

TWO EARS OF CORN

**A Guide to People-Centered
Agricultural Improvement**

**By Roland Bunch
World Neighbors**



*It is fullness of life which makes one
happy, not fullness of purse.
-Rabindranath Tagore*

2 THE PROGRAM GOALS

Where a program starts in the evolution toward a more efficient program depends a great deal on the program's goals. If the goals inherent in a program are merely to teach people about agriculture or to convince them to adopt a collection of innovations, the program will needlessly start at an early, relatively inefficient stage of the evolution. In order for programs to achieve the best possible results, we must set our sights on the best possible goals.

AGRICULTURAL PRODUCTIVITY

Increasing agricultural productivity is obviously a major immediate goal of any agricultural program. Most programs, therefore, see their role as that of teaching farmers a set of innovations that will increase the area's productivity. The assumption is that the people will adopt these practices and continue indefinitely to farm at the new, higher level of productivity.

A productive agriculture, however, requires a constantly changing mix of techniques and inputs. Seeds degenerate, insect pests spread and develop resistance, market prices fluctuate, new inputs appear and old ones become expensive, roads and water sources are improved, and laws change. Very few packages of practices will ever succeed in producing a

TWO EARS OF CORN

permanent increase in production. A stagnant agriculture is either a low productivity agriculture or is gradually going to become one. Thus, programs that only teach technological innovations are destined either to become permanent fixtures in the area or to pull out, leaving the people to gradually slide back to their previous levels of production. The former possibility is unacceptable because it creates an undesirable dependency on the program and costs far too much per family benefited. The latter represents a waste of the program's time and efforts.

The goal of an agricultural program should be, on the one hand, to train and motivate the farmers to teach each other the innovations introduced and, on the other, to teach them how to improve on those innovations by themselves. Through a process of small-scale experimentation, farmers can learn to develop and adapt new technologies that will carry their production on to steadily higher levels. And by learning to become high-quality teachers of these new technologies, they can spread them throughout the program area. Five years after the program has closed, production levels should be higher and improved production more widespread than at the program's end.

In short, the goal should not be to *develop* the people's agriculture, but to *teach them a process by which they can develop their own agriculture.*

BROADER HUMAN GOALS

Most small development programs have much broader goals than simply increasing agricultural incomes. They recognize that, as Rabindranath Tagore said, "It is fullness of life which makes one happy, not fullness of purse."¹ These broader goals are variously referred to as improving the quality of life, liberating the human spirit, achieving more fulfilling lives, or developing the total human being. What these terms mean, precisely, is sometimes difficult to define. In fact, *no program should define them without the participation of the villagers.* And the villagers may not worry much about these subtler issues until they have overcome their more immediate problems, such as hunger. Yet if these goals remain

undefined for too long, they may remain unfulfilled as well.¹¹

Some of the possible areas of involvement are listed here:

1. Basic necessities

The first of these broader goals are those of the generally accepted basic human necessities. People in most any culture would agree that a certain minimum of food, clothing, and shelter are essential to human welfare. The medical attention, pure water, and hygiene necessary for good health would also be rated as basic needs. And most cultures in today's world would probably include literacy on their list of necessities.



Although increased incomes through agricultural improvement may be necessary for people to be able to feed, clothe, house, and educate themselves adequately, higher incomes do not by themselves guarantee that people will do these things. Programs that are assuming that increased incomes in their areas will automatically produce higher living standards should check periodically to see if this is, in fact, happening.

TWO EARS OF CORN

2. Socio-political rights

A second very important group of broader human goals are those embodied in efforts referred to as "awareness-raising," "conscientization," or "empowerment."* In large areas of the Third World, most notably Latin America, the cheap labor of the poor provides a major source of income for the wealthy. Furthermore, wealth in these countries traditionally brings with it tremendous social prerogatives and political power. The elite groups that enjoy these privileges are understandably reluctant to give them up. Yet to maintain these privileges, they must not allow the poor people to attain higher wages, social equality, or political power. In short, they must prevent the development of the poor!

To block the poor people's development, the elite employ a wide variety of techniques. These include social and economic discrimination, control of the educational system and sources of information, regressive tax structures, and control over the land base. Other common techniques include those of directing governmental services to the wealthy (through kinship ties, the law, bribes, or corruption) and restricting or completely eliminating political freedoms and democracy in government. When these techniques prove insufficient, they are customarily reinforced with either the threat or the outright use of violence.

Under such conditions, any program genuinely interested in the basic welfare of the poor will have to deal with the problem of unjust political and social conditions."

3. Brotherhood

A good many programs also hope to encourage among the villagers a sense of social justice, of concern for others, and of honesty and integrity. Other programs wish to promote a spirit of love and service to humanity. And still others are working toward improved social relationships by organizing groups for recreation, discussion, or community betterment. Some of

*Awareness-raising will be used in this book to refer to the process of increasing people's awareness of the nature and causes of their problems and the possibilities and ways in which they can be overcome. Empowerment is work designed to help people gain the power and influence that any citizen would be entitled to in a truly democratic nation.

THE PROGRAM GOALS

these programs recognize corruption and a lack of care for others as significant obstacles to development, but most are motivated by the simple conviction that true human fulfillment is achieved only when people live together in an atmosphere of mutual support and brotherhood.



4. Religion

Many programs working in agriculture also hold as a goal the enrichment of people's spiritual lives. Although many Westerners feel somewhat squeamish about the mixing of economic and social goals with ethical and religious ones, most Third World peoples do not share this uneasiness at all. In many cultures people feel very deeply that the material and spiritual sides of life are vitally intertwined, and that man achieves happiness or fulfillment only through a balanced dedication to both. To these people, programs of human betterment devoid of a religious emphasis seem strangely incomplete.

THE IMPORTANCE OF BROADER HUMAN GOALS

Many programs begin working in agriculture because they see agricultural improvement as the foundation upon which

TWO EARS OF CORN

progress toward the other goals must be built. Some of these programs evolve into integrated development programs directly involved in working toward some of these broader goals, while others leave the work in health, brotherhood, and political consciousness to other institutions. A few programs become so involved in building the foundation that they forget about the house.



Other programs have no goals above and beyond that of agricultural improvement. Experience is showing, however, that even these programs had best pay some attention to broader human goals. Agricultural improvement becomes slow, inefficient, and temporary if broader human factors are not taken into account. (see Chapter 16) If agricultural work basically makes people more individualistic, dishonest, and self-seeking (as it sometimes does), the people's ability to work together, which permanent agricultural improvement requires, will be destroyed. If agriculture teaches villagers to feel incapable and to depend on outsiders, the process of agricultural improvement will end the minute the program does. And if people do not become able to defend their land, their water, their markets, and their right to participate in the

THE PROGRAM GOALS

making of the laws according to which they must earn a living, they will have neither the land, the water, nor the economic incentives that are indispensable to increasing their agricultural incomes. Above all, we are gradually learning that the very finest development work is done by those people who have a deep sense of social justice and concern for others — a sense that frequently has grown out of a strong spiritual conviction that all God's people are brothers.

On the other hand, agricultural improvement work can encourage villagers to be honest, to work together cooperatively, to serve each other, and to have the self-confidence and optimism necessary to attack their agricultural problems on their own. It can also help them gain the economic base, the organizational ability, and the knowledge of the outside world they will need to defend their agricultural resources and markets. If agricultural improvement is to be efficient and permanent, its methods must strengthen these characteristics in the people. The design of every aspect of the program—from leadership training and administrative style to the choice of the technology to be taught—must take into account the impact it will have on the achievement of these broader human goals.



The driving force behind participation is enthusiasm.

3

PATERNALISM, ENTHUSIASM AND PARTICIPATION

The principal cash crop along the lower Cauca River was rice, so the program at El Naranjo*, Colombia bought the village a thresher and a huller along with a motor to run them and organized a cooperative to market the rice downriver. It also bought a tractor to help increase rice production and a generator to light the village. The first year, dugout canoes brought tons of rice to the El Naranjo cooperative, which hulled it and sold it at the highest price the farmers had ever received.

I visited El Naranjo about six years after the program closed down to see how the work had continued. In short, it hadn't. El Naranjo had become a virtual graveyard of rusting equipment and abandoned hopes. The motor had broken down and had never been repaired, so the huller could not be used, either. The thresher had never been used because farmers preferred to thresh their rice in the field. The tractor had broken down, and no one had cleaned up the generator since the year a flood had covered it with mud. The cooperative had disbanded completely; its building, by far the largest in El

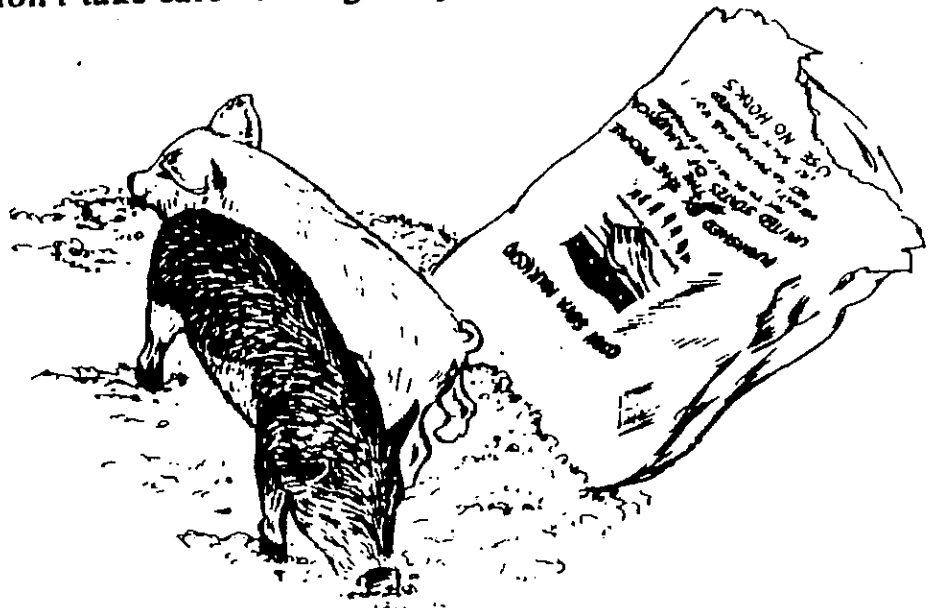
* El Naranjo is a fictitious name, but the program's story is a true account of the first program World Neighbors supported in Latin America, beginning nearly twenty years ago.

