

**NATIONAL EMERGENCY MANAGEMENT ORGANISATION  
DAMAGE AND NEEDS ASSESSMENT SUB-COMMITTEE**

**ASSESSED COST OF DAMAGES CAUSED  
BY HURRICANE IVAN SEPTEMBER 7<sup>TH</sup>, 2004**

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## **HURRICANE IVAN – INITIAL DAMAGE ASSESSMENT**

### **1.0 INTRODUCTION**

This report provides the assessed cost of damage caused by the effects of Hurricane Ivan. It is only an Initial Damage Assessment (IDA) and does not include any significant details. Despite providing damage assessment from a sectoral standpoint, it must still be considered preliminary, particularly insofar as cost is concerned.

### **2.0 METHODOLOGY**

As has become the norm, the Disaster And Needs Assessment (DANA) Team comprised two groups of assessors, one in the south (Aux Lyon to Anse La Raye) and the other in the North. The basic methodology involved contacting district disaster co-ordinators in the regions that were identified in the Situational Report as having suffered damage. Where no or very minimal damage was reported the groups simply confirmed those reports and moved on to other locations.

The most inspection time was spent on those sites where damage was reported as being heavy. Some of these include, Dennery South along the waterfront, Dennery North and three sites in the Castries region.

### **3.0 SITE VISITS**

Despite earlier reports, which suggested that the south would have suffered the brunt of the damage, there was no reported damage in the Vieux Fort area. However, the coastline of Dennery, as has been the case for years, suffered a battering. Sand was lost allowing encroachment of the sea and several houses were damaged. There were collapsed walls and foundations and undermining of foundations.

In the Castries area the main damage appear to have been a result of fallen trees. Two houses were completely damaged and one may have to be relocated to prevent any further disaster.

### **4.0 SECTORAL DAMAGE**

The core DANA Team only concentrated on housing, building related damage and minor infrastructure to a lesser extent. Damage as per the economic sectors were assessed by the different sector leaders and reports forwarded to NEMO. The damage as summarised from the different sector reports is shown in Table I, and the District related damage is highlighted in Table II.

All costs are indeed preliminary and will be subject to changes as and when the Detailed Sector Assessments are undertaken. Notwithstanding the preliminary nature of this, the prices used are all reflective of current construction and labour rates. Where, Ministries were not able to provided an estimate of damage, but their report was detailed enough, the DANA Team

developed some prices based on previous experiences and knowledge of the construction industry.

**Table I – Damage By Economic Sectors**

Sector	Description of Damage	Cost
<i><b>Agriculture</b></i>	Banana suffered damage to fields varying from 40% to 90%. The reports suggested both toppling and snapping of trees and the highest concentration of damage was in the Roseau valley. The island-wide average has been placed at thirty percent and the total land under bananas estimated at 6700 acres.	\$10,125,000
<i><b>Infrastructure</b></i>	Blocked culverts, sand across roads, clearing of fallen trees and collapsed road segment at culvert out let in Fond St Jacques	\$33,000
<i><b>Tourism</b></i>	Generally fallen trees on hotel compounds, except for Sandals Halcyon which reported damage to restaurant on the pier. Estimate is very preliminary and came from the Humming Bird Hotel.	\$300
<i><b>WASCO</b></i>	Impact was reported as minimal. However the following was noted; <ul style="list-style-type: none"> <li>• There was an electrical failure at Bocage</li> <li>• Millet intake was clogged and has since been cleared</li> </ul>	\$5,000
<i><b>Cable &amp; Wireless</b></i>	Services available throughout the Hurricane. Damage to “dropcables” (connections to houses) and some multi pair cable and CATV cables.	\$20,000
<i><b>Ministry of Education</b></i>	Fallen tree on Castries Comprehensive, loose sheets at St. Mary’s College and Anse La Raye Primary School but more significant damage to Vieux Fort Primary School. Some flooding was also reported in the Vieux Fort Primary School.	\$10,000
<i><b>SLASPA</b></i>	<i>Vigie Lighthouse</i> – Damage to pole for signalling <i>George F L Charles</i> – Damage to top of armour and a assessment to toe will have to be undertaken. Cost not Known. <i>Hewanorra International Airport</i> – Damage to roof of Cargo Shed at eaves on eastern side of building (3200 sq. ft.). <i>Port Vieux Fort</i> – Damage to roof of Banana Shed (1600 sq. ft.)	\$29,200
<i><b>LUCELEC</b></i>	Down poles and lines	\$20,000

