Lessons from Chernobyl post-accident management
Introduction (1)

- The Chernobyl accident and the Fukushima accident show that the long-term management of their consequences is not straightforward.
- The main key issues for each inhabitant: to know if he/she would like to leave or to stay living in this territory.
- Need to evaluate the possibility to work and to produce in the contaminated territories.
- Need to consider the new conditions in comparison to the situation prevailing before the accident.
Introduction (2)

- The authorities have to propose to the population to stay living in contaminated territories.
- But this decision needs to be derived from a dialog process.
- Need for the authorities to set up the necessary means to ensure the protection of the population.
- Useful to come back to the lessons from the Chernobyl post-accident management, with its strength and weakness.
1. The complexity of the life in contaminated territories

- All the dimensions of the daily life are affected: health, environment, social life, education, production, distribution of foodstuffs and commodities...

- Main concern regarding the potential future health effects associated with ionizing radiation for their children

- Loss of control for the inhabitants of the contaminated territories

- Classical approaches of communication were not efficient to provide with comprehensive and useful information to deal with the situation
2. key issues for the post-accident strategies

- New strategies experimented notably in Belarus mainly relying on:
  - The direct involvement of the inhabitants in their own protection,
  - The development of a radiation monitoring system and health surveillance at the local level,
  - The development of the radiation protection culture among the population,
  - The setting up of economic measures to favour the local development.
2.1. The direct involvement of the inhabitants in their own protection

- Experience derived from ETHOS project and CORE Programme in Belarus
- Direct involvement of the population in the day-to-day management of the radiological situation feasible
- An necessary approach to complete the rehabilitation program
- In the long-term, individual habits lead to various radiological exposures, mainly through ingestion of contaminated food
- Capacity of the inhabitants to participate to their own protection is crucial (self help protection action)
**ETHOS project: Developing a common evaluation between the villagers and the European experts**

- Collection and interpretation of available information on the radiological situation
- Identification of issues and problems according to the specific context
  - *Influence of local traditions, habits and diet, organization of local production…*
- Giving each individual a means to get a grip on its own day-to-day environment
  - *Reference values, comparison with other villages…*
- Revealing the heterogeneity of the local contamination and the distribution of exposures in relation to the individual behavior
Empowerment of villagers
Local farmers meeting
Elaboration of a radiological scale for external exposure
2.2. The radiation monitoring system and health surveillance at the local level

- Establishment of an operational radiation monitoring system including measurement of foodstuffs and whole-body contamination
- Aiming at providing the access to the measurements for all the inhabitants
- Allow the population to be able to participate to its own protection and to regain self-control on its direct environment
- Importance of the pluralism of sources of measurement for ensuring confidence and providing useful information to cope with the local situation
The radiation monitoring system implemented in the Bragin District

- Families
  - Self-help protection actions
- Schools
  - Transmission
- Radiological quality control centres
- Local authorities
  - Collective protection actions
- Hospitals
  - Vigilence

Measurements of food products
Measurements of persons
Radiological Quality Control Centre
Measurements of foodstuffs
Whole body measurements
2.3. The radiation protection culture

- Defined as:

  "The introduction in the daily life of the means and actions to be implemented to ensure the radiological safety of the inhabitants living in contaminated territories"

- Contamination criteria for foodstuffs and whole body cease to be blocking factors for their involvement

- Criteria are considered as benchmarks to guide their actions and behaviours in the day-to-day life

- Dissemination of information and development of a common language favoured through the creation of places for dialogue
Key features of the practical radiation protection culture

- To respond to practical questions
  - Where, when and how am I exposed?
  - What can I do to manage my own radiological situation?
  - In which area of my day-to-day life can I intervene?

- Key features:
  - Provide capabilities for identifying and having references regarding the presence of radioactivity in the day-to-day life
  - Allow the interpretation of the measurements produced at the local and regional levels
  - Allow the involvement of the local stakeholders to the decision-making process regarding protection
  - Favor the evaluation of the results of protection actions
2.4. The economic measures to favour the local development

- Two laws adopted in Belarus in 1991 in order:
  - to ensure the social protection of the citizens
  - and to define the legal framework for the territories.
- Progressively, emerged the need to address at the local level the possible future development of the territories.
- Dedicated accompaniment measures tested in partnership with local, national and international stakeholders.
- Implementation with the aim of improving the quality of life of the inhabitants and the radiological quality of the production.
All these key issues identified through the experience following the Chernobyl accident would be useful lessons for the management of the Fukushima accident.