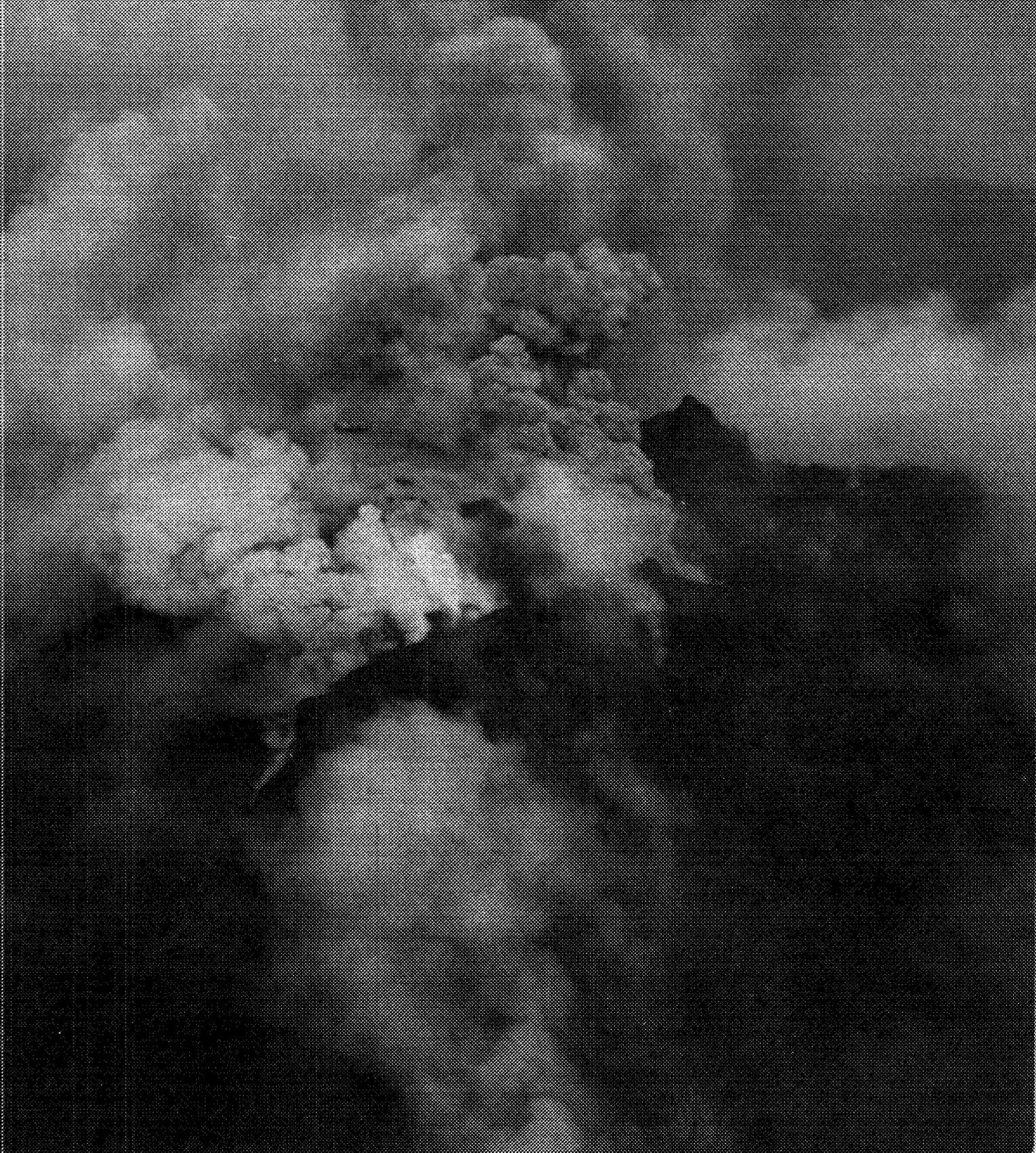


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War on Hunger

A Report from The Agency for International Development

NOVEMBER 1976



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A Report from The Agency for International Development

Daniel Parker, AID Administrator
Clinton F. Wheeler, Director, Office of Public Affairs



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COVER: The summit of La Soufriere in Guadeloupe on September 26. Hundreds fled their homes in August to escape the possible eruption of this volcano. (See page 4)

Photo by Richard S. Fiske

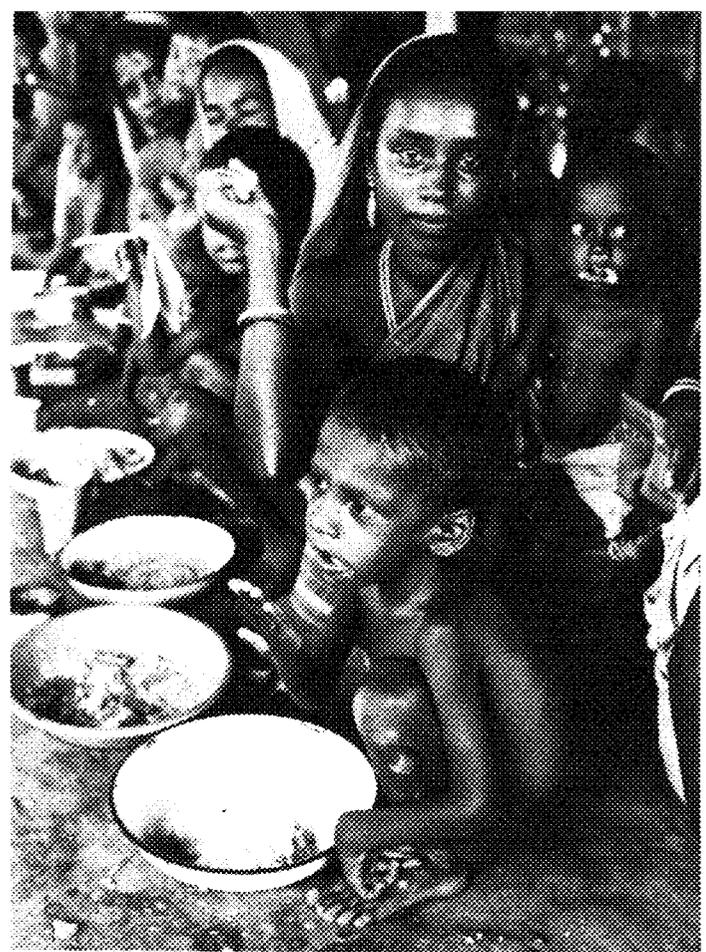
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Today there is more hunger in the world . . . and at the same time there is more food. If greater food production will not solve the problem of hunger, what is the answer? (See page 1)



WHEN

More Food Means *More Hunger*

By Frances Moore Lappé and Joseph Collins

Asking the right question is often more difficult than coming up with the right answer.

Hunger is continually defined for us as a problem of inadequate production. If people are hungry, there must not be enough food. For at least 30 years the central question of the "War on Hunger" has therefore been: How can more food be produced?

Thus we are treated almost daily to the "news release" approach to hunger. We learn of one new breakthrough after another—protein from petroleum, harvests of kelp, extracts from alfalfa—all to expand the food supply. Even the message of *Diet for a Small Planet* gets narrowed down to "eating

© 1976 by the Institute for Food and Development Policy, Box 57, Hastings-on-Hudson, N.Y. 10706. In the spring of 1977 Houghton-Mifflin will publish *Food First*, a popularly written book on the real potential for food self-reliance, by Frances Moore Lappé and Joseph Collins with Cary Fowler. F. M. Lappé is the author of *Diet for a Small Planet*. Ballantine Books, revised edition, 1976. The views expressed by the authors are not necessarily those of the Agency for International Development, and should not be construed as representing official policy of the U.S. Government.

one less hamburger a week" in order to increase the food supply for the hungry.

For many, the production approach is working. Today more food is, in fact, being produced. The Green Revolution now adds an estimated 20 million tons annually to the grain larders of Asia. In Mexico wheat yields tripled in only two decades.

But wait. There are in fact more hungry people than ever before. Since there is also more food than ever before, we're left with only two possible conclusions:

Either the production focus was correct but soaring numbers of people simply overran even these dramatic production gains;

Or the diagnosis was incorrect. Scarcity is not the cause of hunger. Production increases, no matter how great, can never solve the problem.

The simple facts of world grain production make it clear that the over-population-scarcity diagnosis was, in fact, incorrect. Present world grain production could more than adequately feed every person on earth. Even during the "scarcity" years 1972-73,

there was 9 percent more grain per person than in "ample" years like 1960. Inadequate production is clearly not the problem.

