- Using farmers to please outside agencies
- Arranging to give the impression that farmers are involved when in reality they are not involved directly
- Using farmers to benefit projects that do not benefit the farmer.

Pakistani farmers are implementing the solution of improved watercourses. They contributed long hours of difficult labor during the off season to improve their watercourses.

Why Involve Farmers?

Why should farmers be involved in development projects aimed at improving irrigation?

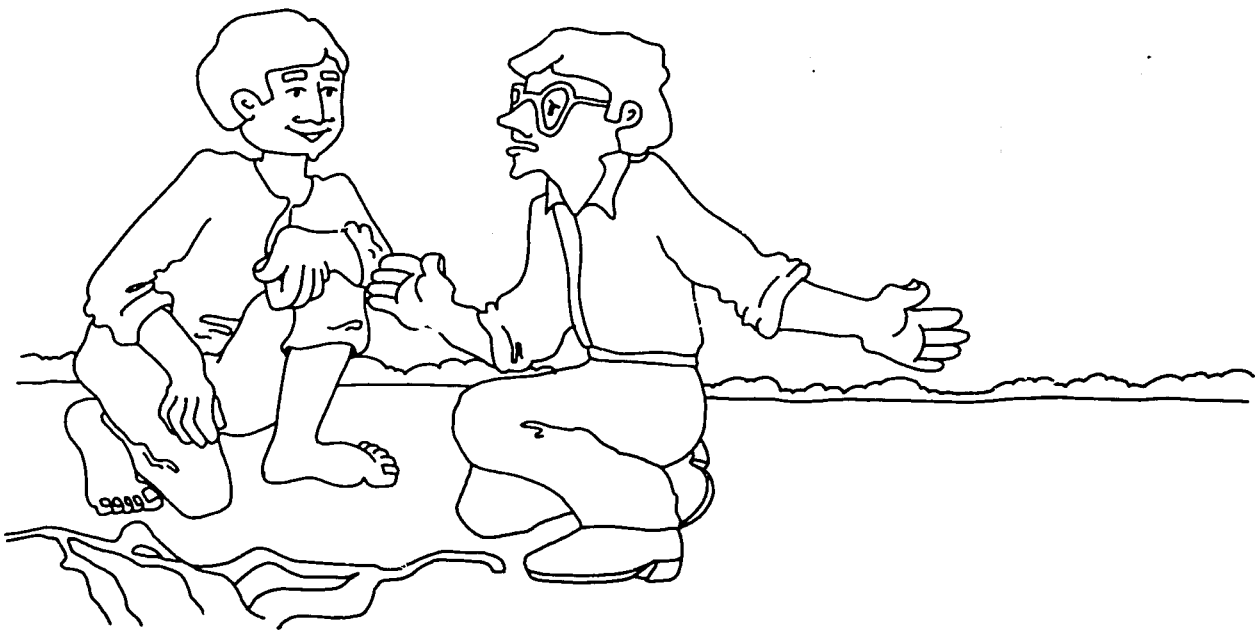
Farmers make management decisions that significantly impact agricultural production. They make decisions about

- production inputs
- operation and maintenance of farm irrigation systems
- technologies to improve the total farming system.

Any project that is designed to improve agricultural production must improve the ability of the farmers to make these decisions. Without their participation their abilities cannot be improved.

Also, without their involvement, the farmers are less likely to understand the benefits that will come to them.

Pride, enthusiasm, and increased income from accomplishing improved crop production are important benefits of farmer involvement. Successful farmers become the best publicity for the project in other areas.



Advisers work with farmers to determine the major problems of water management and agronomic practices the farmer faces.

Farmers are helping improve their water-course as part of a water management project in El Minya, Egypt.

Benefits to the Farmer

The benefits of involvement by the farmer include

- Increasing respect of the farmer and his abilities
- Increasing agricultural knowledge of the farmers which helps sustain progress
- Focusing on development priorities where most gains can be made
- Improving the management of the irrigation system
- Improving the maintenance of the irrigation system.

Perhaps even more important to the farmer are the benefits that occur if a particular project's technologies are implemented correctly. Such benefits include

- Increasing family income through higher crop yields and larger areas under cultivation
- Reducing water losses, salinity and waterlogging
- Conserving water and extending areas of irrigation
- Reducing health hazards from water-borne diseases.

