

*Cyclone*  
TONGA - ~~Floods~~

Date: March 3, 1982 (FY 82)

Location: Nationwide - Vava'u, Ha'apai, and Tongatapu

No. Dead: Six confirmed

No. Affected: Entire population (estimated at 100,000); almost 50% were homeless immediately after the disaster

Damage: Total damage was estimated at \$21,199,997.

Agriculture/Forestry/Fisheries:	\$7,257,142
Subsistence Crops (roots, bananas, trees, vegetable and animal products):	\$3,610,989
Cash Crops (vanilla, bananas, coconut):	\$3,387,912
Forestry/Fisheries:	\$258,241
Building/Construction:	\$9,508,791
Residential:	\$5,865,934
Tongatapu:	\$3,221,978
Ha'apai:	\$2,289,010
Other:	\$354,946
Non-Residential:	\$3,642,857
Commercial/Business:	\$4,434,064

The Disaster

Cyclone Isaac originated in an area northeast of Western Samoa and southeast of Tokalau. It then traveled south past Samoa and at 4:00 a.m. on March 2, 1982, a cyclone alert was issued for all of Tonga. By 10:00 a.m., Cyclone Isaac was centered about 544 km northeast of Vava'u with winds at 60 knots and intensifying.

At about 1:00 a.m. on March 3, the center was 64 km east of Vava'u, and by 5:00 a.m., it had moved to 32 km northeast of Lifuka Island in the Ha'apai group. Isaac continued its southwesterly movement through Nuk'alofa, the capital of Tonga. Then Isaac gradually weakened and moved off to sea.



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As the storm passed over the Ha'apai group, low-lying areas were flooded by a combination of high tides and tidal swells. The severity of Cyclone Isaac and the associated sea surges caused the worst damage in Tongan history. Agricultural and building damage was particularly ruinous and dramatic. The Tonga Minister of Health estimated the following food losses due to the cyclone:

Taro:	30% (6,179 long tons)
Cassava:	60% (6,482 long tons)
Sweet potatoes:	40% (173 long tons)
Yams:	50% (1,386 long tons)
Bananas:	Up to 90%
Breadfruit:	Up to 90%
Vanilla:	35%
Coconut:	100% for export; 50% of local
Manioke:	60%
Poultry:	16%
Pigs:	8%

Below is the estimated damage sustained by region:

Ha'apai -	95% of the buildings damaged or destroyed; 10-20% of the coconut palms felled; ground crops damaged
Vava'u -	40% of the houses damaged or destroyed; 20% of the coconut palms felled; ground crops damaged
Tongapatu -	80% of the buildings damaged or destroyed; 5-10% of the crop destroyed; ground crops damaged
Nuku'alofa -	10-15% of the buildings destroyed; 50-60% of the buildings heavily damaged; power station destroyed; harbor, jetty, and shoreline heavily damaged

In addition, the wharf in Vava'u sustained severe damage as did a number of yachts and fishing boats in Neiafu harbor. Thirty-two boats and numerous canoes were reported destroyed in Ha'apai and a considerable amount of fishing equipment was lost. One ship was overturned and another ran aground in Nuku'alofa harbor. In addition, numerous smaller boats were smashed or sunk.

### Action Taken by the Government of Tonga (GOT)

The GOT set up the National Office of Disaster Relief and Reconstruction (NODRR) under the direction of the Minister of Health to coordinate and implement relief and reconstruction programs. NODRR coordinated the distribution of relief supplies and conducted surveys to establish the extent of the damage and both immediate and long-term needs. Sub-offices of NODRR were established in Ha'apai and Vava'u.

The Tongan Red Cross issued an appeal to the League of Red Cross Societies (LORCS) for additional aid, while the Tongan government also requested help from the international community. The GOT established a relief and reconstruction fund of one million Tongan dollars (approximately US \$1.2 million).



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Health Department officials took care of the sick and injured and with the help of the Red Cross, they also treated affected water supply systems and polluted areas with chemicals. A work schedule was devised for rebuilding severely damaged water systems.

Crews of former Board and Post and Telecommunications linesmen restored cable and wireless services with assistance from the New Zealand and Australian armed forces within days of the disaster. However, the restoration of communications among the islands was erratic and Nuku'alofa was cut off from the rest of Tonga for three days after Cyclone Isaac. After communications were restored, many areas faced some delay in receiving emergency food, blankets, shelter, and medical supplies.

