

**THE IMPORTANCE OF COMPREHENSIVE SPATIAL
PLAN TO REDUCE DISASTER RISK IN INDONESIA**

**by
BAMBANG PANUDJU**

Background of the Problem

- Geological hazards have happened in Indonesia in the last few decades. But the disaster did not get proper attention from the central, provincial and local governments as well other stakeholders.
- The national disaster that occurred in Aceh and North Sumatra Provinces in December 2004 have made many government officials, planners and related experts realize that in the past, negative impacts of geological aspects have been neglected in spatial planning preparation.

The role of spatial plan

- Theoretically properly designed spatial plan has a big role to avoid geological hazards, especially town or regency spatial plan (RTRW - Kota/Kabupaten), but until year 2004, many spatial plans was not designed properly to accommodate geological hazards.
- It is the most significant tools to direct the real human settlement development and at the same time to prevent geological hazard impact because it directly related to the real human settlement development.

The Spatial plan Hierarchy in Indonesia

Spatial Plan Level	The Responsible Party
1. National Spatial Plan/ Island Spatial Plan (RTRW Nasional/Kepulauan-1) plan.	Department and National Institution sectors.
2. Province Spatial Plan local government level 1 or RTRW Propinsi - total 33 plans.	Provincial institution sectors.
3.1. Regency and town spatial plan local government level 2 or RTRW Kabupaten and RUTR Kota total 325 + 91 plans.	<ul style="list-style-type: none"> - Local government planning board and local government technical institutions. - In many cases the level 2 local government spatial plan are prepared by private consultant.
3.2. Regency and Town detailed spatial plan (RDTR Kawasan and RBMK).	
3.3. Technical Plan (Rencana Teknis Ruang Kota).	

- Reality mostly regency/town spatial plan are prepared by the private planning consultant. Meaning that the role of private planning consultant can be very important in the preparation of regency or town spatial plan in Indonesia.

Government Regulations and Guidelines

To ensure the spatial plan is up to the government standard, the ministry of interior has produced several instructions and regulations among others are :

- Ministry of interior regulation decree or instructor no. 2 year 1987, no. 59 year 1988, no. if year 1988.
- Spatial plan law of the republic of Indonesia no. 24 year 1992.
- Guideline of spatial plan for town and regency preparation, established in March 1993 by the Directorate General of Territorial Development.
- Instruction of Minister of interior no. 19 year 1996, no. 134 year 1998, no. 137 year 1998, no. 8 year 1998, no. 9 year 1998.

There are some geological aspects mentioned in the guideline, mostly about potential and limitations, but it does not specifically mention about the impact of geological hazard to human settlement.

Due to the prevailing spatial plan guideline, most of the TOR of spatial plan prepared by the local government, do not specifically mentioned about geological hazard impact analysis in spatial plan, even in some regions that have some possibility of geological hazard such as tsunami, volcanic eruption, earthquake, flood or landslide.

Geological hazards

- Only since December 2004, geomorphologic information and data are widely discussed among planners, government officials and other experts related to spatial plan, although potentially there are many geological hazard zone in Indonesia.
- Not all detailed geological information and data are available to local government planning staffs, planning consultant as well as other stake holders, and that make they do not aware the danger of it.
- “The directorate of geological and mining area environment” until this moment can only supply 30% of required data and information for spatial planning purpose.
- Due to financial limitation, this directorate can only conduct 6 surveys in regency or town every year.

