Philippine Disaster Report 2011

Citizens' Disaster Response Center

Introduction

The 2011 Philippine Disaster Report concisely presents information on disasters that occurred in the Philippines in 2010. Through graphs, tables and charts, it provides an overview of the type of disasters that occurred, the frequency of occurrence, as well as the effects of these disasters on communities. Where available, direct economic costs to agriculture and infrastructure are reported. A review of the major disasters that occurred in the Philippine islands within the past decade is also presented.

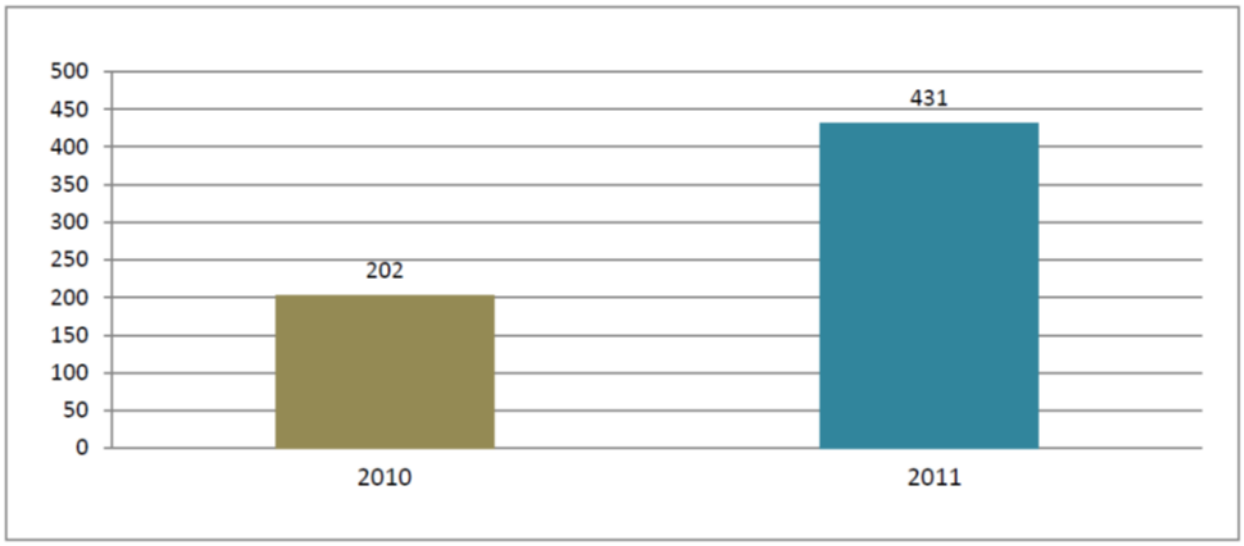
A substantial portion of the data in this report were gathered through CDRC's disaster monitoring system, which relies on reports from Citizens' Disaster Response Network (CDRN), a network of 16 regional centers all over the country. Overview and supporting data were taken from the Department of Social Welfare and Development-Disaster Operations Monitoring and Information Center (DSWD-DROMIC), the National Disaster Risk Reduction and Management Council (NDRRMC), and articles in major newspapers. CDRC verified the data in this report through various sources to ensure accuracy. The triangulation method of comparing and contrasting credible sources of data was used.

1. How did the Philippines fare in 2011?

In 2011, a total of 431 natural and human-induced disasters were reported in the Philippines. These killed 1,774 people, and affected more than 3 million families or 15.3 million people, and caused over Php 26 billion in economic damages. This is a more than 50% increase from the 2010 figure of 202 disaster events recorded. (see Figure 1)

Figure 1: Frequency of Disaster Occurrence, 2010 and 2011 (natural and human-induced disasters)

