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Mar. 1974

U.S. FLOOD RELIEF AND REHABILITATION ASSISTANCE TO THE PHILIPPINES



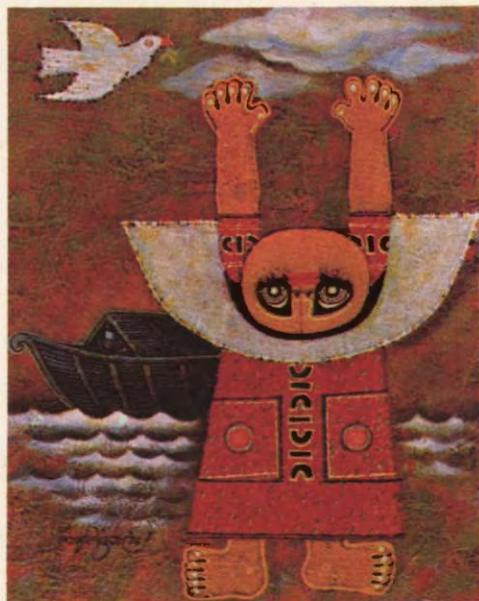
Reference Center
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PHILIPPINE

Progress Report March 1974



Rolly Yumang, who paints under the name of Boy Dizon, is a contemporary Filipino artist. His studio is located in Angeles City, Pampanga, in the shadow of Mt. Arayat where according to local legend, Noah's Ark landed after the Great Flood. It is also near Clark Air Base from where many of the rescue helicopters took off to drop relief goods to the suffering flood victims in 1972. Mr. Dizon's symbolic interpretation of the 1972 disaster, originally done in oils, was donated as an expression of appreciation for the U.S. assistance and appears as the cover of this progress report.



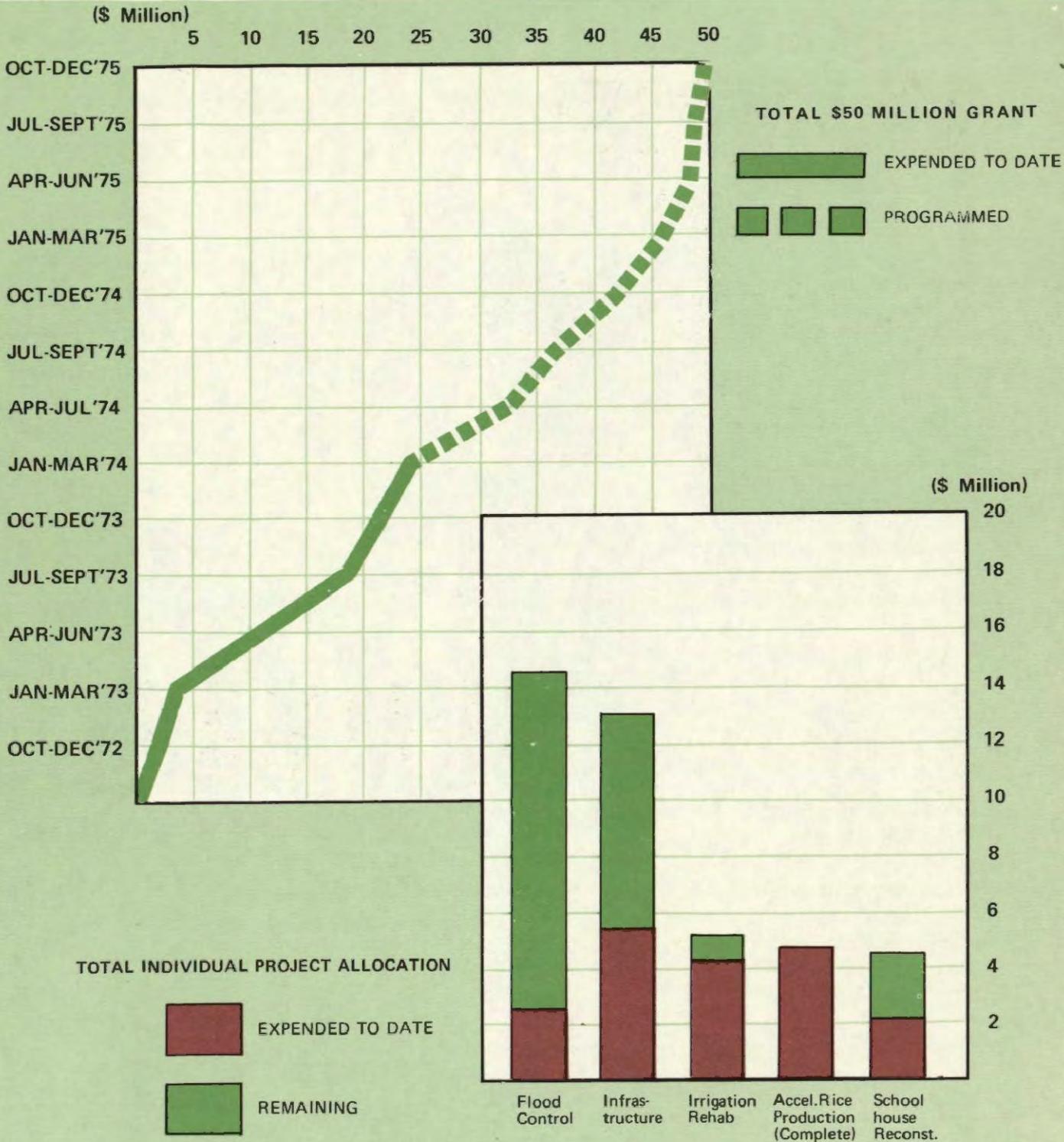
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SUMMARY

Prepared by USAID/Philippines

\$ 50 MILLION REHABILITATION GRANT



S U M M A R Y

In October 1972, following a disastrous flood in the Philippines, the United States Congress approved a special grant of \$50,000,000 for relief and rehabilitation assistance. As of March 31, 1974, project implementation under the rehabilitation program was close to the original schedule. Expenditures had totaled \$24.3 million. We estimate expenditures through December 31, 1974 will total \$43.5 million. This will complete all phases of the program except for several river control structures which should be finished by December 31, 1975.

The purpose of this brochure is to provide a report to the American people whose generosity made the funds available for this program. It is also a record of how one nation was challenged by the forces of nature and how that challenge was met by the Philippine Government and people with assistance from the U.S. and other members of the world community. The procedures developed for this program, and the lessons learned during its implementation, should be helpful during similar disasters throughout the world.

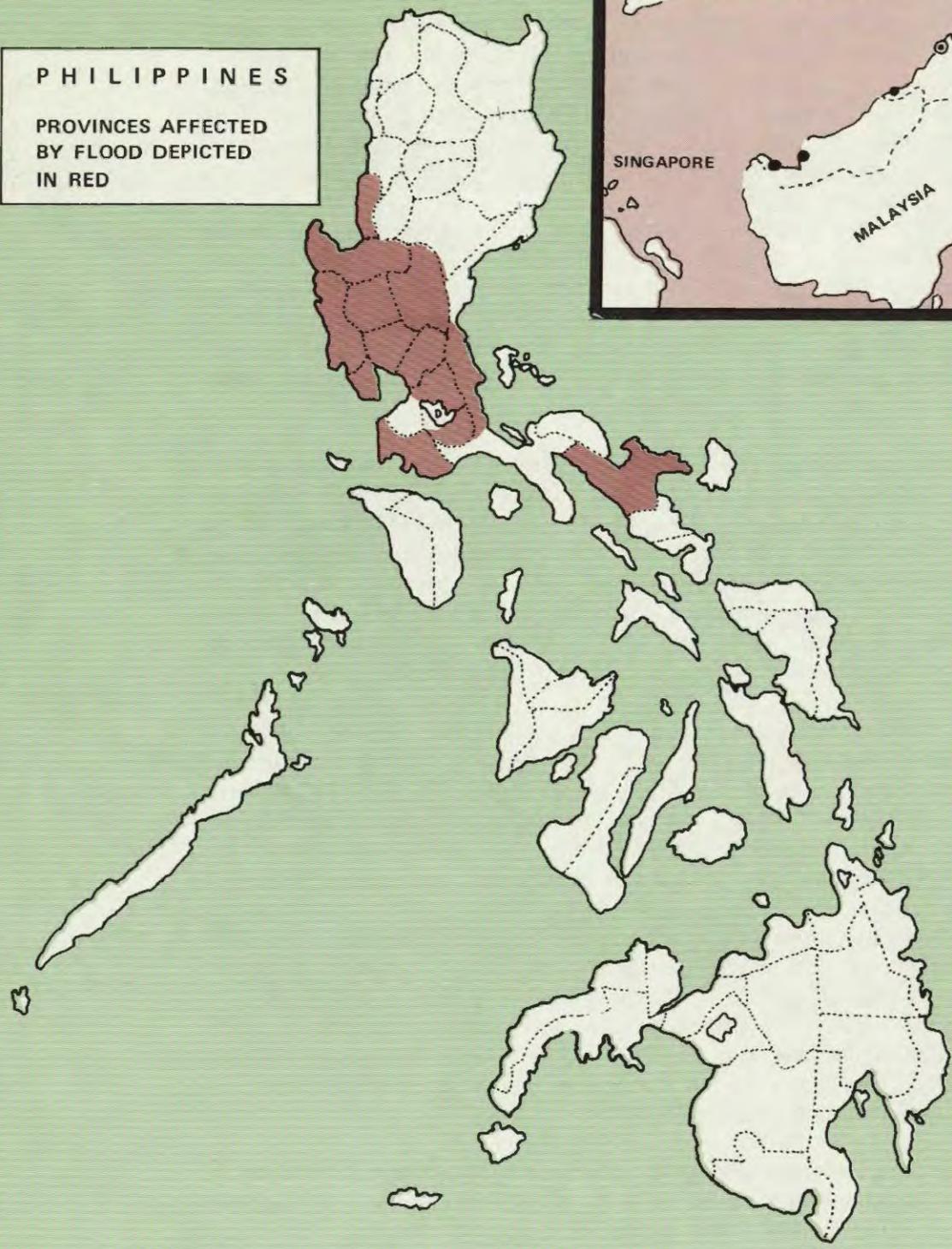
FIXED COST REIMBURSEMENT PLAN: A rigid system has been established for monitoring standards and controlling funds, referred to as the Fixed Cost Reimbursement Plan. The essence of the system is that a project is first financed by the Philippine Government with USAID reimbursing an agreed share of the cost upon completion to specifications. As explained more fully later, this minimizes USAID involvement in project implementation, but at the same time provides a simple method for relating assistance to end results. The spirit of "Bayanihan," a Tagalog word meaning self-help, has been evident throughout this joint enterprise.

