Earthquake Disaster Risk Assessment in the Citatah Karst Industrial Area

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Introductory

- The Lembang fault is located very close to the Citatah industrial area in West Bandung Regency.

- Industrial areas often have many buildings, equipment, hazardous materials, and supply networks that can be vulnerable to earthquakes.

- The Citatah Karst area is an industrial area with quite a lot of employee

- Geospatial information related to assessing the risk, vulnerability and danger of earthquake disasters is important for providing mitigation and planning efforts.
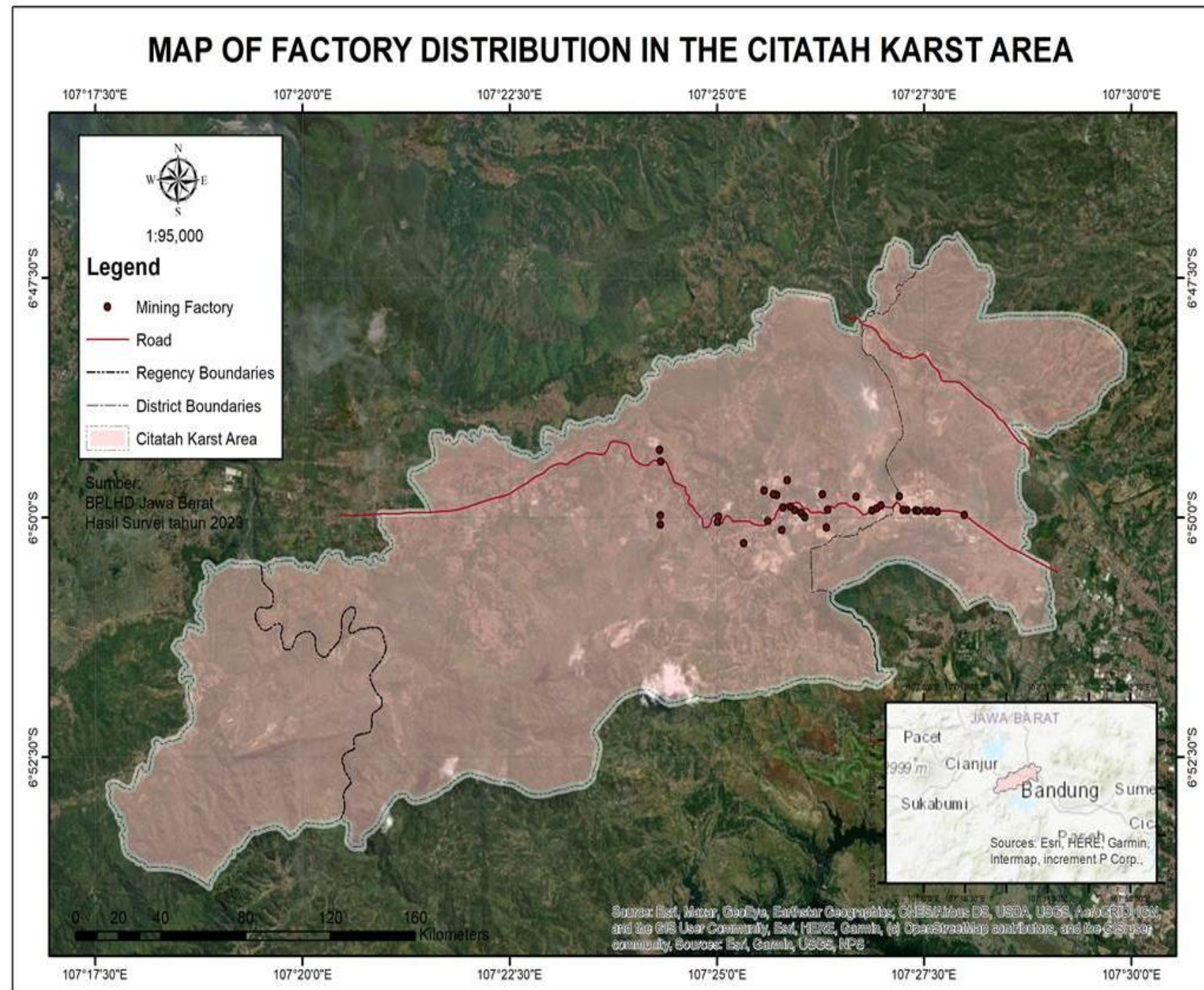
Research Location