TWO EARS OF CORN

Naranjo, was full of cobwebs. Yet, as I made my way through the village, a half dozen different people pleaded with me, "But if World Neighbors would just come help us again, we could do so much!"

THE PATERNALISM OF THE GIVE-AWAY*

The outcome at El Naranjo was shocking, but hardly surprising. The rusting hulks of well-intentioned but long-forgotten give-aways are scattered all over the Third World. I have personally seen tractors by the dozens, not to mention ploughs, cultivators, generators, threshers, pumps, scythes, lanterns, and grain mills that were never repaired after the first time they broke down. There are donated granaries that were never used, free high-yield seed that was eaten, give-away breeding animals that were sold or slaughtered for meat, and forest and fruit tree seedlings that died while still sitting in their plastic bags. Tons upon tons of give-away food have either rotted, become infested with insects or rats, or been fed to cattle, pigs, or household pets. Some have even been used to make commercial ice cream or to whitewash houses. Villagers themselves generally recognize the uselessness of giving things away. Folk sayings in dozens of countries admit that people don't take care of things they never had to work for.



* A give-away is a donation.

PATERNALISM, ENTHUSIASM AND PARTICIPATION

More and more organizations are also becoming convinced that give-aways are not only ineffective, but, in fact, are detrimental. Why? The reasons are numerous. First of all, when the only progress villagers see is accompanied by give-aways, villagers can easily become convinced that they are incapable of making progress by themselves. Typical is the feeling of the people in El Naranjo that they cannot do anything without more outside "help." This feeling of inadequacy, in turn, creates dependency and subservience, robbing people of their self-respect. Furthermore, when people feel incapable of doing anything for themselves, self-help projects become more difficult than ever.

Another problem arises because charitable agencies naturally try to channel their donations to those most in need. Bitter divisions have thus been created in community after community by the envy and jealousy that erupted when one group or one family received seeds, fertilizers, or food and another did not.

People often become accustomed to give-aways, and even come to expect them. World Neighbors found it nearly impossible to work in northeast Honduras after the Hurricane Fifi relief effort because many villagers refused to work with anyone not dispensing charity. In Togo, half the women in a group attending nutrition classes quit because they felt cheated; they had heard that a similar group ten kilometers away was receiving free milk during its classes.

Give-aways can also blind people to the need of solving their own problems. In the terms of one well-worn metaphor, you can give people so many fish that they lose all interest in learning to fish. Give-aways can also divert people's attention from the underlying demographic, institutional, or political problems that, sooner or later, they must face if permanent progress is to be made.

Give-aways can be as detrimental to programs as to people. First of all, they are monstrously expensive. Supplying a family with half its wheat for thirty years can easily cost fifty times as much as does teaching a family to double its own wheat production. One tractor can easily cost more than it does to give a twelve-month series of weekly agricultural classes to over five hundred farmers. Secondly, give-aways can

TWO EARS OF CORN

hide people's indifference to program efforts. Villagers anticipating an occasional give-away may faithfully attend classes for years without intending to adopt a single innovation. A nonpaternalistic program will know at once if farmers lose interest in what is being taught because attendance drops immediately. Months of useless, expensive training can be avoided.

Lastly, give-aways destroy the possibility of there ever being a multiplier effect. If the people's adoption of some innovation depends on a gift, or people become convinced that it does, local farmers will not try to teach it to their neighbors.

In spite of all these problems, some programs continue to justify give-aways on the grounds that a) they are faster; b) they can "win over" more people; c) the people cannot help themselves; or d) the people are so poor that justice demands they be given a break. Experience shows, however, that good results achieved with simple, inexpensive technologies have very quickly "won over" more people than programs could adequately train. Most of the people judged too poor to help themselves *can* help themselves after all. If agricultural technologies capable of making the people self-sufficient are available, people can either adopt them gradually or be given loans payable after harvest. If no such technologies exist (e.g., among landless villagers), cottage industries or political action may yield results. Lastly, justice demands not that outside agencies give things away, but rather that people be taught to help themselves, keeping their dignity and self-respect intact, and that these efforts cost as little as possible so that the maximum number of people can be reached with the funds available.

THE PATERNALISM OF DOING THINGS FOR PEOPLE

Two top-notch South American agronomists were asked to help the community of Yanamilla raise its milk production. By culling the herd, improving the irrigation system, and planting new pastures, they showed the people how to raise production from twenty-five to over one hundred liters a day. Six months after they had left Yanamilla, production had

PATERNALISM, ENTHUSIASM AND PARTICIPATION

plummeted back down to thirty liters a day.

Once again, although the results were disappointing, they were not surprising. For the paternalism at Yanamilla is a close cousin to that of El Naranjo. It is that of *doing for* people as opposed to *giving to* them. Although this second kind of paternalism is admittedly more subtle than the first, it can do just as much damage. And because of its subtlety, it is even more widespread than the first and less often recognized as being harmful.

Yet this second kind of paternalism suffers from many of the very same problems as does its better known cousin. First of all, *doing things for* people seldom achieves permanence. The rusting hulks of abandoned development efforts *done for* the people, from marketing schemes and agricultural cooperatives to animal raising and reforestation projects, are as common as those of abandoned give-away machinery. Once there are no outsiders to make trips to town, do the accounting, make decisions, pay the bills, keep people working together, or troubleshoot, the work halts as abruptly as it does when the give-aways end.

Secondly, *doing things for* people creates a sense of dependency and inadequacy. The "Please, won't you give us something?" changes to the equally obsequious "Please, won't you do something for us?" but the helplessness and dependency are the same. The people of El Naranjo were as dependent on program personnel to run their cooperative as they were for program funds to buy them a tractor. As a result, neither the tractor nor the cooperative provided them much sense of accomplishment or self-worth.

Most of the other problems with *giving things away* pertain equally to *doing things for* people. People will seldom bother to work at solving their problems if a program is solving those problems for them. Even less will they be inclined to face the deeper demographic, institutional, or political problems that confront them. Doing things for people costs a good deal more than merely supporting the people's own efforts at doing them. Furthermore, programs can, and often do, work on a project for years, spending a considerable sum of money, only to discover afterwards that the people have no interest in carrying on the work themselves. Lastly, if program leaders do

TWO EARS OF CORN

everything, the people lose the opportunity to learn by doing. And what they have never learned, they certainly cannot teach others.

Obviously, though, programs must do *something* for the people. Were the people able and willing to solve all their own problems, they would have done so ages ago. How can we who work in agricultural programs distinguish between those activities we should do, and those we should not? It's very simple: *we should do only those things that the people cannot, or in the beginning will not, do themselves.*

It is, of course, easier to state this rule than to live by it. Finding out what the people can do will require some trial and error, but in the end, knowing what the people can or cannot do is part of the art of agricultural improvement.

It should be emphasized that *anything* we do that the people can do for themselves is paternalistic. Even courses in motivation, sensitization, "animation," or "conscientization," which usually help people avoid paternalism, can be paternalistic in this way. In one program in Africa, women were complaining bitterly about having to carry firewood on their heads for five and six kilometers while the men's ox-carts stood idle. After much discussion, the program leaders decided to investigate why the women were not using the carts, and then they paid a team of professionals to give the villagers a week-long "sensitization" course on how to solve the problem. It never occurred to the leaders that the villagers might have been able to discuss the problem and work out a solution themselves.

If we are to avoid paternalism, either *giving to* people or *doing for* them, our only course of action is to motivate the people to do for themselves. But how? How can these people who so often seem to be conservative, traditionalist, and non-innovative become motivated to carry on their own development process?

Somehow, the people must acquire *enthusiasm*.

ENTHUSIASM—THE DRIVING FORCE BEHIND DEVELOPMENT

"Enthusiasm," as the word is used here, is known by a good

many other names, too: "determination, drive, commitment, motivation, inspiration, even love of one's work." It is the desire or willingness to work—to make sacrifices—in order to reach a goal. It is the willingness to step out into the unknown—to experiment, study, make decisions, cooperate with others, and work together toward a common end. Unlike its usual connotation, the word enthusiasm is used here to include even long-term, unemotional forms of commitment.