PROJECT STATUS: Approximately \$13.5 million has been allocated for provincial infrastructure rehabilitation, including roads, bridges and communal irrigation systems. As of March 31, 1974, the project was 31.4% complete. Fifteen-hundred typhoon-resistant schools are being constructed at a unit cost of about \$5,000, of which USAID is financing approximately 50%. Total USAID cost for the school project will be about \$4.4 million. Approximately \$5.3 million has been obligated for the repair and restoration of thirty-five irrigation networks which should be completed by June 30, 1974. About \$14.7 million has been obligated for repair and extension of the damaged and incomplete flood control system. Although implementation was delayed because of essential preparatory work, progress has been good on those projects underway. Scheduled completion date is December 31, 1975. Approximately \$5,000,000 was expended for an accelerated rice project which was completed in 1973. This supervised production program has since been adopted by the Philippine Government on a national scale.

Contract engineering costs, emergency relief operations and smaller assistance projects amounted to about \$6.8 million. A detailed listing of projects and associated costs is contained in the section titled, Statistical Data.



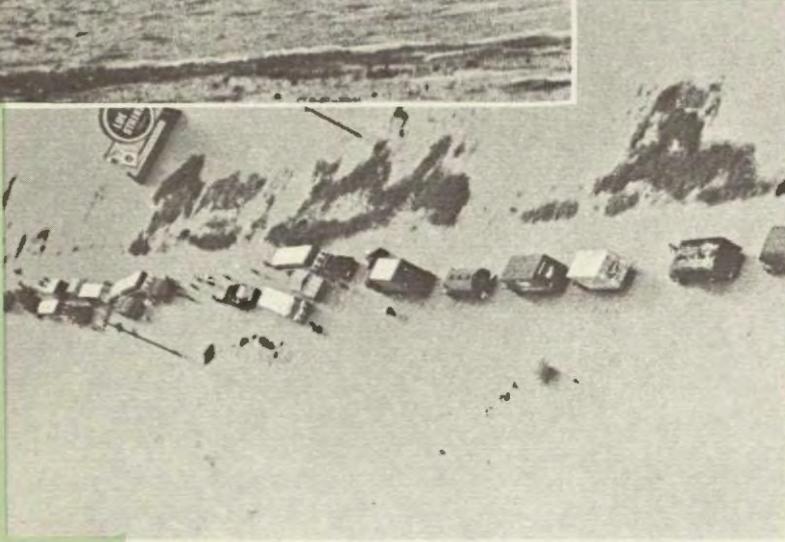
PHILIPPINES
PROVINCES AFFECTED
BY FLOOD DEPICTED
IN RED





DISASTER

1972





DISASTER 1972

When the rains came in mid-July, the Philippine National Disaster Coordinating Center kept a watchful eye as it continued its routine handling of emergencies throughout the nation. It was the start of the wet season, but disasters are masters of disguise; a fact well-known to the experienced staff who man the center around the clock.

A series of tropical depressions, which normally sweep across the island of Luzon in two or three days, hovered off the northwest coast for more than three weeks. Drawing the moisture-laden air from the southwest, these unusual depressions resulted in rains of heavy intensity for an extended period of time.

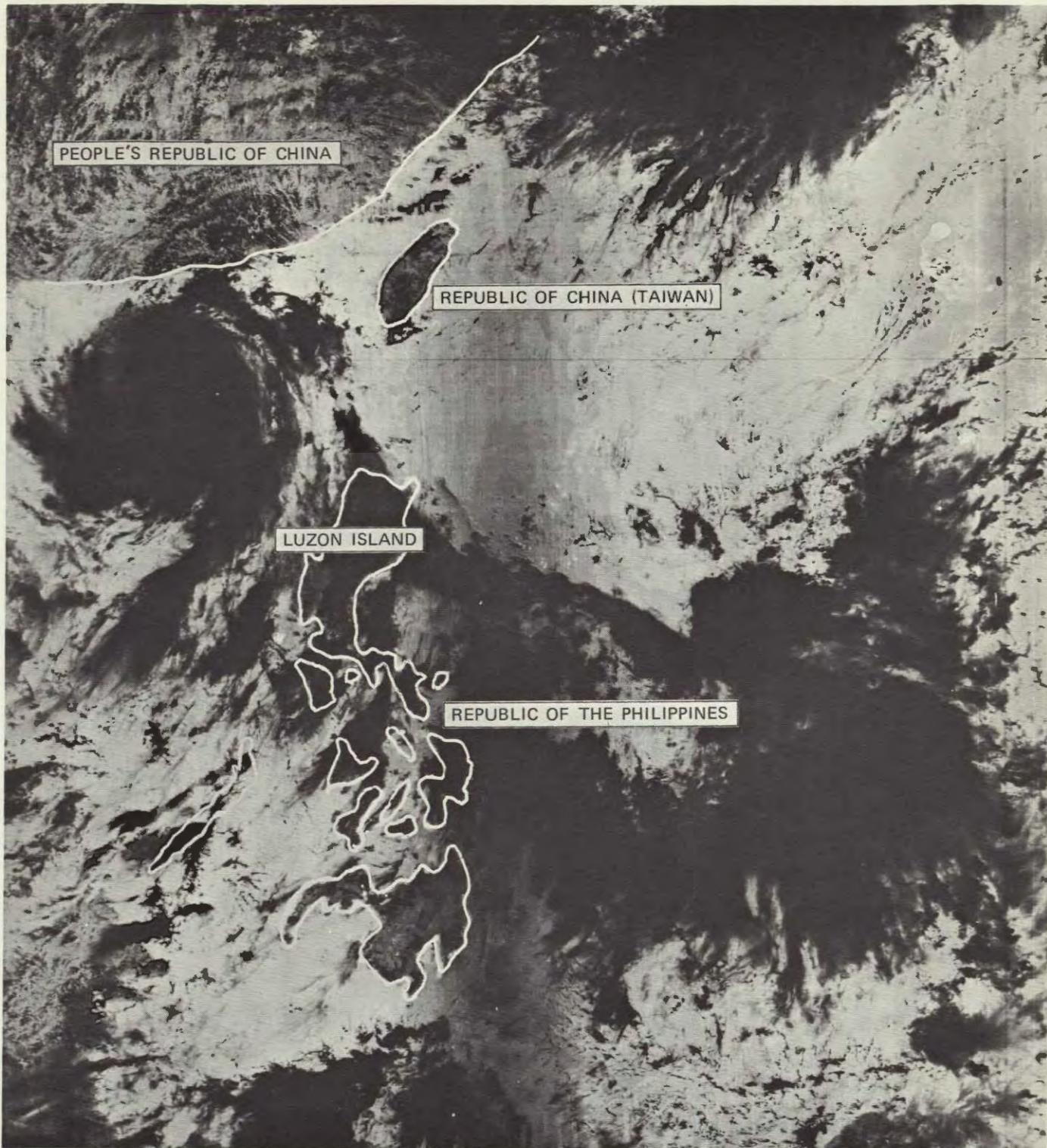
As more than 80 inches of rain fell on the Central Luzon lowlands during the month of July, the seasonal downpour resulted in catastrophic flooding. The city of Baguio, located in the mountains to the north, recorded 180 inches during the month, a figure equal to its average total rainfall for a twelve month period.

