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## Geological parameters for planning of nuclear building facilities development

*(Presentation)*

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# GEOLOGICAL PARAMETERS FOR PLANNING OF NUCLEAR BUILDING FACILITIES DEVELOPMENT

## (UJUNG LEMAHABANG, JEPARA, CENTER OF JAVA*)


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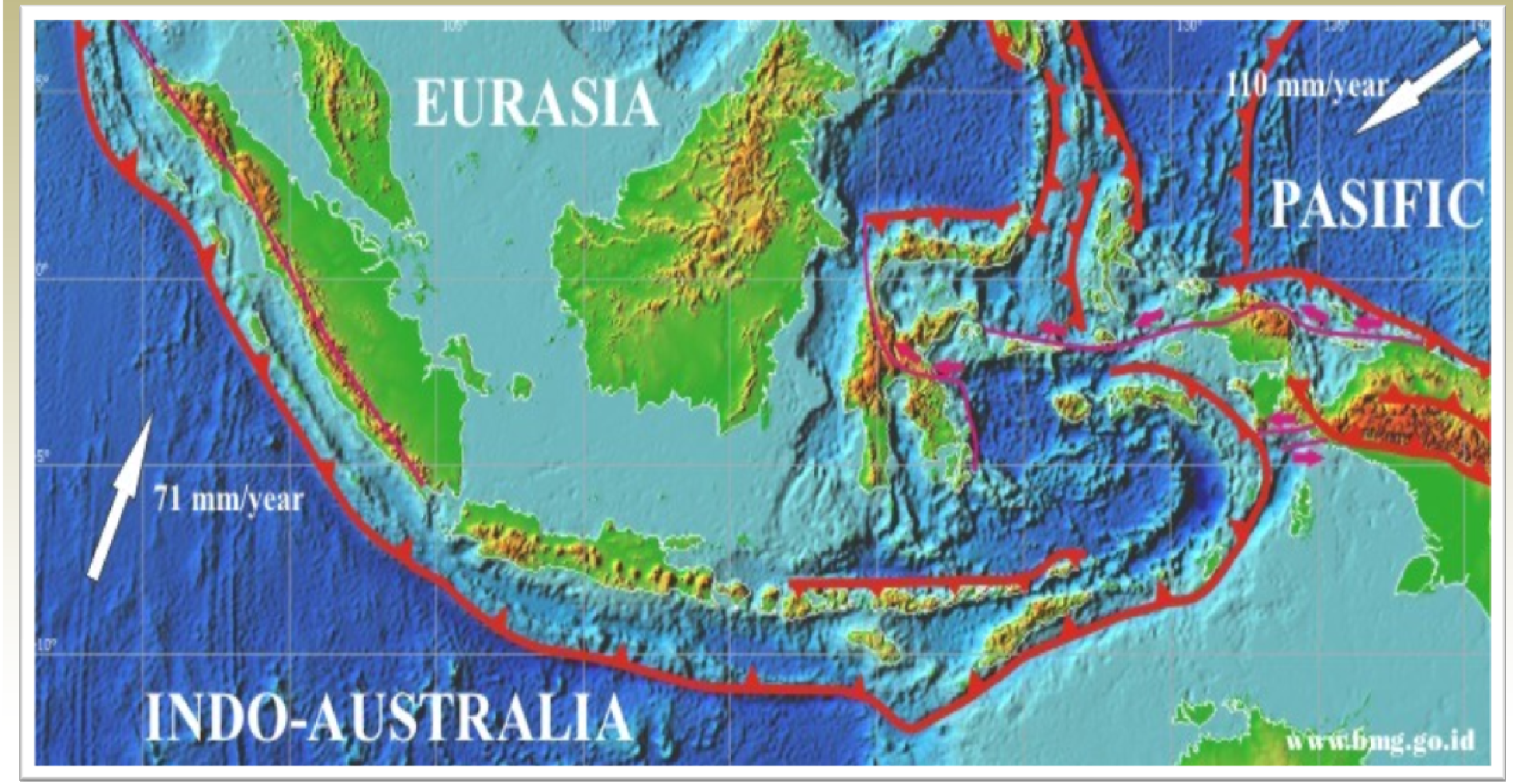
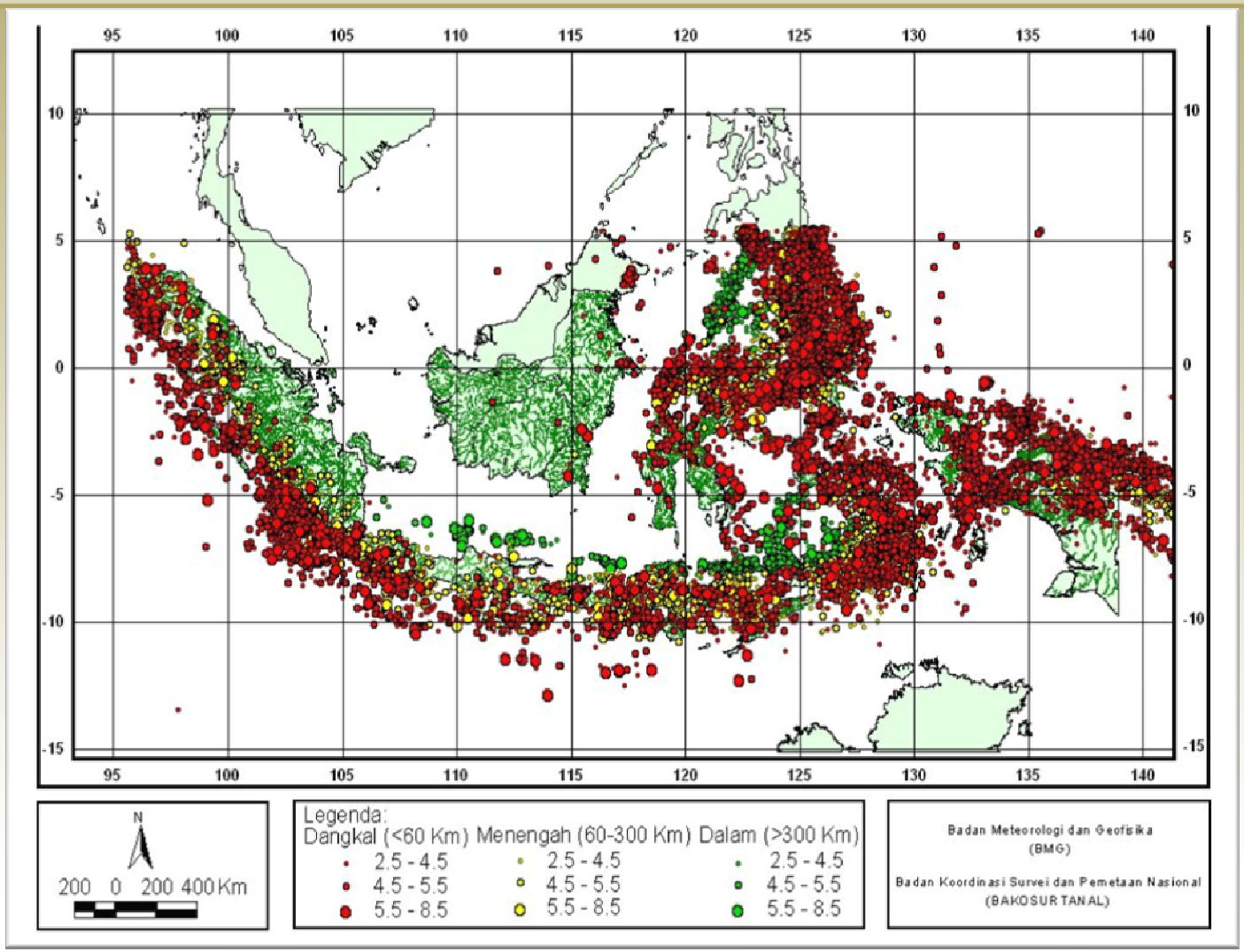
# Introduction