In fact, as ironic as it may sound, a narrow focus on increased production has actually *compounded* the problem of hunger. Because it goes against the popular wisdom, we found ourselves wanting to verify and re-verify this conclusion in our research at the Institute for Food and Development Policy.

Narrow Approach vs. Broad View

What have we found?

The production focus quickly became synonymous with "modernizing" agriculture—the drive to supply the "progressive" farmer with imported technology—fertilizer, irrigation, pesticides, and machinery. The Green Revolution seeds only reinforced this definition of development because their higher yields depend heavily on these inputs. Agricultural progress thus was transferred into a narrow technical problem instead of the sweeping social task of releasing vast, untapped human resources.

Governments, international lending agencies, and foreign assistance programs pushing for greater production "at all costs" willingly subsidized the heavy financial expense of this type of modernization.

The result? This influx of public funds quickly turned farming into a place to make money, sometimes big money. To profit, however, one needed some combination of land, money, creditworthiness, and political influence. This alone eliminated most of the farmers throughout the world.

Ignoring substantial evidence from around the world that small, carefully farmed plots are more productive per acre than large estates and use fewer costly inputs, government production programs invariably passed over small farmers (not to mention the landless). The common rationalization is that working with bigger production units is a faster road to increased production.

Competition for lands suddenly made profitable by this official production strategy has brought rising land values. Not atypically, land values have increased by 300 to 500 percent in the Green Revolution areas

Food production increases while at the same time hunger increases. Is there enough food? Increased production, the authors

contend, has actually compounded the problem of hunger. What is the answer to this problem which threatens the lives of millions?



of India setting off spiraling land speculation and even "land grabs".

The lure of greater profits tempts large landlords to take back land they formerly rented out. Many use their now higher profits to buy out small neighboring farmers. Whereas an average farm in the Mexican state of Sonora was only 400 acres in the early 1950s when irrigation and the Rockefeller Foundation seeds were introduced, 20 years later the average farm had grown to 2,000 acres with some holdings running as large as 25,000 acres. In the Indian Punjab during the period from the mid-1950s to the mid-'60s farms over 100 acres were growing four to ten times faster than smaller farms.

Expansion by large holders has increased the number of landless, as small farmers are squeezed out and tenants displaced. In 1940 about half of the agricultural labor force in Sonora (the heart of Mexico's Green Revolution) owned no land at all. By 1970 the percentage had risen to 75 percent. Throughout the underdeveloped world the landless now comprise 30 to 60 percent of the agrarian population. This doesn't even count the millions of landless refugees who are the human products of the production strategy. Finding no farm work, they join an equally hopeless search for work in urban slums.

At the same time that the number of landless seeking work steadily grows, the number of jobs is shrinking. Mechanization enables the large land holder to cultivate more land himself without having to share the produce with sharecroppers or laborers. Despite mounting unemployment, governments encourage mechanization by subsidizing imported machinery and exempting mechanized farms from land reform. In Pakistan the same tractor costs one-half what it does in Iowa, calculated in terms of wheat.

Agricultural production based on purchased inputs—fertilizers, hybrid seeds, pesticides, machinery—invariably means that money-based relationships come to replace rent and wages traditionally paid in farm produce. To pay a cash rent, however, the tenant must go into debt even before planting—and often at exorbitant interest rates. While rent in kind meant a bad harvest was shared by both landlord and tenant, payment in cash means the tenant must come up with the same rent no matter what the harvest.

Shift in Resources Control

We are thus witnessing the radical transformation of the control of food resources—both in our own country and throughout the non-socialist underdeveloped world. Agriculture, once the livelihood for millions of self-provisioning farmers in the Third World, is being turned into a profit base for a new class of "farmers". Traditional landed elites, moneylenders, military officers, city-based speculators, foreign corporations, and even African tribal chieftains are now becoming agricultural entrepreneurs.



Landless workers in the developing world now comprise 30 to 60 percent of the agrarian population. Job opportunities shrink.

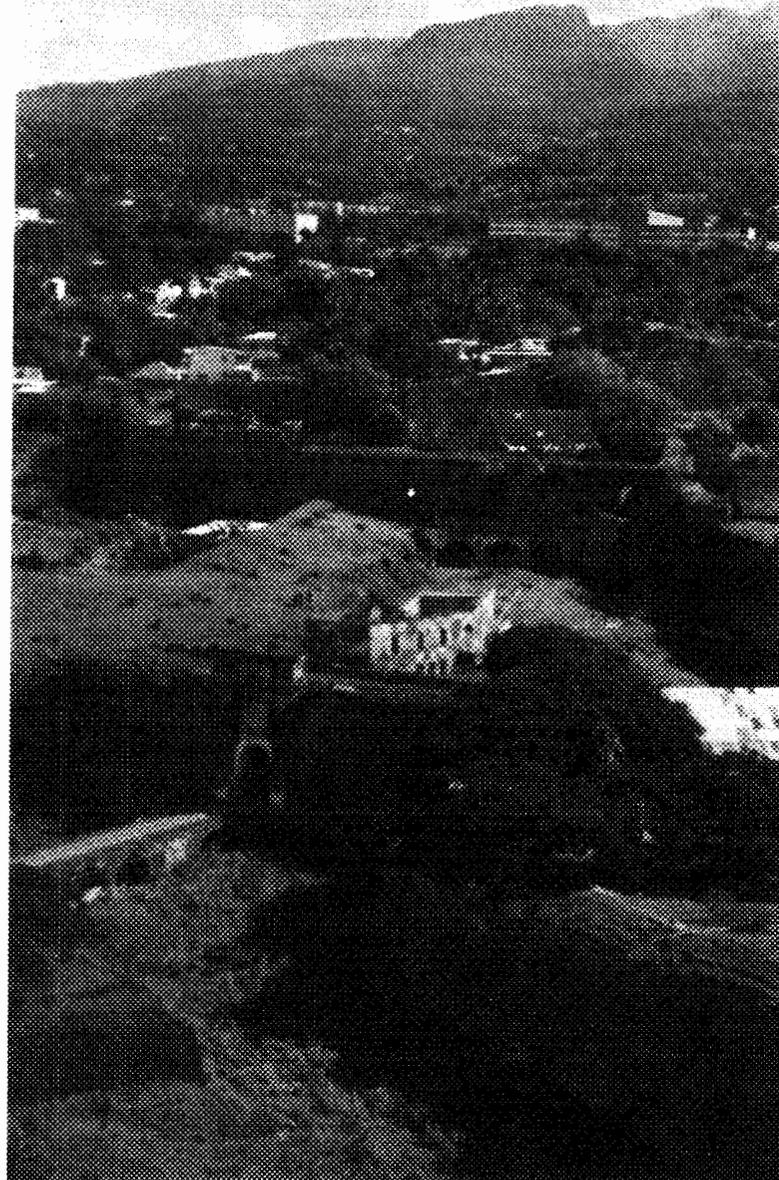
In the course of this transformation the hungry are being severed from the production process. At best they become insecure wage laborers with seasonal jobs. To be cut out of the production process is to be cut out of consumption. In areas where the production increases have been most notable, the well-being of the bottom half of the rural population, measured in levels of income and of nutrition, has declined in not only relative but absolute terms. The numbers of families below the poverty line quadrupled in the Punjab during the 1960s—the very state where the Green Revolution has most successfully increased yields.

There *is* more food but people are still hungry—in fact, more hungry. The process of creating more food has actually reduced people's ability to grow or to buy food. Where is the increased production? Did it mysteriously disappear? No.

