INTRODUCTION

Full Name: Republic Indonesia
Area: 1,904,000 sq Km
Capital City: Jakarta

- Season: Dry and Rainy Season
- Total Number Of Island: 17,583 Islands
- Total Number Of River: 500 Rivers (Big and Small Rivers)
  (30% Crossed the high density population area)
- Total Number Of Forest: The third largest tropical forest in the world
- Total Number Of Volcanoes: More than 500 Volcanoes (128 of which are active)
- Total Number Of Ethnic Group: More than 200 Ethnic Group
- Total Number Of Local Language: 583 Dialect and Languages
- Religion: Moslem (98%), Protestant + Catholic + Hindus + Budhis (2%)
- Government Structure:
  - Central Level: Resident & the Cabinet
  - Provincial Level: 33 Provincial Government Level
  - District Level: more than 325 district Government Level

The conditions leading to natural disaster & social conflict
Economic and business

GDP per real growth rate: 3.3% (2001)
GDP per Capita: $730 (2000)
Agriculture product: Rice, Tapioca, Peanuts, rubber, cocoa, coffee, Palm oil, copra, poultry, beef.
Industries: Petroleum, natural gas, textiles, apparel and footwear, mining, cement, chemical, fertilizers, plywood, rubber, food, tourism.

GDP COMPOSITION PER SECTOR

- Agriculture: 17%
- Industry: 41%
- Services: 42%

DISASTER CONDITION:
- THREAT
- CASES
Disaster Threat (1)

- Indonesia is situated in geographically between Asia and Australia continents, the Indian and Pacific Oceans.
- It is located in the active tectonic zone and composed of parts of three crustal plates (Eurasian plate in the north, Indian-Australian plate in the south, and Pacific Ocean floor plate in the northeast).
- Situated in the three regional mountain systems (Alpine Sunda, Circum Pacific and Circum Australian).

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Disaster Threat (2)

- The seismic sources will raise earthquake, which can be generated by subduction zone and active fault (i.e., The Great Sumatera Fault, Palu-Koro Fault and Sorong Fault which are wellknown as source of damaging earthquakes).
- The subduction lies in the southwestern of Sumatera, south of Java, some part of Maluku and Papua.
Disaster Threat (3)

- The volcanic areas occupied by more than 500 young volcanoes which are described as 128 active volcanoes. It is representing 15% of the active volcanoes in the world.
- Mass movement such as landslide and rock falls can be occur on such condition as steep slope, type of rock, fractured and highly intense weathered of rock, highly intense of precipitation and bad land management.
VICTIM OF EARTHQUAKE AND TSUNAMI

<table>
<thead>
<tr>
<th>District</th>
<th>Province</th>
<th>Year</th>
<th>Caused by</th>
<th>People died</th>
</tr>
</thead>
<tbody>
<tr>
<td>Krakatau</td>
<td></td>
<td></td>
<td>Tsunami</td>
<td>&gt; 36,000</td>
</tr>
<tr>
<td>Banyuwangi</td>
<td>Jawa Timur</td>
<td>1994</td>
<td>Tsunami</td>
<td>224</td>
</tr>
<tr>
<td>Flores</td>
<td>NTT</td>
<td>1995</td>
<td>Tsunami</td>
<td>2094</td>
</tr>
<tr>
<td>Biak</td>
<td>Irian Jaya</td>
<td>1996</td>
<td>Tsunami</td>
<td>&gt; 200</td>
</tr>
<tr>
<td>Kerinci</td>
<td>Sumatera Barat</td>
<td>1996</td>
<td>Gempabumi</td>
<td>34</td>
</tr>
<tr>
<td>Liwa</td>
<td>Lampung</td>
<td>1996</td>
<td>Gempabumi</td>
<td>19</td>
</tr>
</tbody>
</table>
EARTHQUAKE Damage, MAJALENGKA, WEST JAWA
28 Juni 2001

<table>
<thead>
<tr>
<th>LOCAL DISTRICT</th>
<th>HOUSE DAMAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talaga</td>
<td>1223</td>
</tr>
<tr>
<td>Bantarujeg</td>
<td>773</td>
</tr>
<tr>
<td>Cingambul</td>
<td>104</td>
</tr>
<tr>
<td>Lemah Sugih</td>
<td>38</td>
</tr>
<tr>
<td>Banjaran</td>
<td>42</td>
</tr>
</tbody>
</table>
NATURAL DISASTER CASES IN 10 YEARS

- Earthquake in Majalengka district.
- Flash flood, debris flows and slide in Nias island, North Sumatra (hundreds people as victim).
- Forest fire and haze, Kalimantan and Sumatera in dry season (thousands people affected).
- Pollution many cases (water, air), become potential threat (e.g., chemical industrial incident in Gresik, East Java (many people affected).
- Landslides, debris flows and floods happens each year (many victims, and loss of properties).

