

PERU - Floods

Date: January - June 1983 (FY 83)

Location: Coastal departments of Piura, Tumbes, Ancash, Lambayeque, La Libertad, and Lima

No. Dead: 364 (excluding increase in infant mortality)

No. Affected: 700,000 severely affected

Damage: Total damages estimated at \$988.8 million. Agriculture losses totaling \$145.7 million included crops-\$130.0 million (rice, \$45 million; corn, \$12.4 million; cotton, \$46.1 million; sugar, \$10 million; bananas, \$10.1 million; other, \$6.4 million) and livestock and other-\$15.7 million. Infrastructure losses totaling \$398.9 million (repair/replacement costs) included housing-\$60 million (28,000 units damaged, 12,500 destroyed); bridges-\$24.6 million (50 damaged/destroyed); health centers/posts-\$600,000 (75 units destroyed/damaged); schools-\$3.5 million (730 schools-rooms damaged/destroyed); port facilities-\$2 million (five ports affected); roads-\$90.6 million (618 km damaged/destroyed); access roads to oil sites-\$55 million (3,200 km damaged/destroyed); irrigation systems-\$35.7 million (682 km affected canals); urban water/sewerage-\$10.4 million (44 km lines damaged); oil facilities-\$76.5 million (18.5 km affected pipelines); other-\$40 million. Other economic losses totaling \$444.2 million included lost oil production-\$251.5 million; lost fisheries production-\$152.7 million; and other-\$40 million.

The Disaster

Severe flooding in Peru's northern coastal departments during the first half of 1983 and a prolonged drought occurring simultaneously in the southeastern part of the country were both attributed to the "El Nino" phenomenon. Virtually all Peruvians were affected by one or the other of the two disasters, either directly or by disaster-induced inflation. The disasters compounded an already existing financial crisis in Peru. (See also PERU - Drought.)

Heavy rains began in early January in the northernmost departments of Piura and Tumbes. Flood waters from major rivers inundated low-lying sections of the cities of Piura, Sullana, Paita, Talara, and Tumbes, displacing many residents and disrupting basic services. A brief respite was followed by a second deluge in early February which added to the already extensive damage to crops and infrastructure.

As the rains continued unabated over the next several weeks, conditions in Piura and Tumbes Departments steadily deteriorated. A combination of strong sea waves and driving rains sank several small vessels in the ports of Paita and Talara in March and forced the shutdown of a major oil refinery in the latter city. Mudslides and washouts affected roads in the two departments including sections of the Pan American Highway and the Piura - Paita road, the main link between the department's central distribution point and its normal supply port. Casualty figures rose sharply with the deaths of 20 bus passengers in a mudslide on March 24, while the number of homeless continued to grow. By mid-April, an estimated 10,000 homes had been lost or seriously damaged in Piura Department alone. Water and power were being provided at reduced levels, and damage to the sewerage systems in the city of Piura and other towns was creating a serious health hazard.

The affected area, meantime, had expanded south along the coast and into the Sierra foothills. The coastal cities of Chiclayo, Trujillo, and Chimbote and the surrounding low-lying countryside suffered from flash floods caused by runoff from rain in the mountains, while massive mudslides in the hills added to the death toll and threatened entire villages. All highways between the northern coastal cities and the Sierra were obstructed, including the vital Central Highway out of Lima. The Pan American Highway was also periodically impassable as far south as Chimbote. Damage to the road and bridge infrastructure was especially severe in the Chiclayo area (Lambayeque Department) where seven major bridges were destroyed. Housing, too, was extensively damaged in that department, with the heaviest losses in the towns of Tecume and Morrope. In the Chimbote area (Ancash Department), industry was seriously affected when a steel plant and a fish processing factory were forced to close. The valleys of the Moche, Chicana, and other principal rivers were the hardest hit regions in the Trujillo area (La Libertad Department). Throughout the coastal departments, widespread damage occurred to crops and to the irrigation systems so essential to agriculture in that normally dry region.

After a brief respite in early May, renewed severe showers from May 8 to 17 and again on June 3 and 4 in Piura and Tumbes increased the magnitude of damage in those departments and sent relief efforts back to the emergency stage. Rehabilitation work already underway suffered a serious setback.

An estimated 700,000 Peruvians were severely affected by the floods, which killed 364 persons and jeopardized the health of countless others. The heavy damage to trunk and access roads and to other basic infrastructures seriously disrupted economic activities, although the full impact on the economy could only slowly be assessed due to the prolonged and incremental nature of the disaster. The difficulty in delivering food, fuel, and other essential supplies to the main population centers resulted in a rapid escalation in prices, while agricultural losses (especially in rice, cotton, sugar, and corn) and the slowdown in industry greatly reduced family incomes and buying power. It was expected that the long-term recovery effort would require extensive foreign assistance.