• Some of it goes to urban middle income groups. The governments of the United States and Pakistan collaborated with the New Jersey-based Corn Products Corporation to improve yields of Pakistani corn—historically the staple food of the rural poor. Hy-

(Continued on p. 14)

VOLCANO

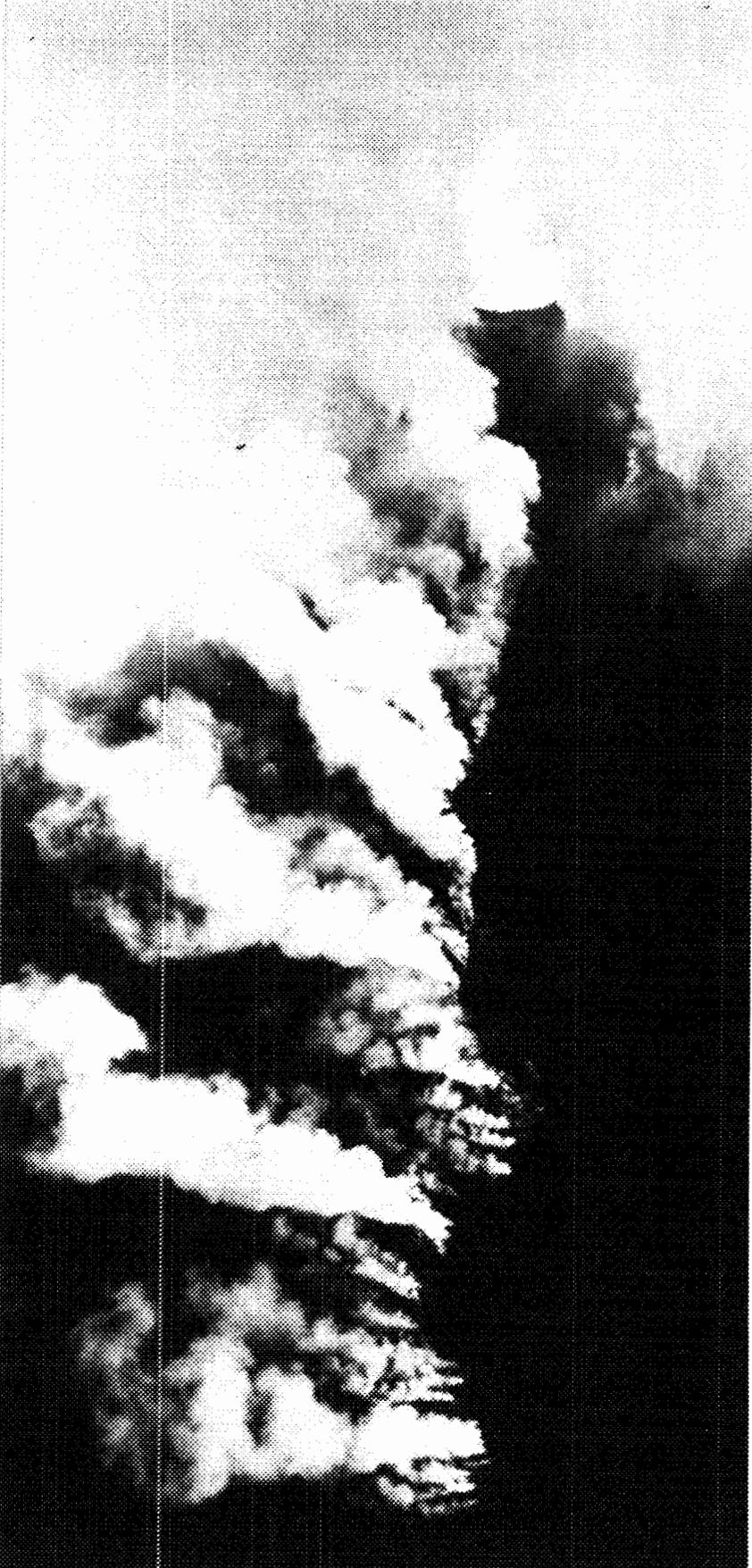


By Marion B. Wilhelm

"It's raining and there's lots of lightning. We're operating under jungle conditions. The summit fissures are still extruding steam."

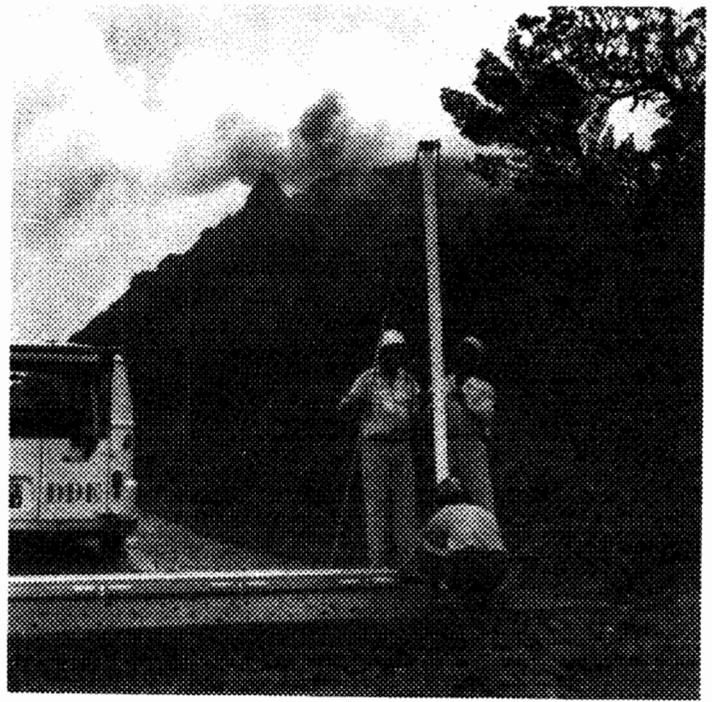
Seated in the Foreign Disaster Assistance Operations Center, more than 2,000 miles from the steaming, rain-drenched slopes of a live volcano in the Caribbean,

Ms. Wilhelm is a senior writer in the Office of Public Affairs.

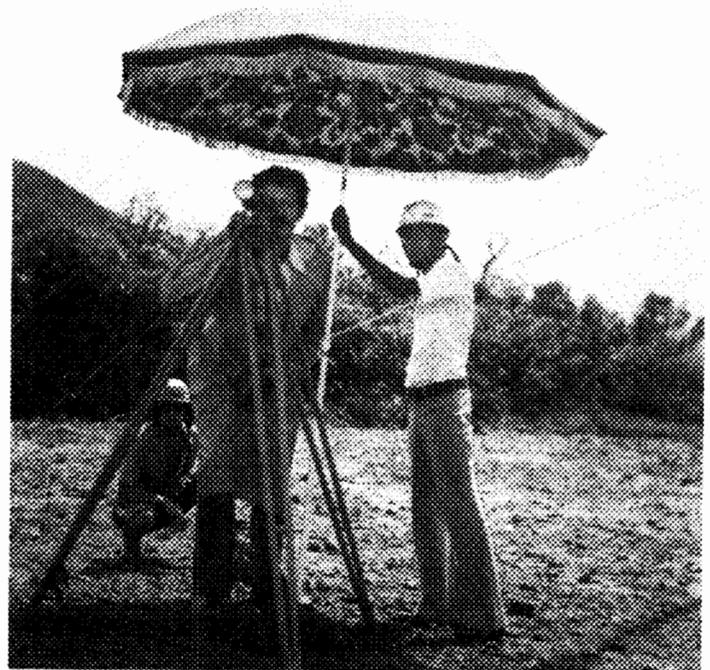


La Soufriere simmers as steam erupts from a 1,000 foot-long fissure that cuts the summit. The August 30 eruption was the largest in a current series in Guadeloupe. AID is assisting in monitoring the volcano to keep the residents informed.

WATCH



Above: Technicians erect leveling rods designed to detect volcano tilt. Left: City of Basse Terre, capital, with Fort St. Charles in foreground where scientists have assembled their monitoring equipment. Below: Georges Jezovin, Director of Highway Engineering Department, Guadeloupe, measures tilt. Umbrella protects instrument from adverse thermal effects of sun's rays.



disaster specialists of the Agency for International Development (AID) were listening by radio telephone to a dramatic, sometimes fading, eye-witness report.

A U.S. scientist on the scene on the French island of Guadeloupe was reporting ground measurements back to volcanologist Richard S. Fiske, who had installed the sensitive "tilt meters" at the foot of La Soufriere Volcano for the U. S. Geological Survey and AID. Dr. Fiske flew to the island on August 26 at AID's request to measure the danger to some 72,000 people already evacuated from the slopes of the volcano, including all 20,000 residents of the capital city of Basse-Terre.

"There is no way to guess when the danger will be over," Dr. Fiske told AID's Office of Foreign Disaster Assistance on his return from Guadeloupe.

"The earthquake tremors detected since the volcano began steaming in July have declined from a peak of 1,200 to about 100 a day. But the south and southwest fissures and vents are still billowing steam, sometimes showering very fine ash downslope over the city."

If the seismicity and tilt of the volcano decline further, he said, "the French Government will have to make a carefully-weighted decision as to whether to bring the people back to the area. This decision will not be an easy one. It doubtless will have to be made in the face of many uncertainties. It's an eerie thing to walk through an empty city where the only living things are dogs and chickens."

Evacuated to the northern end of the hilly, green island, the thousands rescued from impending danger—including 100 Americans living in the capital—were housed in public schools until classes reopened. AID provided 500 tents for emergency housing, of which 400 were family units and the rest for use as schools or feeding areas. The tent airlift was valued at \$167,000.

Tilt meters installed on the flanks of the smoking volcano by the AID-financed scientific team are measuring the degree of volcanic "tilt" or swelling, according to Dr. Fiske. One is located on the upper slopes of the mountain, less than a mile from the summit—where Dr. Fiske and his scientific teammate, volcanologist Willie T. Kinoshita, were able to find a level area of sufficient size to establish the tilt station.

