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**HONDURAS: ASSESSMENT OF THE DAMAGE CAUSED
BY HURRICANE MITCH, 1998**

*Implications for economic and social development
and for the environment*

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PREFACE

This study has been carried out within the framework of United Nations support for the Central American region following the disaster caused by hurricane Mitch in the region.¹ A request for this socio-economic and environmental impact assessment was submitted to the Economic Commission for Latin America and the Caribbean (ECLAC) by the Honduran Secretary of State of the Presidential Office through the United Nations Development Programme (UNDP), in order to assess the effects of hurricane Mitch on the economy, society and environment of Honduras.

Although this is an overall study that analyses secondary macroeconomic effects and proposes guidelines for rehabilitation and reconstruction programmes, it neither replaces nor invalidates sectorial or partial assessments conducted by national institutions, other international organisations or financial and bilateral cooperation institutions whose coverage and purposes differ from those of this study.

The Honduran national authorities —particularly the Technical Support Unit (UNAT) of the Presidential Office— worked in conjunction with international agencies to prepare this study. Officials and consultants of the Pan American Health Organization (PAHO/WHO) and of the United Nations Children’s Fund (UNICEF) joined the mission; this assessment complements the data collected by the Office of the United Nations Disaster Assistance Coordinator (UNDAC) through the Office of the Coordinator for Humanitarian Assistance (OCHA).

The interdisciplinary mission that visited the country from 15 to 21 November 1998 presented a detailed evaluation of the hurricane effects as it passed through Honduras from 27 to 31 October. The data were collected in accordance with ECLAC methodology and give an idea of the magnitude of direct and indirect damage, evaluate the secondary macroeconomic effects and attempt to quantify the environmental damage. The results are the mission’s estimates, based on information available at the time. They show that the extent of the damage, coupled with the pre-existing vulnerability and poverty, has reduced the country’s growth and development potential in the short and medium terms and exceeds the nation’s capacity to tackle the reconstruction on its own, particularly since the aim is also to reduce the impact of future natural disasters.

This appraisal is designed to provide the government and the countries concerned about extending aid to Honduras and the Central American region in general, with guidelines for setting national and regional priorities in rehabilitation and reconstruction programmes.

It is important to point out that a strictly economic approach is very limited and that such programmes should therefore include social actions to alleviate the enormous suffering in communities which were already disadvantaged or marginalized before the disaster occurred. Special attention and priority should be placed on including sustainability and increased-governance criteria in making social and productive investments, and on allocating resources to the reconstruction and replacement of infrastructure.

¹ As part of project RLA/98/020, “Socio-economic impact assessment of natural disasters (hurricane Mitch)”.

Finally, despite the immense suffering and damage, the disaster provides Honduran society and government with a singular opportunity to undertake the reconstruction with renewed values and criteria, and to embark at the same time on institutional, legal and structural reforms in sectors where economic, social and environmental vulnerability can be reduced. An important aspect of such reforms will be to strengthen the country's savings, investment and management capacity as part of the reconstruction.

I. BACKGROUND

Hurricane Mitch is the most serious hydrometeorological disaster to have struck Central America in many years. Its force upon reaching the coasts of the region was exceptional, as were its diameter, the amount of moisture and rain it carried and the erratic path it followed for several days.

Such calamities are, however, not unusual in the country. In 1974, Honduras experienced similar loss of life and economic devastation in the wake of hurricane Fifi.² Historical accounts dating back nearly 200 years show that the capital of the country, Tegucigalpa, had already been beset by floods in the aftermath of a hurricane similar to Mitch.

This situation is not limited to Honduras, since the disaster also affected Nicaragua, El Salvador and Guatemala to varying degrees. In some of the countries, the devastation struck societies that had begun to overcome the setbacks and stagnation caused by years of extreme violence and confrontation; the difficult peace and reconciliation processes that followed paved the way for growth and development during the 1990s.

Natural disasters, whether climatic, seismic or volcanic, occur cyclically in the region. In Latin America, and particularly the Central American and Caribbean regions, annual losses caused by such phenomena have been estimated at more than US\$1.5 billion and almost 6,000 lives.³ These effects are multiplied and exacerbated by structural disparities that place population segments already living in precarious economic and social conditions at greater risk.

1. The mission

Owing to the extent and gravity of the effects in the region, UNDP requested ECLAC's cooperation in carrying out a project to assess the socio-economic impact of hurricane Mitch on the countries of Central America.⁴

Two technical teams coordinated by ECLAC were established to carry out the assessment in the four countries most affected; one of the teams was entrusted with the work in Honduras and El Salvador. The mission had the full support of the UNDP national offices and representatives of various UN agencies, and of international financial institutions: the Inter-American Development Bank (IDB), the World Bank and the International Monetary Fund (IMF). In particular, the PAHO/WHO and UNICEF provided officials or consultants to support the mission.

² See CEPAL (1974) *Informe sobre los daños y repercusiones del Huracán Fifi en la economía Hondureña* (E/CEPAL/AC.67/Rev.1).

