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HORIZONS



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Peter McPherson, Administrator
 Thomas Blank, Assistant Administrator,
 Bureau for External Affairs

Office of Publications
 Agency for International Development
 Washington, DC 20523
 (202) 647-4330

Dolores Weiss, Office Director
 Suzanne Chase, Editor
 Clyde McNair, Photographer
 Mary Felder, Administrative Assistant

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This special issue of *Horizons* magazine commemorates the 25th anniversary of the Agency for International Development (AID). It is dedicated to the men and women of the U.S. foreign aid program who have unselfishly and courageously contributed their skills and knowledge, often at great sacrifice, to build the foundation for a more prosperous, stable and secure world.

The past 25 years have brought the riches of science, the know-how of business and the knowledge of educators and engineers into the process of U.S. diplomacy. The United States has navigated many uncharted and turbulent waters, establishing numerous successful development practices. Challenges have been faced. Solutions have been found.

The pages that follow illustrate the evolution and achievements of the U.S. foreign aid program through an examination of activities in areas such as disaster assistance, health, rural and urban development, agriculture, private enterprise, the environment, and education and training.

Although AID's impact in the developing world has been substantial since the Agency was established in 1961, the job of development is not yet complete. This issue of *Horizons* provides a forum for scholars, legislators, practitioners and recipient country leaders to discuss development challenges met and those yet to come. While the priorities and methods of addressing these issues vary, there is consensus on the importance of foreign economic assistance as a vital tool in achieving world peace and prosperity.



There exists in the 1960s a historic opportunity for a major economic assistance effort by the free industrialized nations to move more than half the people of the less-developed nations into self-sustained economic growth, while the rest move substantially closer to the day when they, too, will no longer have to depend on outside assistance

We live at a very special moment in history. The whole southern half of the world—Latin America, Africa, the Middle East and Asia—are caught up in the adventures of asserting their independence and modernizing their old ways of life. These new nations need aid in loans and technical assistance just as we in the northern half of the world drew successively on one another's capital and know-how as we moved into industrialization and regular growth

—John F. Kennedy

Message of the President to the
Congress of the United States,
March 22, 1961



A Message from the President of the United States



This year marks the 25th anniversary of the Agency for International Development, which administers the foreign economic assistance program of the United States.

Our nation was founded on the principles of freedom and democracy that have enabled generation after generation of Americans to realize their dream of prosperity and self-fulfillment. Our foreign aid program has sought to extend that dream to the people of the developing world.

By opening the door to economic opportunity, we have helped many nations turn from dependence to self-reliance. We believe that prosperity fuels the fire of freedom. Our foreign aid is, therefore, not only a symbol of America's tradition of generosity and goodwill, but also a servant of our national interest.

We have shared the spirit of our dreams, the fruit of our knowledge and the wealth of our farms with the world. During the last 25 years we have fed over a billion of the world's hungry. We have helped to bring about breakthroughs in agriculture, enabling many nations to become self-reliant in food. Food production per person has increased by an average of 21% in developing nations.

We have supported a revolution in

health care that has brought new and effective technologies to the service of humanity. We are especially proud that our nation has taken the lead in the promotion and distribution of oral rehydration therapy. This simple technology saved the lives of half a million children around the world last year.

We have built schools, health care facilities and other institutions to enable nations to marshal their human potential and economic resources. Life expectancy in developing countries has increased by 20%, literacy by 33% and per capita income by 50%. We have helped to train and educate over a quarter of a million people who have assumed leadership and policy-making roles in the public and private sectors of their native lands.

We Americans have made a difference. We have extended a hand to encourage nations to break the bonds of poverty by enlisting the power of that incomparable engine of progress, prosperity and personal freedom—the free market. A new age of democracy is dawning all across the world as more governments and people become aware of the benefits of private enterprise.

I congratulate the Agency for International Development on its first 25 years in meeting the challenge of development and in pioneering America's leadership role as a force for global economic progress and for peace.

—Ronald Reagan



A Message from the Secretary of State



During the past quarter century, the Agency for International Development (AID) has been a vital instrument of U.S. foreign policy and a tangible expression of

the commitment of the American people to bring hope and opportunity to nations burdened with poverty and hunger. AID's assistance efforts have helped to enhance stability in troubled regions of the world while promoting economic growth and development. In doing so, the Agency has contributed directly to the betterment of countless individuals and to the security and well-being of the United States.

The United States first provided economic assistance through the Marshall Plan to help rebuild war-torn Europe in the aftermath of World War II. Since then, our foreign aid program has evolved as new needs and challenges have arisen, focusing in recent years on the nations of the developing world. Our basic objectives, however, have not changed. We are seeking to enable societies and individuals to become self-reliant and independent, to enable them to break the bonds of poverty in the struggle for human advancement.

We know from our own history that political and economic freedoms are intimately related. Today, many nations are rediscovering the basic truth that the dynamism of the free market and the creative genius of individual initiative are the most effective engines of economic growth. This very emphasis on the freedom of the individual carries with it a powerful political message. The prosperity and stability that we seek to foster through our economic assistance serve as a foundation for democracy and peace.

The men and women of AID have good reason to be proud of their contributions over the past 25 years. As dedicated professionals, they have accomplished much. But they also know—perhaps more than anyone—that the job is not finished. The world remains a turbulent and dangerous place. Poverty and unmet human needs endure in all too many places, dimming the aspirations of millions and generating further cycles of violence and repression.

As Americans look ahead, however, we can draw both strength and optimism from our democratic and humanitarian ideals and, not the least, from the personal commitment of the individuals who make up AID to work together in helping shape a world of greater prosperity, freedom and peace.

—George P. Shultz



AID Administrator Peter McPherson explains the purpose of the U.S. economic assistance program from its origins to the present.



Twenty-five years is a brief interval in the span of history. Yet, the last quarter century has witnessed a number of events that have not only changed our nation, but also have affected the world. We crossed new frontiers.

We walked on the moon and created a revolution in high technology. We entered the world of microchips and home computers. We pioneered organ transplants and created artificial hearts.

The face of our planet has changed. Many new nations have emerged as colonialism has waned.

The way we look at the world is also different. Perhaps most apparent is the fact that, in our atomic age, the U.S. monopoly on nuclear weapons has given way to a shared balance of nuclear power. This has altered the complexion of how we may engage in war but not how we strive toward peace.

Our world has become increasingly economically interdependent. A major share of our international trade, for example, is with developing countries. The nations of Asia have replaced Europe as leading U.S. trade partners.

During the 1960s, statist economic planning was in vogue among newly independent developing nations. Today, statism is being replaced by a new dawn of democracy. The spirit of free market enterprise has become a global phenomenon.

U.S. foreign economic assistance has played

a significant role in bringing about positive changes in our world. In the last 25 years, for example, our assistance has helped increase life expectancy in developing nations by 20%, literacy by 33% and per capita income by 50%. Primary school enrollment tripled, and secondary school enrollment increased sixfold. We helped eliminate smallpox and develop new hybrid grains that brought food self-reliance to many areas of the world.

Over the years, our foreign aid program itself has undergone changes in structure though not in substance. Twenty-five years ago in September, Congress enacted Public Law 87-195, the Foreign Assistance Act. On Nov. 3, 1961, President John F. Kennedy issued an Executive Order creating the Agency for International Development to better coordinate U.S. economic assistance efforts. The new Agency merged the International Cooperation Administration (1955-61) and the Development Loan Fund (1957-61).

Foreign assistance provided by the United States, however, goes back to an earlier time. In 1947, when Europe was still reeling in the aftermath of the Second World War, Secretary of State George C. Marshall charted a policy course to provide assistance to Europe.

In a commencement address at Harvard University, Marshall said, "It is logical that the United States should do whatever it is able to do to assist in the return of normal economic health in the world, without which there can be no political stability and no assured peace." He pointed out that the purpose of U.S. aid should be the revival of a working economy in the world so as to permit the emergence of political and social condi-



tions in which free institutions can exist.

"Such assistance," he said, "must not be on a piecemeal basis as various crises develop. Any assistance that this government may render in the future should provide a cure rather than a mere palliative." This was the spirit behind the policy effort that became known as the Marshall Plan and continues today.

By 1951, Europe's production had increased 37%. At the same time, other nations began to question the dichotomy of sustaining

Europe at relatively high standards of living while many people in other regions of the world lived in poverty. We began to recognize that European recovery depended, in part, on other areas of the world achieving higher standards of living, which must be brought about through a revival of world trade and international investment. To address this need, in the fourth point of his inaugural address delivered on Jan. 20, 1949, President Harry S. Truman said, "We must embark on a bold new program for making the benefits of our scientific advances and industrial progress available for the improvement and growth of underdeveloped areas."

The focus of foreign aid shifted from Europe to the developing world. On June 5, 1950, Truman signed the Act for International Development, authorizing a broad program using U.S. technology and skills to assist underdeveloped countries. The Technical Cooperation Administration (TCA) was established within the State Department to administer programs providing technical assistance to countries of North Africa, the Middle East, Latin America and Asia. This program made foreign aid a permanent part of U.S. foreign policy.

In 1951, the Mutual Security Act united



military and economic programs and technical assistance through the formation of the Mutual Security Agency. Two years later, a new Foreign Operations Administration was created, and the program of technical cooperation was merged into it.

By 1955, the increasingly long-range nature of development projects required a more effective administrative arrangement. The Foreign Operations Administration became the International Cooperation Administration.

The 1960s were seen as the crucial "decade of development" and U.S. economic assistance the single most important program for building the "frontiers of freedom." Newly emerging nations looked toward modernizing their societies as they asserted their independence. It was a time when many less developed nations would seek to make the transition to self-sustained growth, and it was an opportu-

nity for free, stable and self-reliant nations to work together to reduce world tensions and insecurity. That was the vision President Kennedy had when he addressed Congress in 1961. That was the spirit of the era into which the Agency for International Development was born.

In carrying out economic assistance efforts, the United States historically has sought better methods to address new challenges as the relationship between the developed and developing worlds has evolved. In the last six years, we have worked to bring about a systemic change in the way we do business in foreign aid. We asked basic questions. We got fundamental answers. We focused on what we mean by development in the 1980s and on what our role as Americans should be in this global process. We honed our goals and objectives.

Food for Peace Provides Humanitarian, Development Assistance

The Agriculture Trade Development and Assistance Act of 1954, known as Public Law (P.L.) 480 or Food for Peace, provides a market for U.S. farm surpluses while helping developing countries that lack foreign exchange meet critical food needs through U.S. food donations or concessional sales.

During the first 10 years, expanding U.S. agricultural trade was the major impetus of the program, which is jointly administered by the Agency for International Development (AID) and the U.S. Department of Agriculture. By the mid-1960s, however, the huge surpluses of the 1950s and early 1960s had diminished, and the problems of world hunger and economic advancement in developing countries became subjects of increased concern. It became more and more evident that world hunger could not be

met by food aid alone, and in 1966 Congress amended P.L. 480 with the passage of the Food for Freedom Act.

This act marked a turning point in the P.L. 480 program by linking food aid with recipient country development efforts.

After three decades, P.L. 480 is facing another turning point. New legislation such as the Food for Progress Act and other legislation amending P.L. 480 have further enhanced the developmental potential of food aid, particularly in the areas of policy reform and private sector development.

The Food for Peace program can help countries restructure their economies to increase their ability to feed themselves. It can help countries develop means to assure nutritionally adequate diets for all citizens. This ability is being strengthened both by improving their domestic capability

to produce and distribute food and by increasing their financial capacity to purchase necessary food imports at market prices.

Food aid not only helps developing countries, it also is a sound investment in America's future. It expands the market for U.S. goods and services abroad, generates jobs and income for Americans at home and contributes to global economic and political stability.

Since its start in 1954, the Food for Peace program has delivered more than 317.5 million metric tons of food worth over \$37 billion to people throughout the world. Through these deliveries, the program has played a key role in meeting critical food needs, encouraging economic development and bringing the benefits of greater productivity to the people of developing nations and the United States. ■

With an eye to the future, we set our course in development assistance today to address five basic problems: inadequate income growth; hunger; health deficiencies (particularly infant and child mortality); illiteracy and lack of educational opportunity; and unmanageable population pressures. We have changed from thinking only about the "rich" and the "poor." Our view of development is based on promise, potential and possibility. We recognize that sustained development cannot occur without long-term economic growth and that a balance must be achieved between

sustained growth and basic human needs.

Our blueprint for the future is aimed at specific targets. Our broad target for economic growth is an annual real rate of growth of per capita income of not less than 2%. Achievement of this goal in most developing countries will require revised and improved macro-economic policies, a vibrant and growing private sector and improved agricultural and industrial performance.

Programs designed to increase rural incomes and agricultural production, we believe, will contribute to economic growth and will

AID Programs Stress the Important Role of Women in the Development Process

Women play a major role in the development process. It is estimated that sub-Saharan African women are responsible for 60-80% of all agricultural products and over 90% of the food crops. Statistics such as these were virtually unknown in the development field as recently as 10 years ago, a situation that explains the failure of many development projects in the Third World.

Obtaining information about the economic roles of men and women in developing countries and integrating it into project design and implementation have been major undertakings for development professionals.

In the past decade, gender has emerged as an important factor in economic development, and AID's Women in Development (WID) program, begun in 1974, has changed accordingly.

During the early years of donor activity in the women in development field, many programs focused on issues of equality between men and women rather than on mutual participation in development. This approach did little to advance the participation of women in the overall economy, and many of

the resulting women-specific projects undertaken by bilateral and multilateral organizations were limited in scope. Few attitudes were altered. More often than not, the projects resulted in separating women from the mainstream of development.

In the 1980s, the focus shifted due to AID's leadership. The Agency's women in development policy has stressed two points:

- Integration of women into the overall development process, ensuring them a role both as beneficiaries and participants of aid programs; and,
- Increased project efficiency that can result from the proper identification of gender roles and the adaptation of project resources to match the identification.

In its efforts to enlighten the development community about the economic importance of gender awareness in development planning, WID has initiated a number of activities in recent years.

In keeping with AID's increased emphasis on the delegation of project approval authority to field missions, WID developed guidance manuals to help mission personnel integrate women into the

areas of small-scale enterprise, agriculture, education and natural resource use.

WID's long-term goal is to achieve an environment where governments of developing nations recognize the economic advantages associated with a strategy that uses the resources represented by both men and women and initiates actions to ensure gender awareness in development planning.

To speed up this process, the Office of Women in Development is setting up a number of country-specific microcomputer simulation models that can demonstrate to senior-level policy-makers in developing nations the economic potential of integrating women into their economies. WID also emphasizes the need to target Third World women for participant training opportunities.

By working toward a receptive environment and providing examples of unified development, AID has been and continues to be a catalyst for the vital process of integrating women into the mainstream of economic development. ■

reduce hunger and malnutrition. In these areas, our targets are for at least 90% of the population in each assisted country to consume at least the minimum requisite level of calories as designated by the U.N. Food and Agriculture Organization (FAO) and to reduce to less than 20% the percentage of children under age five who suffer from chronic and severe malnutrition.

In the area of health, infant mortality needs to be reduced to less than 75 deaths per 1,000 live births. For children ages one to four, mortality should not exceed 10 per 1,000. For the population as a whole, life expectancy at birth should be 60 years.

We need to increase primary school enrollment to above 90% for both boys and girls with at least 70% completing no less than four years of schooling. Adult literacy should not be below 50% for both men and women.

At least 80% of couples should have access to a wide range of acceptable voluntary family planning services.

This is our vision and our course of action. We have set four basic policy principles that guide our foreign assistance programs.

First, it has become increasingly apparent over the years that the ability of economic aid programs to achieve their goals depends to a large degree on the soundness of economic policies in recipient nations. Inappropriate subsidies, price and wage controls, trade restrictions, overvalued exchange rates and interest rate ceilings all curtail economic performance. For this reason, policy dialogue (communication with host government officials) is vital to design economic policies that are conducive to development.

Second, developing nations need access to technology appropriate to their specific needs to facilitate economic growth. The technological capacities of developing countries need to be strengthened, and major emphasis must be placed on research and development.

Third, nations in the developing world with strong private sectors have achieved faster and more sustained economic growth. Open and competitive markets in developing countries should be promoted and strengthened with emphasis on the indigenous private sector.

Fourth, effective institutions enhance a



country's ability to marshal its own human and other resources for development by providing access to skills and services needed to increase productivity at home. Simply put, we have to teach people to fish and not just give them fish. This means it is essential to build such institutions as schools, universities and health care systems and to provide access to self-sustaining sources of credit for productive investment.

Foreign aid is an important part of America's foreign policy. It is a tool of peace and an instrument of freedom. Our security is linked not only to the nations of Europe but to the progress and development of Third World nations. We rely on developing nations for many of the sea-lanes and airspace vital for military and commercial purposes as well as for strategic minerals necessary for our industry and national defense. Our assistance in helping developing nations achieve economic growth better enables them to participate in a more prosperous world economy and to respond more effectively to the needs of their people. This, in turn, reduces the potential of internal disruption or outside aggression. We cannot realistically expect to have a stable world when large numbers of people remain in the kind of deep poverty that generates despair and unrest. President Woodrow Wilson aptly addressed this issue when he said, "Only a peace between equals lasts."

The Marshall Plan rekindled the spirit of hope and lit the fire of freedom in Europe. Today, AID is doing the same thing in other areas of the world. In our own hemisphere, we have witnessed a dramatic transition to democracy. Over 90% of the population of Latin America and the Caribbean lives under democratic governments. In Central America alone, popularly elected democratic governments have replaced dictatorships in El Salvador, Guatemala and Honduras in the last five years.

Freedom is on the move. The U.S. foreign aid program is helping build the foundation necessary for freedom to flourish. We support small business and farmer-controlled cooperatives and other institutions that provide the means for people to express their views, choose their leaders and lobby for needed reforms. U.S. assistance also provides help to conduct free democratic elections.

The U.S. foreign aid program was born of the American spirit and tradition of generosity and humanitarianism. This has never changed and never will so long as our nation provides assistance abroad. Most recently, for example, when famine struck Africa, we responded to the emergency by providing over \$2.2 billion worth of food and humanitarian assistance during 1984-86. This

U.S. ECONOMIC ASSISTANCE

(\$ millions)

1946-48*	12,482.0
1949-52**	18,634.3
1961	3,367.9
1965	4,121.6
1970	3,675.7
1975	7,907.3
1980	7,572.0
1985***	12,327.0

*Post-war Relief Period
**Marshall Plan Period

***African Famine Relief Period

represented half of all food delivered to that continent. In all, we have provided emergency relief to victims of 825 disasters in 130 nations.

AID has not worked alone in extending America's hand to those who need it. We have been privileged to work closely with the many U.S. and indigenous private voluntary organizations that have been formed by citizens committed to making this a better world for all. AID also works closely with international and multilateral organizations carrying out assistance programs.

In a time of increasing fiscal restraint, we are consolidating our resources to do more with less. Ten years ago, AID employed 17,000 people. Today it has less than 5,000, and yet we are on the threshold of many new and significant breakthroughs that will bring greater prosperity and opportunity to people throughout the world. Though our resources are limited, our technological skills and knowledge are greater than ever.

We are on the threshold of a revolution in health care. We have helped develop two prototype vaccines against malaria. One is for the most deadly form, the other for the most common form of the disease. A simple solution of salt, water and sugar called oral rehydration therapy is saving the lives of millions of children every year who would otherwise die of dehydration resulting from diarrheal disease.

In agriculture, we have witnessed a "Green Revolution" in the production of rice and wheat in Asia and Latin America. A similar revolution is beginning in Africa. In Sudan, new grain varieties are increasing yields by 150%. In Nigeria, a new variety of cassava, a staple crop, is yielding 18% more than local strains.

Looking back at our record, we have made enormous strides and proudly stand on the brink of a new era. A quarter century of progress has made this world far different from what it was when AID was created. The "frontiers of freedom" that were the dream of the 1960s are becoming the reality of the 1980s. The challenge we face is to apply the vision of our past to the skills of the present as we chart the course for the future.

—Peter McPherson

HELP WHEN IT'S NEEDED MOST

*In just over two decades,
the United States has
provided \$2.5 billion
worth of assistance to the
victims of 865 disasters
in 129 countries.*

*Dealing with disasters requires skill and speed.
Minutes wasted are lives lost.*



U.S. foreign disaster assistance began when the United States sent relief supplies to earthquake victims in Venezuela. That was in 1812.

Subsequently, aid was provided to Cuban victims of the Spanish-American War, to survivors of a volcanic eruption on Martinique in 1902 and to those affected by two Italian earthquakes in 1908.

However, there was no federal organization with a mandate for international disaster relief until 1964, when the Office of U.S. Foreign Disaster Assistance (OFDA) was established within AID.

In its 21-year history, OFDA has provided more than \$2.5 billion to help victims of 865 disasters in 129 countries. Most of these occurred in developing countries—those least able to cope with catastrophic events.

"We tap into the best specialized resources of the federal government," says OFDA Director Julia Taft. OFDA draws on the resources of 10 federal agencies and the extensive experience of state and local governments as well



Close to 23,000 lives were lost in the earthquake that shook Guatemala in 1976. The United States provided humanitarian assistance valued at \$42 million.

as private sector organizations as it responds to about 40 natural or man-made disasters a year.

A nation may request U.S. help to deal with any one of a range of disasters—earthquakes, floods, hurricanes, volcanic eruptions, drought, fire, airplane crashes, oil spills, outbreaks of disease or civil strife.

When calamity strikes, the U.S. ambassador can commit up to \$25,000 for immediate emergency relief. Beyond that, OFDA and the AID Administrator, in his role as the President's Special Coordinator for International Disaster Assistance, must approve all further U.S. relief efforts.

Dealing with disasters requires skill and speed. Minutes wasted are lives lost. When help is requested, OFDA moves with military precision and exercises its own "rapid deployment force."

An around-the-clock operation goes into effect. The office's 23-person staff and numerous volunteers work in shifts to monitor the flow of information, assess the situation and provide the appropriate response as rapidly as possible.

"The first challenge we face is to figure out exactly what has happened," says Oliver Davidson, OFDA's Operations Division chief. "We need to

have the specifics to know how to respond."

The task is much tougher than may be expected. Communications often are severely disrupted in affected areas. Telephone and telegraph lines may be down. "We piece together the picture from a variety of sources of information including embassy cables, mission reports and the media," Davidson explains. Close contact is maintained with AID's mission disaster relief officer (MDRO) in the stricken nation. At each U.S. post overseas, an individual is designated the MDRO to serve as point of contact in the event of a catastrophe.

The second challenge is determining the appropriate U.S. response. This often requires the deployment of Disaster Area Survey Teams (DAST) consisting of engineers, medical specialists and water and telecommunications experts. Working closely with local officials, the team assesses the extent of the disaster and the specific emergency needs. Satellite imagery and high altitude photography are used to analyze damage caused by earthquakes or hurricanes. The photographs can detect damaged bridges, dams, roads or other facilities.

If needed emergency supplies are not available locally, OFDA provides

them from regional stockpiles in Panama, Guam, Singapore, Italy and the United States. The United States maintains one of the few relief supply stockpile networks in the world. The stockpiles are accessible 24 hours a day and contain such necessities as tents, blankets, cots, cooking stoves, auxiliary generators, plastic sheeting, water pumps, hand tools and other emergency materials.

Needed supplies and services are frequently donated for relief efforts. If no donors are found and the needed materials are not available in the stockpiles, a nationwide search is mounted for an American company that has the product available for purchase.

If a private supplier cannot be found, OFDA turns to the Department of Defense. "They generally have what we need from their reserves for wartime contingencies," says Walter "Bob" Keesecker, OFDA's disaster logistics officer.

Often special expertise provided by geologists, hydrologists, foresters, health care professionals and others is needed to cope with emergency situations. OFDA finds the right people for the job and gets them on-site as quickly as possible.

After the 1985 Mexican earthquake, for example, search and rescue operations had to be mounted to locate victims trapped in fallen buildings. OFDA located dog teams at a search and rescue convention in Nashville and rushed them to Mexico.

When a cyclone hit Mozambique in 1984, damaging the Maputo water works, OFDA found a water engineer in South Carolina fluent in Portuguese who also had worked on the Maputo water works. He was in Mozambique within 36 hours.

"Our record of swift and effective relief is a reflection of the generosity of the American people and our nation's humanitarian tradition," Taft says.

In 1970, the worst cyclone of the 20th century hit the coastal regions and islands of East Bengal in what was then East Pakistan. The storm left 300,000 dead. The United States provided \$19 million worth of food and supplies to the victims, more than half of that provided by all other nations combined.

That same year monsoon flooding hit East Bengal, affecting 10 million people. The United States provided close to \$7.5 million in assistance—seven times the contribution of all other nations combined.

"We were always there when it counted," Taft says. "We have assisted in almost every major disaster in the last two decades." In 1971, when civil strife erupted in East Pakistan, leading to the creation of the nation of Bangladesh, 200,000 were killed and more than 10 million displaced. To assist the victims, the United States provided \$34 million in relief efforts.

In 1972, three violent tremors shook Managua, Nicaragua. More than half of the city was reduced to rubble. Over 10,000 people were killed. U.S. assistance for relief and rehabilitation totaled \$28 million. Four years later, an even more devastating earthquake shook Guatemala. Close to 23,000 perished, affecting 64% of that country's population. The U.S. government provided \$42 million in humanitarian assistance.

Perhaps the greatest relief operation ever mounted was for the 1984-85 African drought and famine. In the worst drought of the century, crops failed, livestock died, food reserves dwindled and people starved. Some 30 nations were affected in sub-Saharan Africa, and 30 million people were at serious risk. In Ethiopia alone, seven million faced the specter of starvation.

Relief efforts were not easy. Many of the affected people were in remote areas where there were few roads and trucks to reach them. Unloading grain at port facilities often was time-



AID is leading the way in developing an early warning system to monitor the threat of locust infestations.

consuming. In some areas, such as in the Ethiopian provinces of Eritrea and Tigre, guerrilla war further exacerbated the situation.

Despite the many logistical hardships faced in the delivery of food and non-food aid, U.S. assistance enabled millions of people to receive life-sustaining support. American aid translated to \$2.5 billion, including six million metric tons of food.

The United States supplied more than half of all food shipped to Africa. "Everybody knows that the food came from the people of the United States. In some areas, sorghum, which is slightly red in color, is called 'Red Reagan,'" says Tim Knight, OFDA's Africa Division chief. In western Sudan, where having a child named after someone is considered a great privilege, a number of village children are still being named after President Reagan and Vice President Bush in honor of America's life-saving relief effort.

"Sometimes creative solutions had to be found to get food to those who needed it most," Knight says. For example, in June 1985, the United States provided a 60-ton capacity raft to ferry emergency provisions across the Niger River to supply a stricken region in Mali.

In another instance, surplus locomotives were obtained from Brazil to

transport food in the Sudan. "They had the same gauge and could be obtained at a reasonable price," Knight notes.

OFDA coordinated an 11-member interagency task force to carry out the complex African famine relief effort. Close liaison was maintained with a large number of private voluntary groups and international organizations.

Time is changing the tenor of OFDA's job. "We are seeing more and more man-made technological disasters," says Fred Cole, OFDA's assistant director for Asia and the Pacific. These include oil spills as well as chemical and toxic waste leaks.

The Union Carbide gas leak in Bhopal, India, in 1984 killed and injured thousands. To help deal with the impact of the Bhopal tragedy, AID financed a medical team that established epidemiological surveillance of the exposed population and determined the nature, location and extent of the damage. The team advised the government of India on the clinical treatment needed and on the effect of the leak on the environment.

AID set up a pilot project to enable U.S. corporations to send experts to industrial facilities in developing nations to improve or create new systems that will prevent or respond to industrial accidents. The U.S. experts are training local staff in emergency response management.

OFDA applies the principles of "prediction, preparedness and planning" to responding to disasters. Advanced technology is used for prediction and early warning. Training programs are conducted to build self-reliance in preparing for disasters and in planning relief operations.

"Early warning of an impending natural disaster can mean the difference between life and death, particularly in highly populated, vulnerable areas," says Paul Krumpke, OFDA's technical adviser. For example, Bangladesh, the world's most densely popu-



Despite logistical hardships during the 1984-85 African relief effort, U.S. assistance enabled millions of people to receive life-sustaining support.

lated nation, is struck regularly by storms that spawn over the Indian Ocean and sweep inland. In the last 20 years, the nation has been hit by 28 major cyclones affecting 107 million people and causing more than \$900 million in damage.

When a cyclone, which claimed 300,000 lives, hit the Bay of Bengal in 1970, there was no early warning system in place. In May 1985 another cyclone hit. But the situation was different. OFDA had helped the government of Bangladesh develop an early warning system. The storm was tracked four days before it struck. Warnings were broadcast. The death toll of 10,000 was significantly less than the devastation that would have occurred had there been no warning system.

OFDA also integrates personnel in developing nations into international information networks. For example, a collaborative effort with the National Oceanic and Atmospheric Administration (NOAA) is under way to develop weather/crop impact assessments by using regional rainfall data, satellite pictures and field crop reports. NOAA collects and interprets the data for use by decision makers.

Climate impact statements are then

prepared that forecast crop surpluses or shortfalls as much as 30 to 60 days prior to harvest. Krumpe emphasizes that this can provide a three- to six-month lead time on determining probabilities of food shortages. These climatic impact statements now are produced for more than 400 locales throughout the subtropics. In Africa, this technology will be particularly effective for famine forecasting in the future, Krumpe says.

In earthquake-prone Central America, OFDA has upgraded seismic monitoring systems in Costa Rica, Panama, El Salvador and Guatemala. Colombia was assisted in developing self-sufficiency in monitoring volcanoes following the eruption of the Nevado del Ruiz volcano in 1985.

