

The involvement of experts in post-accident management at the service of population: lessons from the Fukushima accident

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In fall 2011, ICRP initiated a dialogue between representatives of the Fukushima Prefecture, local professionals, local communities, and experts in radiation protection from Japan and abroad. The aim of this dialogue is to find ways to respond to the challenges of the long-term rehabilitation of living conditions in the areas affected by the Fukushima nuclear power plant accident. This initiative is organised in cooperation with IRSN, ASN, NRPA and the Committee on Radiation Protection and Public Health of NEA/OECD. Up to now, 10 Dialogue seminars have been organised in the Fukushima Prefecture.

In order to draw the lessons of this initiative for the involvement of radiation protection experts in the post-accidental management, IRSN and CEPN have analysed and discussed the key facets of the post-accident management following the Fukushima accident, as reported during the ICRP Dialogue. This analysis points out the human dimensions of the post-accident situation, the stakeholder engagement process, the co-expertise process and the development of the radiation protection culture.

The human dimension of the post-accident situation

The irruption of radioactivity in the daily life of people is a rupture, creating an unprecedented situation and a profound change in the relationship of each to her/himself, to the other and with her/his environment. Living in a contaminated environment is a complex situation that generates a lot of questions and concerns among the affected population. The technical answer to improve the radiological situation (decontamination, prohibitions, restrictions, control of food) has indirect effects that isolate affected people from their day-to-day environment. The accident has a significant emotional and social impact that challenges the lifestyle and leads everyone to find a way to rebuild her/his life.

The human consequences of Fukushima are very close to those observed in Belarus after the Chernobyl accident:

- A loss of confidence in the authorities and experts;
- A strong worry about health and especially of children health;
- A general feeling of discrimination and exclusion;
- A feeling of helplessness and abandonment;
- A loss of control on daily life and apprehension of the future.

Finally, each individual is constantly confronted to the dilemma: to continue to live in the affected areas or to leave them; to return or not at home.

The stakeholder engagement

In Belarus, the stakeholder engagement process was initiated and facilitated by foreign experts of the ETHOS project and the CORE program. National and local authorities allowed to implement projects without the direct involvement of national experts. Local people called for a clear commitment of the foreign experts to improve their living conditions. Gradually a network of volunteers from villages was set up to deal with key issues (internal contamination of children, production of clean food, education of children, management of contaminated ashes...). Progressively, they were joined by local professionals and Belarusian experts.

In Fukushima, local authorities have taken charge of the situation with the help of national experts and the support of local government. Local communities have mobilized themselves to initiate actions with

the help of local and national experts. These experts of very different backgrounds are personally committed to serve the affected people. National authorities remained away from these initiatives but are just beginning to take an interest.

The main challenge for experts is the lack of connection of their engagement with the institutional framework. This difficulty was already pointed out in Belarus, and was assigned to the post-Soviet institutional context. In Japan, in a democratic context, the same lack of connection between local initiatives and government programs is observed. Until recently, it seems that there is no national support for the development of local initiatives, neither in terms of expertise nor financially.

This observation raises questions about how national expertise could be deployed locally in a post-accidental situation.

The Japanese experience feedback from colleagues who committed themselves in a personal way in local initiatives highlighted several elements:

- The rapid need for a reliable and accessible information and the important role of social networks in the dissemination of information,
- The need to be consistent with the scientific knowledge by being modest about the uncertainties and limits of knowledge,
- The importance of a clear commitment of the authorities and administrations to serve local communities with a good coordination between the different levels of the decision-making processes,
- The importance of engaging local professionals involved in the management of the situation (medical, teaching staff, administration ...) and establishing mechanisms for sustainable cooperation,
- The importance not to conclude too easily or quickly that the situation is safe and respect the values of each,
- The difficulty of talking about the effects and risks associated with exposure to ionizing radiation,
- The need to promote dialogue based on local resources rather than the expert presentations,
- Radiation protection is unavoidable but can not handle people's lives. Rather, it should be at the service of individuals and the community.