Operating under direct presidential command, the Disaster Coordinating Center quickly established regional and local control centers supported by top-flight experts from all agencies of the government. A completely mobilized population, using all of its available resources, began the battle against the unprecedented destruction which would affect more than two million victims and claim over 650 lives before subsiding in August.

Surface transportation between major points in the flooded area became non-existent for more than two weeks. Even local movement of vehicles was nearly impossible for days at a time as one road after another went under water. In greater Manila, an area responsible for over half of the nation's total industrial output, the economic activities of over three million people were halted for more than a week. In the flooded provinces, crops that had just been planted for the start of the growing season were washed away, along with houses and food stocks.

The enormity of the devastation required immediate relief measures and assistance from the world community in order to allay further suffering and loss of life. An appeal went out to foreign embassies and international organizations. A sympathetic response was received from many countries and agencies of the United Nations. Money was pledged, and food supplies were made available as quickly as they could be transported to the Philippines.

But with rivers overflowing, roads rapidly disappearing and refugees perching on rooftops waiting for food — or a miracle — the need was for help — immediate help. A society was at war with the elements of nature, and the lives of its people hung in the balance. Time was an obstacle which had to be overcome.



(Photo courtesy of Defense Meteorological Satellite Program)

Weather satellite photo of typhoon (circular black area N.W. of the Philippines) which passed over Central Luzon.

AVERAGE NUMBER OF TYPHOONS AFFECTING THE WEATHER OF CENTRAL LUZON

WITHIN (naut. miles)	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
60				2	2	2	2	5	3	
120				2	3	4	3	11	8	6
240	1	4	5	5	11	11	10	14	17	14

TYPHOON SEASON

EMERGENCY RESCUE



AND RELIEF



EMERGENCY RESCUE AND RELIEF

The United States, with its special historical and cultural ties with the Philippine people, lost no time in demonstrating once again its commitment to Philippine-American cooperation. The U.S. Ambassador designated the Director, USAID/Philippines to coordinate all American relief efforts. The Commander-in-Chief, Pacific, Representative in the Philippines was designated as coordinator for the military components – resulting in the resources of Clark Air Base, Subic Naval Base and other regional resources being made available.

The U.S. Agency for International Development organized a twenty-four hour-a-day operation aimed at coordinating U.S. civilian and military relief efforts to get food to the refugees – fast. Some fifty USAID personnel were assigned to this massive operation and worked tirelessly through the end of the crisis several weeks later. By the time the USAID effort was completed, four million pounds of relief goods and food, including over eight million Nutribuns, a unique high-protein bread developed by USAID nutrition experts, were distributed to the flood victims by U.S. military airlift.

A regional Disaster Relief Coordination Center was set up at Clark Air Base. Manned by Filipino and American relief experts, the center coordinated, directed and plotted relief and rescue operations.

Special U.S. military Disaster Assistance Relief Teams, known as DART's, were flown in from Okinawa and operated in the most severely stricken areas. The teams, working with local medical and dental units, inoculated and treated more than a million people as they performed rescue and relief work. In one area, a team rescued 106 people who had been stranded on roof tops for six days and evacuated another 738 people to safer areas.

U.S. Marine helicopter crews from the heli-carrier *Tripoli* along with U.S. Air Force and Navy crews, flew 1,285 mercy missions. More than 1.9 million pounds of rice, medicine, clothes, drinking water and Nutribuns were airlifted to the most isolated barrios and stranded families. Even after the *Tripoli*, which had come off the "combat line" in Vietnam, was replaced by the heli-carrier *New Orleans*, the *Tripoli* squadron remained to continue its relief operations.

U.S. C-130 heavy cargo aircraft, assisted by a Royal Air Force C-130 and 28 C-119's from Taiwan, delivered more than four million pounds of relief goods. These heavy airlift missions were the main life-line to the flood areas when all roads to Central Luzon and the staging area at Clark Air Base became impassable.

American voluntary agencies located in the Philippines played a major role in the relief effort by generously contributing the facilities of their offices, services of their personnel, commodities and cash. The Catholic Relief Services, Church World Service and Seventh-Day Adventist Welfare Services together released 2.2 million pounds of food commodities for immediate relief assistance, CARE, the Cooperative for American Relief Everywhere, provided over 1.5 million pounds of flour, milk and oil to feed victims in Laguna and Rizal provinces. The Salvation Army and World Vision distributed food, clothing and medical supplies. The work done by these agencies was significant in that it would continue beyond the crisis and carry on throughout the rehabilitation.



At Nichols Air Base in Manila, a round-the-clock operations center was set up by USAID, U.S. voluntary agencies, the U.S. Armed Forces and other U.S. Mission Offices — together with their counterparts in the Philippine Government. The Philippines' First Lady, Mrs. Imelda Romualdez Marcos, spent fourteen hours a day for almost a week at this center. In most cases of major rescue and relief missions, there was U.S. representation from either the military or civilian sectors.

In many cases the rescue and relief operations took on a personal note, becoming a people-to-people operation. In Zambales, U.S. Navy volunteers cleared inundated portions of the town of Iba and rescued trapped inhabitants. When a series of landslides in Baguio buried twenty-five houses and killed twenty-two people, Camp John Hay personnel commandeered cranes to remove large boulders and washed down the mud so rescuers could reach the survivors.

PHILIPPINE GOVERNMENT RESPONSE: Government officials, from the President down to the governors, mayor and barrio captains, utilized the full prestige and resources of their offices to help the flood victims. Civic groups, the mass media and countless private citizens rose to the occasion with volunteer services and contributions. The nation was united in its effort; and the National Disaster Coordinating Council was in overall control of the complicated disaster situation, ready to service emergencies, determine policy and make operational decisions.

INTERNATIONAL COMMUNITY: The response from the international community was impressive. From the Taiwan Government came \$25,000 along with twenty-eight aircraft and two helicopters full of rice, clothes, seeds and other relief commodities. The Peoples Republic of China sent a ship with food, medicine and blankets. Australia, Canada, Japan, West Germany and Thailand pledged unusually large donations in the form of immediate assistance and long-range grants. The U.S.S.R. donated large amounts of medicine. Total assistance during the crisis, excluding the U.S. contribution, exceeded \$5,000,000.

CRISIS END: The emergency did not end dramatically, but quietly slipped into the next phase — the planning and rebuilding. Delivery and direction of the U.S. contribution and other foreign assistance was administered by the Philippine National Disaster Council. Recovery from the historic Disaster '72 would also be determined by the Filipino people. But here, too, assistance would be needed such was the extent of the devastation that confronted the nation. The period immediately following the crisis would be crucial to the outcome of the work ahead.

...After the Crisis

THE NEED WAS FOR
SUPPLEMENTAL FOOD
ASSISTANCE...



AND EMERGENCY
AGRICULTURAL
RELIEF PROGRAMS

POST-CRISIS RELIEF ASSISTANCE

During the two years preceding the disaster of 1972, reduced crop yields, caused by typhoons and tungro disease, had precipitated a critical rice situation. The flooding of the Central Luzon plain destroyed over 20% of the rice and other crops in the area. Losses were estimated at nearly 400 billion tons. Added together, the accumulated deficit necessitated the importation of 800 billion tons of rice during the eighteen month period ending in February 1973. The resultant foreign exchange drain of \$80,000,000 to \$110,000,000, about 10% of the normal annual foreign exchange earnings of the country, meant price inflation with the attendant suffering it usually causes for the very poor and low-income urban groups.

Government plans for recovery and rehabilitation were jeopardized by grave food shortages and a crippled economy. During the post-crisis period, there was an immediate need for supplemental food assistance and emergency agricultural relief programs, until another crop could be harvested.

PRE-SCHOOL FEEDING PROGRAM: Surveys conducted in flood ravaged areas indicated that as many as 25% – 30% of the pre-school children were suffering from malnutrition. The pre-School Feeding Program, started in 1968, was expanded to provide food to an additional 155,000 undernourished pre-school children and pregnant or lactating mothers during a two year period. The program is conducted by the Catholic Relief Services with USAID providing technical assistance and approximately 18.6 million pounds of PL480 Title II food commodities.

SCHOOL FEEDING PROGRAM: The Philippine School Nutrition Program aims at providing a meaningful nutritional supplement to undernourished Filipino school children through the distribution of locally baked nutribuns. Beginning in November 1972, the program was broadened to provide critically needed food to 700,000 additional children in the stricken areas.

FOOD FOR WORK: Using PL480 Title II Food for Peace commodities, the Food for Work Program has been operating in the Philippines since 1964. Under the program, food is exchanged for work on self-help projects to improve social and economic conditions. During the post-crisis period, farmers and workers sorely in need of food were unable to work due to the aftereffects of the flood. At the same time, the reconstruction program that was just beginning required a large labor force. The Food for Work Program, administered by U.S. voluntary agencies, using USAID resources, was greatly expanded to provide food to flood victims and to partially defray labor costs for repair and reconstruction projects. At its peak, the expanded program assisted more than 47,000 additional workers daily.