Benefits to the Local Community

Community benefits of involving farmers include improvements in the economic and social structure. Among the direct and indirect benefits are

- Strengthening farmer participation in organizations
- Providing organizational ability to deal with community problems
- Increasing farmers self-help capacity
- Helping identify the key problems in area irrigation efforts
- Improving the communication among farmers, community leaders, irrigation officials, researchers, and other government officials
- Developing more productive and stable communities
- Reducing conflicts over water
- Providing opportunity for improved roads, bridges, etc. for villages (Roads and paths are usually improved along with improved conveyance systems)
- Identifying community leadership.

Farmers and advisers examine the yield from cotton fields.

Benefits to the Nation

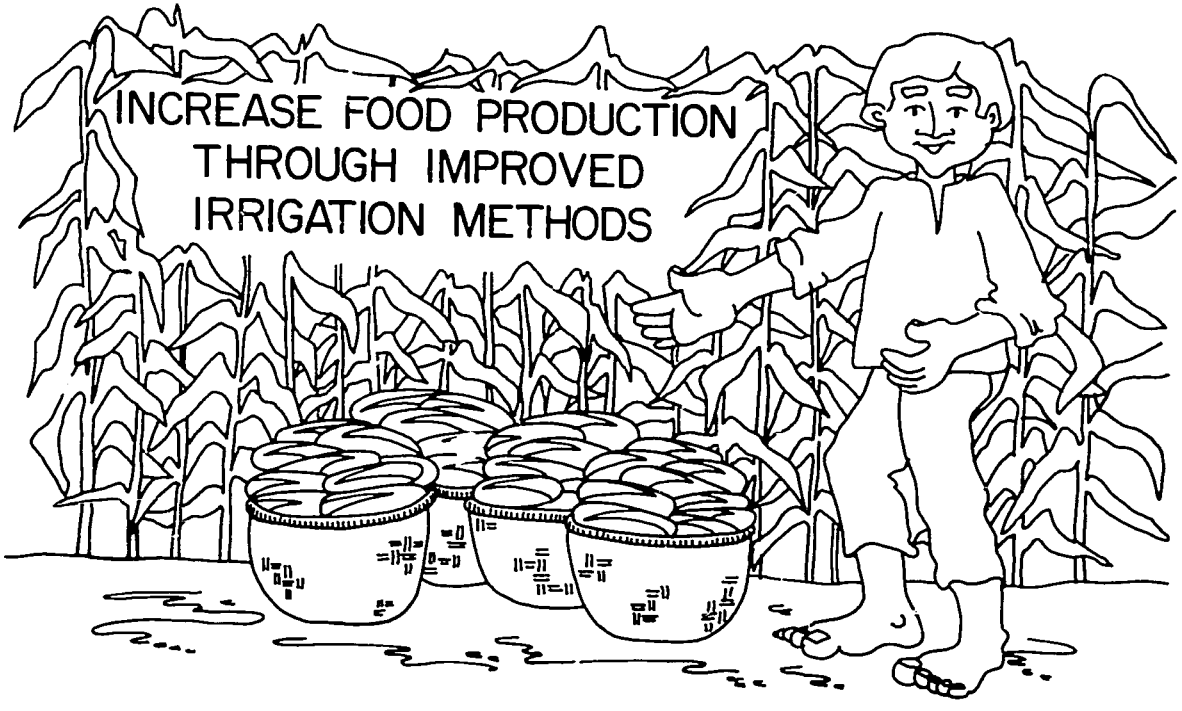
The participatory process of government working together with farmers helps each to achieve mutual goals.

The process helps change traditional attitudes toward farmers. An atmosphere of trust and acceptance is built leading to more farmer-government involvement whereby increased adoption of programs will occur.

Many countries have developed participatory management where workers are involved in decision-making to increase both quantity and quality of production. Farmers who are already managing a productive system can be involved in developing solutions to production problems. These solutions are much more likely to be adopted by farmers. They will then understand the needs and the benefits that can be derived from such implementation.

From the larger perspective, here are additional benefits that may be derived from involving farmers:

- Provides cost effective return on dollars invested
- Provides cost effective technology to farmers
- Adapts a proposed technology to local conditions
- Increases the chances of a self-sustaining project
- Improves income distribution among farmers
- Improves existing development programs by building credibility between farmers and government
- Increases farmers' willingness to commit money and labor to a development project
- Increases farmers' knowledge and skills for maintenance of improvements and management of the system
- Reduces costs to government because farmers are committing resources and labor.