Close to 15,000 people were mobilized into relief and reconstruction activities under the direction of NODRR. People were urged to begin replanting and rebuilding immediately and the Tongans responded enthusiastically. Seeds donated by various organizations were distributed with the emphasis on fast-growing vegetables to meet food needs for the first three months following the storm.

The state of emergency ended about a month later in early April, and the relief operation moved into the reconstruction phase, except for some temporary emergency feeding which lasted several more months.

### Assistance Provided by the U.S. Government (USG)

On March 4, 1982, very shortly after Cyclone Isaac had ravaged Tonga, Ambassador Fred J. Eckert declared the situation to be of disaster proportions, and he used his disaster assistance authority to donate \$25,000 to the Tongan Hurricane Relief Fund.

Within a week of the storm, the A.I.D. South Pacific Regional Development Officer (based in Fiji) arrived in Tonga to make an on-site damage assessment and advise the mission on an appropriate response. The Peace Corps Director in Tonga was designated the USG aid coordinator. Peace Corps volunteers served on a Tongan assessment/survey team, helped erect USG-supplied tents, and aided in restoring water supply facilities.

It was determined that providing food and temporary shelter, particularly tents, were top priorities. Thus, the USG contributed 500 tents and tent flies (valued at \$257,862); 200 rolls of plastic sheeting (worth \$43,000); 315 cotton blankets (with a value of \$1,675); and 520 five-gallon collapsible plastic water containers (\$800). These supplies were airlifted from the Guam stockpile at a cost of \$159,487. In addition, 456 hurricane lanterns, 144 chimneys, and 20 rolls of wicks and labels (all valued at \$2,377) were donated to the relief effort. The USG also arranged the transport of 300 tents donated by the Seventh Day Adventist World Service (SAWS) for \$19,622.



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To alleviate the food shortage, the USG provided 41 tons of taro in three shipments. The total value of the food and transport was \$33,718.

To help the rehabilitation process, the USG donated \$64,000 to the Foundation for Peoples of the South Pacific (FSP) for small relief/reconstruction projects. (One project assisted 65 families to develop and plant home vegetable gardens.)

TOTAL \$607,541

Assistance Provided by U.S. Voluntary Agencies\*

Agricultural Cooperative Development International - worked with the Tonga Cooperative Association.

American Red Cross - contributed \$10,000 in cash.

California and Utah residents (U.S. citizens and Tongans) - provided 225,000 pounds of food and clothing, value not reported.

Church of Jesus Christ of the Latter Day Saints - donated food, value not reported.

Church World Service - contributed \$20,000 in cash and issued an appeal for \$500,000.

FSP - worked with the Peace Corps in restoring water facilities and performed other relief activities.

Hawaii residents (U.S. citizens and Tongans) - provided 65,000 pounds of non-perishable food and clothing, value not reported, and \$19,000 in cash.

SAWS - donated 300 family-size tents, with a value of \$72,000.

World Vision International - provided \$12,000 for the purchase of food, fishing nets, utensils, and kerosene lamps.

TOTAL \$133,000

Assistance Provided by the International Community\*

International Organizations

European Economic Community - contributed \$82,304 in cash and made a representative available to coordinate information between donors and the government, at a cost of \$17,911.

Food and Agriculture Organization - sent a team to survey damage to the coconut crop, value not reported.



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LORCS - donated 30 tons of rice, 10 tons of skimmed milk powder, and 10 tons of canned meat and fish, value not reported, through the Australian Red Cross.

U.N. Development Program - provided \$30,000 to be used for agricultural rehabilitation.

UNDRO - contributed \$30,000 to be used for emergency food crop replanting projects, and made a representative available to assist in relief operations and assessment surveys, value not reported.

UNICEF - gave \$50,000 for five water storage tanks, two tank stands, one windmill with replacement parts, and various medical supplies for maternal and child health centers; and donated seeds, fertilizers, and chemicals worth \$10,000.

World Council of Churches (WCC) and Caritas Internationalis - issued a joint appeal for \$500,000 for seeds, insecticides and community housing; WCC also gave \$20,000 in cash to the Tongan National Council of Churches and \$50,000 in cash for the purchase and transport of corn and potato seeds from Australia.