IMMEDIATE AGRICULTURAL RELIEF PROGRAMS: In an effort to assist the small farmers whose resources were exhausted by crop losses, several emergency relief programs were undertaken by USAID. Now completed, these programs, which are described below, helped the farmer and his family with economic recovery through immediate and/or improved crop yields. Additionally, the national food shortage was reduced by about 100,000 metric tons.

VEGETABLE SEED DISTRIBUTION: Immediate assistance was rendered to small farmers through distribution of a variety of vegetable seeds. More than 1.3 million seeds packets and 2,100 pounds of melon and cantaloupe seeds were made available in time for the planting season at the end of August. At a total cost of \$25,000, the project provided a valuable food source and reached 890,000 households in the disaster area.

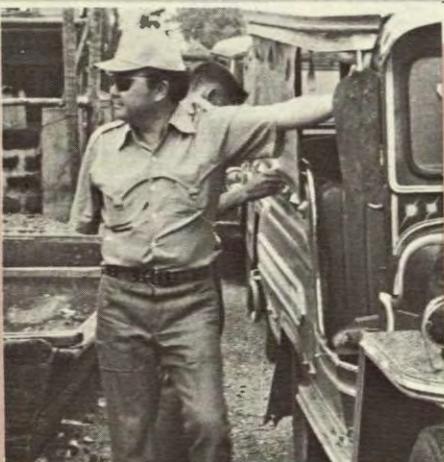
MUNGO BEAN KITS: Distribution of 6,000 mungo bean kits provided a quick source of high quality protein to people in the stricken Central Luzon area. Containing one kilo of high-yield variety seeds, fertilizer and chemicals for protection against plant disease and pests, each kit was capable of producing fifty kilos of mungo beans within sixty-five days after planting. The program, which costed \$19,000, not only furnished critically needed food but demonstrated the economic value of beans as a continuing crop.

FERTILIZER: Surveys conducted after the disaster revealed more than 560,000 acres of riceland had been destroyed. In an effort to combat the serious rice situation, the government supplied high-yield variety seeds to the farmers so that replanting could take place as the flood waters receded. However, a successful harvest would not result from seeds alone, particularly with the high-yield varieties that were being planted. Fertilizer would be necessary to stimulate growth and attain optimum production.

USAID made available one million dollars for the purchase and distribution of fertilizer in a tightly controlled program estimated to have increased the rice yield by over 100,000 metric tons. Implemented in cooperation with Philippine Government agencies and the private sector's fertilizer industry, the project provided assistance to over 85,000 farmers.

REBUILDING: During the post-crisis phase, immediate assistance projects provided sustenance to the beleaguered flood victims. As the waters receded, planning progressed for the long-range programs to accomplish the rebuilding. In areas such as rice production, schools, irrigation, flood control and the provincial infrastructure, effective assistance was needed to regain the progress made prior to the disaster. The job ahead was rehabilitation.

PLANNING FOR REHABILITATION





PLANNING FOR REHABILITATION

Even as the waters of the Lingayen Gulf to the north merged with those of Manila Bay to the south and stood as high as eight feet over the Central Luzon plain, Philippine Government and USAID teams began assessing the damage. With surface transportation for the most part impossible and normal communications non-existent, much of the initial damage assessment came from the crews and relief workers aboard the rescue helicopters. But it soon became apparent that if the nation was to survive the calamity of 1972, a definitive estimate of the destruction was needed; a strategy had to be developed on how to mobilize the domestic and foreign resources that were available; and a plan had to be devised for rehabilitation:

BY THE PRESIDENT OF THE PHILIPPINES
EXECUTIVE ORDER NO. 399

WHEREAS, there is an urgent need to determine calamities on facilities and installations of the national and local governments

WHEREAS, there is an equally urgent need to determine the financial and physical requirements

WHEREAS, there is a correspondingly urgent need to identify the sources of financing

WHEREAS, the present circumstances demand monitoring, coordinated implementation

WHEREAS, there is an immediate need to formulate a medium and long-range program strategy for the rehabilitation

NOW THEREFORE, I FERDINAND E. MARCOS, President of the Philippines . . . do hereby create the Presidential Task Force on Rehabilitation Operations

The Presidential Task Force shall complete its assigned task, as specified herein, and submit its report within sixty (60) days from the date hereof.

Done in the city of Manila, this 26th day of July, in the year of our Lord, nineteen hundred and seventy-two.

Soon after creation of the Presidential Task Force, its chairman, Executive Secretary Melchor, met with the USAID Mission Director to explore areas in which U.S. assistance might be most effective. At the same time, various agencies of the

national and provincial governments had begun assembling the definitive damage data necessary for planning and decision-making. USAID also sent its representatives and technicians into the stricken areas to gather first-hand information. As the overall picture of actual destruction began to emerge, damage to both the public and private sectors was estimated at about \$500,000,000.

In August, the United States announced that it was committing \$30,000,000 for additional assistance in the form of long-term commodity loans and grants, together with the appointment of aid coordinators. Utilizing the stated needs of the Philippine Government, as a guide, USAID began assembling a rehabilitation package in those areas where the U.S. Mission competence was greatest and would, therefore, be most effective.

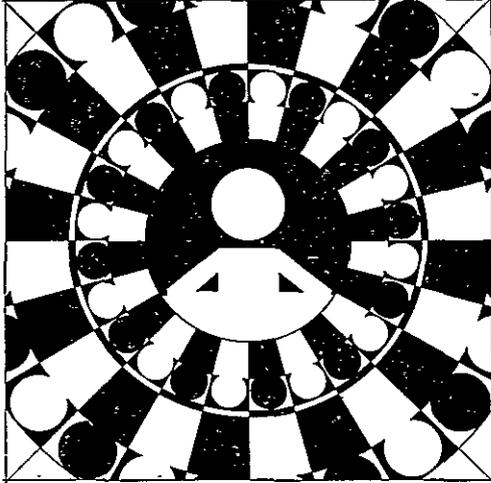
At the end of August, Senator Daniel K. Inouye, Chairman of the Foreign Operations Subcommittee, visited the Philippines. For six days Senator Inouye talked to Philippine Government leaders and toured the flooded provinces. There was already sufficient evidence that other donors, including the World Bank and Asian Development Bank, would participate in providing the external financial support necessary for the recovery program. Upon his return to the United States, Senator Inouye recommended a possible U.S. rehabilitation assistance package based on the approximate share of regular U.S. assistance to the Philippines as a portion of the total consultative group members' contribution. His recommendation was for \$50,000,000, including those funds already expended for emergency relief.

By this time, the Presidential Task Force on Rehabilitation had a more conclusive estimate of the extent of the damage. With a general indication of available domestic and foreign resources, it began to formulate a strategy. It was determined that a self-help approach would be used to overcome the debilitating effects of free assistance and to make maximum use of available resources. The rehabilitation program itself would be used to generate employment and provide a livelihood for the flood victims.

On September 21, 1972, the first meeting of the Philippine-USAID Disaster Recovery Coordinating Group took place. The work of the Presidential Task Force was almost at an end, and an overall draft plan was submitted to the President. It was now time to start the detailed planning and to work out the methodology of the assistance.