Source: CDRC Database 2011



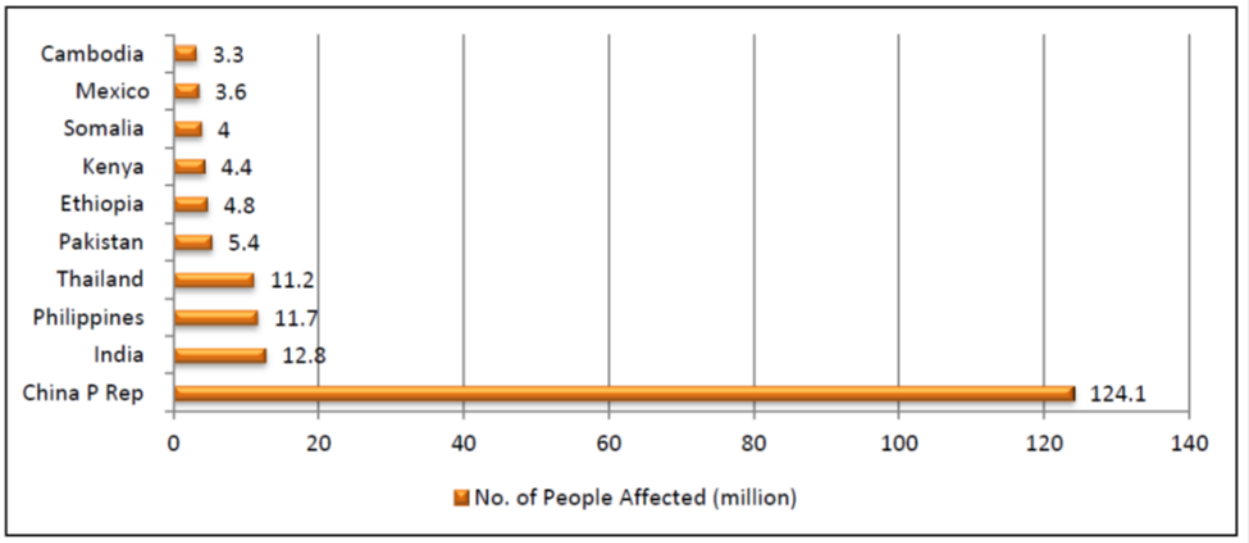
<u>World Data on Natural Disasters</u>

These figures earned the Philippines the top spot in the list of countries with the most number of reported natural disasters in 2011. According to the EM-DAT: The OFDA/CRED International Disaster Database, of the 302 natural disasters that happened worldwide, 33 occurred in the Philippines and 21 in China. Last year, the country was only third on that list with only 14 natural disasters recorded.

The Philippines also placed third in the list of countries most affected by natural disasters in 2011 with 11.7 million people affected (see Figure 2). Previously, the country placed only 5th on that list.

Figure 2: No. of people affected by natural disasters in 2011 (in million)

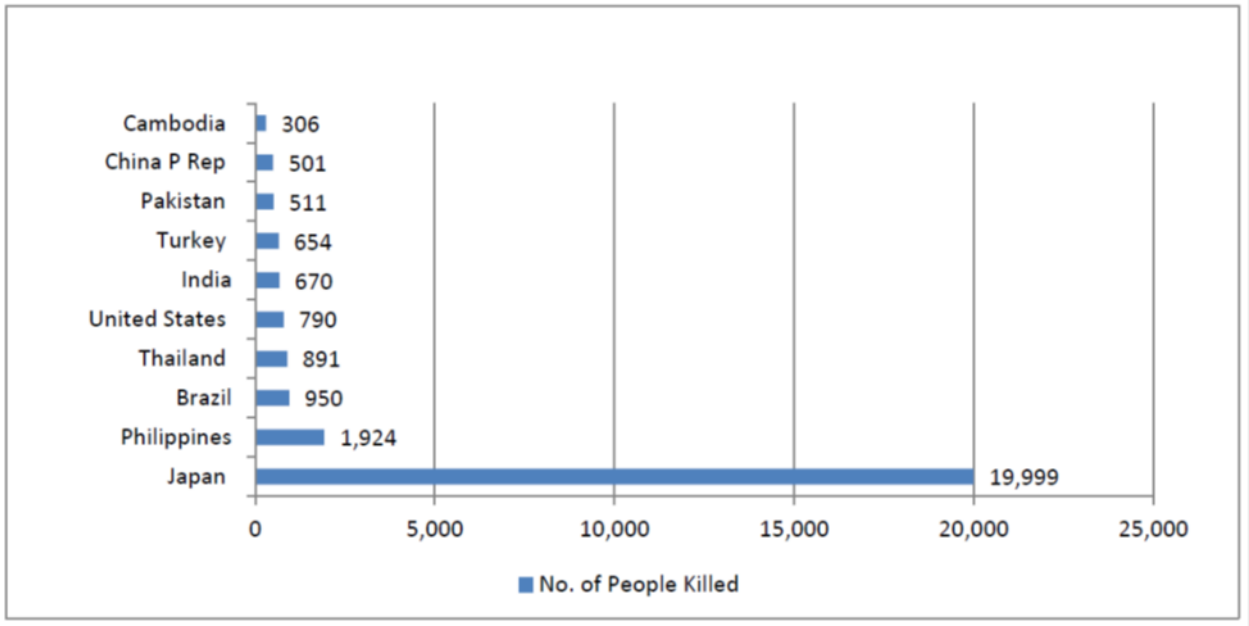
Source: EM-DAT: The OFDA/CRED- International Disaster Database



In terms of casualties, the Philippines is second to Japan with 1,924 people killed (see Figure 3). This was mainly due to tropical storm Sendong (Washi) that hit the country in December, claiming more than 1,400 lives.

