

Noto Peninsula Earthquake and Nuclear Power Plant Risks



Suzu City
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Contents of Presentation

Noto Peninsula Earthquake and Nuclear Power Plant Risks

- 1 Many Japanese realized two very lucky factors:**
 - Suzu nuclear power plant was not built**
 - Shika nuclear power plant was not in operation**
- 2 The reality of the destruction of the region**
 - Residents are supported by outside assistance**
 - This support would be cut off in case of a nuclear disaster**
 - No one to be in charge of nuclear disaster management**
- 3 The need to change nuclear energy policy**
 - Risks from a nuclear disaster as a result of an earthquake are common to all nuclear power plants**

Noto Peninsula Earthquake
Epicenter in close proximity to
planned site of the
Suzu Nuclear Power Plant

Takaya
 (Kansai Electric Power
 Co. planned site)



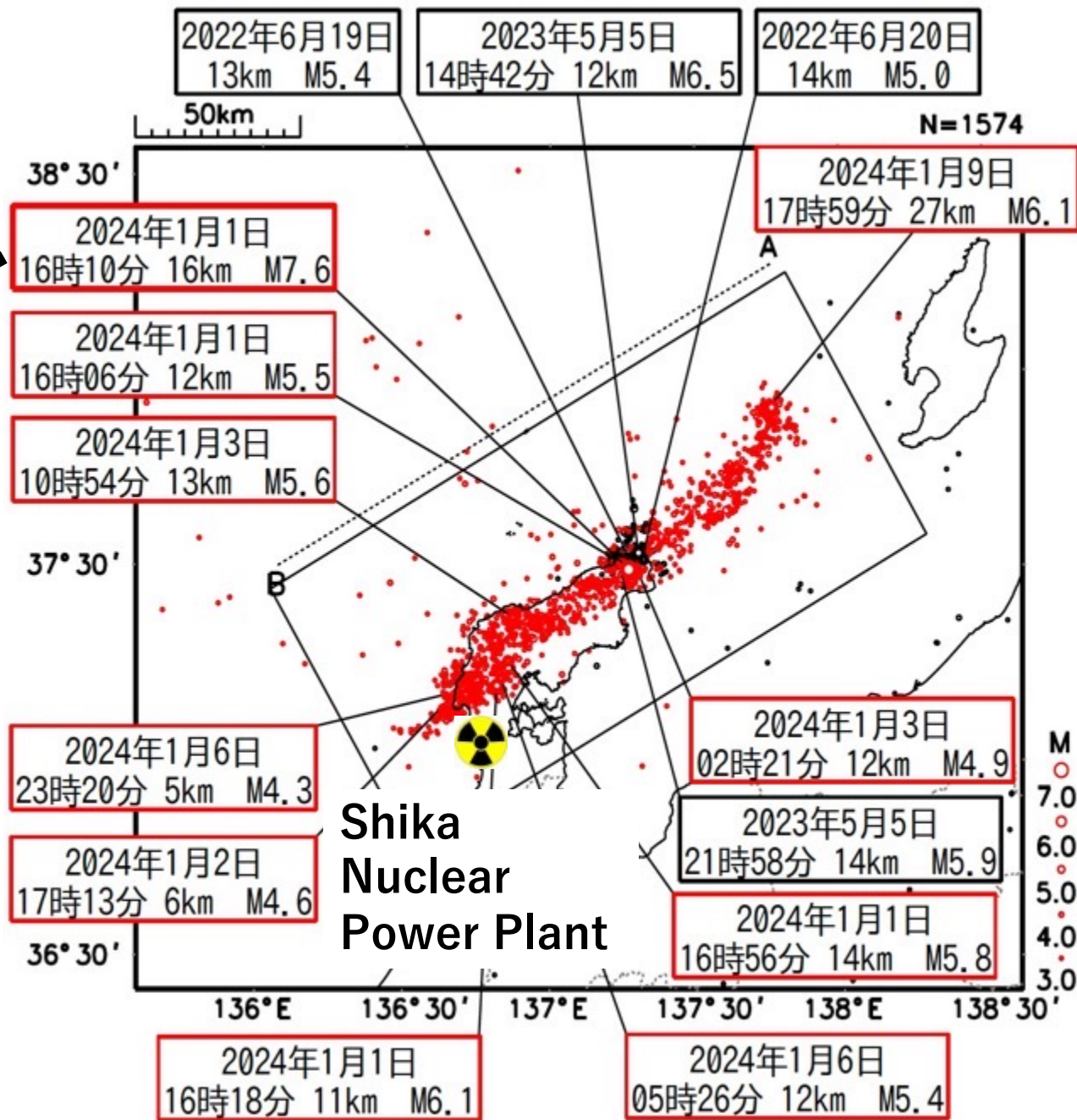
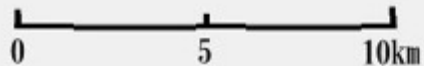
Jiké
 (Chubu Electric Power
 Co. planned site)