³ See, for example, Jovel, Roberto and Ricardo Zapata (1993), *Macroeconomic effects of natural disasters in Latin America and the Caribbean*, a paper presented at the Fortieth North American Meeting of the International Association of Regional Science, Houston, 11-14 November.

⁴ Project RLA/98/020, "Socio-economic impact assessment of natural disasters (hurricane Mitch)".

In the case of Honduras, the government, through the State Secretariat of the Presidential Office, submitted a request for the United Nations to cooperate in conducting an assessment of the socio-economic effects of hurricane Mitch; the request was conveyed to ECLAC by the Resident Coordinator in the country. The work was carried out as a contribution to Honduras and the United Nations in response to the bilateral and multilateral cooperation initiatives that have been adopted to enable Central America, and Honduras in particular, to address the challenges of rehabilitation and reconstruction, since, as stated above, those challenges cannot be met without generous assistance from the international community.

The team was made up of the following ECLAC officials, external consultants and officials of other international organisations:

- Ricardo Zapata, coordinator.
- Margarita Flores and César Morales, in charge of assessing the primary sectors (agriculture, livestock, fisheries, forestry).
- Carlos Molina, consultant for the sectors of industry, trade and services (financial, tourism and others; he also contributed to formulating projects for the rehabilitation and reconstruction stages.
- Francisco Mojica, infrastructure consultant, who analysed the impact on energy, water, sewage systems, and irrigation and drainage.
- Pablo Serrano, worked on the social sectors (population affected, education, health and others), with the support of Leonardo Garnier, UNICEF consultant on education and child care, who studied the effects of the disaster on social sectors; and Claudio Osorio and Hernán Rosenberg of PAHO/WHO, who covered health and emergency care.
- Braulio Serna, who analysed overall and secondary macroeconomic effects.
- Daniela Simioni assessed housing damage.
- Alfonso Mata examined the environmental impact.
- Juan Orlando Torrealba acted as consultant for the transport and communications sectors.
- Jaime Baraqui, consultant in designing reconstruction projects.

Additionally, Roberto Jovel and Antonio Tapia worked as consultants who reviewed the assessments and were instrumental in making damage estimates more precise.

The mission followed a previous visit by ECLAC officials in which liaisons with government entities and technical collaboration with various multilateral agencies and the United Nations were established, with the support of the UN Resident Coordinator in Honduras.

This document contains an independent and objective assessment of the disaster which sets forth the overall magnitude of direct and indirect damages and the secondary effects on the behaviour of the economy as a whole. It will serve as a basis in drawing up proposals for reconstruction priorities and needs, one of which should be the explicit incorporation of measures to reduce the country's high social, economic and structural vulnerability, in view of the recurrent nature of such disasters.

The extent of the damage and the enormous efforts required for the recovery point up the need for the country—and the region as a whole—to receive support and cooperation from the international community. This involves relief for the country's heavy financial burden and the creation of conditions for its integration into world trade flows, as well as guaranteed access to its principal markets. International funds will be needed to complement national efforts—both public

and private— to carry out the reconstruction programme. The attached project profiles show the magnitude of the efforts involved and indicate the degree of urgency and the priorities to be set, with the participation of the international community.

2. Description of the phenomenon

The Atlantic Ocean hurricane season in the northern hemisphere (July to November) was unusually strong in 1998 and caused enormous devastation, loss of life, and economic, social and environmental damage. The concentration of very violent meteorological phenomena between August and October was historic:⁵ a dozen tropical cyclones were given names during that period and affected densely populated areas throughout the Caribbean basin, including both the island countries⁶ and the States of the Central American Isthmus. Table 1 shows the dates on which they occurred and the wind velocity. Their effects heighten and form part of other climatic disturbances affecting the region, such as the droughts and floods resulting from the El Niño phenomenon in the Pacific Ocean,⁷ all of which have caused major damage throughout Latin America and the Caribbean.

Hurricanes Lisa and Mitch originated in the Atlantic basin in October. Lisa moved north-east from 5 to 9 October and became a minimum-level extra-tropical system with winds of 140 kilometres per hour on 9 October, but did not touch land. Mitch, in contrast, arose from a tropical front between Monday, 19 October and Tuesday, 20 October, developed into a low pressure zone and, at noon on 21 October, was classified as the thirteenth tropical depression of the season. At that time, it was located in the south-western Caribbean, some 580 kilometres south of Jamaica, with steady 50 km/h winds, moving west-north-west at 15 km/h.

On Thursday, 22 October, it was upgraded to a tropical storm (named Mitch); its centre was located 704 kilometres south-east of the Nicaraguan city of Bluefields, with steady winds of 72 km/h and gusts of more than 90 km/h. From that time on, it followed an apparently erratic path, varying in intensity and changing course several times between 23 October and 4 November (see Table 2 and Figures 1 and 2).

⁵ National Hurricane Center (NHC) (1998), Monthly Tropical Weather Summary, prepared by the US National Weather Service (NWS) and posted on the Internet for October and November.

⁶ For an assessment of the damage caused in the Caribbean islands, see CEPAL (1998), República Dominicana: Evaluación de los daños ocasionados por el huracán Georges, 1998. Sus implicaciones para el desarrollo del país (LC/MEX/L.365), 4 December.