When enthusiasm is lacking, experimental plots grow up in weeds, no one shows up for meetings, cattle destroy the improved pastures, cooperation between neighbors becomes increasingly difficult, and extensionists seem unable to convince farmers of anything. When enthusiasm is plentiful, farmers walk two full days to attend classes, innovations spread spontaneously from one farmer to another, and many former problems seem to solve themselves. In extreme cases, hundreds of farmers in Guatemala and El Salvador have done thirty to thirty-five days of backbreaking labor to conserve each 0.1-hectare of their soil, while a youth in India spent six months of his own salary on a program building and walked sixteen miles in one day for the program while still recovering from smallpox.¹

Instilling enthusiasm (as the word is defined above) is the only plausible way of avoiding paternalism. It is, therefore, the basic dynamic of any true self-help program—the driving force that is indispensable to all true human development.

The question, then, is the same one that Jawaharlal Nehru asked years ago: "How to bestow on the villagers that sense of partnership, that sense of purpose, that eagerness to do things?"² How can programs be designed so that enthusiasm will grow and flourish? Each one of the following factors can be crucial in stimulating enthusiasm:

1. The program must work toward solving felt needs (i.e., the people must *want* the problem being worked on to be solved).
2. The villagers must believe it possible for them to solve the problem (e.g., the solution must be simple and inexpensive enough to be perceived as within their means).
3. The people must believe that the program personnel a) know enough to competently help the villagers and b) are

TWO EARS OF CORN

working for the people's benefit (rather than to cheat or manipulate them).

4. The people should come to identify with the program's work and its successes by being involved in program planning.

5. They must participate in the program's work, so that when success is achieved, they will feel a sense of accomplishment. The challenge must be simple enough at first that they can meaningfully participate, yet gradually become increasingly complex so they can grow in their ability to deal with problems and can feel an increasing sense of accomplishment.

The people's enthusiasm will be further enhanced by:

1. the freedom to set their own goals when they desire,
2. the freedom to be creative in their work,
3. the opportunity to work together in an atmosphere of mutual support and companionship,

4. the opportunity to continue learning about new subjects of interest, especially solutions to other felt needs, and

5. the recognition, gratitude, and positive feedback of fellow villagers, program leaders, and other program workers.

Success—the Source of Enthusiasm

⁴None of the above conditions will, however, inspire much enthusiasm in the absence of one crucial ingredient: *early recognizable success*.⁵ We define a "recognizable success" as *the solution of a felt need with results that are both readily observable and desirable according to the culture's own value system*.

Recognizable success must exist for each of the above conditions to stimulate enthusiasm. For instance, if people work on a problem very long without achieving recognizable success, they will come to doubt that it is possible for them to solve the problem. Villagers skeptical of the program's competence or benevolence will change their minds only when they recognize that the program has achieved successes of benefit to them. Identifying with or participating in efforts that never succeed will produce not enthusiasm, but pessimism, shame, and disappointment.⁶ When long-term efforts lead only to failure, companionship and mutual support tend to degenerate into mutual recriminations and bitterness. And

PATERNALISM, ENTHUSIASM AND PARTICIPATION

recognition, gratitude, and positive feedback will be forthcoming only when the work is widely perceived as beneficial. In short, *where there are no recognizable successes, there will be no enthusiasm.*



Some programs try to arouse interest and enthusiasm by holding competitions or offering prizes to those farmers who excel. Experience indicates, however, that competitions and prizes seldom produce good long-term results. People in many cultures do not regard individual competition favorably. Secondly, for each person whose enthusiasm is increased because he won, many other people's enthusiasm is *decreased* because they lost.³ Furthermore, prizes may distract attention from the real benefits that an innovation brings.

More fundamentally, if the technology brings success, the prize is superfluous. If it doesn't, the prize is useless; the practice will be discontinued the moment the prizes are.³

INCREASING PARTICIPATION—THE PATH

Constructive Participation

While enthusiasm is the driving force that can move a program away from paternalism, increasing participation is the direction the programs must take. Quite simply, the opposite of *doing for* people is *participation by* the people.

TWO EARS OF CORN

And this participation must occur in both decision making and program execution.

Participation can provide tremendous advantages for a development program. Involvement of local villagers helps ensure that the program will respect local cultural values and will be continually oriented toward the people's felt needs.⁴ Obviously, no one can provide more understanding or two-way communication between the program and the villagers than villagers who work in the program. Salaries and transportation for small farmer employees are much less expensive than for professionals. Furthermore, the involvement of villagers helps them to appreciate the difficulty of the program's work and dispels suspicions as to its motives. Thus, villagers participating in a program are more willing to commit themselves and their resources to agricultural improvement.⁵

The most important reason for small farmer participation is that it may be essential to the permanence of a program's work. During five or six years of studying by candlelight, slogging through the mud, and teaching classes late into the night, villager extensionists can become tremendously committed to the success and continuity of their work. This commitment, plus their know-how and teaching ability, will remain in the villages after the program leaves. Furthermore, if small farmers have not been intimately involved in the program, they will probably be neither willing nor able to permanently continue the process of investigating and teaching the changing technology that high-yield agriculture requires.

Small farmer participation provides a whole series of benefits for the farmers, too. Through their own experience (which is their most effective teacher), they learn to plan, to find solutions to their problems, to teach others, and to organize themselves to work together. They learn skills such as how to deal with the give and take within an organization and how to correct each other without hurting feelings—skills that are essential if small farmers are to form and manage their own organizations successfully.

Villagers can, through their participation, gain self-confidence, pride, and the satisfaction of having made

PATERNALISM, ENTHUSIASM AND PARTICIPATION

significant achievements. They can also develop the ingenuity and creativity that will enable them to continue improving the life of their communities. These changes - the growth achieved through what we shall call "constructive participation" - are crucial to the fulfillment of the broader human goals, of enabling the people to supply their basic necessities, live in brotherhood, and achieve power. In fact, this growth through constructive participation is the very essence of development itself. Definitions of development abound, but most people would now agree that, among other things, *development is a process whereby people learn to take charge of their own lives and solve their own problems.*⁶ Development is occurring where people are gaining the self-confidence, motivation, character traits, and knowledge needed to tackle and solve the problems they have *by actually tackling and solving those problems.*

If this process is, in fact, development, two corollaries immediately follow. First of all, *giving things to people and doing things for people* cannot be called development. On the contrary, they are the very *opposite* of development. Secondly, the developmental process, whereby people learn, grow, become organized, and serve each other, is much more important than the greener rice fields and fatter coin purses that result. Although the two must go hand in hand, the "how it is done" matters more than the "what is accomplished." And the "how it is done" must include constructive participation.

Destructive Participation

Participation is not always constructive. In some programs, a single leader emerges and takes control; everyone else learns to be submissive rather than to participate. In other cases, a lack of experience at making decisions as a group causes disagreements. Factions develop and organizations disintegrate. Even well-made decisions can lead to failure, causing disappointment and mutual casting of blame. Many cultures have no acceptable method of correcting the inappropriate or dishonest actions of leaders. When leaders misbehave, people merely sit back and gradually become convinced that organizations are ineffective, or even

TWO EARS OF CORN

dangerous. And very often, too little is known about handling money. Financial losses because of either insufficient planning, poor decisions, graft, or nepotism will also cause division and mutual recriminations.

Even if these more noticeable problems do not occur, programs may merely fail to produce much recognizable success: As people become convinced that little is going to improve, whatever enthusiasm they had wears off. The best motivated and most talented leaders may go elsewhere. Those who remain do so for the only reasons left—their salaries or graft. Tremendous pressures for deceit and manipulation can be produced by situations in which the continuation of salaries depends upon superiors believing that successes exist where, in fact, they do not.

These kinds of participation teach people that other villagers are not trustworthy, that getting involved in organizations only causes them problems, and that villagers are not capable of solving their own problems. These kinds of participation teach manipulation, deceit, exploitation, individualism, hopelessness, and dishonesty. They are destructive rather than constructive. They do not *produce* development; they *preclude* it.

Participation, then, is not innately good, as is often assumed. It can divide and tear down just as well as unite and build up. Our job is to help keep it as constructive as possible.

How Can We Improve the Quality of Participation?

1) We must recognize that constructive participation is learned — gradually. Some development agencies, in trying to avoid the suffocating paternalism and “outside expert knows all” attitudes of the past, have swung to the opposite extreme of providing almost no outside input whatsoever. They merely form a local committee or directive board and start sending it program payments.* Though many of us at first welcomed this style of operation, it unfortunately appears to have produced far more *destructive* than *constructive* participation.

*It is an interesting irony that these programs, which tend to be those that most value the human side of development, have come full circle. They are now operating on the inherent assumption that the only missing factor in village development (outside of forming a committee) is capital.

PATERNALISM, ENTHUSIASM AND PARTICIPATION

Why? In most cultures, participation is a *learned* art. Colonizing nations found out the hard way that one does not give birth to a democracy merely by organizing a parliament and pulling away the gunboats. Likewise, we do not produce constructive participation merely by forming a committee. Instantaneous democracies spring forth as rarely among programs as they do among nations.

Many of those who have worked in development at the village level have found that constructive participation requires a surprising number of skills. People must learn how to express themselves in public, analyze and verify information, make decisions, and resolve conflicts. They must also learn how to constructively criticize their companions, acquire and use power, maintain vertical channels of communication, keep accounts and use money wisely, and avoid such common problems as favoritism, nepotism, gossip, manipulation, and autocratic leadership. Constructive participation also requires a certain minimum of mutual trust, honesty, and concern for others. Agricultural programs require, in addition, that people know what increases in agricultural production are possible, how those increases can best be achieved, how to teach each other, and how to administer the necessary supporting services.