"A volcano swells up like a balloon before it erupts," explained Dr. Fiske. "The tilt-meter system is a very simple, very cheap, and essentially foolproof method of measuring its inflation and deflation. The only problem is to find a flat area large enough to install it—not so easy on the sloping sides of volcanos."

The urgency of such precise monitoring is apparent to all who live in the Caribbean. In 1902, some 30,000 French citizens died in a volcanic eruption on the neighboring island of Martinique. In more recent times—1971—AID assisted 2,000 people temporarily evacuated from the slopes of Soufriere volcano on St. Vincent island.

Typically, a volcano inflates gradually before an eruption and then deflates rapidly as the reservoir system within the volcano drains. In the case of La Soufriere—"the sulphurous one," as it is known to the residents of Basse-Terre, Guadeloupe—measurements to date give only a slight indication that the volcano might be inflating according to Dr. Fiske.

For that reason, he said, it is too early to say whether or not Soufriere will have a full-blown eruption. A frightening steam explosion shortly after the French evacuation, for example, caught the volcanologists by surprise.

The two-man team from the U. S. Geological Survey was making tilt measurements two miles from the top when they heard "a thunderous booming and we felt the ground shaking under our feet. A billowing black cloud mushroomed above the summit of the volcano. We jumped in our Volkswagen bus and came roaring down the mountain side."

A party of French scientists caught farther up was pelted by rocks the size of grapefruits, and a freelance photographer "came running down the slopes with his face blackened by ash."



Dr. Fiske points out the location of the volcano he and other scientists are monitoring on the island of Guadeloupe.

Scientific activity on Guadeloupe is centered in an 18th century fort where scientists from France, the United States, and other nations have assembled monitoring equipment. A French volcano observatory located higher on the slopes had to be evacuated to the fort.

Though prevailing winds carried most of the ash and smoke out to sea, the economic losses to businessmen, farmers, and unemployed families evacuated from their homes run into the millions of dollars.

Dr. Fiske and Mr. Kinoshita returned to the island on another AID mission on September 24 to interpret the tilt data gathered thus far and assess the current trends of volcanic activity. Dr. Fiske, who has recently joined the staff of the Smithsonian Institution, was a staff member of the U. S. Geological Survey's Hawaiian Volcano Observatory just prior to and during the 1967-68 Kilauea eruption.

"The summit area of Kilauea volcano," he wrote in a scientific study co-authored with Mr. Kinoshita, "is a geodesists's nightmare. Benchmarks shift their vertical and horizontal positions by as much as 50 or 100 centimeters from year to year, and the overall shape of the volcano is constantly changing."

The volcano on Guadeloupe has not been studied as intensively. "Therefore," he says, "we are not able to anticipate what the deformation pattern is apt to be. The hope is, however, that the pattern that eventually emerges will be of value to the French officials who must make the decisions about the disposition of the 72,000 people who are still evacuated."



Minikits and Maxi Yields

By Alexanderina V. Shuler



The maize minikit is an effective method of getting research results to the farmer to help increase food production.

Ms. Shuler is Editor of *Front Lines*, an internal AID publication.

"Farming is a good business," Mr. Ayoade, who farms two acres outside the village of Aba Oke in northwestern Nigeria, proclaimed.

"If," he qualified, "I can have the seeds and fertilizer I need to produce good results."

Mr. Ayoade knows about improved farming methods and proper management. He has broken through the traditional methods used by most Nigerian farmers, thanks to the seed and fertilizer minikits developed by the Nigerian Department of Agriculture's National Rice/Maize Center at Moor Plantation in Ibadan. He is one of several hundred small farmers in Nigeria who have been selected to field test new varieties of maize developed by the AID-assisted International Institute of Tropical Agriculture and the Nigerian National Cereals Research Institute, Moor Plantation.

Three scientists under contract with IITA, working with their Nigerian counterparts, have introduced the minikit to rice and maize farmers in Nigeria. Situated in modest facilities, the men have been working on an agricultural production action plan which, when implemented in the next few years, could mean a doubling or tripling of rice and maize production in Nigeria.

The project is no small task. It includes coordinating the Nigerian Government's rice and maize activities in its National Accelerated Food Production Project (NAFPP), as well as developing a countrywide training program, speeding up transfer of research results to local farmers, organizing extension efforts on a commodity basis, and coordinating seed multiplication throughout the 19 states of Nigeria.

The long-range NAFPP aims to stimulate an inadequate agricultural system, expand and improve food production, and control rising food prices. The Nigeria Government's recognition of AID's efforts in transferring Green Revolution technology to the developing world led to the Center's establishment with hopes the same ends could be achieved in Nigeria, explained Center Coordinator I.G. Rothney. Mr. Rothney, retired AID extension advisor cited by the Agency in 1971 for his work while stationed in Nigeria, says that at the onset of the project at the Center a few basic problems were evaluated.

"Despite high food prices, most Nigerian farmers have small incomes due to low productivity. Use of local seed varieties with low production potential, combined with limited or no use of fertilizers and insecticides, means small yield per hectare. The farmers' output is further restricted by the lack of animal or mechanical power and their reliance on human power and crude and ineffective hand tools."

The answer, the Center scientists determined, is basic—develop an infrastructure that will encourage increasing food production by using better seeds, fertilizers and agricultural chemicals, farm credit, and appropriate mechanization.



Aba Oke villagers dry cocoa beans, one of the local cash crops, prior to sending them to market.

How to achieve the goal is not so simple. To encourage farmers to adopt new agricultural technology a three-step method was developed. Mr. Rothney explained: "The rural Nigerian farmer is bound to his small holdings by tradition and any introduction of something new has to be done on a gradual basis."

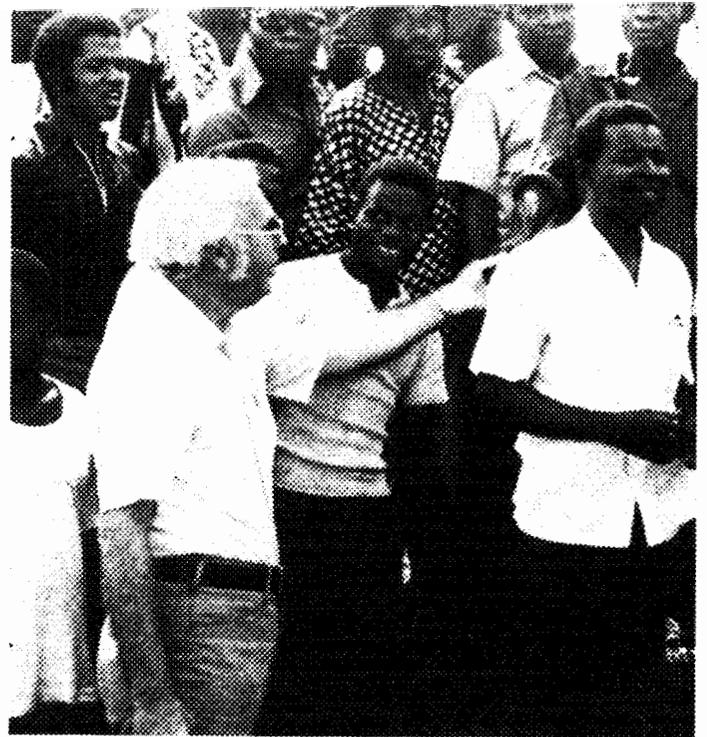
Rice specialist Anthony Perez from the Philippines, noted:

"We want the farmers to be involved, to select the variety and practices that appeal to them most. If they do not like the color or taste of one particular variety, no amount of encouragement will convince them to plant anything but their old, unimproved seed."

Joshua F. O. Jegede, a Nigerian maize production specialist at the Center, said: "The farmers want proof. They want to see beforehand what these 'miracle' seeds will do for them."

And thus the minikit was developed to show the farmer there is a better way, one that means better food and more of it.

The kit, a small mahogany box, contains four packets of improved seed varieties and one of the local



LG Rothney, Director of the National Rice/Maize Center, participates in a field demonstration attended by farmers and students.



Anthony Perez, rice production specialist at the Center, provides instruction on how to space rice plants. A detailed rice manual



Farmer Ayode believes using improved maize seeds means more money and a better quality of life for his family.



The minikits of high yield maize and rice seed and fertilizer are packed for distribution to the farmers.



is being prepared to serve as a ready reference for extension agents as they teach farmers the proper methods.

variety, two packets of fertilizer, and simple instruction and record books.

One farmer in a village is selected to receive the minikit. Extension agents meet with community leaders, who in turn determine who the minikit leader will be. They are careful to choose a farmer who will understand the significance of anticipated results and who will impress upon his neighbors the importance of the test. Only those farmers who show continued enthusiasm and good performance will be considered to participate in the initial phase of the National Accelerated Food Production scheme when it is launched.