A tsunami warning system for the Pacific Basin also was set up in partnership with NOAA. In the past 35 years, more than 70,000 people in the Pacific Basin lost their lives to tsunamis, tidal waves caused by large earthquakes under or near the ocean floor. "The new tsunami alert system will notify potentially affected populations in ample time for residents to flee to safety," Krumpe stresses.

OFDA trains officials in developing countries in specialized areas such as

hazard identification, shelter management, fire fighting, airport safety and damage assessment.

"Our policy is to train the trainers. Programs are tailored to the specific needs of a particular country and disaster in question. Every effort is made to work toward team building and institutionalizing a disaster response capability," says OFDA training officer Denise Decker.

In the last three years, 600 foreign participants received training. The results already are apparent. The United States trained the first six search and rescue trainers in Venezuela several years ago. Last year, Venezuela provided 30 search and rescue professionals to help victims of the Mexico City earthquake.

Disaster preparedness and mitigation are important parts of the development process. A disaster can create conditions constraining economic growth. For example, the 1972 Nicaraguan earthquake wiped out 6.5% of the nation's gross national product in a few short minutes. "It is for this reason that forethought and planning are vital, particularly in the 30 or more disaster-prone nations," Taft says.

"We are in the business of saving lives," she says. "We are totally apolitical in this effort."

The generation of good will reaps sometimes unexpected rewards. "A few years ago, there was a disaster in Algeria. At the time, U.S. relations with that country were strained," Taft explains. "OFDA responded. Later, the Algerians were particularly helpful in getting U.S. hostages out of Iran."

OFDA—born of America's generosity and good will—is a small office with a global mission. Its successes have led it to become a model for other nations, and its efforts have made this a safer world.

—Prepared by the Office of Publications staff with assistance from OFDA

YESTERDAY TODAY & TOMORROW

For the past quarter century, the Agency for International Development (AID) has helped developing nations work to achieve economic growth and development by providing technical and financial assistance in the areas of agriculture; private enterprise development; health, nutrition and voluntary family planning; education and training; rural and urban development; and, environment and energy.

U.S. assistance programs in these areas have evolved over the years, reflecting concerns relevant to the times and building on lessons learned through experience. Although the shape of AID's programs has varied, the major goal of promoting peace and prosperity for all has remained unchanged since the Agency was established in 1961. Since then, AID's efforts have helped bring the benefits of development—food, jobs, incomes, improved health, education and safe water, to name a few—to millions of people throughout the developing world.

These areas of activity, their accomplishments and the thinking that went into shaping the U.S. economic assistance program over the last 25 years are reviewed on the following pages

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The Agency's agricultural programs work to increase the income of the rural poor and expand the availability of food in the developing world.



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Accent on Agriculture:

DEVELOPMENTS IN THE FIELD

Agricultural development is the driving force for economic growth in developing nations. For some, increasing crop productivity is a matter of life and death. For others, it is a means to greater prosperity and self-reliance.

In the past 25 years, agricultural production has undergone a veritable revolution. Dynamic, self-sustaining food and agricultural systems have been established in many developing nations, including South Korea, Brazil and Taiwan, through efforts by their governments and people, coupled with assistance from developed countries and international organizations. Self-reliance in food production has been achieved by countries such as India and Thailand.

AID's long-term objective is to increase the incomes of the rural poor and to expand the availability and consumption of food while maintaining the natural resource base.

Agricultural research and technical assistance to boost developing countries' food and agricultural production

have always been part of the U.S. development assistance program to the nations of the Third World.

"Research and training as well as agricultural policy dialogue and private sector development play important roles in this process," says Nyle Brady, senior assistant administrator of AID's Bureau for Science and Technology (S&T).

The foundation for indigenous agricultural research and development was laid by early U.S. efforts in the 1950s to help establish agricultural universities in developing countries. For example, a network of such institutions was set up in India.

"These universities were based on the U.S. land grant model but highly adapted to meet India's needs," says Erven Long, senior advisor on university relations in S&T.

"When we first got to India," Long continues, "there was very little research going on that dealt with Indian agricultural problems." Six U.S. universities joined forces with Indian institutions to create a system of



research and training facilities in all major regions of the country.

The results are evident. Indian agricultural productivity has soared 350% over the past 25 years. India, once haunted by recurrent famine, is now self-reliant in many food grains. "Agriculture, which historically held back development in India, now is the engine of economic growth," Long sums up.

"Building the universities, together with training future Indian agriculturalists at land grant colleges in the United States, probably has been the greatest thing AID has done in agriculture—the building of human capacity," says Brady.

In the 1960s, the Ford and Rockefeller foundations started the basis for an international system of agricultural research centers. The International Rice Research Institute (IRRI) was established in the Philippines in 1960 to develop new varieties and technologies for increasing the production of rice. The Mexico-based Center for Wheat and Maize Research was established as the Centro Internacional de Mejoramiento de Maiz y Trigo (CIMMYT) in 1966.

These centers searched the world for samples of rice, wheat and maize seeds with an eye for varieties that could be crossed to produce the most promising high-yielding, disease-resistant, nutritious and adaptable strains. By the mid-1960s, CIMMYT and IRRI had begun to achieve their initial objectives with the introduction of new wheat and rice varieties that produced dramatic increases in yields in field tests and sparked what then AID Administrator William Gaud termed a "Green Revolution."

AID played a major role in making the new technologies available, particularly throughout Asia and Latin America, and supplied core funding for the research centers beginning in 1969.

From 1965 to 1971, in parts of India and elsewhere in Asia where the "miracle seeds" were extensively planted and other modern agriculture techniques were adopted, wheat and

rice production increased 47% and 31% respectively. Rice production around the world continues to rise.

According to Brady, "The new wheat and rice varieties developed by the international agricultural centers and their networks of national research facilities typically out-yield the old varieties by one to two metric tons per hectare. Worldwide these new varieties annually provide more than 50 million tons of additional food—an amount equal to the annual grain consumption of half a billion people. The new technologies developed as part of the Green Revolution saved millions of lives."

AID's commitment to international agricultural research continued in the

Consultative Group for International Agricultural Research (CGIAR) was established in 1971 with its secretariat at the World Bank.

"It provided a new means for donors from around the world to work together to support the efforts of the international centers," Brady says. John Hannah, AID's Administrator at the time, obtained approval for committing the U.S. government to fund 25% of CGIAR's core budget. Today, CGIAR links 13 international agricultural research centers and includes the international donor community of developed nations, public and private institutions, and international and regional organiza-



AID programs enable U.S. and developing country scientists to work together on projects benefiting both the United States and developing countries.

1970s. Additional international research centers were established in Colombia to increase the quantity and quality of basic food commodities in the tropical areas of Latin America and the Caribbean and in India to improve chickpea, millet, sorghum, and groundnut production and farming systems in the semi-arid tropics.

Recognizing the need for coordination on the international level, the

The 1970s also saw increasing emphasis on the use of the U.S. land grant university system as a model and as a source of professional expertise to help developing countries build or enhance similar institutions. Particularly after the passage of Title XII legislation in 1975, U.S. land and sea grant colleges and universities increasingly participated in research, training and technology transfer in



Left: Transforming new seeds into food for millions requires farmer access to fertilizer, water, markets and credit.

Below: Taking the breakthrough of the laboratory into the field is not an easy process.

areas such as soil management, nutrition, food crop production, aquaculture and ocean fisheries.

Title XII authorized creation of the Board for International Food and Agricultural Development (BIFAD) to advise AID officials on creating agricultural development policy, programs and budgets.

The legislation also provided for programs to strengthen the capacity of U.S. land grant institutions to participate in AID programs overseas and to carry out collaborative research support programs. These programs, termed CRSPs, enable U.S. scientists to work together with developing country scientists on projects benefiting both the United States and developing nations. For example, a Small Ruminants CRSP was developed by 10 U.S. universities and several institutions in five developing countries to study problems relating to the breeding, feeding and management of sheep and goats.

"Sheep and goats are primary sources of animal protein in many countries," explains Robert Kleis, executive director of BIFAD. "Until the Small Ruminants CRSP was established, no international group



had organized programs to deal with sheep and goat production. The CRSP program has provided major breakthroughs in the field." These include a heat-stable vaccine for contagious pneumonia in goats and preventive measures against arthritis in sheep and goats.

In Morocco, the treatment of lambs with selenium and vitamin E eliminated a severe white muscle disease problem; applied on a country-wide

basis, the treatment could save at least one million lambs per year. In Kenya, dual-purpose goats (useful for both meat and milk production) have been bred and introduced on 50 farms where formerly no livestock was raised. These goats are generating \$52 of additional income per hectare, and the number of farms included in the project is expanding.

"As a result of another CRSP and collaboration between an international center and a Sudanese institution, a new variety of sorghum was developed and successfully demonstrated for use in several African countries," Kleis says. "Other sorghum and millet varieties as well as new bean, cowpea and groundnut varieties have been introduced in Asia, Africa and Latin America."

Universities are only one of the major U.S. resources whose expertise in agricultural development has been tapped by AID. The U.S. foreign assistance program has worked closely with numerous private and voluntary organizations bringing into play the extensive U.S. experience with supply and marketing cooperatives.

New AID-supported programs with U.S. universities and agencies are taking agricultural research into yet another dimension. The International Benchmark Sites Network for Agrotechnology Transfer (IBSNAT), working with the University of Hawaii, uses computers and computer simulation models that make agricultural research results easily accessible to agricultural development projects worldwide, reducing costly and time-consuming trial and error studies.

The simulation models use the soil classification and prediction system for tropical and sub-tropical soils that was developed by AID's Soil Management Support Services project in cooperation with the U.S. Department of Agriculture.

Taking the breakthrough of the laboratory into the field is not an easy process. Transforming new seeds into food for millions requires that farmers plant the seeds and that an

infrastructure exists to provide access to fertilizer, water, markets and credit where needed. Prices for farm products must provide the incentive for farmers to risk new additional production costs.

AID technical assistance programs helped show Asian and Latin American farmers how to use nitrogen, phosphorous and other fertilizers to help increase their yields. Unlike the traditional varieties, the new seeds respond remarkably well to fertilizer applications, thus providing high yields for users including low-income farmers.

AID then introduced fertilizer distribution programs in India, Bangladesh, Brazil and other developing countries because neither the countries nor the farmers could afford to buy fertilizer, and systems of getting fertilizer to the farmers were inadequate.

In Bangladesh, AID helped make fertilizer more available to farmers by encouraging the government to change its fertilizer distribution system—transferring about 800 fertilizer distribution centers from government ownership to the private sector. AID also encouraged the government to

reduce its fertilizer subsidy to distributors.

A project carried out by Cornell and North Carolina State universities showed Brazilian farmers how the right quantities of lime could be used to reduce the toxic aluminum content in the soil and thus enabled farmers to grow crops on about one million hectares of land that previously could not be farmed.

The demand for fertilizer grew, and the United States became a major supplier to developing countries. In 1968 alone, AID financed fertilizer shipments to these nations valued at



an estimated \$186 million. India, for example, used the equivalent of one-fifth of its foreign exchange earnings to import fertilizer. To help meet the growing demand, AID helped Asian countries such as India and South Korea build major fertilizer plants. Four such plants brought Korea close to self-sufficiency in chemical fertilizer and reduced the country's need to use foreign exchange for fertilizer imports by up to \$22 million a year.

To solidify the gains of the Green Revolution, vastly expanded and improved irrigation systems also were needed. "Our early focus was on

building dams, reservoirs and large canals," recalls Worth Fitzgerald, S&T water management specialist. "In the mid-70s, we began to focus more on the operation of these systems, including on-farm water management."

Among the Agency's earliest efforts in irrigation was an innovative program in Turkey that helped design and locally manufacture equipment for on-farm irrigation and land leveling. "We helped revamp large equipment of major producers to suit local situations," Fitzgerald stresses. "This allowed better water management practices to be instituted,

in Pakistan as well as many irrigation systems in the Philippines, India and other Asian countries.

One of AID's major efforts was to expand Pakistan's irrigation system, which provides water to about 13 million hectares and is one of the largest in the world. Colorado State University, carrying out farm-level irrigation water management research under an AID contract in 1972, discovered a loss rate of up to 50% from field-level water courses in the Pakistan irrigation system. Subsequently, an AID-funded on-farm water management project helped farmers



Above: Boosting agricultural productivity in drought-plagued Africa is a major focus of AID. Already the groundwork is being laid for what may be a "Green Revolution" for the continent.

Left: AID-funded small irrigation projects in Africa have helped increase the yield for rice and maize.

resulting in significant increases in cereal production."

As AID's program in irrigation evolved, more emphasis was given to improving existing methods and strengthening local institutions' capacities for developing, managing and improving their own systems. More efficient use of water became increasingly important when studies revealed that many systems operated at efficiencies of between 30% and 40%. This included the giant Indus Basin system

rebuild their water courses, promoted precision land-leveling to improve application efficiencies and trained about 1,000 people in implementing water management improvement programs.

In Egypt, an AID-funded project revealed that improving water management could boost rice yields by about 35%. In some Indian small tank irrigation systems, improved water management has resulted in production of a second crop where only one

Agriculture

was grown before. In northeastern Thailand's Sokol Nakorn Province, AID assistance in the design and development of an irrigation system brought water to 70,000 acres of farmland and tripled the value of the area's rice, maize and groundnut crops.

Local farmers' and water users' organizations began to participate in irrigation efforts. In Sri Lanka, an AID project has helped organize water user organizations in the dry Gal Oya region in the southeast and

rehabilitated over 600 kilometers of irrigation canals. In Indonesia, the Sederhana irrigation and land development project helped some 300 local water users' organizations participate in effective irrigation improvement programs.

In Senegal, an AID small irrigation project has helped increase the yield for rice and maize, making the harvest of these crops the highest in the Senegal River Valley.

Africa's dry lands pose a continual challenge for agriculture. AID recently

inaugurated new technology in a soil moisture management project that will explore the most effective ways of using natural runoff in the region. Crop rotation, selection, land preparation and treatment of fallow land will be studied.

Programs related to water management can have a positive impact on the natural environment. In Honduras, the Choluteca Natural Resource Management project is stabilizing the hillside environment and reducing soil loss while at the same time improving incomes of the small farmer. The \$9 million AID investment in 1983 has enabled more than 2,600 farmers to build terraces and wind barriers, learn composting techniques and adopt new maize varieties. The project added approximately 30,000 hectares of usable farmland and resulted in a doubling of production.

As part of its emphasis on increasing food crop productivity, AID became involved in the development of improved systems for handling, marketing and using improved seeds. Through a cooperative agreement with Mississippi State University, for example, AID has helped support programs for about 20 years for U.S. agronomists to extend their technical expertise to farmers in over 50 nations. In addition, more than 250 agronomists from 56 developing countries have been trained at Mississippi State.

AID also became involved in overcoming the ravages of crop pests and diseases. "We found ourselves facing a never ending battle against plant insects and diseases," says Tejpal Gill, S&T senior agronomist. "Varieties of crops that were originally developed could be protected for only about three years with insecticides before the insects began to get to them again."

A number of programs were launched to deal with the problem. In Indonesia, for example, the new rice varieties soon fell prey to brown plant hoppers. AID supported a 10-year program, initiated in 1972 in collaboration with IRRI and Indonesian authorities, to develop improved varieties of high-

AID became increasingly involved in helping to preserve harvested grains first by developing technology for this purpose and then by transferring technology to the people in developing countries.



yielding rice that would be resistant to the pest. About 25 varieties were developed during this period, and other varieties from other sources were introduced. There also was a significant increase in the area planted with the new varieties. In 1971, high-yielding varieties of rice represented 31% of the area planted in Indonesia. By 1983, they covered 82%.

In 1975, a major 10-year program was launched by the AID-funded International Institute of Tropical Agriculture (IITA) to find a means of controlling one of the most devastating diseases affecting maize in Africa, the maize streak virus (MSV). As a result, more than 100 MSV-resistant varieties of open-pollinated and hybrid maize were developed that now cover almost all of the relevant ecologies in sub-Saharan Africa. A number of these varieties already have been planted on 350,000 hectares in Nigeria.

"Significant reduction in the incidence of the disease should eventually lead to greater stability in maize yields," says Calvin Martin, associate director for research in the Africa Bureau. "The reduced risk will encourage farmers to adopt practices that will increase total maize production."

In 1982 in Guinea-Bissau, a mealybug of South American origin attacked the nation's second most important food crop—cassava. Annual production of cassava dropped from 120,000 to 24,000 tons. As a result of an AID-supported project, beneficial insects that attacked the mealybugs were introduced. This effort has enabled farmers to replant abandoned areas, and cassava production is expected to return to pre-pest levels this year.

Beginning in the 1970s, AID became increasingly involved in helping to preserve harvested grains first by developing technology for this purpose and then by transferring technology to the people in developing countries. A particularly successful project in increasing the institutional capacity of developing nations in post-harvest technology has been conducted by the Food and Feed

Grain Institute at Kansas State University.

"The institute has conducted over 30 programs providing training on grain storage and handling to more than 700 participants in 19 countries," says Roe Borsdorf, agricultural economist with the institute. Over 60 foreign students pursued advanced degrees at Kansas State; nearly 150 participants from 48 countries have been trained in various aspects of storage and marketing and the post-harvest system for cereal grains and legumes; and 81

encouraging nations to remove these constraints and broaden the agricultural base through diversifying products, growing new, higher-value crops for export and starting or expanding agribusinesses geared to the export market.

AID is encouraging African governments to move away from government-controlled organizations and institutions and to stimulate greater private sector participation in the distribution of seeds and fertilizer and in the marketing and processing of food.



Prices for farm products must provide the incentive for farmers to risk new additional production costs.

participants from 20 countries have been trained in 10 special short courses.

The 1980s have seen a number of new initiatives that have influenced agricultural development. Government policies that inhibit private sector participation and investment in all aspects of agriculture—production, processing and marketing—are common in developing nations. AID is

For example, AID's Kenya Rural Private Enterprise project provides a grant of \$7 million and a loan of \$24 million to accelerate the establishment of sound rural private businesses that have strong links to small farm operations.

The five-year project provides credit and technical assistance to commercial banks to expand lending and business advisory services in rural areas. It

also provides grants to private voluntary organizations that offer management advice and extend loans to small businesses that are unable to obtain commercial banking services.

"A joint U.S.-Costa Rican agricultural committee, during its first six months of operation, arranged five major joint ventures for the production and export of herbs, spices, vegetables, dehydrated banana and pineapple chips and chili sauce," says Steven Wingert, chief of the rural development division of the Bureau for Latin America and the Caribbean. "AID funds provided to the Latin American Agribusiness Development Corporation (LAAD) in Guatemala have been used to finance over 250 agribusinesses."

Through the years, AID has helped initiate a number of major advances in agricultural financing. In Bangladesh, for example, an innovative program has enabled national banks to reach a large number of small farmers by providing crop production loans at commercial rates. Prior research had indicated that small farmers were willing and able to pay commercial rates to take advantage of proven technologies to increase their crop production.

AID also has helped improve the capacity of a number of financial institutions and farmer organizations to mobilize local capital for reinvestment in agricultural production. AID's agricultural savings and loan program in Latin America has enabled thousands of small farmers to save and invest in their own communities.

U.S. foreign assistance efforts also have created an awareness of how agricultural credit is important not only to improve the capacity of small farmers to purchase inputs needed, but also to encourage them to adopt improved technologies. In Sudan and Egypt, for example, agricultural credit banks have been closely integrated with the supply of seed, fertilizer and chemical pesticides needed by small farmers who would not have been able to purchase these needed materials without access to credit. In the process,

agricultural credit institutions have become advisors on the use of new technologies.

Today, increasing attention is focused on the needs of Africa, particularly for the development of an indigenous institutional capability to conduct agricultural research on Africa's unique problems.

"Agricultural universities and re-



Agricultural credit is important not only to improve the capacity of small farmers to purchase inputs, but also to encourage them to adopt improved technologies.

search efforts patterned after those that produced the Green Revolution in Asia and Latin America must be vigorously supported for all of Africa," says Keith Sherper, director of the Africa Bureau's Office of Technical Resources. He stresses that such research must receive high priority from both the developing countries and the bilateral and multilateral donors. Some progress already has been made in addressing Africa's needs, according to Sherper.

Scientists at international agricul-

tural research centers based or operating in Africa—IITA in Nigeria, ICRISAT at its Sahelian Center in Niger and the International Livestock Center for Africa (ILCA) headquartered in Ethiopia—are beginning to develop new technologies specifically geared to Africa's needs. Superior varieties of sorghum, millet, cassava, dry beans, potatoes, sweet potatoes and lentils already are beginning to appear. "Not only do these varieties have higher yield potential than the traditional crop varieties, but they are more drought-tolerant and have good resistance to insects, pests and diseases," Sherper notes.

Sorghum has been a particular success in the Cameroon, for example. An AID project identified a sorghum variety that increased northern Cameroon's major food crop yields by 30% under low rainfall conditions.

Biotechnology is part of an emerging arsenal that brings advances from many fields—molecular biology, genetics, immunology, cell biology—to help find solutions to problems of agricultural production.

"AID is helping develop better resistance in plants to disease and insects and vaccines against rinderpest and trypanosomiasis (sleeping sickness) in animals. Biotechnology gives us the ability to attack problems at the molecular level," says Brady.

"Advances in plant tissue culture, for example, have moved rapidly, and we are now becoming aware of the potential impact of this field on agriculture," he continues. AID supports a cooperative effort with Colorado State University to use plant tissue culture methods to accelerate the development of food crop varieties with higher yields under conditions of stress. Stressful conditions include high levels of salt or aluminum in the soil as well as inadequate rainfall.

AID also supports a number of research projects aimed at improving the efficiency of nitrogen fixation by legumes to enrich soils—particularly the fragile soils of the tropics and semi-tropics. Yields of many tropical legumes, such as cowpeas, have been



AID aquaculture projects are helping to meet food production needs in developing countries.

increased in Asia, Africa and Latin America as a result of the development of high-nitrogen-fixing bacteria.

Aquaculture—the raising of selected animals and plants in controlled environments to supplement the natural harvest of fish from oceans, lakes and rivers—is another AID activity that increasingly is helping to meet food production needs in developing countries.

An AID cooperative agreement with Auburn University in Alabama has helped developing countries benefit from U.S. experience in aquaculture.

“The purpose of the agreement was to take advantage of Auburn’s expertise in aquaculture and promote increased production and marketing of fish for local consumption in developing countries,” explains Richard Neal, senior fishery specialist with S&T’s Office of Agriculture.

“AID is interested in producing low-cost fishery products that will be consumed locally by poor people and less interested in producing high-priced export products,” says Neal.

Jamaicans, for example, consume large quantities of fish, but the nation’s shoreline does not support large fishing efforts. As a result, Jamaicans have imported up to 65% of their fish requirements.

In 1977, AID assisted the Jamaican government with an island-wide freshwater fisheries program. Since that time, the annual production of fish has risen from less than 5,000 to more than 1.8 million pounds in 1985. The private sector, which did not produce any fish products in 1977, produced more than 90% of Jamaica’s commercial fish in 1984. More than 1,000 acres of fish-rearing facilities have been constructed.

The Philippines is ranked as one of the top four countries in total fish-pond area, with milkfish accounting for about 90% of aquaculture production. AID has supported three successive aquaculture development projects in the Philippines since 1971. The goal is to improve the nutrition of Filipinos by increasing the availability of fish products through aquaculture.

“Aquaculture is increasing in developing countries,” Neal stresses. “It supplements the diets of the malnourished with an affordable animal protein source. It provides employment through use of available resources and, at the same time, helps counter the problem of ‘overfishing’ natural waters.”

The advances made in both aquaculture and agriculture have made a significant difference in the availability of food in the developing world. Breakthroughs in research have opened up promising new horizons. Agribusiness has become a vital part of the agricultural process by expanding yields and markets, productivity and profit.

Since the initial days of its work in development, AID has been actively involved in agriculture. Expertise and experience that have been gained are being applied to the challenges of the future.

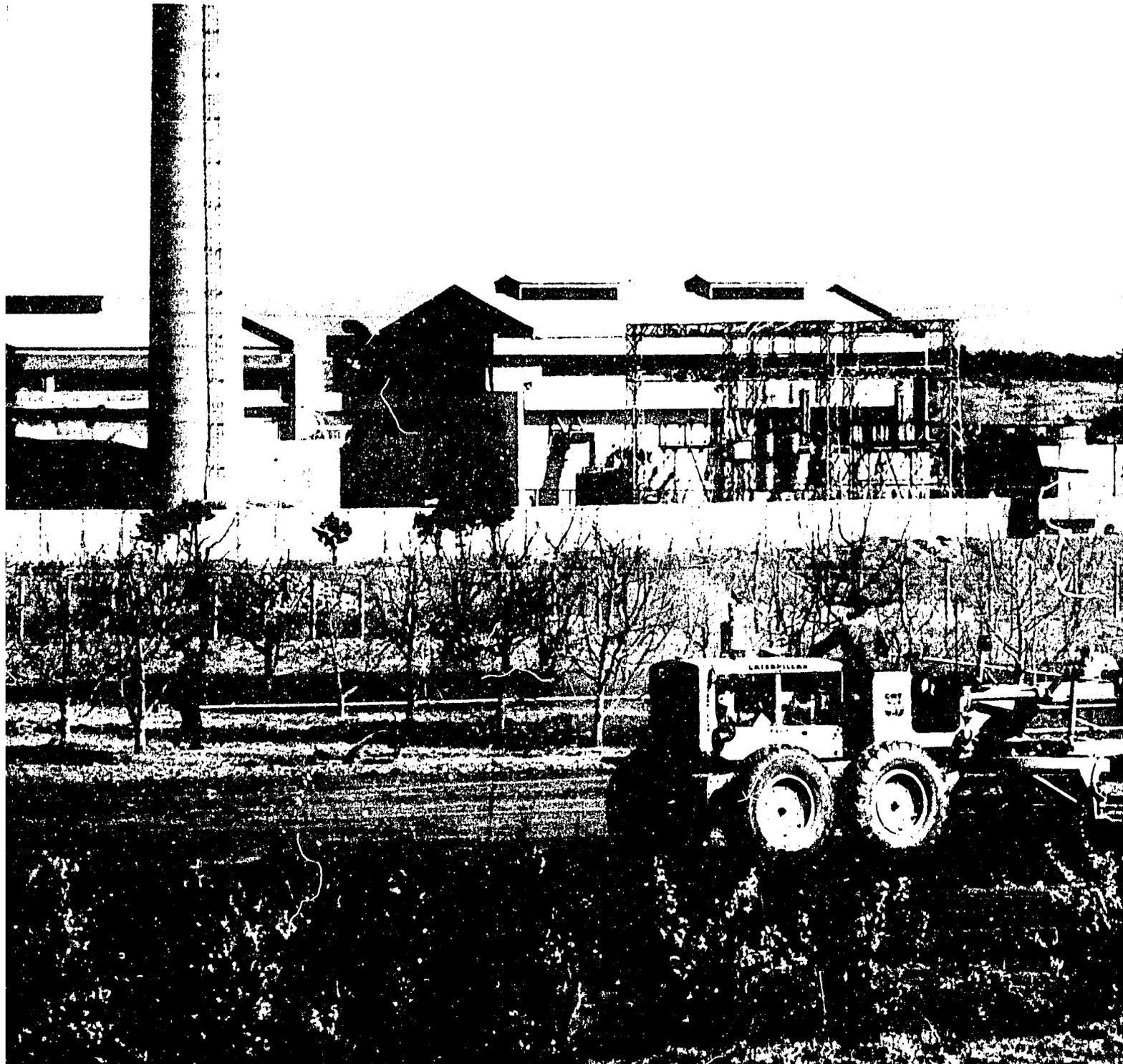
“Boosting agricultural productivity in drought-plagued Africa, for example, is a major focus for development activity now and in the years ahead,” stresses Africa Bureau’s Calvin Martin. “Already, the groundwork is being laid for what eventually may be a ‘Green Revolution’ for that continent.”

If past is prologue and the present an indicator of future potential, then agriculture holds great promise for tomorrow. The specter of famine soon may recede into history. Agricultural productivity may well lead the way to increasing prosperity throughout the developing world. ■

—Prepared by the Office of Publications staff with the cooperation of Agency agricultural experts.

Recognizing that a free economy improves productivity, AID has long been an active supporter of private enterprise development.

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Accent on Private Enterprise:

FACTORING THE FREE MARKET INTO THE ECONOMIC EQUATION

By William Outlaw

A strong private sector in less developed countries provides the foundation for economic growth and increases the capacity to acquire needed goods and services.

From the first time that foreign assistance was used to provide insurance for U.S. private investments in developing countries to the current use of AID's Private Sector Revolving Fund to spur indigenous private sector growth, the goal of developing free market economies in Third World countries has been an integral part of the U.S. foreign assistance program.

"The private sector produces roughly 75% of the Third World's gross domestic product," says Neal Peden, assistant administrator of AID's Bureau for Private Enterprise (PRE). "It is a proven generator of jobs and increased incomes when it is allowed to function without bureaucratic handcuffs."

Private enterprise development has been an important method of assisting developing countries improve their ability to help themselves.

Brazil, Ecuador, the Dominican Republic, Pakistan, Turkey, Tunisia,



South Korea, Kenya, Malawi, Ivory Coast, Thailand and Indonesia are among countries whose economies have benefited from private sector development.

The Roots of Private Sector Development Go Back to AID's Beginning

One of the first U.S. foreign aid tools to encourage private sector development was the Development Loan Fund (DLF), established in 1957. The two primary instruments of the DLF were the direct loan and the convertible debenture (a bond backed by the general credit of the issuer rather than a specific lien on particular assets).