We do not expect a first-grader to begin learning arithmetic by tackling differential calculus. By the same token, we should not expect villagers to begin learning participation by running an agricultural development program.

“Outsider” personnel, either foreign or national, may therefore be necessary to get the program started. The amount of outsider input, however, will vary from one group to another. Some groups of small farmers that have already learned to handle participation, either through previous work in development programs or by themselves, will need no outsider input at all. Others will need a good deal. In any case, programs should avoid providing any more outsider input than any specific group needs at any given time. And they must, forever and always, work toward the day when the villagers will no longer need any program input whatsoever.*

*The word “outsider,” as used in this book, includes anyone who is not a small farmer of the same area, tribe, language group and approximate educational level as the people toward whom the program is aimed.

TWO EARS OF CORN

2) **Early recognizable success is a crucial ingredient in making participation constructive.** Success can attract the highly concerned leaders that constructive participation requires. It can strengthen bonds of companionship between the workers and earn them positive feedback from their neighbors and friends. Success eliminates the pressure to deceitfully claim results that were never achieved. And success alone will overcome hopelessness and convince the people that they are capable of solving their own problems.

In the end, success is as crucial to making participation constructive as it was to creating the enthusiasm that motivated the participation in the first place.

3) **There must be conscious and constant efforts to help people learn how to participate constructively.** Both through short courses, when possible, and through constant attention to what the day-to-day experience in the program is teaching those involved, programs must make sure that small farmer participation is as constructive as possible.

How Can We Increase the Amount of Participation?

Despite those few organizations that avoid outside participation altogether, the problem in most programs is still that of too much outsider influence. As David Werner has written about Latin American health programs:

From country to country one hears identical motifs, e.g., "Primary decision making by the members of the community," "Response to the felt needs of the community," . . . "Priorities must be determined by the community itself." The ideas behind these axioms are of course fundamental. But too often they are foreign to the communities they are aimed at. . . . If there were a little less rhetoric behind these slogans and a little more reality, the state of rural health care in Latin America might be far better off than it is today.⁷

The problem in small, non-governmental programs has not been so much a lack of desire to increase small farmer participation as it has been a failure to realize how many aspects of program design must go into this participation. The major question is usually not *whether* to increase participation, but *how*.

The following list, by no means definitive, offers a few ideas as to how some programs have succeeded in increasing villager participation. The most important ideas are listed first.

1) **Create enthusiasm.** As noted above, the amount of constructive participation in a program depends on the amount of enthusiasm it can generate. Program salaries can bring about some participation, but they should never overshadow enthusiasm as the principal driving force behind a program.

2) **Start the program small and simple.** Undoubtedly the most common error affecting villager participation is that of organizing programs so large and complex that meaningful participation by the villagers is impossible. Once this error is committed, programs invariably take one of two courses of action. The first is that of outsiders running the program in perpetuity. Local representation may be set up, but the real "power behind the throne" remains in the hands of outsiders. The second alternative is to turn the program over to the villagers before they are at all capable of running it. The result, whether it be a Caribbean canning operation, a rabbit cooperative in Guatemala, or a fishing cooperative in India, is invariably the collapse of the work within a year or, perhaps even worse, the survival of the work through ever-deepening crises until the leaders finally give up in humiliation and exhaustion.

Programs must start absolutely as small and simple as possible while still being capable of producing recognizable successes early on. Expansion should come only as villagers become enthusiastic and capable enough to take over the jobs previously held by outsiders within the program. (See Chapter 6.)

3) **Be careful with the role of outsiders.** Outsiders, both nationals and expatriates, should be chosen for their willingness to live close to the people and their ability to establish friendships of mutual trust and candid two-way communication with the villagers. And they must understand and appreciate the village people's traditional knowledge and cultural strengths.

In their actions and ways of expressing themselves, outsiders must be careful that they leave the villagers room to

the entire program. As a general rule, no outsider should hold any particular job for more than two to four years.

As small farmers take over the program, some mistakes will be made. However, outsiders must have the humility to recognize that they themselves made an occasional mistake, and that some of the villagers' methods will, in fact, represent improvements on the outsiders' methods. Furthermore, mistakes can be valuable. As long as they are not so frequent or so major that they drastically reduce the program's total enthusiasm or faith in local leadership, they can serve as unforgettable lessons.

5) **Teach farmers to conduct small-scale trials.** Only when small farmers know how to experiment with new technology will they achieve maximum possible independence of outside sources of information and be able to participate in the development of the steadily changing technology required by a productive agriculture. (See Chapter 10.)

6) **Build a leadership pyramid.** The effective participation of an ever-increasing number of villagers in a program can best be achieved by building a leadership pyramid such as that to be described in Chapter 14.

7) **Don't flaunt the moneybags.** Programs that inform the villagers early on that, say, \$100,000 are available for the program will confront a good number of problems. Such sums, astronomical by village standards, tend to attract those villagers interested in graft. They can also produce considerable pressures for everyone to receive inflated salaries. Costs are thereby inflated and voluntarism reduced or eliminated. High salaries and the absence of voluntarism complicate employee selection because of the difficulty of distinguishing between those people genuinely concerned about others and those merely concerned about landing a high-paying job. High salaries and low voluntarism reinforce also the feeling that outside money, not the people's own efforts, has made the program successful. Thus, the growth of pride and enthusiasm is stunted. And very likely, when the money is spent, the work will come to a screeching halt.

As villagers work their way up into program management, they obviously must learn about the budget and increasingly decide how it will be used. Nevertheless, their knowledge and

TWO EARS OF CORN

discuss, disagree, and be creative. In all too many ostensibly democratic programs, the ranking expatriate or professional is the *de facto* boss. Out of either respect, a belief in certain prerogatives of status, a feeling that foreigners or professionals always know better, or a reluctance to face disagreements in public, the villagers participate only marginally in the making of decisions.

This domination by outsiders can be so overwhelming as to long survive the physical presence of the outsiders. Two full years after one African program had been totally "Africanized," the size of each resident trainee's plot of land, the exact acreage to be planted in each crop, and the specific techniques to be used were all still dictated by rules laid down by whites. Albeit unconsciously, the whites had established a virtual tyranny of rules — of attitudes that "this is how development is done" — that no Africans cared or dared to question.

Outsiders must also remember that the "knight in shining armor" image runs counter to the villagers' feeling that the program is theirs. Most outsiders feel that they are involved in a difficult, uncomfortable, at times downright dangerous job. Often their only recompense is the appreciation they receive for having made these sacrifices. Nevertheless, all of us working in development must remember that our job is not to *become* heroes, but to *make* heroes out of the people with whom we are working. Some gratitude will always be forthcoming, but when things are as they should be, the people will mainly be thanking each other.

4) Plan for the phase-out of outsiders and of the program itself. One ever-present goal of all programs should be the eventual takeover by small farmer management. Thus, from the beginning, every activity should be organized in such a way that villagers will learn how to manage it and, if necessary, how to sustain it once the program closes down. We should keep in mind always that the purpose of each activity, apart from its own results, is that the villagers learn to handle it themselves.

The phase-out must be gradual. Villagers can, step by step, move from deciding when and where classes should be held to gathering people for the classes, to presenting the classes, to organizing a series of classes, and eventually to administering

TWO EARS OF CORN

control over the budget, like their participation in general, should not come all at once, but increase gradually over time.

8) **Don't try to meet all of the people's needs.** At the outset, programs normally have to expend a good deal of effort to motivate people to try out recommended innovations. In time, however, well-designed programs will have people from an ever-widening area knocking at their doors. Such programs face two alternatives: to decline, at least temporarily, to meet all the demand or to expand rapidly enough to meet it.

Experience indicates that the first alternative is preferable. Refusing to *do things for* people may, at first, seem hard-hearted, but refusing to *give things away to* people sometimes seems hard-hearted, too.

The benefits of refusing to answer every call for help are illustrated by the experience of a World Neighbors program in Guatemala. Swamped with requests for help, the program decided to work only in those villages from which a group of at least fifteen farmers requested classes. Thus, by the time the program began working in a village, its leaders had convinced a number of farmers that they needed agricultural classes; the farmers had organized themselves into a group; and the group had committed itself to attending weekly classes. In the process, community leaders had become committed to the classes' success. Groups of people had thereby begun to generate, by themselves, the motivation and organization essential to agricultural improvement. Once again, the program had not *done for* them what they could do for themselves.

Of course, programs should be careful to avoid letting the people battle unsuccessfully with a problem for so long that they become frustrated, cynical, or resentful (i.e., that lack of success erodes their enthusiasm).

The second alternative, that of expanding the program to meet the growing demand, may force the program to become large and complex all too quickly. Takeover by small farmers will become improbable, if not impossible. And the inefficiency caused by trying to do everything at once, so widely observed among the better-motivated programs, becomes almost inevitable.

PATERNALISM, ENTHUSIASM AND PARTICIPATION

9) **Remain constantly aware of the level of villager participation.** We must ask ourselves every few weeks: How many villagers were in the last planning meeting? How much did they say the last time there was a discussion? How many of the last five program decisions were made in ways originally suggested by villagers? How many villagers participated in solving the program's latest emergency situation?