Figure 3: No. of people killed by natural disasters in 2011

Source: EM-DAT: The OFDA/CRED- International Disaster Database

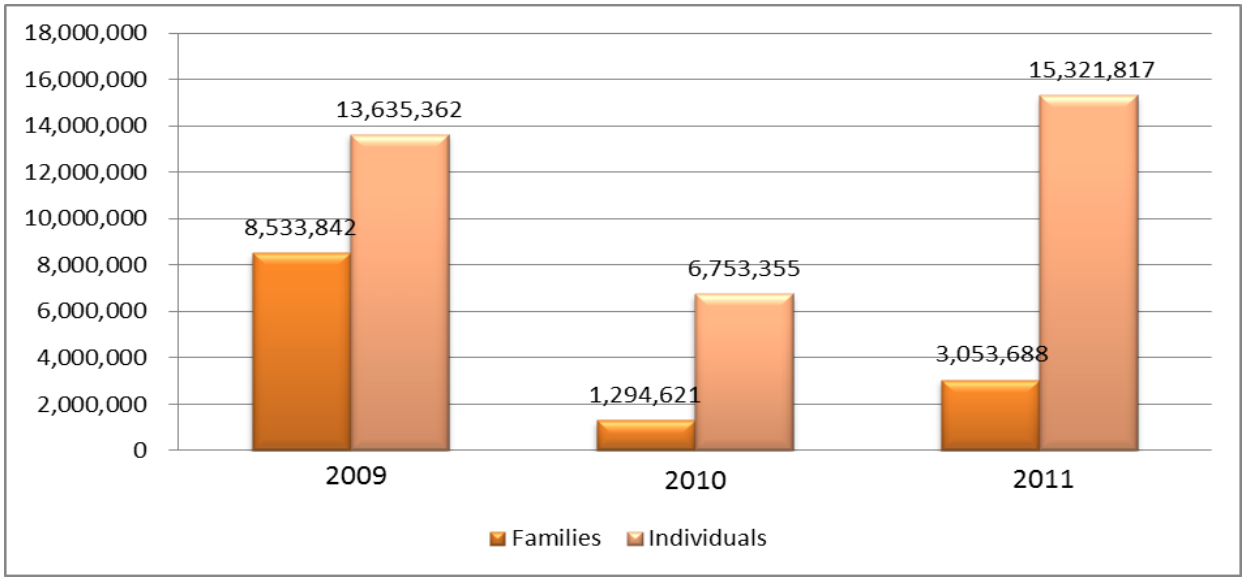


Philippine Data on Natural and Human-Induced Disasters (combined)

When it comes to combined data on natural and human-induced disasters, the 2011 figures far exceeded the 2010 human impact data. Even if compared to the 2009 figures, which included tropical storms Ondoy and Pepeng, the number of affected population in 2011 is still much higher at 15.3 million (see Figure 4).

Figure 4: Disaster Affected Population 2009 to 2011

Source: CDRC Database 2011

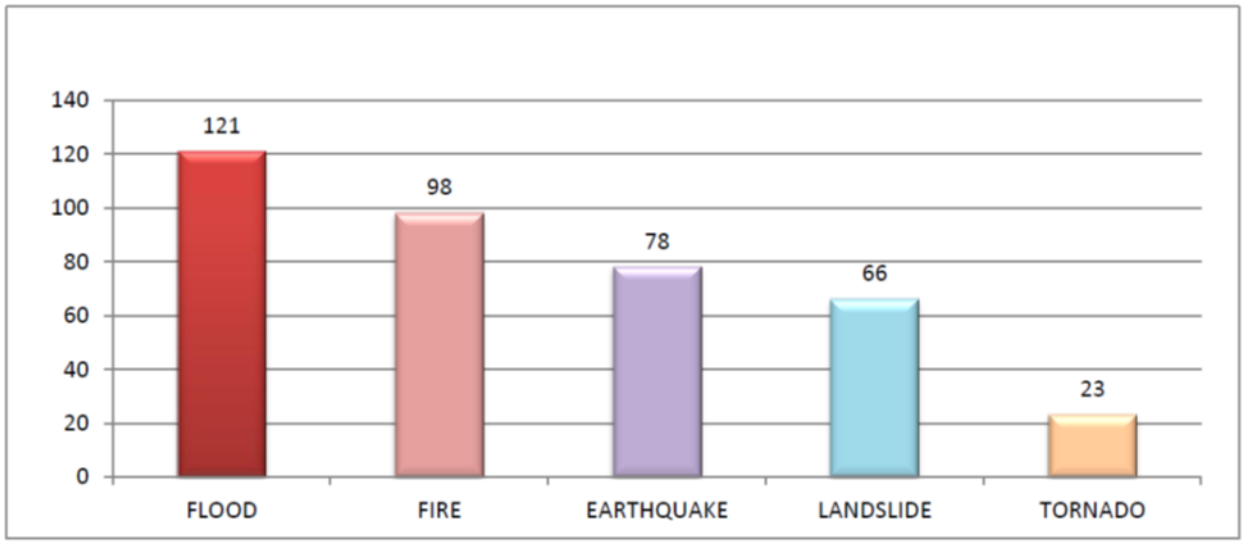


2. What were the top 5 disasters in 2011?

In terms of frequency, flood topped the list with 121 reported incidents, or 28.07% of the total number of disaster events monitored in 2011. This was followed by fire with 98 incidents -- majority of which occurred in urban centers, particularly in congested urban poor communities. Meanwhile, earthquake occurred 78 times, while landslide 66 times, and tornado 23 (see Figure 5).

