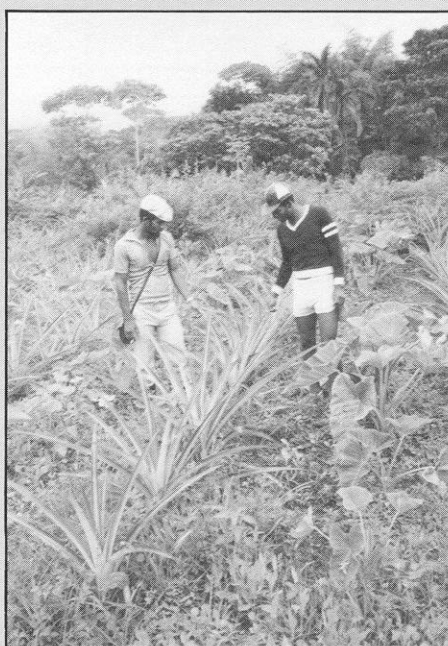


INSIDER OUTSIDER

THE PEASANT AND THE SCIENTIST

FARZAM ARBAB



Mutual benefit: The farmer and researcher learn from each other.

Development, as a global effort to end poverty in the world, has not enjoyed outstanding success during the past three decades. Its failures have led those concerned with social change to look more closely at the assumptions behind accepted theories. As a result, a gradual shift has occurred in the pattern of thinking about development.

Today, people no longer think that capital investment, accompanied by transfers of Western technology and know-how, will immediately result in development. Analyses of development now tend to include such factors as social justice, redistribution of wealth, local participation, the role of bureaucracy, political processes, the international economic order and the endangered ecology and apparently dwindling resources of the planet.

Recently, the term "people-centered development" has appeared in the literature with increasing frequency. It is ironic that it should be considered so important to introduce such a term explicitly into the discussion. What other kind of development, one may ask, was being contemplated for the rest of the world during the past thirty years? The sad fact, however, is that it is difficult to find "the people" in the hundreds of plans that have followed the evolution of thought in mainstream development. Under both dominant political ideologies, people are rarely considered except as factors that affect other systems and processes.

OUTSIDER'S VIEW

Obsessed with economic growth as the only meaningful development process, planners often seem to have treated developing countries as a black box. Small windows are opened to look inside the box only when one's interventions begin to fail.

The first simple model was to introduce capital and Western know-how into the box, and measure the output as the gross

"The changing moral and ethical value systems in developing countries are inadequate to cope with accelerated change."

national product. As this failed to achieve the desired end, windows were opened to look at some of the constraints. In the 1960s, development programs also became concerned with such bottlenecks to progress as population and backward traditional agriculture.

Later, new windows were opened to look at services such as health and education, or even at such touchy questions as the distribution of wealth. It is not clear, of course, how long it will take for this outsider's view to embrace the entire complex set of factors that affect development. It is even less clear if it will ever lead to participation with people in their own path of development.

Independent of their initial ideology, many of the individuals and groups who have worked closely with rural populations

on specific economic projects have been led to a much broader set of problems. It is not that economics loses importance as one tries to look at development from inside a rural population. In fact, problems of social injustice are actually felt with far more intensity, and production continues to be a very important concern. But the dominant concept becomes that of the human being and the processes of human life, which include economic activities along with other pursuits of family and community life. As outsiders become more and more involved with peasant populations, they become aware of a whole set of interrelated issues concerned with knowledge. Development workers find that they contribute to the application of advanced science and technology only within the context of the attitudes, skills, capabilities and social organization of the rural peoples themselves.

The changing moral and ethical value systems in developing countries are inadequate to cope with accelerated change. This is not merely a matter of political and bureaucratic corruption. At every level the beliefs, concepts and norms that define relationships between individuals and the society within which they live are in crisis.

CONFUSION OVER VALUES

In both rural villages and the slums of the cities, people are bombarded with images of foreign lifestyles. People are confused about their old value systems and have a strong desire for a new and more comfortable life. This creates a combination of want and hopelessness, a condition not conducive to creative change. Even among the ruling classes who have attained the benefits of modern life, basic trust, respect, and compassion are disappearing. The vitality of hopefulness is constantly diminishing.

The old concepts of class struggle and the old solutions of training programs do not lead to creative plans for positive change. Attitudes towards rationality, efficiency, work and problem-solving as well as approaches to family life and community solidarity need to be studied.

There must be created, within developing countries themselves, the capacity to analyze changes in moral and ethical structures so that both national policy and specific projects can be placed in the real context of human and social development.

SCIENCE, TECHNOLOGY, AND EDUCATION

A second set of problems has to do with our basic inability to induce accelerated but constructive change in the scientific and technological culture of most developing societies. It seems that development projects, when successful, can transfer elements from modern science or technology to certain groups within developing countries. This transfer may involve the development of universities and research institutes or simply the adoption of single technological packages by a peasant family.

It is becoming more and more clear

however, that sustainable development involves creating with a people a path of change, which can benefit from other cultures, but which will have to be trodden by the people themselves.

The capacity to analyze and understand the dynamics of scientific and technological cultures, and to manage the corresponding processes of change, has to be strengthened in the developing world. This must include the ability to bring together the discourse of the different groups in science, technology, and education, and must create mechanisms through which new understanding can influence the direction of policy.