The co-expertise process

The co-expertise process relies on:

- The establishment of places of dialogue allowing experts to listen to and to discuss together with affected people their questions, concerns, challenges, but also expectations;
- A joint evaluation by experts and local stakeholders of the situation and its impact on the daily lives of the people and the community;
- The implementation of projects, with the support of local professionals, experts and authorities to address the issues identified at the individual and community levels;
- The evaluation and dissemination of results.

In Fukushima, it seems that the co-expertise process has been implemented only in a few communities that gradually engaged themselves in the development of concrete initiatives. This process has evolved in a similar way to that of Belarus with few differences:

- The personal engagement of voluntary experts and local professionals at the service of the population,
- The means for measurement to characterize the radiological situation,
- The sharing of information via social media.

Moreover, the Belarusian experience of CORE and ETHOS projects played a key role in the appropriation of the co-expertise process by Japanese stakeholders.

The experience feedback from the Japanese colleagues shows the importance of dialogue and measurement to restore confidence. The only scientific explanations are not enough to create confidence in the experts and it is essential to create a long-term cooperation, returning regularly to interact with people and sharing experiences and feelings with them. Key elements to work with the population are: reaching out to the population, using a common language, being sincere, conducting

actions on the long term and producing tangible results for the population. Similarly, the sharing of lessons encourages the development of new initiatives among the communities. It is also important for communities to have a financial support from the administration to generalize the actions and ensure their sustainability.

The development of the practical radiological protection culture

The co-expertise process promote the development of the practical radiological protection culture within the affected communities, gradually allowing everyone:

- To interpret the results of measurements: ambient levels, internal and external doses, product contamination,
- To build her/his own benchmarks against radioactivity in day-to-day life,
- To make her/his own decisions and protect her/himself and loved ones (i.e. self-help protection).

In this approach, access to measurements by the population, with suitable devices is critical. On the individual and community levels, beyond self-protection, the practical radiological protection culture makes possible to improve living conditions. It allows individuals to regain autonomy, develop solidarity and to look to the future.

In Belarus, the self-help protection measures have gradually complemented the measures implemented by the authorities. In Fukushima, this complementarity is becoming a reality in some communities such as Suetsugu and Hippo. However, the appropriation process of the practical radiological protection culture in Fukushima and Belarus is very similar

Perspectives

Beyond the analysis of the human dimensions and the role of experts at the service of the population in the context of the Fukushima post-accidental management, this analysis aims to identify how to favour the development of co-expertise processes in post-accidental situations. In this perspective, on the basis of the feedback from Fukushima and its follow-up, further developments seems to be needed such as:

- analysis of case studies and/or preparation of guidelines for developing places of dialogue and tools to allow the involvement of public experts at the service of the affected population,
- reflection on the mechanisms to put in place to ensure the coordination and sustainability of protection measures adopted by the affected people with the support of experts,
- reflection on the possible organisation of the scientific and technical work to answer questions from the affected population related to radiation protection,
- reflection on the organisation of the decision-aiding processes relying on the cooperation with local, regional and national professionals from health care, education, administration in charge of environment...

It has also been noticed the need for further investigating the dynamics associated with the issue of the return of populations in areas evacuated following the Fukushima accident. Of particular interest is the analysis of the conditions and means for the return of the population, including the legal and administrative framework, the characterisation of the radiological situation, the human and social dimensions, the constraints on the economic and agricultural activities...

Among the key concerns of the people affected by the accident, is the health issue. Analysing the surveillance programmes put in place and challenging their strengths and weaknesses would also contribute to identify the possible framework for developing a global approach for health surveillance in the perspective of the well-being of the population and assessing the health statute of the population, producing scientific knowledge on the potential effects of chronic exposures, and providing the means for affected people to improve their daily life.