Some benefits of involving the farmers are hard to measure, but not hard to understand. A healthy, happy young man is a genuine reward for improved farming practices.

When Should Farmers be Involved?

Farmers should be participants in irrigation projects when knowledge about local needs and perceptions of local problems is necessary. Involvement of farmers is also essential when acceptance of certain technologies will be required. Another criteria for involving farmers is if what is going to be done will affect them. For example, if you are implementing programs that affect their water supply, the farmers must be involved or you will create an atmosphere of antagonism from misunderstandings that will develop. Also, if the farmers will eventually manage the project, they should be involved from the beginning.

The best information transfer is farmer to farmer. Therefore, some farmers must participate in order to be able to communicate the project's activities or processes to other farmers. It is essential to build respect, trust and equity among farmers so they will become involved in the process and see its benefits for themselves.

In summary, criteria for involving farmers in irrigation projects include

- when knowledge is needed
- when cooperation and acceptance will be required
- when what you do affects them directly
- when eventually they take over the project
- when you need their participation or help to transfer information to other farmers
- when you want to build respect and trust
- when you want to make your organizations more responsive to local needs

These Pakistani farmers have taken over the responsibility of building and maintaining this watercourse.

Additionally, some situations to involve farmers include the following:

Involve farmers on small farms--those with less than two hectares.

- Small farms represent 50-90 percent of the farmers in many countries; therefore, to have an impact on production, those farmers must be involved in the project.

- These are the farmers that have the most limited resources.

- The small farm is often quite productive because the farmer's survival depends upon it.

To involve farmers with small land holdings, programs can be planned purposely for watercourses where the majority are small farmers. Technical assistance can be provided especially for these farmers, and subsidies can be based on the size of land holdings.

In Pakistan, improvement areas were on watercourses where predominately small farms existed, subsidies were provided for land leveling, and extension services were focused on these farmers. In turn, the farmers worked cooperatively to make necessary improvements that resulted in a 400 percent increase in crop production on some of the farms.

Involve farmers in irrigation improvements--work on their farms and the watercourses that run through and supply water to their farms. For example, focus on helping farmers collectively improve the efficiency of the main watercourse which provides water to farms. Involve farmers as individuals in improving the field channels, land leveling and use of improved irrigation practices on their own farms. This was done in Pakistan where the focus was on three components:

-water conveyance improvement

-precision land leveling

-a water use adviser to help farmers

Other farmers in the area who observed the improvements requested the assistance and involvement for their own watercourses.