Action Taken by the Government of Peru (GOP) and Non-Governmental Groups

The GOP Civil Defense Committee was activated after the initial flooding in January and began sending relief supplies to the affected area. A state of emergency was declared for Piura and Tumbes on February 1, and the relief effort was stepped up as the rains continued. Tank ships with potable water and cargo vessels carrying food, fuel, building materials, and heavy road equipment were sent north from Lima and Callao. The air force deployed aircraft to make daily flights to the flooded area.

On February 15, the GOP issued a formal request to the Office of the United Nations Disaster Relief Coordinator (UNDRO) to launch an international appeal for assistance. The national relief effort was coordinated by the Civil Defense Office in cooperation with the ministries of Agriculture, Housing, Health, and Transportation. Donor assistance was channeled through the National Planning Institute which later conducted a damage assessment. Local emergency committees and Departmental Development Corporations were responsible for executing relief activities in the affected departments. In April, the GOP named the head of the Banco de Materiales as overall coordinator for disaster assistance and reconstruction in Piura.

As the disaster zone expanded, the Civil Defense and relief agencies extended their activities to work with local officials in the newly affected areas. Military helicopters flew relief missions to isolated villages. In all the affected departments, crews worked around the clock to build defenses against river overflows and bridge washouts and to clear mudslides from major highways. Through the efforts of the Civil Defense, the military, and the Departmental Development Corporations, the GOP had spent an estimated \$5 million by early May in keeping roads open and attending to emergency health and feeding requirements.

With relief efforts severely straining the national budget and additional funds needed for a major reconstruction effort, the GOP Congress passed a law on April 20 authorizing the sale of two types of reconstruction bonds: one a mandatory tithe (10%) on all incomes above a certain level (excluding pensioners), and the other a voluntary bond available for investors. It was believed that a maximum of \$150 million could be

derived from this source. The law also authorized the Central Reserve Bank to redesign its monetary program for 1983 to provide credits of approximately \$150 million to the Treasury for reconstruction purposes. In addition, the executive branch was authorized to contract up to \$100 million in new foreign debt. The government provided tax relief for the flood victims in Piura and Tumbes.

Numerous government entities and private organizations assisted the relief and reconstruction effort. The National Food Support Office (ONAA) assisted in food distribution. The Ministry of Health arranged a health survey of Piura and airlifted more than 61 tons of medicines from Lima to that department in late April. Other government ministries implemented special programs to restore services, including the Ministry of Education, which allocated \$1.8 million for an emergency education plan. The Agrarian Bank assigned nearly \$3 million for emergency agricultural projects in Piura and Tumbes, and the National Institute of Agricultural Research and Development was reportedly planning to invest over \$46 million in an emergency plan for growing rice, corn, soya, and sorghum crops in those departments.

Local chapters of the Peruvian Red Cross (PRC) in Piura and Tumbes were involved in the relief effort from the beginning of the emergency, providing first aid and rescue and assessment assistance. The PRC supported local efforts by sending 1,000 sheets of zinc roofing materials, 200 tents, 20 bales of used clothing, 360 bed sheets, 1,000 blankets, 5,000 kg of milk powder, and 1,816 kg of cooking oil. On January 20, the PRC requested assistance from the League of Red Cross Societies (LORCS).

Other Peruvian organizations providing emergency aid included the Family Welfare Institute, the Aero Club del Peru, the Peruvian Pharmaceutical Laboratories Association, Caritas del Peru, and the Adventist Welfare Organization. The Catholic Church issued a national appeal through individual parishes to raise approximately \$923,000 as of April 29.

Contributions were also reported from the following groups:

Accion Popular Parliamentary Wives Club - gave \$30,800 in cash.

American Women's Literary Club - donated cash, value not reported.

Arequipa residents in Lima - donated food and clothing, value not reported.

Army General Command - contributed \$25,670.

Cajamarca residents - donated food, value not reported.

Lima Rotary Club - provided food, value not reported.

Occidental Petroleum - contributed approximately \$65,000 in cash.

Peruvians of Japanese descent - gave \$8,800 in cash.

Peruvian Lions Club - donated relief supplies valued at \$16,363.

Peruvian Sales Managers Association - gave \$175 in cash.

