Stakeholder involvement for radioactive decontamination in Fukushima

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ABSTRACT

Stakeholder involvement activities include regional dialogues on general issues, consensus-building on siting of potential facilities for radioactive wastes, and consensus-building on decontamination of each house. While those activities are still insufficient, some municipality officials realize the importance of the participatory process, and implement better procedures. In this process, a local decontamination panel gives suggestions on local situations and requests specific procedures, and local residents participate in explanatory meetings on decontamination and discuss in tripartite meetings for specific measure for each house. There is still a big gap between decontamination and safe levels of radiation; discussions on levels of reduction continue after decontamination. Cost and expenses are still unknown.

Key Words: nuclear accident, radiation risk, risk communication, stakeholder involvement

BACKGROUND AND PURPOSE

On 11th March 2011, an earthquake of magnitude 9.0 and subsequent tsunami triggered a serious accident. Significant amounts of radioactive substances were released to the surrounding environment. At the annual meeting of IAIA in Porto, 2012, Murayama reviewed how radiation risk was communicated to the public by local government, how views on an appropriate emergency response differed between local and national government and how these different views led to increased public anxiety and a breakdown in trust (Murayama, 2012).

Focusing on decontamination for radioactive substances, we review specific activities for stakeholder involvement in several types, and discuss the effectiveness and challenges.

METHODOLOGY

Headed by Dr. Hiroshi Suzuki, Professor Emeritus of Fukushima University, a research group was organized at the end of 2011, and research activities started

from May, 2012. Supported by the Japan Ministry of the Environment, the purpose of this research is to find effective decontamination measures reflecting actual condition of contaminated areas.

This project consists of the following three subgroups: governance for effective decontamination, planning based on contamination modeling, and risk communication among various stakeholders such as local municipalities, local residents and private companies. As project members of third group, we began research activities.

Fig. 1 shows the designated regions which national government has been decided to decontaminate. Damaged plants are located at red small circle, and people living in red areas were required to evacuate due to high level of cumulative radiation over 20mSv. While other areas in Fukushima Prefecture are also contaminated, people were allowed to continue their lives because of relatively low levels of radiation. The government decided to decontaminate areas where the annual radiation levels are over 1 mSv, which indicate by yellow color. These criteria were taken from the guidelines of International Committee on Radiation Protection (ICRP), 2007.

Our research project targeted yellow colored areas, and we conducted several field surveys and interviews with the municipality officials in charge of decontamination activities.

RESULTS

Risk communication activities by public sectors were divided into three types;

- Regional dialogues on general issues including health risks and decontamination organized by the Fukushima Prefectural government
- Consensus-building on siting potential facilities for the storage of radioactive

Fig.1 Contamination of radioactive substances around accident site

wastes generated by decontamination organized by local municipalities

- Explanation and consensus-building on decontamination for each house organized by local municipalities.

Outlines of activities in each type are as follows. Fukushima prefectural government started regional dialogues so as to disseminate the information on health risks induced by radiation and protection measures, to improve knowledge of local residents, and to communicate among stakeholders for better decontamination. In FY 2011, these meetings were held 4 times, and 5 dialogue meetings were also held in FY 2012. During the dialogue meetings, two experts made their presentations on health risk and decontamination respectively. Afterwards, participants discussed those two issues in two groups. The average number of participants was around 80. As these meetings targeted areas including several municipalities, topics and discussions were relatively general and participants found it difficult to discuss specific issues.

Second type is related to siting of potential facilities for radioactive wastes. In order to dispose radioactive wastes, the national government drew up three strategies.

- Temporary facilities in each local municipality for storing about 3 years
- Medium-term storage facilities in Fukushima Prefecture for the next 30 years
- A long-term disposal facility which will be planned outside Fukushima Prefecture after the medium-term facility

While it is essential to construct these facilities for promoting decontamination work, few municipalities found suitable sites for disposal. In addition to risk of