Under the DLF, nearly a dozen developing countries obtained financing in exchange for debentures that could be converted into equity. Two successful convertible debenture programs were the Sui Gas Company in Pakistan and a meat processing project in Thailand.

The DLF also pioneered the use of Intermediate Financial Institutions (IFIs) as on-lenders to small businesses. For example, in Latin America, more than \$1 billion in development loan financing has been provided since 1961. In addition to assisting development banks, the Latin American programs have provided assistance to credit unions and savings and loan associations.

As a result, savings mobilized by credit unions in Latin America increased from \$78 million in 1962 to \$600 million in 1978. Credit union membership during the same period grew from 300,000 to 2.5 million, and the number of credit unions nearly tripled. AID also established COLAC, a private regional confederation of credit unions, and provided considerable support to BIAPE, a private Inter-American savings and loan bank.

An AID loan to an IFI in India in the 1960s increased the foreign exchange available for lending to the private sector and provided an incen-



tive for the purchase of American equipment. Subloans were made to private sector companies that intended to use U.S. goods in their projects.

Another vehicle used to spur private sector growth was the Cooley Loan program, established as an amendment to the 1951 Agriculture Trade Development and Assistance Act as part of an effort to promote balanced economic development and trade among less developed countries by permitting local currency loans to U.S. firms or their affiliates for business development and trade expansion.

The loans were used to establish facilities to assist in the use, distribution or marketing of U.S. agricultural products in developing countries. Funds were derived from local currency proceeds from the sale of U.S. agricultural products under the Food for Peace (Public Law 480) program.

The loans generated the creation of productive industries and the export of U.S. private goods and raw

materials and helped establish good working relationships between U.S. investors and businessmen in developing nations.

More than 100 different joint ventures between U.S. firms and privately owned companies were made possible by Cooley loans and carried out in India, Pakistan and Turkey in the 1960s.

Cooley loans in Taiwan and the Philippines helped establish manufacturing, fisheries and other projects. In Latin America, borrowers included affiliates of companies such as Ralston Purina; Goodyear Tire; Gillette; Quaker Oats; Singer; General Telephone and Electronics; Sears, Roebuck and Company; General Electric; Monsanto Chemical; John Deere; and International Harvester.

Another of AID's early private sector thrusts enabled productivity and industrial development centers to be established in Pakistan, Chile, Guatemala, Panama, Jamaica and Mexico.

AID's private sector focus has intensified in the 1980s and concentrates on the development of indigenous private enterprises in developing countries. Entrepreneurs can increase the wealth of a society and improve the quality of life.



Early emphasis also was placed on encouraging U.S. private sector firms to invest in Third World countries by providing insurance for their investments. Such programs now are part of the Overseas Private Investment Corporation and are no longer included in AID programs.

In the 1970s AID's private sector emphasis expanded to include export promotion. A major effort was undertaken in India to assist local export promotion by establishing industry groups (including agricultural producers) and organizing and financing trade group visits.

The goal of the program was twofold: to influence the Indian government to allow export industries to develop in the private sector and to promote the marketing of future export production.

Training: A Long-Standing Commitment to Human Resource Development

AID also has supported numerous vocational skills training programs to provide semi-skilled and skilled personnel to fill job requirements for the private as well as the public sector.

In South Korea, AID provided technical assistance and equipment for the Korean Institute of Science and Technology. In Jordan, a vocational training project contributed to the building, equipping and staffing of an institute that can turn out approximately 300 workers per year for the private sector. In Morocco, AID financed a project to provide industrial and commercial job training for women.

Development assistance also supports private sector training firms that provide services to the poor. For example, the United States assisted the Panamanian Association of Business Executives (APEDE) as early as the 1950s to help upgrade the management skills of its members.

In 1963, AID funded the graduate school of business administration in Lima, Peru, as a private, independent institution offering master's degree programs and specialized executive



AID private sector programs have spurred economic growth in developing countries throughout the world.

programs. The school received technical assistance from Stanford University and now is considered one of the best graduate schools in South America. In the late 1970s, the Center for Graduate Studies in Management was started to formalize management studies at the graduate level.

The transfer of technology to enterprises in developing countries is another important aspect of AID's private sector program that has been accomplished through various means.

AID has provided funding to a private voluntary organization, ACCION International/AITEC, for long-term technical assistance to rural-urban socioeconomic development programs in Latin America since 1965. The organization has been active in promoting experimental programs in the development and management of community organizations, cooperatives and savings and loan institutions.

With AID support over the last 20 years, the International Executive Service Corps (IESC), retired U.S. business executives who volunteer for short-term overseas assignments, has been involved in more than 9,000

projects with some 1,500 resulting in joint ventures with U.S. firms. The U.S.-ASEAN Center for Technology Exchange, using an AID grant, expects to train some 400 managers, involve 125 firms in technical missions to the United States and provide technical information and training to 100 firms.

AID's Private Sector Emphasis Heightened in 1980s

AID's private sector focus has intensified greatly in the 1980s and concentrates more on the development of indigenous private enterprises in developing countries. This is being done by encouraging reform of host country policies that stand in the way of sound investment and management. Loans are made available for starting up and expanding enterprises through indigenous private lending institutions.

AID private sector programs have spurred economic growth in countries such as Taiwan, South Korea, Singapore and Thailand. In Latin America, strong private sectors are in evidence in Brazil and Costa Rica. In Africa, the Ivory Coast, Malawi and

Cameroon have healthy, growth-oriented private sector economies while other African countries with statist-oriented economies have experienced great difficulties.

AID's Private Sector Initiative seeks to increase the list of economically successful nations by working with public and private sectors in developing countries to open up opportunities for private enterprise and entrepreneurial action.

To underscore this goal, Administrator Peter McPherson established AID's Bureau for Private Enterprise in 1981 and included private sector development as one of the Agency's four pillars, giving it Agency-wide emphasis.

"The private sector has a special role to play," Peden emphasizes. "It is capable of producing results in the critical areas of policy reform, technology transfer and institution building.

"It is applicable to the whole range of development objectives whether the job is to generate higher incomes so the poor in less developed countries can afford to meet basic needs or

to deliver medical, health, agricultural extension and other services more efficiently than traditional government mechanisms."

The Private Sector Initiative has provided technical assistance directly and indirectly to promote a policy climate conducive to private sector businesses. In addition, Agency-funded private sector programs have promoted agribusiness, credit institutions, technology transfer and other needed programs.

Creating the right business climate for private enterprise is perhaps the single most important undertaking of the initiative.

"By encouraging developing countries to follow free market principles and move away from excessive government intervention in the economy, we lay the basis for these nations to achieve sustained economic growth," says Neal Zank, senior policy advisor for private enterprise in AID's Bureau for Program and Policy Coordination (PPC).

The Private Enterprise Bureau investment program was designed to encourage collaboration on projects with the private sector to achieve development objectives. The program began in 1982 with loans to financial institutions in Thailand, Kenya and Peru. Loans to the Siam Commercial Bank and the Kenya Commercial Bank induced these institutions to expand their activities into rural, small business markets.

The loans also served as models for follow-up projects undertaken by AID missions and are designed to target small businesses that can generate jobs. This is done largely by making loans or loan guarantees to private intermediate financial institutions to induce them to lend to this higher-risk market.

These projects have assisted village businesses and rural bank customers in Indonesia, small cash-crop farmers in Kenya, artisans in northern Thailand, micro-entrepreneurs in the Dominican Republic and light manufacturers in Morocco.

Direct loans also emphasize the

Technical assistance to development projects worldwide supports private sector development.



agribusiness sector and include projects that link small farmers to nucleus estate enterprises. For example, the slaughterhouse and meat processing project in Thailand is designed to create substantial new markets for livestock farmers, and vegetable production operations in the Caribbean provide contract opportunities for producers.

Other loans have been made to IFIs using loan proceeds as equity or quasi-equity investments in the agricultural sector.

Lending and guaranteeing money to financial institutions that lend money to private sector enterprises enables AID to channel resources through the program that are two to three times the value of the AID contribution.

Nearly 50% of the loans involve co-financing, whereby AID funds are matched by equal levels of private foreign exchange in investment capital or credit. This means that the

total amount of funds can be doubled and that the risk involved in the prospective project is shared.

Nearly 40% of all AID loans involve technology transfer through U.S. exports. The PRE Investment Office serves as a "window" on U.S. technology and has actively supported linkage with U.S. technology sources. Such AID loans have been made to agribusiness operations in Jamaica and a leasing company in Pakistan.

Revolving Fund Spurs Investments

Another component of the bureau's investment program is the Revolving Fund, created in 1983 to expand AID's institution-building activities.

The fund pledges money to the investment program for a variety of investments. When loans are repaid, the money goes back into the revolving fund and becomes available for lending to other private sector enterprises.

"The fund has enabled AID to get

expert analysis drawn from the U.S. business and financial community," Peden says. Each of the Agency's three regional bureaus has a private enterprise coordinator.

As in other bureaus, the programs of AID's Bureau for Latin America and the Caribbean (LAC) are designed to stimulate economic growth, create higher standards of living, improve foreign exchange earnings, create jobs for the unemployed of the region and strengthen democracy, says Aaron Williams, director of LAC's Private Sector Office.

"LAC efforts are focused on building an improved policy and regulatory environment for business while carrying out projects that promote investment, develop trade opportunities and create a positive context for the establishment and expansion of enterprises."

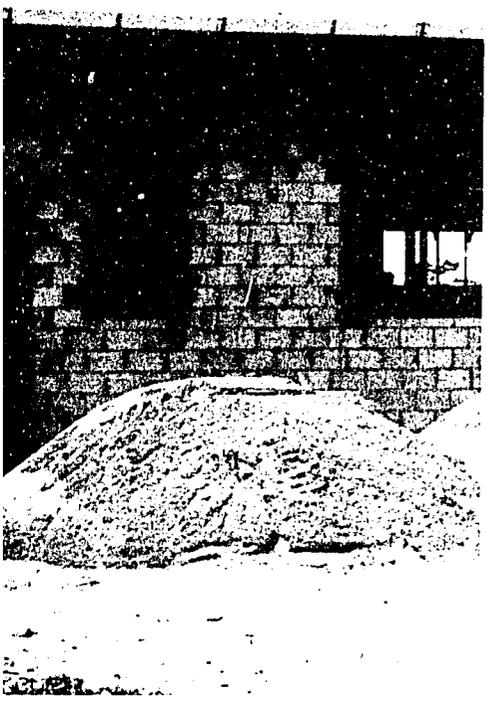
In the Dominican Republic, AID's Economic Support Fund has been used to help the government change

policies to achieve economic stability. As a result, the inflation rate has been reduced from 70% in 1985 to about 15% in 1986, and the exchange rate is stabilizing.

After consultations with the AID mission in Costa Rica, the government implemented several economic policy reforms, including a new law permitting the contracting of foreign loans in dollars or other convertible currencies, thus reopening the flow of private, international credit to Costa Rica.

In Ecuador, the AID mission is significantly involved in promoting exports and investment, removing constraints to the development of small firms and increasing free and more functional capital markets.

The Bureau for Asia and Near East's private enterprise strategy is based on the premise that attaining employment and income-generation objectives depends primarily on jobs created by the private sector, says



involved in some innovative financing," explains Ed Harrell, former deputy assistant administrator of the Bureau for Private Enterprise.

"The fund enabled AID to use commercial banks for agribusiness investment funds and raise local capital with offshore guaranty facilities, a leasing company and a venture capital fund—in short, things that AID really hadn't done before."

Technical Assistance Provided

In addition to supporting investments in developing countries, PRE provides technical assistance to development projects worldwide.

With increased technical resources, country missions can carry out projects to help spur private sector development.

"AID's goal is to help each mission tailor its private sector development initiatives to local needs and conditions and to strengthen policy dialogue with host governments by using



Attaining employment and income-generating objectives depends primarily on jobs created by the private sector.

Private Enterprise

Dick Williams, the bureau's private enterprise officer.

"AID missions seek opportunities to expand entrepreneurial activity as well as opportunities to remove governmental constraints to private sector expansion," Williams explains.

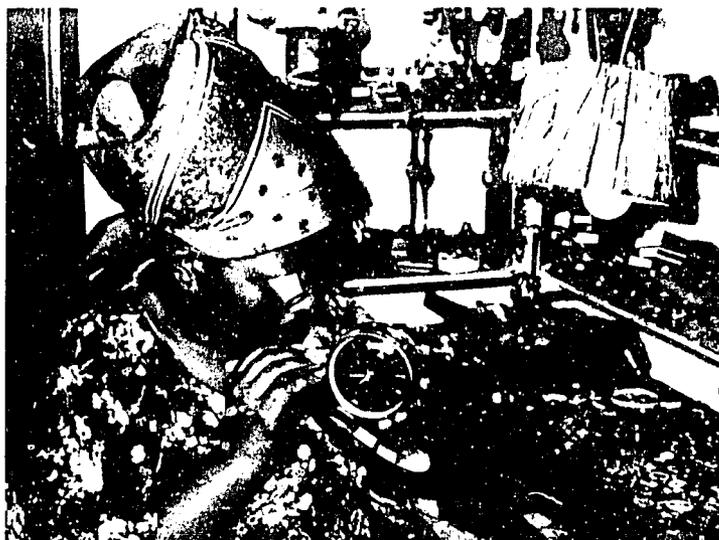
The regional bureau works with indigenous intermediaries to assist expansion of the private sector. The bureau also supports market-oriented aspects of projects in traditional sectors such as agriculture.

In Indonesia, for example, AID grants and loans assisted two U.S. seed firms in organizing local private

As a result, some of the most dramatic policy changes are taking place in that region, where statist policies of the past are being discarded and private enterprise encouraged. For example, the government of Guinea has changed course since it devalued its currency, privatized banks and announced plans to privatize all state-owned enterprises or require the exceptions to operate as financially autonomous entities.

The principal mechanisms being used to promote private enterprise development in the region are the Africa Economic Policy Reform Pro-

By responding to the opportunities that a free market can offer, private enterprise can produce jobs, managerial skills and economic growth.



AID's Africa Private Enterprise Fund provides technical consulting assistance to missions to explore a wide range of private sector actions.



firms to produce improved livestock and feed. In addition, a \$206,000 grant provided training, technical assistance and capitalization to private credit unions in three provinces that promote local enterprises through credit and savings programs.

In Bangladesh, the AID mission has negotiated successfully with the government to remove constraints on the operations of private sector fertilizer retailers, eliminate officially administered retail prices and close a large number of government fertilizer sales centers.

In many African countries, traditional government policies have discouraged business growth. In addition, business skills are lacking, and the banking and institutional framework is weak.

gram, Commodity Import Programs, IFIs, and the \$6 million Africa Private Enterprise Fund, says Harthorn "Bud" Munson, the associate assistant administrator for private enterprise in AID's Bureau for Africa.

Technical assistance projects, private voluntary organization development programs, and increased emphasis on using the private sector to implement agricultural, health, infrastructure and other traditional AID projects also are under way.

For example, the Africa Private Enterprise Fund, which was established in 1984, provides technical consulting assistance to missions to explore a wide range of private sector actions, including business feasibility and investment climate assessments; design and creation of loan funds and

business advisory services; business training and reduction of tax, labor, foreign exchange and other barriers to private sector development.

The fund has placed teams in Madagascar, Cameroon, Ghana, Botswana, Guinea, Mauritania and other African countries. In addition, resident country directors of the International Executive Service Corps are in Zimbabwe and Kenya.

Bureau and mission policy and program actions were the subjects of a private sector workshop in Lome,



Private sector development can help developing countries meet the basic needs of all of their people—giving them dignity and hope.

Togo, last July. As a result of encouragement from AID, the Somalian government adopted a free market exchange rate for its currency, established a quasi-private Chamber of Commerce, eliminated price controls and restrictions on the marketing of agricultural commodities and allowed private imports of food and agricultural imports.

In drought-plagued Niger, the AID mission convinced the government to begin eliminating subsidies for fertilizers and other inputs for the farm sector. Grain price controls are being removed, financial markets in rural areas are being overhauled, and administrative and fiscal restrictions on exports and imports are being removed to promote regional trading.

Privatization: The Key to the Future

A high degree of interest in privatization has been expressed by less developed countries, evidenced by the fact that the AID-sponsored International Conference on Privatization was attended by 475 delegates from 46 countries—including 108 senior representatives from both the public and private sectors in the developing world.

"Privatization can be extremely effective as a development tool in opening up economies in developing countries to competition, market forces and improved performance," Peden notes.

The Private Enterprise Bureau provides technical assistance in this area to developing countries through the Center for Privatization. The center sends reconnaissance teams comprised of technical experts to missions that request privatization assistance.

The teams help identify government services that could be privatized and recommend ways the missions and host governments can proceed.

To date, reconnaissance missions have been carried out in 15 countries. Recently, the bureau assisted in privatization efforts in Belize and Honduras. As a result, the government-controlled Banana Board in Belize sold plantation property and equipment to six tenant farmers.

In Honduras, the government sold an unprofitable sawmill to private investors who intend to turn it into a financially sound concern that will be an employment-generating asset to the community.

Privatization efforts also are beginning in the Philippines, Senegal,

Gambia, Jordan and Grenada. Parastatals are now being sold to the private sector in Bangladesh, Sri Lanka and other countries.

A privatization fund has been established in the Bureau for Private Enterprise to help less developed countries carry out strategies to shift enterprises and functions from the public to the private sector.

"Privatization is going to be the cutting edge of development in the next decade," Peden predicts. "I think privatization is going to be the answer for a lot of developing countries."

There has been an increasing shift in developing countries during the last five years away from statism and toward private sector enterprise approaches to economic development.

It is a revolution in which developing nations are looking to individuals and the private sector as ways to engineer real economic growth.

In this rapidly changing climate, AID is helping forge a complex partnership of government and the private sector in the total development process and is working to reduce constraints to private enterprise development in developing countries.

The Private Sector Initiative is a means to the end of alleviating poverty, producing equitable growth and giving people the power to make their own economic choices.

The initiative is based on the conviction that a free market economy is the most efficient means of achieving broad-based economic development. By responding to the opportunities that a free market can offer, private enterprise can produce jobs, managerial skills and economic growth. Entrepreneurs can increase the wealth of a society and improve the quality of life.

Private sector development can help developing countries meet the basic needs of all of their people, enabling them to lead lives filled with dignity and hope. ■

William Outlaw is a media affairs officer in AID's Bureau for External Affairs.

Environmental and natural resource management is increasingly recognized as essential to the development process.

Accent on the Environment:

SUSTAINABLE SURROUNDINGS

Twenty-five years ago, the environment was not an issue on the international agenda, and there were only a few environmental organizations in the United States. Today, the situation is different. Both the U.S. government and private groups are increasingly active in natural resource matters, and the state of the environment is a global concern.

The integration of environment into the development process, however, began in earnest only in the last decade when international attention focused on the relationship between economic growth and sustained natural resource management at the U.N. Conference on the Human Environment at Stockholm in 1972.

AID was one of the first donor agencies to respond to environmental concerns four years later when it adopted environmental procedures that significantly changed its project design and approval process. Environ-

mental analysis became a requirement for all overseas development projects, and careful procedures for pesticide use in development activities were outlined in accordance with the 1970 National Environmental Policy Act (NEPA).

Further steps were taken toward integrating environmental concerns into development when Congress amended the Foreign Assistance Act in 1977 to add "environment and natural resources" to AID's mandate. The Agency subsequently was required to prepare environmental profiles of recipient nations and to address the problems of deforestation and soil erosion.

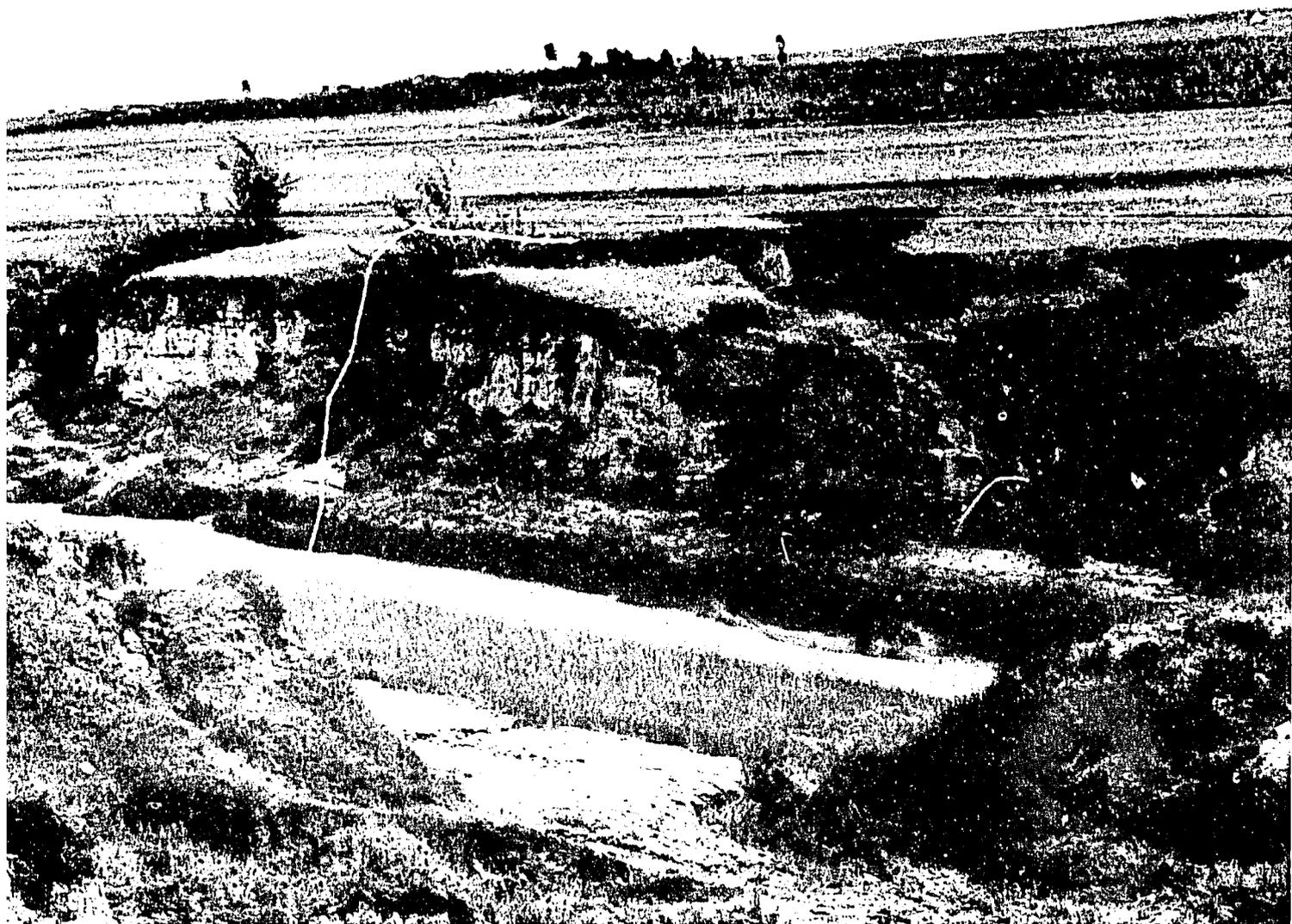
"As a result of these measures and the initiation of projects that addressed environmental and natural resource issues, AID emerged as a leader in integrating environmental planning and management into development," says Norman Cohen, environmental affairs coordinator for the Agency.



AID has emerged as a leader in integrating environmental planning and management into development.

Community-based agroforestry and tree-planting activities are beginning to make progress in a number of countries.





For conservation efforts to be effective, an institutional base for natural resource management needs to be established.

This leadership has been evident in the Agency's innovative approaches to conservation, from the development of country environmental profiles to the preparation of a U.S. Strategy for Biological Diversity.

U.S.-supported country environment or natural resources profiles, which define the current status of renewable natural resources, have been prepared for 23 developing nations and are a model for other donor agencies.

Their influence is apparent. For example, the Honduran profile, published in 1982, was used as the basis for an extensive natural resource management project instrumental in halting soil erosion in a major watershed area. The preparation of a Dominican Republic profile led to the orientation of a major part of the AID program in that country toward natural resource activities.

"We work closely with experts from the particular country in the process," says Molly Kux, environmental coordinator in AID's Bureau for Science and Technology. "In Thailand, for

example, the Thai Development Research Institute took the leading role in analyzing the nation's environmental situation," she notes. "The Natural Resources profile was used in the recently approved five-year development plan—the first time this type of information has been used in national planning."

As a logical follow-on to the environmental profiles, U.S. support provided for the preparation of several national conservation strategies that integrate conservation into overall economic development goals. The U.S. foreign aid program was the major funder for a Nepalese conservation strategy and has provided assistance to prepare strategies for Sri Lanka, the Philippines and Zimbabwe.

For conservation efforts to be effective, an institutional base for natural resource management needs to be established in a country. "We have been working with indigenous private conservation organizations and in the environmental education field for this purpose," says Kux.

For example, a joint effort with the World Wildlife Fund-U.S. is bringing together Panamanian environmental organizations to build a solid non-governmental base for conservation. Fundacion Natura, an AID-supported Ecuadoran environmental group, has been among the most successful in environmental education.

"U.S. assistance to Fundacion Natura began in 1980," points out Jim Hester, chief environmental officer in AID's Bureau for Latin America and the Caribbean. "It has led to the publication of a series of posters for schools, environmental comics for children, regular television spots and books on the endangered species of Ecuador and the birds of the Quito Valley. Several very successful radio shows also have been created.

"The organization uses many innovative approaches to environmental broadcasting," says Hester. "One popular program has a man driving around Ecuador talking about the natural environment that he sees. Another uses Halley's Comet as a vehicle to present changes that have occurred in the Earth's environment during the intervals between the comet's appearance."

Fundacion Natura also has prepared a teacher's manual for grades one through six, integrating environment into the country's science curriculum.

AID has taken major steps recently to address what is perhaps the most pressing environmental problem of this century—the destruction of tropical moist forests, which results in the loss of unique and valuable species of flora and fauna.

Tropical forests cover only about 7% of the earth's surface, yet they contain half of all species of plants and animals—many of which provide genetic material for crop improvement, pest resistance and materials used for medicinal and industrial purposes.

At current rates of deforestation, each year some 80,000 square kilometers of forest are converted to agriculture or fall victim to excessive burning, grazing, fuelwood gathering and

Environmental degradation has contributed substantially to increasing sub-Saharan Africa's vulnerability to drought and to undermining its agricultural productivity.



Opposite Page: Upland agroforestry and watershed management is one component of AID's forestry program.

Below: At current rates of deforestation, each year some 80,000 square kilometers of forest are converted to agriculture or fall victim to excessive burning, grazing or industrial exploitation.



industrial exploitation. This means that a million species—10-20% of the earth's total—could become extinct by the year 2000. Many will disappear without ever having been discovered.

AID first began to address this problem in 1981 when the Agency co-chaired a conference on biological diversity. Two years later Congress required that AID prepare a strategy for helping developing nations conserve their biological resources.

AID then convened a 12-agency task force and consulted with experts from government, industry, academia and environmental and policy groups. The U.S. Strategy on the Conservation of Biological Diversity in Developing Countries was submitted to Congress in February 1985.

Even before the strategy was drafted,

a number of AID programs for conservation of biological diversity were already under way.

"The New York Botanical Garden, in conjunction with the Missouri Botanical Garden, for example, is conducting an economic botany project in eastern Ecuador to identify underutilized plants with commercial potential such as the tagua palm nut," notes Hester. The tagua palm nut, a source of manin—a sugar used by the U.S. pharmaceutical industry for biomedical purposes—is experiencing a renaissance as an export commodity.

A similar effort in Peru has resulted in the identification of a vine with seeds that, when dry, burn with a clear blue flame and may have economic potential as a substitute for kerosene and charcoal. Also in Peru,

a new provenance of a tree species previously known only in Brazil was identified. Its bark contains a substance widely regarded as a potentially promising cure for some forms of cancer.

Environmental degradation, including deforestation, soil erosion and fertility losses as well as desertification, has contributed substantially to increasing sub-Saharan Africa's vulnerability to drought and to undermining its agricultural productivity.

The U. S. interest in combating environmental degradation in Africa dates back to the late 1970s when a number of reforestation programs were launched as a result of the devastating drought that affected the Sahelian region.

In the early stages, however, many efforts were less successful than anticipated. Careful analysis showed that the causes and effects of environmental degradation and desertification had been too loosely and simplistically ascribed to the depletion of fuelwood reserves. In areas undergoing environmental degradation, many other components of the rural production system often were under stress.

As a result of these findings, AID has sought improvements in integrating agriculture and forestry programs.

At the same time, AID has promoted tree planting. Community-based agroforestry and tree-planting activities are beginning to make modest progress in a number of countries including Niger, Senegal, the Gambia, Rwanda, Burundi, Kenya, Somalia, Sudan and Comoros.

"In Niger, we have made impressive gains in the CARE-AID Majjia Valley Windbreak project," says Tom Catterson, senior forestry advisor in AID's Bureau for Africa. The project began in 1974 in a then wind-eroded valley.

"With the cooperation of the government of Niger, we have successfully established over 500 kilometers of windbreaks using neem trees from India. This has resulted in a 20% increase in millet yields," Catterson points out. "Not only are farmers

in adjacent areas now asking for windbreaks, but they are willing to provide free labor to install them. In response to their requests, the government is planting 170 additional kilometers of windbreaks this year."

The Majjia Valley project has broken new ground in testing and demonstrating the effectiveness of neem tree shelterbelts as a technique to reduce soil erosion from wind and rain. The growing strands of neem trees also provide a supplementary source of fuelwood for the community.

