Presented at the FIG Working Week 2017,
May 29 - June 2, 2017 in Helsinki, Finland

FIG WORKING WEEK 2017
Helsinki Finland
29 May - 2 June 2017

A GUIDELINE TO INCORPORATE GEOLOGICAL HAZARD INFORMATION INTO SPATIAL PLANNING FOR LOCAL GOVERNMENTS IN INDONESIA

Andiani, Geological Agency, Ministry of Energy and Mineral Resources, Indonesia

Sulamith Kastl, Federal Institute for Geosciences and Natural Resources, Germany

Surveying the world of tomorrow -
From digitalisation to augmented reality

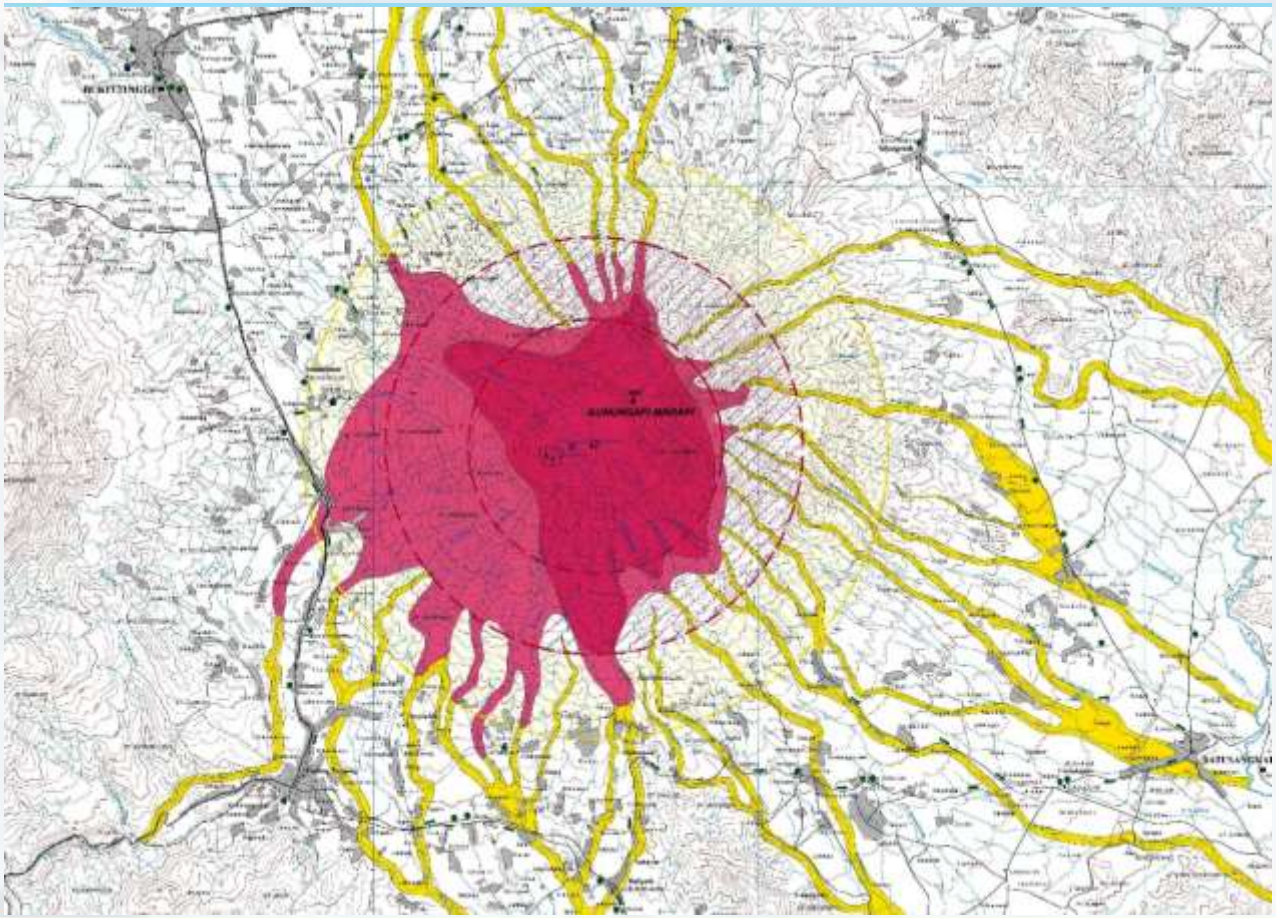
Organised by

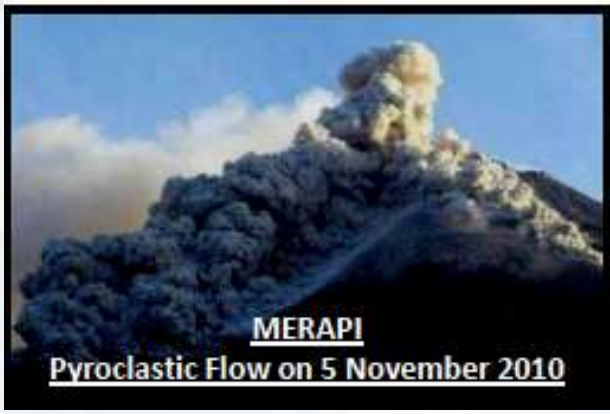
Platinum Sponsors:

Background

- Indonesia lies at the confluence of three tectonic plates
- Spatial plan can reduce casualties if consider geohazard information
- Fact : only few spatial planning documents in Indonesia sufficiently consider geohazard information → lack of awareness
- A guideline of Geological Hazard Information is needed to improve the quality of spatial plan in Indonesia

Hazard Situation - Volcanoes





Source: PVMBG, Geology Agency

kerja sama jerman
BGR
Platinum Sponsors:
esri
Trimble

Hazard Information - Earthquake and Tsunami

	Year	Area	Earthquake Magnitude	Death Casualties
1	1883	Selat Sunda, G. Krakatau	-	36000
2	1933	Sumbar, Bengkulu, Lampung	8,8	No record
3	1938	Kep. Kai-Banda	8,5	No record
4	1967	Tinambung	-	58
5	1968	Tambu, Sulteng	6	200
6	1977	Sumbawa	6,1	161
7	1992	Flores	6,8	2080
8	1994	Banyuwangi	7,2	377
9	1996	Toli-toli	7	9
10	1996	Biak	8,2	166
11	2000	Banggai	7,3	50
12	2004	Nanggroe Aceh Darussalam	9	265000
13	2006	Selatan Jawa	7,7	550
14	2007	Muko-Muko, Bengkulu	8,4	14
15	2010	Mentawai	7,7	428