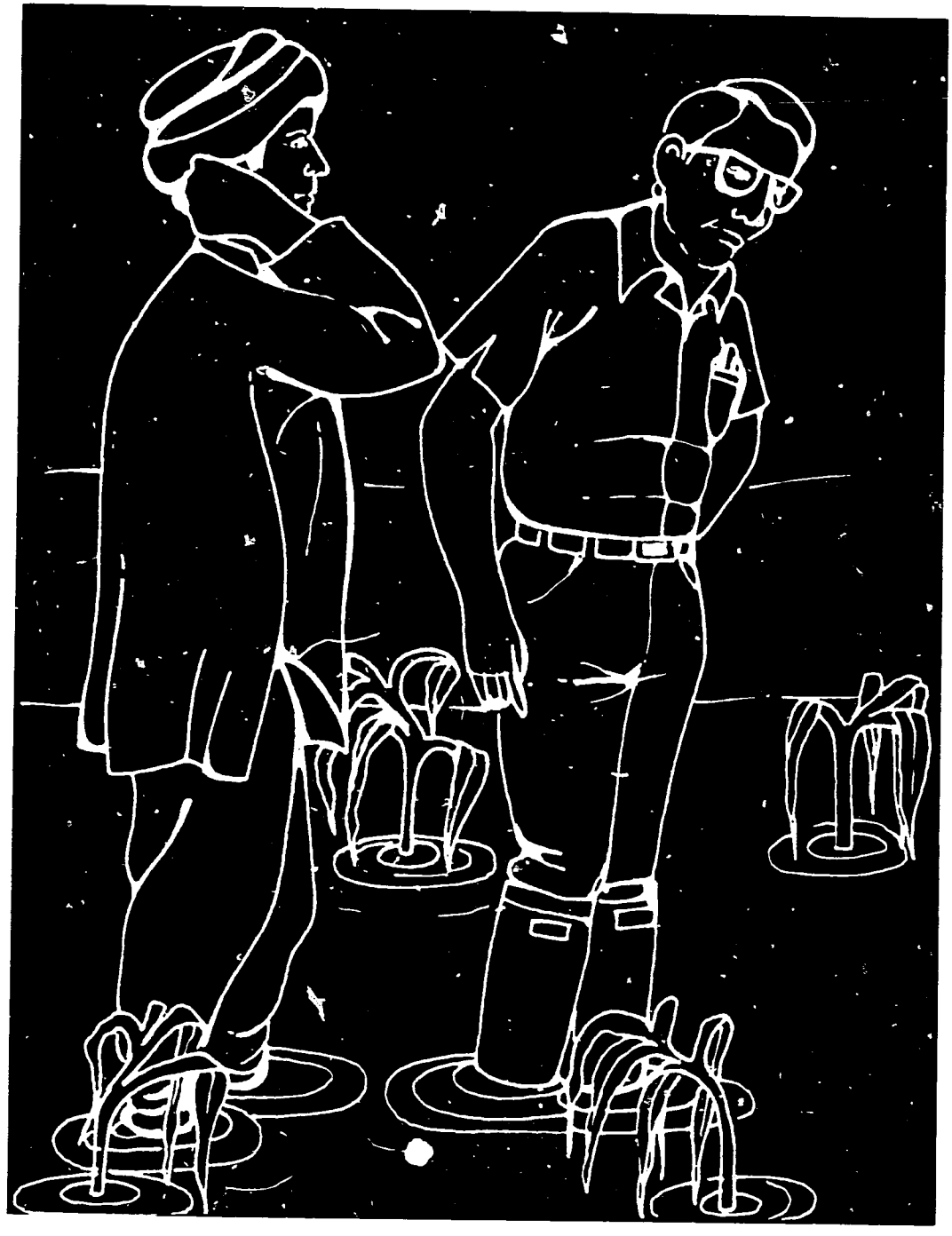
Involve farmers with low productivity--on many systems farmers have low production because of inability to control water. So systems where yields are low, cropping intensities are low, and new land can be irrigated by water savings should receive priority attention. On one system in Egypt, farmers working together were able to increase yields substantially through improved water control. Cropping intensities rose as well as the use of more land through improved farm water management.

An adviser helps farmers control pests in one of their fields.

What Are Our Assumptions?

Our assumptions about involving farmers in irrigation project improvement are as follows:

- Farmers will accept improvements when benefits are visible, risks are low, and conflicts are controlled.
- The basic building block for improvement of irrigation projects is the farmer.
- Farmer attitudes, skills and behaviors can be changed.
- Farmers and project management strive to be rational in decision making.
- Farmers may be illiterate and lacking in many skills, but they will respond positively to improved production possibilities.
- Farmer knowledge of their farming system operations is valuable for project management and useful for improvement programs.
- Outsiders need to work with farmers to understand how the system operates.
- When farmers resist or oppose certain improvements, there are usually good reasons.



Farmers are involved here in rehabilitating their watercourse to certain specifications to reduce water loss rates.

Principles For Involving Farmers

Successful irrigation projects involve farmers using the following principles:

1) Project activities are initiated where farmers are interested, have effective leadership, and are willing to participate.

2) Use local leaders, existing organizations and all groups to initiate and strengthen the project.

3) Have or develop rapidly a program with technologies that have visible benefits to all farmers and that resolve priority constraints.

4) Government policy provides incentives for a decentralized administrative approach that rewards farmers for involvement.

5) Roles and responsibilities of all parties are clearly defined including farmers, extension agents, researchers, irrigation authorities, project managers and other development specialists involved in the project.

6) Farmers make decisions and are recognized and rewarded for good work.

7) Good two-way communication between farmers and project personnel is developed.

General strategies to implement the principles for involving farmers follow. Specific methods, however, will depend on individual cases in various regions of a country or countries.

A farmer is helping the field team of advisers understand some of his constraints to improved agricultural production.

Principle 1

Project activities are initiated where farmers are interested, have effective leadership, and are willing to participate.

General Strategies:

- Select areas where farmers are organized or willing to organize for project activities.

- Select areas where farmers agree to commit specific resources--i.e., time, labor, animals, equipment, skills and/or money.

- Select areas where farmers can resolve major conflicts among themselves, or you should be willing to end the project.

- Select areas and farmer groups that do not have long-standing conflicts which may take years to resolve.