Figure 5: Top 5 Disasters in 2011 in terms of Frequency

Source: CDRC Database 2011

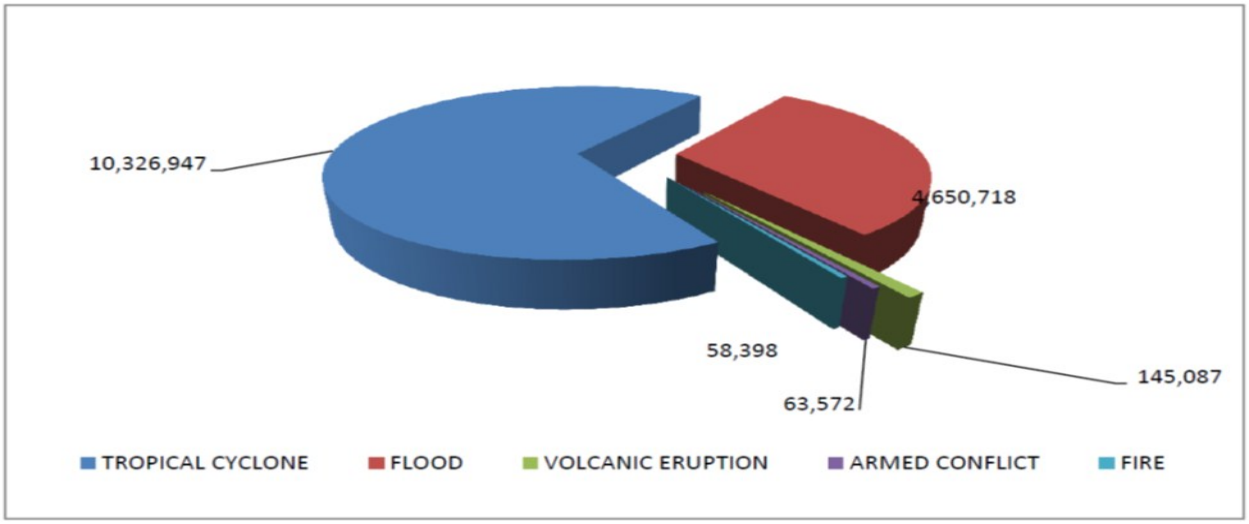


Tropical Cyclones may not have made it to the top 5 most frequent disasters, but it affected the most number of people. At least 10.3 Million people were affected in 2011. The two most destructive tropical cyclones in 2011 are Tropical Storm Sendong (Washi) and Typhoon Pedring (Nesat).

Tropical cyclone was followed by flood with 4.6 million people affected, and then volcanic eruption, armed conflict, and fire (see Figure 6).

Figure 6: Top 5 Disasters in 2011 in terms of Affected Population

Source: CDRC Database 2011



Tropical Storm Sendong (Washi)

People Killed: 1,268 (plus 181 more missing)

People Affected: 698,882

Economic Losses: PhP 2.068 billion

Tropical Storm Sendong was the 19th tropical cyclone that entered the Philippine area of responsibility in 2011. It entered PAR on 15 December as a tropical depression and intensified further into a tropical storm. It made its first landfall at the vicinity of Hinatuan, Surigao del Sur in the afternoon of Dec. 16 and traversed the provinces of Agusan del Sur, Bukidnon and Misamis Oriental, and the cities of Cagayan de Oro and El Salvador before midnight and caused torrential rains that led to widespread and catastrophic flooding in the cities of Cagayan de Oro and Iligan. It made its second landfall at the vicinity of Puerto Princesa City, Palawan before it exited out of the country on Dec 18.

The recorded 24-hour rainfall at Lumbia, Cagayan de Oro was 180.9 mm, which exceeded its monthly average by 60%. While the Hinatuan PAGASA-DOST Station recorded 180.4 mm that correspond to 32% of its monthly average of 555.1 mm.

The intense rainfall in the upstream portion of the CDO river basin flowed in a river gorge resulting to strong current uprooted trees and undermined and scoured river banks. The muddy water full of sediment and debris flowed downstream and washed out the islets of Isla de Oro and Isla Verde which are located on sandbars (accumulation of sediment through the years every time flooding occurs within the area). The development along the river banks also constricted the flow of flood water to the river mouth.

