



The nuclear accident at the Chernobyl reactor in 1986 shocked the world. More than 100,000 people in Belarus, Ukraine and Russia were evacuated from the contaminated area, and about five million people overall were exposed to radiation. In France, Germany, Poland and other European countries radiation protection measures have been were implemented.



# EUR OPA European Centre of Technological Safety

The Fukushima nuclear accident in 2011 proved that to every nuclear reactor there are attributed nuclear hazards. Radioactive release created high fear for the general public in many European cities. The exposure doses in Europe from Fukushima were less than one thousandth of natural radionuclides.

The public perception of the Chernobyl and Fukushima nuclear accidents clear demonstrated tremendous inefficiency in informing people of radiation hazard



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### Radiation invisible, no smell, no sound.

them to build their own

capability for risk assessment.

In the case of nuclear accidents, only a few people trust the official information released by national authorities or experts on radiological risk assessment. This fact clearly reveals that there is only one way to provide people with trustworthy information about nuclear hazards. This is to give people basic knowledge about radiological hazard and allow



As an experience of the recovery after a severe accident the main components of the system to minimize the consequences of nuclear accidents can be defining:

- Legislation and regulatory framework;
- Emergency planning;
- •The emergency response system with highly professional manpower and regular testing exercises;
- •The system of public education and awareness, instructions for iodine prophylaxis and other protective measures.



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Legislation and regulatory framework

#### The main tasks are:

- To define acceptable levels of risk related to natural and technological disasters;
- To share responsibility in the case emergency between national and local authorities and population.



#### **Emergency planning**

Emergency plans (on-site and off-site) are key elements of emergency management and recovery .

It has to foreseen and planning management of any possible (even very low probability disasters).

### Chernobyl lessons:

- 1.Lack of necessary radiometry equipment for real time assessment of radiation conditions. Thus, there was a delay in evaluating the accident scales.
- 2.No protective equipment was available for fire fighters, who were suppressing the fire at Unit 4, and for the plant personnel as well; and as a result 28 people died from exposure.



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Local authority has to contribute to the emergency planning and should guarantee that the potentially affected public:

•is provided with general information about possible accidents at planned or existing nuclear sites. This should include the nature and extent of radiological risk, and potential effects on human health; and/or the environment, including property;

•is provided with timely information on the appropriate behaviour and safety measures they should adopt in the event of an accident involving radionuclides or other hazardous substances.



The emergency response system, highly professional manpower and regular testing exercises.

The response efficiency 100% depends on establishment and efficient functioning of a national emergency management system, high-grade planning of the activities to be performed by government agencies and response staff, their ability to make every effort to protect people and eliminate accidents and their consequences based on the beforehand developed plans.

Training and exercises in condition close to real is important tool for emergency preparedness.



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The system of public education and awareness, instructions for iodine prophylaxis and other protective measures.

Chernobyl and Fukushima clearly reveals that there is only one way to provide people with trustworthy information about nuclear hazards. This is to give people basic knowledge about radiological hazard and allow them to build their own capability for risk assessment.

Book "Basic Knowledge of Nuclear Hazards: Lessons from Chernobyl and Fukushima" is the common Council of Europe and UNESCO's response to nuclear hazards; it is providing better information and protection for people.



Armenia

#### LIST

of co-authors, who contributed to the improvement of the Book and made it more understandable for all

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### European Centre of Technological Safety (TESEC)

The radiation exposure is a part of our lives. On the other hand, there are risks due to nuclear or radiological accidents, when as a result of radiation exposure you can lose your life.

What are the real nuclear or radiological hazards? What are their natures? What do we have to do in the case of a nuclear accident?

Everyone should know the answers to these questions.

We have to join our effort for better informing people about nuclear hazards and to protect them from this hazard.

www.tesec-int.org

Thank you for your attention!