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NEA Framework for the Management of Post-Accident Contaminated Food

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Post-Accident Food Management Background

- The wide-spread contamination in Japan from the Fukushima Daiichi accident provoked many questions concerning domestic consumption and export of Japanese food

- Radiological protection guidance was insufficient

International Guidance for Food Management

- The Codex Alimentarius agreement, provides radiological criteria for imported food, based on 1 mSv/a, 10% of food basket
- The European Commission Directives, provides guidance and criteria for consumption of contaminated food from accident-affected territories, based on 1 mSv/a, 10% of food basket
  - Basic Safety Standards Directive
  - The Council Regulation laying down maximum permitted levels of radioactive contamination of food and feed following a nuclear accident or any other case of radiological emergency (1987, 2016)
- The IAEA Safety Requirements Level documents, establishes criteria for the consumption of food in contaminated areas, based on 10 mSv/a
  - Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards, GSR-7
  - Preparedness and Response for a Nuclear or Radiological Emergency, GSR-3

International Guidance Limitations

The Codex agreement is the only internationally agreed criteria for post-accident situations, but this only provides criteria for the **importing** of post-accident foods.

The EC Directives and IAEA Standards refer to the protection of individuals **living in** accident-affected territories

- Standards are conservative and generic, but are not based on circumstances from the actual accident
- There is no internationally-agreed framework for post-accident food management

What is the Issue?

- International guidance:
  - Is based on generic assumptions
  - Addresses only some food-management aspects
  - Provides unique criteria for all situations
- The Fukushima situation presented unique questions
  - How to manage domestic distribution and consumption
  - How to manage export
  - How should importing countries use Japanese criteria

The criteria used by the Japanese for international trade of food products were not well understood within the context of existing international guidance

NEA Response

- During the Fukushima emergency, the NEA collected national decisions and recommendations related to, among other things, trade in food from Japan

- Based on the variety of national approaches, the CRPPH saw the need to develop a comprehensive framework for the management of post-accident food

NEA Framework General Considerations

- Accidents are rare and are unique
- Affected food products will be accident specific
- There are a limited number of export food products from any affected area
- Consumption and export criteria are a matter of national choice and will evolve with the situation circumstances

Emergency Food-Related Actions

– Food consumption in areas modelled to be affected will be banned / restricted rapidly in the case of a declared emergency

– Food distribution from areas modelled to be affected, and exports will be will be banned / restricted rapidly

– Food consumption and distribution will be resumed only after:

- the accident is under control
- affected areas have been radiologically characterised
- national criteria have been established, and
- a measurement / certification process has been established

National Food Criteria

- National criteria should be based on pre-determined risk assessments, but will need to be refined to address actual prevailing circumstances, that is:
  - What food products are affected
  - What radionuclides have been released
- Criteria refinement can take place during the time that the accident is being brought under control and affected areas are being characterised
- Criteria will be developed to protect the most exposed group – those living in the affected area

NEA Framework Elements

For affected food, consumption criteria:

- Will be developed in Bq/kg
- Will be selected based on an assumed annual food consumption (kg/a)
- Will be selected to assure that eating affected food will not cause a radiation exposure over a specified level (mSv/a)

The value selected will be so that the population consuming the largest amount of affected food, those living in affected areas, does not exceed the specified exposure

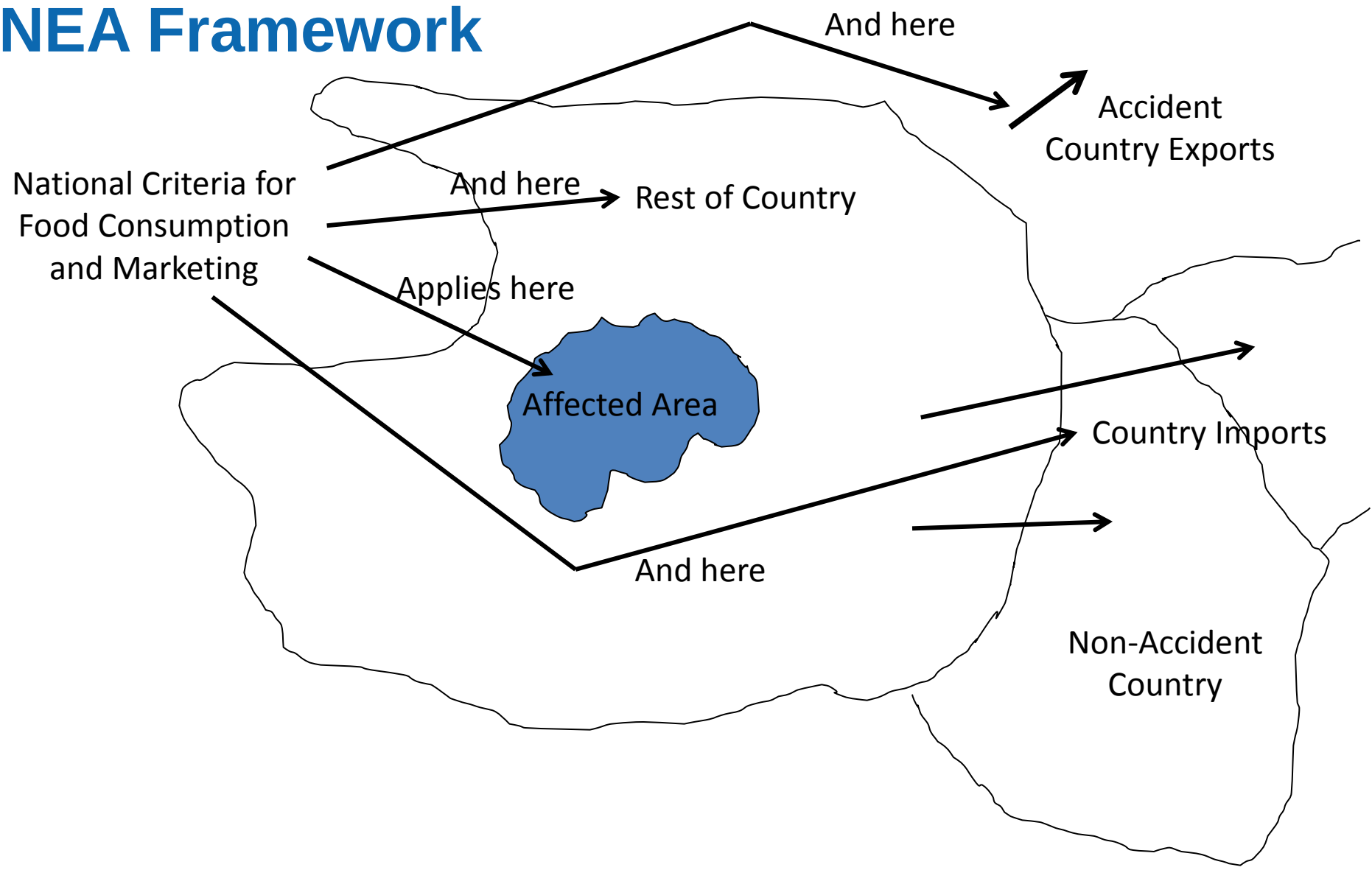
CODEX values should be the ceiling level for national affected food criteria