⁷ These climatic disturbances have seriously affected the Latin American and Caribbean region, as is the case with Mexico, which has been afflicted by droughts and floods at different times, just as the United States has, and the serious consequences of the El Niño phenomenon in the Andean countries and Central America. See CEPAL (1998a), Ecuador: Evaluación de los efectos socioeconómicos del fenómeno El Niño en 1997-1998 (LC/R.1822/Rev.1 and LC/MEX/R.657/Rev.1), 16 July, and CEPAL (1998b), El fenómeno El Niño en Costa Rica durante 1997-1998. Evaluación de su impacto y necesidades de rehabilitación, mitigación y prevención ante las alteraciones climáticas (LC/MEX/L.363), 3 November.

Table 1

MAIN HURRICANES IN THE CARIBBEAN IN 1998 *a/*

Name	Dates	Maximum recorded wind velocity (kilometres per hour)
Danielle	24 August-3 September	170
Earl	31 August-3 September	160
Frances	8-13 September	105
Georges	15-29 September	240
Hermine	17-20 September	75
Ivan	20-27 September	145
Jeanne	21-30 September	170
Karl	23-28 September	170
Lisa	5-9 October	120
Mitch	21-31 October	290

Source: ECLAC, based on US National Weather Service (NWS-NHC) data, October and November 1998.

a/ As of 15 November.

Table 2

PATH AND EVOLUTION OF HURRICANE MITCH

(Statistical data from 23 October to 4 November)

Date (Day and local time)	Wind velocity (maximum sustained km/h)	Classification (Saffir- Simpson Scale)	Location		
			Latitude (north)	Longitude (west)	Barometric pressure (BM)
23 October, 10 a.m.	95	Tropical storm	12.7	77.9	999
10 p.m.	95	Tropical storm	13.0	78.1	997
24 October, 10 a.m.	160	2	14.9	77.9	987
10 p.m.	195	3	15.7	78.4	965
25 October, 12 a.m.	200	3	15.9	78.9	953
12 p.m.	235	4	16.4	80.3	929
26 October, 12 a.m.	240	4	16.3	82.0	922
12 p.m.	273	5	17.0	83.2	906
27 October, 12 a.m.	285	5	17.4	84.5	918
12 p.m.	250	5	16.9	85.4	928
28 October, 12 a.m.	220	4	16.5	85.6	933
12 p.m.	195	3	16.4	85.6	948
29 October, 12 a.m.	160	2	16.3	86.0	970
12 p.m.	120	1	15.9	85.6	990
30 October, 12 a.m.	65	Tropical storm	15.3	86.5	997
12 p.m.	85	Tropical storm	14.0	87.0	1,000
31 October, 8 a.m.	55	Tropical depression	14.5	88.7	1,001
8 p.m.	55	Tropical depression	14.6	90.5	1,002
1 November, 8 a.m.	45	Tropical depression	14.9	91.6	1,005
3 November, 5 p.m.	70	Tropical storm	20.0	90.6	997
8 p.m.	65	Tropical storm	20.2	90.2	997
4 November, 12 a.m.	65	Tropical storm	20.3	89.9	997
2 a.m.	55	Tropical depression	20.8	89.4	998
8 a.m.	75	Tropical storm	21.8	88.3	998

Source: ECLAC, based on Internet data, <http://dyred.sureste.com>.

As a result of the presence of two high pressure fronts —the anticyclone in the Gulf of Mexico and the inter-tropical convergence zone (ITCZ)— Mitch slowed down and gradually took a south-westerly path. On Saturday, 24 October, it became a hurricane, since the pressure in the eye fell 52 millibars to reach 924, with steady 150-km/h winds, moving at 9 km/h in a north-north-westerly direction. That day it was located at a point south-south-west of Jamaica (415 km) and to the east of Puerto Cabezas (600 km). It caused heavy rain along the Pacific coast of Costa Rica and Nicaragua and in north-western Nicaragua.

On Sunday, 25 October, Mitch gained strength as the pressure fell to the fourth lowest level recorded for Atlantic hurricanes so far this century.⁸ It located 64 kilometres off Swan Island on the afternoon of 26 October, moving towards the northern Atlantic coast of Honduras, while its spiral bands had an impact on a low pressure centre that was almost stationary on the Pacific coast of Nicaragua, causing heavy rain.

On that same day it was upgraded to 5 on the Saffir-Simpson scale and remained at that level on 26 and 27 October, causing heavy rainfall on Nicaragua's Atlantic coast and moving towards Honduras over the Islas de la Bahía. At its peak, its maximum sustained surface wind velocity reached 290 kilometres per hour.

At its greatest intensity, the hurricane passed over Guanaja island. At midday on 27 October, the pressure at the centre reached 906 millibars, as it moved along the northern coast of Honduras and slowly advanced southwards, going inland.

On 28 October, its intensity dropped to 4 and gradually weakened into a tropical storm on 29 October, when it caused torrential rains as it swept through parts of Honduras and was boxed in between hills and the Montecillos mountain range. On Friday, 30 October, it reached the capital, Tegucigalpa, by which time it was much weaker.

