

ECUADOR—PERU

Earthquake

... measuring 7.6 on the Richter magnitude scale, lasting 40 seconds, strikes Ecuador/Peru border areas. Epicenter of the earthquake was 40°S, 80.7° W. In Ecuador, Loja Province was the most affected; in Peru, two provinces—Piura and Tumbes. Consequences to each country were:

Ecuador—29 persons killed, 120 injured, 27,992 left homeless, 60,000 affected; property losses—929 houses destroyed, 6,000 damaged, 200 public buildings and 192 schools destroyed; estimated dollar damage—\$4 million.

Peru—29 persons killed, 252 injured, 15,000 left homeless; property losses—5,000 houses damaged beyond repair; estimated dollar damage—\$2 million.

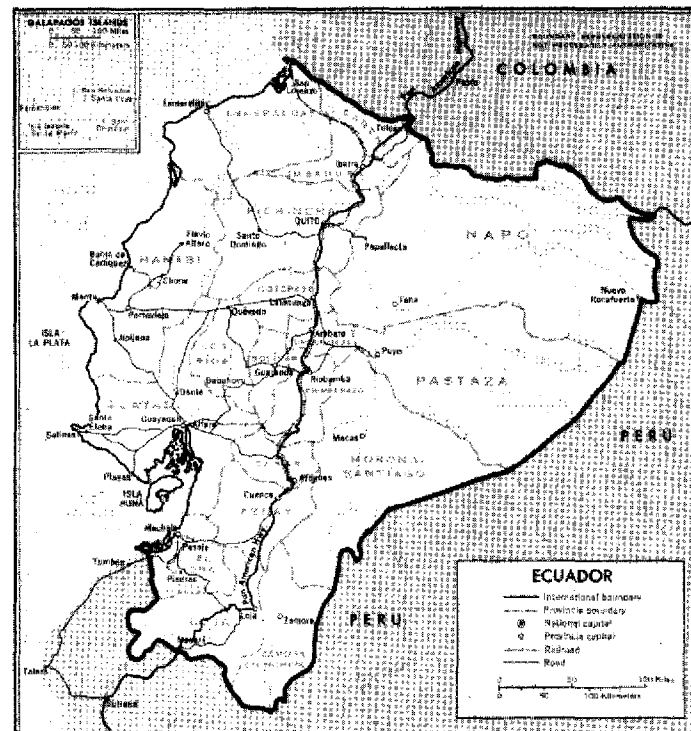
Value of U.S. Assistance	\$157,727
Value of Assistance by Other Nations	42,000
	<u>\$199,727</u>

DETAILS—GENERAL

On December 9, 1970, a strong earthquake struck the border areas of Ecuador and Peru at approximately 11:30 P.M., local time. A series of lesser tremors were felt throughout December 10, with a sharp one measuring about 5 on the Richter scale occurring about 12:45 A.M. By December 15, 50 aftershocks of varying intensities had been reported.

DETAILS—ECUADOR

In Ecuador, the earthquake affected approximately 60,000 people in a 100 square mile area of Loja Province. An Ecuadorian



army officer described the heaviest damage as being on a line commencing in the Northwest at Alamor through Celica, Cariamanga and Amaluza to the Southeast. The small centers north of Loja-Cariamanga-Macara road were badly hit. All roads, however, remained open.

In the Northeast, Cariamanga with a population of 9,000 sustained extensive structural damage to 90 percent of its houses, and the hospital and school were destroyed or damaged beyond repair. Severe property damage also occurred in some of the villages. Alamor had moderate to severe structural damage to its more than 250 houses, as did Sabiango, while damage to buildings in Celica was mild. Macara was only moderately affected. It had the only airstrip in the earthquake zone which could accommodate C-130 aircraft and became the base for receiving and disbursing supplies for other towns and villages.

While there were a few communities severely affected, damage generally was confined to cracked walls and caved-in roofs. Most of the schools reported beyond repair were old, small ones of simple construction in outlying areas. The several new Alliance for Progress schools fared quite well. In all, 6,000 homes were damaged—80 percent with collapsed or damaged roofs and 20 percent with cracked and broken walls.

Many of the people from villages in the outer regions came into the larger towns looking for food and water. The immediate needs for the entire area were for shelter (tents), food and construction material (roofing).