All the above rules of thumb are, of course, easier to formulate than to follow. How small and simple should a program be? How soon should local leaders take over program administration? How soon should village leaders participate in budget planning? No prescriptions can be given. Resolving these questions amid the dust and fury of each unique program is part of the art of agricultural improvement; it will take understanding, sensitivity, good judgement, and generous amounts of feedback from the villages.

In summary, neither giving things to people nor doing things for people will be of much long-term benefit, and both may have serious negative side effects. Development is basically a process whereby people learn to participate constructively in the solving of their own problems. The driving force behind this participation is enthusiasm; the direction in which the people must move is toward gradually increasing participation; and the goal is that the program itself gradually be lost in, and replaced by, a totally participatory movement of the people, by the people, and eminently for the people.



Small is beautiful. In small programs the people's hoes and shovels are not made to look ridiculous by program tractors and earthmovers.

6

START SLOWLY, START SMALL

A great deal of heartbreak which in the past has too often turned over-optimistic idealists into later cynics, would be avoided if those who wish to help in agricultural development could learn to be content to do good slowly.

*Geoffrey Masefield,
Oxford University¹*

In any project good ideas often come faster than they can be applied or accepted and the timing of their application is often crucial. . . waiting has perhaps been one of the most significant things we have had to do.

*Dr. Michael Church,
Makerere Medical School²*

The journey of a thousand miles must begin with the first step.

Folk saying

THE IMPORTANCE OF STARTING SLOWLY

Obstacles to be Overcome

All the four of us had to do was hire a few workers to pull

TWO EARS OF CORN

up forty gunny sacks of clover slips and transport them to a village at five hours distance. Already having a Volkswagen and firm promises of a large truck and a pick-up from the Ministry of Agriculture, we figured we could finish the job in a day and a half.

We were to have no such luck. We began by shuttling between four different offices in different parts of town to get permission to use the pick-up and get a key that did not work anyway. After hot-wiring the pick-up, we nearly crashed it into an adobe wall before realizing the brakes were bad. Then we discovered that since the Ministry had not paid its bills in two months, neither gas station in town would put gasoline in a Ministry vehicle. We had to borrow a 5-gallon can and drive back and forth for gasoline in the Volkswagen.

During subsequent days, further problems cropped up: a rainstorm washed out a road; we bent a bumper while driving the pick-up through a streambed; one of us had to baby-sit the pick-up the whole day it was being repaired to prevent the mechanic from stripping it of parts; seven of the eleven workers contracted to dig up clover slips did not show up for work; two of us spent a day in bed with diarrhea; for twenty-four hours no gas station in town had gasoline and no one knew when the next gasoline truck would arrive; two of us spent fifteen minutes trapped in a gas station while a rabid dog ran up and down the street and bit two strays; an inexperienced Ministry driver got the truck bogged down in mud holes four times in five kilometers and, in frustration, started drinking heavily while he was driving; local officials fishing for a bribe threatened to hold up our trip for three days; and the villagers finally had to carry the clover by mule the last five kilometers because the road was under repair. In the end, the day-and-a-half job took four days and all of one night.

Operation Clover was plagued with a good deal more than its share of problems, but the rural areas of the Third World are, in general, well-endowed with unexpected obstacles. Among them are mechanical breakdowns, ill health, supply shortages, communications failures, poor transportation facilities, high rates of employee turnover and illness, the ^{and} destruction of crops by bad weather or pests, faulty ^{and} standing across language or cultural barriers.

START SLOWLY, START SMALL

discrimination, political instability, and corruption and dishonesty among politicians and government officials. If a program is to run well, it must allow extra time to overcome these obstacles. Otherwise the seed arrives late, the extensionists fail to show up for meetings, the test plots are overgrown with weeds, classes are given without sufficient preparation or the needed audiovisual materials, and promises are not fulfilled. The program, quite possibly through no fault of its own, begins to look more slipshod than sure-footed.

There are many other reasons that programs should not tackle too much work the first year or two.

The Need to Get to Know the People and the Area

It takes time to come to know an area, to get a good feel for all the cultural, social, economic, and agronomic conditions that affect agricultural improvement.

In the early stages of a program, the personnel must have time to form close relationships with the people, to gain their confidence and trust. Especially those of us from Western cultures must remember that traditional cultures are very personalistic. Personal relationships form an important part of everything that is done. The impersonal, business-type work relationship so common in the West is, in most traditional cultures, no relationship at all. If a program is to gain the necessary trust and confidence, its employees must have time to do such things as walk through the villagers' fields, send them a note of appreciation, enjoy a meal in their homes, or play awhile with their children.

The Need to Learn to Run a Democracy

It also takes time for people to become accustomed to running a program democratically — to learn to both participate and allow others to do so, to formulate and express ideas, to consult with co-workers instead of making spontaneous decisions, and to handle the give-and-take of working as a team. Democracies take more time than dictatorships, but they allow the participation that is the essence of development.

TWO EARS OF CORN

The Need for Close Supervision

During a program's first year or two, time must be allowed for very close supervision of the villagers' experimental plots. In part, this supervision is needed because the villagers have no experience in small-scale experimentation to tell them what to expect from their plots and the importance it may have. They may, therefore, lose interest in the plots and quit taking care of them. Also, since the villagers' understanding of the innovations is minimal in the beginning, program personnel must be on the lookout for any number of weird, totally unexpected mistakes.

Most importantly, though, supervision should be close because the program must achieve the highest possible proportion of successes during its first few years. Villagers basically learn from their experience.³ And long experience has taught them not to expect anything to go any better in the future than it has in the past. If an experiment fails, they have *learned from their experience* that the innovation is not good. Explaining to them that it could have succeeded, and, in fact, would have had they just watered it again or applied the right fertilizer, may only further convince them of the program's incompetence. To expect that either the technology or the program will function any better in the future is folly. The technology failed, and the program failed. And that is that.

Early in the program it is better to have fifteen closely supervised plots, all successful, than to spread the program's efforts among thirty plots, five of which fail. The failures will probably end all chances of working with the farmers connected with them and will damage the credibility and enthusiasm of the extensionists that supervised them. They will also cast doubts on the program's competence, even among those farmers whose plots were successful. Since almost any agricultural experiment can run into problems within a week or ten days, program personnel should plan to make weekly visits to each plot during the critical months. After a few years, when the program has built up a backlog of successes, it can better afford an occasional failure.

START SLOWLY, START SMALL

The Need to Keep One's Promises

Programs must also leave time to make sure they can keep their promises to the villagers. In much of the Third World, villagers have been cheated and deceived time after time. The reason may have been a desire to exploit them, indifference toward treating villagers decently because of their supposed inferiority, or just the inability to do what was promised. The consequences, however, are the same: millions of villagers have become skeptical of everything they hear.

Sadly enough, development agencies have continued the pattern by repeatedly making promises and raising expectations that are not met. Promised supplies arrive too late, extensionists fail to attend meetings, services offered are never provided, and projected benefits never materialize. A program that fails to keep its promises damages its credibility and kills villager enthusiasm. It also destroys the credibility and the enthusiasm of its villager leaders. Good leaders may well leave the program. And once credibility among the villagers is lost, it is next to impossible to regain.

A cardinal rule for all programs should be to *promise something only when the program has absolute certainty it can keep its promise*. In an environment in which neither transportation, communication, supplies, nor the promises of other organizations can be relied upon, it is best to promise as little as possible. We who work in development programs must motivate villagers through results, not promises. It also means leaving extra time to deal with emergencies before they keep us from fulfilling our commitments. In most cases, supplies should be on the program's shelves or those of local stores before we promise them to the people, money should be in the bank or fully committed by a reliable funder before we raise hopes about new program efforts, and reliable transportation should be assured before we schedule meetings. Such over-preparation takes time, but it will pay off handsomely.

Overcoming the "Inertia of Disbelief"

Extra time is also needed to overcome the "inertia of disbelief." Complacency, fatalism, and apathy have often been

TWO EARS OF CORN

noticed among traditional societies. After centuries of suffering, during which life in millions of villages has never really improved, and the situation of many groups has actually deteriorated, the people have become demoralized by their own history. Complacency, apathy, and disbelief in future improvements are to be expected. And when no one believes that the future will be any better, no one puts much effort into trying to make it better. Disbelief in a better future becomes a self-fulfilling prophecy.

Early, significant success can break this vicious cycle. Suddenly, villagers are shocked by a competent, reliable program and doubled or tripled harvests into recognizing that new horizons are possible. A new enthusiasm blossoms, a new trust — both in the program's competence and its sincere desire to work for the people's good. A new precedent of excellence is set. Pride in work well done is added to enthusiasm as a major motivation for village leaders. Furthermore, when the villagers come to truly believe in a program, it will be able to attract and train the best and most influential of the villagers. In the end, the example of a well-run, efficient program that keeps its promises is a very important ingredient in raising the people's consciousness.

Evidence of the importance of early success can often be seen in areas where programs have already been operating for at least three or four years. Very frequently the villages that show above-average success in later years are precisely the ones in which the first year of work was most successful.