PERCEPTIONS

In spite of more than a decade of debate on appropriate technology, there is little "certain" knowledge that can be used in determining strategy. What is the nature of the technology that will allow the rural inhabitants of a given region to change a disintegrating subsistence economy into a viable alternative, a rural one that enjoys the benefits of modern society? Is there really a technological choice or is technology basically determined by political conditions and by economic policy?

The experiences of the past three decades have shown that along with technology, many of the accepted views on science and its methods need to be re-examined. It has become clear by now that the distinction between modern Western science as truth, and the traditions of other people as a mixture of superstition, common sense, and unstructured wisdom is to be abandoned.

We must now learn how to handle the tensions that arise between modern science and the local traditions of a region. This implies finding ways of recuperating traditional knowledge and validating it, in adapting quantitative methods to the realities of specific populations, in developing valid qualitative methods of inquiry, and in discovering an adequate language to express the results of scientific research so as to open the door to the participation of the people in search for solutions to their own technological problems. It also implies a closer look at the structure of the present day disciplines and the creation of mechanisms that allow knowledge as a whole, and not merely its fragments, to be brought to bear on the urgent needs of developing towns and villages.

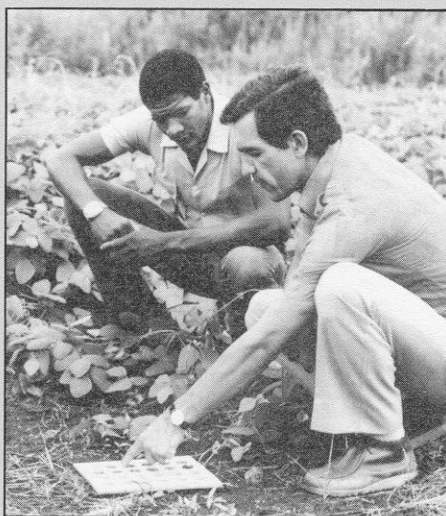
GENERATION AND APPLICATION

In the past, technological packages have been developed by experts and handed out to beneficiaries through extension. Many of these programs have failed because of the lack of sensitivity to the real problems of the community and the way their members perceive the world around them.

Parallel to and in collaboration with institutional efforts to push forward the frontiers of the agricultural and biological sciences, high quality research has to be done at the

level of specific rural areas in order to generate the necessary technology for production on small farms. Such research must bring together social inquiry and technological development, and ensure the participation of the villagers themselves in the generation and application of knowledge. Through this research, systems of production have to be developed that offer significant improvement over the traditional systems on the one hand and the modern mechanized monoculture on the other. This implies a program for the selection of species and varieties for systems that are based on diversity of crops and animals.

A more relevant process of technology production in itself needs to be closely connected with a sound educational process. Many of the past difficulties of development efforts can be attributed to the limitations of a fragmented research-development-extension system. On the one hand, research is needed to clarify the possible role of education in bringing about change in the scientific and technological culture of a people. What are the possible



Learning to grow better beans in Colombia.

contents of educational systems that would help modernize without destroying the past and forcing the vast majority to live at the margin of society? What are the possible roles of formal and non-formal education? What is the role of extension and can it be integrated more closely with education? On the other hand, there is a great need to promote educational innovation in rural areas, to systematize the lessons learned from such innovations, and, on the basis of systematic experience, to influence the content and the methods of formal educational systems.

ORGANIZATIONS AND STRUCTURES

In rural areas, the old village structures and organizations are crumbling under the often disintegrating forces of modernization, but the structures of the modern village are not there to replace them. Actual data are finally showing that local organizations merit a far more central role in development schemes.

All the processes of rural life, production, simple manufacturing and repair, market-

ing, the development of human resources, socialization, the flow of information, the maintenance of health and sanitation, decision making, and many others, are in need of basic structures that can be connected to the corresponding structures of the social, economic, cultural, and political life of the nation as a whole. It is indispensable to create and strengthen the capacity in developing countries to carry out valuable research in social organization, to promote innovative village structures, and to influence the political environment of most countries so that effective local institutions may actually begin to emerge.

INSTITUTIONS OF RESEARCH

Learning about development is, in the final analysis, only achieved through action; research has to be carried out in the context of actual development programs in a country or a region. Which are the institutions in the Third World that would carry out research in the subject areas suggested here?

On the one hand, more than three decades of development action by international agricultural research centres and governments aided by universities and specialized institutions have taught us a great deal about policy, the design of large-scale programs, the behaviour of bureaucracies in administering these programs, and the effects of different economic and political forces that influence a given plan.

On the other hand, the past two decades have seen the emergence of a large number of intermediate size private institutions sprung from universities, political groups, and churches. These smaller institutions combine reasonable scientific capability with the flexibility of a small group immersed in the problems of specific rural or urban populations. While most of these institutions enjoy little access to power to accomplish significant development objectives, they have certainly generated a great deal of valuable knowledge about strategies of change and have been far more effective in their own small spheres of influence than most large projects.

The strength of these intermediate institutions has actually been recognized by large bilateral and multilateral donors. But to incorporate them in their plans, always tied to bureaucratic regulations, has proved to be next to impossible. It is essential then that much more systematic thought be given to the role of these intermediate size institutions, that their support be greatly increased, and that somehow their experience and efforts be integrated into the larger programs with greater possible impact. The institutional arrangement appropriate for future research in agriculture and rural development is exactly the combination of large official institutions and those intermediate size organizations which possess scientific capabilities yet have strong and intimate connections with specific rural populations. □

Farzam Arbab is president of the Foundation for the Application and Teaching of Science in Colombia. He is currently Visiting Scholar at the Harvard Institute for Development.