DOST-Project NOAH’s Initiatives in Disaster Risk Reduction and Management

International Workshop on Disaster Risk Reduction under the e-ASIA Joint Research Program
Eastwood Richmonde Hotel
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Ken Adrian B. Aracan
Chief Science Research Specialist
Disaster Management Using WebGIS
What is Project NOAH?

As per President Aquino’s directive to put in place a responsive program for disaster prevention & mitigation, the Department of Science & Technology launched Project NOAH last July 2012 in Marikina City.

Specifically, Project NOAH aims to provide:

- flood mitigation system, specifically targeting a 6 hour flood early warning system for communities along 18 major river systems;
- enhancement of geohazard maps and;
- enhancement of storm surge vulnerability maps
How do we do this?

✓ advanced disaster science research

✓ multidisciplinary assessment of hazards

✓ develop accessible tools that enable prevention & mitigation of disasters
  (LGUs, planners, policy makers, communities, individuals, families)
Hydromet Sensors Development

Doppler System Development

Weather Info Integration for System Enhancement

DREAM-LiDAR

FloodNET

Landslide & Geohazards Mapping

Storm Surge Inundation Mapping

Disaster Management Using WebGIS
More than 1000 Automated Weather Stations, Rain Gauges and Water Level Sensors
Project NOAH Website

noah.dost.gov.ph
Project NOAH Website
beta.noah.dost.gov.ph
NOAH Mobile Applications
NOAH (for Android)
ARKO

Tap Here to Begin using Arko

- Search for Places
  (Maghanap ng Lugar)
- View Marked Places
  (Tignan ang mga lugar na namarkahan)
- About Arko, Settings
  (Tungkol sa Arko, Mga Settings)

Find your Location
Add a new Place
Flood Level Legend
Show Weather Outlook
Show Storm Path

Maps

Makati, Metro Manila
Probability of Rain:
- by 05:30 PM Low Chance of Rain (20.0%)
- by 06:30 PM Low Chance of Rain (20.0%)
- by 07:30 PM Low Chance of Rain (20.0%)
- by 08:30 PM Low Chance of Rain (20.0%)

Last checked: 04:30 PM September 30, 2013
Source: ClimateX.PH

Nationwide Operational Assessment of Hazards
RaincheckPH

[Images of weather maps and data from the RaincheckPH app showing current conditions and forecasts for Pasig, San Juan, Mandaluyong, and Makati areas, with details on temperature, precipitation, and wind speed for upcoming days.]
Flood Patrol

Select Action:
- Reports
  - Send Flood Report
- View Flood History
  - View map of past flood reports
- Emergency Hot Lines
  - Call PAGASA, PNP, etc.
- About
  - Learn more about Flood Patrol

Press the zoom in and zoom out icons to magnify the view and see areas prone to flooding. Press Help button for instructions.
Cagayan de Oro City

Water Level in the last 24 hours

Dec 04, 2012 12:50 PM
Water Level: 7.65 m
SSA 3
Daram, Western Samar

STATISTICS

- Totally damaged houses: 1,664
- Partially damaged houses: 5,773
- Damaged motorized boats: 453
- Damaged non-motorized boats: 328
- Damage infrastructure: P34 M
- Damage in agriculture and fisheries: P62.5 M
- Social services: P32.5 M
- Environment, tourism, arts, culture: P11.2 M

Source: Daram MDRRMO
WebSAFE

WebSAFE allows users to calculate the number of population exposed to a particular risk such as flood hazard in question format.

For example: In the event of a 100-year flood in Quezon City, how many people (population) will need evacuation?
In the event of a 100-year flooding in Quezon City, Metromanila how many people might need evacuation

<table>
<thead>
<tr>
<th>Needs Evacuation:</th>
<th>Needs per Week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population Affected</td>
<td>606,000</td>
</tr>
<tr>
<td>Population in High hazard areas</td>
<td>226,000</td>
</tr>
<tr>
<td>Population in Medium hazard areas</td>
<td>197,000</td>
</tr>
<tr>
<td>Population in Low hazard areas</td>
<td>184,000</td>
</tr>
<tr>
<td>Total Population</td>
<td>1,925,000</td>
</tr>
</tbody>
</table>

☑️ Action Checklist

- How will warnings be disseminated?
- How will we reach stranded people?
- Do we have enough relief items?
- If yes, where are they located and how will we distribute them?
- If no, where can we obtain additional relief items from and how will we transport them to here?

1.6 Poverty Incidence
Multi-hazard Maps
Multi-hazard Maps Enhancement

BEFORE

Safe Areas: 0.01%
Based on Flood and Landslide Hazard Maps only

AFTER

Safe Areas: 36.87%
Based on Flood, Landslide and Storm Surge Hazard Maps
# Hazard Assessment of Critical Facilities

## Landslide Hazard Assessment

<table>
<thead>
<tr>
<th>LANDSLIDE HAZARD ASSESSMENT</th>
<th>NUMBER OF HEALTH FACILITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH</td>
<td>2</td>
</tr>
<tr>
<td>MODERATE</td>
<td>15</td>
</tr>
<tr>
<td>LOW</td>
<td>8</td>
</tr>
<tr>
<td>SAFE</td>
<td>141</td>
</tr>
<tr>
<td>NO DATA</td>
<td>1</td>
</tr>
</tbody>
</table>
Improving Risk Communication
Maraming Salamat po!

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