To ensure early success we need time — time to overcome unexpected obstacles, time to make sure that the technology to be used is as appropriate as possible, and above all, time to choose and develop good leaders. Programs organized too rapidly often try to select a large number of employees sight unseen in a few weeks or months. It is nearly impossible to select high-quality employees this way and attract them into an unproven program, especially if we are to avoid over-professionalizing our program or paying inflated salaries. Leaders are best chosen through a long process of observation — of watching them in action and noting especially their willingness to work hard to help others. Time is needed to sort them in their work so they can enjoy it and

START SLOWLY, START SMALL

rewarded by success. And it takes time to help them acquire the knowledge and experience they will need. All this is especially important because these are the leaders who will eventually run the program.

The need for time does not, of course, mean that employees should be standing idle, waiting for the next emergency. Time not filled by normal program activities can be dedicated to on-the-job training, the production of audiovisual aids, long-range planning, or visits of extensionists to see the work of other successful programs or of fellow extensionists within the same program.

THE IMPORTANCE OF STARTING SMALL

A program's workload is not all that should be limited during the first year or two; its overall size should be limited, too.

First of all, large programs tend to be inflexible. We have already seen the importance of agricultural programs remaining flexible. Large programs, however, are very difficult to modify. Too many people have become convinced that the present methods are best. Too many people have been trained in, and have become accustomed to, current procedures. Some people's jobs may even depend on maintaining these practices. Too much money has been spent on the present methods for people to easily admit that a better way exists. Changing to new equipment, new inputs, and new training materials can require major additional expenses and too many villagers have come to know the program and will see it as vacillating, unknowledgeable, or incompetent. The villagers may be disgusted by the quantity of money spent on mistakes. In short, large programs run the risk of being poured in concrete before the wrinkles are worked out. They wind up either living with the wrinkles for a long time or spending a lot of extra time and money to smooth out hardened concrete.

On the other hand, small programs can and should be started with the idea that they will evolve as time and experience show them better ways of working. Mistakes, though always painful, become relatively inexpensive lessons for the future. And the program, presented as an experiment

TWO EARS OF CORN

rather than a sure-fire success, will not lose its credibility.

Secondly, small programs allow for and encourage more villager participation. The personal approach of a small program makes villagers feel more welcome to participate, and the small size allows them to understand it better. Villager leaders thus have a better chance of providing worthwhile feedback and participating in the making of decisions. Through this process of *learning* program management *by doing* it, villager leaders grow in sophistication as the program grows in complexity.

Being more flexible, small programs can change in response to villagers' feedback, thereby making villagers feel that their participation is valuable and motivating them to participate more. Furthermore, in small programs the people's efforts are less likely to be lost in the shuffle. The people's hoes and shovels are not made to look ridiculous by program tractors and earthmovers, nor their nickels and dimes by the program's thousands of dollars. Sometimes villagers can even solve problems that would spell doom to a larger program. In South America, a large communal cattle-fattening project was threatened with failure because a bank loan to purchase the cattle had been refused. World Neighbors personnel suggested that if the project were scaled down to half that planned, the villagers could contribute their own animals to be fattened. As a result, the people avoided the red tape and expense of a bank loan, and in four months had earned a 40% return on the value of their own cattle.

Thirdly, large programs necessarily involve large sums of money. Thus they run the constant danger of being powered by the "force of money" rather than the "force of conviction." People may be attracted to the program by the fine equipment, big offices, and new cars. Villagers and employees alike may parrot program policy they do not agree with merely to stay in the good graces of those who control the money; candid feedback is no longer possible. Worst of all, the temptation at all levels of the program is to try to speed things up by using more money. The program may pay for farmer experiments, provide incentives for participation, or pay inflated salaries to attract employees not drawn to the program for better reasons. The greater the quantity and availability of

START SLOWLY, START SMALL.

money, the more likely it is to encourage corruption. It is not the agencies' money, but the people's enthusiasm that must be the driving force behind development.

Finally, development has its own pace. Anyone who tries to rush it is in danger of stumbling over it. One must slow down along the way to remove a good many roadblocks — insufficiencies of supplies, villager organizations, leadership abilities, roads and markets, etc. Furthermore, true development — the movement by the people — must grow from the people's convictions and their gradually increasing enthusiasm for change. Large programs are generally unable to slow down and walk at the varied paces of the villages within their scope.

Small programs can also work in small areas. They can thereby minimize transportation and supervision costs. And smaller areas are likely to be culturally, climatically, and agronomically more homogeneous.

HOW SMALL SHOULD THE PROGRAM BE?

The question remains, "How small is small?" This will vary from one situation to another, but World Neighbors' experience indicates that the most successful programs began with a maximum of only one or two professionals (of secondary education or above), two or three villager employees, and a first-year operation budget of between \$3,000 and \$20,000 (excluding major one-time vehicle or equipment purchases). They were usually aimed at a target population of from 15,000 to 30,000 people.

To many organizations, this size program sounds infinitesimal. But the idea is not to remain small forever. In fact, the ultimate reason for starting small is to build the best possible foundation for future growth. By starting small, programs will more likely stimulate the enthusiasm, credibility, local participation, and increased sophistication that any larger program will need. Perhaps most important in the larger stages of the program will be the central core of leaders that the program was able to bring together, train, and motivate while it was still small. More than anything else, it is this core of leaders that will allow the program to grow while continuing to be a movement of, by, and for the people.



*It is better to teach one idea to
hundreds of people rather than
hundreds of ideas to one person.*

7 LIMIT THE TECHNOLOGY*

There are usually only one or two factors which limit the productivity of an agricultural system, and the aim of technology transfer is to identify and provide the limiting element, ingredient, or practice. . .

*Edwin B. Oyer
Cornell University¹*

In many cases a small and simple change in farming practice may be most strategic in removing bottlenecks and providing a basis for accelerated development.

W. Y. Yang²

Every day we watch the sadly unproductive fields of the poor, knowing that dozens of innovations might improve them: better cultural practices, new crops, "miracle" seeds, fertilizers, insect control methods, hand-powered machines, and on and on. Undoubtedly, many of these innovations could help increase almost any traditional farmer's income. Isn't it, then, our duty to teach these people all we can about modern agriculture? Does not justice demand that we share with them all the technology we know?³

¹A limited technology is one that changes only a few practices, preferably one or two, in the farming system presently in use. Only in rare instances will it involve a new crop or breed of animal. "Technology" is taken to include on-farm crop storage but not marketing.

TWO EARS OF CORN

The issue is much more complex than just whether or not we should throw out vast quantities of information. It takes us back to our original goals. Is there any point in the farmers knowing about an innovation if they do not put it into practice? Is there any value in their putting it into practice only to abandon it the following year? Are they to be simply passive receivers of information, or are they to *participate* in the process — to help find and adapt technology and teach it to others? And are we reinforcing community solidarity and social justice, or destroying them?

World Neighbors' experience has unquestionably led us to believe that farmers are better served, and the goals of agricultural improvement better fulfilled, if we seriously limit the amount of technology we teach.

WHY SHOULD WE LIMIT THE TECHNOLOGY?

To Start Slowly and Start Small

If programs are to start slowly and start small, they must teach a limited number of innovations. Each additional practice a program promotes means that additional training must be given, additional teaching materials and audiovisual aids bought or produced, and additional test plots organized, each plot with more variables to be tested. If necessary inputs are not available, the program itself must buy and sell them until they are made available locally. Furthermore, experimental plot supervision and backup become more complicated. All these factors increase program complexity.

To Achieve a High Rate of Success

When we work with only one or two practices, we can select those that best combine simplicity and low risk with major increases in yields and earnings. In this way, we have the best chance of achieving a high rate of success. The program gains credibility not only because of its success, but because it was a little of its own or the peoples' effort on less effective innovations.

To Reach Hundreds of People

There is in our work a very important trade-off: we can aim at either teaching one idea to hundreds of people or hundreds of ideas to one person. Teaching one idea to hundreds of people has turned out to be preferable for a wide variety of considerations, ranging from permanence* of innovation and the development of leadership to community solidarity and social justice. For example, one integrated program in Central America tried to introduce some twenty different practices, including contour ditches, fertilization, latrine construction, and family planning. The extensionists worked hard, and in two years' time about 60% of the families in the program area had adopted one or more of the recommended practices. By the fourth year, however, previous adopters were abandoning the practices faster than the extensionists could convince new people to try them out.

What had happened? First of all, extensionists teaching twenty different practices cannot dedicate enough time or energy to any one practice. Thus the people are often neither sufficiently convinced nor sufficiently well informed about any one practice to do it well. People only half-heartedly dug their contour ditches, leaving them so shallow that the first rains washed them out. They did not understand how to use fertilizer correctly, so much of it was wasted. Because of these failures, people quite naturally abandoned the innovations.

Even more important, no innovation became permanent because those in favor of any particular practice were never numerous enough to resist popular pressure to conform — they never reached the "critical mass."