**Table II – Housing and minor infrastructure Damage by Districts**

<b>Location</b>	<b>Initial Situational Overview</b>	<b>Initial Damage Assessment</b>	<b>Estimated Cost</b>
<b>Gros Islet</b>	No Reports		
<b>Babonneau</b>			
<b>Castries North</b>			
<b>Castries Central</b>	R C Boys' School and Carmen Renee opened. Tree fell on house at Georgeville	Termite ridden tree measuring about 4' to 5' diameter and 40' tall, fell on house. House is a timber structure on grade 36' x 20' with a timber floor	\$57,000.00
<b>Castries East</b>	Roof of house at Bocage blown off.	House measures 26' x 33', may be in danger of moving down slope. Roof damage and lost of one window. Immediate need is the repair of roof with new and salvaged materials	\$14,000.00
<b>Castries South</b>	Shelter opened at Marigot, Ti Colon, Ciceron and Faux-A-Chaux. Tree fell on house at Ciceron.	Timber house measuring 12' x 16' completely destroyed. House on grade with wooden supports, wood termite infested.	\$10,000.00
<b>Soufriere</b>	No reports of damage		
<b>Choiseul</b>	Roof of house at Mongouge blown off. Snapped trees reported. Experiencing gusty winds. Chairperson of the La Marze Disaster Committee fell of roof and is presently hospitalized at the St. Jude Hospital.	Galvanise sheets on the windward side of Gable Roof of house blown out. Repairs already on the way. Roof in poor condition because of apparent poor maintenance and may need complete re-construction. Approximate size of house 32' x 28'	\$8,000.00

**Table II, Continued**

<b>Location</b>	<b>Initial Situational Overview</b>	<b>Initial Damage Assessment</b>	<b>Estimated Cost</b>
<b>Vieux Fort South</b>	<p>Reports of heavy rains and roofs blown off at La Tourney, Derriere Morne and Clarke Street.</p> <p>Pentecostal Church opened.</p> <p>Family of six moved to the Vieux Fort Technical Institute (2 adults and 4 children)</p>	<p>Very minimal damage. One house in La Tourney lost a few sheets of galvanised which have already be replaced.</p> <p>Police Pound was inundated from heavy seas on the southern coastline near the Police marine unit.</p> <p>Private sand depot lost a significant amount of stockpile. Cost is not known.</p>	\$2,000.00
<b>Micoud South</b>	No reports of damage	A few sheets of galvanise blown off two garages, repairs already undertaken	\$1,500.00
<b>Dennery North</b>	No reports of damage	Two roofs in Aux Lyon blown off. Works ongoing during visit. Houses of approximate sizes 600 by 800 square feet.	\$18,000.00
<b>Dennery South</b>	No reports of damage	<p>Greatest damage along waterfront. Debris, parts of houses and old coconuts strew across waterfront and along High Street. Damage to several houses and collapse of some:</p> <ul style="list-style-type: none"> <li>- Sections (12' x 20') to two concrete buildings.</li> <li>- Timber shed 18' x 20'</li> <li>- Staircase and background of concrete building (15' x 18'). Loss of water tank, undermining of foundation.</li> <li>- 20' x 20' timber house severely damage and in poor condition.</li> <li>- Portion of police station block wall along back boundary.</li> <li>- Loss of sand along 600 metres of coastline extending to a depth of 6 metres .</li> <li>- Cleaning streets of strewn debris.</li> </ul>	\$460,000

**Table II, Continued**

<b>Location</b>	<b>Initial Situational Overview</b>	<b>Initial Damage Assessment</b>	<b>Estimated Cost</b>
<b>Laborie</b>	Six trees down.	Storm surge caused damage to coastline, entered a small hotel property and essentially resulted in loss of sand to the beach.	\$40,000
		Allowance for clearing of debris strewn across streets by the heavy seas	\$6,000
<b>Micoud North</b>	No reports of damage		
<b>Vieux Fort North</b>	No reports of damage		

## **5.0 TOTAL DAMAGE**

The summary of the IDA

	<b>Amount</b>
Sectors	<b>\$6,222,500</b>
Housing and Districts	<b>\$616,500</b>
Miscellaneous (20 % of total less amount for bananas)	<b>\$142,800</b>
<b>Total</b>	<b>\$6,981,800</b>

The Team therefore estimates that the total value of the Initial Damage Assessment for Hurricane Ivan would be in the region of **EC\$6,981,800.00**. It should be noted that this estimate does not include any loss of revenue from the Banana Industry.

Egbert L. Louis

**DAMAGE AND NEEDS ASSESSMENT**

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**Chairman**