In its path, the extraordinary amount of rainfall caused rivers to overflow to an extent unprecedented in this century, with very serious flooding on the coastal plain, such as in the suburbs of San Pedro Sula, where several neighbourhoods and the international airport were flooded with mud that damaged housing, road, street, drainage and basic service infrastructure, as well as the radionavigation equipment and facilities in the country's newest air terminal.

As the hurricane reached the steep mountainous areas of Honduras, it caused mud and landslides on the slopes and raging river rapids that swept away bridges, highways and infrastructure of all kinds. The capital in particular was hit by the flooding of the Grande de Choluteca and Chiquito rivers which, on sweeping through built-up areas, rose more than 10 metres above their riverbeds, causing devastation and death. The enormous amount of rocks, vehicles, tree trunks, furniture and all types of debris swept along by the current formed a dam that held back the waters and debris, blocking drains in the area of La Isla.

⁸ The measurement of 905 millibars is equal to that of Camille in 1969, according to NWS records, reaching 4 on the Saffir-Simpson scale and the lowest level of the century for an Atlantic hurricane in October.

At dawn on 31 October, Mitch seemed to be bearing towards the gulf of Fonseca but, because of the ITCZ, it veered west, returning to its path of destruction over the south-western part of the country along the border with El Salvador. By 1 November, Mitch had become a tropical storm again, moving parallel to the Pacific coast over Salvadorian territory until it reached Guatemala. It then crossed the Isthmus of Tehuantepec in Mexico, entered the Gulf of Mexico, moved over Florida and finally disappeared in the North Atlantic. This path is exceptional in the annals of hurricanes, at least this century, since it twice crossed from one ocean to the other.

The rainfall records of the Honduran National Meteorological Service ⁹ show that the highest figures associated with Mitch were in the city of Choluteca, where 466.7 mm of rain fell on 31 October, which is twice the previous maximum of 229.2 mm, recorded on 31 October 1985. Total rainfall in that city between 25 and 31 October was 928 mm, equivalent to more than half the average annual precipitation.

On the northern coast, where the hurricane initially struck, 874 mm were recorded for the same period in La Ceiba (equivalent to 30 per cent of its normal annual rainfall), with a maximum of 284.1 mm on 27 October, the third highest in its history. In the city of Tela, total rainfall for the period amounted to 632.4 mm, more than one-fifth its average annual precipitation.

In Tegucigalpa, rainfall reached 120.4 mm on 30 October, surpassing the previous record of 79.2 mm on 5 October 1966. In only two days (October 30 and 31) total precipitation was equivalent to almost one-third the annual average.

3. Population affected

The effects of hurricane Mitch were felt throughout Honduras. The prolonged torrential rains affected virtually the entire population, estimated at slightly more than 6.2 million inhabitants. It caused damage in the country's 18 departments, but the strongest and most continuous winds ravaged the northern departments of Cortés and Colón. Southern regions such as Choluteca were also particularly hard-hit, as was the capital, Tegucigalpa, where Mitch caused heavy rains and flooding with torrents of water, mud and debris. This took place at midnight, making the consequences all the more devastating for a larger number of its inhabitants.

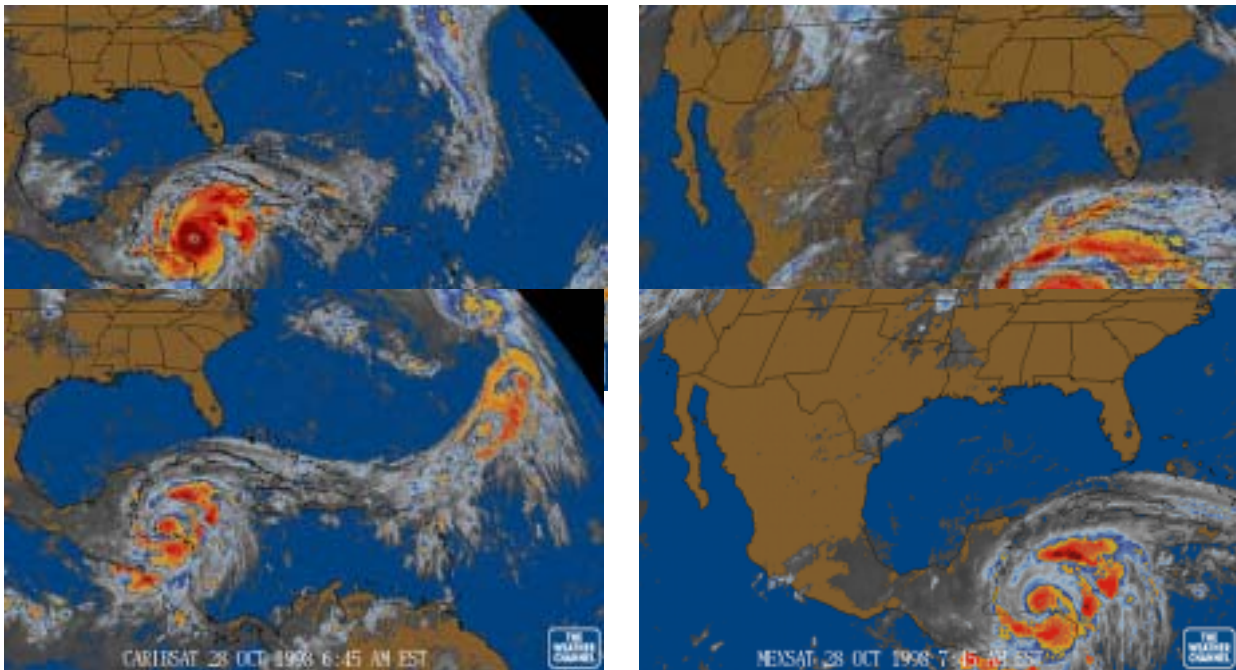
The most striking after-effect of hurricane Mitch in Honduras was that it left more than 1.5 million victims. Sadly, this is the highest figure ever recorded, not only in the countries affected by the hurricane, but also for a natural disaster in Honduras. Choluteca was the department with the highest death toll, although in the metropolitan area of Tegucigalpa (department of Francisco Morazán), it was also high. Even ten days later, 8,000 people were still missing throughout the country, and the actual figure is difficult to ascertain owing to record-keeping deficiencies, which were worsened by the confusion on the days following the disaster. Furthermore, there were nearly 12,000 injured, and the total loss of human lives was appalling (see Table 3.)