The kits accommodate small plots of land—about 5 to 10 meters for each seed variety planted. When Mr. Ayode planted and cultivated the seeds in his kit, he received technical assistance from the Center research staffers. The advisors visit minikit sites to listen to farmers' problems as well as those from the Nigerian extension staff, then return to the drawing board for further improvement.

"Seeing is believing and the farmers like what they see," Mr. Jegede said. "The response has been enthusiastic."



Extension Agent S.J. Adedoyin, left, examines an ear of improved maize. The maize seed was in a minikit tested by the farmers.

Farmer Ayoade heartily agrees. Pulling up his sleeve he points from his fingertips to his waist, indicating the size of an ear of maize from a previous harvest of a local variety. Then, with a broad smile, he moves his index finger up to his elbow to show that the new seed varieties in his minikit yielded 50 percent more.

He acknowledged that such results will encourage young people to stay on the farm rather than migrate to the cities. He looks forward to the day when the federal government initiates the nationwide agricultural program, when he will receive enough seeds and fertilizers to plant his entire holdings.

"Life is good on the farm," he said. "There is more room and more food and it is healthier. Soon we will be able to raise more food and better food for our families and have some left to send to market. This way we will have money to buy more seeds and more fertilizer."

For one farmer the new seeds mean he will be able to make money to send his son to school. For another it means being able to buy more meat and poultry to provide the protein so many Nigerians lack. In Mr. Ayoade's village meat is a rare luxury. It is not often they stop the meat vendor, who pedals down the main road with his fresh meat. Instead, they live on maize, cassava, cowpeas, and greens that grow wild on the land surrounding the village.

The village farmers proudly showed the harvest of their cash crops of cocoa, coffee, and palm oil, although in-country use of coffee and palm oil rapidly is diminishing the amount for export.

But they complained of soaring living costs—a small chicken costs \$5 and a dozen eggs, \$2. (Per capita income is slightly over \$200.)

The new maize varieties means a cash crop to provide more purchasing power and a better quality of life. Next year a production kit which will plant a quarter acre of the new maize varieties may be offered to the village. In the meantime the farmers apply what they have learned from the extension agents to manage their land better and use more modern

techniques, such as crop rotation and irrigation. The message is carried to other farmers in Nigeria via local press and television coverage as minikit farmers plant and harvest test fields, and the farmer holds demonstrations to show off his accomplishment to his neighbors.

Dr. Perez is as optimistic about increasing rice production in Nigeria.

"Basically most Nigerian rice yields are limited by the varieties used and by the farmer's low level of management," he said. Trials by the Nigerian National Cereals Research Institute, IITA, and other research centers continue. The Rice/Maize Center's rice team plans to bring together leading Nigerian rice scientists to discuss and coordinate ongoing and proposed research and field trials. The team will follow up by keeping the scientists informed of new developments.

One of the key ingredients of the Center's work is training.

"Success of a Nigerian Green Revolution depends primarily on the effectiveness of the extension agents in teaching the new technology to the farmers and on the confidence of the participating farmers in the proven effectiveness of the technology," Dr. Perez emphasized.

He noted the Center has held short training courses on production techniques for extension agents, emphasizing diagnostic skills to identify the major pests, diseases, and mineral deficiencies or toxicities. From November 1974 to May 1976 more than 1,000 Nigerians have participated in Center-sponsored rice and maize training sessions.

Extensive teaching aids have been developed by the Center, including pamphlets and charts showing the different kinds of pests and diseases. A detailed rice production manual soon will be completed to serve as a ready reference for extension agents.

"We're encouraged by the progress the Center has made to date," Mr. Rothney said, noting that in 1974, 73 rice kits and 285 maize kits were distributed to local farmers. A commendable beginning considering the rice and maize team began its work in July 1974. Last year a total of 425 rice kits and 560 maize kits were in use.



Nigerian maize production specialist Joshua F. O. Jegede (white shirt) checks maize grown under the government's project.



Equity – Key Development Issue

By Ronald Soligo

For the past 25 years there has been an effort to stimulate rapid economic growth in less developed countries. Today, approaches which have been used are being critically reassessed.

Despite some success in achieving what are by historical standards reasonable rates of growth of output, the gap between the rich and poor within many developing countries has been increasing. Indeed, for vast numbers of people the development efforts of the past 25 years have had little or no tangible effect on their lives. At the same time small, high-income enclaves have developed within the larger cities, where a privileged few enjoy standards of living which are comparable to those in the developed world.

Some development economists have argued that growing income inequality within a country during

Dr. Soligo is Director of the Program of Development Studies at Rice University in Houston, Texas. This article describes the work of that program which receives some support from AID. It is reprinted with minor changes from the winter 1975-76 issue of the Rice University Review.

The gap between the rich and poor within many developing countries has been widening. Increasing migrations of people

the early stages of development is desirable. They identified economic growth with the rise of an entrepreneurial class which was characterized by a high propensity to have and to reinvest in new business ventures. This class was supposedly oriented toward the accumulation of ever greater quantities of wealth and deployed its imagination and energies to this end. The laboring class, however, was too poor to have any residual income left over after the essentials of life had been met.

Economists reasoned that the larger the share of profits in national income the higher the share of income which would be reinvested and, hence, the higher the rate of expansion of productive capacity, income, and employment.

Postwar economic development policies more or less accepted this notion. Even developing countries which stressed socialist approaches thought in terms of state capitalism, whereby the state would play the role of the entrepreneur who saved and reinvested. Keeping the consumption levels of the masses as low as possible was viewed as necessary to maximize the surplus which could be reinvested.

The policies which have been followed in the postwar period might eventually have helped to generate employment growth and income gains for the poor.

from the rural areas of these countries into the cities have created large urban slums and unemployment.



But economic and political changes have made the traditional development strategy less and less feasible.

Aid-giving nations have not been willing or able to sustain, let alone increase, the resource transfers to the developing economies on which the old strategy depended.

The disappearance of agricultural surpluses in the United States has meant that the poor countries have had to confront the very difficult problems of increasing agricultural output.

Large and persistent migrations of people from rural areas to the cities have created large urban slums with few public services and employment opportunities.

At the same time, the poor in the less developed countries are showing a much higher level of political consciousness than had traditionally been the case at that stage of development. Economic and political ideas which had surfaced in the wealthy countries after they had achieved a measure of economic success were being transmitted to the less developed countries at the earliest stages. The poor of these countries were no longer willing to wait for some future generation to receive benefits from economic development. They wanted to see benefits in a reasonable period of time. Furthermore, they could point to the People's Republic of China as a country which claimed to have made major gains for its rural population within one generation.

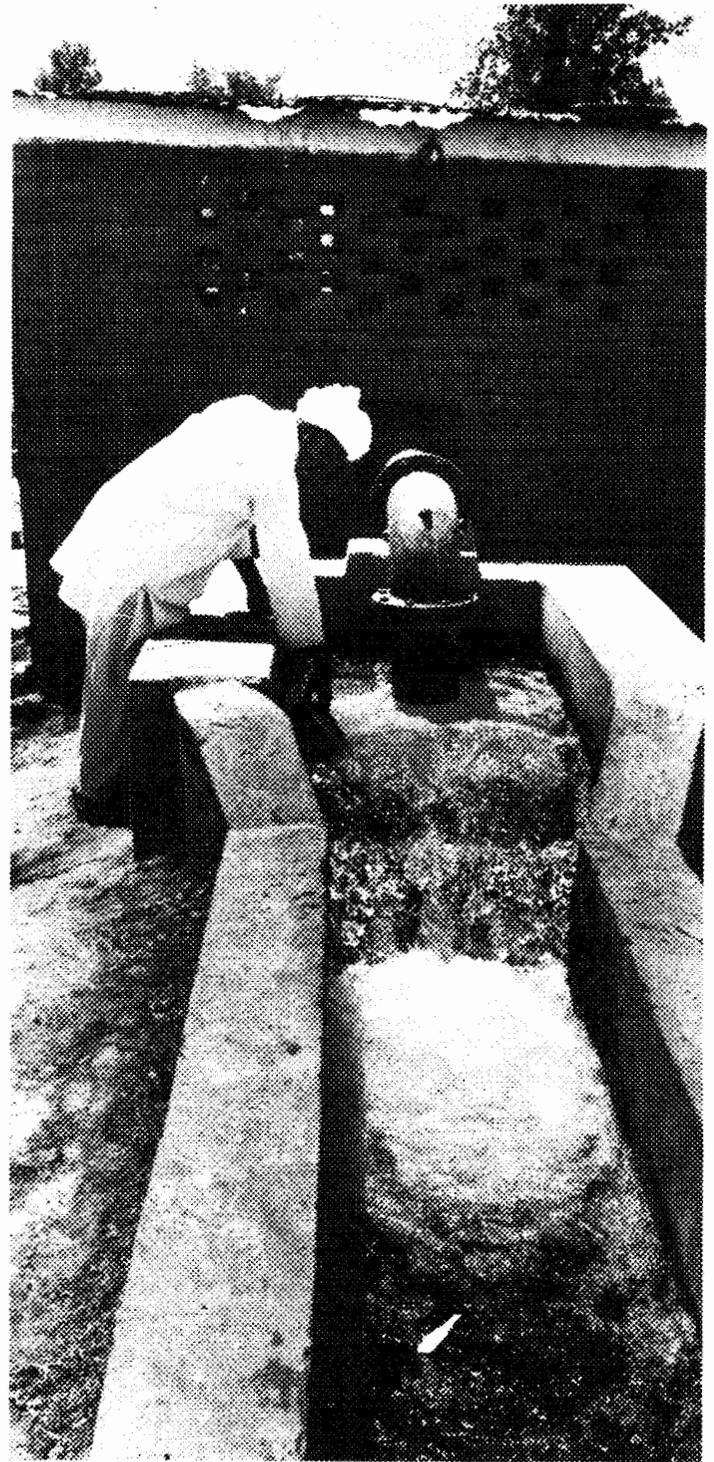
It is in the interest of the non-Communist developed nations to promote alternatives to the Chinese, Cuban, Soviet and other totalitarian "models." More important, it is in the interest of the people of the developing countries.