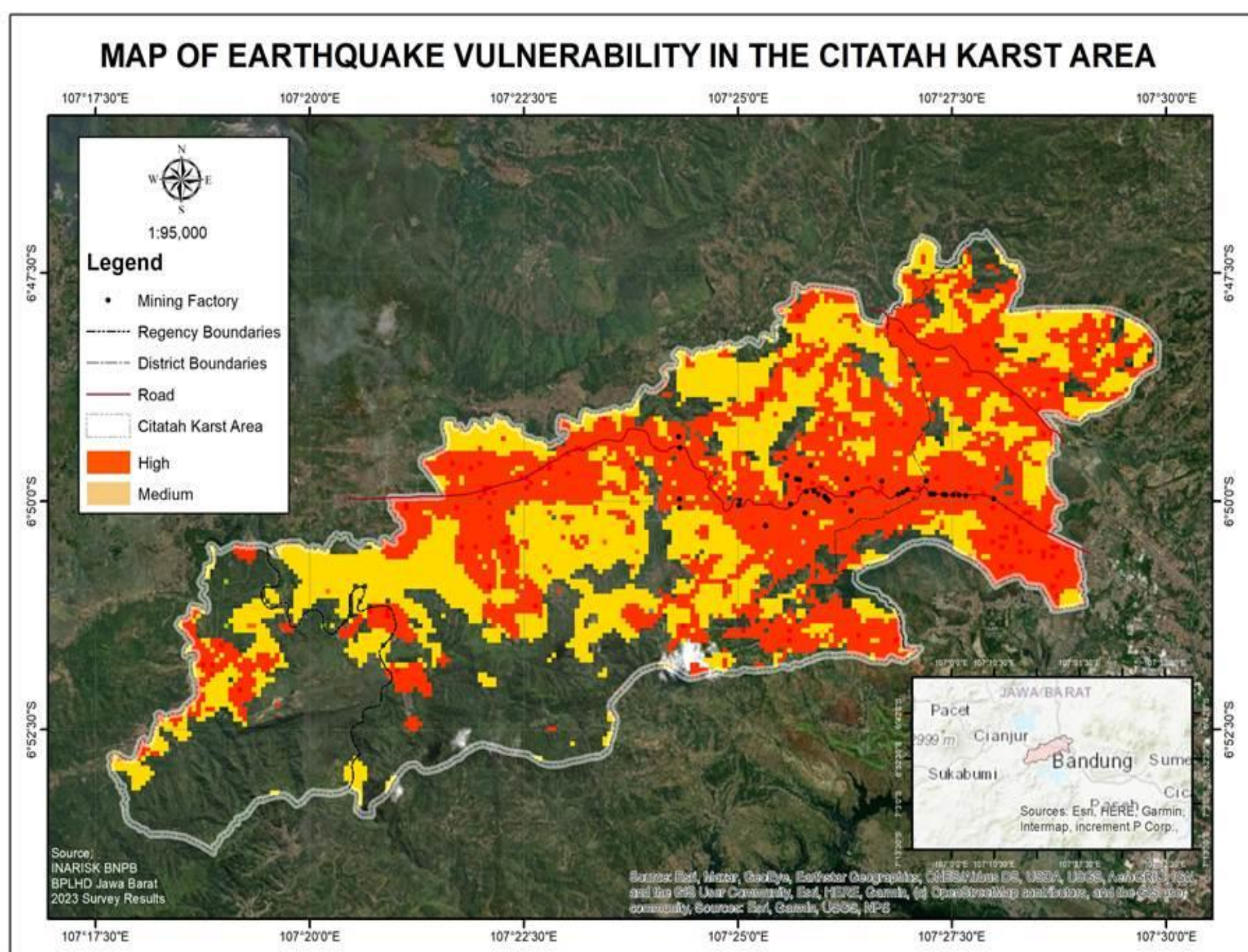MAP OF RESEARCH LOCATION IN