珠洲市

輪島市

能登町



Fortunate there is no Nuclear Power Plant at Jiké



**Land uplift at planned
reactor core site**

2024.1.20,
Photo: Kitano

Fortunate there is no Nuclear Power Plant at Jiké



Before Noto Peninsula Earthquake



**Within planned site area,
ground uplift (protuberance)
is approximately 1 meter.**

2024.1.20,
Photo: Kitano

Fortunate there is No Nuclear Power Plant at Takaya



2003.5, Photo: Kitano

**About 2m uplift at
planned NPP site**

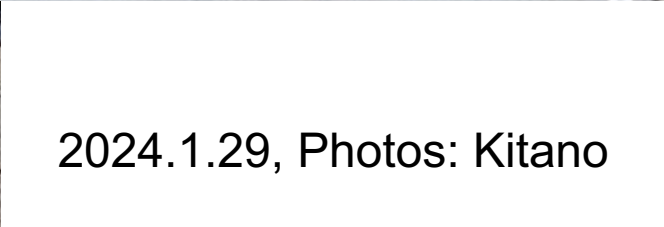
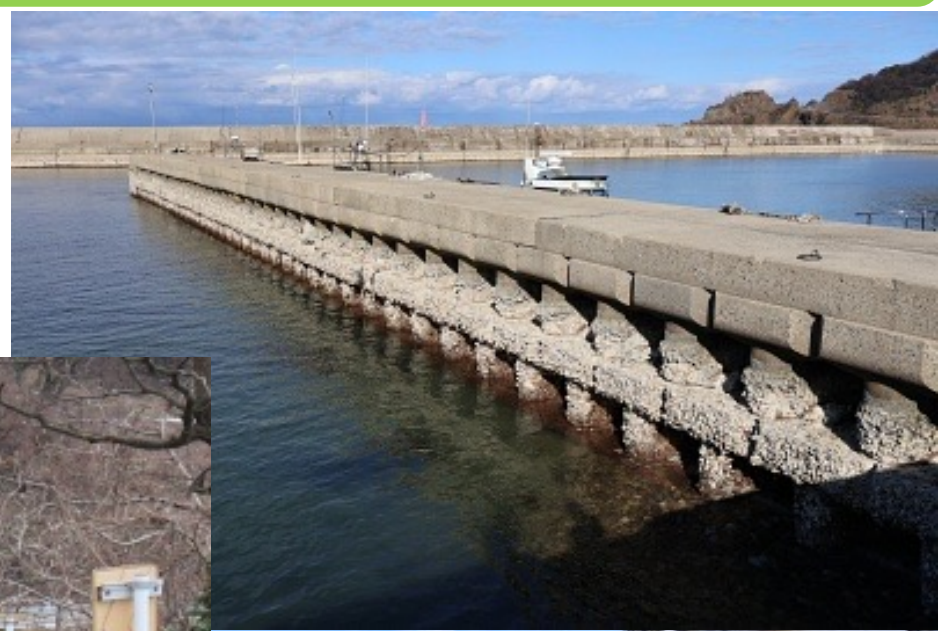


Widespread protuberance

2024.1.29,
Photo: Kitano



Uplift, Land Cracking, Sinking, Landslides, Falling rocks (Scenes from Takaya)



2024.1.29, Photos: Kitano

Shika Nuclear Power Plant - Fortunate it was Shut Down

The tremor, measuring 5+ on the Japanese seismic scale, caused damage and numerous problems at the facility.