Ecuadorean physicians who visited the area found very few injuries. The few requiring hospitalization had already been evacuated to Loja or Macara. The most common medical problem among most of the population was anxiety, which in some cases required sedation. Problems of public health and sanitation were not critical nor was there an immediate danger of epidemic from water or pests. There was some overcrowding in a few of the tent cities and difficulty in obtaining enough water since the rivers at the end of the dry season were running low. Sanitation, poor to begin with, was essentially unchanged.



By December 14, it was reported that people in some of the towns were in the process of rebuilding and moving back into their houses. Other towns, lacking leadership, made no immediate effort to clean up or to reconstruct. Also many people were slow to return to their homes for fear of another earthquake.

A description of the province in which the earthquake occurred follows. Loja is the largest province in Ecuador with a scattered population of over 300,000. For the most part it presents a depressing scene, both from the standpoint of poverty and the terrain. Agriculture is generally restricted to deep cut narrow river valleys and gorges. Drought is an old story in this region. Communications and public facilities are limited. Brand new, colorful Alliance for Progress schools and occasional good sections of road stand out as the only signs of limited progress. Most of the houses in the countryside are adobe, or cane. The roofs are most frequently constructed of earth tiles.

DETAILS—PERU

Tumbes, a provincial capitol located on the Pacific coast, was the nearest Peruvian town to the epicenter of the earthquake. Communication to this extreme northern province was temporarily cut off. Initial news about the disaster was only available from travellers coming out of the province. The Province of Piura was also seriously affected.

In all, some 5,000 homes were damaged beyond repair. The greatest source of casualties was from falling adobe houses. Despite some damage caused by cracking, openings of the ground, slipped bridges and fallen debris, the roads remained transitable. The most serious damage occurred in the small agricultural or fishing villages. Larger towns with better quality house construction such as Sullana, Talara and Tumbes reported less damage. The City of Piura escaped with little or no damage to housing or public buildings other than medium damage to four schools. Irrigation systems in Chira and Tumbes River Valleys were seriously damaged. One US Peace Corps Volunteer in Tumbes Province received a broken leg.



As of December 14, the situation of these two provinces was nearly normal with no lack of food or medicines. News media, however, reported that on December 18, the President of Peru declared a state of emergency for the districts of Salitral, Querecotillo, Mancoro, Casitas, Corrales and Canaveral. The decision was taken to rehabilitate the region quickly and to bring about economic recovery in the shortest possible time.

ACTION TAKEN BY THE GOVERNMENT OF ECUADOR AND LOCAL ORGANIZATIONS:

The Ecuadorean Army was in charge of the earthquake relief program. It acted promptly and disaster operations were well organized. Four temporary commissions were established—Nutrition, Health, Clothing and Housing—all of which functioned with commendable dispatch under the direction and coordination of the Army, assisted by the Ministry of Public Health. Incomplete information on value of in-country contributions includes \$84,600 from public sources and \$135,640 from private sources, the bulk of which was raised through TV marathon shows. Contributions of the Ecuadorean Red Cross in medicines, roofing sheets and clothing totaled \$15,000.

The above figure for public assistance does not include services and cost of surface and air transport. (For example, an "air bridge" was set up between Guayaquil and Loja.) An Ecuadorean Air Force plane engaged in relief efforts crashed, killing all nine people on board.

Medical aid was prompt and well organized by Ecuadorean doctors and the Army.

The Army received, warehoused and trucked food to the affected areas and coordinated its use in established zones in cooperation with local civilian officials. Food, in pre-established amounts, was turned over to local school and public committees for distribution. The Army kept complete records of food distribution which later checked out very well with the established plan. At the start, efforts were made to serve the food only in prepared form. For example, in Carimanga, prepared hot food was served at established feeding centers.

for 15 days. Thereafter, it was distributed in bulk form. Local Army officers explained that the system broke down because teachers tired of preparing the food, and the distances many people had to come to get the food twice a day were excessive.

It was reported that 60,000 people—34,000 children and 26,000 adults—received food under the plan set up by the Government of Ecuador Nutrition Commission. The GOENC input was 730,000 pounds of rice, potatoes, salt, sugar, beans, onions and peas, while 423,000 pounds of USG P.L. 480 food commodities were made available by CARE and Catholic Relief Services.