World Food Program - provided 954 tons of wheat flour and 96 tons of vegetable oils, valued at \$500,000.

### Governments

Australia - sent three delegates and five Hercules aircraft transports with 400 tents, 25 tons of taro, 24 tons of rice, 3 tons of tinned meat and fish, medicines, electric generators, water purification equipment, two Huey helicopters, and 50 Army engineers and communications experts with equipment to assist in damage assessment, provided 640 MT of flour and 90 MT of sugar, worth \$317,460; set up a communications base station at the Tongan disaster relief headquarters and three stations on outlying islands; sent health inspectors to assess the potability of outlying water supplies; and donated a shipment of roofing iron. Total value of emergency relief supplies was \$1,144,179.

Canada - contributed \$83,507 in cash through LORCS.

Fiji - provided 100 disaster packs, value not reported, and \$28,558 in cash with the Fijian Red Cross.

Germany, Federal Republic of - gave \$21,505 in cash.

Japan - donated \$127,000 in cash.

Luxembourg - contributed 68 tons of rice worth \$27,200.



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New Zealand - dispatched two aircraft loaded with medical supplies and helicopters for damage assessment in Vava'u and Ha'apai; provided clothing, tents, sheets, hospital supplies, generators, 200 liters of malathion and ten backpack sprayers; made a suitability assessment of runways and established a forward base at Ha'apai airfield; provided the services of an inter-island ship; and sent linesmen to help restore the potability of outlying water supplies. The value of these commodities and services was not reported.

Norway - gave \$5,914 in cash.

Papua New Guinea - contributed \$72,025 in cash.

Singapore - donated \$10,672 in cash.

Switzerland - contributed \$10,785 through UNDR0.

Tahiti - provided clothing, value not reported.

United Kingdom - provided medical supplies, the services of a structural engineer, and \$187,266 in cash. Total value was \$421,348.

Western Samoa - donated medical supplies, 33 tons of taro, 365 cartons and 160 bunches of bananas, 47 cartons of citrus fruit, and seven cartons of avocados, value not reported.

### Voluntary Agencies

Auckland Lions Club - gave \$21,946 in cash.

Australia Red Cross - provided the services of five delegates, value not reported.

Australian Council of Churches - donated \$22,046 in cash.

Belgium Red Cross - contributed \$2,302 in cash.

Brazil Red Cross - gave \$539 in cash.

Caritas/Belgium - donated \$3,000 in cash.

Caritas/Germany, Federal Republic of - provided \$21,505 in cash.

Caritas/Italy - gave \$3,846 in cash.

China, People's Republic of Red Cross - donated \$11,000 in cash.

CIDA/Canada - contributed \$83,507 in cash.

Denmark Red Cross - provided \$1,915 in cash.

Fiji Red Cross - see listing under Fiji government.

Finland Red Cross - gave \$5,392 in cash.

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Japan Red Cross - provided \$5,392 in cash, and 60,000 caps of tetracycline and 60,000 tablets of chloramphenicol, valued at \$8,833.

Japan Shipbuilding Industry Foundation - contributed \$44,170 in cash.

Luxembourg Red Cross - gave \$539 in cash.

Netherlands Red Cross - donated \$39,131 in cash.

New Zealand Red Cross - contributed 800 blankets, 150 sets of clothing, 20 cartons of canned fish, three tons of full cream milk powder, 20,000 caps of amoxyl, anti-tetanus vaccine, 500 mosquito nets, sanitary items, bedding, the services of three health inspectors with supplies, and a cash grant of \$8,143. The value of the commodities and services was not reported.

Norway Red Cross - gave \$5,912 in cash.

OXFAM/United Kingdom - provided \$1,873 in cash through LORCS.

SAWS/Australia-contributed 200 bales of clothing, 50 bales (2,500) of blankets, and cash, with a total value of \$292,108.

Singapore Red Cross - sent canned meat and fish worth \$10,672.

Sweden Red Cross - gave \$4,400 in cash.

United Kingdom Red Cross - contributed \$9,363 in cash.

TOTAL \$3,372,488

\* Please note: the listings of assistance provided by U.S. Voluntary Agencies and the International Community are compiled from reports submitted voluntarily to OFDA. It is not always possible to verify the accuracy of these reports, nor the dollar value of in-kind contributions. As a result, the total dollar values indicated in these sections should be taken as representative figures.