An Example:

In both Egypt and Pakistan only those farm sites were selected where farmers met these criteria:

1) Where the majority of the farms were small

2) Where irrigation efficiencies, yields, and cropping intensity had a potential for improvement

3) Where the farmers agreed to do the following:

   a) provide labor

   b) provide some cash for structures on the watercourse

   c) settle disputes over land, water, or other significant problem areas

   d) supervise local improvements

   e) provide part of the cost of land leveling

   f) form an organization for the project activities such as an irrigation association

   g) set up a method for maintenance of the system after improvements.

Where this was done on several systems in Pakistan and Egypt, the results have been outstanding. Likewise, where this wasn't done, projects and regular maintenance faltered.

These farmers are organizing into an Irrigation Association. At the meeting, three leaders from farms on the watercourse were chosen.

Principle 2

Use local leaders, existing organizations, and all groups to initiate and strengthen the project.

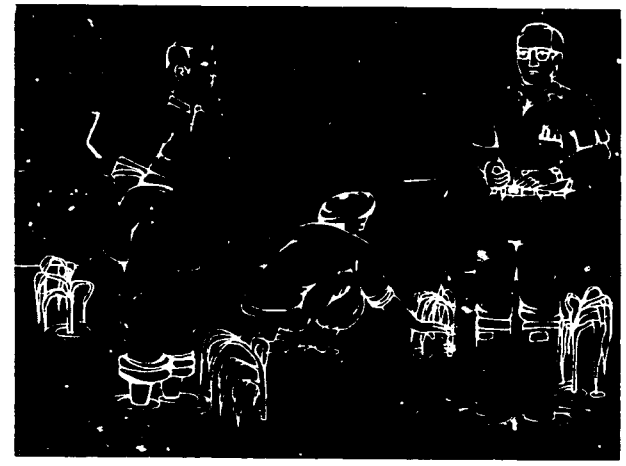
General Strategies:

- Work within the cultural context in selecting leaders and help them improve their skills in organizing farmers, making decisions, and resolving conflicts.
- Identify and assess local informal organizations, and where appropriate, build upon these organizations.
- Do not bypass leaders whose support is essential.
- Allow leaders to organize committees their own way to manage or supervise labor, materials and equipment; to settle disputes; and to maintain the improved system.
- Use caution in attempting to introduce new organizational forms. Where there is doubt about a particular organizational mode, try first to use the local form of organization.
- Use local organizations to reach individual farmers.
- Where possible, keep organizations small so members deal face-to-face with each other and farmers.
- Reward local leadership.

Examples:

In Pakistan, a study of 40 command areas identified that farmers often have established informal organizations for the maintenance of the farm system. Researchers also found in Egypt that there were no formal water user associations, but did find some loosely organized maintenance groups that were organized around a waterlift on watercourses.

In Egypt, farmers were organized into an irrigation association to make improvements on their watercourse. Land leveling, raising the watercourse to provide gravity flow irrigation, and improved agronomic practices such as use of certain fertilizers, insecticides and water scheduling were facilitated by the organization of farmers.



Farmers meeting with an extension adviser in Pakistan agreed to establish an irrigation association on their watercourse.

Principle 3

Have or develop rapidly a program with technologies that have visible benefits to all farmers and that resolve priority constraints.

General Strategies:

- Use diagnostic analysis to identify key constraints and work with farmers to provide visible solutions to the constraints.
- Use farmer knowledge to identify key constraints.
- Solve problems that farmers believe are key problems.
- Provide visible benefits such as a 50 percent increase in yield, doubling the water supply, or halving the irrigation time for a field.
- Provide direct solutions to problems based on knowledge or previous experience.

An Example:

In Pakistan, water shortage was a key problem for farmers. A program of watercourse improvement which increased the water supply at farms an average of 50 percent, land leveling which reduced the average irrigation time of fields by 50 percent, and crop production technologies that increased yields by several magnitudes were provided to farmers in an integrated program by trained personnel.

With the improved watercourse, farmers can see a marked improvement in the amount of water they can supply to their fields.

Principle 4

Government policy provides incentives for a decentralized administrative approach that rewards farmers for involvement.