NATURAL DISASTER EVENT IN INDONESIA FROM JAN 2000-JUNE 2003

<table>
<thead>
<tr>
<th>Disaster Type</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Forest</td>
<td>12</td>
<td>3%</td>
</tr>
<tr>
<td>Drought</td>
<td>25</td>
<td>6%</td>
</tr>
<tr>
<td>Volcanic</td>
<td>8</td>
<td>2%</td>
</tr>
<tr>
<td>Landslide</td>
<td>124</td>
<td>30%</td>
</tr>
<tr>
<td>FL &amp; Land</td>
<td>214</td>
<td>50%</td>
</tr>
<tr>
<td>Earthquake</td>
<td>240</td>
<td>6%</td>
</tr>
<tr>
<td>Flood</td>
<td>240129</td>
<td>71%</td>
</tr>
<tr>
<td>FL &amp; Land</td>
<td>72879</td>
<td>22%</td>
</tr>
<tr>
<td>Volcanic</td>
<td>500</td>
<td>0%</td>
</tr>
<tr>
<td>Earthquake</td>
<td>6649</td>
<td>2%</td>
</tr>
<tr>
<td>Flood</td>
<td>25</td>
<td>6%</td>
</tr>
</tbody>
</table>

NUMBER OF PEOPLE AFFECTED BY NATURAL DISASTER IN INDONESIA FROM JAN 2000-JUNE 2003

<table>
<thead>
<tr>
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<th>Percentage</th>
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</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Flood</td>
<td>240129</td>
<td>71%</td>
</tr>
</tbody>
</table>
LOSS APPROXIMATION IN US$ BY SOME NATURAL DISASTER IN INDONESIA FROM JAN 2000-JUNE 2003

- Flood, 11,300,000, 54%
- FL & Land, 7,800,000, 38%
- Landslide, 1,700,000, 8%

POLICY AND ORGANIZATION
The government policy

1. Disaster management policy:
   a. focused on preventive & mitigation efforts, also repressive & rehabilitative actions
   b. to evacuate and to handle the disaster victims
   c. to involve stakeholders on disaster management

2. IDPs policy:
   a. IDPs repatriation (to their origin place)
   b. the government will give relief assistance for the IDPs (food, tent, temporary place, basic medical services, water & sanitation)
   c. IDPs handling will be done by coordination

3. Complex emergency policy:
   a. to mobilize all potency & capacity of national & regional to overcome the emergency complex situation
   b. to normalize the condition by provide humanitarian assistances during the emergency situation
ORGANIZATION STRUCTURE OF BAKORNAS PBP

CHAIRMAN OF BAKORNAS PBP:
Vice President Of The Republik Of Indonesia
Vice Chairman of BAKORNAS PBP
Coordinating Minister of Social Welfare

SECRETARY OF BAKORNAS PBP
Secretary of Vice President ex. Officio Secretary Of BAKORNAS PBP
(Secretariat of BAKORNAS PBP)

SECRETARY OF SATKOLRAK PBP
(Secretariat of SATKOLRAK PBP)

SECRETARY OF SATLAK PBP
(Secretariat of SATLAK PBP)

MEMBERS
The Minister of Home Affairs
The Minister of Health
The Minister of Resettlement and Territory Infrastructure
The Minister of Transportation
The Minister of Finance
The Commander Chief of Armed Forces
The Chief of The National Police
The Governor, Head of The Provincial Region

PROVINCIAL LEVEL/SATKOLRAK PBP

DISTRICT LEVEL/SATLAK PBP

ORGANIZATION STRUCTURE

DIRECTORATE VOLCANOLOGY AND GEOLOGICAL HAZARD MITIGATION

WEST REGIONAL OBSERVATION DIVISION
EAST REGIONAL OBSERVATION DIVISION
VOLCANIC POTENTIAL INVENTORY DIVISION
VOLCANOLOGICAL TECHNOLOGY CENTER

ADMINISTRATION
PERSONNEL AND FINANCE AFFAIRS
HOUSEHOLD AFFAIRS
DOCUMENTATION AND INFORMATION

GROUP OF FUNCTIONAL

GROUP OF VOLCANOLOGICAL TECHNOLOGY RESEARCH CENTER
Debris flow, Hot cloud (Zone I)
Hot cloud, Lava flow (Zone II)
Hot Cloud, Lava flow (Zone II)
Rock fall (Zone III)