⁹ Table 3 shows general rainfall intensity between 26 and 31 October.

Figure 1

IMAGES OF THE PATH TAKEN BY HURRICANE MITCH

(Between 26 and 28 October 1998)



Source: The Weather Channel, Internet.

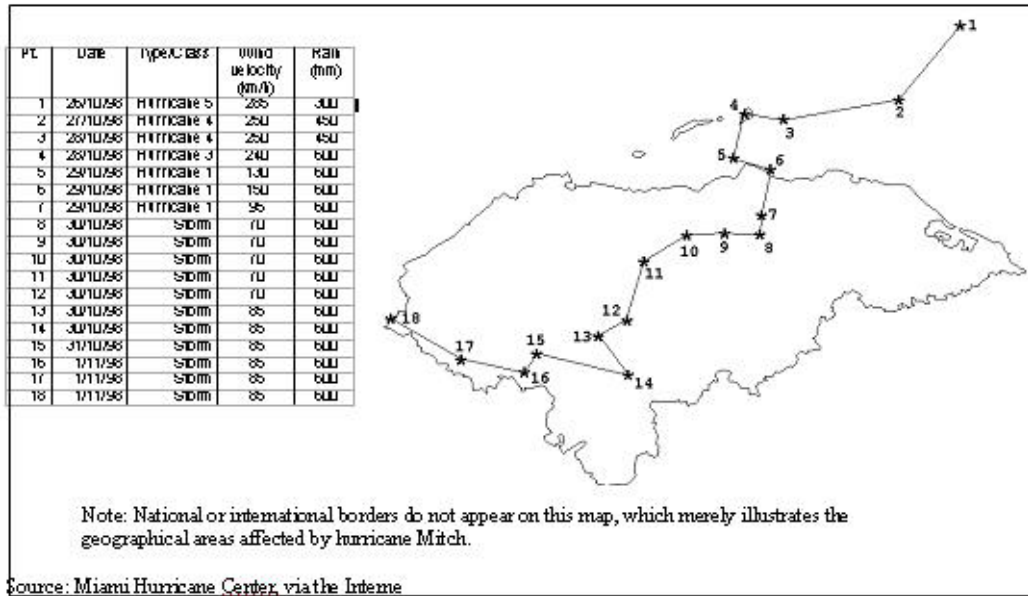


Source: NASA image, published via the Internet.

Figure 2

PATH OF HURRICANE MITCH OVER HONDURAN TERRITORY

(Between 26 and 28 October 1998)



In addition to these irreparable losses, a very large number of families —some 10 per cent of the national total— lost their homes or had to abandon them to seek shelter with relatives or friends, or in improvised shelters set up as part of the government's immediate emergency measures; more than 600,000 people —over 700,000 according to other calculations— had to leave their homes or take refuge. In Choluteca, 38 per cent of the total population found itself in this situation, and in Colón and Cortés, about 30 per cent; the problem was less severe in other departments. Three weeks after the hurricane, 285,000 adults and children were still living in 1,375 shelters, mainly schools fitted out for that purpose. Sports facilities were also used, as well as improvised camps in church grounds and other sites, using the tents received as part of international emergency aid.

Special efforts had to be made to distribute food, drinking water and medical services, due to the big quantity of evacuees. This would have been impossible without the mobilisation of the government and people and timely, decisive, international cooperation. Nevertheless, as generally occurs, overcrowding in the shelters resulted in respiratory, intestinal, eye and skin diseases, although the emergence of other major diseases in a country at relatively high epidemiological risk was prevented, at least during the first three weeks.