Challenges Are Formidable

The challenges presented by the problems of the developing nations are formidable indeed. Never before has a liberal economic and political system been required to deliver so much in so little time. Unless they can, democratic values may be wiped away.

These issues and problems are central to the research interests of the Program of Development Studies at Rice University, in Houston, Texas. With support from AID, members of the program have been searching for practical strategies of development in which the bottom half of the population in the developing countries can participate in benefits of growth without at the same time reducing the rate at which the economy can grow.

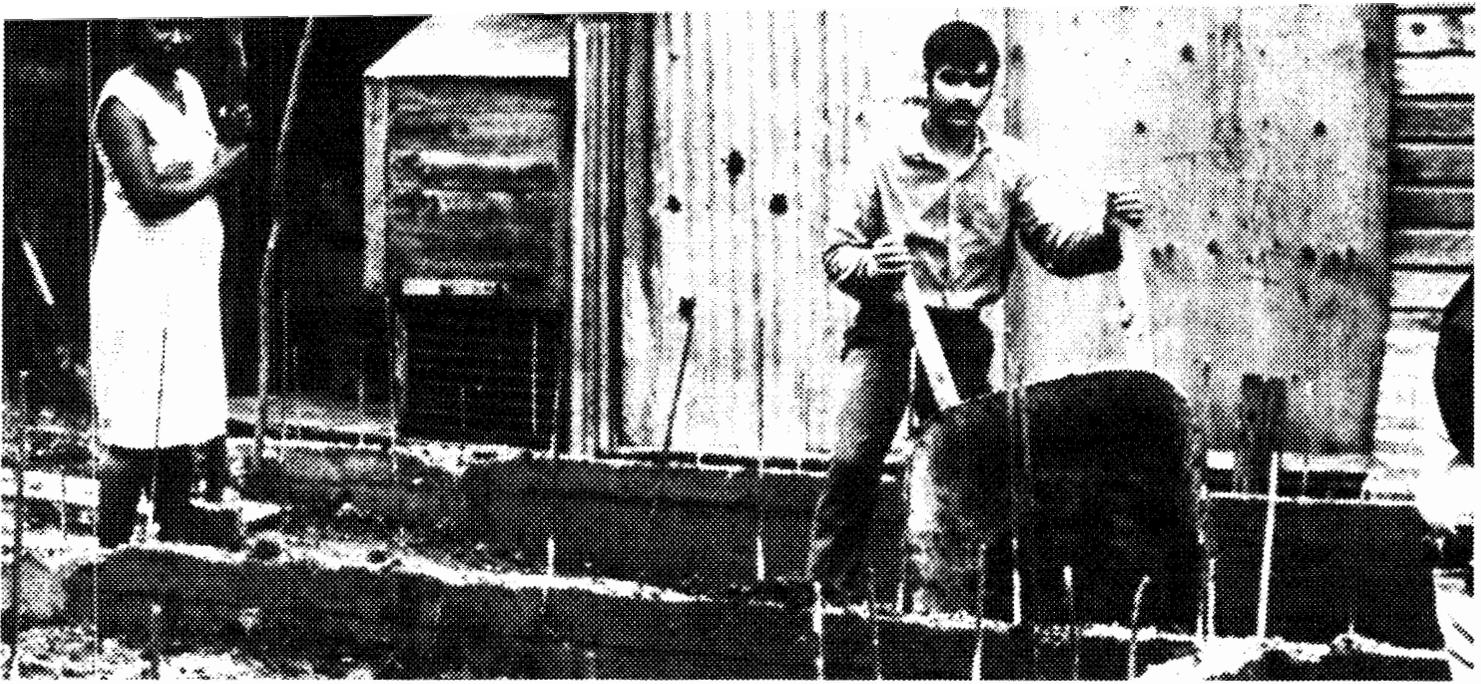
Our research interest is in learning more about the determinants of income and employment growth and the interaction between these and the distribution of output gains. What kinds of development policies should be encouraged? Given the demands for greater participation in the benefits from growth by the poorest members of society, how can the United States best use its limited aid resources to support these goals within a context of human freedom?



Tube wells have greatly benefitted farmers in Pakistan. Local initiatives by farmers played a key role in obtaining them.

An important fact of most countries is that they are composed of a number of ethnic, religious, linguistic, and racial groups who most often live together in a rather uneasy alliance. Attempts to meet demands for economic development may lead to the adoption of policies which in the long run are contrary to the interests of some or all groups.

There are many differences in the problems faced by various countries. In East Africa, for example, the dominant economic groups have been Indians and



Building one's own house has contributed significantly to helping solve the housing problem for some people of Latin America. The

creativity and skills of the ordinary citizen can play a greater role in economic development. Local initiative is important.

Pakistanis who form a very small minority in an otherwise African population. In addition, there are, of course, many different tribal groups with diverse interests within each of these countries. In Malaysia the economically dominant Chinese form a very large minority of the population. In some of the Andean countries of Latin America the economically dominant groups are also the politically dominant groups. By studying a number of these countries and the ways in which they have attempted to deal with the issues of intergroup inequality, it may be possible to suggest approaches to economic development which are sensitive to the needs and concerns of the various communities which make up a country.

In the final analysis, the task of uplifting the living conditions of the poor is too large to be handled in a paternalistic way by government officials and distant "experts." The people must have an opportunity to participate directly in the pursuit of a better quality of life. We want to learn more about ways in which the energy, creativity, and skills of the ordinary citizens can play a greater role in economic development.

We have found examples of remarkable change as a result of local initiative. In Pakistan, individual farmers discovered the benefits of tube wells for augmenting the water supply and invested in them. An indigenous industry to produce the wells and pumps developed spontaneously. The government tube well program in the meantime relied on imported components and typically cost 40 times more than the private tube well.

Stephen O. Bender, adjunct assistant professor for architecture at Rice, examined how groups in one South American city defied government regulations in order to provide themselves with adequate housing. He argues that the homes built by individuals for themselves are cheaper and much better adapted to the needs of the inhabitants than publicly provided

units. Given the large-scale migration of people into the city, the government could not have financed adequate housing for everyone. Thus, although officially discouraged, individually constructed housing has significantly contributed to the solution of the housing problem of the poor there. Furthermore, self-constructed barrios have evolved into communities with viable economic structures. Individuals have devoted parts of their houses to commercial activity, providing goods and services in some cases and employment to other members of the community. This case study shows that, given access to some minimal resources such as land and building materials, the poor are able to provide for themselves through their own sacrifices and efforts. Their achievements are remarkable since the individuals concerned had no access to institutionally provided credit, and in most cases they did not even have clear title to the land to which they committed their labor and life savings.

John D. Uzzell, assistant professor of anthropology at Rice, observed a similar phenomenon in another South American city. In addition to individuals building their own houses, he found cases where individuals within the barrio banded together to provide collectively such public services as paved streets and utilities that could not be provided individually. His work also cites many cases where individuals have moved into fairly extensive manufacturing activity despite many handicaps.