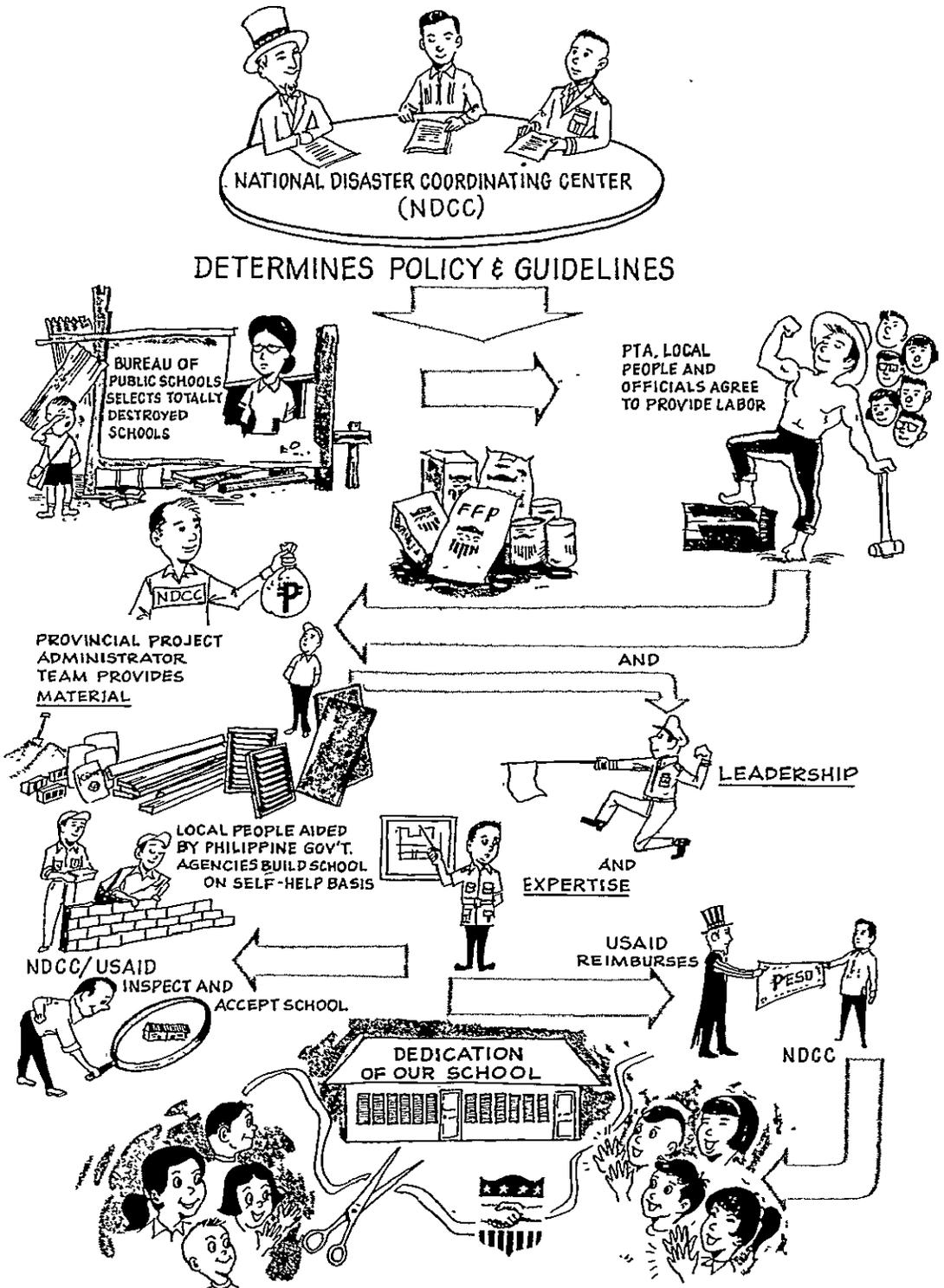
U.S. assistance would be channeled into five major rehabilitation areas: accelerated rice production, schoolhouse reconstruction, irrigation systems, flood control systems, and provincial infrastructure. The work would be carried out and administered by the responsible Philippine Government agencies in each area with financial and technical assistance from the U.S. through USAID.

In early October 1972, the United States Congress approved a special \$50,000,000 rehabilitation grant for the Philippines. The months of planning and preparation were at an end. The beleaguered people of the stricken provinces were ready to go to work, and now the means were available. For the Filipinos the job ahead was building — to recover what had been lost and move ahead. For the United States, through its USAID Mission in the Philippines, the task was to provide assistance and administer the funds donated by the American people.



ADMINISTRATION

HOW FIXED COST REIMBURSEMENT WORKED IN THE 1971 RP-US BAYANIHAN SCHOOL REBUILDING PROGRAM



ADMINISTRATION

FIXED COST REIMBURSEMENT PLAN: In order to assure efficient and intended use of U.S. funds to assist flood victims, a very careful system of administration is being employed.

A plan for fixed cost reimbursement has evolved, based on past successful joint USAID-Philippine ventures. It offers safeguards to both countries. The U.S. taxpayer is assured that his money is spent in the manner specified and that it is benefiting the people of the country directly. The host country is given maximum responsibility in implementing programs.

The Fixed Cost Reimbursement Plan basically involves four steps:

- 1. An agreement is reached on project specifications, standards and costs.*
- 2. The Philippine Government undertakes project implementation with its own resources.*
- 3. Joint inspection of work in progress and of completed projects or project segments is made.*
- 4. USAID reimburses the responsible Philippine Government agency for the agreed upon costs of work found by USAID inspectors to meet specifications. Cost overruns and expenditures for substandard work (if any) are borne by the host government.*

To ensure adequate inspection, local private firms (CPA and engineering) and U.S. agencies/firms are being used to audit operations in the field. Results with this approach have been very satisfactory. A 1971 school rebuilding program designed to provide 500 elementary schools resulted in the construction of 513 schools at the original price within the time allotted.

USAID MANAGEMENT AND STAFF: Management of resources provided by the U.S. in the careful manner described above does take staff time. For several weeks during the emergency phase of the flood disaster, virtually the entire USAID staff and facilities were mobilized as a disaster team to assist with relief efforts.

Subsequently, Mission resources were directed toward cooperation and joint planning with the Philippine Government for long-term relief and reconstruction. It was determined early that nine full-time U.S. staff members would be required for effective management of the proposed \$50,000,000 special grant and PL480 food grants. Rather than seek an increase in the existing staff authorization, the Mission accommodated all nine positions within its current ceiling of 76 by eliminating other positions and utilizing vacancies. Seven of the nine positions had been approved by December 31, 1972, and one person was made available. As a temporary measure, a number of short-term assignments were arranged by AID/W and by loan from other USAID Missions.

EXCESS PROPERTY: Authorization contained in the amended Federal Property Act of 1949 and the amended Federal Assistance Act of 1961 allows federal agencies to acquire U.S. Government excess property in support of AID-financed and non-AID-financed projects. The use of excess property has been a major contributing factor in the success of the Disaster Rehabilitation Program.

When the rehabilitation projects started, the Philippine Government agencies responsible for the work were critically short of equipment. Consequently, USAID/Philippines decided to accelerate the acquisition of excess property from world-wide sources and to rehabilitate the equipment in Manila prior to distribution. Excess property was brought in from the U.S., Europe, Japan and Vietnam. Contract sources were established; rehabilitation specifications were drawn-up; a holding area was established; and additional personnel were hired under personal services contract to expand the operation.

Equipment inputs to contractors started in mid-November 1972. Production was slow for the first few months as the pipe-line began filling up; but by November 1973, production was averaging at least one unit per day with forty contractors and 500 units in work. As of mid-March 1974, 478 units had been rehabilitated and issued to various projects.

The average cost of equipment rehabilitation has been about 41% of the original acquisition cost. Packing, crating, handling and transportation amount to approximately 15% of original acquisition cost. The result has been a tremendous dollar saving to the overall rehabilitation effort.

Had the decision been made to use new equipment, first deliveries would not have taken place until April 1974, and costs would have exceeded 150% due to inflationary factors. Current planning calls for recipient agencies to assume responsibility for equipment rehabilitation and to continue the program under their own supervision, using their own funds. Target date for the transition is January 1975.

INSPECTION, EVALUATION AND ANALYSIS: The use of local private firms and outside U.S. Government agencies has provided objective inspections, evaluations and analyses of projects in the rehabilitation program. The U.S. Navy Officer in Charge of Construction (OICC), under an agreement with USAID/Philippines, provides technical engineering services, project construction monitoring and inspection of completed work. Funds for OICC services are provided by USAID. A local private accounting firm, SyCip, Gorres, Velayo & Co. (SGV), has been contracted to provide management services. SGV performs analyses of proposed projects, including verification of cost estimates; assists participating Philippine Government agencies in establishing and maintaining accounting and reporting systems; and evaluates projects for USAID that are underway or completed.

REHABILITATION PROJECTS





ACCELERATED RICE PRODUCTION

The disastrous floods of 1972, coupled with poor harvests during the previous two years, resulted in a critical rice shortage. To alleviate the situation, the Philippine Government, with USAID assistance, established a program to considerably improve rice yields and consequently increase the income of farmers in the affected areas. Originally planned for the December 1972 – April 1973 dry season on Central Luzon, the project was later extended through the May 1973 – February 1974 wet season. USAID obligated \$5,000,000 in assistance for this project which was designed as a supervised production program.

PROJECT DESIGN: Provisions were made for farmers to purchase a package of agricultural aids, through loans from rural banks or branches of the Philippine National Bank (PNB). The package components which could be utilized at an estimated cost of ₱700 per hectare (approximately \$41 per acre), included:

- *Certified seed*
- *Labor assistance for transplanting, spraying and harvesting*
- *Fertilizer, herbicides and pesticides*

Costing approximately ₱380, the latter components were purchased with USAID funds. Previously tested and proven technical guidance was provided by technicians of the National Food and Agricultural Council (NFAC).

To be eligible for participation in the program, farmers had to be engaged in rice production and had to agree to follow the farm practices prescribed by the production technicians. During the dry season, participants were required to have an assured irrigation water supply.

IMPLEMENTATION: Assisted by a production technician, each farmer prepared a farm plan and budget to be submitted with his loan application. To facilitate loans and promote group action, the technicians formed groups of five to fifteen farmers who co-signed loans for one another.

After loan approval, the farmer received only the initial amount required in the approved plan and budget. The remaining funds were deposited in a special savings account in the farmer's name and earned interest equal to the interest rate of the loan.

