

What might be the role of the radiological protection expert in post-accident situations?

Some lessons from the Fukushima-Daïchi NPP accident

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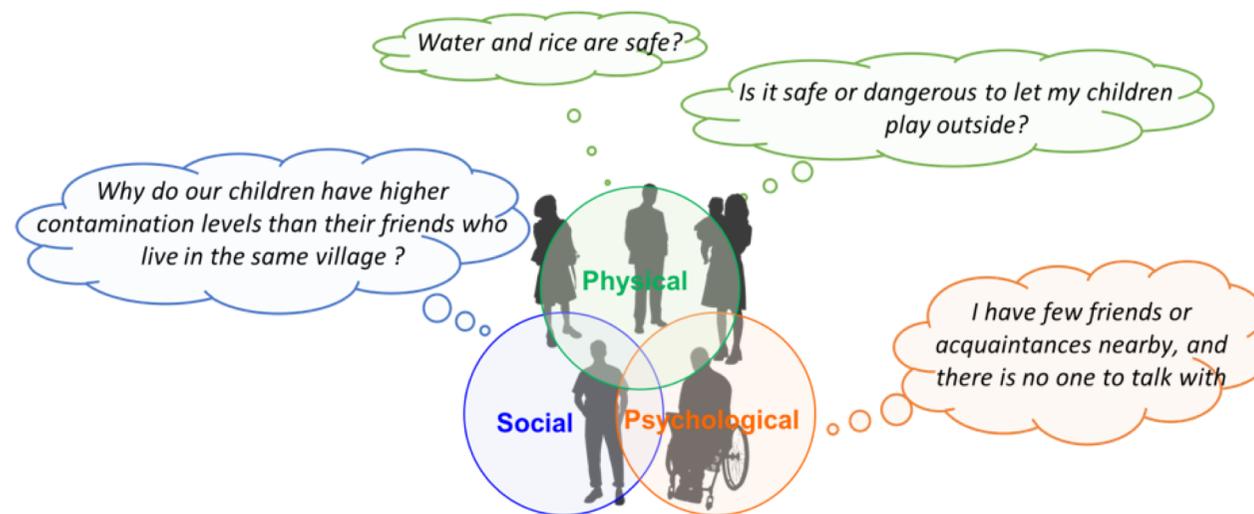
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The context of nuclear post-accidental situation

A Great complexity of the situation with:

- **Profound disturbances of living conditions** in the affected territories;
- Multitude of **concerns and worries** from the local populations;
- However, they generally **lack information and basic knowledge** to cope with the radioactivity in their daily environment.



Multiplicity of expectations and worries raised by population living in contaminated territories
(Y. Kuroda - FMU)

What is at stake for people living in affected territories?

(feedbacks from Fukushima)

RP experts can accompany people living in contaminated territories for:

- The **rehabilitation of their living conditions** *(maintain social and economic activities, restart agriculture activities, promote well-being and dignity of individuals, respect the heritage value, etc.)*
- The **management of the radiological situation** in the affected areas *(Contribute to the realistic assessment of the radiological situation; support business and implementation of agricultural countermeasures, implement control of foodstuff, etc.)*
- The development of long-term **public health programmes** *(implementation of various health monitoring devices, development of structures of dialogue, etc.)*



THE ROLE OF RADIOLOGICAL PROTECTION EXPERTS

The co-expertise process in post-accident situations

- Facing these various challenges, **local people have asked RP experts** to support them for doing measurements or answering to their questions and worries.
- Some experts have gradually engaged themselves voluntarily in **co-expertise processes** by:
 - Initiating and continuing a **dialogue**;
 - Performing a **joint characterisation** of the radiological situation;
 - Developing and implementing **protection strategies** at the service of improving living conditions;
 - Promoting the **practical radiological protection culture** to allow individual to make informed decisions.

The empowerment of affected people through their direct engagement in co-expertise processes is the condition for each individual to:

- **Regain control** on her/his radiological situation;
- Restore her/his **autonomy** of decision, her/his **freedom** to make choices: restore her/his **dignity**;
- Develop a **practical radiological protection culture**;
- **Participate to the decision making processes** addressing the rehabilitation of the living conditions.

Ethical challenges that are facing RP experts

- **Beneficence/non-maleficence**

Organise the long-term vigilance of the territory and improve the well-being of the population by considering all dimensions and not only radiological aspects.

- **Dignity**

Respect the autonomy of people without influencing them. Importance of having balanced relationship between stakeholders, experts and public authorities.

- **Justice & Equity**

Adapt the expertise to each local specificity and individual's need. Promote fair access to measurements, monitoring devices and information on the situation.

- **Transparency**

Share results and analyses to all members of the community.