Donald L. Huddle, professor of economics at Rice, and Yhi-Min Ho, chairman of the Department of Economics at St. Thomas University, are also pursuing this theme by investigating the potential role of the small-scale industries in a self-help oriented development strategy. The most productive role for government may well be to devote its energies to removing policies and practices which discriminate against the small-scale entrepreneur and prevent him from helping himself.

When More Food, from p. 3

brid seeds and other inputs did increase yields. The corn, however, now grown by a relatively few large farmers for sale to CPC, is processed into corn sweetener for soft drinks for the urban middle and upper classes.

- Some of it gets fed to livestock. The corn yields that were the pride of the Green Revolution in the United States have ended up in the stomachs of livestock. By 1973 two-thirds of the Green Revolution rice in Colombia was going to feedlots and breweries.

- Some of it gets exported. Having based an agricultural strategy on imported inputs, countries become locked into production for export to earn foreign exchange to pay for those inputs. Despite the malnutrition of 80 percent of its rural population, Mexico in the late 1960s began to export its Green Revolution wheat. Central America exports between one-third and one-half of its beef to the United States.

- Some of it gets dumped. Fruits and vegetables produced in Central America for export to the United States frequently either are shut out from an over-supplied market or fail to meet U.S. "quality" standards—size, color, smoothness. Since the local population, mostly landless, are too poor to buy anything, fully 65 percent of production is fed to livestock (which in turn are exported) or literally dumped.

As food production is taken out of the hands of

The Green Revolution has increased food production. In some areas these higher yields depend on effective use of small, adapt-

self-provisioning farmers and tied more and more into a world-wide marketing system, local food resources go less and less to feed local people. We see emerging a "global supermarket" in which the poorest in Central America or Africa must now compete for food with millions of Americans, Japanese, and Europeans whose income is many times greater. Our "interdependent world" may be leading us to the same supermarket but most have neither money to buy nor even food stamps.

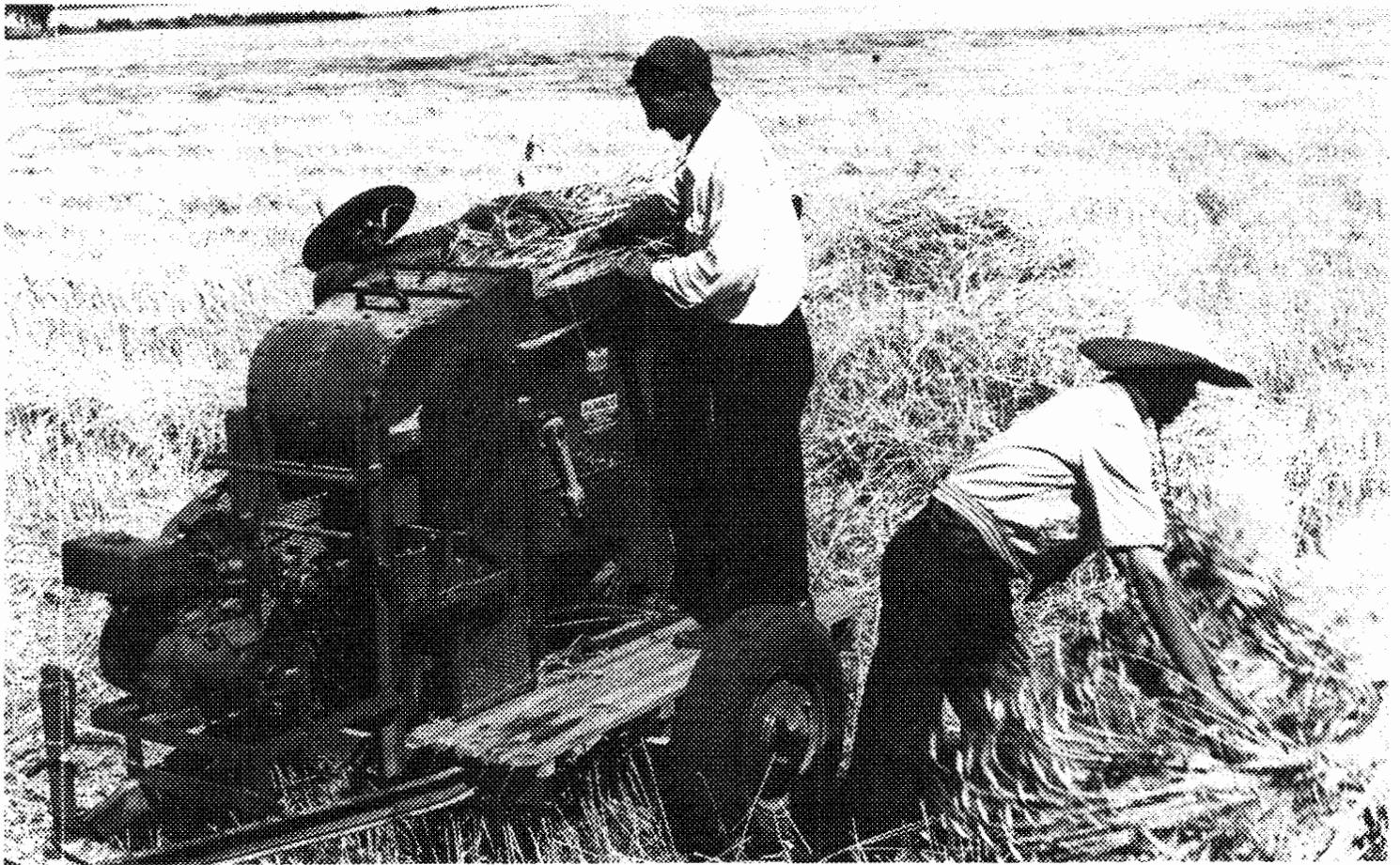
Development pegged to sheer production increases is taking us backward, not forward. It is more than just a diversion from the real task of reconstructing society to enable the majority of people to control and participate in the food production process. It is entrenching a new class of local and international profiteers who are better positioned than ever to fight against the slightest change.

Right and Wrong Questions

If "how can more food be produced" is the wrong question, what is the right question?

To be able to ask the right question we first must understand that there is no country in which the food resources could not feed the local people. More importantly, because the underdeveloped countries are portrayed to us as helpless and pitifully in need of

able machinery along with other inputs. The key to the hunger problem may be who controls and takes part in production.



our aid, we lose sight of the simple truth that *hungry people can and will feed themselves, if they are allowed to do so.*

If people are *not* feeding themselves, you can be sure powerful obstacles are in the way. These obstacles are not, however, the hunger myths—overpopulation, too little land, laziness, religious taboos, inhospitable climate, lack of technology, unequal terms of trade, etc. In researching our forthcoming book, *Food First!*, we found that the most fundamental constraint to food self-reliance is that the majority of the people are not themselves in control of the production process and, therefore, more and more frequently not even participants.

People could feed themselves. Americans don't have to feed the world.

The right question, then, is: **How do we remove the obstacles preventing people from taking control of the production process and feeding themselves?**

For Americans that question has special significance because some of the key obstacles to such fundamental change are being built with our tax money and in our name. It's here that we must focus.

The U.S. Government provides economic and law-and-order support to governments that actively oppose food self-reliance for their people. In Bicentennial America we are taught to fear the revolutionary changes necessary to free much of the world from food tyrants. U.S. tax laws and our tax dollars encourage and subsidize corporations that further channel the food resources of underdeveloped countries away from local needs.

Abolishing U.S. tariffs on agricultural products from the Third World, far from being a boon for the poor, would actually increase corporate profits and further undermine food self-reliance for every nation. Should the Breadbasket of the world import agricultural products—beef, vegetables, cocoa, flowers, sugar, nuts, tea, fruit, fish, and coffee—from any country that has not first used its resources to meet its own nutritional needs?

Exploiting cheap land and labor abroad, U.S. corporations are taking significant sectors of food production out of the hands of American farmers. Already over one half of the vegetables we Americans eat in the winter and early spring are grown in Mexico while millions of Mexicans go hungry for want of land.

Runaway agriculture takes away American farm jobs and brings no price benefit to consumers (the oligopoly corporations simply enlarge their profits). Worst of all, the food supply of Americans becomes dependent on the maintenance of political and economic structures that block hungry people from growing food first for themselves.

The task of Americans is very clear. More important than food aid or designing some rural development project for the Third World is building a

movement in this country that makes the connection between the way government and corporate power works against the hungry abroad and the way it works against the food interests of the vast majority of Americans.

There is no other road to food security for any of us. Americans are made to believe that if justice becomes a priority, production will be sacrificed. What we have learned through our research is that the path we are suggesting—the path of people taking control of food—is the *only* guarantee of long term productivity and food security. It is the land monopolizers, both the traditional landed elites and corporate agribusiness, that have proven themselves to be the most inefficient, unreliable, and destructive users of agricultural resources.