General Strategies:

- Involve farmers in planning the project at the local level.
- Involve farmers in specific activities and adequately reward or recognize their activities.
- Encourage farmer organizations or water user associations.
- Provide an effective means for farmers to voice their views to authorities so the farmers' suggestions can be heard and acted upon.
- Provide incentives of realistic water and land revenue rates.
- Provide adequate production possibilities such as improved soil, fertilizer, market incentives, extension, etc.
- Provide well-trained people to work with farmers and develop the credibility and trust of farmers.
- Build flexibility into government procedure to adapt to local needs.

Examples:

Water User Associations in India have received rebates of water charge for maintenance.

Extension agents make decisions with farmers on program components and actions. Decisions are not made at the regional office.

Trainees in the Water Management Synthesis training course in India are surveying a watercourse so they can understand farmer problems of an undependable water supply.

Principle 5

Roles and responsibilities of all parties are clearly defined including farmers, extension agents, researchers, irrigation authorities, project managers and other development specialists involved in the project.

General Strategies:

- Provide definite program information before the project is begun.
- Distinguish clearly the functional roles of farmers and the roles of the members of the field team.
- Agree on the specific responsibilities of farmers and team members.
- Provide specific training of selected farmers in skills related to the tasks they are to perform.
- Build a learning mechanism into procedures used by farmers and officials for improvement.

Examples:

In a province in North India the government has an improvement program including the establishment of a rotation system for irrigation turns and the lining of watercourses. The roles of the Irrigation Department field workers were carefully defined to:

- provide technical asistance and part of the cost of lining
- design and install lining systems
- monitor the system regularly

Farmer roles were to:

- provide the major cost of lining in cash or kind
- organize an irrigation association
- maintain the major watercourse
- settle all major disputes

Demonstration of how the cutthroat flume measures water in a watercourse and how that measurement can indicate water loss over the length of a watercourse.

Principle 6

Farmers make decisions and are recognized and rewarded for good work.

General Strategies:

- Provide special recognition or achievement days.
- Provide special demonstration days.
- Provide special awards for all workers and leaders.
- Provide special labor competitions.

Principle 7

Good two-way communication between farmers and project personnel is developed.

General Strategies:

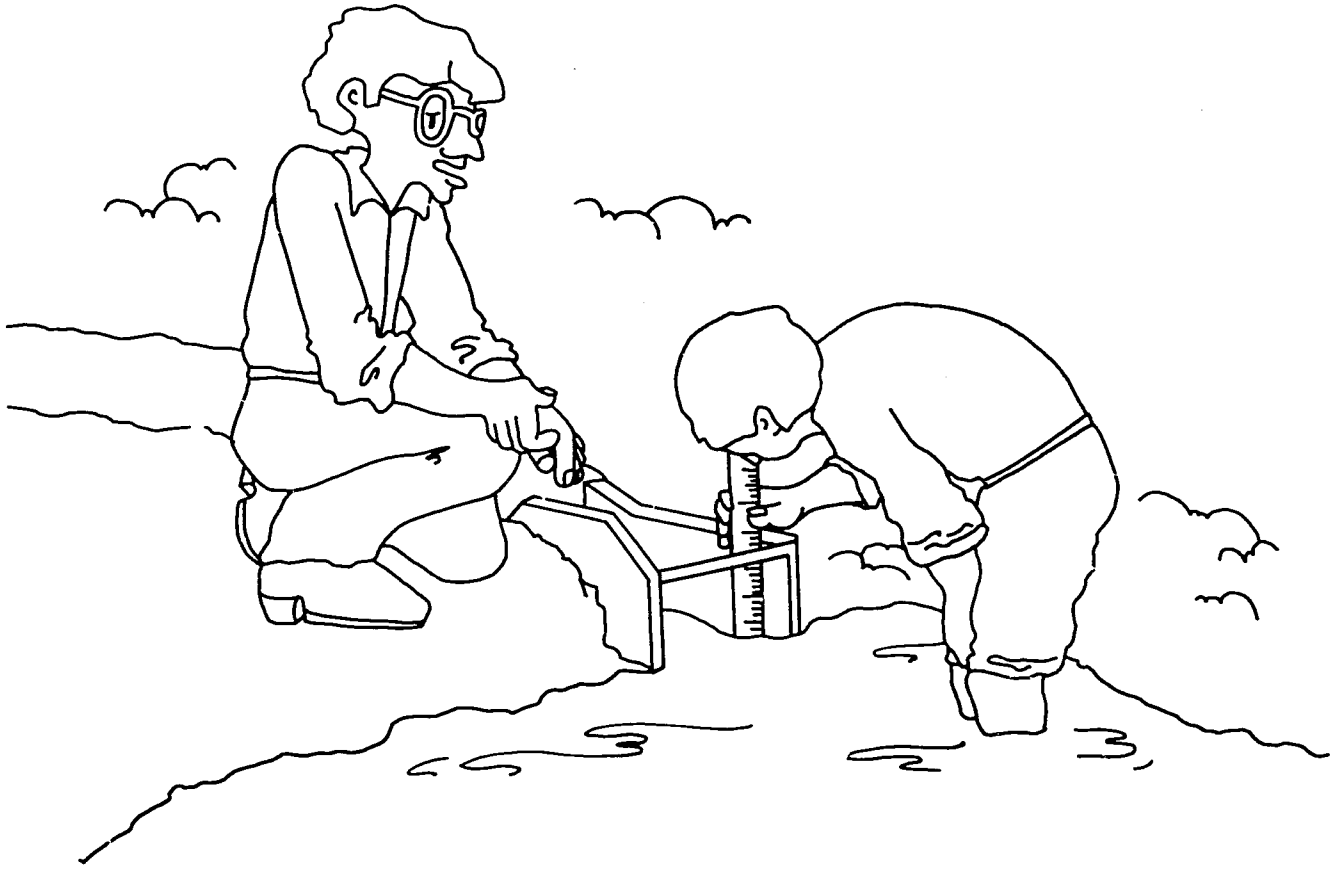
- Design and improve the communication between farmers and project personnel. (Done by training workers to listen and to communicate by having regular informative meetings, using slides, etc., special programs.)
- Help improve information from irrigation authorities related to water deliveries, canal closures, irrigation rates and other matters of importance.