## TECTONIC OF INDONESIA



# SEISMICITY OF INDONESIA

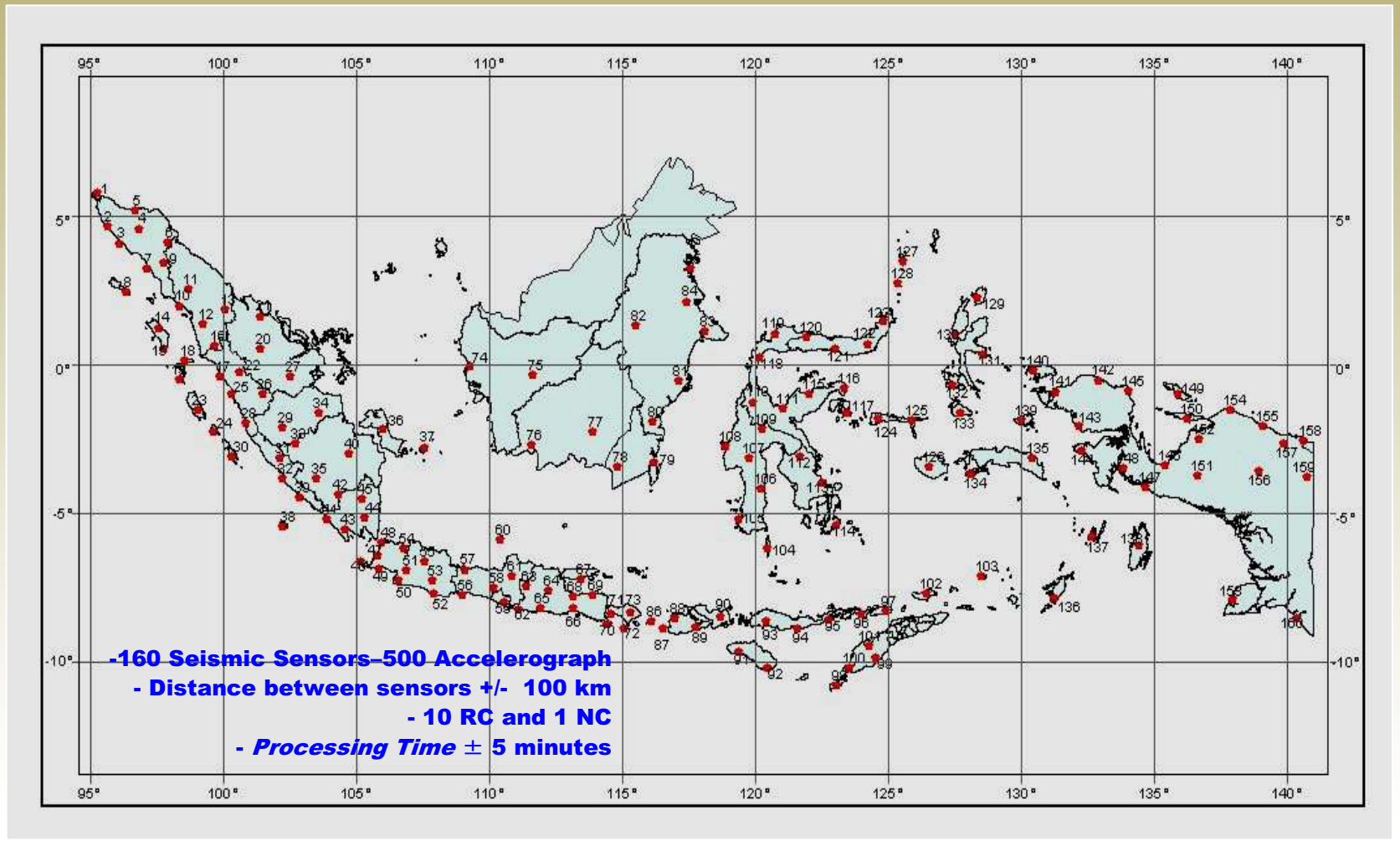



**1973 - 2008**

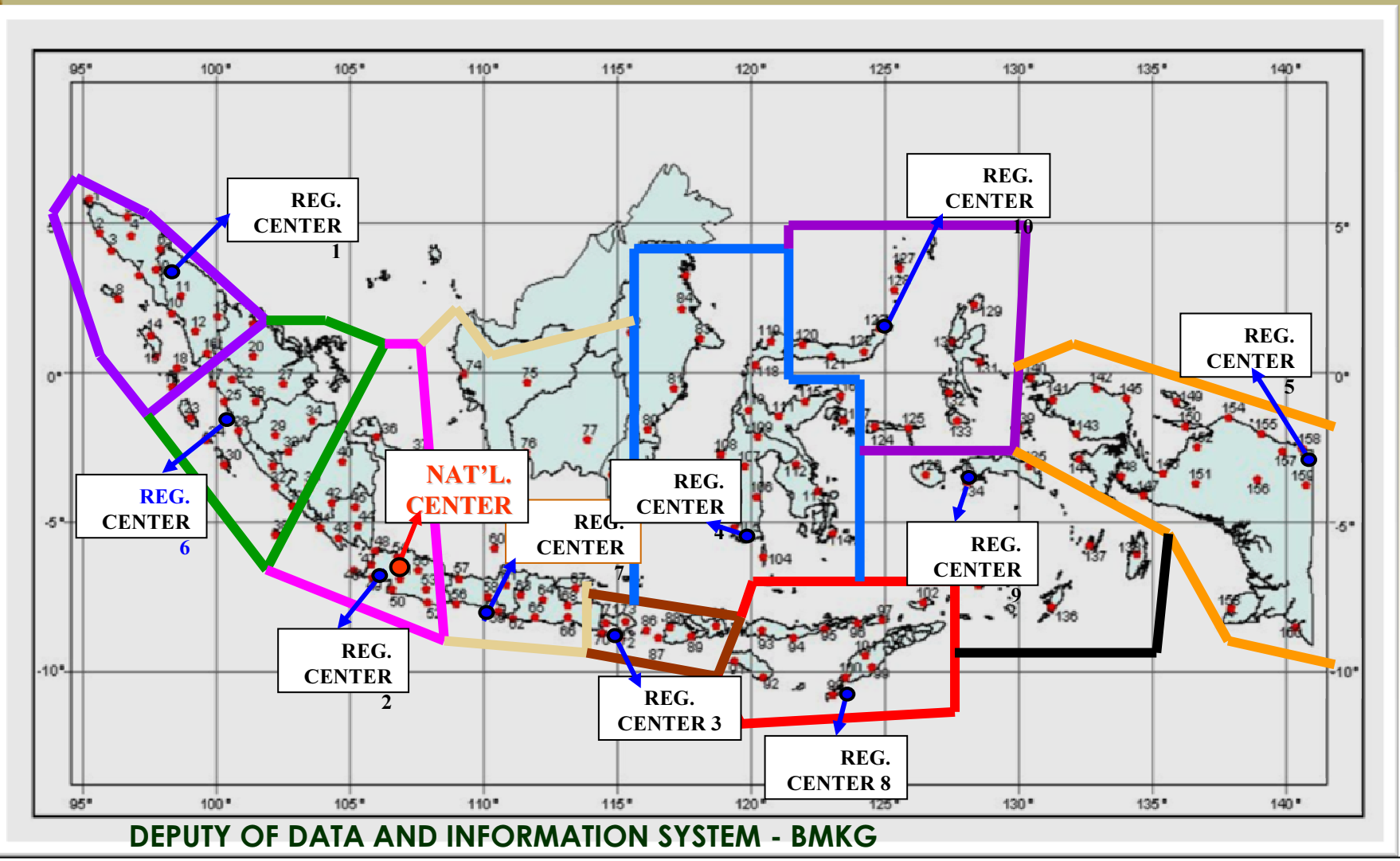
**Indonesia geological conditions which are plates meeting tectonics makes Indonesia region has geological conditions very complex. In addition to making this region rich in Indonesia to natural resources, one of the logical consequences complexity. These geological conditions make many areas in Indonesia have a high level of exposure reply to natural disasters. Some of them is prone to earthquakes, tsunamis and prone to explosion volcanoes along the "ring of fire" from Sumatra - Java - Bali - Nusa Tenggara-Banda – the Moluccas.**