Popular y Porvenir Insurance Co. - gave \$17,000 in cash.

Religious, Cultural, and Education Association - provided \$1,750 in cash.

Tabacalera Nacional - contributed \$17,000 in cash.

University Sports Club - gave \$2,125 in cash.

Venezuelans in Peru - donated food, value not reported.

Assistance Provided by the United States Government (USG)

In response to the GOP's request for assistance, the U.S. Ambassador to Peru, Frank V. Ortiz, Jr., made a disaster determination on February 8 and exercised his disaster assistance authority. A check for \$25,000 was presented to the GOP Director of Foreign Relations to be transferred to the local committees in the affected departments for emergency purchases.

The USG arranged to have long range weather forecasts from NOAA (National Oceanic and Atmospheric Administration) transmitted to Peru to assist the Office of Civil Defense and the Geophysical Institute in monitoring the potential for additional flooding.

As part of the initial USG response, the USAID Mission approved the release of P.L. 480 Title II stocks from regular voluntary agency programs for emergency use. The Mission also undertook a program of periodic monitoring of the disaster situation, sending teams to as many of the accessible affected areas as possible to assess damages and determine relief requirements. At the request of the Mission, A.I.D.'s Office of U.S. Foreign Disaster Assistance (OFDA) provided another \$25,000 in disaster assistance funds for the purchase and transport of additional relief supplies and to cover the cost of field assessments.

In further action, OFDA arranged to have disaster specialists visit the stricken area to assist the Mission teams. A disaster management specialist on temporary assignment in Ecuador traveled to Peru in February and again in April to help conduct a damage and needs assessment and make recommendations concerning USG relief and rehabilitation

assistance. He remained in Peru until mid-June and was joined by a second disaster expert who helped coordinate U.S. emergency action programs with local GOP agencies and other donors. A landslide specialist arrived in Peru on April 20 to begin a three-week investigation of land/mudslide vulnerabilities in Ancash Department. And, in May, the OFDA Director visited Peru to consult with GOP authorities on the U.S. relief role in the two disasters then confronting the country.

USG assistance increased over several weeks as the dimensions of the flood disaster became apparent. On April 20, OFDA airlifted sixteen 3,000 gallon water tanks from emergency stockpiles to provide potable water in isolated areas. Later in the same month, OFDA approved the release of funds to help the GOP restore the vital road link between the city of Piura and the port city of Paita to permit the resupply of inland areas with food, fuel, and other essentials. At the request of the GOP National Water and Sewerage Authority, OFDA arranged for the shipment to Peru of two sewer cleaning machines for use in Piura and other cities. Three technicians accompanied the machines to train local operators in their use. OFDA concurred in the funding of two other emergency projects identified by the Mission which, however, could not ultimately be carried out because of the new destruction caused by torrential rains in May and June. The funds were used instead for two emergency projects connected with the drought disaster and the following emergency projects in response to the flooding: 1) the Ayabaca road re-opening project (involving 8 km of highway in Piura buried under mudslides); 2) the Huarmaca road re-opening project (involving 70 km of roadway in Piura obstructed by landslides and debris); 3) a potable water rehabilitation project for small villages (involving several rural areas in the departments of Piura and Tumbes); and 4) a sewerage repair project for the municipality of Tumbes. In late August, OFDA provided initial funding of \$90,000 for two flood and seven drought disaster projects to be carried out by Catholic Relief Services (CRS).

In addition to using disaster funds, the USG committed resources from both regular and supplemental programs to assist the relief and reconstruction effort in Peru. As of early September, over 1,000 MT of P.L. 480 Title II food had been diverted from regular voluntary agency programs for use in the flood-affected departments. Supplemental emergency shipments of food to Peru in response to both flood and drought disasters consisted of the following: 27,826 MT of Title II commodities (wheat flour, bulgur, cornmeal, rice, and vegoil), valued at \$14,217,000 (including freight); and 28,000 MT of Title I foods for commercialization, valued at \$10,500,000 (commodity value only).

Other ongoing A.I.D. programs tapped for emergency assistance included a health project from which funds were used for the purchase of approximately 7.5 tons of medicines to supply isolated outposts. The Peruvian Air Force airlifted the prepackaged medicines to identified areas of need. A.I.D. also agreed to make \$1.4 million available from an existing housing guarantee program for housing reconstruction and later approved an additional \$12.5 million in housing investment guarantees in response to new requirements resulting from the flood disaster.

