

GOVERNMENT  
OF THE  
REPUBLIC OF VANUATU



GOUVERNEMENT  
DE LA  
RÉPUBLIQUE DE VANUATU

REPORT ON CYCLONE UMA

National Disaster Co-ordinating Committee

Port Vila

Vanuatu

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## INTRODUCTION

The purpose of this report is to provide a preliminary review of the impact of cyclone Uma on Vanuatu. It has been compiled from reports made available by Ministries and Departments, the National Disaster Co-ordinating Committee and the Central Control Group. The estimates given in the report are preliminary and final assessments could change significantly from those presented here.

### Cyclone Uma in Brief

Cyclone Uma began as a tropical depression on Thursday 5 February 1987 and ended on 8 February with about 48 dead or missing, presumed dead, and possibly 25 million US dollars of damage in its wake. It was the most destructive cyclone experienced by the country in living memory and the first to hit Port Vila for more than 25 years.

The cyclone developed to the north-west of Espiritu Santo and after remaining stationary for about twelve hours, moved SSE towards Efate. It reached Efate on the evening of Saturday 7 February and battered the island for about seven and a half hours. The worst affected area was west Efate, including the capital Port Vila. Winds averaged 90 knots and gusted to 120 knots. The barometric pressure dropped to 957 hpa. Rain was moderate to heavy.

On 8 February, the cyclone affected Erromango, Tanna and Aniwa. High winds were accompanied by very heavy rain and the islands suffered extensive flooding and landslides. On Tanna over 250mm of rain fell in three hours causing landslides in the easily erodable generally volcanic ash soils. Landslides of soil, boulders and trees formed temporary natural dams across valleys which, when breached, sent large amounts of debris and water surging down the valleys. The most severely affected areas of Tanna were White Sands, Isalla and Sameria while Dillions Bay suffered the most severe damage on Erromango.

The country north of Efate was largely unaffected, though high winds for a short time together with torrential rain were experienced on some northern islands. Aneityum and Futuna in the south experienced some damage. The path of the cyclone is shown in Map 1.

It is estimated that about 48,000 people (34% of the total population) were directly affected by the cyclone, including about 28,000 (20% of the total) who were badly affected. Of the 48 people who died, 35 were crew from three ships: MV Zulu, MV Fetukai and MV Astronaut. Of the remaining thirteen deaths, nine were on Tanna, two on Efate and two on Santo.

DAMAGE

Government Buildings and Housing

Widespread cyclone damage was sustained by government offices, schools, clinics and houses. In total about 500 million vatu of damage was caused to government buildings on Efate (mostly in Port Vila) and another 100 million vatu in TAFEA (Tanna, Futuna, Erromango and Aneityum). The estimated damage by type of building is as follows:

	<u>vatu mill</u>
- Government Schools :	230
- Government Housing :	225
- Government Clinics :	5
- Other Government Buildings :	140
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	600
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In Port Vila more than thirty government buildings were severely damaged. Particularly severe damage was sustained by Public Works Department, Ministry of Lands, Energy and Rural Water Supply and the Prime Minister's Office. Government schools and clinics throughout Efate and TAFEA were damaged. About a third of the 389 Government houses in Port Vila will need repair to varying degrees with some requiring complete reconstruction.

In addition to buildings, the cyclone damaged Government vehicles, computer equipment, furniture and office supplies, at an estimated cost of 90 million vatu.

Transport and Communications

Transport and communications were severely disrupted by the cyclone. Wharves and other facilities at Port Vila were damaged and many ships lost in Port Vila harbour and two at sea. Roads were blocked in both Efate and Tanna and there was significant damage to both roads and bridges.

In Port Vila an estimated three million vatu of damage was caused to sheds and cement embankments at the Main Wharf and Marine Quay; the Main Jetty and Sea Wall were also damaged. The privately-owned Star Wharf was damaged at the southern end and land access was undermined.

Immediately prior to the cyclone, 38 vessels (including yachts) were moored in Port Vila harbour. After the cyclone only eight remained afloat and just one Government vessel was in working order. In addition, two vessels - MV Zulu and MV Astronaut - were lost at sea.

At the end of 1986, the Vanuatu commercial fleet comprised 37 vessels with a total cargo capacity of 2049 tonnes. Four of these vessels, with a capacity of 310 tonnes (15% of the total), were sunk and another three vessels, with a capacity of 335 tonnes, had to be salvaged. One of the vessels lost, the MV Zulu (135 tonnes) was the third largest private vessel operating in Vanuatu. The largest of the ships that required salvaging - MV Konanda (180 tonnes) is likely to be sold for scrap, bringing the total cargo capacity lost to over 500 tonnes. In addition, a number of vessels from the Government's touring fleet were lost, as were two used for tourist charter trips.