Face-to-face communication provides the best understanding and feedback between farmers and advisers.

The Participatory Development Process

Local farmers must eventually be able to operate and maintain any improvements after the project has ended, if the project is to succeed.Thus, improvement projects must deal with problems important to farmers, provide solutions that provide visible benefits to farmers, and be implemented by an organization that provides effective assistance to farmers. Each of these necessary phases involves working with farmers.

A participatory development process has proven successful in a number of countries. The initial emphasis is a diagnostic analysis of farm irrigation systems, working with farmers to understand the major constraints or problems of farmers. Solutions to problems are developed working with farmers. The solutions are assessed for their effectiveness and acceptability to farmers. An organization is developed to work with farmers to solve problems in an area. Farmers are directly and systematically involved in each phase of the process.



Local farmers are working with engineers and extension personnel to insure the watercourse is improved according to specifications.

PHASE I. Diagnostic analysis is an examination, with farmers, of the operation of a farm irrigation system to identify the major problems limiting agricultural production. Identification of the priority problems is made by an interdisciplinary team working with local farmers. The team is made up of agronomists, economists, engineers, and extension specialists.

This study of the farm irrigation system consists of the following:

* A reconnaissance study to understand the major facets of the system operation and identify the primary system problems. Farmers usually describe these problems.

* Detailed studies of each major problem to understand its causes. Physical measurements define what the problems are, and farmers help explain why the problem exists.

Specific opportunities to involve farmers include

Reconnaissance

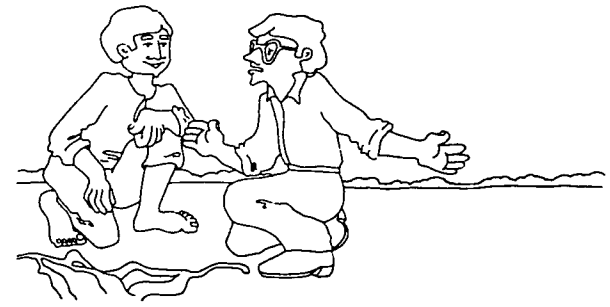
- Explain how they operate the farm system
- Accompany team members on preliminary field surveys
- Help select farmers for further detailed interviews on system operation

Planning In-Depth Studies

- Assist team members select representative samples of field sites. Here you can use the farmers' knowledge of farms with different soil conditions and water control situations.
- Assist team members interpret the meaning of findings. Farmers often point out false interpretations and help clarify questions team members raise.

Field Surveys

- Gain permission of village leaders for the study on village farms and communicate the purpose of the study to all concerned.
- Provide guides for the study.
- Help locate sample farmers and arrange interviews that do not interfere in the daily work cycle.
- Assist in logistics and secure local facilities for housing the field team.
- Interpret farmers' perceptions of their problems and the possible solutions.