Later allocations were in the form of chits issued to the farmer with the production technician's approval. These chits could be used at accredited dealers of the farmer's choice to purchase required commodities.

As the banks used the farmer's account to repay dealers for commodity purchases, payments were reported to the Central Bank. The Central Bank then complied the reports from the many rural banks and applied to USAID for reimbursement.

TRADITIONAL RICE CULTIVATION

THE RICE CULTIVATOR'S LIFE IN THE RICE FIELDS



The water buffalo is used for plowing the rice fields. The farmer guides the buffalo through the mud, pulling the plow behind it. This traditional method of plowing is still used in many parts of the world.

RESULTS: The dry season plan to extend supervised credit to 40,000 farmers on 100,000 hectares of irrigated riceland proved too optimistic. Administrative capability and drought limited the scope of the program to 13,000 farmers on 26,000 hectares of land. However, the management information system, audit procedures, and lending and production methods used to implement this early rehabilitation effort proved highly successful. Adopted by the government on a national scale, the procedures are embodied in an expanded accelerated Rice Production Program known as Masagana 99. Introduced in May 1973 at the onset of the wet season in Central Luzon, Masagana 99 has become a permanent program of the Philippine Government.

During the wet season program, 170,000 farmers on 305,000 hectares of land received supervised credit. The participants produced an average of 3.3 metric tons of rice per hectare. During 1971, when the previous record for rice production was established, the average yield was 1.8 metric tons per hectare. Total production in the nine affected provinces is estimated at 1.9 million metric tons during the 1973 wet season, in comparison with 1.4 million metric tons for a similar period in 1971.



SCHOOLHOUSE RECONSTRUCTION

Because several thousand schools were severely damaged or destroyed by the typhoon and flood of 1972, a decision was made early in the rehabilitation planning to allocate funds from the fifty million dollar grant to rebuild 1,000 schools. Subsequently, at the request of the Philippine Government, the total number of schools was increased to 1,500. Five million dollars was allocated for the project, which will accommodate an estimated 225,000 children throughout 30 provinces.

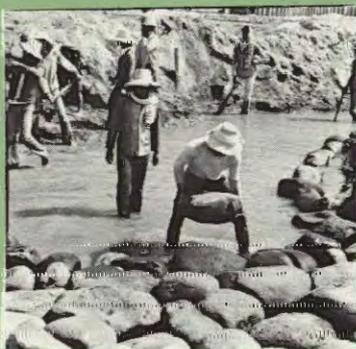
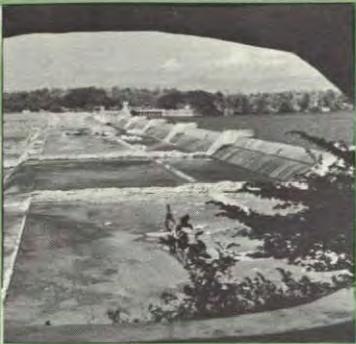
PROJECT DESIGN: Capturing the spirit of "Bayanihan," a Tagalog word meaning "self-help" the project follows the model of an earlier RP-US School Reconstruction Project in which the Fixed Cost Reimbursement Plan was developed for the construction of 500 schools. After selecting the sites, the Philippine Government executed an agreement with USAID on construction specifications and cost of materials, which were verified by a USAID-contracted private auditing firm. The schools being built under this project are three-room buildings, simple in design to facilitate construction in remote areas, using labor intensive means and locally available materials. The structures will be typhoon resistant, able to withstand wind velocities up to 140 miles per hour.

Using its own funds, the government has proceeded with construction. As each school building is completed, the GOP and USAID make a final inspection. When construction is found to be acceptable, in conformance with plans and specifications, the U.S. reimburses the Philippine Government for a previously agreed upon cost of materials, about \$2,600 per school. The planned average total cost of each school is approximately \$4,000, not including painting, landscaping, partitions or furnishings which are provided through community self-help.

IMPLEMENTATION: The Bureau of Public Works and the Armed Forces of the Philippines were responsible for the work on the earlier school reconstruction project which had been highly successful. Because of their experience and the need for quickly restoring educational facilities, the GOP decided that the same organizations would be responsible for the new program.

Shortly after implementation, a nation-wide shortage of construction materials led to an extension of the original completion date from June 30, 1974 to December 31, 1974. A national fuel shortage caused further delays in the delivery of materials. The shortage of materials and fuel was accompanied by a large rise in prices of construction commodities. The National Economic and Development Authority (NEDA) and USAID agreed to take appropriate action to offset the unforeseen increase in construction costs. Proceeds from the sale of rice, which the Philippines received in a special disaster assistance loan (PL480 Title I), will provide an increased reimbursement for materials used in the 500 schools added to the program.

RESULTS: The school reconstruction agreement between the GOP and USAID was signed in November 1972. By early July 1973, the beginning of the next school year, seventy-five schools were completed and were being used. The overall project was 46% complete as of March 31, 1974, and is somewhat behind schedule with 417 units completed and accepted, 299 less than programmed. The lasting durability of these structures is indicated by the fact that none of the 513 schools built during the earlier Bayanihan School Reconstruction project were damaged during the disaster in 1972.



IRRIGATION SYSTEM REHABILITATION

The United States is sharing the cost of rehabilitating thirty-five national irrigation networks which suffered considerable damage when they remained under water for five weeks during the 1972 floods. \$5.3 million has been obligated for the project which will serve 150,000 farmers occupying 580,000 acres of riceland. The Philippine Government's share of the project cost will be about \$1.4 million. In addition, P4.9 million (approximately \$728,000) derived from the sale of rice obtained through a U.S. PL480 Disaster Assistance loan is being used to rehabilitate 177 small communal irrigation systems.

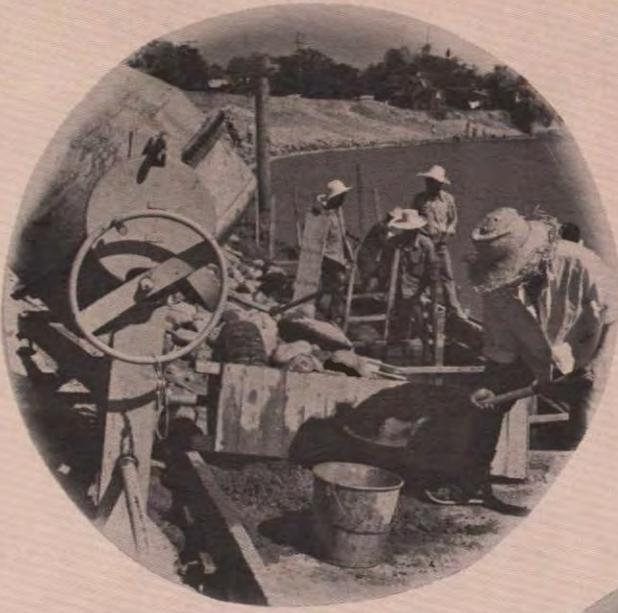
PROJECT DESIGN: The project makes maximum use of the Fixed Cost Reimbursement Plan. For each of the thirty-five systems, the National Irrigation Administration (NIA) and USAID executed agreements on plans and specifications, and determined a fixed amount to be reimbursed by USAID upon completion of a project or any previously agreed upon portion of a project.

The Philippine Government is paying the costs of rights of way, supervision and other indirect expenses and is being reimbursed by USAID for the costs of labor, materials and equipment operation. As an integral part of the agreement, the USAID project manager and OICC engineers conducted a detailed review of engineering plans and cost figures submitted by NIA. Using its own funds, NIA performs the rehabilitation work and submits monthly progress reports on each of the projects. After verification by USAID, the NIA receives that portion of the total reimbursement which corresponds to the work accomplished during the period of the report.

As part of the agreement, USAID obligated \$208,000 for the acquisition of excess property to augment the NIA's equipment. After completion of the project, scheduled for June 30, 1974, the excess property equipment will be retained by NIA for use in maintenance and construction of follow-on irrigation systems.

PROJECT IMPLEMENTATION: For the most part, NIA is carrying out the repair and rehabilitation work by using its own construction resources while leasing equipment and contracting supplemental labor only as necessary. Hundreds of kilometers of canals are being rehabilitated, involving reconstruction of the canal banks and desilting, usually by men using shovels. Two diversion dams were rebuilt, and nine were repaired. Using boulders and gravel, workers are reconstructing dikes to protect irrigation system from flood damage. Canal structures used to divert irrigation water are also being repaired.

RESULTS: Progress has been smooth and is ahead of schedule. Emergency repairs to the damaged irrigation networks began immediately after the flood. Within three months, most systems were capable of being partially utilized for replanting of the rice crop. When the project is completed, all thirty-five systems will have been restored, many with improved design changes that will allow the structures to withstand most high flood run-offs. On March 31, 1974, the entire irrigation project was 78% completed with eight of the thirty-five systems totally restored.



