



# Decision making and protective measures

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FRD under Mol

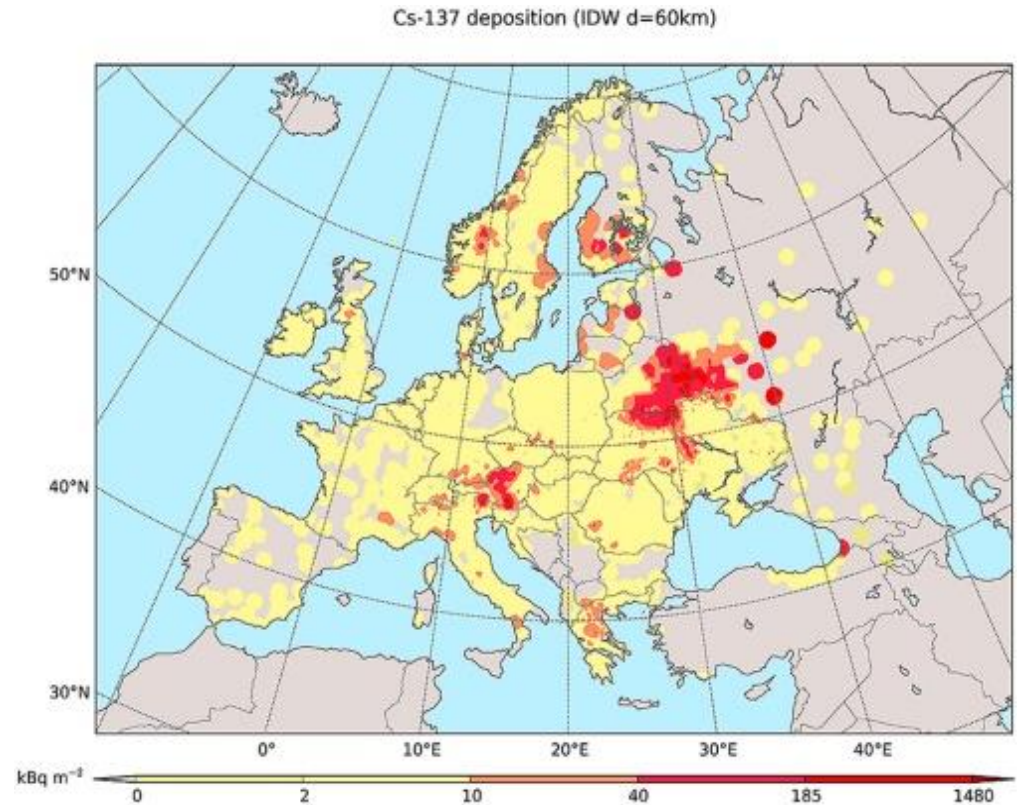
# Content



- National experiences of managing an emergency involving radioactive release
- Examples of the best practices, cooperation with the countries of the Baltic Sea Region
- Challenges while applying protective actions during a nuclear emergency
- Institutions responsible for introducing protective measures
- Shelters – national practices
- Stable iodine – national experiences

# National emergency management experience – consequences of Chernobyl nuclear accident

- Radioactive fallouts in the south-western and western part of the country.
- Mostly contaminated with long-lived Cs-137 and Sr-90 radionuclides, which are still detected.
- Annual fires in the Chernobyl zone release long-lived radionuclides into the environment, the most significant of which is Cs-137.
- Actions:
  - constant monitoring and a forecast of radionuclide transfers is made, information is provided to the population
  - legal measures restrict the radioactivity of wood fuel imported from areas contaminated
  - radiological monitoring of food products, their raw materials and drinking water is carried out on a regular basis, and soil radiological examinations are carried out in the most contaminated areas



Picture published on Science direct web page

# Regional cooperation tools

- Agreements on early notification and assistance in an emergency situation
- Cooperation under CBSS EGNRS (Council of the Baltic Sea States, Expert Group on Nuclear and Radiation Safety)
- Nordic cooperation and Nordic Flagbook



# Nordic Flagbook



- First created in 2001, developed in 2010, approved by the heads of Nordic regulatory bodies in 2013
- Provides a common starting point for the of the Nordic countries' national plans
- Describes Protective Measures in Early and Intermediate Phases of a Nuclear or Radiological Emergency
- Sets criteria for implementing and lifting protective measures