Mitch also left 4.2 million inhabitants (almost 70 per cent of the population) without water, although many were already affected by water-supply deficiencies, particularly in rural areas. Three weeks after the disaster, water was still being distributed by tank trucks, even in high-income sectors of Tegucigalpa.

For a considerable number of people in both rural and urban areas, the problems were compounded by the loss of their livelihood. Small farmers saw their crops destroyed, their land rendered useless and their animals lost, while in many cities water swept through small businesses, market stalls and workshops, leaving them without the tools of their trade and in many cases, with little or no hope of replacing them in the near future. These groups have claimed to be the most vulnerable and include a large number of people living in irregular settlements on river banks. For others working in the formal sector, the risk of temporarily or permanently losing their jobs as companies close down has increased. Loss of work is added to the natural demoralisation resulting from the disaster and is likely to lead to greater migration from the countryside to the city, to other countries, and even to further weakening of the social fabric.

Table 3

HONDURAS: POPULATION AFFECTED

Departments	Total population a/	Population affected				Primary victims		
		Primary b/	Percentage of the total	Secondary and tertiary d/	Percentage of the total	Dead d/	Injured e/	Missing e/
Total	6,203,188	617,831	10.0	4,753,537	76.6	7,007	11,998	8,052
Atlántida	337,625	15,454	4.6	232,807	69.0	610	-	271
Colón	216,114	67,361	31.2	208,819	96.6	455	76	627
Comayagua	348,080	2,906	0.8	217,950	62.6	395	1,624	856
Copán	306,906	1,923	0.6	175,307	57.1	17	-	-
Cortés	916,704	256,481	28.0	882,990	96.3	709	3,207	1,286
Choluteca	403,577	151,739	37.6	394,521	97.8	1,200	5,863	268
El Paraíso	356,691	9,599	2.7	182,381	51.1	111	402	145
Francisco								
Morazán	1,131,739	28,320	2.5	1,100,736	97.3	1,000	9	-
Gracias a Dios	51,772	3,845	7.4	27,684	53.5	29	-	607
Intibucá	175,435	2,330	1.3	105,549	60.2	11	20	-
Islas de la								
Bahía	31,539	750	2.4	19,500	61.8	16	-	575
La Paz	151,357	328	0.2	85,280	56.3	4	102	-
Lempira	247,943	20	-	150,000	60.5	3	7	-
Ocotepeque	104,021	719	0.7	63,991	61.5	13	610	5
Olancho	402,716	1,534	0.4	228,566	56.8	403	57	94
Santa Bárbara	385,360	4,502	1.2	198,088	51.4	495	-	3,233
Valle	166,919	16,159	9.7	129,272	77.4	625	-	23
Yoro	468,690	53,861	11.5	350,097	74.7	911	21	62

Source: ECLAC, based on official figures.

a/ Estimated population in October 1998, based on CELADE projections.

b/ Population severely affected, living in shelters.

c/ Including tertiary victims not living in severely damaged localities.

d/ Information from the Health Ministry on 16 November 1998. The final figure was 5,657 deaths.

e/ Information from the National Emergency Commission on 9 November. The final figures were 12,275 injured and 8,058 missing.

In addition to these groups —known as secondary victims— other segments of the population —the tertiary victims— have also been affected, above all economically, owing to the transport and communications breakdown and the decline in exports. Stoppages in many industries, including foreign trade zones, have led to a drop in economic activity and, as will be discussed, changes in other macroeconomic variables over the next few months. An estimated 77 per cent of the population forms part of these two groups, including many students who lost at least one month of classes.

As has been pointed out, the immediate consequences of hurricane Mitch were not limited to a single region, nor to the most vulnerable strata of society but affected 100 per cent of the population. Due to the importance and consequence of its economic effects, all Hondurans are now committed to the reconstruction drive, with a shared desire for complete renewal at all levels.

4. Emergency actions

The impending arrival of hurricane Mitch alerted both government and society, and every preventive measure was taken. For two days the hurricane remained stationary over the departments along the Atlantic coast, including the island area, with extremely strong winds, but by the time it struck the rest of the country on 30 and 31 October it had weakened into a tropical storm. The greatest damage was caused by the heavy rains, which provoked landslides, overflowing of rivers and major floods.

a) Actions undertaken by the government

On 26 October, when Mitch was expected to hit the northern part of the country, the government's Permanent Contingency Commission (COPECO) took immediate preventive measures and issued an appeal for international cooperation. The President of Honduras contacted his Central American counterparts, other neighbouring countries and international organisations to seek support for emergency operations.¹⁰ He declared a maximum alert in the north and a preventive alert in the rest of the country, increased the budget allocation for emergency tasks, and instructed all government entities, including the Armed and Security Forces, to follow the COPECO guidelines on protecting people and property in disaster areas. A state of emergency was declared as a result of the damage in the departments of Islas de la Bahía, Cortés, Atlántida, Colón, Yoro and Gracias a Dios,¹¹ and two days later, it was extended to the rest of the country.¹²

A National Emergency Commission (CONE) was formed at the ministerial level to assess material damage, along with regional (CODER) and municipal organisations (CODEM). As part of this structure, the National Convergence Forum (FONAC) was instructed to coordinate citizen participation in contributing to the work of the Permanent Contingency Commission and the government in a National Civic Action programme.¹³ Citizens joined neighbourhood or community

¹⁰ See *Presidencia de la República de Honduras, C.A.*, Comunicado No. 1, Tegucigalpa, 26 October 1998.