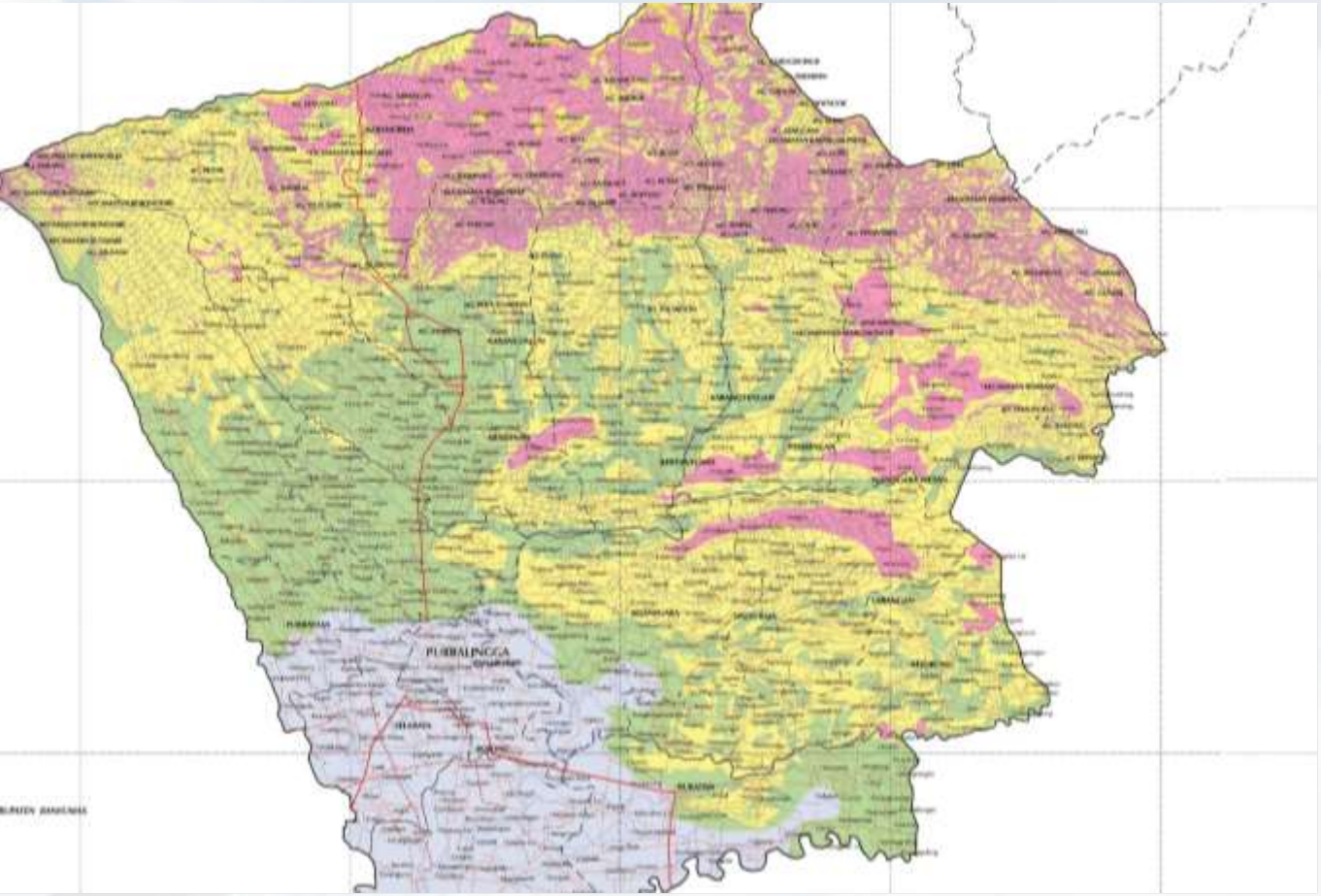
Earthquake Pidie 2016

Tsunami Aceh 2004

Source: PVMBG, Badan Geologi

kerja sama jerman
BGR
Platinum Sponsors:
esri
Trimble

Hazard Information - Landslides



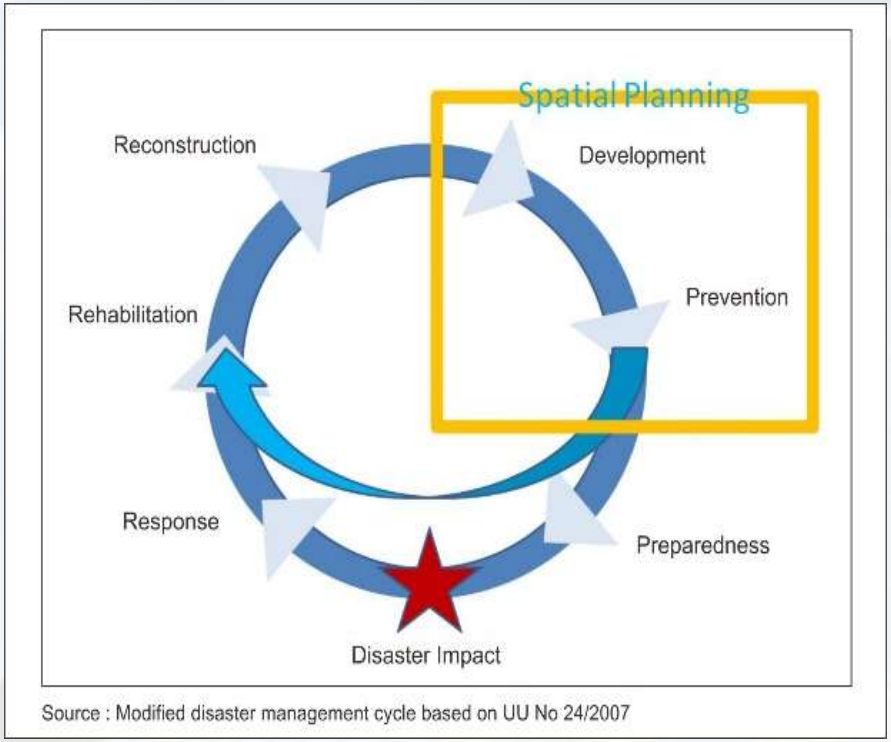
Source: PVMBG, Geology Agency

kerja sama jerman
BGR
Platinum Sponsors:
esri
Trimble.