Transformer in Unit 1 leaked oil
(Photo: Hokuriku Electric Power Co., Inc.)

If it had been in operation...

Would more difficult tasks such as emergency shutdown and cooling of the reactors have been possible?

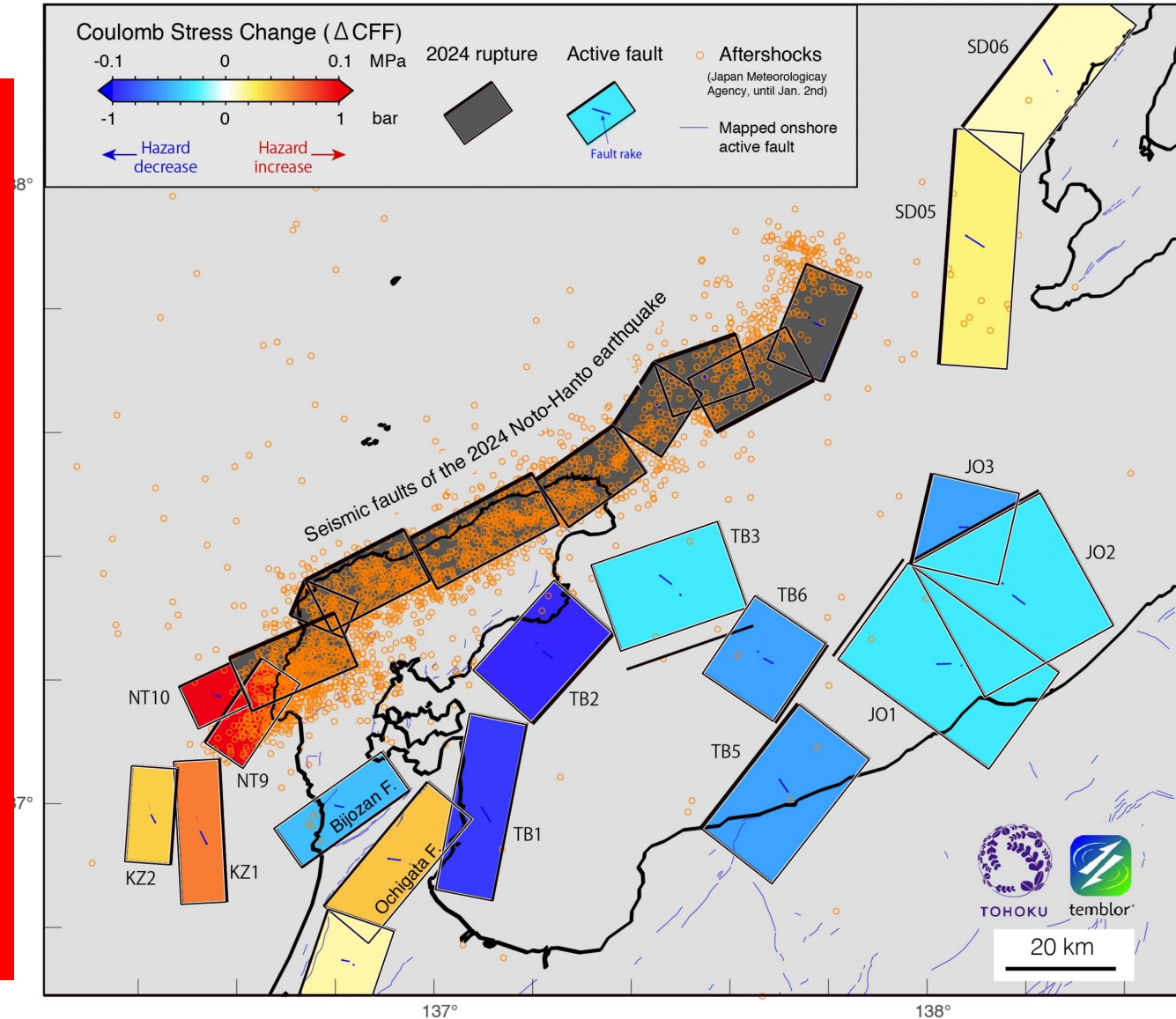
Prompt and accurate dissemination of information would be unlikely.