Many who have come to see that the problem of hunger is not simply production conclude that the problem instead is one of distribution—getting the food to the hungry instead of the well-fed. We are saying something else. The issue of distribution is only a reflection of the more fundamental problem of control and participation in the production process itself.

Once we grasp these realities, we will then begin to see that the “poor, hungry masses” we are repeatedly being told to fear are in reality our allies. Consciously or not, we are all joined in a common struggle for control of the most basic human need, food.

“More food” or even re-distribution programs like food aid and food stamps will continue to mean more hunger until we first address the question: Who controls and who takes part in the production process?



There are more hungry people today than ever before. What role can Americans play in solving this problem?

IN PRINT

Learning to Be More Effective

A Review by Charles Blankstein

The Design of Rural Development: Lessons from Africa by Uma Lele. Johns Hopkins University Press, Baltimore, 1975. 246 pp., \$3.95 paper.

This is an important book for it examines a selection of rural development operations in Africa and draws from that experience a number of useful guidelines for analysis and design of projects. The book is not only a valuable work for the rural development specialist but also for the manager or specialists in related fields. While the book is about African experience, it is valuable for anyone working in the rural development field anywhere in the world.

The book addresses a number of project design problem areas including the nature of production systems, agricultural extension, agricultural credit, marketing, social services, rural development administration and training for rural development. In each of these areas, Ms. Lele defines a series of issues which the practitioner is well advised to consider in any rural development project setting.

The analysis is firmly anchored in 17 case studies of rural development projects in seven African countries: Cameroon, Ethiopia, Kenya, Malawi, Mali, Nigeria, and Tanzania. The two- and three-page project descriptions are remarkably concise and informative condensations of much longer studies by a number of competent scholars.

Ms. Lele does not hesitate to state unqualified judgments on project design questions. For example, at page 34, "Tractorization can . . . be successful only if the necessary complementary innovations are introduced to alleviate the labor constraint, especially for weeding." Again at page 50, "it is essential that there be a close link between adaptive research

and extension." Whether one agrees or disagrees with her judgments (and I for one rarely disagree), the author mercifully spares the reader of the burden of puzzling out convoluted qualifications which too often characterize academic writing in this field.

The book is also useful because of its inclusion of a wealth of specific project experiences. I want to quote one at length because of the importance of the project design principle involved—participation; the usefulness of the technique described; and the feel of the author's style which the passage provides. Ms. Lele describes a method of organizing systematic group exchange of ideas and experience concerning adaptation of new technology used in Cameroon:

Before providing any technical assistance, Belloncle and Gentil recommend sponsoring group discussions in which farmers can discuss their own particular needs and problems. These discussion sessions always ought to be focused on the implications of technical change and its probable effect on each member of the group. If properly conducted, through such discussions the farmers can come to see their individual problems as community concerns which can be dealt with most effectively through community action. The thrust of these meetings is both to instill self-reliance in the farmers and to create a more equitable relationship between them and the extension workers.

Along with group meetings, Belloncle and Gentil advocate actual demonstration of new farming methods. They stress the need for research application centers where farmers can view the results of technical schemes considered feasible for general use.

These preliminary steps can spark a genuine desire for change among the participants. To transform this desire into action, it is necessary to encourage the group to select volunteers to try out different innovations. This is much like the tradi-

tional model farmer approach but with one important difference. In this case the innovators are innovators by consensus of the group, by delegation so to speak.

After an appropriate trial period, these innovators will report on their successes and failures at a self-evaluation meeting in which accomplishments of individual innovators as well as the actual specific constraints encountered by farmers in achieving the potential results can be identified. The problem then becomes one of taking steps to remove these constraints and of adopting the worthwhile innovations on a larger scale. At this stage the extension agent's expertise is required. But once again it is his relationship to the farmers which is crucial. He should act as an advisor from whom the farmers seek information which they deem important rather than as a haughty or an inexperienced stranger handing down unsolicited advice to subordinates.

With this approach, after a point the groups can become more or less self-perpetuating. Former innovators can then be trained to take over many of the functions of extension agents and to act as conduits for further technical information.

Three dominant themes emerge from the book for this reader:

- Project design requires a much better knowledge of the "micro" conditions at the farm and household level and of special and institutional factors than is usually achieved;
- There is a need of greater flexibility in project implementation; and
- The importance of participation.

The relationship between participation by the rural population in decisions affecting them, the institutional structure necessary to make participation and project administration feasible and the contribution from the "outside" (including analysis, finance, technical assistance, and physical inputs) are at the heart of rural development design problems.

Mr. Blankstein is Director, Office of Rural Development, AID

IN BRIEF

Water Information for Sahel

AID recently signed a \$4.26 million five-year grant agreement with the U.N. World Meteorological Organization to strengthen the agrometeorological and hydrological services in the Sudano-Sahelian Zone.

The program includes eight projects, seven of which are concerned with the national meteorological and hydrological services in Chad, The Gambia, Mali, Mauritania, Niger, Senegal, and Upper Volta. The eighth project will establish a regional center in Niamey, Niger, for training and studies on environment and water sciences and will support the projects in each of the Sahelian countries. The overall goal of these projects is to improve food production by providing timely information to African farmers on subjects such as the availability and use of water or impending droughts. This information will assist them in planning their seeding and other agricultural production practices.

Grants for Scientists

Twenty-four U. S. college and university scientists and engineers recently received AID grants totaling \$269,000 under the National Science Foundation's Scientists and Engineers in Economic Development Program. The academic professionals will spend up to a year teaching and conducting research in agriculture, engineering, biology, and forestry as well as in other fields in 13 African, Asian, and Latin American countries where their expertise will aid the economic development of the host region.

Refugee Assistance Given

The Agency for International Development has pledged an additional \$24.7 million to the United Nations High Commission for Refugees (UNHCR) to support

ongoing refugee and rehabilitation programs in Cyprus for both Greek and Turkish Cypriot refugees. The money will be used to support food and housing programs as well as reforestation, agriculture, health, education, and other relief and rehabilitation activities.

New Board Established

The U. S. Government, in efforts to find solutions to the worldwide food and nutrition problems and to employ the resources of American colleges and universities in that endeavor, has established a Board for International Food and Agricultural Development. President Ford named to the Board: Clifton R. Wharton, Jr., Chairman (President, Michigan State University, East Lansing); Gerald W. Thomas (President, New Mexico State University, Las Cruces); Orville G. Bentley (Dean of Agriculture, University of Illinois, Urbana); Anson R. Bertrand (Dean of Agriculture, Texas Tech University, Lubbock); Charles Krause (President, Krause Milling Company, Milwaukee, Wisconsin); and James J. O'Connor (private consultant, Houston, Texas).

The Board will seek greater participation by qualified U. S. universities in efforts to stimulate food production and nutrition in developing countries. The program was authorized by the Congress in the Foreign Assistance Act of 1975 under Title XII, "Famine Prevention and Freedom from Hunger".

AID is working closely with the Board in formulating basic policies and procedures and carrying out specific projects. The Board will report to the Congress on past programs as well as activities projected five years in the future.

Although AID has long utilized the expertise of U. S. universities and colleges in foreign assistance programs, the new authorization will permit more systematic and longer term application of scientific and technological expertise in the developing countries. A recipient country's capability to adapt and use such inputs is expected to be considerably accelerated.

QUOTES

"Like many others who are concerned about the effects of the surging world population, I once firmly believed that citizens of poor, developing nations would not limit family size until they realized a significant improvement in their socio-economic status. But a recent trip to several Far Eastern nations has convinced me that this is not true. Poor people will practice family planning given the means to do so."

Russell W. Peterson
New York Times
August 2, 1976

"... the world's capacity to provide for humankind is not a matter of physical resources. It is a matter of human will, human ingenuity, human determination, and human organization."

Nelson A. Rockefeller
Vice President
April 12, 1976

"We belong to a very, very small, single physical biosphere upon which we depend for absolutely everything (and) which ... is beginning to show certain strain in its resources. And unless we manage them better, it isn't only the poor who are going to suffer; everybody is going to suffer."

Barbara Ward
"Overseas Mission"
August 8, 1976

"There must be within the developing country a sense of purpose and direction, determined leadership and perhaps most important, an impulse for change among the people. Development requires national administration, a complex infrastructure, a revised system of education, and many other social reforms. It is a profoundly unsettling process that takes decades."

Secretary of State Henry Kissinger
London, England
June 25, 1976





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The poor in developing countries cannot wait for the benefits of economic development in a distant future. They face the problem of survival now. The gap between the rich and poor is widening. What can be done? (See page 11)