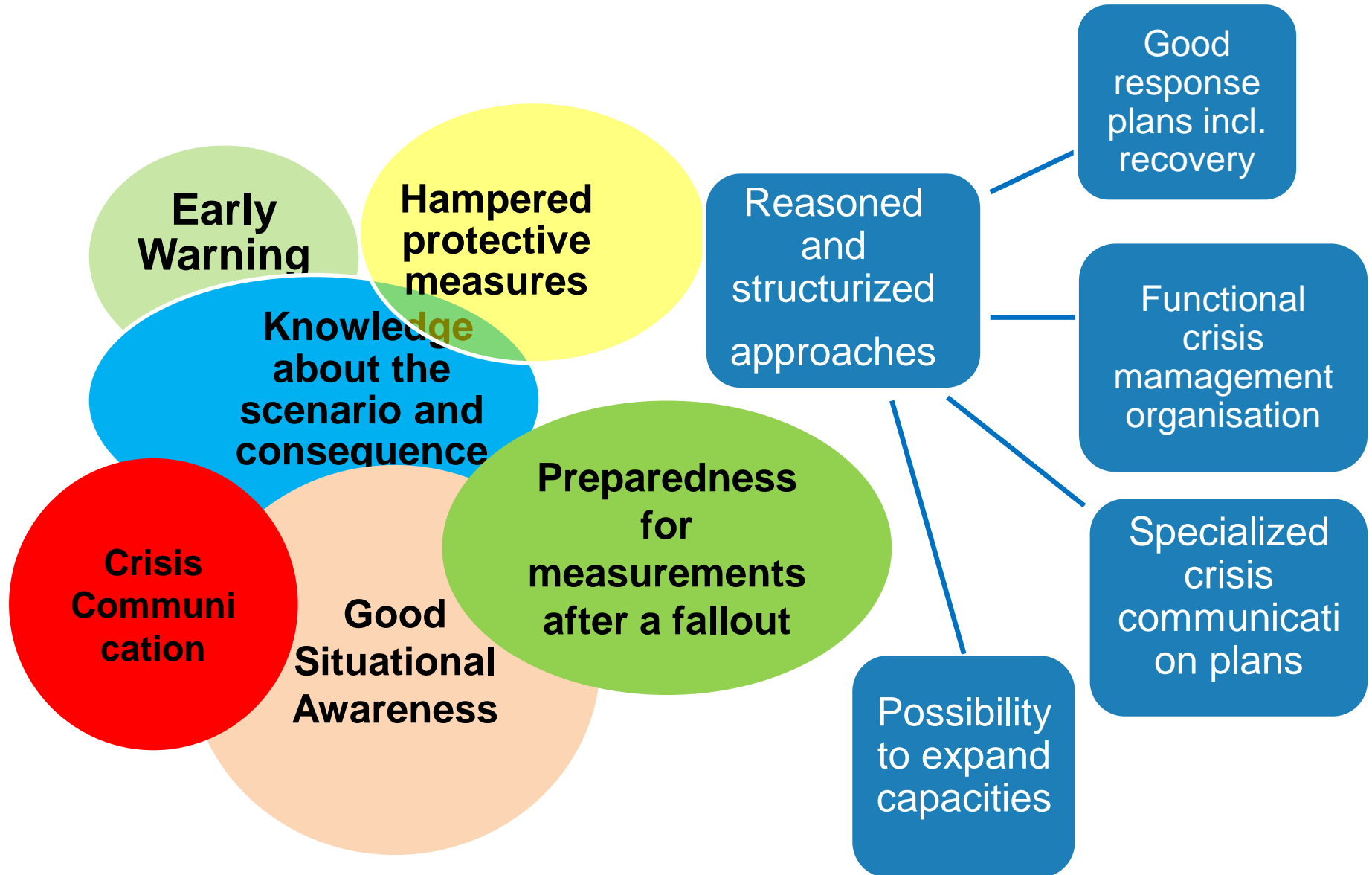
Nordic Guidelines and Recommendations

Availability on the Web:

- [www.stuk.fi](http://www.stuk.fi)
- [www.ssm.se](http://www.ssm.se)
- [www.nrpa.no](http://www.nrpa.no)
- [www.sis.dk](http://www.sis.dk)
- [www.gr.is](http://www.gr.is)



# From challenges to lessons learned



# National good practices



## Emergency Management Plan

- Clarity of functions and responsibilities (actions and institutions)
- Preparedness for implementation
- Awareness of decisionmakers and population