The combined effects of heavy rains that occurred in the upstream parts of the CDO river basin in the evening of 16 Dec until early morning of 17 December, the occurrence of high tide which restricted the flow of flood waters, the steep topography of the catchment, and the debris into the river exacerbated the impact of flash flood that contributed to the disaster.

Tropical Storm Sendong was the most destructive tropical cyclone for 2011 in terms of dead casualties which reached up to 1,268 (with 181 more missing), while Typhoon Pedring (Nesat) was the most

destructive in terms of damage to properties which was estimated at PhP15.553B and affected population was 667,602 families.

TS Sendong left in its wake the following impact:

- A total of 131,618 families/698,882 persons were affected in 866 barangays of 60 municipalities and 9 cities in the 13 provinces of Regions VI, VII, IX, X, XI, CARAGA, and ARMM. Region X suffered most particularly Cagayan de Oro City in Misamis Oriental and Iligan City in Lanao del Norte.
- A total of 1,268 persons were reported dead in Regions V, VII, IX, X, XI, CARAGA and ARMM. With Region X having the highest number which is 1,206 (674 in Cagayan de Oro City, 490 in Iligan City and 42 in Bukidnon) while Region VII comes next 38 in Negros Oriental. Other regions have minimal number of deaths. A total of 6,071 persons were reported injured, 181 missing and 441 survivors.
- A total of 51,144 houses were damaged in Regions VII, IX, X, XI, CARAGA and ARMM: 13,585 totally and 37,559 Partially. Region X has the highest number which is 39,888 (11,780 totally and 28,108 partially).
- The estimated cost of damages to properties in Regions IV-B, V, X and CARAGA amounted to PhP2,068,365,789.00 broken down as follows:
    - Infrastructure PhP 1,366,345,647.00
    - Agriculture PhP 309,101,330.00
    - Private Properties PhP 392,918,812.00

Many of those killed were women and children who drowned when rivers swelled in Cagayan de Oro City and Iligan City. Entire villages were washed away, houses destroyed, bridges broken and vehicles overturned.

Government officials said that deforestation of watersheds in Lanao del Norte and Bukidnon, which feed into the major rivers of Mindanao, had also worsened the effects of heavy rains. Illegal mining activities also contributed to the siltation of the river, the government said. In addition, rapid urbanization also decreased the area for water runoff and caused the siltation of the Cagayan River. Many residents were also caught unaware since the flood came while people were sleeping.

Source: DSWD-DROMIC and various news reports

3. What types of disasters were dominant in 2011?

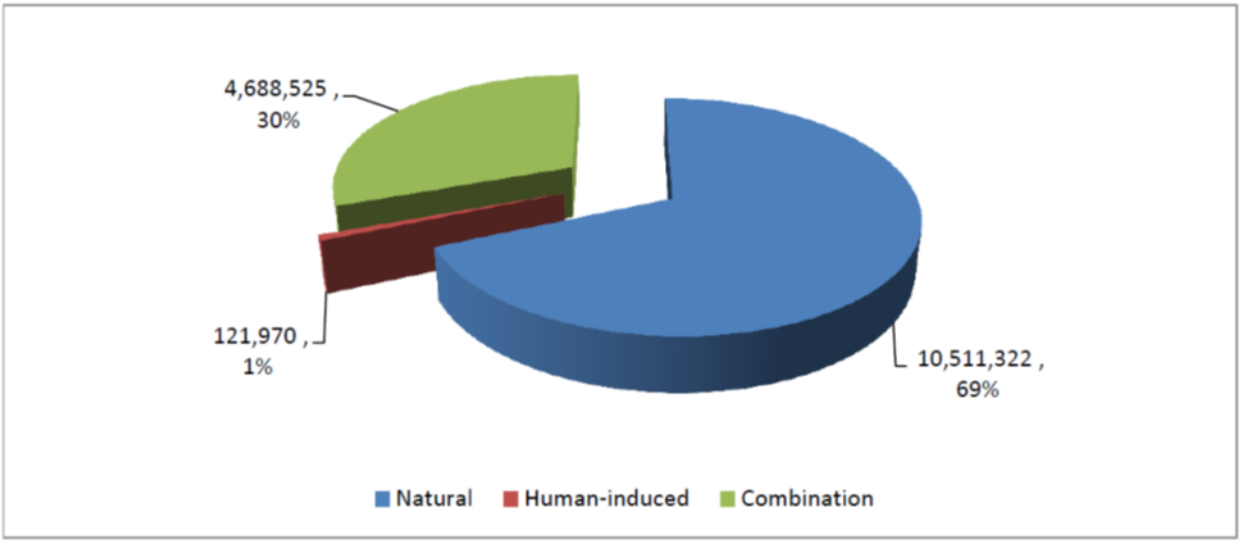
Natural hazards continued to be the leading cause of massive disasters in 2011. There were 10.5 million people affected by natural disasters, or 69% of the total number of people affected (see Figure 7). Natural disasters include drought, tropical cyclone, tornado and storm surge.