Areas prone to earthquake and tsunami disaster in Indonesia almost all the bush is very dense population levels. These areas are often the center of activity and source of public revenue and the state, and the center of the outpouring of development funds. But when the earthquake and tsunami disaster that occurred the development efforts made-me will be lost and disappear within a very short time and be catastrophic.

# EXISTING SEISMOGRAPH NETWORK



# REGIONALIZATION OF TSUNAMI WARNING CENTER (BEGIN 2006-10 REGION)




DEPUTY OF DATA AND INFORMATION SYSTEM - BMKG

# Earthquake and Tsunami Monitoring System

## EQUIPMENT

- 160 Broad band Seismographs
- 500 Accelerographs
- 120 Tide Gauges
- 15 DART buoys type
- 1 National Processing Center
- 10 Regional Processing Centers

Indonesia had planning to build a Nuclear Power Energy (PLTN) that can be operated to reduce the burden on the electrical energy needs at this time increasing in Indonesia. Nuclear energy at this time in the world is enough with the segment growing about 16% world electricity. This shows that nuclear energy is a potential source of energy, high, safety, reliable, economical, environmental and conception. Nuclear an alternative energy source that is eligible for consideration in the long term energy plan for Indonesia to support the development.

However attention to the security not only at the reactor is already running. All aspects must be considered also. In the determination of the building footprint must be whether the reactor is stable and does not reside in the area of potential natural disasters. Moreover, Indonesia is located in the cluster-Pacific Ring of Fire, rows of active volcano.Based on a review Indonesia geography and geological conditions is a region with high potential natural disaster. Dynamic conditions in the earth to be the main risk of factor. Earthquake occurred among (tectonic) and mountain erupt (volcanic).

Java island where PLTN should be built located in a potentially active fault earthquake. Right planning and development is an effort what can be minimize the impact due to earthquake.

# *Background*

Parameter of geology is important assessment of site in the work planning of nuclear facility development. Data of basic rock consists :

- Litology
- Faulting
- Stratigraphy
- Seismicity
- other aspect of geology

The research is purposed to view of parameter of geology data will need for planning of site study activities.

The nuclear facilities development have performed with step by step consist of siting, construction, comisioning, operation and decomisioning. In the siting that activity are provided of tree steps and every step consist of investigation by consideration as geology. Identification is needed to begin of regionally continuing of local survey.

# Objectives

The result of local is consider by the design parameters foundation are mechanical rock and soil which consist of bearing capacity, peak ground acceleration, shear wave velocity, ground water level, flood beach area.

The parameter geology must be supported by all factor's, will determine feasibility of site for construction of nuclear facility, without ignoring the others.

# *Methods*

**Method of research done on the basis of literature study of previous researchers who research areas and ULA ecspescialy Muria.**
**One also based on field surveys directly with consultants in the project site and feasibility studies environment.**

# *Data and Analysis*

Data dan analisa.

# *Conclusion*

Ujung Lemahabang is as preffered candidate site and environmental feasibility study that have been conducted by BATAN and Newjec 1996.

# Thank You
# For You Kindly
# Attention