- **Prudence & Accountability**

Provide protection and avoid any unacceptable risks for local populations.

In addition to ethical values, RP experts often adopt particular posture which implies some human qualities:

- **Listen and receive what local populations express**

To better understand the local needs and concerns and develop the most appropriate and accurate protective actions.
- **Acknowledge the complexity of the situation**

Experts can not provide all the answers to the population's needs and should accept to call on other experts.
- **Be 'at the service of' the population**

Experts will never really understand the situation as well as local populations do. Their role is to be 'at the service of' the population to initiate rehabilitation process which will be long and tedious.
- **Be in position of 'mediator'**

Experts are both involved with public authorities, local populations and other stakeholders. They can try to promote and coordinate actions implemented at local, regional and national levels.

CURRENT CHALLENGES OF RADIOLOGICAL PROTECTION EXPERTS

Two unresolved challenges

(1/2)

Feedbacks from Fukushima show that RP experts are facing two main challenges:

1. Dissemination of the co-expertise processes with local communities

- Local communities can promote co-expertise processes but they are no legitimate to initiate these processes in other territories;
- RP experts play a role to disseminate and accompany new initiatives but they are too few;
- New initiatives can not be duplicated from one to another. They have to be adapted to local needs and specificities;
- Needs to develop coordination structures to foster the networking of local actors. It will allow to:
 - share experiences among the communities;
 - get support;
 - pooling resources.

2. Ensuring the sustainability of the approach

- Locals tend to be less and less involved;
- RP experts, involved in co-expertise processes are no longer engaged 'as expert', but in a personal capacity;
- The radiological situation is known and so there is a need to redefine the role of surveillance over time and progressively maintain a minimum of radiological measurements;
- In parallel, need to develop a practical radiological protection culture throughout the coming generations and maintain awareness of what has happened;
- RP experts should testify about the situation and share experiences of local populations among research communities;
- RP experts, together with public authorities, should allow the emergence and support of territorial projects taking into account the radiological contexts of these territories.

CONCLUSION

What is expected from RP experts in nuclear post-accident situation?

- In the recovery of post-accident situation, RP experts play a key role to facilitate the dialogue process and put co-expertise process at the service of improving the living conditions of affected communities;
- Providing technical and scientific advices is no more sufficient in the recovery situation;
- RP experts have to consider concerns and expectations of stakeholders and their contribution for developing protective actions;
- Need to revisit the skills and management of RP experts to open them to other topics than radiological protection and so, to develop pluri-disciplinary approach;
- RP experts should favour networking and coordination of actions at local, regional and national levels;
- Importance of RP experts testimony and sharing of experiences with scientific communities.

How to prepare RP experts?

- Sharing experiences from post-accident management on the role of RP experts can contribute to improve the preparedness by demonstrating:
 - the complexity of post-accident situations;
 - the diversity of recovery issues which go beyond the single radiological protection issue;
 - the need to consider ethical and human values.
- Engage cooperation and develop E&T programs with experts and organisations already involved in recovery management;
- Investigate in advance the role of RP experts with their organizations: What framework should be implemented to promote the involvement of RP experts in a long-term recovery process? How to adapt this framework to the specific situation and provide adequate support?
- Think about the implementation of pluri-disciplinary approach bringing together experts from various field who might be involved in the recovery process.

THANK YOU FOR YOUR ATTENTION

What is at stake for people living in affected territories?

(1/3)

Rehabilitation of living conditions

Occurrence of a nuclear accident marks a deep break in the dynamic of a territory. Following the Fukushima accident, RP expert has a supporting role to:

- Maintain **social and economic activities**;
- Restart **agriculture activities**;
- **Promote well-being and dignity** of individuals;
- Acknowledge the importance of the **living together** and encourage the resumption of **local traditions** ;
- Respect the **heritage value**;
- ...



What is at stake for people living in affected territories?

(2/3)

Ensuring the radiological monitoring

Role of RP expert is crucial concerning the radiological characterization of the environment. In Fukushima prefecture, this role takes various aspects:

- Contribution to the **realistic assessment** of the radiological situation;
- **Control of foodstuff**;
- Dissemination of **practical advices in radiological protection**;
- Management of **forest areas**;
- **Decontamination and waste management**;
- Support of **business and implementation of agricultural countermeasures**;
- ...



What is at stake for people living in affected territories?

(3/3)

Developing public health programme

Strong concerns from people living in contaminated territories about health impacts of ionising radiations. Following the Fukushima accident, RP experts have implemented:

- **Various health monitoring devices:** health management survey, epidemiological studies, WBC, etc;
- **Health promotion centers ;**
- **Structures of dialogue** to answer to population needs and worries;
- ...