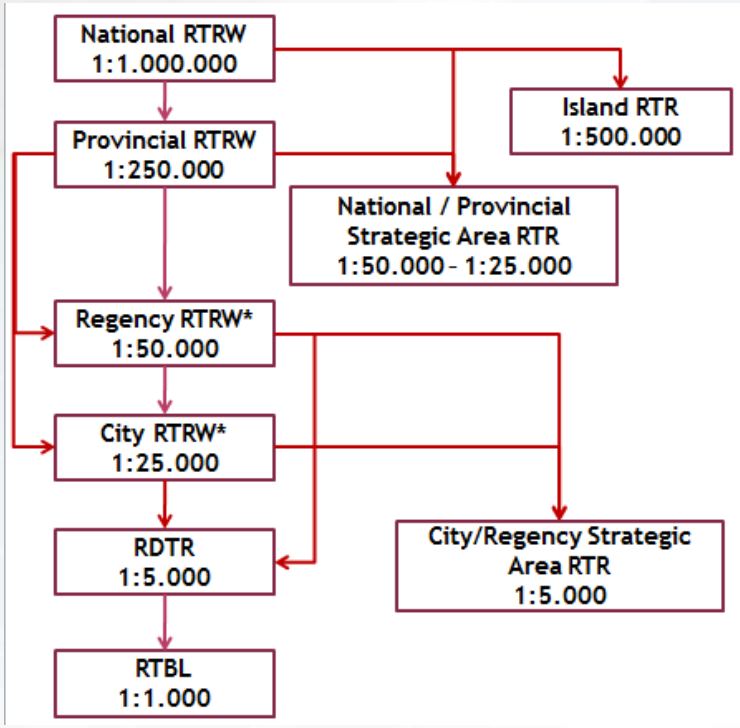
Regulatory Framework

Spatial Planning Mandate in Indonesia since 2007

Greater responsibility and competency for local governments!

