

# Prolonged impact of the Fukushima Nuclear Power Plant Accident on health and society

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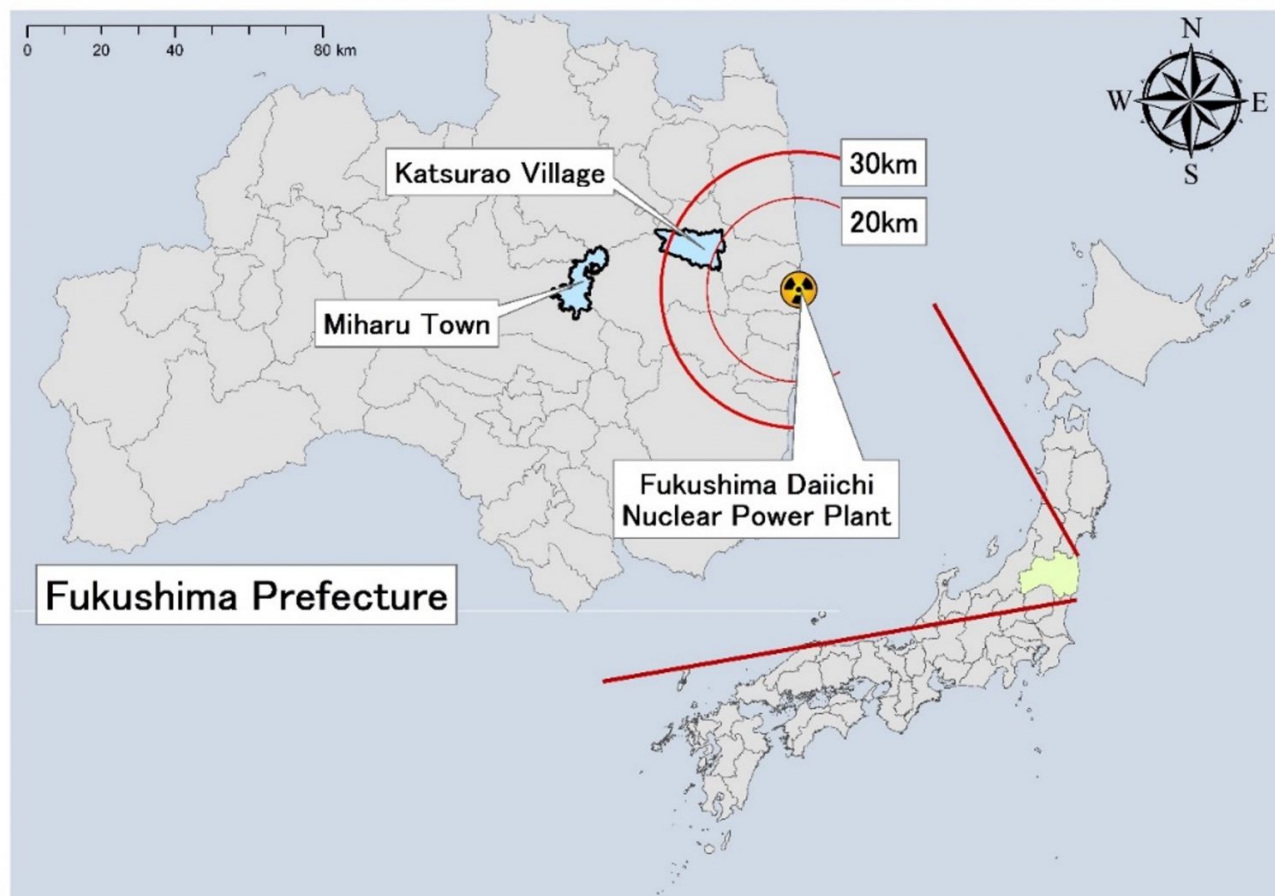


Figure 1. The entire village of Katsurao, located 20 to 30 kilometers from the Fukushima Daiichi Nuclear Power Plant, was evacuated after the accident. Approximately a third of the residents live in Miharu Town and its surrounding areas

## Naomi Ito, Research Assistant at the Fukushima Medical University, tells us how the 2011 Fukushima Daiichi Nuclear Power Plant Accident impacted and continues to impact local residents

The health effects on local residents following a nuclear power plant accident are diverse, not only because of radiation exposure but also because of changes in lifestyle and social environment. It has also been indicated that various environmental changes that could emerge during the restoration process may affect residents in various ways over a long time.

