

# Risk communication and public understanding about radiation: some lessons from nuclear accidents

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# Introductory remarks (1)

- Since the end of the 80s risk communication theories and methodologies made considerable advances\*
- It is now well established that risk communication is an **interactive process between experts and the public** that is effective only in a context of **trust**
- However, the public understanding of radiation has not really progressed over the last 3 decades. It remains generally very sketchy, if not inaccurate, and decision-making processes about radiation are mostly confronted with skepticism, even opposition, from the stakeholders at local and national levels
- That said, most radiological experts and professionals continue to rely on a **one-way dissemination of information** with the hope to **educate** the public to reduce the so-called '**knowledge deficit**'

*\* In this respect the NRC report on 'Improving Risk Communication' published in 1989 was a turning point*



## Introductory remarks (2)

- Feedback from the Chernobyl and Fukushima nuclear accidents clearly highlighted that in a context of **distrust** of authorities and experts and of **absence of background knowledge** of the population about radiation risk, the diffusion of scientific and technical information in one-way communication plays a very limited role in helping people to understand the situation they are confronted with and to make informed decisions
- However, in such a general context some **innovative approaches** integrating at the same time, the **participation** of those affected, a **two-way communication** and **trust building** have demonstrated the possibility to effectively develop a practical radiological protection culture allowing people to make informed decisions about their own protection
- The purpose of the presentation is to draw some key lessons from these innovative approaches for radiological risk communication



# The innovative approaches considered

- **Chernobyl:**
  - The **ETHOS project** and **CORE program** in Belarus (1996-2008): initiated by a team of French experts in villages of the Stolyn district, developed in cooperation with the Belarus authorities, implemented with the participation of the villagers with the support of international organisations
- **Fukushima:**
  - The **crisis communication experience** from Nagasaki University professors (Spring 2011)
  - The **Suetsugi community initiative** (2011-today): initiated by local citizens with the support of voluntary experts and local organisations
  - The **Kawauchi village experience** (2012-today) : initiated by the local authorities and professors of the Nagasaki University with the support of the Japanese government





Ethos project, Belarus



Ethos project, Belarus

# Chernobyl



Core programme, Belarus



Core programme, Belarus





## Fukushima

Crisis communication  
in March 2011





Suetsugi, Japan



Suetsugi, Japan

# Fukushima



Kawauchi, Japan



Kawauchi, Japan



# Crisis communication and nuclear accidents

- Communication in the early phase of the emergency response raises several **challenges**:
  - Those affected are **afraid, disturbed and stressed**, do not understand the situation and have no vision of their near future.
  - The **trust** in authorities and experts is **seriously affected** and many people are **angry**
  - Experts have only **partial information about the event**. Given the circumstances, it is impossible for them to **plan interventions** in advance and to organize **structured dialogues**
- Sharing information **in high stress, high concern and emotionally charge situations** is a real challenge
- The **experience** of crisis communication in the event of a nuclear accident is **very limited**.





# Lessons from the Fukushima experience in crisis communication

- Deliver the information as it becomes available. Recognise limitation in the information and do not pretend to know in the absence of reliable information – **Honesty and transparency**
- Avoid **ready made lectures** and adjust communication according to the concerns expressed by participants
- Favour **Q&A** sessions and respond to all individual questions carefully – **Listen to the people**
- Rely on past experience : Hiroshima/Nagasaki, Chernobyl – **Develop narrative**
- Put oneself in the place of the others – **Empathy**
- Face residents squarely and never try to escape - **Courage**



# Risk communication in the recovery process

- Living in a contaminated area raises many **questions and concerns**, generates **numerous views**, and exacerbates **conflicts**
- Testimonies from Chernobyl and Fukushima have highlighted
  - the **ignorance** of people about radiation
  - the **loss of trust** in authorities and experts
  - the **loss of control** over everyday life
  - the **disintegration** of family and social ties and the **breakdown** of the economic fabric
  - the **discouragement** and **apprehension about the future**, particularly that of children
  - the **threat** on the autonomy and **dignity** of affected people
- The challenge of risk communication in this context is to take into account both the **technical aspects** related to the control of exposures but also all the **human factors** characterising the situation



# Lessons from the innovative approaches for the recovery process

- Providing information with the intention to **educate** people about radiation risk is **ineffective**
- Engaging people in a **dialogue combined with measurements** associated with their daily life allows them to establish a concrete link between the radiological situation and their activities and behaviour
- This process takes **time**, is **resource demanding** and implies the involvement of **local leaders and experts/professionals** who invest in the long term
- Through their participation to the process affected people develop a **narrative** about the accident, their concerns, emotions and feelings, but also their expectations about the future and allow them to progressively **regain confidence in themselves and others**



# The co-expertise process (1)

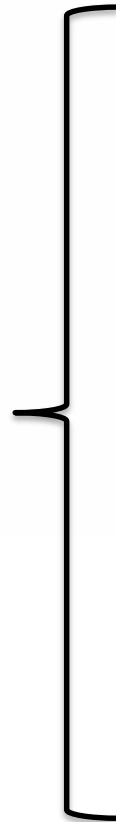
**Combining:**

**Two-way  
communication**

**Trust building**

**Citizen participation/  
empowerment**

**Technical expertise**



# The co-expertise process (2)

- **Dialogue**
  - Listening to the concerns
  - Put oneself in the other's shoes (**Empathy**)
  - Credibility (**Openness, accuracy, impartiality, transparency**)
  - Sharing expertise, experience and values (**Narratives**)
  - Maintaining contacts (**Loyalty**)
- **Measurements**
  - Characterisation of the radiological situation (**making visible the invisible**)
  - Sharing results to interpret measurements
- **Self help protection and collective vigilance**
  - **Empowerment**
  - Practical radiological **protection culture**
  - **Informed decisions**
- **Local projects**
  - Ensuring decent and sustainable living conditions



## Concluding remarks (1)

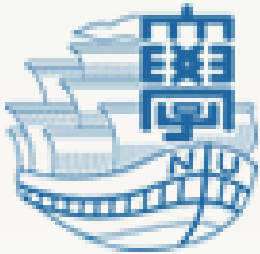
- Apart from scientists, experts and professionals, **citizens are rarely informed** about radiation and even less about the radiological protection system
- The relationship of our contemporaries to radioactivity remains largely dominated by the spectre of **Hiroshima and Nagasaki** and the uncertainty about the effects of low doses feeds since decades an **on-going scientific and social controversy** on the effects of radiation
- Despite considerable efforts **risk communication** had globally a limited impact on the '**knowledge deficit**' among the general public
- Lessons learned in the co-expertise process in Belarus and Japan demonstrate the feasibility to develop a **practical radiation protection culture** to **empower** people in order they make **informed decisions** about their protection and thus restore their **dignity**



## Concluding remarks (2)

- The question that remains open is to know in what measure it is conceivable to develop such a practical culture outside exceptional circumstances like in post-accident situations
- Whatever the context, this will require experts and radiation protection professionals **to put their experience at the service of those affected to meet their concerns and expectations**
- It will also require:
  - to strengthen their theoretical and practical skills in the field of risk communication **by including in their training the know-how on two-way communication, building trust and stakeholder participation**
  - and to put in place the **conditions and means** to accompany them on the ground





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