"In Africa, we are also looking at long-term answers to effectively address the issue of environmental degradation," Catterton says. The Famine Early Warning System (FEWS) project, which will start in 1987, will provide promising data for this purpose. FEWS, which has a satellite remote sensing capability, will help establish national capabilities in developing countries to provide planners and decision makers with timely and credible information on natural resource conditions.

Deforestation also is a serious concern in Latin America. Most of Central America once was covered by forests. Yet, by 1970, only 49% of the region was forested. The rate of deforestation is rapidly accelerating. The major cause of deforestation in Central America is the conversion of forest lands to agriculture, though the demand for fuelwood and commercial logging also contribute substantially to resource depletion.

Since 1980, AID has helped support the Fuelwood and Alternative Energy Sources project, a five-year, \$5 million regional effort based at the Center for Research and Training in Tropical Agriculture (CATIE, in Costa Rica). The project has helped determine tree species suitable for small farmers to plant for fuelwood. It also analyzed the best growing techniques and critical areas of fuelwood demand. Trials conducted throughout Central America identified 30 promising tree species now being adopted by farmers.

The nation of Haiti faces particularly severe deforestation problems.



Environment

"Haiti was once covered by forest land," notes Hester. "Today there remains only one forest of significant size." To help the government of Haiti address this problem, AID is developing a reforestation program that is carried out through private voluntary organizations such as CARE and the Pan American Development Foundation.

"In the past, there have been many attempts at reforestation in Haiti," Hester stresses. "None has proven successful. But because there are some 70 active private voluntary groups in Haiti, AID is trying a new approach by working through these groups to more effectively reach the people in the countryside."

Through the \$21.5 million, 10-year project, which began in 1981, four to five million trees will be grown and distributed to farmers in the countryside. Farmers also will be taught proper maintenance procedures.

The largest share of AID's investment in forestry is in Asia. "Over the last decade, we've seen a transition occurring in Asian forestry from an orientation toward commercial timber production and exploitation of public forest lands to one emphasizing the role of forestry in meeting rural development needs," says Robert Ichord Jr., chief of the Office of Energy and Natural Resources in the Bureau for Asia and Near East. Approximately \$200 million currently is obligated for forestry programs in the region with over half of the projects being carried out in India.

Upland agroforestry and watershed management is one component of the Agency's Asian forestry program.

"There is increased population pressure on the fragile watershed areas of Asia," Ichord explains. "AID projects in Thailand, the Philippines, Indonesia and Nepal are seeking to establish systems of upland management that reduce environmental damage and incorporate sustainable agricultural practices."

Support also is provided for several major rural tree-planting programs in South Asia aimed at meeting the mul-

Soil degradation is a major environmental problem related to deforestation.

multiple needs of rural communities for fuel, fodder, fiber, income and soil conservation.

An improved research base for these programs is an AID priority. Efforts are under way to help launch an Asian Forestry and Fuelwood Network Center at Kasetsart University in Thailand. The center is expected to stimulate innovative research on the social and biological aspects of multipurpose tree species, which will increase the productivity of tree material and improve the management and adaptation of new forestry technologies.

AID has been working closely with the Peace Corps to increase the number of volunteer assignments in forestry and natural resources. About 500 volunteers in these fields are



AID is strengthening the indigenous capacities of developing nations in proper pesticide management.





located in 43 countries. The number of forestry volunteers working directly on AID projects more than doubled in the last six years.

Soil degradation is a major environmental problem related to deforestation. As croplands become overworked or mismanaged, erosion increases dramatically, and agricultural and forest productivity of the land declines.

In Guatemala, 40% of the productive capacity of the land has been lost because of erosion, and several areas of the country have been abandoned because agriculture has become uneconomical. Cleared areas of Nepal lose between 35 and 75 metric tons of soil per hectare per year. In India, one-fourth of the total land area has been eroded by wind or water.

AID's strategy is to address the problems of soil degradation by encouraging sound management practices in development projects. The Natural Resource Management project in Honduras is an example. Launched in 1980, the project was designed to strengthen the Honduran government's natural resource management capabilities and to improve soil and water conservation practices in the Choluteca Watershed, home to some 750,000 or one-quarter of the

nation's population. The watershed suffers from heavy soil erosion—about 20 tons of soil per hectare each year. If no corrective measures are taken, the most valuable soil layers will be lost in the next 20 years. The economic consequences translate into

The major cause of deforestation in Central America is the conversion of forest lands to agriculture.



a loss of \$9.3 million per year, a significant portion of the Honduran annual income.

The AID project joined the forces of the Honduran Ministry of Natural Resources and the National Cadaster Program to reverse severe erosion on some 7,000 farms in the area. An integrated extension system of Watershed Management Units was created to help farmers improve cropping systems and patterns, promote agroforestry and pasture improvement, and reforest eroded areas.

Rapidly expanding population growth increases pressure on the agricultural sector to produce more. This increased production must be achieved through means such as effective control of pests on lands currently under cultivation. "It is not surprising in this context that world pesticide sales grew from some \$8 billion in 1972 to almost \$13 billion in 1983 with the most rapid growth occurring in the developing countries," says Pat Koshel, energy and environment policy advisor in AID's Bureau for Program and Policy Coordination. As pesticide use increases, health and environmental effects need to be carefully monitored.

"In developing countries, where there is less awareness of pesticide toxicity, farmers often do not have the knowledge or the facilities to use pesticides properly," notes Koshel. "Some countries are making progress in enacting legislation to regulate pesticides, but there is still little capability for effective control."

AID is strengthening the indigenous capacities of developing nations in proper pesticide management. For example, a \$6 million grant was authorized in 1984 for the five-year Integrated Pest Management project at the Center for Research and Training in Tropical Agriculture (C/TIE) in Turrialba, Costa Rica. The project is reinforcing national and regional capabilities for integrated pest management through research, long- and short-term training and technical cooperation.

The World Bank recently has joined

with AID, in an effort deemed critical to agriculture and health, to educate people in the safe use of pesticides. Two years ago, AID assisted the World Bank in developing pesticide guidelines and now is helping the bank examine projects that incorporate the environment with other concerns.

An increasing concern is the growing number of hazardous and toxic waste accidents that occur in developing nations. In 1984, the Bhopal gas leak in India that claimed thousands of lives portrays the disastrous effects such accidents can have. AID recently has joined forces with U.S. corporations to respond to industrial accidents. Steve Lintner, environmental coordinator in the Bureau for Asia and Near East, explains, "Through a pilot project begun last year with the New York-based World Environment Center, U.S. industrial experts volunteer to work with petrochemical, chemical, paper and manufacturing facilities in developing nations to create systems to meet emergency needs."

The new project builds on an existing five-year AID program with U.S. industry known as the International Environment and Development Service (IEDS) that began in 1983. IEDS sends industry volunteers to eligible countries to identify environmental problems at the plant level and to recommend remedial action. More than 25 American companies are participating in the program.

Whether the concern is dealing with an industrial accident or reversing long-standing trends that are leading to soil degradation and deforestation, the environment has come to play an increasingly important role in the process of sustained economic growth and development. AID has been an innovator and a leader in finding the balance between conservation and development, thereby working to both preserve the natural heritage and enhance the quality of life for mankind. ■

—Prepared by the Office of Publications staff with the cooperation of Agency environmental experts.

Meeting the Energy Needs of Developing Nations

Energy, simply put, is the driving force for development. Countries require increasing supplies of energy to support expansion of their economies.

The energy constraints faced by developing nations are severe. These countries share the problem of inadequate energy supplies that has led to unmanageable demands on foreign exchange to import oil and to environmental degradation from over-exploited traditional energy sources.

"We're focusing on energy programs for both rural and urban areas to assure adequate supply," says Jack Vanderryn, chief of AID's Energy Office in the Bureau for Science and Technology. "We help develop sound national energy policies integrated with national economic policies supportive of economic growth. Our long-term objective is to expand the production of indigenous economical energy sources as well as to improve the efficiency of energy use."

High priority is placed on policy and planning assistance. AID recently has helped establish energy planning and conservation units in Pakistan's Energy Ministry. In Indonesia, the U.S. foreign aid program has had a major impact on the development of an energy planning unit in the Energy Ministry. "This has enabled the government's pricing policy on petroleum to be revised after the new unit demonstrated the negative effect of continued subsidies on petroleum. The Indonesian government oil prices were then raised to world market rates," says Robert Ichord Jr., chief of the Office of Energy and Natural Resources in AID's Bureau for Asia and Near East.

AID assists developing nations conduct research to make informed energy decisions aimed at increasing productivity and efficiency of production in agriculture and industry and to examine the environmental impacts of energy development.



Mobilizing private sector investment and creating more effective systems of energy pricing also are important thrusts of AID's program. In most areas of the developing world, the energy industry is state-owned. AID is encouraging the privatization of such state-owned utilities.

"Efforts are under way in India to develop policies conducive to private utility ownership, and a study was recently conducted on the subject in Thailand," Vanderryn says.

In Pakistan, AID also is assisting the government to privatize coal mining operations as well as develop policies to permit private ownership of power-generating facilities.

"We are looking at the potential for building smaller power-generating facilities in the 10-20 megawatt range that could serve rural areas," Vanderryn continues. Reducing the size of plants would lower capital investment and encourage private ownership.

Most nations must depend on a mix of energy sources and systems to meet their needs. Increasing emphasis, therefore, is placed on the development and use of indigenous resources and a reduction of reliance on imported oil. In the past, the focus was on renewable energy systems such as windmills or biogas for individual farms.

"In looking back at our experience," Vanderryn explains, "we have



Energy plays a pivotal role in economic development.

discovered that energy systems need to be at a significantly large enough scale to have an economic impact with supporting infrastructure to ensure technical maintenance." As a result, AID has moved from the development of renewable energy units for individual farms, for example, to those that service communities.

"We've had significant success over the years in helping countries make appropriate choices of the type of energy systems for investment," Vanderryn says. "We are very much moving in the direction of helping build institutional capacities in this field to encourage the wise selection of appropriate systems." AID helps involve other donors in energy development by leveraging for capital investment.

In the development of alternative energy resources, emphasis is placed both on fossil fuels and on renewable sources. In India, for example, there is an ample supply of low lignite coal. Through a collaborative program in research and development, a test facility unique in Asia was established to test performance of lignite coals in a fluidized bed system. The technology currently being developed will allow for a more efficient and environmentally clean burning of lignite.

In Indonesia, assistance was provided for the creation of a national

energy laboratory to develop programs in testing and converting coal and biomass resources into various energy products. "The program is important," Ichord stresses, "because it will develop the modern technology and scientific infrastructure to support a population that is expected to reach 200 million by the year 2000."

In the renewable resource area, AID funds have led to development of small hydroelectric systems in Thailand that represent a collaborative effort between local and private manufacturers, communities in the North and South and the National Energy Administration.

"These very remote villages not served by electric grids now can obtain electricity at comparable cost," Ichord says. The benefit already is obvious in a number of industries. The tea business has especially profited because electricity now enables workers to extend their working hours to process tea leaves.

"We also are looking at the development of energy production from agricultural waste," Vanderryn adds. In Thailand, for example, a new, efficient and clean combustion technology is used to burn rice husks to produce energy. In Jamaica, bagasse, a fiber from sugarcane, is burned to produce electricity. In Honduras, bagasse is converted to alcohol for fuel.

"These types of activities are important economically," Vanderryn

says. "We are providing the means for the sugar industry to convert its products into new profit-making ventures."

AID also is helping bring the expertise of the U.S. private sector to industries and homes in developing countries to demonstrate and help develop more efficient energy systems. In addition, the Agency sponsors low-cost training and information programs on techniques for increasing energy efficiency.

While AID generally will not finance capital investment for conservation, the Agency will assist developing countries identify sources of financing required for conservation activities. For example, in Sri Lanka, an inventory of a manufacturing plant was conducted and recommendations made that, with low investment costs, can produce 20-25% more energy efficiency. In Costa Rica, AID analyzed the efficiency of the taxi and bus fleet and drew on U.S. experience to show how better engine management and driving habits can save 10-15% in gasoline consumption.

Training in energy-related areas also is provided. For example, an AID-trained engineer from Kenya instituted a program at his factory that resulted in a 14% reduction in fuel consumption. An AID trainee realized a savings of approximately \$750,000 per year after instituting a fuel conservation program in a Kenyan sugar company.

Last year, a \$10 million program was launched to help Central America decrease its dependence on oil imports and to expand and develop other energy sources in the region such as peat and geothermal power. Under the Central America Energy and Natural Resource Development program, scientists from the Los Alamos National Laboratory in New Mexico as well as other specialists from the private sector will work to develop indigenous energy sources in Panama, Costa Rica, Honduras, Guatemala and El Salvador. Technical training also will be provided to host country participants.

AID has long recognized the pivotal role energy plays in economic development and has worked to help developing countries meet their energy needs today while planning for the continued challenges of tomorrow. ■

Accent on Health:

LIVING PROOF OF PROGRESS

From helping prevent diarrheal dehydration to funding research on a vaccine for malaria, AID has been at the forefront of the health care revolution to ensure child survival in developing countries.





Health, nutrition and voluntary family planning have been key areas of concern of the Agency for International Development. Programs in these areas have demonstrated the importance of the U.S. commitment to human resources as an integral part of the process of economic development.

For millions of people in the developing world, good health is an elusive goal. Infants and children are particularly vulnerable. "Too many children die today from malnutrition and largely preventable or treatable illnesses such as measles, diarrhea, respiratory infections, tetanus and polio," notes Dr. Kenneth Bart, AID's director for health. "Lack of safe drinking water and basic health care and the persistence and prevalence of infectious and vector-borne diseases take their toll in human lives."

Survivors find their capacity to lead productive lives seriously impaired by diseases such as malaria, snail fever (schistosomiasis), river blindness (onchocerciasis), sleeping sickness (trypanosomiasis) and cholera.

"AID is committed to a strong health program that concentrates on improvements in primary health care and delivery as well as increased research for such programs," says Nyle Brady, senior assistant administrator for the Bureau for Science and Technology. "Our objective is to help developing nations become self-

Scientists have confirmed that oral rehydration therapy saves lives when combined with correct feeding practices.



the use of effective interventions such as ORT and immunization.

"AID has joined other donors in a worldwide effort to achieve certain goals in child survival by the end of the decade," stresses AID Administrator Peter McPherson. "The aim is to make ORT available to every child who needs it and to collaborate in all international efforts to provide continuing immunization for all the world's children."

Oral Rehydration Therapy

"AID's commitment to oral rehydration therapy is the centerpiece of our child survival programs around the world," says Brad Langmaid, chairman of the Child Survival Task Force. "AID has programs in more than 50 countries promoting its use as a cost-effective technology."

As recently as 15 years ago, the standard treatment for dehydration caused by diarrhea was an intravenous infusion of fluids. But such treatments required hospitals or clinics, trained medical personnel and sterile equipment—all in short supply in developing countries.

In 1971, scientists working at the AID-sponsored Cholera Research Laboratory, now the International Centre for Diarrhoeal Disease Research in Bangladesh (ICDDR/B), demonstrated that cholera patients with dehydration could be treated successfully by administering orally a balanced solution of water, sugar and salts. "With AID-supported research, scientists have confirmed that oral rehydration therapy saves lives when combined with correct feeding practices," Langmaid continues.

AID contributed over \$45 million to the improvement and promotion of oral rehydration therapy in 1985. UNICEF and WHO are major partners in this global effort. The World Health Organization estimates that 22% of all diarrheal cases worldwide are now treated with ORT.

"One of the major ORT successes in the developing world is in Egypt, where ORT treatment centers have been established in 80% of the 3,000

sufficient in providing broad access to cost-effective preventive and curative services."

Child Survival

Malnutrition, infectious and parasitic diseases, lack of health care and poor environmental conditions are common in developing countries. Millions of adults are afflicted with chronic illness, but children are most vulnerable.

Children five years old and younger account for over one-half of all deaths in the Third World. For that reason, one of the most effective ways of enhancing the quality and longevity of life in developing countries is by improving health care for mothers and children.

Child survival programs, a major priority at AID, include immunization, oral rehydration therapy (ORT), improved nutrition and voluntary family planning. These proven, cost-effective technologies provide the basis for building a comprehensive, long-term health care system in the developing world.

In 1985, the Agency announced the Child Survival Action Program. The need is urgent. In developing nations, about 15 million children under the age of five die from largely preventable diseases every year—nearly as many as the entire pre-school population in the United States. Up to half of these deaths, or one quarter of all deaths in the developing world, could be prevented through

health clinics nationwide," notes Robert Clay of the Office of Health. "ORT training is used in 30 teaching hospitals at which 10,000 physicians and nurses have been trained. Use of ORT increased from 1% to 75% of mothers in just two years. ORT packets are available in 98% of Egyptian pharmacies, which sold 60 million in 1985."

With AID funds, Honduras launched an ORT program in 1981. Within two years, 62% of mothers were using ORT to treat diarrhea. Researchers looked at health statistics before and after the campaign and found that the percentage of children dying from diarrheal dehydration dropped from 43% of all infant deaths to 24% during the two-year program.

Immunization

Immunization is a vital component in any disease prevention program. The number of child deaths being prevented through effective immunization is estimated at almost one million every year, and worldwide demand for vaccines has tripled since 1983.

"AID has long been committed to immunization," Bart says. "This commitment began with our participation in the eradication of smallpox and the first systematic effort at measles control in Africa. Today, we are committed to sustained programs to immunize children throughout the developing world. AID has not only helped deliver immunizations, but also has sought ways to improve old vaccines, develop new ones and improve the strategies to deliver them."



In developing countries, about 15 million children under the age of five die from largely preventable diseases. AID and other international donors aim to make oral rehydration therapy available to every child and to provide continuing immunizations.



As a result of AID-sponsored immunization programs, in Mauritania, for example, coverage rates of children 12-35 months of age who received the complete series of vaccinations rose from 19% in 1984 to 55% in 1986.

The effects of improved immunization programs in Zaire also have been dramatic. During 1976-81, AID programs assisted in the delivery of 12 million inoculations to children in nine principal urban areas of the country. As a result, the incidence of cases and deaths from measles declined by more than half. Cases of polio were cut by half. Cases of whooping cough and attendant

mortality rates declined by 25%. Diphtheria was virtually eliminated. The number of immunizations has been growing at an average annual rate of about 30%, and the program is expanding further into rural areas.

Today, AID's strategy focuses on immunizing children under the age of one and childbearing-age women against preventable diseases such as measles, tetanus, whooping cough, diphtheria, tuberculosis and polio. Special emphasis is on measles vaccine for infants and tetanus toxoid for women.

AID is initiating an additional effort in support of immunization programs. A five-year, \$17 million Resources for Child Health (REACH) project is under way to provide technical assistance to strengthen the primary health care systems of

developing countries to deliver immunizations.

Since many vaccines require continuous refrigeration often not available under rural conditions in developing nations, AID is helping to develop heat-stable vaccines and those that do not require refrigeration or special handling as well as improving equipment and logistics to keep current vaccines at the desired temperature.

Assistance also is being provided to support the field testing of a vaccine for measles that can be given to children as young as six months of age and a better vaccine for whooping cough that reduces the side effects of the present vaccine. In addition, the U.S. foreign aid program is helping to underwrite research for field trials of a new leprosy vaccine that could mean the elimination of the disease.

One of the most effective ways of enhancing the quality and longevity of life in developing countries is by improving health care for mothers and children.



Historical Perspective on U.S. Foreign Assistance

March 31, 1942 Institute of Inter-American Affairs formally established—first technical assistance by United States.

November 9, 1943 Agreement signed to furnish aid to war-ravaged countries through U.N. Relief and Rehabilitation Administration.

December 27, 1945 International Monetary Fund and International Bank for Reconstruction and Development (World Bank) formed.

May 15, 1947 Congress approves economic and military aid to Greece and Turkey.

June 5, 1947 Secretary of State Marshall's speech voices U.S. interest in rebuilding European economies.

April 2, 1948 Economic Cooperation Act (Marshall Plan) creates Economic Cooperation Administration.

January 20, 1949 President Truman's Point IV inauguration speech.

June 1, 1950 Act for International Development (Point IV) creates authority for Technical Cooperation Administration.

June 30, 1951 Termination of Marshall Plan.

October 31, 1951 Mutual Security Act of 1951 unites military and economic programs and technical assistance. Mutual Security Agency established.

July 10, 1954 Public Law 480 authorizes sale and use of U.S. surplus foods for economic development.

March 1, 1961 Peace Corps created.

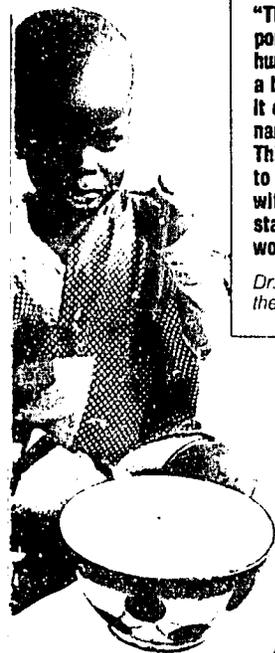
March 13, 1961 President Kennedy calls on people of hemisphere to join in an "Alliance for Progress."

September 3, 1961 Foreign Assistance Act combines International Cooperation Administration, Development Loan Fund and other U.S. assistance functions.

November 4, 1961 Agency for International Development created.

The AID program today is the result of the many events, people and policies that have shaped the world over the past 2½ years. The following timeline presents an overview of some of the landmarks in U.S. development assistance history and the global background against which they occurred.

5 YEARS OF AN



"The Green Revolution has won a temporary success in man's war against hunger and deprivation. It has given man a breathing spell. If fully implemented, it can provide sufficient food for sustenance during the next three decades. This could, hopefully, provide man time to bring population growth into balance with his capacity for providing a decent standard of living to all peoples of the world."

Dr. Norman Borlaug, 1970 recipient of the Nobel Peace Prize



"There is no way this planet can grow and still have peace and quality of life unless we recognize the interdependence of the world's nations and peoples."

Sen. Hubert H. Humphrey



- Section 211(d) of the Foreign Assistance Act authorizes assistance to U.S. research and educational institutions to strengthen their capacity to carry out economic and social development programs with developing countries

- Association of South East Asian Nations (ASEAN) established in Bangkok; permanent secretariat set up in Jakarta in 1976

- June 30 The General Agreement on Tariffs and Trade (GATT); signed by 46 nations in Geneva

- European Economic Community merges with the European Court of Justice and the European Coal and Steel Authority to form the European Communities

- Arab Fund for Economic and Social Development (also called Arab Economic and Social Development Fund) established as specialized agency within framework of League of Arab States; convention entered into force Dec. 18, 1971

- 1968 Long-term drought begins in the Sahelian zone of Africa. AID provides \$245.7 million in food and humanitarian assistance

- U.S. Overseas Private Investment Corporation (OPIC) created by Congress; operations began in 1971

- July 8 United States begins troop withdrawal from Vietnam

- July 20 U.S. astronaut Neil Armstrong, commander of the Apollo 11 mission, becomes first man to set foot on the moon

- Task Force on International Development report, "U.S. Foreign Assistance in the 1970s: A New Approach" (the Peterson Report) published

- May 31 Earthquake in Peru kills over 50,000. AID provides more than \$16 million in relief

- Nov. 13 Cyclone/ tidal wave in East Pakistan (now Bangladesh) kills some 200,000. AID provides more than \$16 million in relief

- Norman Borlaug (U.S.) awarded Nobel Peace Prize for development of new strains of high yield wheat that sparked the Green Revolution

- Consultative Group on International Agricultural Research (CGIAR) established under the sponsorship of the World Bank. FAO and UNDP. AID provides up to 25% of the core funding of the international agricultural research centers

- March 25 Civil war erupts in Pakistan; death toll nears one million

- U.N. Conference on the Human Environment in Stockholm adopts the Declaration on the Human Environment and recommends setting up the United Nations Environment Program (UNEP) in Nairobi, Kenya (operations began 1973)

- Feb. 21 President Nixon leads journey for peace to China resulting in a joint communique pledging both powers to work toward a normalization of relations

- Dec. 22 Nicaraguan earthquake kills 6,000. AID provides more than \$12 million in relief

- Foreign Assistance Act of 1973 amends the Foreign Assistance Act of 1961 calling for "new directions" in development assistance to meet basic human needs, particularly of the neediest segments of society

- AID conducts first participant training workshop with Michigan State University in Guatemala

- African Development Fund (AFDF) established as concessional lending affiliate of the AIDB which makes loans to the poorest African nations; the United States joined AFDF in 1976

- Jan. 27 Vietnam Peace Pact signed in Paris

- March 29 The last U.S. troops leave South Vietnam

1967 1968 1969 1970 1971 1972 1973

"We must say to the less developed nations, if they are willing to undertake necessary internal reform and self-help—and to the other industrialized nations, if they are willing to undertake a much greater effort on a much broader scale—that we then intend during this coming decade of development to achieve a decisive turn-around in the fate of the less-developed world, looking toward the ultimate day when all nations can be self-reliant and when foreign aid will no longer be needed."

John F. Kennedy—A Message to the Congress of the United States, March 22, 1961



- Peace Corps created
- Alliance for Progress launched to raise Latin American living standards. Inter American Economic and Social Council convened Punta del Este Aug. 5. First Alliance for Progress Conference.

• **Foreign Assistance Act (Public Law 87-195) signed Sept. 3, Executive Order creating the Agency for International Development signed Nov. 4**

• Cholera Research Laboratory established in Bangladesh with assistance from AID and the National Institutes of Health (in 1979 reconstituted as the International Center for Diarrhoeal Disease Research Bangladesh)

• Development Assistance Group (DAG) of the Organization for European Economic Cooperation reconstituted as the Development Assistance Committee (DAC)

• Dec. 22 First American killed in action in Vietnam



• AID Research Advisory Committee established to advise the (AID) Administrator on the development and administration of the developing countries. (This committee continues to function in its prescribed role)

• Experimental trials of Mexican wheat begun in India

• The structure of DNA discovered by Francis H.C. Crick (U.K.), James D. Watson (U.S.) and Maurice H.F. Wilkins (U.K.)

• African Development Bank (ADB) established; agreement entered into force Sept. 1964; operations began July 1966

• Nov. 22 President John F. Kennedy assassinated; Lyndon B. Johnson sworn in as President

• Office of AID Disaster Relief created as part of the Voluntary Foreign Aid Service within AID's Office of Material Resources (reconstituted in 1972 as Office of Foreign Disaster Relief Coordination in AID's Bureau for Population and Humanitarian Assistance and in 1974 as the Office of U.S. Foreign Disaster Assistance [OFDA])

• AID initiated its first voluntary family planning efforts and soon became the world's foremost proponent of programs to arrest the burgeoning population growth in developing countries

• Conference on International Rural Development, hosted by President Lyndon B. Johnson, established the framework for cooperation among AID, the U.S. Department of Agriculture and universities in attacking problems of hunger and rural poverty in developing countries

"It is difficult now in 1987 to remember why the so-called Percy amendment on women in development was necessary in the early 1970s. The fact that women, as half of a nation's human resources, should be integrated into economic development programs seems so obvious it is hardly worth pointing out. But just 15 years ago, AID programs, from agricultural training in the field to educational advancement here in the United States, did not adequately take into account the crucial role women play as farmers, heads of households and educators in the developing world."

"I am proud to have my name on an amendment that was really the culmination of the work of numerous development experts who transformed the revolutionary ideas of that time into the common sense of today."

Former Sen. Charles Percy, president, Charles Percy and Associates, Inc. Percy served as chairman of the Senate Foreign Relations Committee (1980-1984).



• Worldwide drive to eradicate smallpox initiated in 1959 by WHO; intensifies with World Health Assembly commitment of \$2.4 million for 10-year program. WHO spearheads campaign with support from AID and other U.S. and international sources

• AID initiates research on malaria vaccine at University of Illinois

• Food for Peace Act amended to change emphasis of program from surplus disposal to using U.S. agricultural productivity to help meet food demands of developing nations

• IRRI's first miracle rice variety released by the International Rice Research Institute (IRRI)



25 Years of Leadership



"Every one of us who has been so fortunate to participate in the always difficult, frequently frustrating, but many times exhilarating experience of working with AID,

knows the rich rewards of that experience and has the satisfaction of knowing that in some small measure he has been able to contribute to make the world a somewhat better place than it would have been without AID."

*AID Administrator William G. Brown III
1973-1977*



"We have in AID more competence in the whole field of development—economic and social—than any other institution in the world."

*AID Administrator Robert H. Bell
1961-1965*



"... whatever help may come from the industrial world, the largest part of the development task is, and must be, the responsibility of Third World nations themselves. Their governments are the only ones that can elicit active citizen engagement by giving people a stake in their own societies. Their governments must determine whether rigid ideology or fair-minded pragmatism is more likely to produce economic development and social justice."

*AID Administrator Peter M. Thomson
1981-present*



"All of us in AID aspire to make life better for someone, somewhere in the world. We aspire to develop this planet's infinite resource, mankind...."

*AID Administrator John J. Gimpert
1977-1981*



"The last 25 years were a time of trial and triumph. We have met the challenge. We have stood the test. We have learned what works, and we have begun to understand why.

"Development is not a one-way street, but rather is a partnership forged between foreign aid donor and recipient. For this reason, development can only succeed if a nation's policies are receptive and conducive to economic growth.

"Further, the process of economic development comes down to the individual's inherent will and desire to reach out for that chance to produce a better tomorrow for the family. It is natural and it is human. This is why we emphasize individual incentive and private enterprise. Decentralizing governmental functions in many areas affecting economic growth can only stimulate progress and strengthen democracy."