FLOOD CONTROL REHABILITATION

With assistance from the United States, the Philippine Government has undertaken a vigorous Flood Control Rehabilitation Program to repair damaged facilities and provide additional flood control measures in the Central Luzon plain. During the early stages of recovery planning, GOP officials decided to rebuild and improve the existing system, which had been designed to provide adequate protection against the previous flood of record. The new system is designed to withstand a flood which might occur once in a hundred years. Total cost of this complex project will be approximately \$22,000,000 for which the United States, through USAID, is providing \$14.7 million in assistance.

PROJECT DESIGN: The Bureau of Public Works (BPW), the agency responsible for flood control rehabilitation, is accomplishing most of the work through contract construction. As in other recovery projects, USAID is reimbursing the BPW for completed work and required engineering studies in accordance with a previously agreed upon schedule of costs. The U.S. is providing funds for direct costs of labor, materials and equipment operation; the Philippine Government is financing supervision, overhead, contractor's profits and other indirect costs. There are approximately forty sub-projects in the Flood Control Rehabilitation Project, which is scheduled for completion by December 31, 1975.

In conjunction with the flood control project, USAID has also obligated \$8,000 of the special rehabilitation grant to assist in an Urban Resettlement Program. Thousands of dwellings, illegally constructed along Manila's drainage canals, had blocked flood waters and greatly contributed to the severity of the situation. Consequently, the Philippine Government initiated a resettlement program to clear the city's drainage system and find new homes for the people that had to be relocated.

IMPLEMENTATION: Essential preparatory work progressed slowly on this project. Funds for reimbursement of construction costs were obligated in the late December 1972, but the first sub-project agreement was not signed until May 1973. By December 31, 1973, nine sub-project agreements had been signed, involving 23% of the obligated U.S. funds. As of March 31, 1974, the number of sub-project agreements had risen to twenty, accounting for 34% of the obligated funds.

The BPW is using conventional flood control methods, the most common structure being the setback levee. An earth embankment compacted by heavy equipment, it is located a substantial distance from the normal river channel. This structure prevents overflow of flood waters on to agricultural lands while providing an adequate floodway for extremely high flows. The top of the levee has a gravel road which provides access for emergency repairs and flood evacuation. Other structures and methods are also employed to control, regulate and divert floodwaters, thereby protecting valuable land and crops.

Commodities made available for the project by USAID include new survey and quality control equipment and U.S. excess property machinery, including trucks, tractor-dozers, a road grader, front-end loader, compressor and landing barge.

PROGRESS TO DATE: Work has proceeded well on those projects underway. As of March 31, 1974, six sub-projects were over 50% complete. Total work accomplished on the twenty sub-projects amounts to about 15% of the total program.



PROVINCIAL DEVELOPMENT

The United States is assisting the Philippine Government in a provincial infrastructure rehabilitation program in eleven of the provinces most severely affected by the 1972 disaster. A tentative commitment of approximately \$11,000,000 was made for rehabilitation work; and an additional two million dollars was committed for excess property, primarily construction equipment.

INITIAL PLANNING: Approximately 4,000 kilometers of provincial feeder roads and over 200 bridges were destroyed or damaged by the flood. With most farm-to-market roads rendered unusable, agricultural activities came to a halt. Although temporary repairs were hurriedly completed in an attempt to at least partially restore lines of communication, the real damage remained. Extensive reconstruction, requiring massive commodity, equipment and manpower investments, was required.

While the Department of Public Works was responsible for restoring the heavily damaged national road network, the provinces faced the task of rehabilitating provincially maintained feeder roads. However, neither the provincial budgets nor the existing engineering and construction organizations were in a position to cope with the overwhelming needs suddenly thrust upon them by the disaster. It was at this point that the Philippine Government decided to use the Provincial Development Assistance Project (PDAP), with its proven methods, as a means to administer the provincial flood recovery program. PDAP had been started in 1968 to improve the quality of rural life by developing the provincial government's capability to respond to rural needs.

BASIC POLICIES: As one of the first steps in the recovery program, PDAP and USAID agreed to certain basic policies. The rehabilitation effort would be aimed at restoring facilities to a construction standard capable of withstanding comparable floods in the future. Designed around actual performance, project reimbursement would be made only after verification that the work had been completed in accordance with plans, specifications and standards.

Using the principle of self-help, the provinces would be required to finance the projects throughout the construction period and to contribute 10 to 25 percent of the construction costs. Heavy stress would be placed on strengthening provincial capabilities in road design, project administration, construction by force account, quality control and equipment pool support for construction operations. Finally, the entire program would be carried out in accordance with comprehensive, jointly developed administrative procedures, designed to expedite work flow and attain the needed uniformity of application.

PROJECT DESIGN: In each province, overall project design followed immediately after a preliminary survey. Those projects which could be completed by June 30, 1974 were weighed against available resources, and a tentative allocation was made to each participating province. The provinces then proceeded with preparation of plans, specifications and cost estimates.

As design packages were completed, PDAP-USAID and the respective provinces agreed upon reimbursement for each project. The provinces were encouraged to utilize force account construction wherever possible, but were permitted to contract for projects beyond their capabilities.

The total number of projects finally authorized in each category had to be limited, primarily because of rapidly inflating construction commodity prices. As finally approved, the rehabilitation program provided for 196 road projects totalling 600 kilometers, 128 bridges totalling 5,000 linear meters, and 10 communal irrigation system projects serving about 1,400 hectares of land. The total reimbursable cost of these projects was P72.5 million (approximately eleven million dollars).

EXCESS PROPERTY: A PDAP-USAID survey was made to determine the type and quantity of construction equipment needed to carry out the rehabilitation program. USAID determined that excess property would be essential, since virtually none of the participating provinces owned construction equipment capable of doing the extensive road and bridge reconstruction work.

After an agreement was reached on allocations for each province, arrangements were made through USAID Logistics to locate, rehabilitate and deliver the required units. In all, about 265 units of equipment were slated for the provinces. As of March 31, 1974, 209 units were in place and operating.

IMPLEMENTATION: To assist both the provincial and PDAP-USAID staffs, other GOP and U.S. agencies were brought into the program. PDAP obtained the participation of several Department of Public Works engineers and equipment specialists to supplement its field and office staffs. USAID arranged for the engineering services of OICC and for engineering and equipment specialists of the U.S. Army.

A PDAP-USAID analysis of financial resources within the provinces revealed that additional funding support was needed. The analysis showed that some of the provinces were unable to finance certain major construction costs until reimbursement payments were received. Accordingly, arrangements were made with the Philippine National Bank to open an interest carrying line of credit for each province.

RESULTS: As of March 31, 1974, 206 projects were completed. These projects, valued at P22.7 million (about \$3.4 million) represent 31.4% of the total P72.5 million allocation for Provincial Infrastructure. Work completed plus that actually in progress represent 91% of the total allocation. 48.9% of the work being implemented by provincial forces has been accomplished, including 310 kilometers of road already finished. Contract work is 15.9% accomplished.

When the total Provincial Infrastructure project is finally completed, the participating provinces will be considerably ahead of their pre-flood state in several significant aspects. Many key provincial roads and bridges will be in better condition, rebuilt to modern engineering standards and able to withstand heavy floods. The equipment pools of the provinces will be greatly improved, and the provinces will be better able to maintain existing roads and perform new construction. And finally, provincial engineering staffs will have extensively improved planning, design, project administration and quality control capabilities, enabling them to contribute significantly to future development.

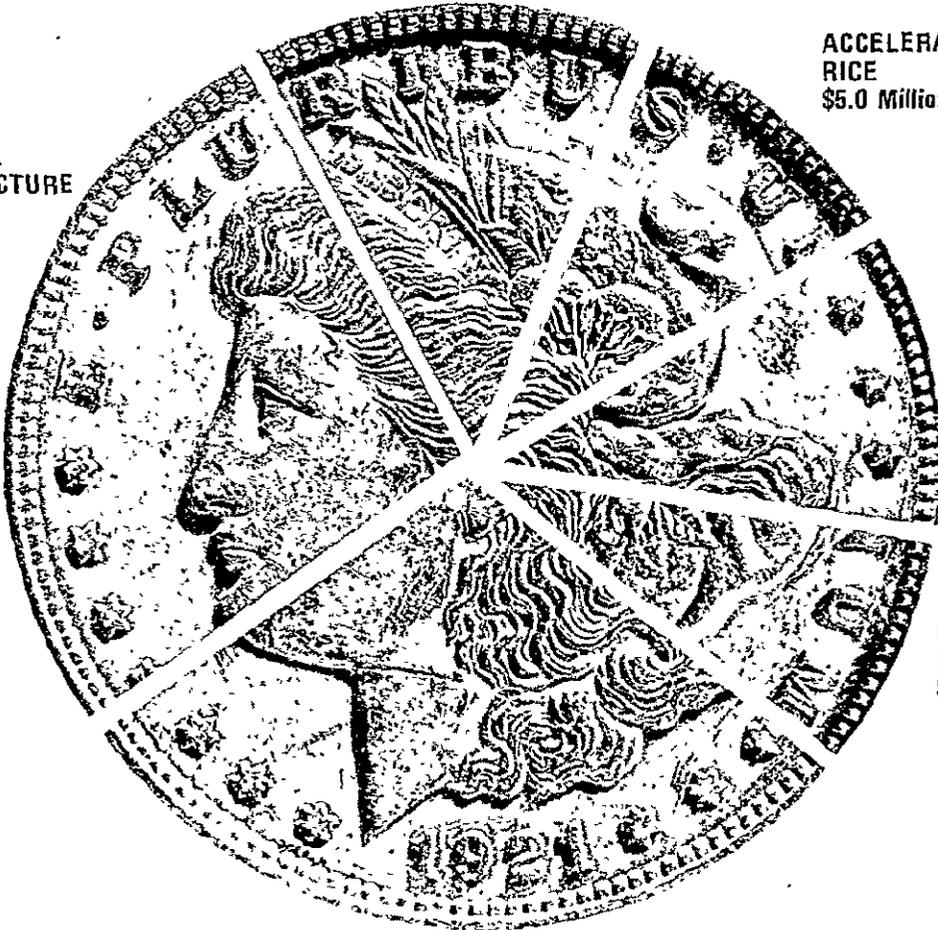
OTHER
(Including Emergency Relief)
\$7.1 Million