¹¹ See *Presidencia de la República de Honduras, C.A.*, Comunicado No. 2, Tegucigalpa, 28 October 1998.

¹² See *Presidencia de la República de Honduras, C.A.*, Decreto Ejecutivo número 019-98, 30 October 1998.

¹³ Ibid.

solidarity groups, which, because of the lack of communication and isolation, frequently carried out emergency tasks on their own initiative.

People were urged to evacuate danger areas, but many remained in their homes for fear of losing their belongings. Neighbours organised watches to monitor water levels and establish evacuation and life-saving strategies. Thus, children and belongings were frequently moved to safer houses of relatives or friends. The government also evacuated populations from vulnerable areas, including prisoners in the Tegucigalpa Central Penitentiary, who were taken to the National Stadium.¹⁴

Other government measures included instructions to the Health Ministry to mobilise medical brigades to distribute medicines and food and prevent epidemics. The school year was due to end on 30 November but pre-school, basic and secondary education in public and private schools was suspended a month early, and teachers devoted themselves to helping with the emergency. School directors took a census of students, teachers and parents affected or evacuated as a result of the disaster.¹⁵ Undergraduate students were allowed to carry out their compulsory social service requirements by taking part in emergency and rehabilitation tasks. At the same time, shelters were improvised in all public schools, including the National Autonomous University of Honduras (UNAH).

Among other measures, people were urged to save as much water as possible, sales of alcoholic beverages were banned and gasoline sales were limited to 100 lempiras per automobile; half of all vehicles were also prevented from being used in order to save fuel.¹⁶ The panic caused by the disaster led to looting and vandalism, so the government declared a curfew between 9:00 p.m. and 5:00 a.m. as a preventive measure¹⁷ and suspended several constitutional articles for 15 days.¹⁸

COPECO was authorised to use 1.5 million lempiras (slightly over US\$110,000) to address the emergency, with a further 2 million lempiras from the Finance Ministry,¹⁹ which were deposited in the COPECO Emergency Fund in March 1998 to deal with the forest fires following the droughts caused by El Niño. An account was also opened in the Central Bank to deposit donations.

¹⁴ This transfer became news when two prisoners escaped and were presumed drowned, and because of the enormous damage caused by prisoners to the Stadium.

¹⁵ See *Presidencia de la República de Honduras, C.A.*, Comunicado Oficial de Prensa No. 13 de la Casa Presidencial, Atención a los Padres de Familia, docentes y población escolar, Tegucigalpa, 1 November 1998. See also *Decreto Ejecutivo número PCM-020-98* of 11 November, which refers to the loss of records in the Education Ministry, the psychological damage to children and the dates of examinations in January or February 1999. A One-Hundred Day Plan was established to that end.

¹⁶ This measure remained in force until Tuesday, 17 November. See *State Secretariat of the Presidential Office*, Instructivo No. 4, Tegucigalpa, 13 November 1998.

¹⁷ The curfew was initially in effect from 8:00 p.m. to 5:00 a.m. as of 2 November (Instructivo No.1), but then came into effect one hour later (Instructivo No. 2), so as not to interfere with the work of the productive sector. The diplomatic corps, participants in the emergency tasks and medical and paramedical staff were excluded from this measure. As of 13 November, the curfew was shortened from 11.00 p.m. to 5:00 a.m.

¹⁸ In accordance with *Decreto Ejecutivo número PCM-019-98* of 2 November 1998.

¹⁹ See *Decreto Ejecutivo número 017-98*, *State Secretariat of the Presidential Office*, 26 October 1998.

The experience gained has created awareness among the main social actors and the population in general regarding improved disaster containment measures, in order to establish clear lines of responsibility and response capacities in such situations. In hindsight, the impact could definitely have been reduced if coordination had been more effective.

b) International cooperation

International aid was rapidly forthcoming in response to the government's appeal. Rescue and shelter materials, medicines and food began to arrive without delay.

The US Government, through the Office of Foreign Disaster Assistance (OFDA), responded immediately with US\$125,000 to purchase and distribute food, blankets, simple stoves and medicines, and with US\$750,000 for Department of Defense reconnaissance flights, rescue missions and supply deliveries. Although these operations were initially hindered by the lack of visibility, by 16 November cargo planes from the Soto Cano air base had distributed plastic sheets, large and medium-sized drinking water containers and body bags totalling more than US\$430,000. Altogether, the OFDA extended US\$800,000 to the USAID mission in Honduras for emergency supplies, in addition to US\$2 million to finance projects to repair the country's drinking water system.²⁰

Of the total of US\$30 million that the United States allocated to the emergency hurricane initiative for Central America, US\$15 million went to Honduras, of which 14.5 million had been used by 19 November 1998: US\$520,000 by the OFDA; 3,125,000 by COPECO for emergency measures and projects to rebuild the water system; 6,200,000 by non-governmental organisations (NGOs) to reinforce emergency activities; 700,000 by PAHO/WHO (of the regional total of 2 million) and 4 million for military rescue operations and the air distribution of food. During her visit, the First Lady of the United States announced the offer of US\$250 million dollars for the Central American region affected by Mitch.