*AID Administrator Rutherford M. Poats
1981-present*



"Few Americans seriously question the assumption on which our foreign assistance programs have been based: that it is plainly in our national interest to help

build free, strong, and independent countries around the world because this is the kind of world in which our own free institutions can best survive and flourish."

*AID Administrator William G. Brown III
1973-1977*



"The future of AID, or at least the U.S. aid program, is bright. Whether we like it or not, the United States is going to be involved in the development

process for a very long time to come. There is no way we can disengage ourselves from the world, letting it go down the pike!"

*AID Administrator John J. Gimpert
1977-1981*



"Development momentum is building up in the countries we have been aiding. Continued strong efforts on their part—and adequate aid on ours—are needed to

keep this momentum going. If it is lost, it will be a long and costly business to get started again.... We must get on with the job of development today, if we are to live in a world of peace tomorrow!"

*AID Administrator William G. Brown III
1973-1977*

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AID PERSPECTIVE



• **Percy Amendment** calling for integration of women into the national economies of developing countries incorporated as Section 113 of the Foreign Assistance Act of 1961

• **West Africa Rice Development Association (WARDA)** joined CGIAR

• **International Fertilizer Development Center** a non CGIAR center established in Alabama with substantial support from AID

• **World Food Conference** in Rome calls on UN General Assembly to establish World Food Council

• **Asian Development Fund** established as the concessional lending window of the Asian Development Bank

• **International Women's Year**

• **Congress passes Title XII of the Foreign Assistance Act of 1961** expanding the role of U.S. agricultural colleges in helping developing countries solve critical food problems and creating the Board for International Food and Agricultural Development (BIFAD)

• **UN World Conference of the International Women's Year** held in Mexico City

• **Aug. 1 Helsinki accords** signed by 33 European nations, Canada and the United States freezing postwar European borders broadening detente and pledging to respect human freedom



• **ILO World Employment Conference** launches program of action to create full employment and meet basic needs in developing nations

• **Club du Sahel** created to coordinate development of the Sahel region

• **Earthquake in Guatemala** kills 23,000. AID provides more than \$42 million in relief

"Senator Claiborne Pell and I co-authored an amendment to the Foreign Aid Authorization Bill that directed AID to make money available to private voluntary organizations for development education. It is the only such development education program within AID. About \$10.6 million worth of matching grants have been awarded to 25 major projects involving dozens of organizations that seek to raise the level of public awareness about world hunger and poverty."

Sen. Joseph R. Biden Jr. (D-Del.)

• **Feb. 24** President Carter announces the reduction of U.S. aid to specified foreign nations because of human rights violations

• **AID kicks off campaign** of using nitrogen fixing and fast growing multipurpose trees to increase agricultural production, fuelwood and rural income through funding National Academy of Sciences

• **International Fund for Agricultural Development (IFAD)** begins operations. AID pledges \$200 million becoming the first nation to contribute funds

• **UN Conference on Desertification in Nairobi** adopts the Plan of Action to Combat Desertification (destruction of arable land due to encroachment of desert)

• **Sept. 7** United States and Panama sign Panama Canal treaties that will transfer the canal to full Panamanian control at the end of 1999 and guarantee the canal's perpetual neutrality

• **International Development Assistance Act of 1978** (the Humphrey Bill) amends the Foreign Assistance Act of 1961 and Food for Peace legislation. Economic Support Fund is included to provide security-supporting assistance

• **AID and U.S. Department of State** convene U.S. Strategy Conference on Tropical Deforestation focusing worldwide attention on environmental problems associated with tropical deforestation

• **AID initiates first Collaborative Research Support Program (CRSP)** on sorghums and millets, the principal food grains in the arid and semi-arid areas of the developing world. Establishment of six other CRSPs followed

• **Sept. 17** Framework for Peace in the Middle East (Camp David accords) signed by Anwar el Sadat (Egypt), Menachem Begin (Israel) and Jimmy Carter (United States)

• **International Year of the Child**

• **Jan. 1** United States and the People's Republic of China establish diplomatic relations

• **U.S. International Development Cooperation Agency** established to coordinate U.S. foreign aid programs

• **Smallpox** declared eradicated from world. AID funded final drive to eradicate the disease

• **International Center for Diarrhoeal Disease Research Bangladesh (ICDDR,B)** established. AID provided support. ICDDR,B succeeds Cholera Research Laboratory

• **U.S. adopts policy** on tropical forests based on report to the President by the U.S. Interagency Task Force on Tropical Forests, of which AID was a principal member

• **UN Conference on Science and Technology for Development (UNCSTD)** in Vienna adopts Program of Action on Science and Technology for Development

• **United States** initiates relief efforts to assist Cambodian refugees fleeing Pol Pot regime

"Private voluntary organizations are the people-to-people bilateral development program, and they make a contribution to our international effort by directly involving citizens, thus building a constituency for humanitarianism abroad. PVOs have established a record of accomplishment and effectiveness. As a result of an amendment of mine, at least \$1 billion in foreign assistance funds are channeled through PVOs"

"The Biden-Pell program provides a matching basis, to PVOs, to educate the public on the needs of poor countries and why it is in America's interest to help to meet those needs"

Sen. Claiborne Pell (D-R.I.)

• **Biden-Pell Amendment** enacted as part of the U.S. International Security and Development Cooperation Act of 1980, requiring AID to support development education in the United States

• **Agriculture Act of 1980** is enacted, setting up a U.S. wheat reserve to help AID meet emergency food needs in developing countries

• **Southern African Development Coordination Conference (SADCC)** created

• **Independent Commission on International Development Issues (Brandt Commission)** publishes the report "North-South: A Program for Survival"

WE

izations (PVOs) part of our assistance promote private development through private domestic programs. They have finished a superb job and cost less, through an average of at least 13.5% of what it would have cost to do it otherwise.

complements our grants, and we tell them to tell their American counterparts that we are interested in their ideas...."



"In fiscal year 1982, \$1.295 billion went to AID for development assistance programs but only \$47.9 million or 3.7% went to minority businesses. This measure will bring about a marked improvement in that situation and provide AID with the tools it needs to get the job done."

Rep. William H. Gray III (D-Pa.)

- President Ronald Reagan issues Executive Order 12310 to stimulate increased participation of historically black colleges and universities in federally sponsored programs. AID responds with a worldwide program reorientation which increased participation 1400% in five years.



- Council of Ministers of the European Communities approve special program to combat hunger in the world.

- United States launches the Caribbean Basin Initiative (trade, aid and investment promotion initiatives).

- African Development Bank opens membership to non-regional countries.

- AID sponsors International Conference on Oral Rehydration Therapy (ICORT I).

- U.S. Commission on Security and Economic Assistance (Carlucci Commission) reports on the interrelation of security and economic aid and recommends significant increases in bilateral aid, improved coordination and increased emphasis on human resources, institution building, science and technology and the promotion of the private sector.

- Gray Amendment to the FY 1984 Continuing Resolution appropriations requires increased participation of socially and economically disadvantaged businesses and individuals in the U.S. bilateral assistance program.

- The National Bipartisan Commission on Central America (the Kissinger Commission) appointed to advise on long-term U.S. policy to respond to social, economic and democratic development in Central America. The commission concluded that fundamental strategies and moral interests of the United States require a long-term national commitment to economic opportunity, human development, democracy and security in Central America.

- AID presents the first annual President Carter End Hunger Awards.

- March 14 GPEC cuts crude oil prices for first time.

- April 18 U.S. Embassy in Beirut hit by car bomb, resulting in over 50 deaths, including several AID employees.

- Oct 25 Grenada rescue mission launched by United States, toppling Marxist government.



- Major research breakthrough on AID supported research on malaria vaccine announced, cloning of the gene responsible for providing protection against the sporozoite form of the disease, the form in which it is introduced into the human body by the mosquito.

- Private Sector Revolving Fund established to foster private enterprise and improve the economic climate in developing countries.

- International Conference on Population in Mexico City reaffirms and strengthens the World Population Plan of Action adopted at the 1974 Bucharest Conference.

- Continent wide drought and famine begins in Africa. The United States provided \$2.2 billion worth of food and humanitarian assistance during 1984-1986.

- Jan 11 U.S. Bipartisan Commission on Central America (Kissinger Commission) calls for increase in economic and military aid to region.

- Dec 3 Toxic fumes from a chemical plant kill more than 2,500 in Bhopal, India.

- Foreign Assistance Act of 1961 amended to emphasize policy dialogue, institution building, technology transfer and private enterprise development.

- U.S. Congress creates Child Survival Fund. AID undertakes major Child Survival Action program which focuses on immunization programs, oral rehydration therapy (ORT), nutrition education and child spacing.

- AID sponsors second International Conference on Oral Rehydration Therapy (ICORT II).

- U.N. Secretary General Perez de Cuellar convenes a conference in Geneva on the emergency situation in Africa to mobilize resources to help meet immediate needs of more than 20 drought and famine stricken nations.

- Jan 15 Twenty one years of military rule ends in Brazil as first civilian president elected.

- July 13 LIVE AID rock concert for African famine relief is broadcast to 152 countries.

- Volcano erupts in Colombia, killing over 20,000. AID provides approximately \$3 million in relief.

- Earthquake shakes Mexico City, killing over 8,700. AID provides more than \$4 million in relief.



"One of my teachers, Professor Mamdouh Gabr, former Minister of Health, Egypt, described Oral Rehydration Therapy best (at the ICORT II in 1985): 'Never in the history of medicine has so much been done for so many with so simple a technology and so little expenditure.'"

Dr. Norbert Hirschhorn, director, AID's Resources for Child Health (REACH) project



- International Year of Peace.

- U.S. Food and Drug Administration approves human trials of malaria vaccine developed under AID research program.

- AID forester and an engineer working on an AID sponsored project receive the First International Inventors Awards, which were presented by the King of Sweden.

- U.N. Special Session on Africa convened.

- Corason Aquino elected president of the Philippines.



1981 1982 1983 1984 1985 1986



Nutrition

An estimated 140 million developing world children between the ages of six months and five years suffer from malnutrition, making it much harder for them to fight disease.

"We began edging toward a nutrition program in the early 1960s through the food aid program," says Office of Nutrition Director Martin Forman. "Supplementary feeding programs for children were dramatically increased during that period, and we began to fortify food aid commodities with vitamins and minerals."

In 1965, an AID task force was formed to examine the problem of malnutrition. As a result of its recommendations, a nutrition program was established in 1967.

AID's entry into the nutrition field also was influenced by a report issued by the National Academy of Sciences in 1967 that provided evidence that children who suffer from protein malnutrition from birth to age five also suffer retardation in mental and physical growth. This finding had striking implications for developing nations, where 25-33% of children in the age group were malnourished.

"Our initial emphasis was on research rather than problem solving," Forman says. "Our interest was in surveying populations to determine the nature and magnitude of countries' nutritional problems and in conducting research on how various nutrient deficiencies affected growth."

Concurrently, the then Interdepartmental Committee for Nutrition for National Defense (ICNND) was surveying the nutritional status of armed forces of friendly countries to determine how many fighting man-days were being lost due to malnutrition. "It was essentially a cost-benefit analysis," Forman stresses. "Subsequent investments in improving military diets could result in savings of fighting man-days, worth more than the cost of improving diets."

AID began to support ICNND surveys in 1968, changing the "D" in the name from "Defense" to "Development," by shifting the focus of the



An estimated 140 million children between the ages of six months and five years suffer from malnutrition.



surveys to civilian populations in developing nations. "Our concept was that you need a well-nourished population to achieve development," Forman says.

In promoting nutrition for development, the emphasis was on increasing protein intake for preschool children since children at this early age need proportionately more protein for brain and body growth. "A global protein crisis was perceived at the time," Forman remembers. The United Nations, for example, called on the international community to take stronger action to assure that children in developing countries got adequate protein.

The concern for protein deficiency was translated into action. AID began to increase the protein content of donated food supplies such as wheat and corn. New products were created such as Corn Soy Milk blend (CSM) and Wheat Soy Blend (WSB). Studies were carried out at the field level in fortifying basic grains with amino acids to raise protein quality and quantity. "We studied wheat fortification in Tunisia, corn fortification in Guatemala and rice fortification in Thailand," Forman says.

A new orientation to nutrition programs began following a statistical study in the mid-1970s that revealed that, for most populations, getting enough of the regular diet would assure adequate protein intake. International nutrition programs achieved a new level of maturity around this time, for it had become clear that generalizations were risky. Since populations differed in many ways, including diets, programs had to be based on better analysis of country-specific situations.

"The question became how do you determine the degree and magnitude of malnutrition, and how do you judge what food to provide to whom. It became apparent that a simple, quick and inexpensive method to assess nutritional status in a variety of conditions clearly was needed in the developing world. At the time, these assessments were based on complex blood and urine analyses that required specialized staff and equipment," Forman says. "It was expensive and time-consuming." To meet the need, AID developed a simplified method of nutritional assessment using anthropometry or the measurement of body height, weight, skin-fold thickness and upper arm circumference.

"We tested, modified and tested it again in developing countries," Forman emphasizes. "Only after 10 countries had been surveyed did we put together a manual of procedures. This is now the standard method used worldwide to determine nutritional status of populations."

Nutritional education—bringing basic nutritional knowledge to large numbers of people in rural and often difficult to reach areas—is another area in which AID has made significant contributions by pioneering successfully the application of mass

media to social marketing, first done in the field of nutrition. The results already are evident.

In Brazil, for example, mass media efforts have arrested the decline of breast-feeding and caused an upswing in the practice after a number of Brazilian celebrities appeared in a series of promotional radio and TV spots. In one, for example, a middle-aged woman says, "I always breast-fed my sons to make them strong." Her son, the soccer star Pele, then enters and emphasizes the importance of breast-feeding.

"AID became involved in breast-feeding promotion before it became an international issue," Forman stresses. "We have worked to both educate women and to sensitize health policy-makers on the benefits of breast-feeding." For example, training in lactation management is provided at the University of California in San Diego. Twenty-five nations are involved in the program that brings foreign trainees to the United States and provides U.S. expertise for training and technical assistance abroad.

"We also pioneered in applying systems analysis to malnutrition," Forman stresses. "We called it 'nutrition planning'—a basic step-by-step process to assess the scope and magni-

tude of the problem, to do causal analysis and to select a cost-effective mix of activities to deal with it." This approach has now been adopted by a number of countries. The state of Tamil Nadu in India, for example, instituted with AID support the world's first international nutritional planning program and sharply reduced malnutrition.

"We also are looking at weaning practices, dietary management of diarrheal diseases and vitamin A programs," Forman continues.

Vitamin A research holds great promise. Lack of vitamin A causes loss of vision in small children, affecting five million under the age of five in Asia alone and blinding about 250,000 each year.

The Office of Nutrition supported research in Indonesia that quite unexpectedly discovered a connection between vitamin A deficiency and disease. A major experiment followed involving almost 30,000 children. Half were given two megadoses of vitamin A at six-month intervals. The other half went untreated. After 18 months, the treated group showed a mortality rate 35% less than the untreated group. Otherwise well-nourished children with a mild vitamin A deficiency appeared to be more prone to illness and death than even poorly nourished children who have adequate levels of vitamin A.

The implications are enormous. High-dose vitamin A capsules cost only two to four cents each and are easy to distribute. Two capsules a year are enough to prevent deficiency.

Administrator McPherson has suggested that vitamin A programs have "the potential of another ORT success."

Forman agrees. "If true and confirmed in AID-supported experiments that will be carried out in Bangladesh, the Philippines and Sudan, vitamin A therapy could affect the whole area of public health programming in the developing world." It will take three years for the final results, but it may well be that, all by itself, vitamin A could sharply reduce the number of deaths of children.





Family planning is one of a number of primary health measures that can be delivered safely, effectively and inexpensively through community-based services.

Voluntary Family Planning

Congress first appropriated funds—about \$6 million—in 1965 for voluntary family planning purposes in the developing world. In 1968, Congress earmarked \$35 million for a voluntary family planning program. Since that time, AID has become the world leader in population assistance, initiating and supporting a wide range

of technical and program initiatives and providing more than \$3 billion for population programs in some 90 countries.

“One of the Agency’s earliest efforts was to set up a centralized system for procurement of contraceptives,” says Duff Gillespie, director of the Office of Population in the Bureau for Science and Technology. “Each year

the Agency purchases about \$30-40 million worth of contraceptives for distribution. This bulk purchasing effort has enabled us to get the lowest possible price for contraceptives.” AID’s central procurement effort has reduced the cost of a monthly oral pill cycle from \$8 to 25 cents. “This procurement system makes family planning programs possible,” Gillespie says.

Another early initiative of the U.S. foreign aid program in the population area was the establishment of a worldwide system for assessing fertility and birth rates. “In 1971, AID helped start the World Fertility Survey, the largest social science endeavor ever undertaken,” Gillespie notes. Together with data from AID-supported Contraceptive Prevalence Surveys conducted subsequently, fertility and family planning information was gleaned from 61 developing nations. “This constitutes the largest body of knowledge on family planning in existence today,” he says.

Survey results indicated that making family planning supplies and services more available increases their use. Use of modern contraception was shown to be growing in many developing countries. In some nations, over half the married women of reproductive age employ a contraceptive method.

The data also provided the first evidence that fertility rates are falling in much of the world and underscored the importance of family planning to infant and child health. World Fertility Survey data demonstrated the importance of birth spacing. The higher the infant mortality rate, the more important a long birth interval between children is to child survival. In Bangladesh, for example, the death rate for infants born within two years of a previous birth was twice as high as the rate for infants born two to three years after a previous birth.

Another significant finding of the surveys was that in many countries breast-feeding contributes substantially to birth spacing and thereby to child survival.

The surveys have led to policy and program changes. El Salvador, Honduras and Panama increased efforts to reach rural areas when surveys showed much lower levels of contraceptive use in these areas than in cities.

Family planning is one of a number of primary health measures that can be delivered safely, effectively and inexpensively through community-based services. "AID was among the pioneers in developing a community-based distribution system for family planning services in the 1970s," says Gillespie.

In community-based distribution, lay workers within a community provide services and supplies with minimal day-to-day reliance on clinics, professional medical personnel or complex diagnostic, screening and record-keeping procedures.

"This was very controversial 10 years ago," Gillespie adds. "People didn't know if it would work. Now it is accepted as normal." In the last 12 years, more than 70 community-based voluntary family planning programs have been undertaken in at least 40 countries. In Latin America and the Caribbean, for example, more than half of all new users of contraceptives—or about half a million people—were supplied through community-based distribution programs in 1981.

"We are also marketing contraceptives through commercial networks," he explains. Contraceptive social marketing programs in 13 countries now are selling condoms, pills and other voluntary family planning supplies at subsidized prices through retail stores. More than a decade of experience in this area has demonstrated that if contraceptive social marketing programs are well managed, well publicized and well adapted to local conditions, they can reach about 5-15% of all couples of reproductive age. In Bangladesh, for example, these programs serve about 50% of current family planning users.

AID has supported the policy development process in family planning in numerous developing



AID has become the world leader in population assistance, initiating and supporting a wide range of technical and program initiatives.

countries over the past two decades. This has helped play a role in galvanizing commitment to national population policies and voluntary family planning programs.

The RAPID (Resources for the Awareness of Population Impacts on Development) program has been one of the most effective educational efforts undertaken by an international

agency. "Interactive computer models make complex population and development relationships easy to understand for high-level government officials and legislators," says Scott Radloff, economist in the Office of Population. The program has been seen by thousands of policy-makers including heads of state in some 40 developing countries. RAPID pro-



grams have been used to generate regional support for national population programs. In Nigeria, for example, a series of presentations made to the leadership of its 19 states was an essential step in the adoption of a national population policy.

IMPACT (Innovative Materials for Population Action) is another new project to disseminate timely results of population research to high-level policy-makers in developing countries that are directly applicable to their national concerns. Project staff prepared materials on population and family planning topics for the All-African Parliament Conference on Population and Development, held in Zimbabwe in May 1986. "We found that the conference participants expressed great interest in the materials. Many delegates have gone back to their own countries and are now organizing national conferences on population and development," says Judith Seltzer, deputy director of the Office of Population.

"AID's population programs have provided basic research and knowl-

edge in family planning methods and have made them widely available," says Carl Hemmer, senior program officer in the Office of Population. "Our most successful AID program in Africa is in Zimbabwe where 37% of the women are using contraception, the highest rate on that continent." Voluntary family planning has cut the birth rate from 55 births per 1,000 to about 40 births, a reduction of 27%.

AID has been a major supporter of voluntary family planning in Thailand since the early 1970s. "The prevalence of modern contraceptive use in 1970 was 17% and rose to 65% in 1985," notes David Oot, deputy chief of AID's Office of Health, Population and Nutrition in the Bureau for Asia and Near East. "During the same period of time, the annual growth rate declined from 3% in 1970 to approximately 1.6% in 1986." Oot stresses that the reason for this success is the effectiveness of the program in making high quality voluntary family planning services widely available.

Recognizing that almost half of the

population in the Latin American and Caribbean region are under age 25, AID recently developed a new means of reaching young people with responsible parenthood messages, using a mass-media, high-tech approach. What resulted was an MTV style rock music video on the subject of responsible parenthood, urging in Spanish that young people in Latin America "wait" and "say no."

Natural family planning is another area in which AID recently has taken a leadership role. "AID is now the largest single source of funds in the world for research and services for natural family planning," says Gillespie. Research on this form of population control was nonexistent in the 1970s. In 1985, the Agency signed a \$15 million, five-year contract for research and training in natural family planning with Georgetown University. "We are working to make service delivery of natural family planning methods more effective in developing countries."

"AID has been in the vanguard of major achievements in international

health during the last three decades, playing a significant role in both developing and disseminating technologies to improve health," Bart stresses.

Smallpox

Smallpox has scarred, blinded and killed millions of men, women and children since the first century. Due to the advent of modern technology and a global eradication campaign, the world is now free of smallpox, with the last known case occurring in Somalia in 1977.

The United States was an active participant in the global war on smallpox, contributing \$27 million over 13 years to the effort. In 1965, President Johnson pledged U.S. support for an international program that would completely eradicate the disease within a decade.

The goal was realized because of simple new technologies—freeze-dried vaccine, the jet injection gun and the bifurcated needle. Freeze-dried vaccine retained potency longer than fluid vaccines, making extended immunization programs possible in developing countries. The jet injection gun was a faster method of administering vaccine than the traditional needle or scratch techniques, enabling the vaccination of many people in a single day. The bifurcated needle enabled people with relatively little training to administer vaccine.

"A large share of the U.S. foreign assistance effort centered in 20 nations in Central and Western Africa—an area with 200,000-400,000 cases of smallpox per year in a population of 150 million people," points out Dr. Jake van der Vlugt, chief of the Health, Population and Nutrition Division in the Bureau for Africa. "The AID program eliminated the disease, saving over 30,000 lives, and introduced a new strategy that became a model for combating the disease in other areas of the world."

The aim was to break the chain of transmission. Once a case of the disease was found, all people who could possibly have been in contact with the infected individual were inoculated.



AID has been in the vanguard of major achievements in international health during the last three decades, both developing and disseminating technologies to improve health.

The World Health Organization estimates that the conquest of smallpox has saved as much as \$2 billion worldwide that would otherwise have been used to combat the disease through a variety of means including immunization and surveillance programs.

The eradication of smallpox in 1979 has been of direct benefit to the United States as well. More than \$100 million a year is saved due to the elimination of routine vaccination.

Malaria

Malaria, a scourge of mankind for centuries, has been certified as eradicated in 39 countries. However, in many African, Asian and Latin American countries, the disease remains a major economic and social threat. It kills some five million people a year and is responsible for between 250-300 million cases annually. It is estimated that one million children die each year from malaria in Africa. Where malaria persists, widespread and growing resistance to many insecticides and to normally used anti-malaria drugs adds a new dimension to the difficulty of adequately controlling the disease. Increased efforts are required to find alternative control methodologies.

The efforts made by malaria-affected countries assisted by AID and other agencies, such as the World Health Organization, the United Nations Children's Fund, the United Nations Development Program and a number of bilateral donors, have resulted in control efforts that now provide anti-malaria programs to about half of the world's population in one of the most massive public health programs in history.

During the past 30 years, the United States has spent more than \$1 billion in assisting concerned nations in the effort to control malaria in the developing world.

"Nepal is one example of AID's success in malaria control," says Larry Cowper, AID's malaria advisor. "There were an estimated two million cases of malaria in the country 25 years



ago. Today, there are only a reported 30,000 to 40,000."

The malaria control program had a beneficial effect on the economy. About 1.5 million Nepalese migrated from the hills to the previously sparsely populated lowland (inner terai) areas after malaria was controlled there and turned the region into a food export area for rice, sesame, wheat and other commodities.

"A family living in the hills would be able to harvest two to three acres," Cowper explains. "When that same family moved to the fertile inner terai areas, it would be able to harvest 11 to 12 acres."

However, increased mosquito resistance to many insecticides and the growing presence of drug-resistant strains of the parasite leave more than one-half of the world's population at

increased risk to malarial infection and threaten the enormous gains made by national anti-malaria programs.

"This grim fact has led to a search for something considered impossible by many scientists 20 years ago—the development of a malaria vaccine," says Brady. AID has led the way since 1965 in supporting activities leading to two prototype vaccines, one for the deadliest form of malaria and one for the most common form of the disease.

Over the years, AID also has actively supported training efforts in malaria control. Support has been provided to a number of national training centers in nations such as Thailand, India, Nepal, Ecuador, El

Salvador, Pakistan, Sri Lanka, the Philippines and Indonesia.

AID's program in Nepal relied heavily on DDT spraying to control the mosquitos that carry malaria. "Over the program period, AID trained 10,000 people in malaria control and 100,000 DDT spraymen," Cowper explains.

"And, we've helped double the capacity of the Thai Malaria Control Center at Prabuddabhat," Cowper says. "Now they're giving international training themselves."

Onchocerciasis

Onchocerciasis (river blindness), a disabling parasitic disease, now is being controlled in the fertile savannas

of western Africa where 2.5 million people are affected.

An estimated three million children in West Africa no longer are at risk of contracting the disease as a result of an Onchocerciasis Control Program, to which AID is the major contributor out of some 20 donors. Without this project, almost two million of these children would have been affected and an estimated 90,000 would have become blind.

The project started in 1974 as a 20-year international effort to control the disease at the request of seven countries in the Volta River Basin.

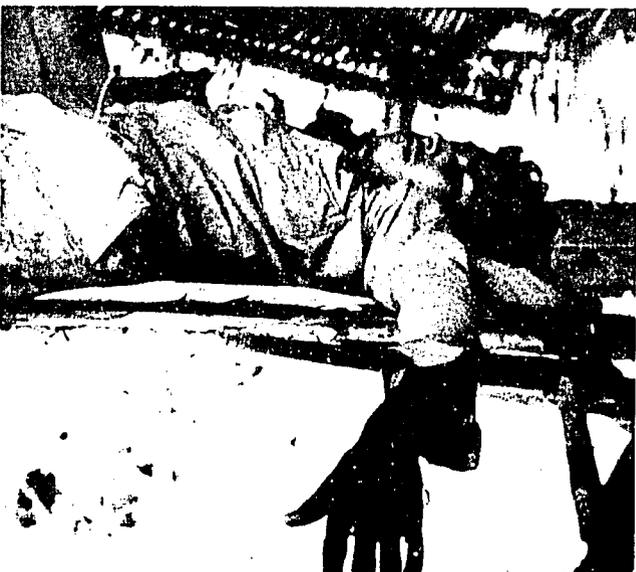
Control of the disease was carried out by destroying the blackfly carrier of the parasite, *Onchocerca volvulus*, at its larval stage. Insecticides were applied primarily by helicopter to hundreds of breeding places near turbulent sections of the river where the larval eggs are laid. Insecticide spraying is necessary because until recently no drugs were fully satisfactory for treating victims or for preventing the disease.

The program has had significant results in the Volta River Basin, with its population of 16 million people. Transmission of the disease in 90% of the 764,000 square kilometers of the program area has been virtually interrupted. The prevalence of infection has dropped from 90% to 50% in the past two years and now is declining rapidly.

Fertile farm lands abandoned due to the disease are now being resettled. Some 15 million hectares of tillable land in formerly oncho-endemic areas have been opened to agricultural productivity.

Schistosomiasis

Schistosomiasis, commonly called "snail fever," infects approximately 200 million people in 74 tropical nations in Asia, Africa and Latin America. Snail fever is caused by tiny parasitic blood flukes that live briefly in certain freshwater snails, from which the disease gets its name. The microscopic parasites begin in the snail as larvae that develop into



A disabling parasitic disease, onchocerciasis or river blindness, now is being controlled in the fertile savannas of western Africa where 2.5 million people are affected.



AID is determined to use every resource at its disposal to help the people of the Third World live a healthier, happier and longer life.

sporocysts. The sporocysts produce fork-tailed larvae that bore through the snail's body into water and penetrate the skin of people who wash, play or bathe in water harboring the snails.

Once inside a human body, the parasites, now schistosome worms, lodge in the veins of the intestines, bladder, kidneys and liver, where they may stay for up to 20 years, laying thousands of eggs. Many of these eggs pass out of the body in feces back into the water. The larvae hatch in water,

In the developing world, 80% of all illness has been attributed to unsafe and inadequate water supply and sanitation. Improving access to more reliable, convenient and safer sources of water has been a major objective of AID efforts.

seek out and enter water snails and continue the cycle.

Schistosomiasis has been a major cause of death and debilitation in developing nations. As a result of research funded by AID, amoscanate, one of several drugs used to treat the disease, was developed at Johns Hopkins University and has proven effective against three major types of schistosome worms in laboratory tests.