The next major earthquake?

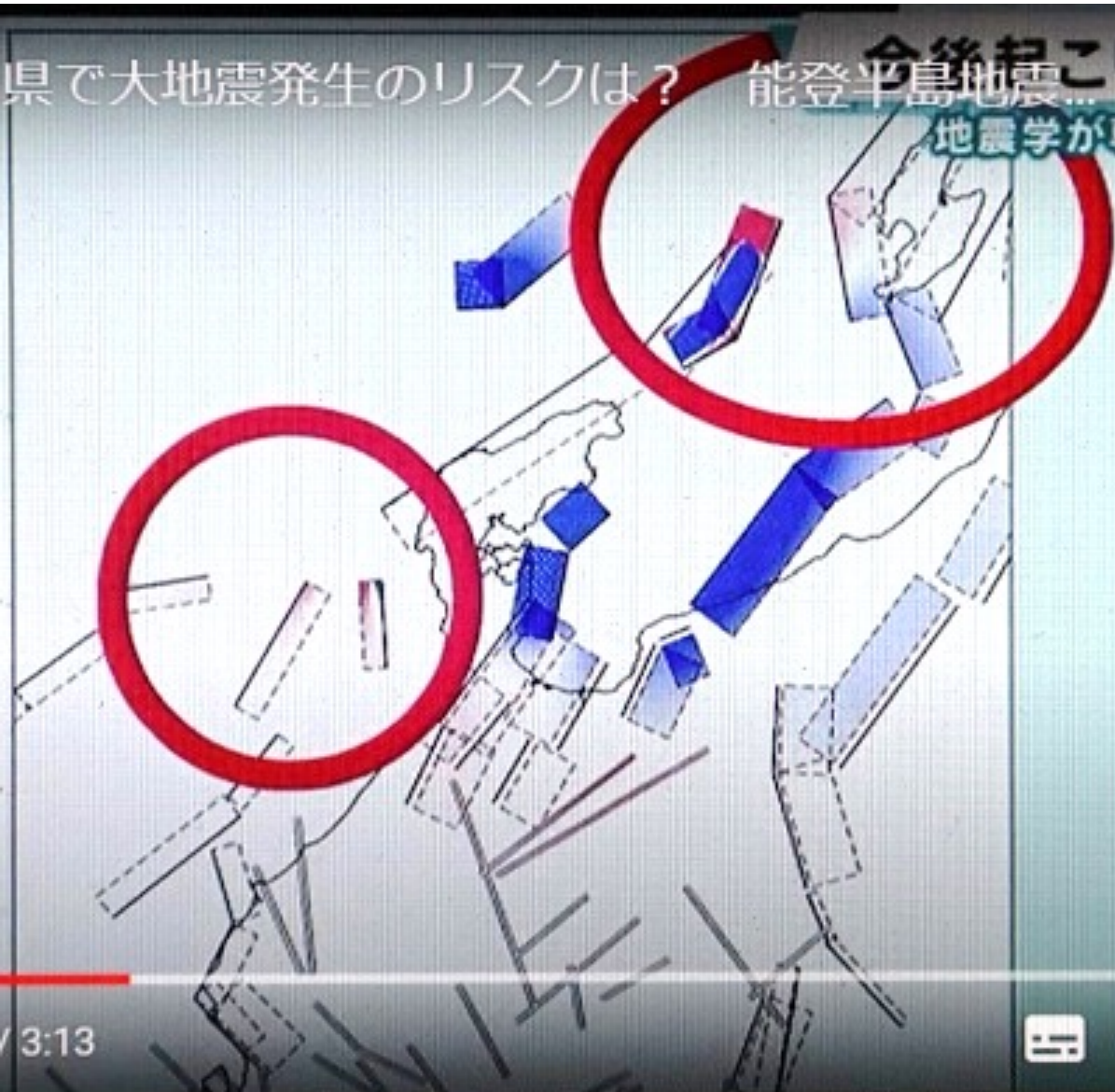
**Prof. Shinji Toda,
Tohoku University:**

**After the Noto Peninsula
earthquake, forces are active
making an earthquake likely to
occur at faults off Sado Island
and offshore and south of the
Shika Nuclear Power Plant.**

(Announced Jan 9)



The next major earthquake?