Damage to roads and bridges in Efate and TAFEA is estimated to total 86 million vatu. On Efate about five million vatu of damage was caused.

On Tanna, five out of the seven bridges were totally destroyed and another damaged. Stream crossings (many of which are normally dry) suffered severe erosion and roads were cut in many places. Landslides blocked roads throughout the island.

Significant private sector investment will be needed to replace the ships lost and a very high commitment of government expenditure will be needed to replace washed-out bridges and repair roads. The transport systems in Efate and TAFEA were seriously dislocated in the weeks after the cyclone and are unlikely to be fully operational again until late 1987. The loss of shipping will adversely affect the country's ability to market agricultural produce, particularly copra.

Significant damage was also sustained by Port Vila and Tanna communications installations and contact with Tanna and Aniwa was lost for a time during the cyclone. Subsequent heavy rain exacerbated the initial damage to Port Vila installations. Minor damage was sustained to night landing equipment and the HF antennae at Bauerfield Airport, but all island airports and airfields remained serviceable for daylight flights.

Power supply was disrupted to most of Port Vila. Extensive damage was caused and some areas were without power for two to three weeks.

#### Health and Water Supply

Immediately after the cyclone, a number of casualties had to be treated for injuries and there was a significant increase in the number of hospital admissions. In the following weeks, there was concern at the increase in the number of cases of diarrhoea, malaria, chest infections, infected sores and general skin disease being reported by the Health Department. The greatest concern was for the more crowded squatter areas in and around Port Vila and in some of the villages most severely damaged. There was also concern about the possibility of a typhoid outbreak on Tanna but this did not eventuate.

The rises in infectious diseases and malaria were met with preventative programmes and the widespread use of antibiotics and anti-malarial treatment. This placed a high demand on these medical items and related materials and equipment. The programme lasted for four to five weeks and was largely successful. The preventive programme, involving VLD malathion spraying, health education radio programmes, toilet construction and water testing, lasted for about the same time. There was no significant disruption to urban sanitation systems.

Port Vila's water supply was disrupted for 24-48 hours after the cyclone and minor damage was reported to local rain-water catchment projects (missing roofs/gutters) on Efate. On Tanna extensive damage to four major gravity feed water supply systems serving about 5000 people (approximately 25% of the population of the island) was caused, mainly by massive landslides between the water sources and storage tanks. The two biggest schemes, the King's Cross and White Sands Water Supply schemes were completed only in 1984 and 1985 at a cost of about 35 million vatu. It is estimated that repairs will cost 13 million vatu. Minor damage to water supplies on the island of Erromango also occurred.

#### Agriculture

The cyclone caused serious damage to smallholder farms on Efate, Tanna and other islands in the TAFEA Local Government Region. Plantations and other large commercial agricultural enterprises on Efate were also seriously affected.

Smallholder farms suffered damage both to food gardens and to coconuts. Food gardens were damaged by high winds and, especially on Tanna, by landslides and flooding. The worst damage was in east and south-east Tanna (Laoaniulu-Waisisi West, Siwi, Whitesands, Port Resolution and South) where more than 80% of gardens comprising subsistence crops of taro, yams, manioc, bananas, sweet potato and other crops were lost. The greatest losses were in areas where landslips and flooding occurred. In such areas, farmers have had to replant gardens long distances from their village.

In most parts of Efate and TAFEA, smallholders will need food relief until July - September when their gardens should be back in full production. It is estimated that a total of about 1300 tonnes of food aid will be needed. The Ministry of Agriculture, Fisheries & Forestry has distributed seed (corn, Chinese cabbage) and root crop planting material, and measures have been taken to counter pest attacks that are affecting regenerative growth and new plantings in areas where severe damage occurred.

The smallholder food production system is resilient and will recover relatively quickly. A significant problem for smallholders in Efate and TAFEA will be cash shortages. They will suffer over the next two to three years as a result of lost and damaged coconut palms. It is estimated that 10-15% of smallholder palms were lost in areas badly affected by the cyclone and that production of the remainder will be halved for the next two years. This is especially a problem on Tanna where there are fewer alternative income-earning opportunities than on Efate. Smallholder cash incomes in Tanna are likely to drop by 4000 vatu/household in 1987 and 1988.

About 750 smallholder houses were destroyed in Tanna with a similar number in Efate. Availability of local building materials (sago palm, wild betel-nut) does not appear to be a problem.