These farmers and technicians are participating in a diagnostic analysis of a farm to determine the priority problems inhibiting increased agricultural production.

PHASE II. Solutions to the major problems from Phase I are developed working with farmers. Technologies from knowledge or experience are used directly while working on farms. Farmers are involved in using, evaluating and adapting the technologies.

Developing solutions to problems by working with farmers is also used as a time to assess the resources required by farmers, the organizational needs, and the training requirements of all. Involving farmers in the use of the technology helps to assure appropriateness of the solution. Farmers' involvement in successful projects builds a working relationship and helps other farmers' acceptance. Adaptation and adoption are both accomplished through farmer involvement.

Examples:

Farmers can help develop solutions by

- Testing improvements under farm conditions so realistic benefits can be measured.

- Identifying limitations and adaptations needed for farmer use of the improvement.

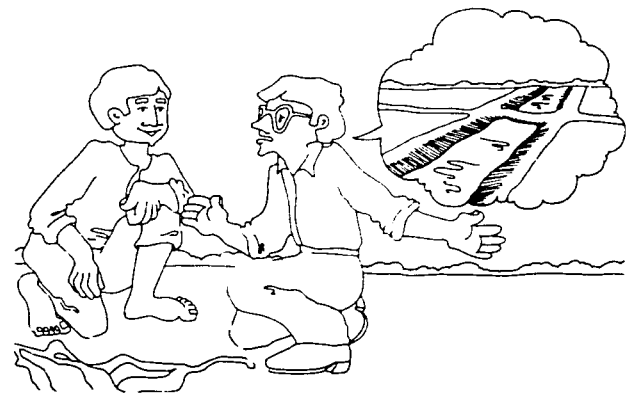
- Explaining to other farmers the use and benefits of the improvement.

Farmers are involved in assessing the solutions by

- Identifying resources, training, and assistance needed for successful use of the improvements.

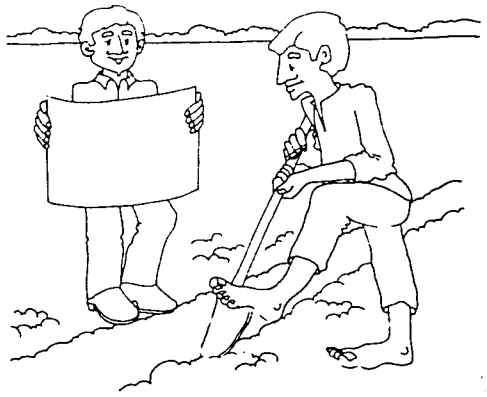
- Formally evaluating the benefits and limitations of the improvements.

- Adapting the improvements for more widespread use by farmers.



Improved outlets from the watercourse to the fields was one of the solutions developed in Pakistan for use by the farmers.

PHASE III. Project implementation develops the organization and systematically provides the improvements to farmers in a larger area. Improvements are implemented with farmers to benefit farmers. Farmers participate in the implementation and are involved in the operation and maintainance of the improvements. Previous phases provide the basis for this successful development program for farmers.



Examples:

Farmers are involved in implementation by

- The farmers' committee planning and supervising programs
- Participating in making selected improvements
- Contributing cash, kind, or labor for visible improvement benefits
- Describing benefits of program to other farmers
- Evaluating and advising on program improvement needs.

Involving farmers in agricultural improvement projects results in better acceptance of the project and thus more success in improving agricultural production.

CONCLUSIONS

Involving farmers is an essential part of irrigation project development. Successful projects demonstrate an immense amount of trust and respect for farmers. Programs are designed to provide equity for all. Involvement is necessary since farmers are ultimately responsible for operation and maintenance of the system.

The principles for involving farmers should be considered carefully before beginning a water management program. Use of the participatory development process for irrigation project improvement is recommended based on experiences in Pakistan, Egypt and other countries. Farmers are involved in identifying problems, developing and assessing solutions, and implementing improvements in a project area. Farmer participation in defining, initiating, and implementing the project provides a significant means for insuring project success. Farmer involvement is the basis for continued and accelerated development in the future.

Farmer Involvement Planning Guide

This planning guide was prepared by staff of the Water Management Synthesis Project of the Consortium for International Development, with Colorado State University and Utah State University serving as lead universities. It is also available in Spanish and French.

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