Disasters caused by both humans and natural hazards (combination) affected 4.6 million people or 30% of the disaster-affected population. These disasters include fishkill, flood, landslide, and red tide.

Human-induced disasters, namely armed conflict, fire, and development aggression affected 121,970 people or only 1% of the total disaster-affected population in 2010.

Figure 7: Affected Population by Types of Disasters

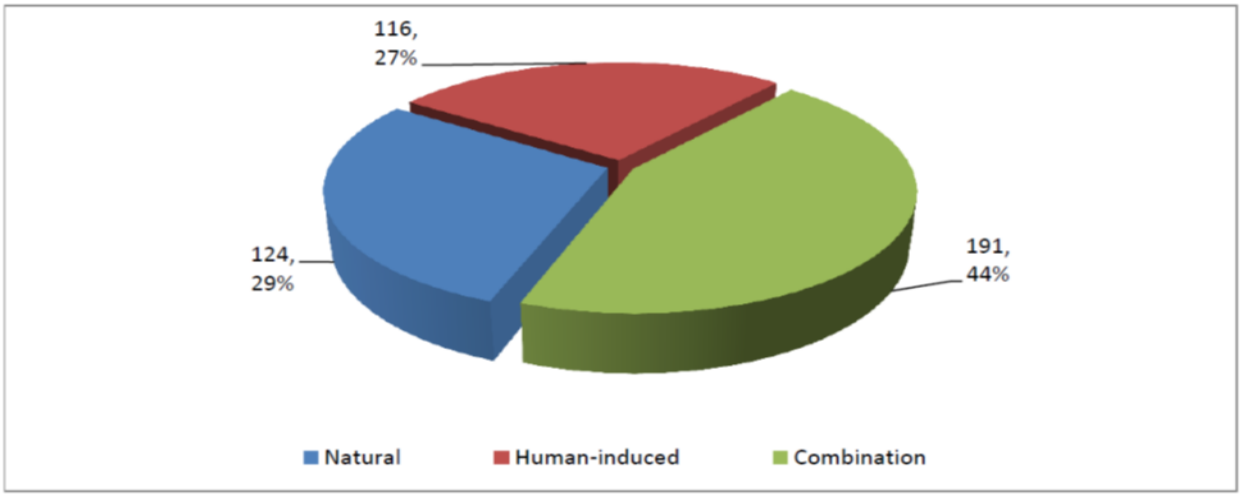
Source: CDRC Database 2011



In terms of frequency, however, 44% were caused by a combination of human-induced and natural hazards (see Figure 8). This was fueled by the high number of flood incidents. Natural disasters account for only 29% of disaster incidents, but it affected the most number of people (see Figures 7 and 8). Human-induced disasters on the other hand account for 27% of the total disaster events.