It indicates that the fault is more likely to shift from off the northeast coast of the Noto Peninsula to off Sado Island and off the western coast of the Noto Peninsula, as well as from the Kaga region to Toyama Prefecture, meaning that earthquakes are more likely to occur.

Ishikawa TV News
(Feb 2)

Kanazawa Univ.
Prof. Yoshihiro
Hiramatsu



Can Shika NPP withstand the next earthquake?

Interlocked
M7.8

※ Hokuriku Electric
denies interlocking

Interlocked
M7.6

Sasanami-oki Fault Zone
M7.6

Hakui Offshore West
Flexure **M7.1**

Cape Ama Offshore Fault
Zone **M6.6**

Hakui Offshore East
Flexure **M7.4**

Bijosan II Fault **M7.1**

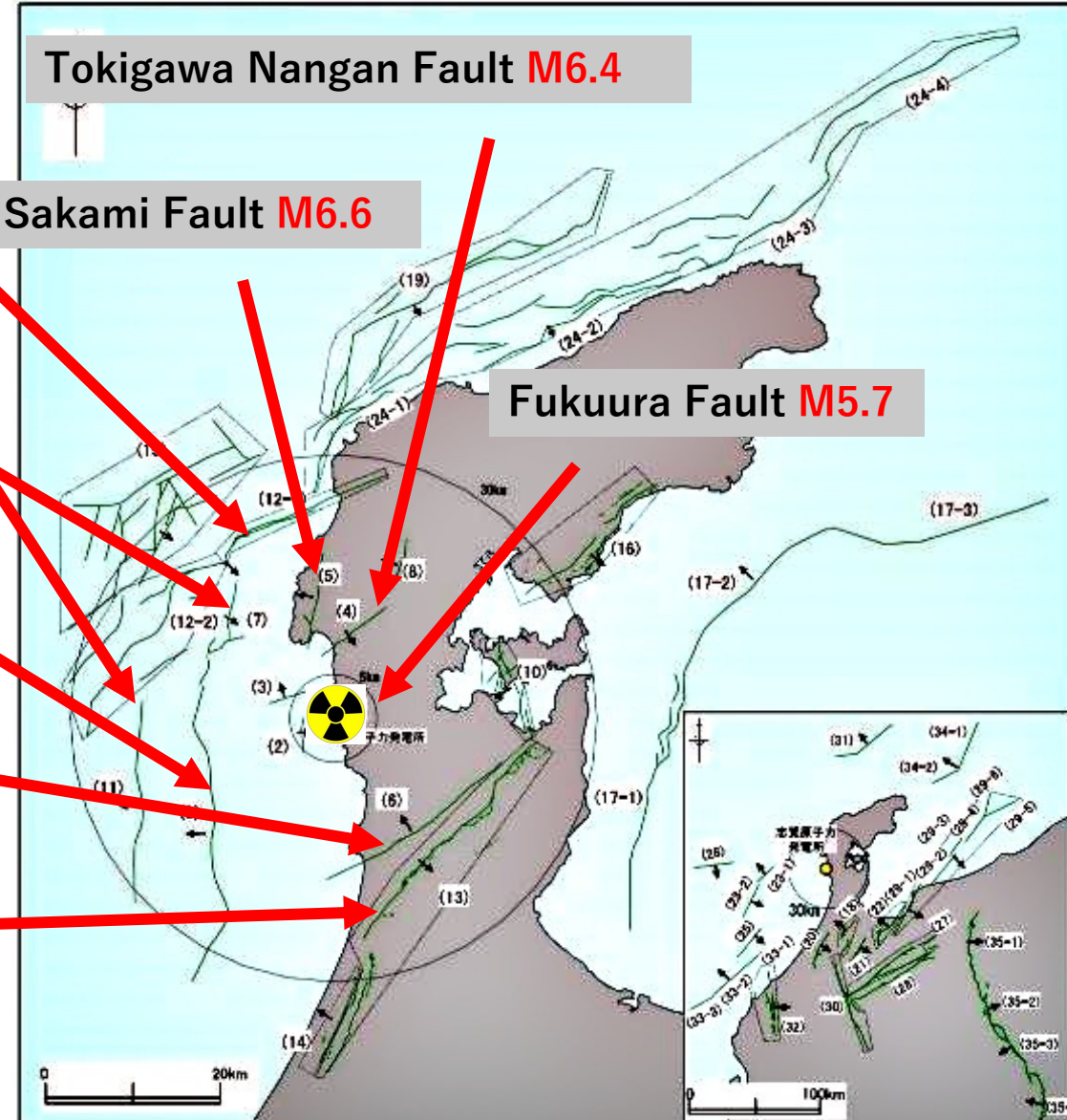
Ochigata southern marginal fault
zone **M7.6**