THE CITATAH KARST AREA
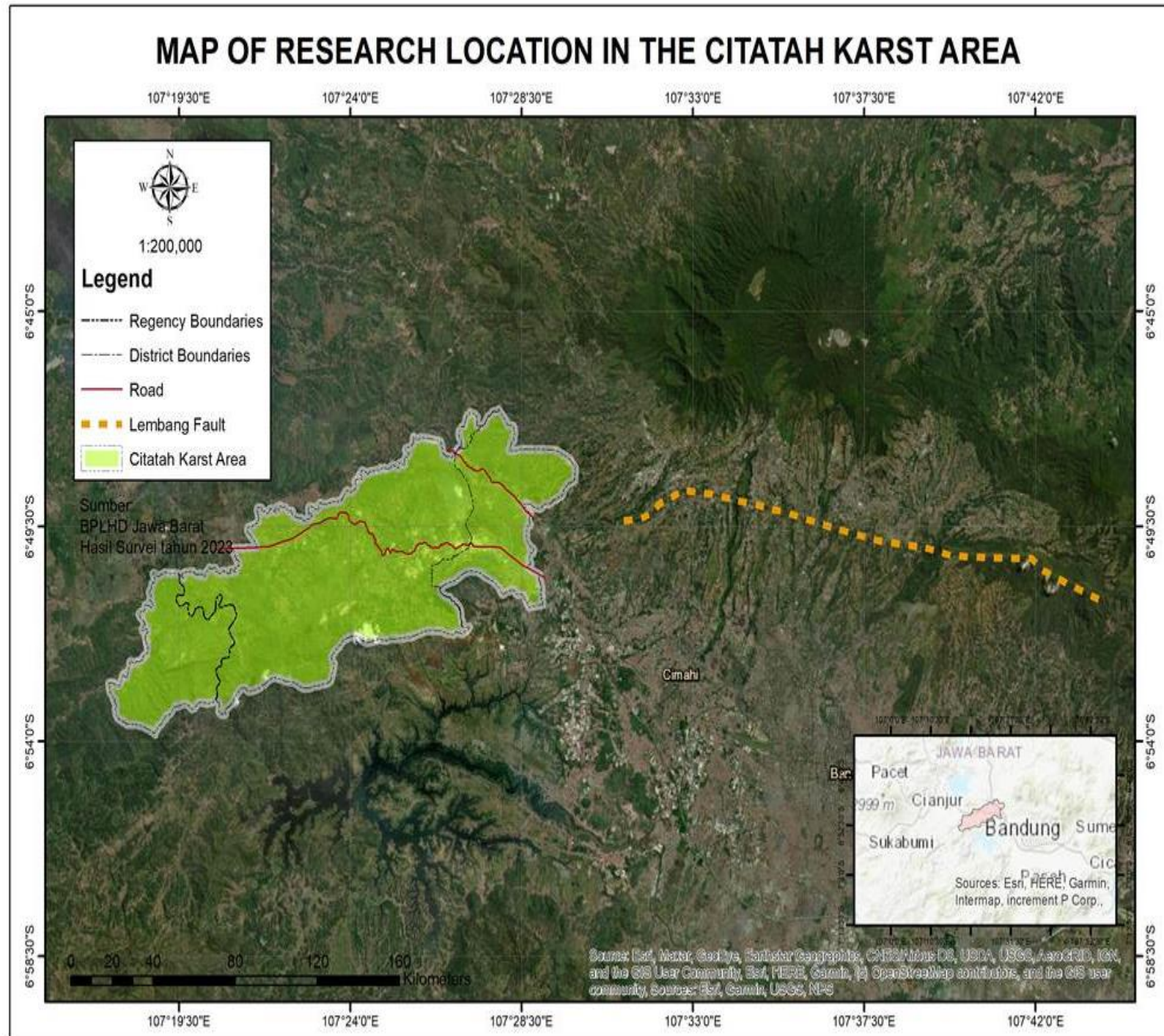
Method