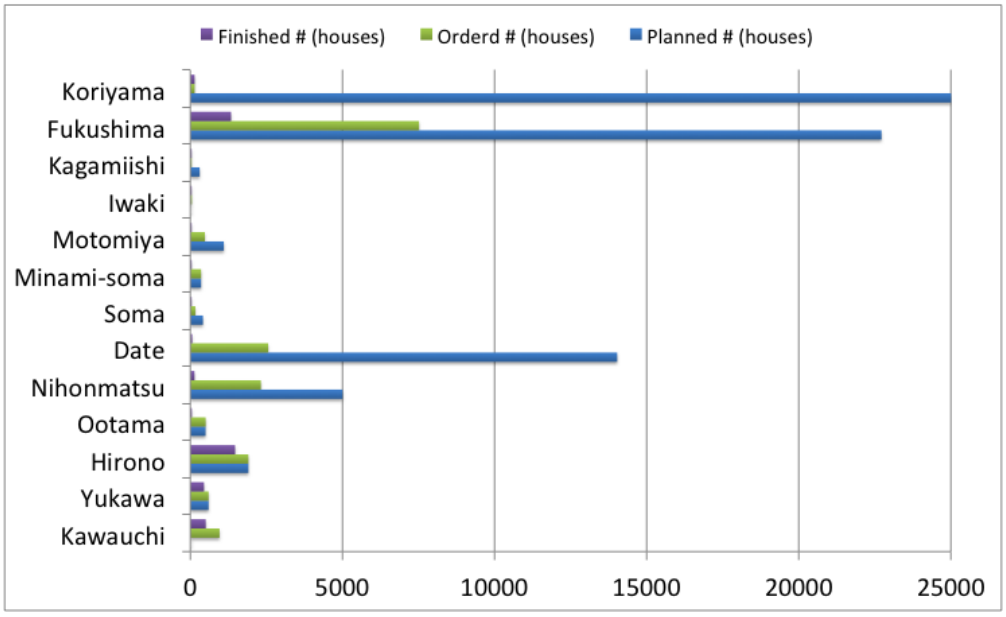

Fig.2 Progress of decontamination for housing (Sept. 24, 2012)
(Source: based on data from the Fukushima Prefectural Government)

radioactive wastes, inappropriate decision-making processes make consensus-building difficult. Generally speaking, the process is so-called DAD (Decide, Announce and Defend) style, and not following strategic environmental assessment (SEA).

The third type of activity is related to consensus-building on decontamination for each house. Local municipalities conduct this type of activities. Figure 2 shows the process of decontamination for houses. Because all municipalities did not have experience in decontamination work, it takes much more time than administrative authorities expected. Of those municipalities, we conducted a survey for Fukushima City, where progress on the decontamination work is greater than in other municipalities.

Fukushima City is located in the north-west part of the prefecture, and has relatively highly contaminated hot spots because the wind was headed for that area just after the explosion of the nuclear reactors.

One of the hot spots was found in the suburb area and so it was not so difficult to find suitable sites for the temporary disposal facilities because this was a less populated area. Collaborating with local residents, the municipality had less difficulty with decontamination work.

Another hot spot was also found in the urbanized area. Due to the highly populated area, it was difficult to find a suitable temporary disposal site. In addition, the municipality had a severe experience on consensus-building. Nation-wide media frequently covered the situation of the contamination level in this area. That led NGOs and other related experts to attend the local explanation meetings for decontamination. They criticized the municipality's work from a fundamental point of view, and the local residents lost opportunities to discuss specific measures even though the meetings lasted a long time. Some started at 7 pm and finished around 1 am. After several meetings, the main members of the community organizations consulted with municipality officials, and they limited the participants to local residents. Through that process, they could build consensus on specific contamination work.

After this experience, the municipal officials realized the importance of stakeholder involvement, and started to implement the procedure illustrated in Figure 3. Firstly, the local municipality formulated a citywide comprehensive plan for decontamination, and the branches coordinated and operated 'local decontamination panels.' Those panels consisted of community organizations and city council members, who were familiar with local situation, requested specific procedures. After attending the explanation meeting on decontamination, local residents discuss and make an agreement at the tripartite meeting (residents, municipality officials, and

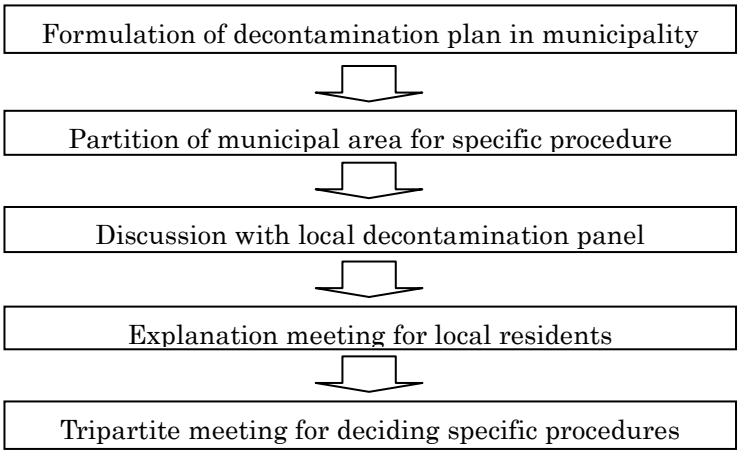

Fig.3 Procedure with the local decontamination panel

contractors) for each house. These procedures affect progress on the decontamination work.

DISCUSSION

Through several types of risk communication, local residents are improving their knowledge about health risks induced by radioactive substances, and decontamination activities are gradually progressing. Of all related activities, the case of Fukushima City is one of typical good practices in terms of stakeholder involvement. After they experienced severe difficulties in consensus building at hot spot area, they formulated a well-organized procedure to decide about the decontamination work. It was a learning process towards stakeholder involvement. They realized the importance of local attitudes, and emphasized the local knowledge of community members for deciding specific decontamination procedures.

While decontamination work is progressing under the above-mentioned procedure in the municipality, we still have several challenges. For implementing the procedure, they need substantial costs in terms of time, manpower and expense. The municipality has to implement under these limitations. In addition, other municipalities, which have relatively small populations and budgets, have difficulties in implementing the procedure of Fukushima City. Another challenge is related to a gap of consciousness of local residents between the agreement of decontamination and that on a safe level of radiation. While people tend to agree with specific decontamination procedures, they are still anxious about the health risks induced by radioactive substances because the work does not completely eliminate radiation. It would be necessary to conduct risk communication after the decontamination procedures are complete.

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