Assistance was requested from the USG for tents, food and airlift and for a survey team. From January 12-16, 1971, Mr. H. E. Haight of the U.S. AID Mission made a field trip to some of the communities affected by the earthquake. He was accompanied by Sr. Cesar Astudillo of Catholic Relief Services. His trip report included the following statement concerning food:

“Probably more food went into the area than could be justified by requirements growing out of the emergency. Perhaps one half of the amount of food and one half the time of distribution would have sufficed. However, considering the poverty of the area and the psychological/morale factors involved this concrete evidence of government and outside concern was both appropriate and useful.”

Sr. Astudillo based on several years' experience in CRS' feeding programs, regarded this operation as the best run he had ever seen. He gave much credit to the Ecuadorean Army for its success.

ASSISTANCE PROVIDED BY THE GOVERNMENT OF PERU AND LOCAL ORGANIZATIONS:

Early on the morning of December 10, the Government of Peru dispatched two Peruvian Air Force planes to the earthquake area with 10 tons of medicines, food, clothing, and

other relief supplies. Soon after, teams of doctors, nurses and assistants went into the area. An antityphoid vaccination program was immediately carried out.

At noon on December 10, the Ministers of Interior, Housing and Health left in the presidential plane to make a personal survey and inspection and to set up relief procedures. They arrived in Piura at 1700 hours and quickly formed a Regional Relief Committee.

On December 11, a Peruvian Air Force Hercules flew in with additional food, medicines and supplies followed by truck convoys, including tanks of potable water for the smaller towns.

Besides the Peruvian Government and Military, JAN (Junta de Asistencia Nacional), CARITAS and the Peru Red Cross were involved in the relief operations. JAN and CARITAS received and distributed food provided by U.S. voluntary agencies. The Red Cross sent 12 tons of relief supplies and also participated in distributing them to the earthquake victims.

USG-donated tents



The Peruvian Military formed special groups to attend to tasks related to medical needs, housing repair, food distribution, damage surveys, irrigation repair and agriculture.

A U.S. Mission Report stated: "Rapid attention by the Government of Peru to disaster area problems displayed experience gained in previous disasters."

ASSISTANCE PROVIDED BY THE U.S. GOVERNMENT:

Ecuador

The American Ambassador declared the disaster to be of a magnitude to warrant USG assistance and authorized expenditures up to \$25,000 under his disaster relief authority. This was later increased with approval of AID/DRC Washington to \$95,000 to cover reimbursement to the U.S. Military in Panama for a Disaster Area Survey Team, 500 tents, medical supplies and two helicopters, which had been requested by the Government of Ecuador.

The Deputy Chief of Mission in the American Embassy personally arranged for the survey team, supplies and airlift from Panama.

USAID made the arrangements for use of in-county P.L. 480 Title II food for disaster relief in liaison with CARE and Catholic Relief Services and sent representatives to the area

The Disaster Area Survey Team (DAST), headed by Major Juan R. Collazo, Jr., arrived in Ecuador on December 11 on board a US C-130, which also carried plasma and medicines. On December 12, two more C-130's airlifted two UH-1 helicopters, a communications team with equipment, portable generators and 144 tents, and a fourth C-130 flew in with 356 tents on December 13. The Command Post for DAST was set up at Macara where communications personnel and helicopters were based.

The primary mission of DAST was to assess the damage to population and structures and to determine the immediate as well as extended needs of the area. Its after-action report not only covered towns and villages visited in making the survey but also made certain recommendations for future use of DAST as follows:

1. That DAST bring one 1/4 ton vehicle as an essential item of equipment. A great deal of time was wasted by this DAST waiting for transportation into the area.
2. That the chain of command be clearly delineated on arrival of the DAST and that the Commander of DAST be given control of all US personnel in the disaster area.
3. That all MILGROUPS develop a disaster plan and coordinate with local government agencies in training personnel in preparation for a disaster relief effort.
4. That all MILGROUPS be prepared to brief the DAST on background information concerning the area of the disaster. Such information as geography, climate, population distribution, public works, and public health existing prior to a disaster is essential in making any accurate survey.
5. That accurate maps of the area be available for the DAST, also essential to an accurate survey.
6. That medical care, transportation and distribution of supplies be done by local organizations whenever possible so that the people of the area will gain confidence in their own resources and will not become overly dependent on outside assistance.