In addition to those funds, the United States financed regular food aid, part of which served to finance 40 per cent of the United Nations World Food Programme (WFP), whose emergency operations have involved the delivery of 62,000 tons of food. Of the US\$45 million that Central America has received, 17 million have been allocated to Honduras.

Other countries, such as Mexico, responded immediately by providing food, medicine, clothing and rescue and rubble-removal equipment. A visit by Mexico's Health Minister paved the way for medical and sanitation cooperation. Cash donations were collected on city streets and festivals were organised to benefit Central American victims, demonstrating the historical and cultural ties between Mexico and Central America. Cuba provided medical assistance in the form of specialised personnel, medicines and mobile hospitals. Chile and Argentina were among the donors. Uruguay contributed a pump to make water potable for Choluteca, including the staff to operate it.

²⁰ See *U.S. Agency for International Development (USAID)*, Bureau for Humanitarian Response (BHR), Office of U.S. Foreign Disaster Assistance (OFDA), Central America Hurricane Mitch, Fact Sheet 15, 17 November 1998.

Within the United Nations system, PAHO focused its efforts on programmes for drinking water and the rehabilitation of water distribution systems, since a large number of water mains were seriously damaged, affecting more than half of the country's population. It also provided latrines as part of its sanitation efforts. An estimated US\$3 million was mobilised. UNICEF supported many of these activities, mainly by providing large drinking water tanks for shelters and fostering a renewed sense of community solidarity, on which it intends to base its future activities. UN contributions are estimated at a total of US\$470,000.²¹ PAHO also prepared an impact mitigation plan, including measures targeting contagious diseases, re-establishment of a cold storage chain for immunisations, food security, mental health and epidemiological monitoring, a *sine qua non* in preventing infections. PAHO also implemented the SUMA supply management system for disaster situations, which proved most useful to the Honduran authorities in quantifying foreign aid by origin and destination.

Spain also provided similar assistance, either through the Spanish Red Cross, the WFP or directly through the Spanish government. A large number of bank accounts were opened for donations in Spain and appeals were issued through printed and electronic media. These contributions are estimated at US\$2.3 million. France also contributed medicine and rescue equipment. Swiss cooperation was particularly generous (estimated at 5 million dollars). Italy, the Netherlands, Germany, Austria, the United Kingdom, Ireland and the Scandinavian countries offered bilateral assistance, in addition to the aid channelled through the European Union, which was estimated at US\$4 million.

The assistance from Japan was highly visible, above all, because of the field hospital installed in the centre of Tegucigalpa to care for 300 patients a day.

As a token of their concern over the disaster, many officials and representatives of foreign governments and international agencies visited the country during the first few days to express their solidarity with the victims and to provide assistance for the emergency.

In addition to government aid, the assistance channelled through NGOs, which are playing an increasingly important role in the country and the region, was highly significant, although impossible to quantify. Churches, for example, played a leading role in maintaining shelters and distributing food and medicine. Honduran immigrants abroad and their associations increased their regular remittances to help their families or communities.

Once the emergency stage is over, foreign financial cooperation will be the most important type of assistance for the rehabilitation and reconstruction phase. In that regard, the situation in Honduras—and in the Central American region as a whole—has gained special interest on the part of the IDB, which issued an initiative to convene a special regional advisory group to examine rehabilitation and reconstruction needs in the region.²²

²¹ The figures furnished by Honduras' Technical and International Cooperation Secretariat (as of 19 November 1998) for the aid provided reflect the shortcomings common to cases in which it is impossible to evaluate certain types of assistance, which means that some countries lack an estimate of their assistance. In view of this wide margin of error, only published figures are presented here. At the time this report was prepared, the results of the SUMA project, in charge of quantifying assistance, were not yet available.

²² The meeting of the Advisory Group for the Reconstruction and Transformation of Central America was held at IDB headquarters in Washington, D.C., from 9 to 11 December 1998.

Furthermore, the IMF Managing Director's visit to Honduras in such difficult times highlighted the situation, as did the European Union's expression of intent to create a special assistance fund and request for preferential treatment by the Paris Club.

SCENES OF THE DAMAGE CAUSED BY HURRICANE MITCH IN HONDURAS



Photo 1. Airport in San Pedro Sula. Damage to facilities and suspension of services.



Photos 2 and 3. Flooding in the Aguán valley: waterlogging and damage to housing, communications and power lines.



Photo 4. Destroyed bridge in the department of Colón.



Photo 5. Devastation caused by high winds on Guanaja Island.



Photo 6. Loss of a roof and damage caused by wind in the Islas de la Bahía.



Photo 7. A rescue scene in Aguán.



Photos 8 and 9. Effects of overflowing and waterlogging in Tegucigalpa.