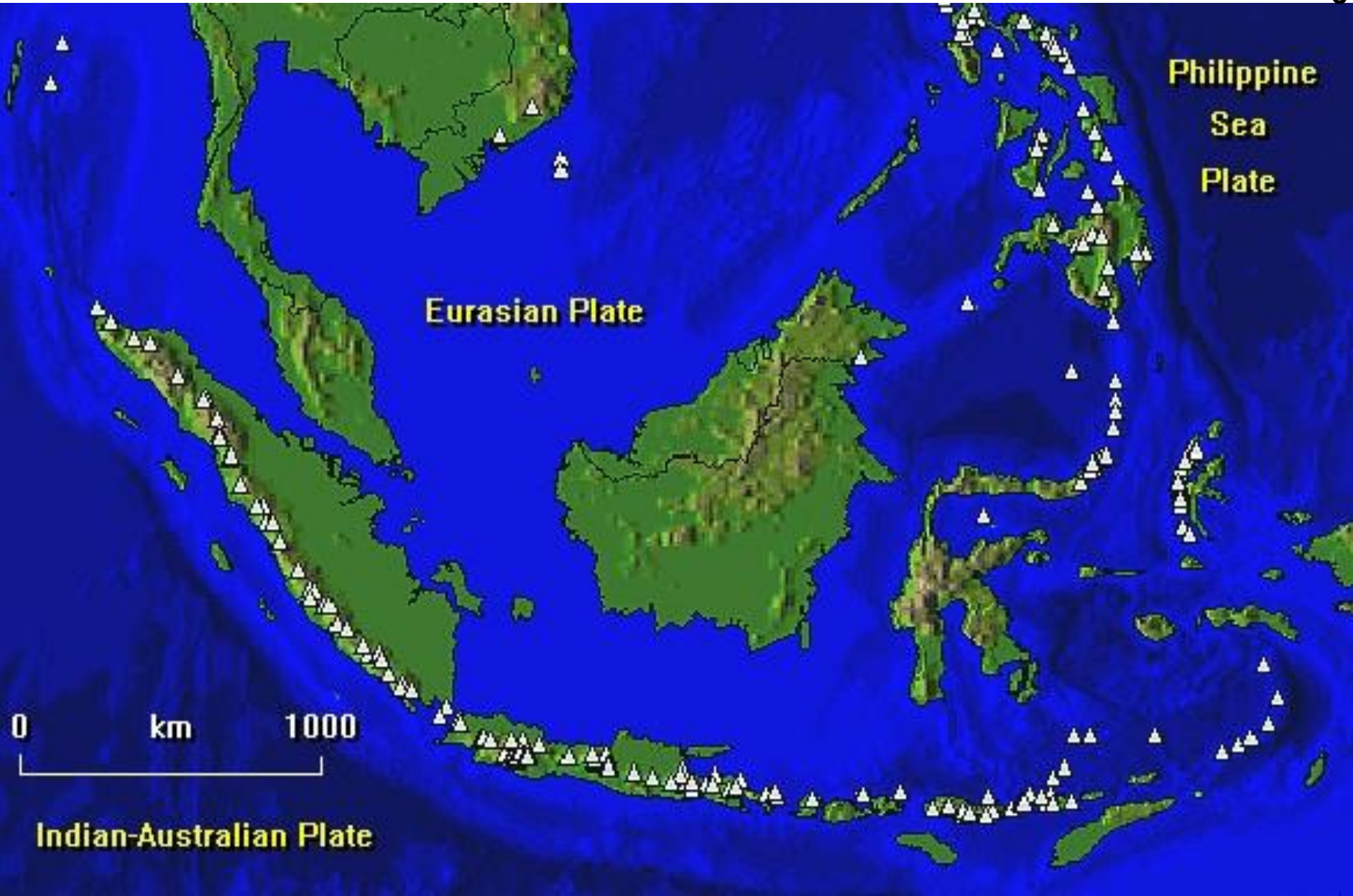


Figure 3.1. : Location of Volcanoes
Source : Directorate of TLGKP

SEBARAN EPISENTRUM GEMPABUMI DENGAN MAGNITUDA 5
DARI TAHUN 1900 - 2000 (Sumber : USGS)