Framework Objective and Basis

The Framework is aimed at having a single set of criteria for the local, national and international management of food from post-accident affected areas, developed by the accident country to protect the most exposed group

- Criteria will be based on protecting those living in affected areas
- It will be socially, politically and perhaps ethically difficult for a country to use different criteria for those living in the effected area and those living in unaffected areas
- Similarly, criteria for national consumption will most likely be used as export criteria
- The accident country will use Codex Alimentarius levels as a ceiling for national consumption criteria
- Importing countries should use the accident country's export criteria as their import criteria

NEA Framework



Framework Aspects

- Criteria may evolve with time as the prevailing circumstances evolve
- Criteria should aim, over time, to keep all internal exposures from contaminated food at 1 mSv/a or less
  - Affected zones < 1 mSv/a
  - Unaffected zones << 1 mSv/a
  - Importing countries <<< 1 mSv/a
- If the accident leads to cross-boarder contamination, cooperation and coordination will be needed to assure complementary criteria are agreed
- Acceptance of the criteria, both nationally and internationally will depend on consumer and governmental trust

International Validation

To contribute to national and international confidence in the accident country's food consumption criteria and food certification processes, the following could be considered

ValidFood
International Validation Process for Post-Accident Food Management

- Establish a process to validate, against state-of-the-art science, the national process used to select food consumption criteria
- Establish a process to validate, against state-of-the-art science and equipment, the national approach used to certify that food meets criteria to allow consumption

Recognition of Efforts

- The food distribution industry and farmers:
  - have been working hard to produce and market food as far below regulatory standards as possible
  - are performing monitoring activities independently to assure the marketability of produced food

These efforts could be recognised, similar to how quality-control efforts are recognised by the OECD for inspection of fruits and vegetables

OECD Standards

The OECD Trade and Agriculture Directorate issues internationally recognised Standards for fruit and vegetable quality (not safety-related)

- OECD Standard Certificates are placed on packaging by distributors if package contents meet OECD specifications

- Labelling and certification are verified by regulatory inspectors, but are the responsibility of food producers and distributors

This type of inspection and delegation of responsibility approach could eventually be used, with the NEA Validation process, for food from Fukushima

Considerations

- The post-Fukushima accident food-related issues caused significant national and international confusion
- The NEA is considering how planning could avoid such confusion should another accident take place
- A neutral, internationally established process / group (e.g. OECD, FAO, member countries) could be used to address these aspects

Next Steps

- The NEA will convene a group of interested member countries, with participation of OECD Trade and Agriculture Directorate and the UN Food and Agriculture Organisation (home of CODEX), to discuss possible / desirable instruments to move this issue forward, e.g.:
  - Adopt the NEA Framework
  - Develop an international validation instrument
- Based on discussions, further work will be undertaken as appropriate

Political Interest is Necessary

To Undertake Formal Steps

Conclusions

- State-of-the-art processes and science are essential to re-establishing agricultural activities in accident-affected areas
- Trust and confidence are difficult to re-establish
- The NEA feels that a broad framework, and a neutral, international, science-based process of validation can contribute to re-establishing trust and confidence in agricultural activities

Establish "ValidFood"

"ValidFood": A process for the International Validation of Post-Accident Food Management

- By involving relevant international organisations:
  - A small team of internationally recognised internal-exposure experts to review the science and process used to develop food activity criteria, and their evolution in the first 2-years of the accident
  - A small team of internationally recognised radio-assay experts to review the science, process and technology used to certify that food meets regulatory standards
- Consultation with Japanese parties with regard to establishing a pilot project for a "ValidFood" process