Tokigawa Nangan Fault **M6.4**

Sakami Fault **M6.6**

Fukuura Fault **M5.7**

Map and magnitude from Hokuriku Electric submission to the
Regulatory Commission.



**Destruction of the region:
Response is not possible, even with all forces available in the region**



Photos:
Kitano

Overwhelming manpower shortage

Destruction of the region: Fire and police personnel also affected



Saitama
Shimbun



Mainichi
Shimbun

Photo: FDMA

Police, firefighters and Self-Defense Forces from all over Japan saved lives.

Destruction of the region: Fire brigade members also affected



Photo: Japanese Red Cross Society



Photo: MoD

Self-Defense Forces, Japan Red Cross and specialized disaster relief teams on their way to help isolated villages

Destruction of the region: Local government employees also affected



Mainichi Shimbun



Sankei Shimbun



Chunichi Shimbun
Web

More than 1,000 local government officials from throughout Japan providing support

Destruction of the region: Construction companies also affected



Jan 5, Photo: Kitano



Photo: Zenken HP

Many businesses from outside the region entered the area for road restoration work

Destruction of the region: Food and daily commodities in short supply



Akaiwa City HP



Tochigi City HP



Chunichi Shimbun

Relief supplies arrive from all over Japan

If coinciding with a nuclear disaster...



Shimano Shimibun



Ishikawa Television



NEWS Post Seven

Support from all over the country would be cut off and the entire region be isolated.

Who is responsible for nuclear emergency preparedness?



Difficulty in even having people gather at an off-site center.

Ishikawa Prefecture Nuclear Disaster Prevention Training
(Photo: Kitano)



The "command post" of nuclear disaster management, the on-site disaster headquarters, would not function

Who is responsible for nuclear emergency preparedness?



Evacuation buses would not come

Ishikawa Prefecture Nuclear
Disaster Prevention Training
(Photo: Kitano)



Unrealistic drive-through potassium iodine distribution

Who is responsible for nuclear emergency preparedness?