TRANSMISSION SYSTEM USING SATELLITE
ABLE TO SEND VOLCANIC DATA (NUMERIC, CONTINUOUS, REALTIME, AUTOMATIC)
ACQUISITION DATA IS DEVELOPED BY CNES, NASA AND NOAA
USING SATELLITE OF NOAA-TIROS N
VOLCANOES EQUIPPED WITH ARGOS PLATFORM

PLATFORM LOCATIONS

Peuet Sague
Guntur
Papandayan
Ebulobo
Rokatenda
Iya

VOLCANOES EQUIPPED WITH ARGOS PLATFORM

Colo
Lokon
Awu
Ruang
Lewotolo
Ili Werung
Sirung
Tangkoko
Gamalama
Gamkonora
Ibu

ISOEISIM AND EARTHQUAKE EPICENTER DISTRIBUTION MAP
OF CENTRAL JAWA AND DJ. YOGYAKARTA PROVINCES, 1973 - 1999

Magnitude 4.4-4.9 SR
Magnitude 5-5.9 SR
Magnitude 5.9 SR
TAKING AN EXAMPLE OF DISASTER REDUCTION
EFFORT AND OBSTACLE OF DISASTER MITIGATION

LANDSLIDE DISASTER

- MOVEMENT OF SLOPE MATERIALS (SOIL, ROCK, PILE OR MIXTURE AMONG THEM) TOWARDS DOWN PART BEYOND THE SCOPE.
- THE CAUSE: STEEP SLOPE, SOFT AND THICK SOIL, WEAK ROCKS, SATURATED WATER, EARTHQUAKE, MANMADE.
- WIDELY DISTRIBUTED IN SMALL SCALE.
- MOSTLY HAPPENS IN RAINY SEASON.
- 1940 – 2000: LANDSLIDE AT MORE THAN 800 LOCATIONS KILLING 860 PEOPLES.
## THE NUMBER OF HUMAN VICTIM AND HOUSE DAMAGE DUE TO LANDSLIDES IN INDONESIA - 2001

<table>
<thead>
<tr>
<th>Province</th>
<th>Number of Event</th>
<th>Number of Victim</th>
<th>House Damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Java</td>
<td>33</td>
<td>132</td>
<td>298</td>
</tr>
<tr>
<td>Central Java +</td>
<td>10</td>
<td>18</td>
<td>87</td>
</tr>
<tr>
<td>Yogyakarta</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Sumatera</td>
<td>1</td>
<td>231</td>
<td>146</td>
</tr>
<tr>
<td>West Sumatera</td>
<td>1</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

## MITIGATION FOR LANDSLIDE DISASTER

**PRE-LANDSLIDE EVENT:**
- LANDSLIDE HAZARD ZONATION MAPPING
- LANDSLIDE MONITORING
- ALERT FACING LANDSLIDE DISASTER
- BUILDING THE S.O.P.
- PUBLIC EDUCATION

**POST-LANDSLIDE EVENT:**
- QUICK RESPONSE TEAM DO AN EMERGENCY RESPONSE
- REHABILIZATION, NORMALIZATION, AND RECONSTRUCTION
ZONING: LANDSLIDE SUSCEPTIBILITY MAP

- High susceptibility to landslide; landslide are still active
- Medium susceptibility to landslide; landslide may occur
- Low susceptibility to landslide; landslide are rare or small scale
- Very low susceptibility to landslide; Landslide are very rare or none
Tens houses in real estate area heavily broken after 2 years constructed.
MONITORING:
Conducted in active landslide area.
To know the displacement and length of displacement.

By Measuring position changes of benchmarks constructed in landslide area.

Measurement using Global Positioning System (GPS)
Main Problem:

- Complexity (varieties) of geological condition.
- Big population but mostly people or local government has a little knowledge or awareness of disaster.
- Environmental damage in some places due to area development.
- Lack of data (information) due to lack of research.
- Others (self interest, circumstance, budget etc can hamper disaster reduction).
**DISASTER SITUATIONS**

- **Disaster Threat (1)**
  - Indonesia is situated geographically between Asia and Australia continents, the Indian and Pacific Oceans
  - It is located in the active tectonic zone and composed of parts of three crustal plates (Eurasian plate in the north, Indian-Australian plate in the south, and Pacific Ocean floor plate in the northeast)
  - Situated in the three regional mountain systems (Alpine Sunda, Circum Pacific and Circum Australian)