An A.I.D. Development Assistance Project totaling \$65 million (\$34 million in loans and \$31 million in grants) was authorized to fund selected programs identified by the GOP National Disaster and Reconstruction Agency. A total of \$8.301 million was obligated in grant funds in FY 1983, with the remaining \$22.699 million to be obligated in FY 1984. Loan funds obligated in FY 1983 amounted to \$3 million; the remaining \$31 million will be obligated in FY 1984.

Summary of USG Assistance

Ambassador's authority used for local relief.....	\$25,000
Additional funds for local relief and disaster assessment.....	\$25,000
Airlift of sixteen 3,000 gallon water tanks from OFDA stockpile.....	\$3,736
Cost of two sewer jets and vacuums, including ocean freight.....	\$229,223
Cost of Piura/Paita road project.....	\$120,000
Cost of emergency projects (includes \$138,000 for local purchase and transport of potato seed and food for drought disaster assistance).....	\$390,000
Start-up costs for two CRS flood rehabilitation projects.....	\$20,000
Administrative costs of disaster management specialists.....	\$33,739
Administrative costs of landslide expert.....	\$9,491
Administrative costs of sewer project technicians.....	\$9,280
Total OFDA Assistance.....	\$865,469

Value of 27,826 MT of P.L. 480 Title II commodities (includes ocean freight).....	\$14,217,000
Value of 28,000 MT of P.L. 480 Title I commodities (commodity value only).....	\$10,500,000
Total P.L. 480 Titles I and II	\$24,717,000
A.I.D. Development Assistance Project (FY 83-grant funds only).....	\$8,301,000
A.I.D. Development Assistance Project (FY 84-grant funds only).....	\$22,699,000
Total A.I.D. Development Assistance Project (FY 83 and FY 84 - grant funds only).....	\$31,000,000
Total USG Assistance (FY 83).....	\$33,883,469
Total USG Assistance (FY 84).....	\$22,699,000
Total USG Assistance (FY 83 and FY 84).....	\$56,582,469

Assistance Provided by U.S. Voluntary Agencies and Other
Private Groups

American Red Cross - provided services of a delegate through LORCS.

CARE - donated clothing valued at \$10,000; diverted P.L. 480 Title II foods from regular programs and distributed an additional 2,300 MT of Title II foods in emergency programs.

Catholic Relief Services (CRS) - gave \$55,000 in cash and clothing valued at \$150,000; carried out two rehabilitation projects in the Lacramarca Valley of Chimbote Province, assisting the people of 12 villages in the areas of health, nutrition, housing, and agriculture. (See also USG assistance). CRS also distributed approximately 1,000 MT of P.L. 480 Title II commodities in food for work programs in the flood-affected departments and over 11,000 MT of P.L. 480 Title II foods in the drought-affected area.

Church World Service (CWS) - forwarded \$20,829 in cash raised in a February appeal for funds and issued a second appeal in May. CWS diverted P.L. 480 Title II foods from regular program stocks and distributed approximately 1,000 MT of P.L. 480 Title II supplemental commodities in food for work projects.

Cubans in Miami - provided food and a microscope, value not reported.

Peruvians in New York and New Jersey - gave \$12,000 in cash.

Seventh-day Adventist World Service (SAWS) - provided tools and clothing, value not reported; diverted P.L. 480 Title II commodities from regular programs and distributed approximately 1,000 MT of P.L. 480 Title II foods in emergency programs.

World Vision International - donated \$36,000 in cash for the local purchases of food, roofing materials, and water pipes.

TOTAL \$283,829

Assistance Provided by the International Community

[Please note: Although every effort has been made to include all contributions reported to OFDA and to avoid double counting, it has not always been possible to separate contributions intended for flood relief from those directed toward the drought disaster.]

International Organizations

Andean Development Corporation - provided \$20,000,000 in cash.

European Economic Community - contributed a total of \$394,600 in cash through LORCS and Deutsche Welthungerhilfe.

Fondo Inter-Americano Par Situaciones De Emergencia - gave \$5,000 in cash.

International Confederation of Free Trade Unions - donated \$1,000 in cash through UNDRO.

International Development Bank - conducted a disaster assessment and proposed a reconstruction assistance program.

League of Red Cross Societies (LORCS) - issued appeals on behalf of the Peruvian Red Cross in January and April to cover foodstuffs, transportation, communications equipment, warehousing, and League delegate costs; advanced \$28,000 to the PRC from the Disaster Relief Emergency Fund. (This amount was presumably reimbursed from contributions.)

Organization of American States - through the Pan American Development Fund, donated one disaster hospital for Piura, value not reported.