Summary of U.S. Government contributions:

500 tents from Panama	\$ 44,625
Ocean transport costs for replacing tents in stockpile	3,800
DAST Team, Army and Air Force personnel per diem and travel	2,860
Medical supplies from USARSO ..	5,871

Flying hour costs, U.S. Army helicopters	2,115
Flying hour costs, USAF C-130's	<u>35,387</u>
	\$ 94,658

P.L. 480 Food

CARE commodities—67,000 pounds of nonfat dry milk, 4,000 pounds flour; 1,000 each bulgur and rolled wheat and 12,358 pounds vegetable oil	
CRS—30,000 pounds CSM; 25,000 pounds flour; 60,000 pounds cornmeal, 31,700 pounds bulgur, 88,342 pounds rolled oats, and 23,100 pounds of vegetable oil	
CCC value this 343,500 pounds	<u>\$ 34,431</u>
	\$129,089

USG-donated tents.

The Ecuadorean Military at Macara acknowledged receipt of only 444 of the 500 tents delivered by the C-130's. Speculation was that the US helicopters had distributed the missing 56 tents directly to other sites in the disaster area.

Initial reports on the disaster were exaggerated. As a consequence, US response in tents and foods was in excess of actual need. See above comments under GOENC actions concerning food. The excess tents created no serious loss as the Ecuador Army established procedures (including a receipt form used at some locations) to re-collect the tents and warehouse them for use in future disasters. The Mission recommended that reference be made to the existence of these tents and the Military's verbal commitment to retain them for other disasters, should the US receive a new request for same in the future.

Peru

No outside assistance was requested by the Government of Peru. The U.S. Mission reported that the Government of Peru took prompt and effective relief action in what was considered a relatively minor disaster. However, USAID recommended

that the two northern districts affected be made eligible under the rehabilitation and reconstruction assistance grant for the May 31, 1970 earthquake.

The electric power system in Tumbes sustained damage estimated at \$125,000. Tumbes had a 25 percent shortage in electric power at peak demand hours prior to the earthquake and needed extra power supply. New power sources could not be sought by the Servicios Electricos Nacionales under its planned budget because it had become necessary to make repairs to the existing power system. It was recommended by USAID and approved by AID/W that two 800 KW generators, provided for areas affected by the May 1970 earthquake under the USG \$7.4 million reconstruction grant, be utilized in Tumbes. Value of these generators was included under the earlier earthquake report and is therefore, not included here.

Catholic Relief Services and Seventh-Day Adventist Welfare Service delivered P.L. 480 food to the two provinces but report on amount and value was not received.

ASSISTANCE PROVIDED BY U.S. VOLUNTARY AGENCIES

Ecuador

CARE and CRS made above P.L. 480 food available:	
CARE—also donated 150 cases of baby food valued at	\$ 638
Catholic Relief Services—also donated cash for self-help and reconstruction	<u>20,000</u>
	\$20,638

Peru

Catholic Relief Services gave assistance through CARITAS, which was active in the relief effort. Kind, quantity and value were not reported.

Church World Service—On December 11, CWS sent two representatives and a truck with food commodities, as well as 25 tents and 500 blankets with an estimated value of	\$ 4,000
Seventh Day Adventist Welfare Service—Sent a truck with 8 tons of clothing, food, medicines, which arrived on December 11. Estimated value	<u>\$ 4,000</u>
	\$ 8,000

ASSISTANCE PROVIDED BY OTHER NATIONS AND INTERNATIONAL ORGANIZATIONS:

Ecuador

Organization of American States—Purchased 40,247 corrugated asbestos roofing panels (made in Ecuador and called "Ardex") to reroof 700 to 800 homes at a cost of	\$30,000
The Government of Peru sent 5 tons of clothing to Ecuador and 2,000 gallons of gasoline, and the Peru Red Cross furnished an airplane with medical staff and two tons of medicines and cloth. No value was given but this has been estimated by AID/DRC at approximately	<u>\$12,000</u>
	\$42,000

Peru

No requests were made for outside assistance from the OAS or other nations.