Figure 8: Frequency by Types of Disasters

Source: CDRC Database 2011

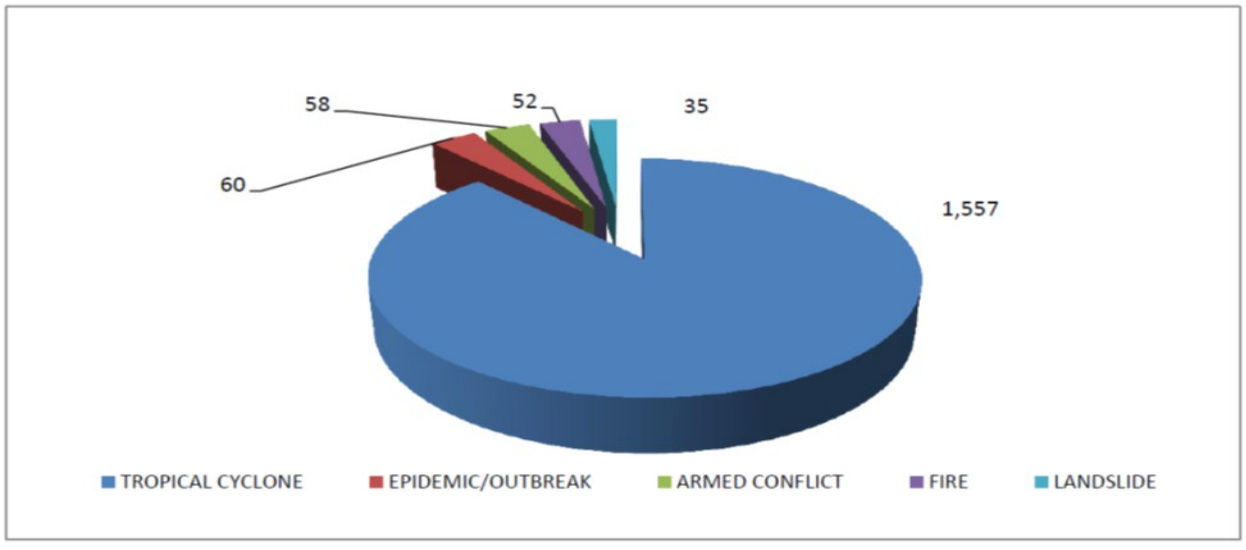


4. What disasters had the highest mortality rate?

The major cause of mortality rate last year was tropical cyclone, followed by epidemic, armed conflict, fire, and landslide. Tropical cyclone killed 1,557 people in 2010 (see Figure 9). Of this number, more than 1,400 were due to the effects of tropical storm Sendong. This is followed by epidemic (60 deaths), armed conflict (58 deaths), fire (52 deaths), and landslide (35 deaths).

Figure 9: Top 5 Disasters in terms of Casualties

Source: CDRC Database 2011



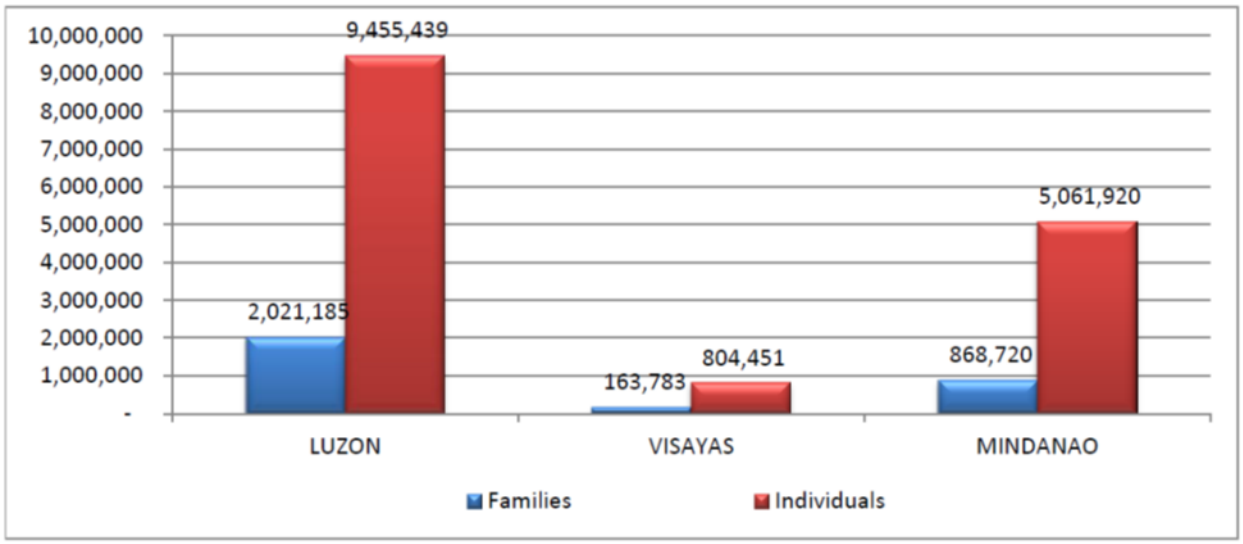
5. What regions were most affected by disasters?

The Philippines experienced 431 disaster incidents this year, with Luzon having the greatest number of people affected by disasters, followed by Mindanao and then by Visayas (see Figure 10). Luzon registered a total of 9.4 million individuals or 2 million families who were affected by disasters.

Mindanao, which used to be the least affected by disasters, had 5 million individuals or 868,720 families affected in 2011. Again, due to tropical storm Sendong. This was a significant leap from the 2010 figure of only 835,828 individuals or 155,890 families affected.