- Factory distribution mapping --> Geotagging and survey
- Mapping earthquake vulnerability in factories --> GIS technique
- Mapping earthquake hazards in factories --> GIS technique
- Earthquake risk mapping in factories --> GIS technique

Results

MAP OF FACTORY DISTRIBUTION IN THE CITATAH KARST AREA

Results

MAP OF EARTHQUAKE VULNERABILITY IN THE CITATAH KARST AREA

Results

MAP OF EARTHQUAKE HAZARD IN THE CITATAH KARST AREA

1:95,000

Legend

- • Mining Factory
- ·–··– Regency Boundaries
- ·–·· District Boundaries
- —— Road
- ⬜ Citatah Karst Area
- 🟥 High
- 🟨 Medium
- 🟩 Low

Source;
INARISK BNPB
BPLHD Jawa Barat
2023 Survey Results

Results

MAP OF EARTHQUAKE DISASTER RISK IN THE CITATAH KARST AREA

Legend
- Mining Factory
- Regency Boundaries
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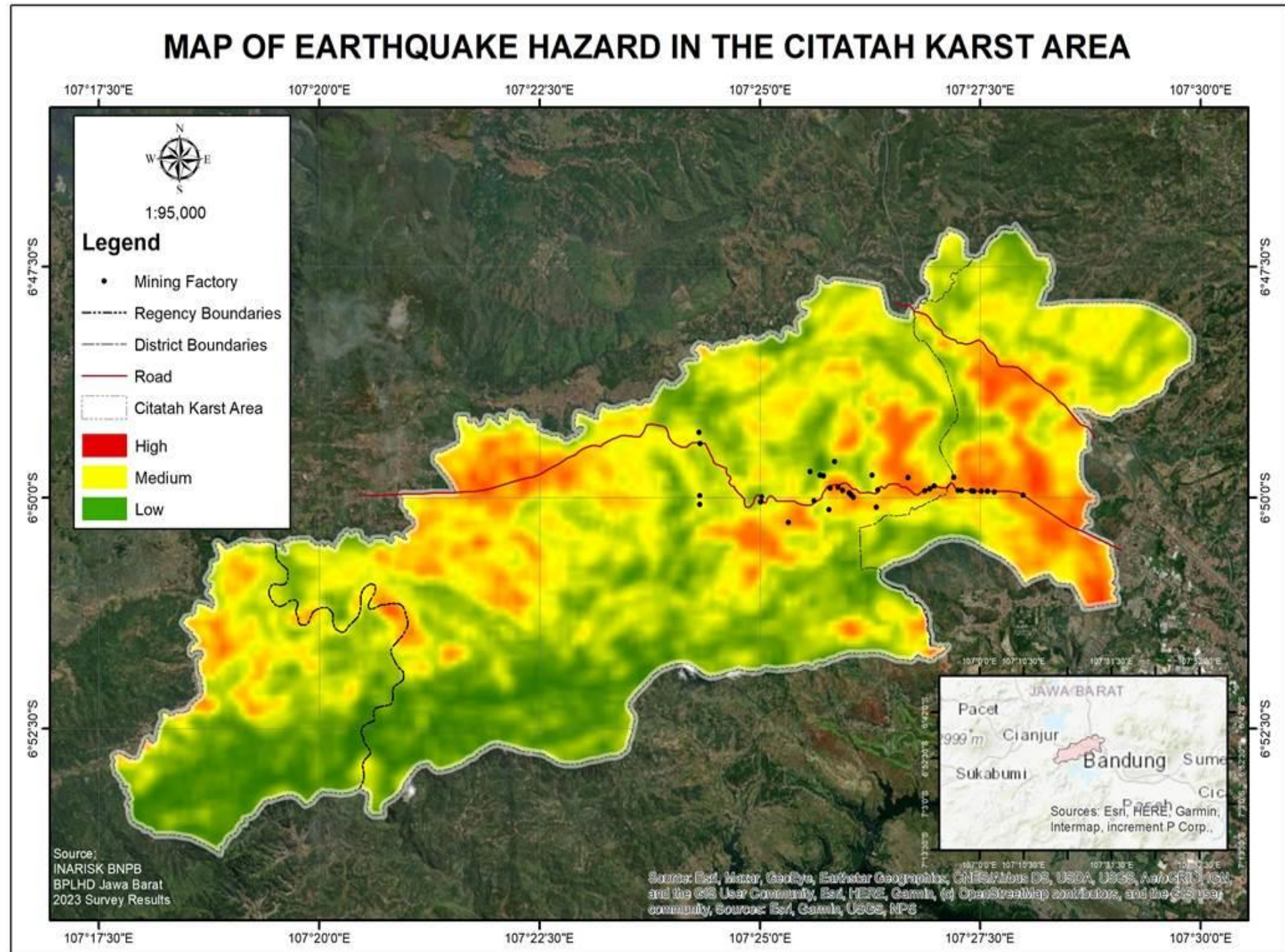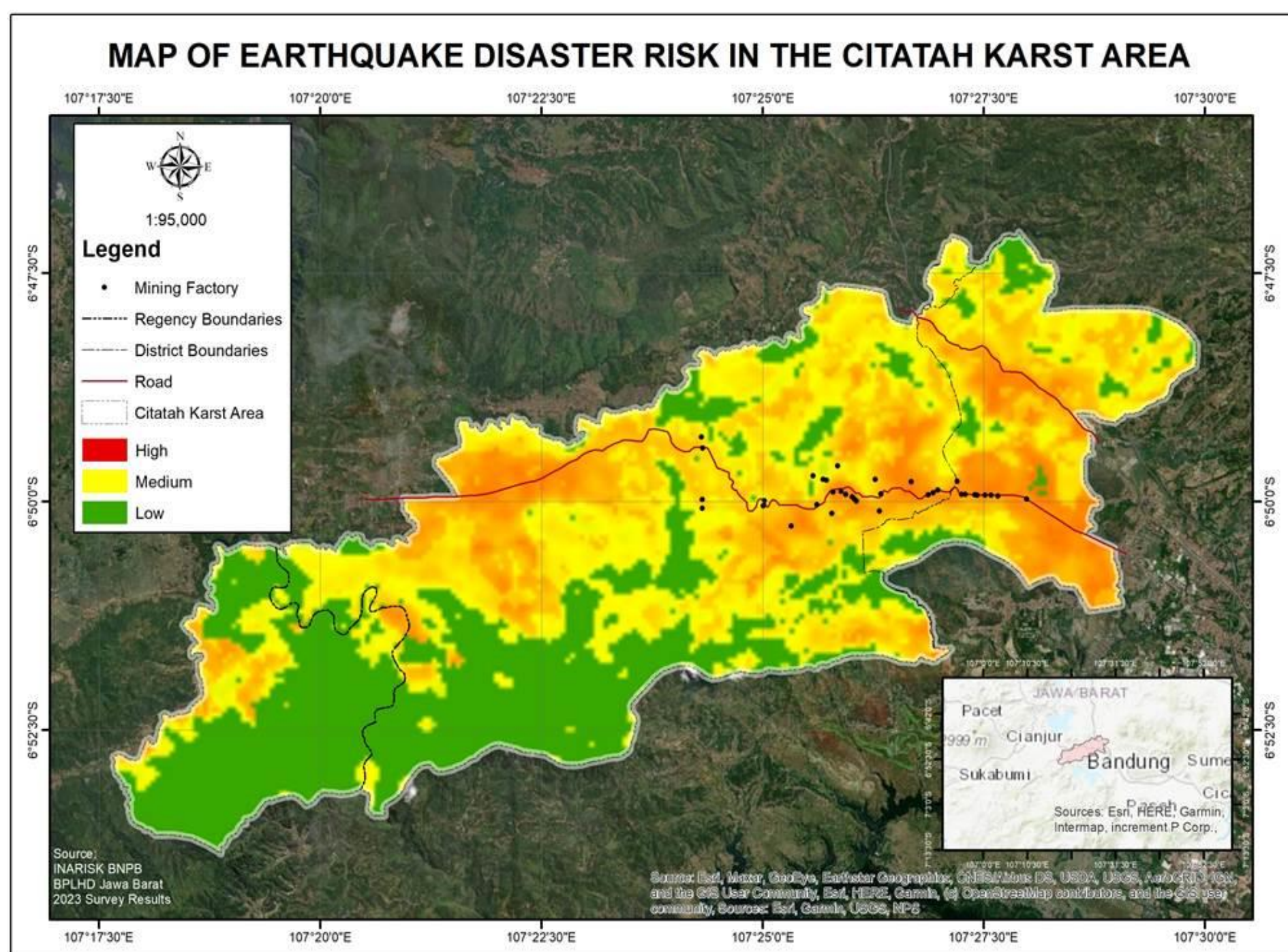2023 Survey Results

Conclusion

Based on the survey results, there are 34 mining factories in the Citatah karst industrial area. The factory locations are spread along the main road in the central area of the karst area that divides from north to south. The earthquake vulnerability study shows that 33 factories are located in locations with high vulnerability, while moderate vulnerability consists of 1 factory. Vulnerability is related to physical and social conditions. The earthquake hazard analysis describes that there are 20 factories in the high danger zone, 10 factories in the medium zone and 4 factories in the low zone. Based on the analysis, it was found that 26 factories were in the high-risk zone and 8 factories were in the medium zone. Zones of high and moderate earthquake risk dominate the east, north and southeast.