Pan American Health Organization/World Health Organization - participated in a five-day health assessment mission to Piura Department organized by the Peruvian Ministry of Health; reprogrammed several activities to provide disaster relief support, including technical cooperation to oversee use of water testing equipment.

UNDRO - launched an appeal to the international community on February 15 on behalf of the GOP and donated \$20,000 in cash for essential relief supplies. UNDRO sent a delegate to Peru in February to conduct a damage and needs assessment, and the UNDRO/UNDP resident representative continued to monitor the situation during the emergency phase.

UNICEF - provided \$44,500 in cash for the purchase of oral rehydration salts, water treatment supplies, insecticides and spraying equipment, and an additional \$43,500 in cash for children/mothers.

World Food Program - approved three quick action rehabilitation responses (two of them for the flood disasters, with food value of approximately \$3,000,000).

Governments

Argentina - donated food and medicines, value not reported.

Australia - gave \$19,220 in cash through UNDRO, medicines worth \$55,000, and four tons of clothing, value not reported.

Austria - with the Federal Republic of Germany and Switzerland, donated one ton of medicines, value not reported.

Belgium - gave \$123,000 in cash.

Brazil - donated medicines valued at \$5,787 and foodstuffs, value not reported.

Bulgaria - pledged \$55,000 in cash.

Canada - contributed \$125,000 in cash, \$450,000 worth of medicines, and 635 bags of milk powder, value not reported.

Chile - provided 50 tents valued at \$25,000.

China, Peoples Republic of - gave \$50,000 in cash.

China, Republic of - donated \$10,000 in cash.

Czechoslovakia - pledged antibiotics and medical equipment valued at \$2,800.

Finland - provided dried skim milk valued at \$166,660 (including transport) and \$10,000 in cash.

France - gave \$15,000 in cash.

Germany, Federal Republic of - donated \$429,650 in cash; medicines and 5,000 MT of wheat, value not reported; and 38 Mercedes Benz trucks (with a soft loan of approximately \$1.5 million).

Hungary - pledged \$150,000 worth of medicines and \$200,000 worth of equipment.

Israel - donated canned fish and tools all valued at \$4,500.

Italy - provided a total of \$347,222 in cash for blood plasma and transportation equipment; also 5,000 MT of rice for monetization, value not reported.

Japan - contributed \$50,000 in cash; 205 kg of clothing, value not reported; and \$15 million in short term credit for the purchase of heavy machinery.

Korea, Republic of - provided water pumps and medicines, value not reported.

Netherlands - gave \$55,556 in cash for the purchase of food and medicines.

Norway - donated \$28,889 in cash.

Panama - gave clothing and food, value not reported, and \$4,326 in cash.

Rumania - donated 500 kg of medicines, value not reported.

Soviet Union - contributed 1.7 MT of food, valued not reported.

Spain - provided blood plasma, clothing, and food; value not reported.

Sweden - gave \$208,000 in cash.

Switzerland - provided technical assistance, 10 tons of milk powder, funds to reconstruct six health centers, one earth moving machine (purchased locally), and cash grants; all valued at \$463,076.

United Kingdom - donated \$32,222 for the local purchase of relief supplies.

Vatican - gave \$25,000 in cash to Caritas Peru.

Venezuela - donated \$10,000 in cash.

Voluntary Agencies

Canada Red Cross - gave \$5,000 in cash through LORCS.

Caritas Belgium - donated \$5,000 in cash.

Caritas Germany - gave \$83,333 in cash.

Caritas Netherlands - gave \$11,538 in cash.

Colombia Red Cross - contributed \$5,000 in cash through LORCS.
Denmark Red Cross - gave \$5,952 in cash through LORCS.
Dutch Mission Organization - donated \$55,500 in cash.
Finland Red Cross - donated \$3,773 in cash through LORCS.
German Aid Action - gave 348 kg of medicines, value not reported.
German Lutheran Church - donated \$56,900 in cash.
Guatemala Red Cross - provided 45 MT of food, value not reported.
Korea (Republic of) Red Cross - gave \$1,000 in cash through LORCS.
New Zealand Red Cross - gave \$365 in cash.
Norway Red Cross - donated \$14,084 in cash through LORCS.
Oxfam - gave \$25,600 in cash.
Spain Red Cross - contributed clothes and food valued at \$19,565.
Sweden Red Cross - gave \$8,219 in cash through LORCS.
Switzerland Red Cross - donated \$10,050 in cash through LORCS.
United Kingdom Red Cross - gave \$3,226 in cash through LORCS.

TOTAL \$26,943,613