How was vulnerability determined?

Which barangays are most vulnerable to the "Big Flood"?

Using various indicators for the equation:

\[ \text{Vulnerability} = \mathrm{Exposure} \times \text{Sensitivity} / (1 - \text{Adaptive Capacity}) \]

Increased exposure and sensitivity of the WSS infrastructure and communities to 100-year return floods increase their vulnerability. On the contrary, adaptive capacity reduces vulnerability and increases resilience.

- Top 3 most exposed due to high flood-prone areas and high population density:
  - Caloocan
  - Taguig
  - Muntinlupa

- Top 3 most sensitive due to presence of water supply system and other infrastructures:
  - Masbate
  - Tacloban
  - Lalaongan

- Top 3 with highest adaptive capacity due to high Internal Revenue Allotment, households with access to safe water, and disaster preparedness:
  - Bacolod
  - Mabalacat
  - Bacoor

Overall, the top 3 barangays most vulnerable to the "big flood":

- Marinduque
- Lalaongan
- Tigatto

What needs to be done?

The DRM P. of the barangays, the city, and concerned line agencies are focused on people safety with no mention of urban water systems UWSS management. But, the UWSS must be protected as well. As the most basic service system for population welfare and a vibrant local economy, the capacity of the city to bounce back after the 'big flood' relies heavily on a water system that ensures community health and adequately supplies reconstruction demands. Thus, it is imperative to include management of UWSS in the DRM P. to ensure that water is immediately made available to affected areas. Such preparedness is a measure of adaptive capacity which fosters resilience.

The various DRM P. need to be clear on the vertical and horizontal integration where the DCWO and other water service providers make sure that their sources, facilities, and services are 'big flood-ready'. Vertical and the various government institutions and agencies conduct harmonized and smoothly coordinated operations (horizontal).

The full report of this study is available at: [www.helpdavonetwork.com](http://www.helpdavonetwork.com)
What does this study want to find out?

This study looks at the 4 river systems of Davao City namely: Davao River Basin, Lasanp Watershed, Lipasid Watershed and Talomo Watershed in the event of a 100-yr return flood; and to determine which barangays are most vulnerable to the "Big Flood".

What is a 100-yr return flood?

If 100 floods were to come in any given year, this 'Big Flood' has 1% chance. The probability for this event to occur is 9.6% in 10 years; 39% in 50 years; 64% in 100 years. Commonly misunderstood, this does not mean the flood recurs once in 100 years. So, aim to be prepared anytime!

What are urban water systems and why are they important?

They include water supply, waste water, and storm water (run off and flash flood). However, this study focuses on the water supply system of the Davao City Water District (DCWD) which is very important for domestic and commercial consumption - population wellness and economic development.

Where are the top three barangays with the biggest flood-prone area?

Brgy. 1-A (Davao River Basin) : 91%
Brgy. Calinan (Talomo Watershed) : 79%
Brgy. 8-A (Davao River Basin) : 67%