



THE FUTURE OF GLOBAL DISASTER RISK REDUCTION

STRENGTHENING THE RESILIENCE of MEGACITIES THROUGH SCIENCE, TECHNOLOGY & INNOVATION

Advisory Opinion: Preparing for Wide-Area Regional Disasters Based on Lessons from the 2024 Noto Peninsula Earthquake and Heavy Rain Disaster : Background (1) Earthquake Disaster



見解：
能登半島地震・豪雨災害の教訓に基づく
広域地域災害への備え
1. 背景(地震災害)

Naoshi HIRATA 平田直
The University of Tokyo 東京大学

Background : Wide-Area Regional Disasters (1) Earthquake Disaster



背景: 広域地域災害 (1) 地震災害

◆ Characteristics of the hazard of the 2024 Noto Peninsula earthquake:

令和6年能登半島地震のハザードの特徴

- Seismic activity that has been going on since December 2020
2020年12月から続いていた地震活動
- The M7.6 earthquake on January 1, 2024 → The largest inland earthquake → The widespread shaking for an inland earthquake
内陸の最大規模の地震
- The source area also extended to the sea area → Tsunami occurred
津波の発生

◆ Long-term assessment of hazards were being made

長期的な予測は行われていた

- Hazards were not properly incorporated into regional disaster prevention plans.
- National Earthquake Hazard Map by HERP Committee

Background : Wide-Area Regional Disasters (1) Earthquake Disaster

背景: 広域地域災害 (1) 地震災害



◆ Characteristics of the disaster caused by the 2022 Noto Peninsula Earthquake

- A wide-area regional cities/towns/villages were affected
- Housing damage due to delay in earthquake resistance
- Isolation of cities in mountainous areas
- Disaster-related deaths are more than twice as high as direct deaths

◆ 令和6年能登半島地震による災害の特徴

- 広い範囲(広域)の地方市町村が被災
- 耐震化の遅れによる住宅被害
- 中山間部の都市の孤立化
- 災害関連死が、直接死の2倍以上

3 Wide-area disasters that will be worrying about in future (1) Earthquake disasters: **The Nankai Trough mega earthquake**



3 将来憂慮すべき広域地域災害 (1) 地震災害 : 南海トラフ巨大地震

◆ Possibility of occurrence of a large Nankai Trough earthquake (南海トラフ巨大地震の発生可能性)

- Very High: III Rank 大変高い: IIIランク
- It has occurred repeatedly so far これまで繰り返し発生していた
- Finally, 80 years have passed since the Showa Nankai Trough earthquake in 1944 and 1946
最後は、1944年・1946年の昭和南海トラフ巨大地震ですでに80年経っている

◆ Characteristics of the supposed hazard 想定されているハザードの特徴

- Strong shaking over a wide area 広域の強い揺れ
- High tsunami over a wide area 広域の高い津波
- There are places where there is little lead time for tsunami arrival 津波到着の猶予時間が少ない場所がある

(1) Earthquake disasters: The Nankai Trough mega earthquake

3 将来憂慮すべき広域地域災害 (1) 地震災害 : 南海トラフ巨大地震



◆ Characteristics of damage from the Nankai Trough mega earthquake

南海トラフ巨大地震の被害の特徴

- Widespread damage
広域の被害
- **Both** large cities and rural areas will be included → Wide-area Regional disasters
大都市、地方が両方が含まれる → 広域地域災害
- Tsunami damage is particularly high
津波被害が特に多い

◆ Assuming Severe Damage and the Need for "Early Evacuation": 298,000 Deaths

甚大な被害の想定と「早期避難」の必要性: 死者計298,000人

- Strong tremors over a wide area: 2.5% of the victims (730,000 people) 広域の強い揺れ: 犠牲者の2.5割(730千人)
- High tsunami in a wide area: 70% of victims (215,000 people) → Proper evacuation can significantly reduce the number of people (215,000 people → 79,000 people)
広域の高い津波: 犠牲者の7割(215千人)
→ 適切に避難すれば、大幅に減らせる(215千人 → 7.9万人)