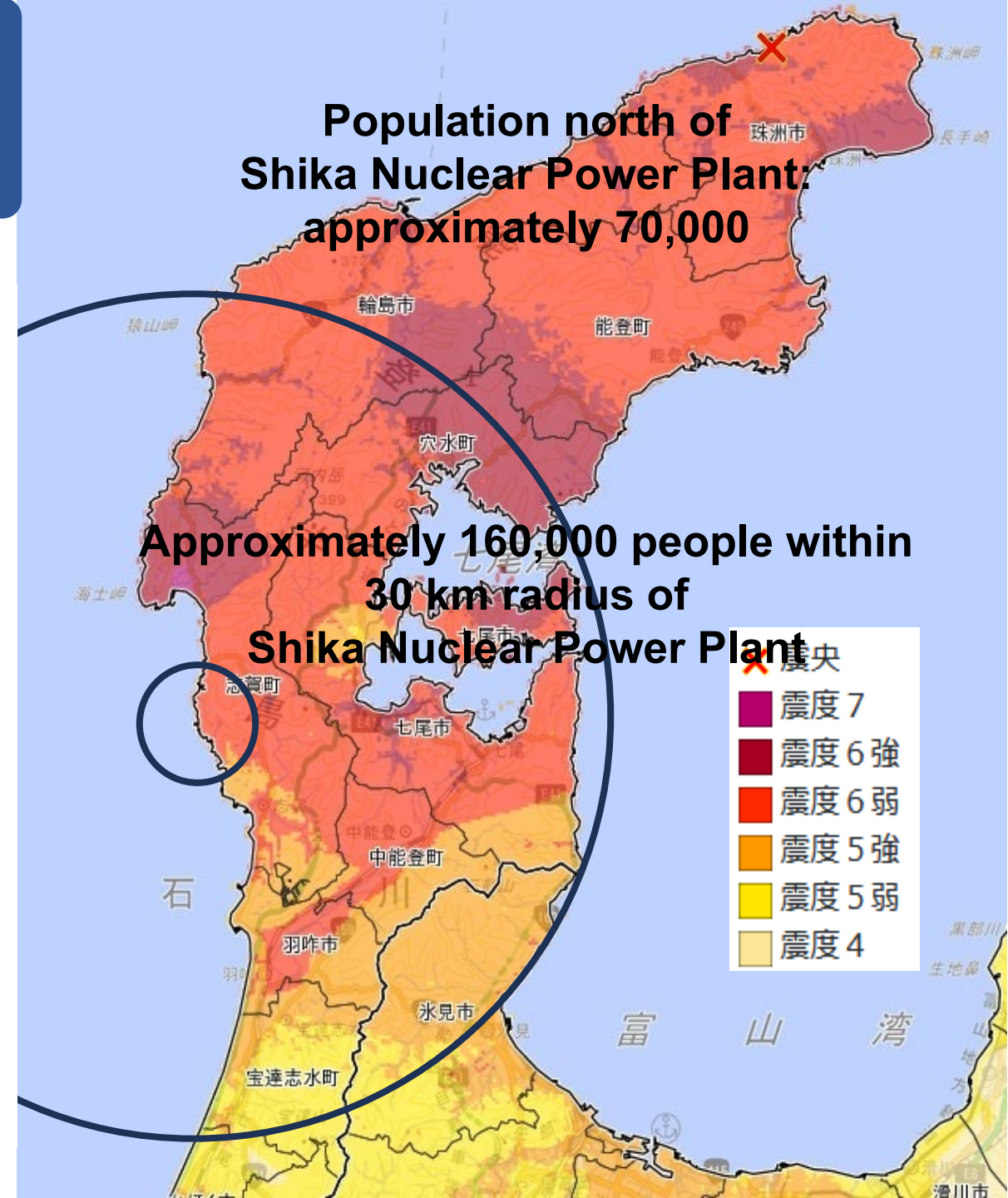
Ishikawa Prefecture
Nuclear Disaster
Prevention Training
(Photo: Kitano)

**Difficult even to set up an evacuation/exit
inspection site**

Lessons from the Noto Peninsula Earthquake

Isolation of the region due to an earthquake from specific circumstances of a peninsula.

Regional isolation with the addition of a nuclear disaster is a risk common to all nuclear power plant locations.



NRA Chairman Shinsuke Yamanaka Downplaying Nuclear Disasters

- Will not change basic approach of Nuclear Emergency Response Guidelines
- Limits discussion to only sheltering in place



- Not looking at reality of destruction of region/community
- Reducing the issue to just the problem of collapsed houses
- Insufficient awareness, especially of local manpower shortage



**In complex disasters,
give priority to
response to natural
disasters!**

**Not even able to
respond to natural
disasters!!**

Need for Change in Nuclear Energy Policy

**Nuclear Power
Plant Disaster
due to
Earthquake**

**Earthquake disaster makes self-
evacuation difficult**

**Nuclear disaster makes outside
earthquake disaster assistance
difficult**

Residents are trapped and exposed to radiation

**Isolation of contaminated areas prolonged,
without relief**

Evacuation plans not viable