In 1983, AID initiated a schistosomiasis control program for Africa with projects in Sudan and Cameroon. These nations suffer from two of the three major forms of schistosomiasis, which seriously hampers agricultural and rural development. In Cameroon, for example, efforts are under way to develop a schistosomiasis research and training facility that will play a major role in the study and control of schistosomiasis in sub-Saharan Africa.

Community Water Supply and Sanitation

Water is a fundamental requirement for human survival. In the developing world, 80% of all sickness has been attributed to unsafe and inadequate water supply and sanitation, and half of all hospital beds are occupied by people with water-related diseases, according to the United Nations Development Program. Improving access to more reliable, convenient and safer sources of water has been a major objective of AID efforts.



Control measures to reduce water- and sanitation-related diarrheal diseases such as cholera, dysentery, typhoid fever, hookworm, guinea worm and roundworm can be relatively simple. These include improving water quantity and quality, sanitation and excreta disposal practices, protecting water sources from environmental contamination and avoiding contact with infectious organisms such as schistosomes in the water. Safe water properly stored and used also prevents blindness due to trachoma, the leading cause of preventable blindness; yaws, a skin disease; and numerous other diseases.

Making water supplies available close at hand reduces the long treks of mothers and daughters for their family's daily water in many developing countries.

Since 1973, AID has supported more than 700 water and sanitation projects. The Malawi Rural Piped Water project is an example. The project resulted in the installation of over 50 gravity-fed water systems involving nearly 12,000 miles of pipe and 3,000 public taps, providing potable water to over one-half million people since 1968.

In sub-Saharan Africa, poor water and sanitation contribute to perhaps

one-half of all infant deaths and the lowest life expectancy at birth (47 years) of any region in the world.

The Republic of Togo, in collaboration with AID and other donors, is setting an example for overcoming this formidable problem. The AID-supported Rural Water and Environmental Sanitation project has achieved considerable success. In just over three years, 675 wells have been dug, providing safe water to 200,000 rural Togolese, and hundreds of villagers have been trained in well maintenance and proper sanitation practices.

In 1980, AID's Office of Health created WASH—the Water and Sanitation for Health project. WASH provides developing countries with short-term, interdisciplinary technical assistance and information on water supply for rural and urban settlements, sanitation and environmental health. During its first six years of operation, the WASH project has supported 352 activities in 59 countries by providing engineering assistance, training, institutional development, financial analysis and community education.

The U.N. International Drinking Water Supply and Sanitation Decade (1981-1990) aims to provide clean water and adequate sanitation throughout the developing world by the year 1990. AID's current yearly commitments in excess of \$200 million for such activities reflect the United States' support of this goal.

Commitment for the Future

"Much has been done," says Administrator McPherson, "to combat disease, malnutrition and over-population in the developing world. The development of new technologies has brought us to the threshold of a veritable revolution in health care. AID is determined, in the next 25 years, to use every resource at its disposal to help the people of the Third World live a healthier, happier and longer life." ■

—Prepared by the Office of Publications staff with the cooperation of Agency health experts.

Accent on Education and Training:

TRANSFORMING HUMAN POTENTIAL INTO NATIONAL WEALTH

By Nancy Long





Economic growth is inextricably linked to a productive, educated human resource base.



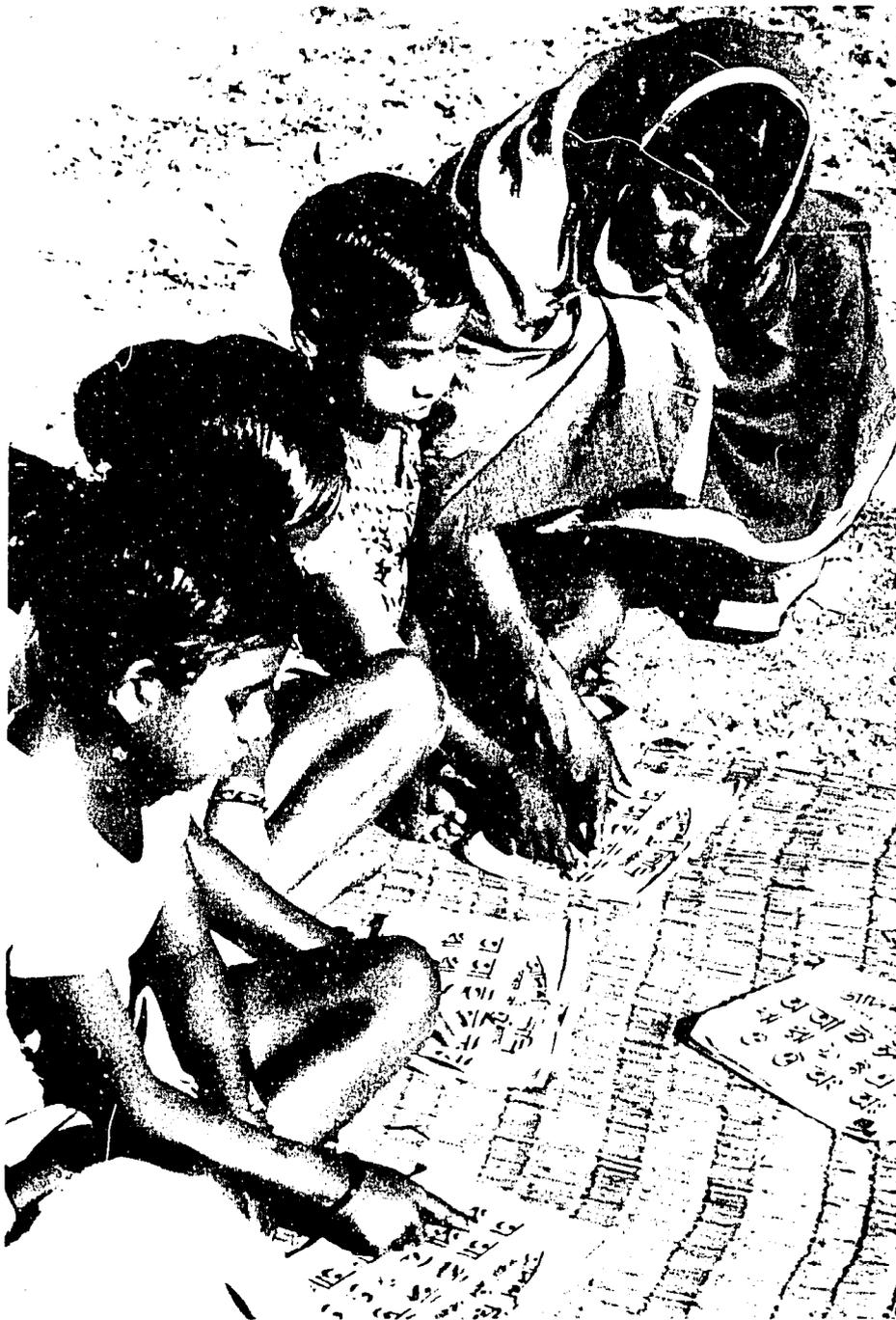
Throughout history, people of all nations have worked to expand their opportunities through education. Today, in the developing world, education and participant training at every level serve as a foundation for advancing social and economic development.

Few would deny that education is an indispensable component of development—a prerequisite to achieving goals. Few would dispute the U.S. role as the lead architect of mass education. Few would question that educating people and enhancing their skills offer the most direct path to progress, prosperity and self-sufficiency. And, no one could refute the positive impact of nearly one quarter of a million doctors, educators and professionals who have benefited from the U.S. participant training program.

Developing countries need trained professionals to ensure that agricultural, health, credit and educational systems become permanent institutions.

This need is illustrated by the acutely low number of teachers, doctors and other professionals available to serve growing populations. In

Primary education is crucial on its own and a precondition to other development objectives.



Bangladesh, for example, there is one doctor for every 10,000 persons, and in Liberia, there is one high school teacher for every 121,000 teens.

For these reasons, the Agency for International Development (AID) has long been dedicated to expanding human potential through education and training to accelerate development of the Third World.

"The Agency's role in education is crucial," said David Sprague, director of the Office of Education in the Bureau for Science and Technology (S&T). "Developing countries view the United States as a leader in education because ours is the country that pioneered universal education."

A Guatemalan teacher observing U.S. teaching methods, a child in the Dominican Republic sitting in an open hut listening to lessons on the radio, farmers in Zaire attending a workshop on improved agriculture techniques and a student from Nepal taking management courses at a U.S. university are all examples of how AID is working to increase opportunities that could lead to higher living standards for the people of developing nations.

Over the last 25 years, the Agency's approach to education and training has changed.

"In the 1960s, Agency programs in education and human resources emphasized institution building, manpower development and advisory services," said Frank Method, education and human resource policy advisor, Bureau for Program and Policy Coordination.

"But in the '70s, AID changed its policy to focus on serving 'basic human needs,'" he continued. "Educational assistance was redirected from university development and high-level manpower training to reform and expansion of elementary and basic education systems, less formal education alternatives and delivery systems for mass education."

Although there was increasingly strong support for an expanded basic education effort, said Method, it proved difficult to overcome the skepticism

of non-educators. "The prevailing belief was that education initiatives required more capital than was available and that the United States did not have the expertise needed to design basic education systems for developing countries," he continued.

In December 1982, an AID policy paper described the Agency's new approach for in-country education and training programs and made four important statements.

First, the policy paper reaffirmed the importance of education and the Agency's role in contributing to developing country needs in establishing efficient education systems.

Second, the Agency held to the conviction that primary education is crucial on its own and a precondition to other development objectives. "It is not simply a matter of preparing students for further education. Raising the basic education level of a society contributes to rural productivity, social and economic advances, democratic development and many other desirable trends," said Method.

As an example, for every extra year of basic education young girls receive, he added, infant mortality rates drop by nine per 1,000. "In other words, the difference between a country where few girls get any education and a country where most girls get through six years of primary school is that for every 1,000 live births in the country where girls are sent to school at least 50 fewer children die."

Third, the policy paper resolved the debate between advocates of non-formal and formal education. "The Agency decided to give priority emphasis to basic education both for children and adults," Method said.

The fourth policy statement called for de-emphasizing initial access problems in favor of concentrating on major efficiency problems, particularly the high rates of grade repetition, examination failure and dropout.

"For example, in the past, if a badly run education system was inequitable to women or to rural children, the AID solution was to make that system equitable by adding more resources

Developing countries view the United States as a leader in education.



and attempting to create alternative education systems, usually at great cost," said Method. "That strategy compounded the entire system's inefficiency."

Because of this experience, the Agency decided first to attend to the major management problems of assisting these countries to use available resources more efficiently and to retain more children within the existing system.

From 1979 to 1986, appropriations for the education and human resources (EHR) account doubled, but most of the increase went to participant training with basic education expenditures declining steadily.

The congressional appropriation for EHR programs for fiscal 1986 totaled \$173.5 million, compared with \$186.6 million in fiscal 1985.

Basic education efforts account for about 25% of the budget. About 50% supports AID's participant training program, which provides education or training in U.S. and third country institutions for students from the developing world. Project-related training efforts, support for labor development and other aspects of human resources development account for the other 25%.

The Office of Education in the Science and Technology Bureau works to apply research, development and

technical resources to help improve education systems in less developed countries.

"Research and development efforts of this office deal with three areas: education efficiency, education technology and development communications," said Sprague.

"Assisting developing countries to use existing resources better is the main priority of AID's central program," he added. Efficiency measures are determined after careful analysis of the existing educational system. Technical assistance then is focused on the critical gaps or shortcomings evident in programs.

One of the most recent programs facilitating educational efficiency in developing countries is the \$10 million, five-year Basic Research and Developing Education Systems (BRIDGES) project. Begun in 1985 as a worldwide effort, the program is designed to develop computer-based planning models for the use of policy-makers in allocating education resources efficiently.

Technology also is being used to improve the quality of education, said Sprague. "Radio, for example, is one way technology has been applied to improve education. Since 1974 AID has demonstrated successfully that radio can reach children who live in

regions where there are no schools and that lessons within schools can be significantly improved by radio instruction.

"One very successful radio education program now is in the Dominican Republic," said Sprague. "Children in the southwest region of the country who work in the fields during the day gather under a community-made shelter for an hour of study in the late afternoon to learn math, reading and social science."

A program of development communications is used to reach those outside the formal education system. "It combines the methods of social marketing with development education. There are radio programs in health, nutrition and, most recently, agriculture in over 20 countries," explained Sprague.

In Honduras and the Gambia, the first two research sites for the health aspect of the project, radio programs inform mothers about oral rehydration therapy.

The AID Rural Satellite program explores the potential of telecommunications as a means of extending educational and training opportunities to isolated, dispersed areas. Building on simple, inexpensive telephone technology, audio-conferencing systems were developed to support activities

in education, health and agriculture.

In Indonesia and the West Indies, long-distance education programs were established with national universities. In Peru, the satellite program provided basic telephone service to seven rural communities and established an audio-conference link for in-service training of health and agriculture workers and teachers—connecting them for the first time with experts in Lima, the capital.

The Office of Education in the past has carried out research and development projects in only one or two countries at a time. "More and more, however, we are moving toward worldwide projects that missions can 'buy into' if they choose," said Sprague.

For example, the office recently designed a \$30 million project, Improving the Efficiency of Education Systems. Eight missions are buying into the program.

There are advantages to a worldwide project, according to Sprague. Countries can come together to discuss similar problems and learn from each other. At a project-sponsored conference in Botswana in November 1985, representatives from Haiti, Nepal, Yemen, Indonesia and four African nations discussed educational progress and problems in their respective countries.

The next education conference is scheduled to be held in Indonesia this year, where participants will discuss teacher incentives and decentralization, one of the Agency's highest policy priorities.

"Decentralization is the Agency's most recent thrust in education assistance," said Sprague. "The guiding principle is to move decision making as close as possible to those served by the system.

"The Agency is encouraging central governments to shift school management, finance and construction responsibilities to local communities. Because school enrollments are rising faster than national education budgets, local governments must have authority and responsibility to raise additional funds for their



Management training in all sectors at all levels is a major emphasis in Africa today.

school systems."

Opening the door to those in the developing world to the vast educational and technological training opportunities in the United States and exposing them to U.S. culture are the objectives of AID's participant training programs.

"The underlying assumption is that the program provides higher level skills and education to participants who return to their country to use those skills for the benefit of development," explained Dona Wolf, director of S&T's Office of International Training.

"Now, the emphasis is on training a cadre of people in a number of general areas in preparation for whatever development directions the country is taking," she said. In Cyprus, Tunisia and Latin America, there are large scholarship programs to reflect this new trend.

"In the past, an engineer working on an AID-sponsored project came to the United States for project-specific advanced training," said Wolf. "Now, students chosen for the participant training program come here to earn degrees in their fields, becoming engineers, economists and public administrators."

In 1981, the number of participants who trained in the United States was less than 8,000. In 1985, that figure was up to 12,500 while the target for 1986 was 15,000.

Many of the future and present leaders in politics, science, business and education in developing countries all around the globe are graduates of the Agency's participant training program.

Professor Richard Musangi, principal of Egerton College in Kenya, has participated in several short-term study programs in the United States. Musangi, who also coordinated AID-sponsored, long-term U.S. training for 55 staff members at Egerton College, said, "From my experience with the AID-funded training programs, I see a bright future for U.S.-trained Kenyan professionals in Kenya's public and private sectors. I am optimis-

Children in the Dominican Republic who work in the fields during the day gather each afternoon for an hour of radio education in math, reading and social science.



Education & Training

tic that if enough Kenyans can be trained at home and abroad, we will see important economic and social benefits for all people of our country."

"One of the unique characteristics of this foreign aid program is that most of the allocated funds are spent in the United States. Furthermore, many of the participants work on U.S. technical equipment here and want the same instruments or machinery when they continue with their work in their country. This results in export sales for U.S. companies," Wolf said.

Special efforts now are being directed toward increasing training opportunities for those who are most economically disadvantaged and raising the proportion of women participants from the present 20% to at least 35% by 1990.

Establishing cultural links is another vital part of the participant training program. Upon arrival in the United States, participants attend a five-day orientation program in Washington, D.C.

AID's geographic bureaus are carrying out strategies in the field similar to those of S&T's offices of Education and International Training in pursuing development goals.

The Bureau for Africa allocated \$47 million for 1986 education and human resource programs.

Ongoing programs in education in Botswana, Cameroon, Lesotho, Liberia, Swaziland and Zimbabwe focus on upgrading teacher skills, training new teachers and developing curricula to suit the needs of the country.

In 1960, 19 million students were enrolled in primary school. By 1980, that number had more than tripled to 60 million.

"There is, however, much more to be done," said Peggy Shaw, acting head of the Education and Training Division of the Office of Technical Resources, Bureau for Africa. "In many African countries, far less than 50% of eligible students currently are enrolled in the primary school system."

Short- and long-term participant



training opportunities for Africans, generally at the graduate level, are growing—especially in the fields of management, agriculture and health. The missions in Botswana, Mauritania, Somalia, Swaziland, Zambia and Zimbabwe all have created projects devoted specifically to manpower development.

Shaw said that the number of participant trainees from Africa for fiscal 1986 was 3,325.

One former participant, Jacques Paul Ekebil, is the director of Cameroon's Institute of Agricultural Research. Ekebil, who earned his Ph.D. in agronomy from the University of Nebraska in 1974, manages 22 research programs at 16 research stations in Cameroon.

"My training in the United States coupled theory with practice," said Ekebil, "because education always has direct application to life. I also liked the informal relations that exist between lecturers and students; every-

one was open-minded and easy-going. Cameroon's future is bright, but it will need well-trained people."

"Training creates a work force adequate to the needs of the country—both the public and private sectors," explained Shaw. Management training in all sectors at all levels is a major emphasis in Africa today.

Education and training efforts of the Bureau for Asia and Near East (ANE) include projects in 20 countries, ranging from Morocco to the South Pacific.

"By far the largest programs have been in Egypt, where AID has provided over \$200 million since 1975, including a major effort to increase primary school enrollment through construction of 620 schools in rural areas," said Hal Freeman, chief of ANE's Human Resource Division.

In the two years since the first schools were completed, enrollment in those areas has increased 13% overall, with an even higher increase



For every extra year of basic education young girls receive, infant mortality rates drop by nine per 1,000.



aimed at strengthening the University of Jordan's faculty of economics and administrative sciences and, in conjunction with the Jordan Institute of Management, upgrading managers already on the job.

"Although there is no mission in the West Bank/Gaza," he said, "we do provide \$17 million a year in technical assistance, which is channeled through U.S. and Palestinian private voluntary organizations."

Within the human resources area, this includes such diverse activities as self-help projects in rural communities to establish village training centers and construct community schools.

In still another area of the world, Latin America, AID's main assistance in human resource development is focused on participant training, primary education and vocational, management and technical training.

Significant increases in student enrollments are apparent at all education levels, said Paul White, chief of the Education, Science and Technology Division, Bureau for Latin America and the Caribbean (LAC).

For example, in Honduras, from 1970-82 primary school enrollments increased from 381,339 to 671,786 and secondary enrollments from 39,839 to 147,528.

Since 1980, AID's work in Honduras has included building 2,100 new schools and renovating 800 existing schools to help support the increased enrollments, he said.

The recent economic recession has limited increases in the budgets of the ministries of education for these countries, White explained. "The Agency is working with governments to use available resources in the most efficient way so that educational services and quality are maintained at acceptable levels."

AID funds are used to support in-service teacher training; textbook production, reproduction and distribution; community-based school maintenance; decentralization of educational services; and classroom renovation.

"Providing textbooks to school children is key to student achievement

and planning project is helping the government improve its data analysis and educational planning capabilities.

At the university level, the American University of Beirut, Beirut University College and the International College of Beirut are supported by the Agency as is the American University in Cairo.

Sri Lanka, Nepal, Indonesia, Pakistan, Thailand and the South Pacific all have large programs in higher-level agriculture education.

In 1986, over 5,000 people from Asia and the Near East received out-of-country education and training opportunities through the participant training program.

At the mission level, the bulk of in-country training efforts is aimed at strengthening institutions and the private sector through management development, said Freeman.

"There are large management training programs in Egypt and Jordan. In Jordan, there is a new program

among girls. In a small sample of villages studied, enrollment rates for girls in first grade increased from 49% to 95% with the opening of new, nearby schools.

In addition, there are efforts to upgrade the existing education systems in other countries in the region. For instance, in Yemen, there is an in-service training project for teachers that will help improve their teaching.

In Jordan, a grant to Children's Television Workshop, which produces *Sesame Street* and *Electric Company* in the United States, is one of the more innovative education experiments now being conducted.

Co-produced with a Jordanian private sector group, the program will be an Arabic version of *Electric Company*, geared to six- to 10-year-olds. "The main purpose of the project," said Freeman, "is to improve the reading skills of children and create a real interest in learning."

In Indonesia, an education policy



Because school enrollments are rising faster than national education budgets, local governments must have authority and responsibility to raise additional funds for their school systems.

and an area where AID can have a major impact," White said. In Costa Rica and Jamaica, for example, AID is helping to fund private sector initiatives to produce and distribute textbooks.

And, in Guatemala, where about half of the population of eight million are descendants of Mayan Indians, AID has been working with the government since 1980 to establish a bilingual education program for Indian children who do not speak Spanish, the official language.

Bilingual curricula with corresponding texts have been prepared for grades one to four and with World Bank financing are being reproduced and distributed to schools in the highlands. By 1990, 240,000 Indian children will have the texts.

A major new textbook initiative has been planned for Honduras under a recently authorized project with the Ministry of Education. With AID funding, a new series of Honduran primary school textbooks and teacher guides will be written, produced and

distributed for grades one to six. The development of radio lessons in Spanish and math will complement the program.

"In response to President Reagan's Caribbean Basin Initiative, vocational/technical and management training programs in Latin America are helping to promote the countries' export potential," said Marcia Bernbaum, deputy chief of the Education, Science and Technology Division for IAC.

"Programs are being carried out with the active support of private business, and, in many cases, solely through the private sector itself."

In the area of management training, the goal of AID's programs is to assist existing organizations to upgrade the training they provide for mid- and senior-level managers, making them more effective and increasing the productivity of their firms.

The Association of Honduran Managers and Entrepreneurs, with the assistance of the American Management Association, is developing the



institutional capability to design and offer short management training courses to business executives. "After 2½ years, the program is ahead of schedule in reaching its goals," said Bernbaum.

In addition, undergraduate and graduate management training is in progress or planned in the Dominican Republic, Ecuador, Jamaica and Peru.

AID's vocational efforts in Latin America are targeted toward re-orienting vocational training to the needs of the private sector. AID has active programs in the area of vocational training in Ecuador, Peru, Honduras, Jamaica and the Dominican Republic.

AID's Regional Development Office for the Caribbean is sponsoring a program to train unemployed youth for productive employment on the islands of Barbados, Dominica, St. Lucia, Grenada, St. Vincent and St. Kitts. New initiatives are planned for El Salvador and Guatemala for 1987-88.

Between 1985-90, 8,500 Central Americans will have studied in the United States under the \$170 million Central American Peace Scholarship (CAPS) program, the largest training effort in the Latin America and Caribbean region. The key recruitment factors for the study and training opportunities are leadership ability and economic need.

CAPS is different from other overseas study programs because it is open to high school and undergraduate students and those without English language skills. "Also, women, minorities and economically disadvantaged students are encouraged to participate in the program," said White.

In addition to CAPS, there are several other scholarship programs. More than 1,200 Caribbean, Central American and South American students have studied in the United States under the \$7.5 million Caribbean Basin Scholarship Fund and the \$15 million Latin American and Caribbean Training Initiatives project from 1982-84. Under the Andean Peace Scholarship Program, 2,400 students



A former AID participant trainee treats an ailing camel. Nearly one quarter of a million doctors, educators and professionals have benefited from the U.S. participant training program.

from this region will begin their studies in the United States by 1990.

Also, President Reagan announced last year that scholarship opportunities for students in the East Caribbean would triple from 500 to 1,500 over the next three years.

"These scholarship programs impart leadership and technical skills necessary for development," White emphasized.

The greatest aspirations throughout the ages have been achieved through education. Brilliant discoveries, miraculous cures and complex technological breakthroughs have been

developed by ordinary and extraordinary people pursuing education.

By building schools, developing curricula, upgrading teaching skills and providing training opportunities in the United States and abroad, AID has assisted people throughout the developing world fulfill the desire for education and thus has helped provide their nations a lasting investment in the future. ■

Nancy Long is assistant editor of Front Lines, AID's employee newspaper.



Accent on Rural and Urban Development

BUILDING A FUTURE

By Suzanne Chase

By applying lessons from past experience, AID is helping developing nations devise integrated strategies for effective economic growth.





As with any venture into uncharted territory, AID's approach to rural and urban development in the Third World has seen enormous fluctuations in emphasis over its 25-year history. The Agency learned through trial and error that development of countries in Asia, Africa and Latin America was tremendously more complex than a simple repetition of the reconstruction of the European economy following World War II.

The Marshall Plan succeeded in revitalizing Europe in relatively few years because it essentially was restoring basic infrastructure and an institutional base that was previously well established. The areas of the world that AID was created to assist had only recently emerged as independent nations after decades of colonialism. The indigenous populations had had little opportunity to develop societal institutions and infrastructure; financial resources and the administrative apparatus of government were virtually nonexistent. Yet, these constraints to development now recognized as fundamental were not so apparent 25 years ago.

"In the 1960s, AID's work concentrated on capital-intensive infrastructure activities such as construction of highways, airports, railroads and port improvements," says Eric Chetwynd, who was a member of AID's first urban development staff in the 1960s and is now chief of the Regional and Rural Development Division of the Office of Rural and Institutional Development, Bureau for Science and Technology (S&T). Major investments also were made in housing construction and basic water and sewerage systems.

"AID was not unique in this approach," he adds. "The prevailing



attitude among donors in those days was that the basic problem with developing countries was that they lacked infrastructure. Through the years, we realized that it was not just infrastructure but that the larger problem was basic institutional capacity.

"AID is now a leader among donors in recognizing the importance of developing the institutions that enable society to function and grow and in focusing on the policy environment, the private sector and technology transfer," Chetwynd points out.

"This is not to say that the early capital-intensive program was without

accomplishments; we were having a significant impact.

"Irrigation is a good example," he adds. "It both increased production and reduced the risk for the small farmer. Irrigation turned out to be much more powerful than we thought. In the 'Green Revolution' in Asia, 25% of increased production was due to irrigation.

"In other areas as well, progress was being made. Gross national product (GNP) was rising, but intuitively we could see that programs such as building a major power plant were not specifically benefiting the poor in outlying areas.

"Just as we were beginning to de-

velop strategies to extend the benefits of large-scale projects to the economy as a whole, Congress in the early 1970s took a hard look at the Agency's work and issued new directives for programs that made an impact directly on the poor majority," Chetwynd explains.

In 1973, Congress included a "New Directions" mandate for AID in the Foreign Assistance Act. AID responded by launching a new series of development initiatives. "The Agency interpreted this new thrust as applying essentially to the rural poor," Chetwynd says. Guidelines from AID's Bureau for Program and Policy Coordination in 1974 relegated urban



development to a subsidiary role, except for Housing Investment Guaranties aimed at the urban poor. By 1976, AID's focus had shifted from capital-intensive projects to more institutional and rural development activities. "The New Directions mandate was a watershed in Agency programming," says Chetwynd. "Where there had been building hydrodams, highways and cement plants, now our most capital-intensive project was a farm-to-market feeder road." Rural credit programs, farmers cooperatives, wells and integrated rural development projects also were initiated at this time. From a historical perspective, rural

development has undergone a number of changes in approach, says Chetwynd. AID always has recognized agriculture as the basis of a nation's economy, and efforts have been concentrated on increasing agricultural production and improving the welfare of the small farmer. Improved agriculture techniques, technology transfer and access to credit for farmers have been important elements of this program, but the methods of achieving these objectives have evolved over the years.

"From the beginning, the Agency invested heavily in agricultural universities and extension systems in the developing world," says Pat Fleuret, social science advisor in AID's Bureau for Africa. "Across the board, that investment was very worthwhile. The universities are still there—still working—and have produced the leadership in these countries."

The weakness in the early years, he says, was basically moving too quickly, without focusing on applied agricultural research and the entire policy framework. "Most of our activities presumed that with improved technology available, it was only a matter of getting it to the farmers. That proved to be a false assumption," he says.

"We now recognize that technology must be appropriate to the specific conditions of a country to be economically viable. We also learned that we had to consider the broader policies that influence agricultural growth. Even a good project is not going to work in a perverse policy environment," Fleuret explains.

While agricultural production has remained a primary focus of the Agency, the emphasis in rural development more recently has been extended to include agro-industry. "Agro-industry such as food processing and food storage is important because it generates off-farm employment," says Chetwynd.

"What has survived from the New Directions era and has influenced our programs is the concern for the employment impact of our efforts.

"The human resource is the only untapped resource left—we must find a way to use it," he emphasizes. "Agro-industry activities are labor-intensive, and this is the direction in which we are headed in an era of increasing financial restraint."

Rural savings mobilization is another focal point for rural development in the 1980s. "Ten or 15 years ago, the emphasis was on subsidized rural credit," recalls Chetwynd.