**ACCELERATED
RICE**
\$5.0 Million

**PROVINCIAL
INFRASTRUCTURE**
\$13.5 Million

**SCHOOL
RECONSTRUCTION**
\$4.4 Million

**IRRIGATION
REHABILITATION**
\$5.3 Million



**FLOOD
CONTROL**
\$14.7 Million

STATISTICAL DATA

STATUS OF SUPPORTING ASSISTANCE FUND
(Relief and Rehabilitation)
As of March 31, 1974
(\$000)

Project	A l l o t m e n t			O b l i g a t i o n				
	Prior Years Adjustment	Current Year	Total	Cumulative Thru 6/30/74	Subsequent Adjustment	Net Prior	Add Current Year	Total
Emergency Relief	\$ 1,177	\$ —	\$ 1,177	\$ 1,188	(\$11)	\$ 1,177	\$ —	\$ 1,177
Prov. Infrastructure	13,356	193	13,549	13,354	2	13,356	193	13,549
Fertilizer	882	—	882	885	(3)	882	—	882
Irrigation	5,275	26	5,301	5,276	(1)	5,275	26	5,301
Flood Control	14,730	—	14,730	14,730	—	14,730	—	14,730
School Reconstruction	4,361	29	4,390	4,361	—	4,361	29	4,390
Accel. Rice Production	5,036	36	5,072	5,037	(1)	5,036	36	5,072
Food For Work	241	35	276	237	4	241	35	276
Artificial Rain Stimulation	14	—	14	13	1	14	—	14
Squatter Resettlement	8	—	8	8	—	8	—	8
Metropolitan Manila Flood Control Feasibility Study	456	—	456	456	—	456	—	456
O I C C	3,100	—	3,100	3,100	—	3,100	—	3,100
Project Support	664	55	719	655	9	664	55	719
T O T A L	\$49,300	\$374	\$49,674	\$49,300	\$ —	\$49,300	\$374	\$49,674

STATUS OF SUPPORTING ASSISTANCE FUND
(Relief and Rehabilitation)
(\$000)

Project Title	Cumulative Obligation (Exhibit B)	E x p e n d i t u r e			Unliquidated Obligation (Pipeline)
		Cumulative 6/30/73	Current Year	T o t a l	
Emergency Relief	\$ 1,177	\$ 1,159	\$ 10	\$ 1,169	\$ 8
Provincial Infrastructure	13,549	2,398	3,172	5,570	7,979
Fertilizer	882	882	—	882	—
Irrigation	5,301	2,570	1,630	4,200	1,101
Flood Control	14,730	677	1,725	2,402	12,328
School Reconstruction	4,390	844	1,325	2,170	2,220
Accelerated Rice Production	5,072	859	4,186	5,045	28
Food For Work	276	101	98	199	77
Artificial Rain Stimulation	14	—	14	14	—
Squatter Resettlement	8	5	—	5	3
Metropolitan Manila Flood Control Feasibility Study	456	3	78	80	375
O I C C	3,100	528	1,575	2,103	997
Project Support	719	264	202	466	253
T O T A L	\$49,674	\$10,290	\$14,015	\$24,305	\$25,369

ANALYSIS OF PIPELINE
As of March 31, 1974
(\$000)

Project	Pipeline (Exhibit G-1)	C o m p o n e n t			
		U.S. Pers. Cost	Local & TCN Pers. Cost	Commodities	Other Costs
Emergency Relief	\$ 8	\$ —	\$ —	\$ —	\$ 8
Provincial Infrastructure	7,979	21	4	525	7,429
Fertilizer	—	—	—	—	—
Irrigation	1,101	1	—	18	1,082
Flood Control	12,328	171	—	86	12,071
School Reconstruction	2,221	1	—	7	2,213
Accelerated Rice Production	27	7	—	—	20
Food For Work	77	4	6	64	3
Artificial Rain Stimulation	—	—	—	—	—
Squatter Resettlement	3	3	—	—	—
Metropolitan Manila Flood Control Feasibility Study	375	249	—	—	126
O I C C	997	997	—	—	—
Project Support	253	—	38	34	181
T O T A L	\$25,369	\$1,454	\$48	\$734	\$23,133

ASSESSMENT OF THE REHABILITATION EXPERIENCE

- Benefits accrued to people at lower end of economic scale
- Improved GOP management engineering and construction capabilities
- Expanded application of Fixed Cost Reimbursement
- Increased protection against future disasters
- Improved agricultural productivity
- Enhanced rural banking system
- Better nutrition programs
- Closer RP-US ties

- Under-equipped private contractors
- Fuel crisis
- Shortage of materials
- Inflation

TANGIBLE RESULTS

PROBLEM AREAS



THE REHABILITATION EXPERIENCE

Many lessons have been learned from the rehabilitation experience associated with the disaster of 1972. Methods and procedures which were developed for specific projects have been analyzed, and in some cases modified, for application in future programs both in the Philippines and other areas receiving foreign assistance.

FERTILIZER PROJECT: Covering a large area, with many participants, the fertilizer project required careful management and control. Accordingly, USAID established a system which permitted cost reimbursement for fertilizer only upon evidence of delivery to eligible recipients. Seven audit teams of two men each verified through spot checks that fertilizers were delivered, distributed and applied in accordance with the agreement. The audit teams covered 174 barrios and interviewed and inspected the rice fields of 529 recipient farmers. The survey indicated that the fertilizer which was distributed represented the maximum amount that could be effectively used at that time.

ACCELERATED RICE: Two audits were conducted in connection with the Accelerated Rice Project. SGV performed an in-depth audit of the entire project to verify that participating agencies were adhering to procedures embodied in the agreement between the National Economic Council (now National Economic Development Authority), the Department of Agriculture and USAID. This audit revealed that prescribed procedures were generally followed, with several justifiable exceptions which are fully explained in their report. The second audit, to review USAID management effectiveness in monitoring the project, was performed by the USAID Auditor General. This report credits GOP and USAID emphasis on developing good management as the key to the project's success.

FIXED COST REIMBURSEMENT PLAN: Several variations in the methodology of the Fixed Cost Reimbursement Plan have evolved from the rehabilitation experience. When it appeared that government agencies would not have sufficient funds to complete certain projects, three different approaches were employed to solve the problem. In the Provincial Infrastructure Project, lines of credit were established for the responsible agencies; and the concept of reimbursement for a totally completed project was adhered to. In the case of the School Reconstruction Project, the program was divided into sub-projects with reimbursement taking place upon completion of each school. The Irrigation Rehabilitation Project provided for reimbursement based on monthly progress reports. The success of all three of these systems has proven the versatility of the Fixed Cost Reimbursement Plan and its capability for universal application.

IRRIGATION REHABILITATION PROJECT: Employing the Coordinator/Task Force approach to program administration, NIA appointed one official who was put in charge of this project, with the same management arrangement at the regional level. This allowed the USAID project manager to deal directly with one responsible agent in each area. Responsibilities were well-defined because of this procedure, and time required for decision-making was considerably reduced.

FLOOD CONTROL REHABILITATION: The need for good basic design standards and adequate maintenance were proven during implementation of this project. Although a flood control system existed prior to the 1972 flood, it was not designed to afford the required degree of protection and was improperly maintained. The project also pointed up the need for keeping flood control structures free of congestion. As a part of the Flood Control Project, procedures have been devised for proper maintenance of facilities. The Philippine Government has undertaken a program to resettle squatters whose illegally constructed shacks impeded the flow of flood waters rushing through canals in the Manila area.