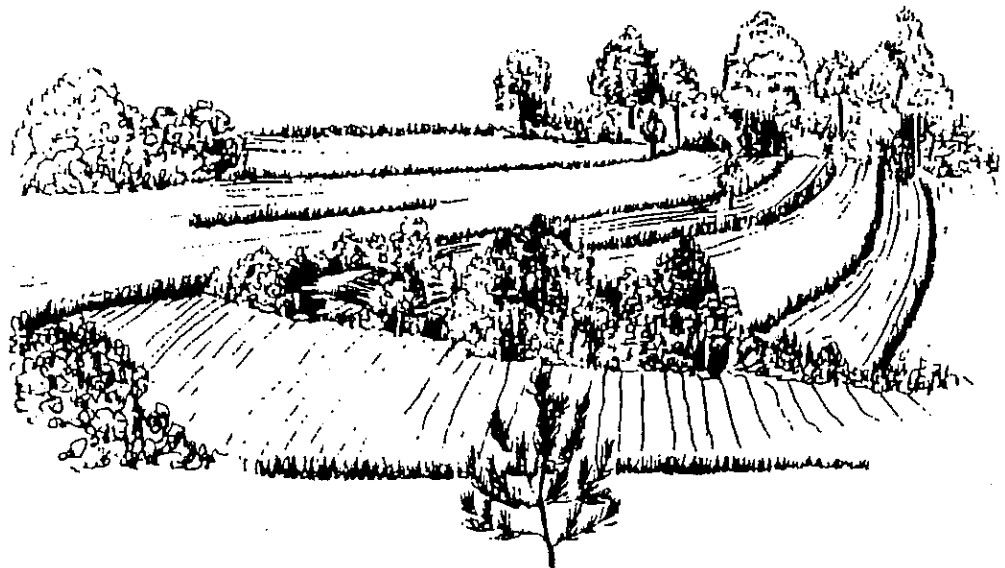
People in traditional communities are accustomed to living in an environment of consensus.¹ With regard to most issues of life — customs, values, beliefs, ways of doing things — they enjoy a high degree of consensus.³ This consensus is comforting, it reduces psychological tension, and it is probably an important factor in the oft-observed sense of dignity and self-worth among traditional villagers. A lack of consensus produces anxiety. It is painful. (Westerners probably best

*"Permanence" of an innovation means that the people will continue to use the innovation until it loses its usefulness or they find a better one to use in its stead.

TWO EARS OF CORN

understand the pain of a lack of consensus when they show up at a party inappropriately dressed.) Needless to say, villagers try to maintain consensus whenever possible.

When the program mentioned above began promoting its twenty practices in a village, six or eight families would try out fertilizer, four or five others would dig some contour ditches, and two or three would make a latrine. Even though the program succeeded in convincing, say, 60% of a community to try out one innovation or another, never did more than 20% of the community try out any one specific innovation. 80% of the community, the vast majority, was always unfamiliar with any one particular innovation. As long as 80% of a community is against an innovation, it has little chance of survival. The desire for consensus, the pressure to conform, will more than likely spell its doom. Development literature is full of cases of farmers who made spectacular gains in harvests, yet deserted their improved practices a year or two later because of peer group pressure. Furthermore, teaching a practice that later dies out is worse than doing nothing at all, because future programs will have even more difficulty introducing innovation.



If the program had promoted only one practice, for example, contour ditches, and 60% of each village had tried it out successfully, a new consensus would be formed — that contour ditches are good. Then, in order to bring about

LIMIT THE TECHNOLOGY

unanimity again, the farmers without contour ditches would gradually adopt them. Consensus would be working *for* the program instead of *against* it.

To Reach the Critical Mass

The percentage of the people in a community that must experience success with an innovation to turn the tide of consensus in favor of an innovation instead of against it is what we will call the "critical mass." If fewer than this number of people in a village adopt a given innovation, it will tend toward extinction. However, when the number of successful adopters reaches the critical mass, the pressures in favor of the practice outweigh those against it. Gradually, the innovation spreads through the community spontaneously until its use is virtually universal.

The experience of several programs in Latin America indicates that the critical mass normally varies between 25% and 45% of a community. In a given culture, it will vary according to the influence of the adopters and the simplicity, advantageousness, and ease of adoption of the innovation. The critical mass will also be somewhat larger in more conservative communities, or ones that are suspicious of outsiders. Nevertheless, it can be surprisingly consistent within a given culture.

For a practice to have a good chance of being permanent, the number of people successfully adopting it in any given community must reach the critical mass. Generally, the only way to achieve this is to promote just one or two practices at a time.

Some projects working with tribal groups or other tightly organized communities may have to convince entire communities all at once to use an innovation. In this case, it may be more important than ever to develop a favorable consensus as rapidly as possible by concentrating the program's efforts on one or two innovations.

To Assure Input Availability

Innovations will be permanent only if the necessary inputs continue to be available. In an economy where agricultural

To Develop Leadership

Limiting the technology with which we work is also important in developing leadership. I once worked in a World Neighbors program giving weekly classes to some thirty-five village leaders. We would demonstrate how to castrate a pig one day, teach them how to fertilize corn the next week, and demonstrate how to prune fruit trees or select seed potatoes the following week. We were shocked when a village survey at the end of the year indicated that only two of the practices had been adopted, each by only two leaders. We had created apathy instead of enthusiasm. The following year we spent all year teaching only two practices. This time, in spite of the inertia created the first year, eleven of the leaders successfully tried out one innovation, and eighteen tried out the other. Two years later, twelve of these leaders were enthusiastically teaching both practices to groups of villagers. Now, ten years later, the leadership process which that program started has resulted in the training of scores of leaders and the adoption of both practices by over 4,500 farmers.

When a program bombards prospective leaders with a different innovation every week, it gradually teaches them that good agriculture requires a vast store of knowledge they have no hope of ever dominating. They come to feel that they are doomed to being permanently ignorant. They become convinced that villagers who want to improve their agriculture must, forever and always, go to a professional. Seldom do they learn any one innovation well enough to feel confident that they could try it out successfully, and sooner or later the lack of concrete results destroys even their desire to continue learning. On the other hand, if a program concentrates its efforts on a limited technology, villagers can, in one year, study it repeatedly and in depth, try it out, become convinced of its value and of their ability to handle it, and sometimes even work out a few of its flaws themselves. They can gain enough experience and confidence in their own mastery of the innovation to feel capable of teaching their neighbors. Furthermore, the success of their experiments will increase their enthusiasm for continuing innovation. We will be building rather than destroying the knowledge, enthusiasm,

LIMIT THE TECHNOLOGY

and self-confidence our leaders need.

Limiting the technology also obviates the need felt by many programs to require their trainees to have at least a sixth-grade education. Primary school graduates are often looking for opportunities outside the village. Even worse, they were attending school during the years when most village children learned about agriculture from their parents. Thus, many never learned how to farm, while others consider farming beneath them. Farmers with only two or three years of schooling, and even those who are illiterate or barely literate, can easily dominate one or two innovations a year, and these people often become more enthusiastic, harder working village teachers.⁷

To Avoid Excessive Increases in Income

Another reason for limiting program technology is that the very objective of teaching multiple technologies — to achieve maximum increases in yields — is not necessarily desirable. Experience indicates that, surprising as it may seem, a program's first technology should generally *not* increase incomes by more than 150%. The first reason for this was explained above: excessive increases in income cause economic disparities that in turn cause jealousy, resentment, and kin group tensions.

Another reason for avoiding excessive increases in income derives from our being interested not so much in increasing incomes *per se* as in improving the people's long-term welfare. The problem here is that small farmers, like all of us, frequently fail to spend unexpected windfalls of cash in ways that will contribute to their long-term welfare. Caught unprepared, with little idea of how to use the money well and often with the distinct feeling that the money came rather easily, people tend to waste it.

Nevertheless, when incomes rise gradually, people's expectations rise accordingly. They begin looking ahead and planning how they can use future income. Feeling that the money was hard-earned, they naturally want its benefits to be long-lasting. And they have the time, coupled with a gradually increasing store of technical knowledge, to find ways of rein-

TWO EARS OF CORN

vesting their money so that the benefits *will* be long-lasting.

Still another reason for avoiding sudden large increases in income derives from our basic goal of agricultural improvement. Our central purpose is not that of raising incomes. We are instead striving to enable the poorest people to carry on their own process of rural development. If the program teaches the people how to increase their incomes more than the 50 to 150% needed to maintain enthusiasm, it is denying local leaders the opportunity to earn the credibility and the approval of their neighbors. If all the innovations providing dramatic increases in income are promoted by the program, only smaller, insignificant increases in income will be left for local leaders to teach later on. The villagers therefore lose confidence in their own leaders. The leaders will also lose enthusiasm for their work. If, on the other hand, the program leaves simple innovations capable of substantially raising incomes for local leaders to experiment with and to introduce after the program has ended, the leaders' prestige will be enhanced. Furthermore, the villagers will come to see improvement not as a one-shot occurrence dependent on an outside program, but as an on-going process that *they and their leaders* are capable of carrying on by themselves.

To Avoid Making Needless Efforts

The last reason for starting with a limited technology is that, very simply, this is the way villagers tend to adopt new technology anyway: one or two practices at a time. As John W. Mellor writes:

Major programs of community development and extension ... have normally included an effort to gain farmer acceptance of a wide range of innovations said to increase production and incomes, and yet the acceptance ... has generally been rather small. On the other hand we have numbers of examples of individual innovations, including a number of mechanical innovations, improved seed varieties, inorganic fertilizers, and so on, which have in certain specific situations spread very rapidly even without formal programs of farmer education and exhortation.⁸

Programs that teach more than two innovations at a time may well find that villagers are trying only one or two of them and forgetting about the rest.⁹

LIMIT THE TECHNOLOGY

To Achieve the Process of Agricultural Improvement

Agricultural improvement, as envisioned in this book, is a process by which farmers 1) learn about and try out a new technology, 2) are motivated by its success to adopt it and learn new technologies, 3) learn to teach new technology to others, 4) learn to investigate new technologies of their own, 5) learn to work together in groups or organizations, 6) learn to plan and administer a program, and finally; 7) learn to carry on the whole process by themselves. Only if this process is carried out in its entirety is agricultural improvement likely to be permanent.