No	Elevation	Lat	Long	Name	Type	Vulnerability	Hazard	Risk
1	538.38	-6.83320599608	107.4169700030	PT. Apindo	Factory	High	Low	Medium
2	750.75	-6.83215096593	107.4566699660	PT. Bandung Marmer	Factory	High	High	High
3	663.99	-6.83195399120	107.4389719960	PT. Batu Rava	Factory	High	Medium	High
4	552.32	-6.83416698128	107.4167799860	PT. Batu Raya	Factory	High	Medium	High
5	751.24	-6.83210997842	107.4478060190	PT. Batu Wangi Putra Sejahtera	Factory	High	High	High
6	736.98	-6.83173698373	107.4487960060	PT. Batuma Mekar Agung	Factory	High	High	High
7	677.70	-6.82929198258	107.4378400200	PT. Bukit Ashar	Factory	High	Medium	High
8	473.14	-6.82159001939	107.4051189980	PT. Bumiadya	Factory	High	Medium	Medium
9	454.90	-6.82361600921	107.4053660130	PT. EMI	Factory	High	Medium	High
10	752.05	-6.83217703365	107.4571100160	PT. Fadjar Abadi	Factory	High	High	High
11	660.29	-6.83328897692	107.4343379770	PT. GN PNPM	Factory	High	High	High
12	623.20	-6.82683197781	107.4307660290	PT. Indo Mineral	Factory	High	Low	Medium
13	595.80	-6.82943598367	107.4286889940	CV. Java Indah	Factory	High	Medium	Medium
14	727.07	-6.83231499977	107.4610050020	PT. Kalsit	Factory	High	High	High
15	745.73	-6.83220502920	107.4585200190	PT. Karya Mekar	Factory	High	High	High
16	759.53	-6.82967101224	107.4533379920	PT. Kurnia Parama	Factory	High	High	High
17	760.89	-6.83208097704	107.4548370110	PT. Kurnia Arta Pratiwi	Factory	High	High	High
18	583.56	-6.82864800096	107.4261819660	PT. Kurnia Jaya Mandiri	Factory	High	Low	Medium
19	625.54	-6.83160102926	107.4299460280	PT. Marzuq Zeolit	Factory	High	High	High
20	539.70	-6.83458297513	107.4052840380	PT. Melvin	Factory	Medium	Medium	Medium
21	654.81	-6.83283903636	107.4338870310	PT. MJ Gerum	Factory	High	High	High
22	757.74	-6.83207100257	107.4541259740	PT. Multi Marmer Alam	Factory	High	High	High
23	745.33	-6.83125996962	107.4496610180	PT. Multi Marmer Unit Tepung	Factory	High	High	High
24	650.95	-6.83244902641	107.4335430380	PT. Nusantara	Factory	High	High	High
25	740.62	-6.83222296648	107.4596550130	Pabrik Kapur	Factory	High	High	High
26	603.38	-6.82932299562	107.4280780370	CV. Pratiwi	Factory	High	Low	Medium
27	674.83	-6.83550003916	107.4297280140	PT. Pumarin	Factory	High	Medium	High
28	603.99	-6.83393597603	107.4268800110	PT. RHJ	Factory	High	Medium	High
29	729.87	-6.83293903247	107.4664180350	PT. SMA	Factory	High	High	High
30	617.82	-6.83781302534	107.4220449940	PT. Sofia Stone	Factory	High	High	High
31	529.78	-6.83297700249	107.4052810200	PT. Sri Mandiri	Factory	High	Medium	Medium
32	642.74	-6.83201199397	107.4322860040	PT. Survajava	Factory	High	High	High
33	644.55	-6.83147203177	107.4314649960	PT. Surya Jaya	Factory	High	High	High
34	697.28	-6.83504397981	107.4386280030	PT. Toenas	Factory	High	High	High

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