Figure 10: Graphical Distribution of Affected Population

Source: CDRC Database 2011

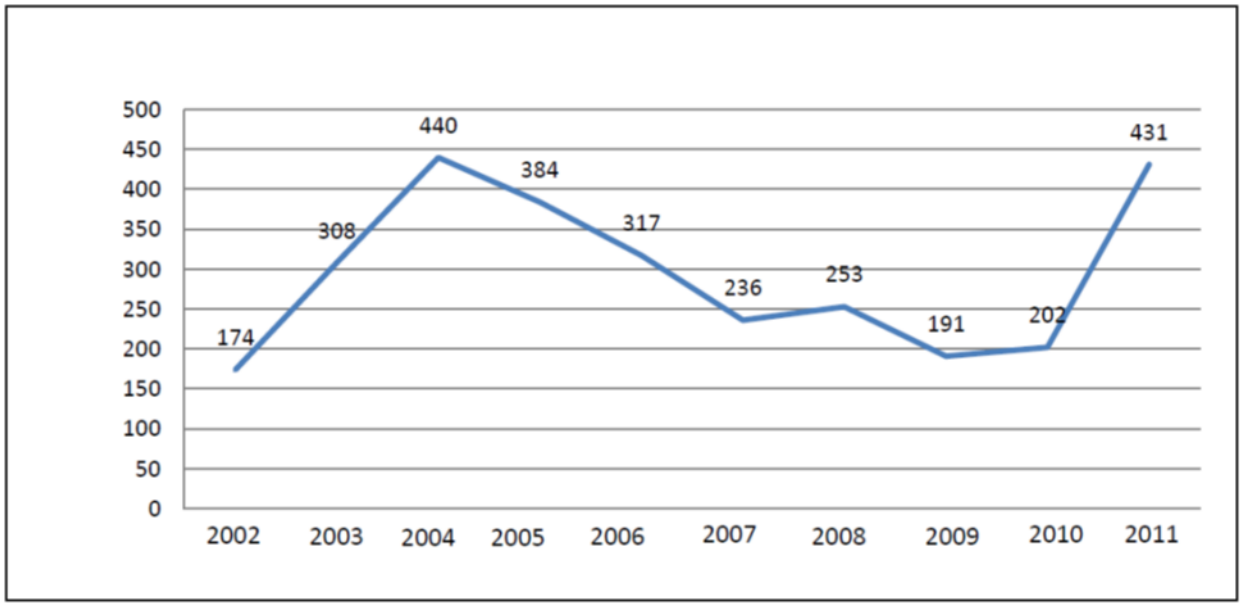


6. What were the trends in the last 10 years?

Starting in 2005, disaster frequency has shown a downward trend. But in 2011, it shot up by more than 50% -- from 202 to 431 (see Figure 11).

Figure 11: Frequency of Disasters, 2002-2011 (10-year period)

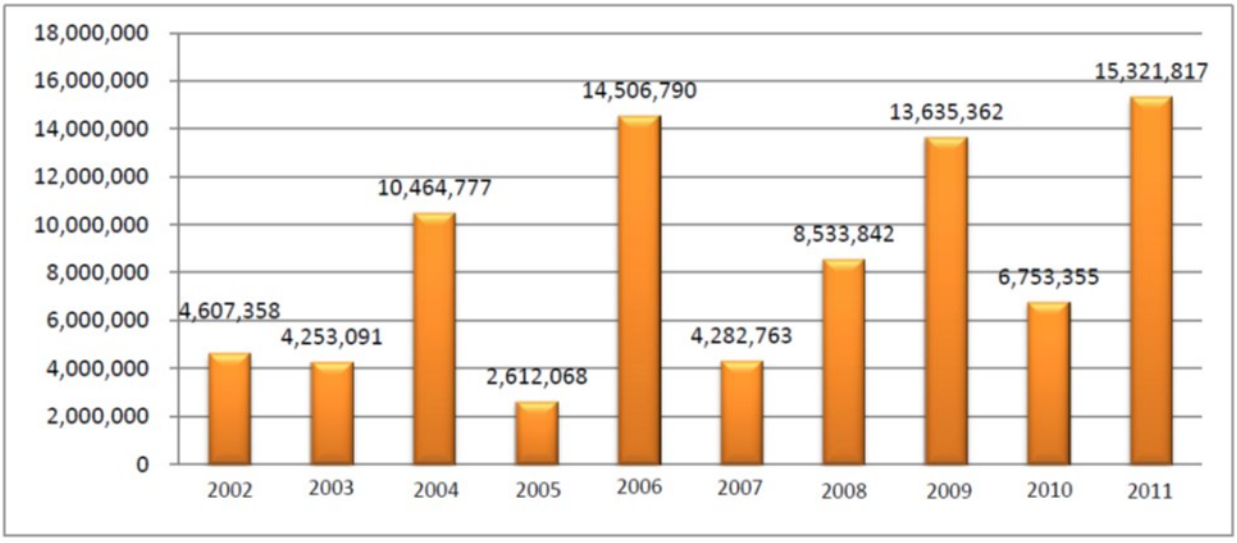
Source: CDRC Database 2011



The 15.3 million people affected by disasters in 2011 also surpassed the record-high 14.5 million in 2006 and the 13.6 million in 2009 (see Figure 12). This was mainly due to tropical storm Sendong. Tropical cyclones usually contribute to the spikes in the number of affected people – like for example, in 2006 for Typhoon Reming (Durian), and in 2009 for Tropical Storm Ondoy (Ketsana).

Figure 12: Number of Affected Persons, 2002-2011 (10-year period)

Source: CDRC Database 2011



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