Teaching a multitude of technologies each year damages or destroys this process. For example, when a program teaches a wide variety of technologies, different farmers inevitably adopt different innovations, thereby developing different felt needs. The chances that they will ever work together to build an organization based on a common felt need are greatly reduced.

Programs in Honduras and Nicaragua have found that after a year or two they had taught all the technology appropriate to local conditions, yet the farmers had adopted only a handful of innovations. When the programs tried to give additional classes on the technologies not adopted, many farmers reacted, "But we know that already!" Attendance at the classes dropped sharply; the agricultural improvement process had ended before it had really begun.

HOW CAN WE LIMIT THE TECHNOLOGY?

"First, we must be totally convinced that we really *want* to stick to a limited technology." It is all too easy to get excited about one innovation after another, gradually turning a single-innovation program into a scattershot one. There is ever and always the temptation to introduce one more innovation that will boost the yields even higher. Agronomists want more impressive looking fields, program administrators more dramatic statistics, and extensionists a more interesting, varied technology to teach. To keep us working on a limited technology, we must keep our sights set on the thousands of farmers we have yet to reach. We must keep in mind our long-

TWO EARS OF CORN

term goals — that our purpose is not to be the heroes ourselves but to leave improvements for the villagers to make, thereby letting *them* become the heroes. And we must stand firm.

Of course, farmers who have innovated successfully will begin asking for more technology. Sometimes it may be best not to teach it to them (see p. 35.) If we do teach more technology, it should probably be used as a reward for those who are teaching others. Hopefully it would require little or no supervision and no inputs that people cannot obtain for themselves.



How much should we limit the technology? Many technicians recognize the value of limiting technology and, as a result, advocate the “package approach.” This school of thought suggests that, instead of teaching everything about modern agriculture, we should study the present farming system and then introduce from three to five innovations as a “package.” The reason for working with from three to five practices is that very often, they say, there is such an interdependence among various production factors that no one of them is clearly limiting. That is, if we do not improve at least three or four conditions, we will not achieve a large enough increase in income.

The problem is that programs have begun promoting packages of three to five practices *regardless* of whether all that

LIMIT THE TECHNOLOGY

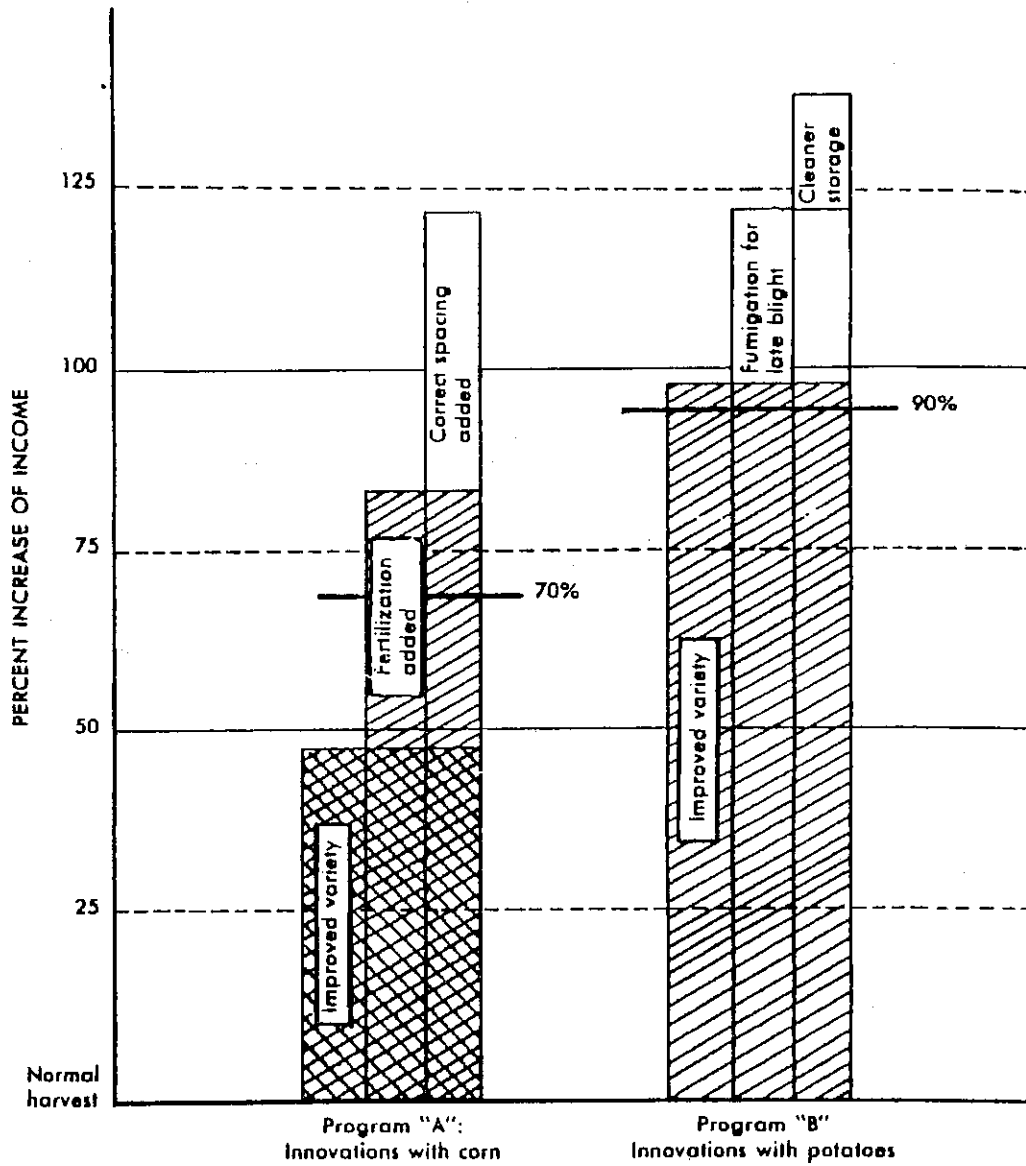


CHART NO. 3. Program "A" is looking for a 70% improvement in its corn production. Two innovations, introducing an improved variety and fertilization will be needed to achieve a 70% increase in income. On the other hand, Program "B" can achieve its desired 90% increase in income with just the introduction of an improved variety of potatoes.

TWO EARS OF CORN

technology is needed or not. In fact, no one seems to have bothered to define what constitutes "a large enough increase in income." Some authors talk about packages that increase harvests two or three times, while others promote packages that increase them six to eight times.¹⁰

What is an acceptable increase in income? At what level of increase can we decide that a given number of practices, be it one, two or five, is sufficient?

This question in turn brings up that of our overall goal in agricultural improvement. Our purpose, once again, is not to develop their agriculture for them, but rather to *teach them a process whereby they can develop it themselves*. The purpose of a program's first technology, then, should not be to make a once-and-for-all-time increase in incomes. Rather, it is to create enough interest that people will try it out successfully, become enthusiastic, and get involved in the program — in short, *to get them participating in the process of developing their own agriculture*.

The question of acceptable increases in income then becomes, "What increase in income is required to create the needed interest and enthusiasm among small farmers?" According to Mosher, "different qualified experts have estimated the increased yield* necessary to appeal to farmers in the beginning at different amounts, ranging from 40 to 100 percent."¹¹

Farmers need this margin in part because increases in incomes of less than 20 to 40% are difficult to recognize when farmers are using neither control plots nor financial accounts. Farmers also need a good margin because of a number of uncertainties such as weather conditions, prices, and the adaptability of the technology to local farm conditions. To the degree that any of these uncertainties become more acute (e.g., the timing or amount of rainfall fluctuates dramatically from year to year), the margin will increase to 75% and beyond. And it will take a somewhat larger increase to create enthusiasm than it does merely to make the increase recognizable.

*Mosher is apparently not referring to "yields," but rather to increases in net income. Added expenditures and a risk factor would have to be subtracted from increased yields to arrive at the figure for increased income.

in income is considered sufficient to stimulate farmer enthusiasm. Then the question of how much we should limit our technology is rather easy to answer: use the minimum number of innovations needed to achieve a 70% increase in income. (See Chart 3.) If one practice is sufficient — and surprisingly often it is — then working with a package of practices complicates the technology needlessly.

It takes time to find one or two innovations that raise income so significantly, but such a search is well worth the time it takes. In the past, the individual innovations that raised incomes most dramatically were improved seeds and fertilization with chemicals. Now, scattered, little-known programs are achieving equally impressive results with a wide variety of other innovations. Criteria that can be used in this search for innovations are outlined in Chapter 8, and the methods to be used are given in Chapter 9.

A program should not, of course, limit itself to one innovation for its entire duration. In time, it will build on its one or two initial innovations in an ever-expanding pyramid of technology, to be described in Chapter 9.



An appropriate technology meets a felt need, is simple to teach and understand, and uses resources poor people already have.