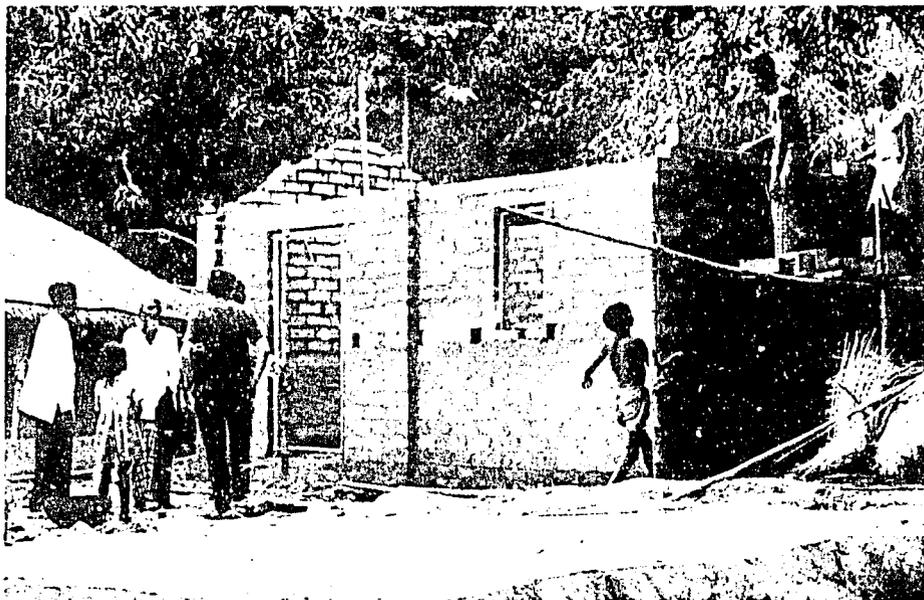
Because these countries had no history of savings and, therefore, no capital accumulation, credit for farmers had to come from the central government, which received loans from AID, the World Bank and other donors. "Subsidized programs did not work because they didn't effectively reach the small farmer for whom they were intended," says Chetwynd.

This was due to a number of factors, many of which had to do with high "transaction costs" to the farmer—the distance the farmer had to travel to a bank and the expense of obtaining legal assistance to complete the required paperwork. In addition, because of low, subsidized interest rates under these programs, banks preferred to minimize their costs and extend credit for large loans. Thus, only the larger farmers benefited from the program.

Another serious drawback of the subsidized credit system was the disincentive it created for the local financial system to provide funds while bringing in cheap funds from the outside. Countries incurred large hard currency debts, which exacerbated their foreign exchange problems.

"AID is now leading the way with a new policy-oriented approach to rural credit by letting interest rates on loans seek market levels," says Chetwynd. "Banks, in turn, can pay higher interest rates on savings. Farmers are induced to save and become the source of their own credit."

This new approach also forces banks to become more efficient than those just receiving money from donors to loan; they must invest the savings of



AID's Housing Guaranty projects have demonstrated new approaches to producing and financing affordable shelter.

farmers wisely to generate sufficient profit to induce farmers to continue to deposit their money.

"Farmers also become more aware of and interested in basic financial institutions because the bank becomes the repository of their savings and a source of credit. Pilot programs in Bangladesh and the Dominican Republic have worked well,"

Chetwynd adds.

"Another advantage of a network of banks is that it provides the opportunity for long-distance financial transactions that give the economy much more scope.

"Another important lesson learned through the years," says Chetwynd, "is the importance of 'participation in development'—the concept of involving the intended beneficiaries in project design and implementation."

In the 1960s, a "top-down" approach prevailed, where decisions concerning a project were made at the national level in a host country without consultation with those whom it would directly affect. "The failure

of many projects can be attributed to lack of local support," Chetwynd says. For example, he points out that a decision concerning the location of a new road would be made at the national level. But when it came to building and maintaining the road, the necessary local cooperation was not forthcoming.

In terms of its overall policy on sectoral development, the Agency also has tried a number of methods. Until the 1970s, an "isolated sectoral development" approach had characterized development activities, Chetwynd explains.

"Each sector launched its own projects independently," he explains. "This approach could result, for example, in roads being built in areas with no productive agriculture or a power plant constructed in an area without much potential for industry."

Realizing the necessity to coordinate sectoral activities, particularly if programs were to be targeted to the rural poor, the Agency changed to an "integrated rural development"

program in the 1970s. This was a concerted effort to improve a number of sectors—agriculture, forestry, industry, employment—simultaneously in a particular region.

"If you had unlimited resources, this would be the way to go," says Chetwynd. "However, our record of success with integrated rural development programs was disappointing. The programs were simply too big and complex. Neither the host countries nor the donors had the resources to support or manage them effectively. In addition, we were concentrating all our resources in one region. With so many sectors involved, the monumental coordinating task was impossible for a host country to maintain. The basic problem was that it was overly ambitious and not within the administrative capacity of a developing country."

However, the Agency learned from this experience that it is useful to examine rural problems on a regional basis and identify bottlenecks as a basis for establishing priority problem areas and sectors that are most likely to succeed, he says.

As a result, AID returned in the 1980s to a sectoral approach to development but retained the integrated concept for planning purposes for projects involving river basins and watersheds.

This comprehensive planning strategy also is indicative of the growing recognition of the links between rural and urban development. "Both must be strengthened simultaneously to increase agricultural production, urban enterprise and job opportunity," says Chetwynd. "Our efforts are aimed at supporting key economic linkages such as transportation and banking that facilitate the marketing of goods and services."

While AID has traditionally been involved in rural development, the Agency's history of urban development until recently has been characterized by fits and starts.

In the early 1970s, an Office of Urban Development, headed by William Miner who now serves on

the staff of AID's Board for International Food and Agricultural Development, was first established in the Technical Assistance Bureau, S&T's predecessor.

"In the early days, there was no real commitment to urban development," Miner says. "Unlike agriculture in which the United States has always been seen as a leader, we had no comparative advantage in urban development. No urban office existed in the field, and we had no ready constituency."

Early efforts were spent in research and development to gain an understanding of urban dynamics. The culmination of these efforts—the Agency's first policy statement on urban development in 1973—coincided with Congress' New Directions and the consequent exclusion of urban activities from the Agency's agenda.

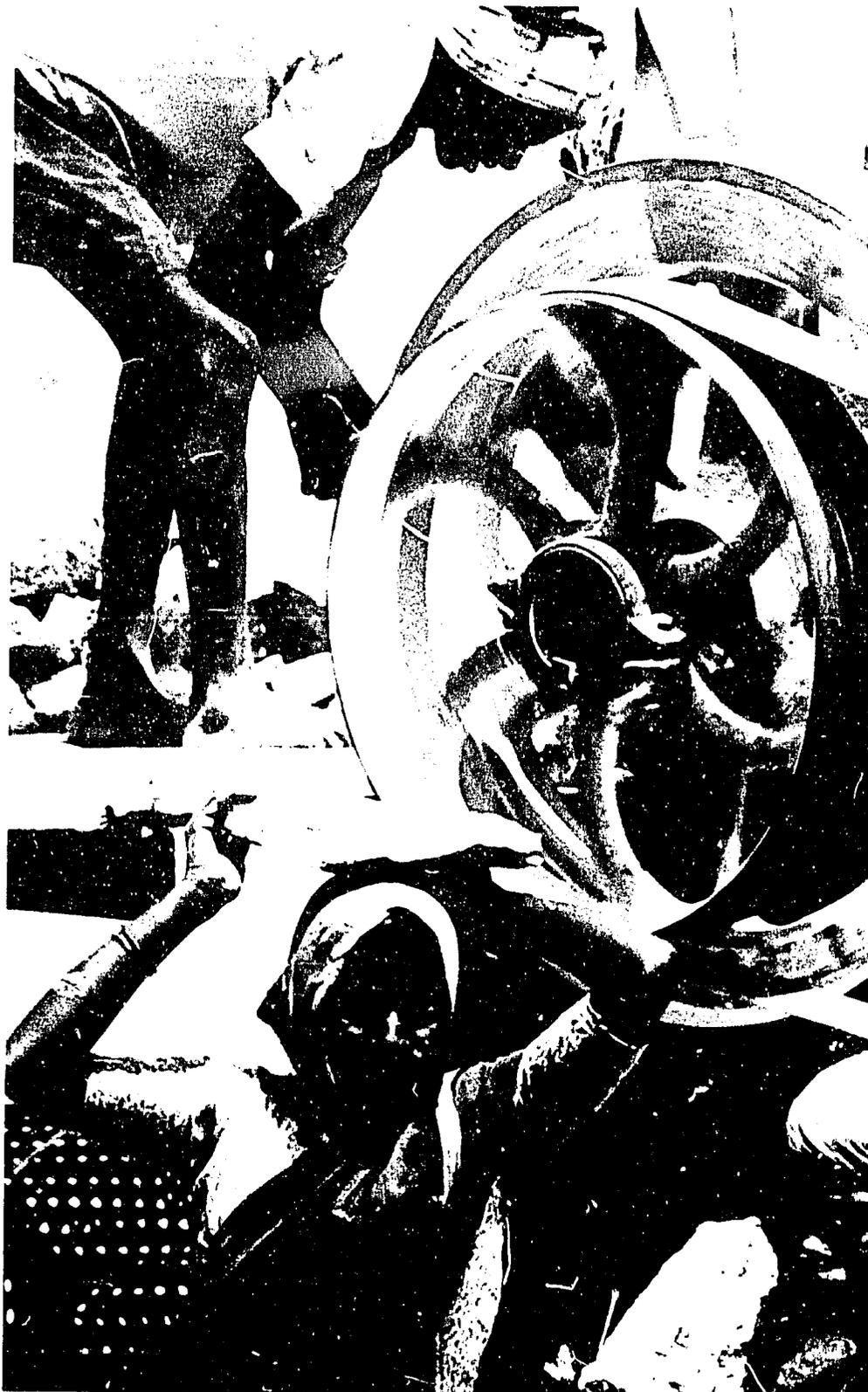
Despite the Office of Urban Development's reduced role during the New Directions era, Miner points to a number of early accomplishments in the evolution of the Agency's urban strategy.

"We were the first to recognize that urban support was needed for rural development to succeed," he says. "That moved us into the area of regional planning and development—looking at market structure, employment, the small enterprise sector, migration and the technical and financial resources needed at the local level to support regional development."

The office also did the initial research on the concept of micro-enterprise (street vendors and one-family operations), the kind of operation in which rural-to-urban migrants become involved. "This pioneered knowledge of small-enterprise employment generation in urban areas—what kind of support could we give that would encourage entrepreneurs and not regulate them into oblivion?"

When AID's Office of Housing and Urban Programs in the Bureau for Private Enterprise (PRE/H) assumed many of the urban functions from S&T

Efforts are aimed at supporting key economic linkages such as transportation and banking that facilitate the marketing of goods and services.



in 1982, a major priority was to create a "demand" for urban programming within AID, says Peter Kimm, deputy assistant administrator for Housing and Urban Programs.

"Urbanization in the developing world is an increasingly important development issue," he says. "Urban growth rates continue to jar the imagination. By the year 2000, urban populations in developing countries may reach two billion, about twice what they are now, surpassing populations in rural areas by the year 2010.

"Urbanization is shaping the very pattern of national growth, the settlement of vast populations and the social and political stability of significant numbers of countries." By the 1990s, trends indicate that more than half of the poorest of the poor in the developing world will be urban dwellers.

A steady consensus is building among donors that helping cities and towns to become more efficient and productive is essential for economic growth, says Pamela Hussey, former assistant director for Urban Programs and now deputy director for Southern Africa Regional Programs in Zimbabwe.

"Cities in less developed countries currently contribute over half of GNP; by the year 2000, they will account for over two-thirds of GNP," she says. "With 44% of the developing world expected to be city or town dwellers by 2000, the needs of the urban poor clearly are central to the status of national populations overall."

To cope with the rapid urban migration, PRE/HI has begun a series of activities to build an urban knowledge base, to define country-specific issues and to support specific technical assistance, training and capital-funded initiatives in urban areas.

The office also has been developing methods for analyzing urban issues. Principal among these are the Urban Development Assessments, studies undertaken by small teams with expertise in planning, economics, urban infrastructure, employment

generation and municipal finance. "The results of these studies have helped developing nations identify appropriate investments in urban areas," says Hussey.

Assessments have been completed in seven countries. In each case the work has been tailored to address the specific situation in the country and to lay the groundwork for future programs.

In Panama, for example, AID is supervising the design of a Municipal Strengthening project based on a

1985 urban development assessment that identified local government as a key element in enhancing democracy through local autonomy. The project will provide technical assistance, training and demonstration grants to support local government improvements in generating revenue and providing services.

At the request of Nepal's National Planning Commission, an urban development assessment undertaken in 1983 led to AID assistance in developing an urban component of Nepal's

Meeting Shelter Needs

Along with food and clothing, shelter is a basic human need. AID's Housing Guaranty Program has been helping to meet that need in the developing world since it was established 24 years ago.

"As a partnership between public and private resources, the Housing Guaranty Program is a unique success story," says Paul Vitale of AID's Office of Housing and Urban Programs in the Bureau for Private Enterprise. Through the program, private U.S. investors make long-term loans that are backed by U.S. government guaranties. The funds are used by developing countries for housing and urban upgrading activities.

Total congressional authority for the program is now over \$2 billion of which \$1.5 billion is under contract in 41 countries involving 146 projects.

As originally set forth in the Foreign Assistance Act of 1961, a \$10 million pilot program was designed in 1962 to encourage U.S. private builders to use advanced construction, marketing, financing and management techniques in demonstration

housing projects in Latin America.

Since that time, the program has expanded both its goals and geographic scope. "The Agency's initial mandate was to provide funding in the Latin American region for shelter loans and related services," Vitale says. "During the Alliance for Progress days, our efforts were primarily directed toward the shelter needs of the middle-income urban population. The private sector both in the United States and developing countries was important from the very beginning. In the 1960s, U.S. firms even built the housing projects in these countries."

However, the 1970s brought a dramatic change both in focus and technique with a new congressional mandate to make housing available to those who earned less than the median income. Congress also authorized expanding the program to Africa, Asia and the Near East.

"Besides supporting the indigenous finance and construction industries of the regions, our emphasis changed to stress affordable solutions for lower-

seventh five-year plan, initiating and supporting the Planning Commission's urbanization and shelter coordination committee and evaluating public housing projects.

The resulting national workshop on housing development and finance led to a shift in emphasis for the management and execution of such programs from the public to the private sector. In addition, assistance was provided in establishing a private land development company and, along with the International Finance

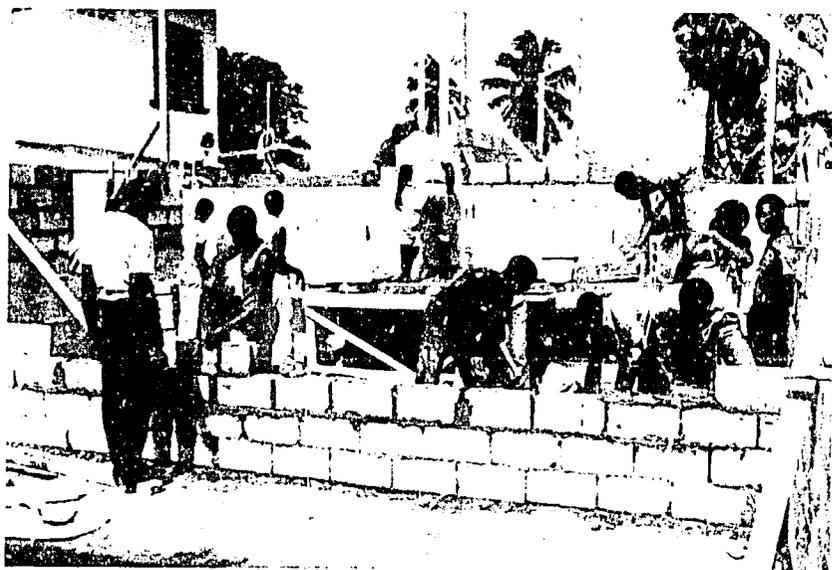
Corporation, forming a private housing finance company.

Recommendations for a clearly defined plan for future development of the Kathmandu Valley, one of the most agriculturally productive in Nepal, included placing more emphasis on the preservation of valuable arable lands and more efficient urbanization.

Because of these concerns, Nepal became the site of the first application of another of the office's tools—the Urban Land Analysis. The follow-

on study identified the pressures of urbanization on land use in the valley and recommended policies for channeling growth in the most effective ways possible.

Other analytical tools developed by PRE/H to support AID mission efforts include the Housing Needs Assessment microcomputer model (applied in 12 countries), the Housing Finance Strategy model that has been pilot-tested in Sri Lanka and Honduras and a Training Institution Assessment method that has been field-tested in



income people," Vitale says. "We no longer funded completed housing units but began to devise lower-cost shelter solutions such as the introduction of 'sites and services' projects."

Through such projects, a piece of undeveloped land is subdivided, concrete foundations are laid, and basic services such as water and electricity lines are supplied. Lower-income families are thus able to build on the site as their resources allow, a concept of "progressive housing" that is prevalent in the developing world.

Affordable solutions for hous-

Through AID's sites and services projects, lower-income families are able to build houses as their resources allow.

ing needs also include upgrading construction of homes using traditional materials. In a low-income neighborhood in Manta, Ecuador, for example, innovative bamboo construction techniques designed for increased ventilation and earthquake resistance greatly improved the simple traditional bamboo homes.

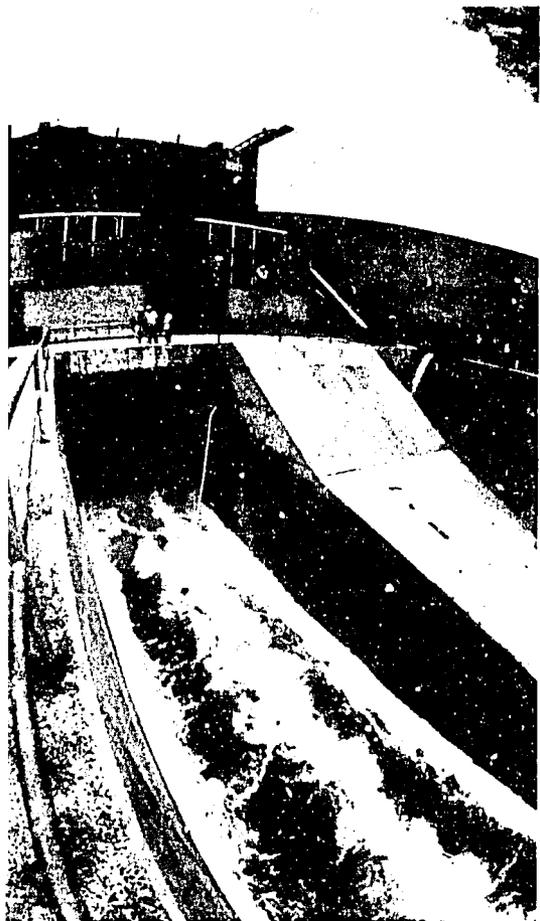
In recent years, the Housing Guaranty Program has become increasingly concerned with the broader institutional and struc-

tural issues involved in overcoming constraints to producing, selling and financing shelter.

AID policy now recognizes that the private sector, not government, provides the bulk of low-income housing in the developing world and is the most viable source for the future. "Consequently, we are attempting to influence government policies to deregulate and otherwise assist the efforts of the private sector in this area," says Vitale.

"We have supported training programs all over the world to assist countries in developing clearly articulated housing policies," he adds. At INCAE (the Central American Institute for Business Administration), for example, AID sponsors courses in urban and shelter policy aimed at examining all aspects of the issue to shape a more realistic housing policy.

Housing Guaranty projects have been a means to demonstrate new shelter approaches, develop essential supporting institutions, influence policy and resource allocation and encourage an increased role for the private sector in the finance and production of low-income shelter solutions. ■



Kenya and the Ivory Coast.

"The purpose of these tools has been to give missions a variety of 'handles' for examining urbanization within a country," Hussey explains. "A related purpose has been to provide missions with the basis for more informed strategic planning as well as investment programming for technical and/or capital assistance."

PRE/II also has provided support in more than 15 countries for urban finance and management studies and technical support activities that are aimed at key issues of decentralization. These include strengthening local development planning, upgrading municipal information systems, improving municipal tax record and collection systems, formulating local land sales and pricing policies and providing training to strengthen local financial management and urban administration skills. A Municipal Financial Analysis Handbook developed by the office has been used by



In both rural and urban development, the thrust today is in improving the overall policy and institutional framework conducive to development.

both AID missions and the World Bank as a training tool for local government officials. A municipal management assessment technique tested in Panama has been shown to make possible a quick analysis of a local government's ability to deliver basic services.

"Both urban and rural development cover a range of activities," says Kimm. "This office has used the umbrella of urban development to begin to define a program of assistance in several areas, including shelter, water and sanitation infrastructure, land, and urban and financial management. The twin themes driving these areas of concentration are privatization and decentralization," he emphasizes.

"With central governments so severely constrained with financial debt," he says, "it is clear that our push for decentralization is the only viable way to go. Local institutions, both public and private, will have to mobilize resources if development is to continue."

In both rural and urban development, the thrust today is in improving the overall policy and institutional framework conducive to development. "The Agency can show a strong need

for its current focus on private sector, policy dialogue, institutional development and technology transfer," says Chetwynd, "but we are still learning how to implement our objectives."

Similarly, the Agency is in the learning stage in its efforts to effect critical policy changes in developing countries. "For policy dialogue to succeed," he notes, "you must know what motivates policy makers, and it is not always what it appears. This requires an in-depth knowledge of a country's problems and institutions, which comes only from careful, applied research."

AID has made a major step in the right direction by focusing on broad institutions with major impact such as a nation's banking system and the private sector, he says.

Today, when much of the developing world is staggering under crushing debt burdens, the Agency also is entering a period of limited resources. With the understanding that the focus will have to be narrowed also comes the knowledge gained from past experience—the value of agricultural research to production, the importance of local participation in development programs, the transfer of technology that is appropriate to country needs, the potential of the private sector and local institutions to contribute to development and the necessity for policy reform to establish a framework that encourages development.

"After 25 years as a member of the development community, AID has emerged as a leader in the growing recognition that you cannot dichotomize rural from urban development or natural science from social science," Chetwynd emphasizes.

"Each phase of the development process is a learning experience," he says. "In the early days, we thought development meant gross national product. Now we know we are dealing with basic social change. Nothing is more complex." ■

Suzanne Chase is editor of Front Lines, AID's employee newspaper.

CHARTING THE COURSE AHEAD

For this special issue commemorating the 25th anniversary of the Agency for International Development (AID), *Horizons* invited noted U.S. and foreign government leaders, scholars, legislators and practitioners in development to share their views about the accomplishments, effectiveness and future role of the U.S. foreign economic assistance program.

While all agree significant contributions to Third World development have been made in the last quarter century, other common threads woven throughout these articles form a tapestry of development challenges still facing policy-makers today.

His Excellency Abdou Diouf, president of Senegal, discusses the evolution of AID's relationship with his nation and offers possible courses of action for future collaboration; Ernest Stern takes a close look at major development challenges from the perspective of the World Bank where he serves as senior vice president for operations; John P. Lewis, professor of economics and international affairs and director of the research program for development studies at the Woodrow Wilson School, Princeton University, assesses the effectiveness of aid in promoting Third World development; and, from a scientific vantage point, M.S. Swaminathan, director of the International Rice Research Institute, discusses the vital role agricultural research has played in increasing food production in the developing world. Many other noted individuals also contributed their views on the priorities for economic assistance in the next 25 years.

INTERNATIONAL COOPERATION HELPS BUILD NATIONS

By His Excellency Abdou Diouf



The President of the Republic of Senegal discusses the effective use of development aid and recommends a course of action for the future.

The Agency for International Development (AID) came to life at the same time that most of the African states, notably those of the Sahel and West African region, awakened to the issue of international cooperation by attaining international sovereignty. This simultaneous "birth" served to synchronize the needs and the requests of these nations—which were seeking to develop themselves—with the means made available to them by others. Indeed, AID was the instrument for putting into action the U.S. government's political determination to establish effective cooperation with these very countries.

With respect to the depth, adequacy and scope of the coverage of cooperation between Senegal and the United States, these 25 years of sustained relations certainly confirm the success of the mission with which the Agency was charged. Thus, turning back the pages of history, it is an easy matter to uncover, through centers of interest and themes of cooperation shared with AID, the priorities at precise moments in the development of our nation. In



"The donor community still has a long way to go to translate the rhetoric about encouraging the private sector in less developed countries into effective programs. In the least developed countries, and particularly in Africa, ways have to be found to stimulate the growth of a class of rural intermediaries—progressive farmers, truckers, traders, artisans—without which sustained rural development will be unlikely."

—Elliot Berg

Berg is president of Elliot Berg Associates and chief author of the 1981 World Bank Report, *Accelerated Development in Sub-Saharan Africa*.

this fashion, it also is possible to note the growth and maturation of the Agency.

Indeed, in the case of Senegal, we can distinguish three major periods of concentration in AID activities that illustrate how the Agency has concerned itself with tying its operations to the preoccupations of the countries receiving assistance.

During the first decade, AID assisted Senegal in the areas of training, agriculture and livestock. The Agency helped with the construction of schools to train as many Senegalese as possible to meet the needs of economic and social development. During the same period, AID also contributed to the development of water resources for agricultural purposes while taking an active role in livestock programs to improve Senegalese stock.

The decade of the 1970s followed, marked by drought among other calamities. In addition to providing assistance to the programs of the Inter-State Committee for Drought Control in the Sahel (CILSS) and the Senegal River Development Organization (OMVS), AID developed extensive programs in village health in Senegal while constructing and outfitting water points and working to improve cereal production and the livestock sector.

Senegal was especially attentive and sensitive to the fact that AID provided a major amount of food assistance and participated in establishing a program of food self-sufficiency during the severe drought of the 1970s. This important effort was pursued throughout the ensuing decade.

Faced with serious imbalances stemming from a combination of unfavorable internal factors and a worldwide crisis, in 1979-80 Senegal started adopting stringent economic recovery measures and instituting policies of structural adjustment.

“The primary precondition for U.S. economic assistance to be effective is that it coincide with the policy goals and prescriptions of the recipient country. If U.S. assistance policies are different from the host country’s policies or are forced reluctantly on the host country, it is unlikely our aid programs will be effective, and the aid would be better expended in another country.”

“The corollary to this lesson is that development requires a tremendous commitment on the part of the recipient country, which is the party principally responsible for any success; all the United States can do is support the indigenous effort.”

“We also have learned something that we in the Congress too often forget—that development is a long, tedious, slow process, and we must recognize that it is necessarily frustrating to our American instinct for instant results.”



Rep. Fascell (D Fla.) is chairman of the House Foreign Affairs Committee.

—Rep. Dante B. Fascell



Sen. Inouye (D-Hawaii)
Chairman, Senate
Appropriations Sub-
committee on Foreign
Operations

"We must re-establish the priority of development assistance. I have always believed that we must attend to the needs of the poor, both for humanitarian reasons and because development assistance is to be regarded as the primary tool in the avoidance of conflict. There may be times when military assistance is appropriate, but I do not believe that it should be provided at the expense of development assistance programs.

"Most unfortunately, short-term security considerations all too often give rise to a mistaken belief that military assistance is the only answer. In truth, conflict can often best be avoided by responding to the real needs of the 'have-nots' of the world—needs, which if left unmet, can lead to social and political revolution. So, I would say that AID's first priority and that of all AID employees and supporters must be to rededicate ourselves to the search for economic and social development in the interest of peace."

—Sen. Daniel K. Inouye

The United States took into account the economic and financial crisis confronting Senegal and accordingly supported the structural reforms undertaken by the government by providing assistance through the Economic Support Fund and the P.L. 480 Title I programs.

Thus, AID activities appear to be well-adapted to the needs of the recipient country as these needs arise over time. By respecting the priorities defined by the recipient states themselves, AID is able to conduct highly effective activities.

Twenty-five years isn't much in the life of men and nations; nonetheless, it is ample time to be indicative of a certain political will favoring cooperation among states. Yet, more is needed to create, fortify and "complete" the construction of a tool of cooperation, particularly at the present time. Even though throughout history international cooperation has been a network of relations, a series of actions and interactions, the network linking North and South has never been so complex, and the actions and interactions have never been so blurred.

But the question of aid for development has assumed a new dimension. The recommended portion of national production to be earmarked for assisting development has not been met; the so-called developing countries have grown aware of and regularly cite their economic rights; the donor countries place more and more conditions on their participation.

I would like to point out a few possible courses of action.

At present, most African countries have programs with the International Monetary Fund and medium- and long-term adjustment programs with the World Bank while they maintain bilateral relations. For these countries, this situation poses two problems resulting in a contradiction that is difficult to overcome. First of all, these countries set in place structural

reforms, the long-term fate of which is very often compromised by the imposition of particular conditions. And yet, the latter must be satisfied at the same time that the former must be achieved. A problem also resides in the conflict between conditions imposed by partners. I believe that AID could no doubt use its influence to reverse this situation so that the objectives and the particular mean for achieving them would cease being confused.

A second concern relates to the debt that greatly preoccupies us and that the Senegal government is fully committed to paying back. All we ask for is some relief. For this purpose, AID was anticipating the establishment of a special fund to provide assistance for the poorest countries. The creation of such a fund, which would not be subject to conditions that are difficult to fulfill, could certainly provide the breath of fresh air that our countries so greatly need.

AID is celebrating its 25th anniversary at a time when many countries are organizing roundtables and task forces of financial backers. The United Nations also has organized a special session on the critical situation in Africa. I am convinced that AID will understand its historic responsibility to strive, before it is too late, for the blossoming of people who are scattered about our planetary space but who possess a common, clear awareness of their situation as well as a will to hold their destiny in their own hands.

This is my firm wish.