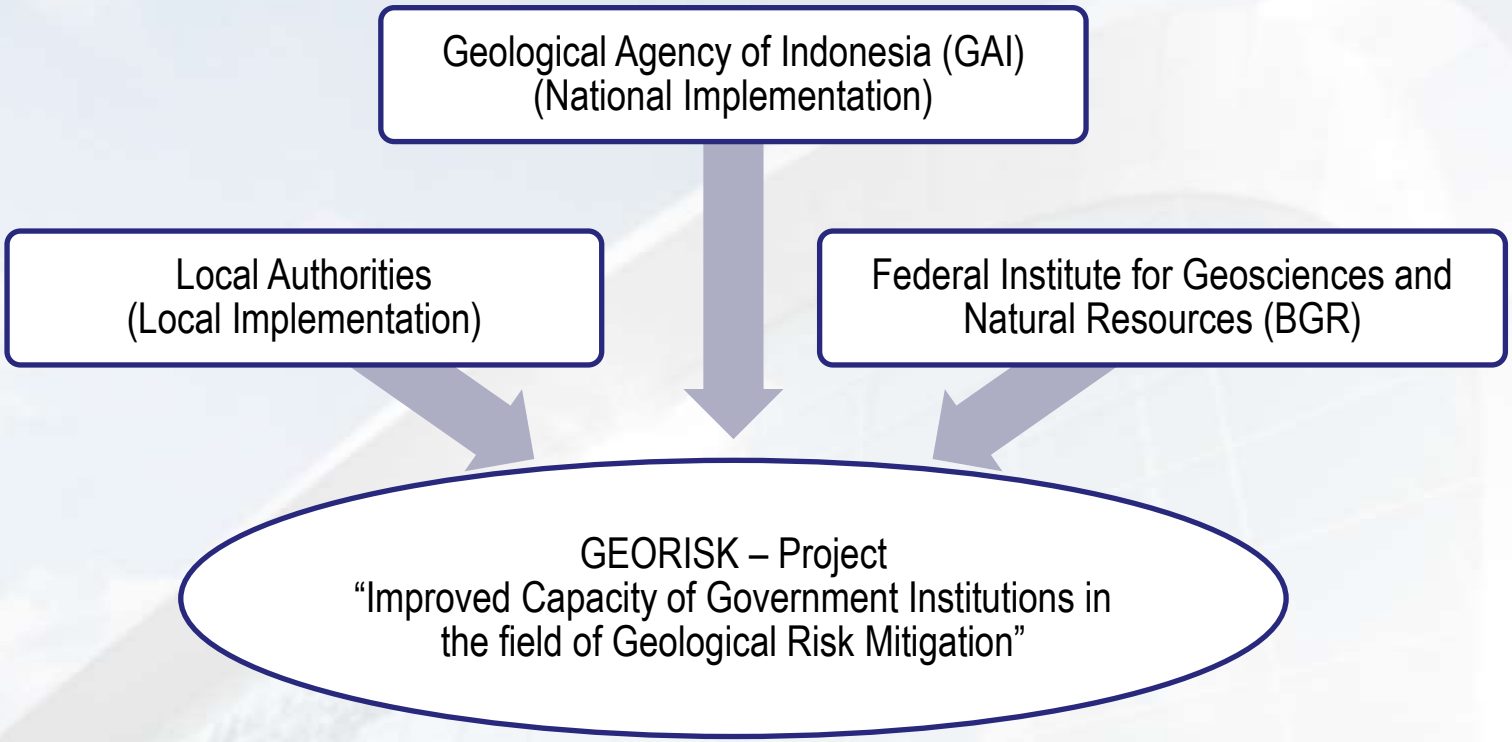


Source : Modified disaster management cycle based on UU No 24/2007



kerja sama jerman
BGR
Platinum Sponsors:
esri
Trimble

Indonesia - German Cooperation To Develop Guideline



Experience-Based Guideline Development

Evaluation Workshop
→ Draft guideline

Case Study Gunungsari,
NTB→ Detailed spatial plan

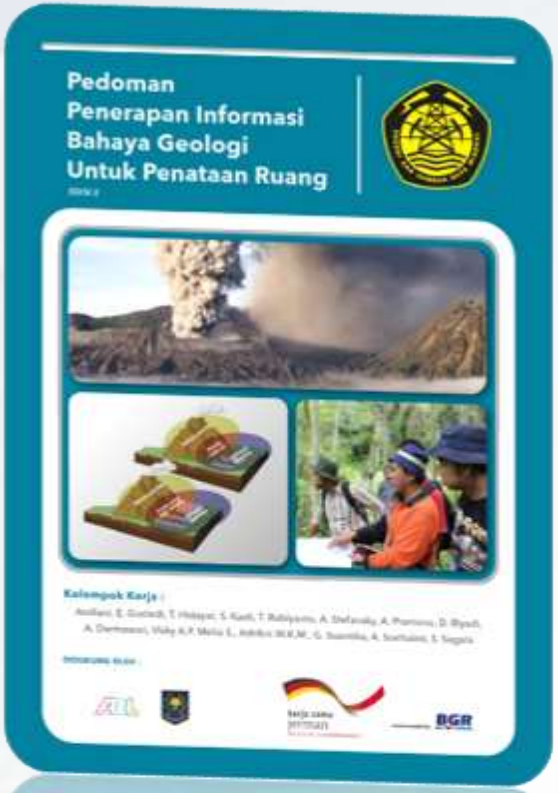
Comparative Study
Germany and Philipines

Testing the guideline

Finalizing Guideline

The Topics of The Guideline

- Geology hazard definition
- Mandates, Laws and Regulations
- Data Availability
- How to read geology hazard data
- Scenario Building
- Decision-Making and Conflict Solving
- Public Participation



kerja sama jerman
BGR
Platinum Sponsors:
esri
Trimble

Conclusion

- A guideline fills the gap between technical data and regulatory procedures/requirements in Indonesia.
- A guideline supports local governments to develop georisk-sensitive spatial planning documents.
- The need to disseminate the guideline to local government