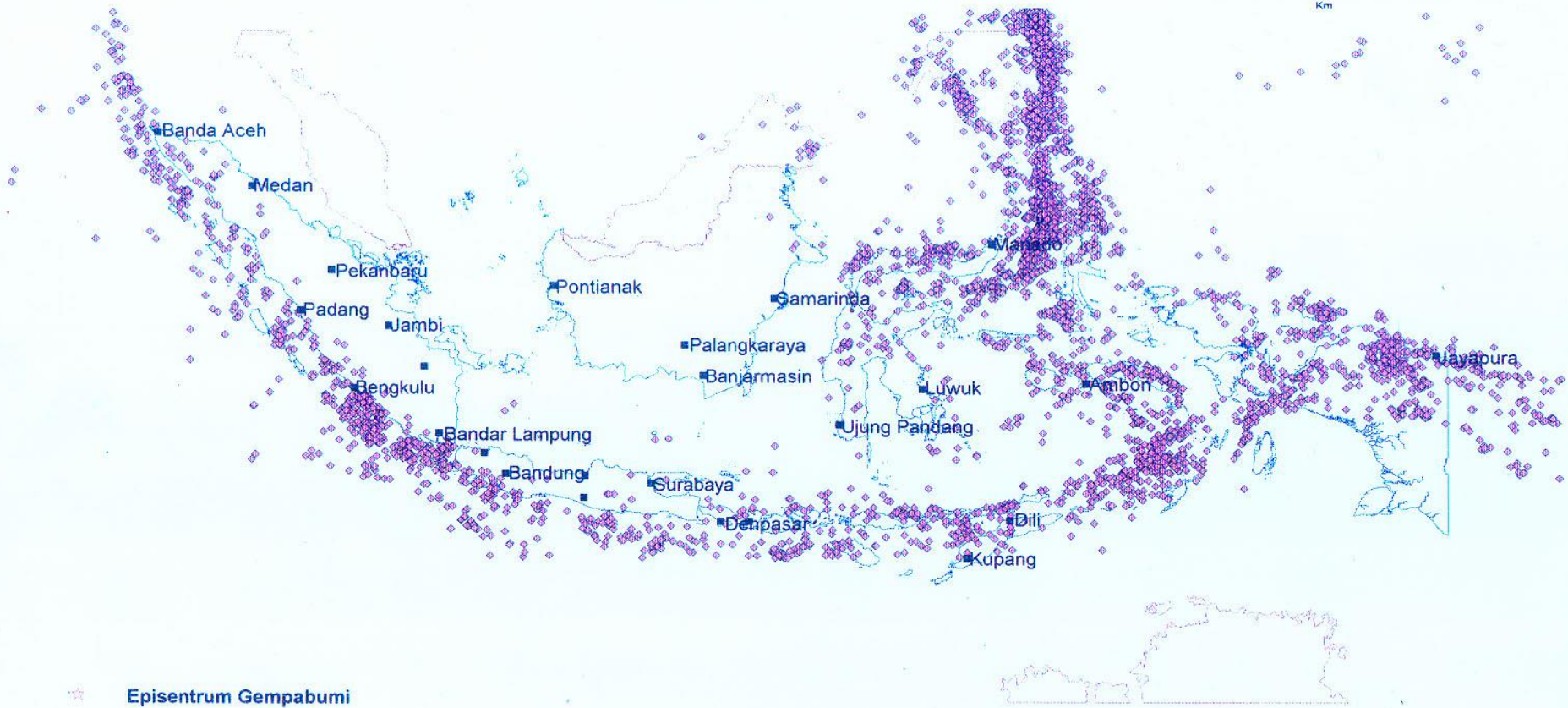


Figure 3.2. : Location of Earth Quakes
Source : Directorate of TLGKP

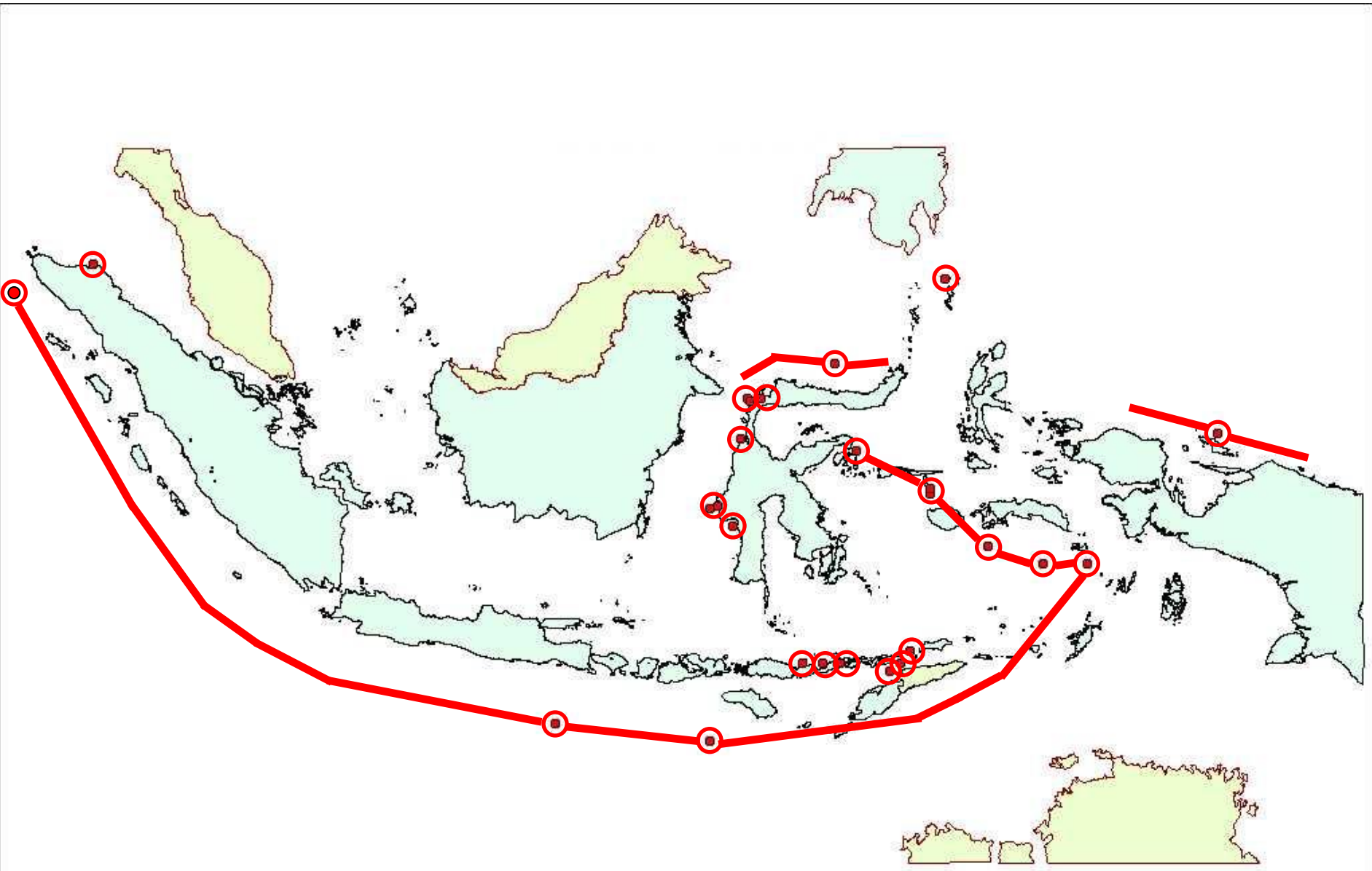


Figure 3.3 : Location of Source of Tsunami Hazard
Source : Directorate of TLGKP



Figure 3.4. : Location of land slide hazards
Source : Directorate of TLGKP

Spatial plan implementation and review

- Almost all regency and town in Indonesia, except newly formed regency or town, have had regency or town spatial plan (RTRW) and detailed Spatial Plan (RDTR), but in the past these spatial plan sometimes did not implemented in the real physical development. It is because of lack of development control and other reasons.
- Once it is not implemented properly the whole concept and system of the spatial plan can be jeopardized. Spatial plan also needs to be reviewed and adjusted periodically according to the latest development and condition of regency or town.
- In preparing or reviewing a spatial plan, local wisdom and local people aspiration also need to be accommodated, since they and their ancestor have lived there for years, and know very well the nature behavior and their own tradition and customs.
- To be able to review or to prepare a comprehensive spatial plan, some geological knowledge, information and data are needed to be introduced to the related local government personnels, planning consultants and others stake holders.

Recommendation

- There should be a political will from the central, province and local government to use spatial plan as a preventive tool to avoid geological and other hazards that can endanger human settlement and human life.
- The government laws, regulations and spatial planning guidelines need to be adjusted accordingly.
- Training and dissemination in this matter need to be given to the related government officials spatial consultants and other related parties as well as the local people.
- Development control should be executed properly by the local government personnel.
- Geological information and data especially in the geological hazard zone, need to be easily obtained by local governments, planning consultants related parties and other stake holders. This information and data should be supplied and coordinated by the most competent institution, in this case “The directorate of geological and mining area environment”. It can cooperate with private company, and sell the information to the other party who need it, to cover the survey cost.