Only then, having contributed to the victory of the forces of life over the forces of death, will the Agency have reached its ultimate goal, undoubtedly because it will have returned to its starting point — Man. ■

His Excellency Abdou Diouf is President of the Republic of Senegal. President Diouf also has served as chairman of the Organization of African Unity (1985-86).

"A quarter-century of experience in development assistance cautions us against pronouncing global development priorities. Only in a country's own processes of policy making and public administration can the many worthy goals contending for support earn effective priority.

"Nonetheless, this rich experience also has yielded recurrent lessons that merit more systematic consideration and adaptation in national development programming. Three broad principles are likely to be relevant whether a nation's strategic imperative is to reverse a long-term economic decline, as in much of sub-Saharan Africa, or to extend development to large pockets of poverty bypassed by strong average economic growth rates, as in much of Asia.

"They are:

- *Poverty can be overcome on a sustainable basis only by accelerating and extending the growth of productive employment, and governments can best promote this objective by freeing and stimulating the creative energies of small farmers, private businessmen, savers and investors.*
- *The keystone of wealth-creation in most developing countries is rising agricultural productivity, and this boon can be more widely realized through the adoption of coherent national programs combining policy measures, research, extension and institutional reform.*
- *Not only agricultural service institutions, but also the systems for delivering basic educational and health services must be made radically more efficient and dedicated to serving national development."*



Poats is coordinator for the World Bank's work in establishing the Multilateral Investment Guarantee Agency. He served as chairman of the Development Assistance Committee of the Organization for Economic Cooperation and Development (1982-85). Poats also was acting president of the Overseas Private Investment Corporation (1977-78) and deputy administrator of AID (1967-70).

—Rutherford M. Poats

MAJOR DEVELOPMENT CHALLENGES IN THE COMING YEARS



By Ernest Stern

The World Bank's senior vice president for operations discusses long-term solutions to developing country problems.

The development challenge for both developing countries and the donor community has been, and continues to be, to establish the conditions necessary to permit more rapid but sustainable economic growth in these countries to better

the lives and improve the prospects for their people. This is a highly differentiated task that challenges the intellectual, technical, managerial and financial resources of all participants.

Middle-Income Countries: Do Current Policies Threaten Growth?
Among the middle-income countries, several such as South Korea, Botswana, Colombia and Malaysia are well on the way to reaching sustainable growth rates as a result of prudent economic management and appropriate development assistance. The challenge they now face is to maintain economic policies that will permit investors and consumers to respond efficiently to changing internal and external conditions.

Clearly, external conditions—especially access to international trade regimes, the future of key commodity prices including oil and the cost and availability of external capital—will play a major role in their future development.

However, for most middle-income countries, the challenge is to resume growth and create a policy framework that will ensure future growth in a stable environment.

Internally, these economies have been characterized by inefficient public and private production behind high protective barriers, inappropriate public investments, pricing distortions that often discriminate

against the exporting sectors and the poor, and overextended and poorly managed financial sectors.

Externally, wide fluctuations in key commodity prices, high real interest rates, growing protectionist pressures and declining or negative capital flows have contributed significantly to the economic problems of middle-income countries. External borrowing has grown disproportionately to the debt-servicing capacity of these economies. As a result, debts are now at unsustainable levels relative to current export earnings and growth rates. Expansion of export capacity is essential to establish sustainable debt-servicing burdens in these countries.

Industrialized countries must assist by maintaining an open trading regime, which will enable these countries to expand their sales of traditional and new products.

Sustained growth of exports, however, is possible only in expanding and modernizing economies. This requires that key policy distortions be addressed. Without such changes, per capita consumption, which has declined in too many middle-income countries in recent years, is unlikely to recover quickly or to grow vigorously. Without such growth, these countries will be unable to achieve either social or economic objectives.

These policy reforms must be supported with new external capital essential to restructure existing

"The Agency for International Development must look to the future rather than to the past. When nations respond to the need to grant freedom to their economies and liberty to their people, we should be willing to encourage the process with our assistance. We should not penalize current governments for the errors of their predecessors or let old policies obstruct action after they have been changed or abandoned.

"The common enemies contribute to be poverty, ignorance and disease. We may not be able to obliterate them, but we can mitigate their impact, and it is in our interest to do so. Political instability and violence usually spawn in empty stomachs and on cold hearths."

—Sen. Charles McC. Mathias Jr.



Former Senator Mathias (R. Md.) was chairman of the Committee on Rules and Administration and served on the Foreign Relations, Judiciary and Governmental Affairs committees. He also was chairman of the Foreign Relations Subcommittee on International Economic Policy.



Mellor is the director of the International Food Policy Research Institute. He served as chief economist at MD (1976-77) and as professor of economics, agricultural economics and Asian studies at Cornell University (1973-77).

"What could be more fitting than to look back over 25 years of development and foreign assistance to Asia and then to look ahead 25 years in Africa? The job in Asia is, of course, far from complete. But when we were less than a decade down the path of laying the groundwork for the 'Green Revolution' in Asia and the concern was famine and hunger, it was Africa that had the land to produce food, not Asia! Now it is Africa that looks so hopeless.

"But 25 years is the right time frame for building the institutions of higher education, the research systems and the vast panoply of hard and soft infrastructure that are so necessary if

Africa's rural societies are to develop and prosper.

"Let us learn, however, from the remaining Asian weaknesses. We can obtain broader participation of rural regions from the start. And, let us be more certain that increased effective demand for food will accompany increased food supplies. That requires more attention to use of market forces to drive industrial and service growth, particularly in the small- and medium-scale rural sectors. It also requires large expenditures on rural infrastructure such as roads. With such attention, we can expand employment more rapidly and be more certain that added food will move into the hands and mouths of the poor and hungry, building strong people and strong societies.

"It is a grand prospect to drive famine and hunger from Africa over the next 25 years."

—John W. Mellor

investments and to permit the growth of private investments.

Low-Income Countries Require Sustained Support to Address Long-Term Problems

Policy changes also are necessary for the low-income countries of Asia, Africa and Latin America. These countries face different problems in trying to establish long-term growth, but policy distortions in their economies are similar to those in the middle-income countries.

It is encouraging that policy changes are well under way in many of these countries. But these reforms, even when combined with commercial capital flows, cannot induce the rates of growth needed to overcome the long-term problems of rapidly growing populations, fragile institutions, underdeveloped infrastructure and educational institutions and generally poor natural resource endowments.

These long-term problems can only be resolved over time. Coordinated and sustained concessional financing and technical and institutional support are essential if low-income countries are to strengthen their health and education sectors, design and implement effective population planning programs, develop appropriate institutions and invest in the research and infrastructure necessary to develop and protect their soil, forests, water and mineral resources.

After 25 Years, Much Has Been Learned

In the 1970s, development aid emphasized the volume of external assistance rather than its form, timeliness and content or the policy environment in which this assistance was provided. Today, it is widely accepted that developing countries

must elaborate their national priorities in the context of a coherent economic development strategy supported by a realistic financing plan. This is not a new concept, but its content is different today because of lessons learned in the last 25 years.

One thing we have learned is that a plan is merely a piece of paper unless it is anchored in a realistic and sustainable financing strategy and policies that, in the context of the individual society, provide incentives to use resources efficiently, to innovate and to respond flexibly to changing circumstances.

In addition, we know how large the gap can be between intention and action. We recognize more clearly the importance of implementation issues, which range from the need for political consensus for policy change to the administrative capacity to manage projects.

The development assistance community also is more conscious of the cost of delay in a rapidly changing world and of the interrelationship of policy actions. A poor policy environment precludes sound projects just as surely as sound policies require effective implementation and complementary sound investments.

And, development professionals recognize today more clearly that external capital, whether commercial or concessional, regardless of the amount available, cannot compensate in the medium term for domestic policies that discourage savings, entrepreneurial activity and efficiency.

What Role Should External Assistance Play?

External assistance is not only financial. The development assistance community also should help decision makers in developing countries

"Our mission today is to help develop the natural and human resources of emerging nations, and I don't see that central priority changing over the next 25 years.

"But perhaps the question should be turned around: What are the 25 priorities that I see for the next year? There are so many immediate challenges that face us. For example, we want to help bring half the world's untapped human resources—women—into the mainstream of the development effort. We are seeking to improve our coordinating responsibilities at the field-level so that major donors such as the United States have an effective, on-the-scene partner to work with.

"We are working to strengthen the managerial capacity of UNDP so that its mission can be carried out more effectively and efficiently.

"We are strengthening UNDP's leading role in helping the countries of Africa south of the Sahara restructure their vulnerable economies and make the transition from crisis to recovery. We are acting—I am happy to note in collaboration with AID—to help the so-called front-line states of southern Africa meet the trials to their development that may lie ahead, especially in the crucial area of transport.

"UNDP intends, even more in the future than in the past, to be at the center of the development struggle. In this effort, I count on ever closer collaboration and mutual support from our colleagues in AID."



Draper is the administrator of the U.N. Development Program. He also served as president and chairman of the board of the Export-Import Bank (1981-86).

—William H. Draper III

understand and evaluate policy options and make appropriate investment decisions by providing objective, professional analysis. Substantial external technical assistance may be provided, but the end product must have not only the commitment of national decision makers, but must also be the product of the national decision-making process.

Once national priorities are established and reflected in policies and a public investment program, external donors must support these priorities

and avoid actions that would undermine the often politically delicate and difficult process of policy change and priority setting.

The costs of donor-inspired investments that are inconsistent with national priorities or management capacity are clear, as is the cost of uncoordinated technical support to agricultural research, education or health programs. Yet, the donor community still finds it difficult subordinating its preferences to the recipient country's national priorities. This problem is particularly acute at present, when major programs of economic change, in a very constrained resource environment, require financing for rehabilitation and maintenance and for balance-of-payments support.

Similarly, while developing countries are urged to prepare realistic development plans in terms of available domestic and external resources, only a few donors have overcome administrative constraints to providing firm aid commitments on which recipients can base their national planning efforts. A great deal more progress in this area is essential if the development community is to support effectively realistic development strategies based on clearly defined national objectives of developing countries.

Finally, the relative role of external assistance in the political dynamics of development is not, as yet, always appreciated. External assistance—while essential—is not without its limitations. First, it is not, and cannot be, a substitute for domestic policies or decision making. It cannot force action; it can only support national governments in their quests to provide their people opportunities for more productive lives.

On balance, it is fair to say that developing countries generally have understood the lessons of the past more clearly than the donor commu-

"The present and future resource gap (in Indonesia) will have to be met by special efforts to increase non-oil exports, especially new and non-conventional exports, and to mobilize domestic sources of development funds through such means as taxation and banking.

"Supporting these efforts must be the drive to make the whole economy more productive and efficient. Institutional reforms, particularly within the public sector, need to be intensified to eliminate causes of the 'high-cost economy.' The allocation of economic resources needs to be made more efficient by making the economy more competitive and improving the workings of the market mechanism. The productivity of human resources must be raised. The employment issue can only be solved within the framework of an adequate level of economic growth. The development of coordinated policies directly addressing the problem of creating jobs is imperative."

—Saadilah Mursjid



Saadilah is secretary to Indonesia's minister of National Development Planning, deputy chairman of the National Development Planning Agency and director of the National Overseas Training Office. He has served as secretary to the deputy chairman of the National Development Planning Agency. Saadilah received a master's degree in public administration from Harvard University through the sponsorship of AID.

nity. Their efforts at structural change and policy reform are often more far-reaching than the domestic adjustment effort in many industrialized countries, the progress in maintaining a liberal international trading regime or the reforms in aid policies and procedures necessary to support developing country efforts effectively.

Renewing the Commitment

The old, familiar saying that development objectives take time to achieve is true. Although progress is difficult to measure and achievements subject to reversal because of climatic, political, economic or other events, the progress over the last 25 years is undeniable. The difficult situation many middle- and low-income countries find themselves in today does not gainsay this progress.

The scope of social and economic change that the developing countries have engineered is awesome. It would be foolish indeed to believe that such a global effort at modernization and the alleviation of poverty, involving three-quarters of the world's population, would proceed smoothly, without interruption, disappointment or setbacks.

The past 25 years have seen much progress in the developing countries. These nations and the donor community have learned much that will contribute to future progress. The problems of today will be resolved only to be replaced by different and more complicated problems in the future. But the development assistance community knows now, as we knew 25 years ago, that the establishment of the institutional, social and cultural foundations of modern economies requires a long-term human and financial commitment by the developing countries and the rest of the world community.

On AID's 25th anniversary, it is appropriate to recognize the progress achieved, to take satisfaction in the

Agency's contribution to the global development effort and to renew the commitment to helping complete the long-term effort. ■

Ernest Stern is senior vice president for operations at the World Bank, where he has held a variety of positions since 1972. From 1959-71, Stern worked at the U.S. Agency for International Development and served as assistant administrator for the Bureau for Program and Policy Coordination from 1969-71.

"The post-World War II era has been the first in human history in which it has been possible to think seriously in terms of bringing the basics of health and nutrition to all humanity. Achievement of this goal is largely dependent upon empowering the poor majority with the knowledge to better help themselves, and this access to knowledge, in turn, is dependent on social organization. The new capacity for social mobilization involving all sectors of society to communicate with those who most need to know underlies the success of the Child Survival Revolution. It is the key to future success on many other fronts as well, including the development of women, the role of small farmers and literacy."

— *ames P. Grant*



Grant is the executive director of the U.N. Children's Fund (UNICEF). He served as president and chief executive officer of the Overseas Development Council (1969-80), assistant administrator of AID (1967-69) and AID mission director in Turkey (1964-67), deputy assistant secretary of State for Near East and South Asian Affairs (1962-64) and deputy director of the International Cooperation Administration (AID's predecessor) (1959-62).

ACCELERATING AGRICULTURAL PROGRESS



By M. S. Swaminathan

The director-general of the International Rice Research Institute discusses the role science and technology can play in generating increased food supplies and higher incomes

In 1961 when the Agency for International Development (AID) was established, the global food situation was gloomy. Prophets of doom were many. Some experts even predicted that by 1974 large parts of Asia would be experiencing unprecedented famine.

They advocated introduction of the triage analysis principle to establish priorities for external assistance aimed at improving domestic food production in developing countries. In this analysis, countries such as India and Bangladesh were considered by some experts to be nations that would never be able to achieve national food self-reliance.

Within this context, the Rockefeller and Ford foundations collaborated in 1960 with the government of the Philippines to establish the International Rice Research Institute (IRRI) at the University of the Philippines at Los Banos. The initial emphasis of IRRI was to develop genetic strains that could help improve rice yields quickly using available water and nutrient resources. During the late 1960s, rice production started to increase, and



Siason is director general of the U.N. Industrial Development Organization.

"By designing mutually supportive technical assistance programs, the U.N. Industrial Development Organization (UNIDO) and the Agency for International Development will be able to increase the developmental impact and effectiveness of their otherwise limited resources in areas of particular importance to developing countries such as development of small- and medium-scale industry and the private sector."

—Domingo Siason

most Asian countries were able to keep food production increases ahead of their population growth rates.

In 1971, the Consultative Group on International Agricultural Research (CGIAR) became the umbrella organization to support research centers such as IRRI. Today, there are 13 international agricultural research centers (IARCs) in various parts of the world. AID provides about 25% of CGIAR's budget.

International agricultural research has played a catalytic role in promoting global and national food security. A study of the impact of this research, conducted by an independent panel of experts during 1984-85, indicated that the work of just two of the centers, IRRI in rice and CIMMYT (Centro Internacional de Mejoramiento de Maiz y Trigo) in wheat, has resulted in an increase in food grain production of at least 50 million tons each year.

AID not only has helped support the core budget of research centers such as IRRI, but also has assisted in initiating special projects in developing countries to accelerate agricultural progress.

Agricultural Research Plays A Vital Role In Achieving Food Security

While a number of rice-growing countries in Latin America and Asia experienced tremendous gains in production as a result of this assistance, Indonesia provides a particularly good example.

In the early 1970s, the country was chronically deficient in rice and was projected to be one of the world's largest rice importers by the 1980s. By 1985, however, Indonesia was not only self-reliant in rice production, but able to donate 100,000 tons of rice to famine-stricken countries in Africa. Indonesia's annual production of rice increased from about 13 million metric tons in 1970 to 26 million metric

"The challenge for aid agencies will be to keep up with a rapidly changing situation. Donors need to continue to perfect techniques, to rethink options and to recraft policies to reflect new realities and to take advantage of new opportunities.

"On one hand, donors need to help in the search for low-cost ways of dealing with burgeoning numbers. At the same time, they should look for new applications for technology. It is necessary to engage in a constant process of experience update. The lag between new knowledge and methods and their application in the developing world needs to be shortened.

"Also, in the future, donor countries will need to take into account the impact of their overall economic policies on other nations. It frequently is stated that a good developing country policy is worth large amounts of money. But perhaps more frequently than in the past, we need to focus on our own policies and consider what it means to a developing country to be cut out of a market by a subsidy or restriction. Aid agencies need to get into the debate on donor country policy issues that affect development."



Wheeler is chairman of the Development Assistance Committee of the Organization for Economic Cooperation and Development. He also served as deputy administrator of AID (1980-82).

—Joseph C. Wheeler



Mancebo is the assistant minister of the technical minister of the Presidency of the Dominican Republic. She also served as program manager for the Peace Corps and as coordinator for an AID-funded Women in Development program. Mancebo was graduated from Cornell University through the sponsorship of AID.

making require a clear idea of goals and efficiency in the use of the instruments of development. The Dominican Republic has had a well-planned, AID-supported program helping professionals attain excellent professional and academic bases."

"This is the time to reinforce and support the bases of the democratic system. It is necessary to optimize the economic and human resources we have by clearly setting priorities concerning the goals we want to achieve as a nation. The capacity to work should be a concern of all Dominican institutions, and this should be actively integrated in dynamic development programs.

"In the Dominican Republic, as in other nations, the key is 'work' and the capacity to design a program that covers basic human needs and activates areas concerning the private sector and investment

"I see social and economic development as a responsibility of all citizens. Professionals involved in decision

— Sandra Mancebo

tons in 1985. From an average of 2.36 metric tons per hectare in 1970, yields rose to 3.87 metric tons per hectare in 1984.

What were the major ingredients in this growth? The first important component was a technological package adapted to local agro-ecological conditions. With assistance from AID, IRRI and Indonesia's Agency for Agricultural Research and Development (AARD) entered into a collaborative research agreement. Beneficial results of the research included:

- Accelerated breeding of high-yielding varieties (a variety such as IR36 became extremely popular in Indonesia because of its high-yield potential and pest resistance);
- Development of human resources (increased training provided a large number of Indonesian rice scientists); and,
- Establishment of the necessary research infrastructure and on-farm testing procedures.

Agriculture is a location-specific vocation. It is difficult to initiate and sustain a dynamic agricultural production technology improvement program without a dynamic national research system. IRRI's help in training a large number of Indonesian rice scientists was crucial.

Technology alone cannot increase production. To derive full benefit from technology, the government of Indonesia introduced a package of services and well-designed technology transfer programs. These included a program to organize farmers into groups. This kind of group farming, called "special intensification," helped increase the efficiency of small-farm management.

Government pricing policies made inputs such as fertilizer available at reasonable prices. At the same time, a remunerative marketing policy provided the motivation Indonesian farmers needed to adopt the new technology.

Access to U.S. Experts and Facilities Helps Solve Problems of Agriculture

Another aspect of AID's contribution has been in providing developing countries access to the enormous scientific capability of U.S. agricultural universities and related institutions. Through these linkages, facilities and expertise have been tapped to solve some of the complex research problems in agriculture.

Science and technology provide the basic tools for converting the natural endowments of a country into economic growth that will defeat widespread poverty. By its commitment to support agricultural research at the international, regional and country levels, AID has laid the foundation for achieving sustainable increases in food production.

Today, the prophets of doom who had a dominant voice 25 years ago are relatively quiet. The farmers of developing nations have shown that they can and will adopt new technology readily and enthusiastically, provided the technology will lead to improvements in the quality of their lives.

The challenge now is not just the production of more food, but the generation of employment opportunities and higher incomes in rural areas. This aspect of development deserves greater attention in the coming years.

Fortunately, science and technology continue to open new vistas in agricultural and industrial production.

International agricultural research centers such as IRRI can continue to play a key role, serving as bridges between technologically advanced laboratories and evolving national research systems. With support from AID and other agencies, they can be expected to continue to discharge this responsibility effectively. ■

M.S. Swaminathan is the director-general of the International Rice Research Institute at Los Banos, the Philippines.

"The most urgent development task ahead is the partnership with Africa for that continent's economic recovery and a food-secure future. This is both an African and world priority that requires improved use of scarce resources, more innovative aid and better management.

"African farmers—men and women—are the backbone of this development strategy. They will respond if they have the means and incentives to do so. That will require a further redirection of African priorities and the support of the international community for increased aid—at least until African earnings from trade improve.

"This commitment by both African governments and their aid partners must be met—for it is not possible to conceive that Africa's priority responses to meet essential food needs would not be supported by international commitments as well."



Williams is the secretary-general of the Society for International Development. He has served as executive director of the U.N. World Food Council (1978-86), chairman of the Development Assistance Committee of the Organization for Economic Cooperation and Development (1974-78) and deputy administrator of AID (1970-74).

—Maurice J. Williams

IS FOREIGN AID EFFECTIVE?



By John P. Lewis

The director of the Research Program in Development Studies at the Woodrow Wilson School of Princeton University assesses the U.S. foreign aid program.

So-called conventional wisdom often expresses a litany of woes about foreign aid. It is ironic that such doom and gloom wisdom comes at a time of unparalleled opportunity. What is needed today is a much more positive public view of development assistance and its prospects and possibilities.

My optimism stems, in part, from the fact that foreign aid generally works. If one looks across the whole panorama of foreign assistance, it is clear that despite the inherent difficulties and often conflicting objectives involved, aid has been done with considerable success. A stronger body of evidence than ever before now supports this view. Of course, there will never be scientifically accurate proof of success. What exists, however, is a concerted focus on the issue of effectiveness.

This is good news because foreign aid has always been nothing less than an uphill slog. It is an inherently awkward and sensitive business to reach out from one sovereign state to another and attempt to do good.

Foreign aid also is a somewhat unnatural business. Nowhere in political theory is it written that one



Ranis is the Frank Altschul Professor of International Economics at Yale University. He served as the assistant administrator of the Bureau for Program and Policy Coordination of AID from 1965-67.

"My candidate for priority area of the future is the abolition of priority areas. The simple facts are that successful development is of one cloth and that priorities depend on the individual country's situation and on what that country has accomplished or neglected. The time has come for donors to let that initial determination be made by increasingly capable developing country officials, with donor focus on enhancing the capacity of the policy and decision-making process and on supporting satisfactory results. This calls for the willingness to be quite passive some years and to balloon assistance in others and, hopefully, the capacity to make multiyear commitments."

—Gustav Ranis

nation state ought to help another. For the United States, it is just the opposite. Democratic political theory holds that governments are the servants of the public and that it is their business to look after their own constituents and not third parties. As a result, since World War II, aid has developed under a cloud of confusion. There always has been a certain suspicion on the part of the donor public that their resources are not being appropriately employed. Recipients also have been suspicious of the motives of the donors.

Although the results of foreign aid have often not matched the expectations, it has done well overall in promoting Third World development. During the past 30 years, most developing economies have grown more rapidly than any other comparable group of countries in the world's history.

There have been many aid successes contributing to this record. The "Green Revolution" in South Asia that significantly fueled food production is the best known. There are water management successes in agriculture and achievements in education. In terms of economic growth of specific nations, the most familiar example of success is Taiwan. A connection also is made between the emergency aid given to South Korea during and after the war and the later Korean economic miracle. There are also relative successes in Africa—a region that gives the greatest cause for concern. Kenya, Botswana and Malawi are examples.

It has been argued that aid donors have been more successful in promot-

ing growth than in solving poverty. However, poverty reduction is a more complex undertaking in a policy sense, and there are some quite good stories to tell there as well.

My optimism about foreign aid is grounded in the fact that we learn from our experience. We now know how to do development assistance more effectively. We have built up an international body of veteran specialists and technicians in the field. We are beginning an era of policy-based

lending. There is good reason for this at a time of scarce resources. It makes little sense to assist sectors of an economy where we are convinced that domestic policies are going to dominate outcomes in a perverse way.

A number of developing nations now agree that it is appropriate for donors to look into policy issues and to discuss them. We also have learned to apply our resources to strengthen local systems rather than substitute for them. We have realized the bene-

"The development task for the next generation is essentially dual:

- to create an environment in the world economy that will permit the more advanced developing countries (in what I call the drive to technological maturity) to move forward with high momentum, absorbing along the way the new technologies; and,*
- to work patiently with the countries not yet in take-off, many of which are hard cases for historical or resource reasons such as sub-Saharan African countries, Bangladesh, Bolivia, Burma and Haiti.*

"Both tasks would be best conducted on a regional basis. The regional development banks could provide natural centers for these enterprises, with the World Bank active in all."



Rostow is professor of economics and history at the University of Texas at Austin. He is the author of many books and articles including *The Stages of Economic Growth* (Cambridge [Eng.] University Press, 1960).

—W.W. Rostow



York is chancellor emeritus, State University System of Florida. He was a member of the Board for International Food and Agricultural Development for six years and its chairman from 1983-86.

“Some of the greatest progress in overcoming the problems of hunger and malnutrition in the developing world over the last 25 years has resulted from efforts to build or strengthen agricultural research and educational institutions. These institutions have developed the trained personnel and the improved technology that have greatly enhanced food production in many countries.

“The future will require an even greater emphasis on such institution-building efforts, especially in Africa and other less developed regions. As numbers of people continue to expand, the amount of arable land per capita will continue to shrink. Meeting the

food needs of a growing global population will require more and better trained agricultural technicians and professionals and the development and application of constantly improving agricultural production and marketing technology. Future U.S. development strategies should give highest priority to assisting in the development of indigenous, Third World institutions, which can help meet these requirements.”

—E. T. York Jr.

fit of training in the development process, and to some extent we are coordinating better as donors.

There is great room for improvement, however, particularly for the United States. The United States invented development assistance and organized the Development Assistance Committee (DAC) to spread the burden. Back in those days, the United States had a fairly high ratio of official development assistance (ODA) to the gross national product (GNP). The United States is now at the very bottom of the ladder with the lowest ratio of ODA to GNP of all DAC members.

Further, some would argue that U.S. ODA allocations are influenced by political or geopolitical concerns deviating from “strict” developmental support. This belief is applied principally to the Economic Support Fund (ESF). The United States is not the only donor whose aid allocations are influenced by political considerations, but in relative terms, such considerations have the appearance of being greater in the United States because it is still the largest donor.

This influence of national interests on U.S. economic assistance programs is driven by a foreign policy agenda that takes into account East-West relations as well as security and U.S. commercial interests.

In DAC, there is still great respect for the technocratic, professional quality of the U.S. foreign aid program. The United States is still very much a leader in the substance of development. At the same time, the other donors as a group are prepared to be more forthcoming. But they also are very mindful of burden-sharing. This means that they have the propensity and the political will to do more, but they hang back if the United States is unwilling or perceived to be unwilling to participate in certain development activities. In short, the United States can buy with inputs—particularly in the multi-lateral institutions such as the Inter-

national Development Association (IDA)—a multiple bang for a buck for the contributions made.

How is U.S. development assistance going to fare under Gramm-Rudman-Hollings? I believe there is a capacity within the federal budget to make relatively dramatic moves in development assistance funding without any real disturbance in the overall budget numbers. This is simply because the foreign aid budget is very small—for example, it would be easily lost in the defense budget. It is also because in Congress, foreign aid is a second- or third-rate issue politically. Because it is not a big issue in constituency politics, foreign aid must be moved by the Executive Branch, which has to be prepared to pay for it in political terms.

The problem with Gramm-Rudman is that it represents a state of mind. We are deeply preoccupied with the federal deficit. But there still may be political will in the United States for reallocation within the ODA total toward the neediest countries. In my view, adequate replenishment of IDA is the single most critical aid need. In this time of fiscal restraint, special drawing rights and their potential for development potential need to be re-examined as a means for augmenting IDA.

AID professionals should not be faced down by Gramm-Rudman. I urge them—and, indeed, their colleagues in the State Department—to pump up their tires, push ahead and not take “no” for an answer.

Foreign aid is a vital tool of U.S. foreign policy. Experience teaches that over the course of U.S. diplomatic history there are few policy instruments that have a better record of achievement than foreign aid. ■

John P. Lewis is a professor of Economics and International Affairs and director of the Research Program in Development Studies at the Woodrow Wilson School, Princeton University.

“Sub-Saharan Africa will remain the international donor community’s major challenge through the end of the century. No part of the Third World faces anywhere near the dire prospects of Africa. One in every four human beings in the region—100 million people—suffers from malnutrition. A diminishing capacity to cope with mounting environmental crises and staggering high population growth rates are part of a situation that points to sustained poverty and recurrent crises. If this dreadful pattern is not broken, we will be called on repeatedly to provide emergency food and economic aid.

“The period ahead is an ‘open moment’ for U.S.-African cooperation on long-term development efforts. The shocks of the recent past have led Africans to be much more receptive to wiser economic policies, and a great deal already has been undertaken. However, if these reforms are to be effectively implemented and sustained, African governments will require greater technical and financial assistance.

“It will be nothing less than a tragedy if the United States does not seize this opportunity to cement a lasting relationship with a region of long-run importance to this country’s overall interests.”



Sewell is president of the Overseas Development Council. He is the author of many publications, including *U.S. Foreign Policy and the Third World: Agenda 1985-1986* with Richard E. Feinberg and Valeriana Kallab (Overseas Development Council, 1985).

—John W. Sewell