



## PREPARING FOR AND RESPONDING TO A NUCLEAR OR RADIOLOGICAL EMERGENCY



### ACCIDENTAL OR MALICIOUS RELEASES OF RADIOACTIVE MATERIAL

have the potential to threaten health and disrupt life. Experience has shown that communities, agricultural production and food trade can be affected by major accidents. Such events may have international or even global consequences, therefore, it is important to prepare and make arrangements for dealing with them.

There are two conventions governing notification and assistance to nuclear or radiological emergencies on which the international emergency preparedness and response framework is based: the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency.

FAO is a full party to these Conventions both adopted in 1986, following the accident at the Chernobyl nuclear power plant.

The Convention on Early Notification of a Nuclear Accident governs notification. This establishes a system to facilitate the provision of relevant information about nuclear accidents as early as possible in order to minimize transboundary radiological consequences. In the event of a nuclear accident, State Parties to the convention that could be directly affected and the International Atomic Energy Agency (IAEA) are notified promptly. The IAEA in turn informs other States Parties, countries and international organizations and provides further information on request.

The Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency facilitates the provision of assistance and support. If help is requested, the IAEA serves as the focal point for such cooperation by channelling information, supporting efforts and providing its services.

### KEY facts

THE RESPONSE OF AGRICULTURE AND FOOD AUTHORITIES TO RADIATION EMERGENCIES NEEDS TO BE BASED ON RADIATION SAFETY PRINCIPLES

PLANNING AND USING ESTABLISHED RADIATION SAFETY PRINCIPLES ARE ESSENTIAL TO AVOID MISCONCEPTIONS CONCERNING RADIATION AND RADIOACTIVITY

### RADIATION EMERGENCY MANAGEMENT PLAN: THE FUKUSHIMA ACCIDENT

In the Fukushima accident, information was provided in accordance with the Early Notification Convention. Within one hour of the Fukushima accident notification, the international procedures were initiated, including the Joint Radiation Emergency Management Plan (JPLAN) of the International Organizations. The JPLAN describes the arrangements between key international organizations, including FAO. Currently being revised for 2016, the new edition will be jointly sponsored by 18

international organizations.

Under the JPLAN, the Joint FAO/IAEA Division is the FAO focal point and has assigned liaison officers to staff the IAEA Incident and Emergency Centre. This has ensured coordination and dissemination of information between FAO and the IAEA.

Other appropriate international organizations were also represented at the IAEA and international coordination was maintained through regular video- and teleconference meetings of the Inter-Agency Committee on Radiological and Nuclear Emergencies.



## PREPARING FOR AND RESPONDING TO A NUCLEAR OR RADIOLOGICAL EMERGENCY

### KEY facts

PEOPLE CAN BE EXPOSED TO RADIOACTIVITY BY EATING AND DRINKING FOOD AND WATER CONTAMINATED WITH RADIOACTIVE MATERIALS; BY INHALING RADIOACTIVE MATERIALS OR BY DIRECT RADIATION EXPOSURE

THE INTERNATIONAL NUCLEAR AND RADIOLOGICAL EVENT SCALE (INES) IS A CLASSIFICATION SYSTEM USED TO SUCCINCTLY COMMUNICATE THE SAFETY SIGNIFICANCE OF NUCLEAR AND RADIOLOGICAL ACCIDENTS

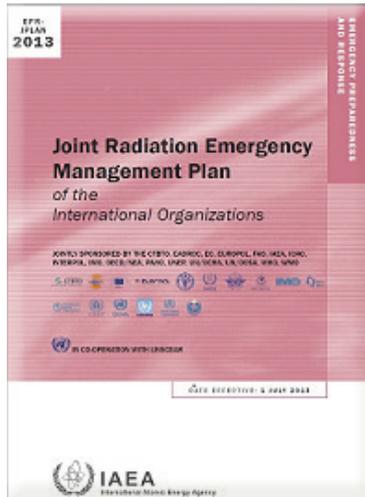
2016 MARKS THE 5TH ANNIVERSARY OF FUKUSHIMA ACCIDENT AND THE 30TH ANNIVERSARY OF CHERNOBYL ACCIDENT; BOTH CLASSIFIED AS MAJOR ACCIDENTS (INES 7)

GUIDELINE LEVELS FOR RADIONUCLIDES IN FOOD IN INTERNATIONAL TRADE FOLLOWING A NUCLEAR OR RADIOLOGICAL EMERGENCY ARE CONTAINED IN CODEX STANDARDS

### FAO/IAEA

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- [www.fao.org/food-chain-crisis](http://www.fao.org/food-chain-crisis)

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Japan requested support from FAO and a joint IAEA/FAO Food Safety Assessment Team (FSAT) visited Japan within two weeks of the emergency. The FSAT provided advice and assistance to the Japanese authorities, including local government, on technical issues related to food safety and agricultural countermeasures, including sampling and analytical strategies and interpretation of monitoring data to ensure that reliable and continuous updates could be provided on the extent of food contamination in the affected areas. These data were used for the development of possible mitigation and remediation strategies to be shared with authorities at local and national levels in Japan.

During and after the Fukushima accident, data on radioactivity were processed in accordance with the FAO mandate to collect, analyse, interpret and disseminate information relating to food and agriculture. These data were received directly from Japan through the International Food Safety Authorities Network (INFOSAN). An authoritative database of monitoring data was compiled by the Joint FAO/IAEA Division. Not only did this database support information exchange, it was also fundamental to FAO input into international assessments and reports, such as the report on the Fukushima Daiichi Accident lately published by IAEA in 2015.



### CURRENT ACTIVITIES

The Joint FAO/IAEA Division has initiated an international research project to develop and assess systems of innovative data collection, management and visualization. An international network of institutions from ten different countries are collaborating to develop and implement protocols for sampling, mapping and decision support to optimize emergency response and the implementation of urgent actions such as food and commodity restrictions and food safety communication strategies.

This project has developed an integrated electronic system that can be used as an application on smartphones and other portable devices and link with existing data exchange platforms. Currently being tested and refined, a feature is that it can be used in routine monitoring as well as in an emergency. Promoting the routine use of such a system ensures that it will be maintained and developed in line with best practices and that users will not require specialist training should they be faced with an emergency – the system could be implemented at a moment's notice.

Although developed in relation to radionuclide contamination, in principle this electronic system could be used for any emergency or situation where large volumes of sampling data needs to be shared, managed, mapped and used as the basis for decision making and to provide data for public information.