### What is the Fukushima Daiichi Nuclear Power Plant Accident?

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On March 11, 2011, the Great East Japan Earthquake struck Japan with a magnitude of 9.0. Within an hour, a tsunami hit the shore. Three reactors at the Fukushima Daiichi Nuclear Power Plant (FDNPP, operated by Tokyo Electric Power Company) lost power. The reactors could not be cooled, and core meltdowns occurred, which resulted in an explosion due to hydrogen being generated at high temperatures. As a result, radioactive materials were released and scattered northwest from the power plant.

The Japanese Government declared a nuclear emergency and ordered residents within a 30km radius of the reactor to evacuate. In the Fukushima prefecture, more than 160,000 residents were forced to evacuate immediately due to the earthquake, tsunami, and explosion at the Daiichi Nuclear Power Plant. Subsequently, the evacuation order was gradually lifted. While some residents have returned under the national repatriation policy, many others have decided to continue living in the places they evacuated to.



Figure 2. Older people gather in gymnastics classes. This class is held once a week at the meeting center of the reconstruction public housing in Miharu Town, where many evacuated Katsurao residents live

## Health Indicators Worsening

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It has been reported that in areas where evacuation orders were issued after the nuclear power plant accident, the number of residents who are overweight has increased. Health indicators such as BMI, high blood pressure, and hyperglycaemia have generally deteriorated. Living in an evacuation site involves major changes in the social environment, which worsens various health parameters. At the same time, there was also an extremely high level of depression among residents who continued to evacuate and a sharp increase in the number of people using nursing care. Various health measures have been taken to address these problems.

What is happening in the area after the evacuation order was lifted has been a concern. The evacuation order for most of Katsurao Village, which initially had one thousand four hundred people, was lifted in 2016 (Figure 1). Seven years have passed since then, but the number of people who have returned to the village has yet to reach 30%, and the aging rate of those who have returned to the village is nearly 60%.

## **Urgent Long-Term Care Issues**

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Evacuated residents who remain outside the village are more likely to fall under the category of frailty regarding motor function than those who have returned. Early preventive intervention for residents would be important in the event of a disaster where long-term evacuations are expected (Figure 2).

## **Intention to Return and Health Issues**

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The number of residents in the village has remained constant at around four hundred for the past few years, and it is unlikely that many more will return. We found that there are a certain number of people who want to go back but are not able to do so. By interviewing them, we learned that they are staying at their evacuation destinations since they need medical treatments and/or nursing care or they started receiving new services there. We believe that intention to return and health issues are closely related. Enhancement of clinics and visiting services in the village, and improved access to medical institutions, are essential for rebuilding the lives of returning residents. <sup>(1)</sup>

## **Dual Life After Disaster**

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After the evacuation order was lifted, a fairly large number of people kept houses in their evacuation destination and the original one in the village, moving back and forth. Unlike natural disasters such as typhoons and tsunamis, this 'double-base living (or dual life?)' is considered a unique phenomenon of nuclear disasters, where the original houses remain intact. Still, there is a fear of invisible radiation. Above all, the prolonged evacuation has drastically changed people's lives. The challenge would be how to respond to the health needs of people living new lifestyles. <sup>(2)</sup>

## **References**

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1. Ito, N.; Moriyama, N.; Furuyama, A.; Saito, H.; Sawano, T.; Amir, I.; Sato, M.; Kobashi, Y.; Zhao, T.; Yamamoto, C.; et al. Why Do They Not Come Home? Three Cases of Fukushima Nuclear Accident Evacuees. International journal of environmental research and public health 2023, 20.
2. Ito, N.; Amir, I.; Saito, H.; Moriyama, N.; Furuyama, A.; Singh, P.; Montesino, S.; Yamamoto, C.; Sato, M.; Abe, T.; et al. Multisite Lifestyle for Older People after the Fukushima Nuclear Disaster. Geriatrics (Basel, Switzerland) 2023, 8.

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