Damage to commercial properties was mainly confined to Efate where there are over 50 plantations of an average size of 7000 ha (covering some 42% of the island) and a limited number of other commercial agricultural enterprises, such as piggeries, chicken farms and market gardens. Most plantations are cattle ranches with grazing either on specially developed pastures or under coconuts. They suffered severe and extensive damage to fences, buildings, equipment and stockyards as well as losing many coconut palms and, in some instances, cattle.

The replacement of buildings and equipment, the re-establishment of fence lines and the clearing of pastures will require major investment in the sector. The buildings of many other commercial agricultural projects (both smallholder and larger operations) were also destroyed. Preliminary estimates indicate that damage, rehabilitation costs and lost income over the next two years will exceed 200 million vatu.

Despite the damage caused to smallholder cash crops and commercial properties, the immediate impact of the cyclone on these sectors is relatively small when viewed in national terms. Efate and TAFEA account for only 27% of the national beef herd and 11% of copra production. Forecasts point to a short-term (two year) drop of about 5-10% in national beef production and 7% in copra production.

#### Fisheries

Damage totalling ten million vatu was sustained by Fisheries Department projects and Department facilities in Malakula, Port Vila and North Efate.

## Forestry

Substantial damage was caused to over 900 ha of plantations managed by the Forest Service on Erromango, Aneityum and Efate. While little can be done for damaged older trees, urgent rehabilitation of young trees (especially propping up to ensure subsequent straight growth) is needed. This rehabilitation is estimated to cost one million vatu. Long term losses as a result of the reduction in final yields have been estimated at approximately 40 million vatu but little can be done to offset these as any increased planting in the short-term would disrupt regular harvesting patterns when the plantations reach maturity.

## Tourism

Major damage was sustained by the tourist industry. Of the 528 hotel rooms available before the cyclone, only 257 (49%) were available afterward. Hotel Le Lagon, Solaise Hotel, Iririki Island Resort and many other establishments were severely damaged as were extensive areas of coral reef. No overall estimate of the cost of damage is available though it is likely to approach 1000 Million vatu. It is expected that about 80% of the pre-cyclone rooms will be available by August 1987.

Prior to the cyclone, hotel occupancy rates were only about 30% and thus the cyclone is not expected to directly affect the income of the sector in the short term. However, cancellations have occurred and a sustained advertising campaign will be needed in Australia and other markets in order to restore confidence in Vanuatu as a tourist destination.

## Other Commercial Premises

Estimates are not yet available of the damage to other commercial premises in Port Vila. A survey of 68 firms undertaken two weeks after the cyclone by the Chamber of Commerce indicated that 21% had suffered total loss of premises, equipment and stocks, 21% severe structural damage, 42% medium damage and 16% minor or no damage.

Overall the largely expatriate private sector has been seriously affected by the cyclone. Damage to commercial premises, tourist facilities and commercial agricultural enterprises has been severe. While many but not all companies were insured, the levels of payments were often inadequate to replace lost infrastructure. Unless suitable re-finance is made available at reasonable interest rates there is a very real risk that many companies will go out of business.

### IMPACT ON THE ECONOMY

Cyclone Uma has threatened the development of the economy of Vanuatu by destroying and damaging both private sector productive assets and public services. Government is faced with a formidable reconstruction programme in the public sector at the same time as a sharp deterioration in the budget.

The impact of the cyclone comes while the economy is still recovering from cyclones Nigel and Eric. There will be some downturn in copra and cattle production and in tourism, leading to lower revenues and a reduction in GDP.

The immediate impact on the Government budget is likely to be very serious. The fiscal gap will be far greater than the 5% that cyclones Nigel and Eric were estimated to have caused. There will be a fall in Government revenues from customs duties, taxes and licenses of 150-350 million vatu in 1987 alone. Reconstruction costs for Government property and infrastructure are estimated at 850 million vatu. If all reconstruction work were financed by Government and carried out in 1987, the fiscal gap would be of the order of 1100 million vatu or 8% of GDP.

Vanuatu will need considerable assistance from abroad if the country is to recover rapidly from the devastating impact of cyclone Uma and embark on the Second Five Year Development Plan. Generous and timely donor contributions during the post-cyclone emergency phase have enabled Government to restore essential services and assess the scope and costs of an appropriate reconstruction programme. It has become apparent that Vanuatu needs further international support to maintain the momentum of recovery and resume an orderly pattern of economic growth.



MAP 1  
PATH OF CYCLONE UMA  
AS ESTIMATED BY THE  
FIJI METEOROLOGY SERVICE  
FROM SATELLITE IMAGERY

# TROPICAL CYCLONE UMA

5-9 FEB 1983

- Est limit of hurricane force winds
  - Est limit of storm force winds
  - - - Est limit of gale force winds
- [All times GMT/UTC]