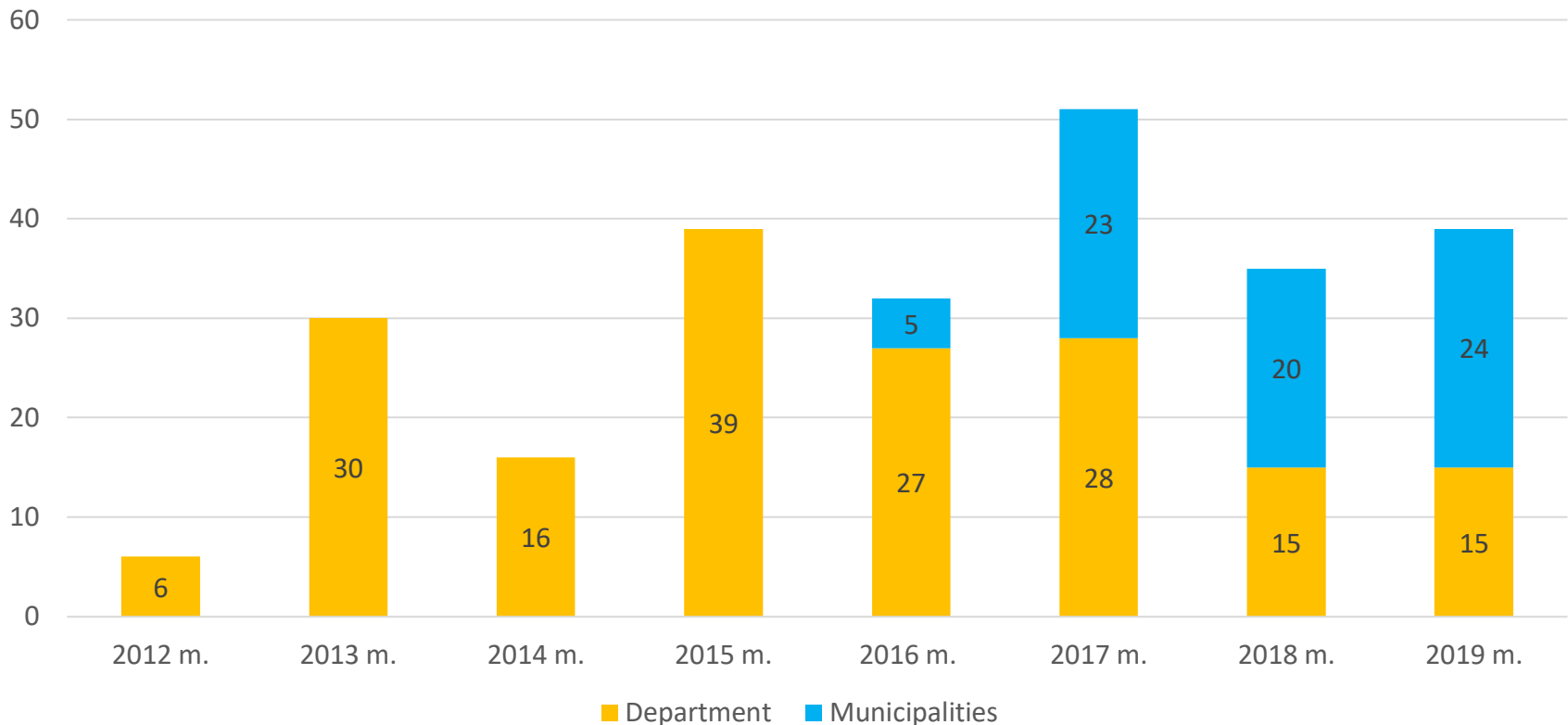
## CB Population Warning System

- Technical possibilities to reach population in short time
- Deliver most important message and recommendation to any location

# Usage of CB Messages 2012-2019

- since August 2012 used 248 times
- 176 by Department
- 72 by municipalities

- sending messages in LT, EN, RU within the specified territory
- does not require search and identification, avoids congestion on public mobile communication networks





# Emergencies and emergency events CB used in 2019

## Department

15 messages sent:

- Strong wind – 3 (20 %)
- Under request of Police – 4 (27 %)
- Traffic event – 5 (33 %)
- Fire – 3 (20 %)

Additional 16 messages were sent by Department due to sirens testing in municipalities and 4 due to exercises

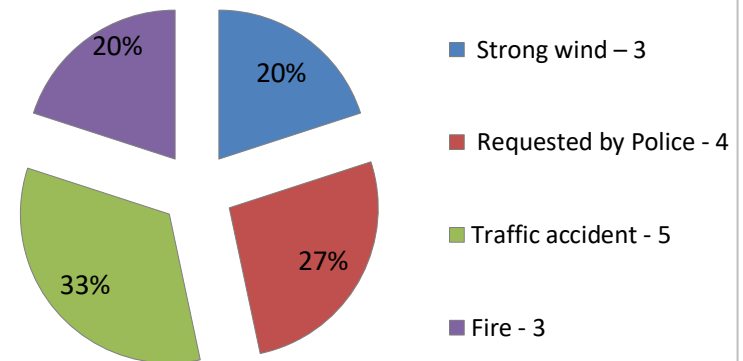
## Municipalities

24 messages sent:

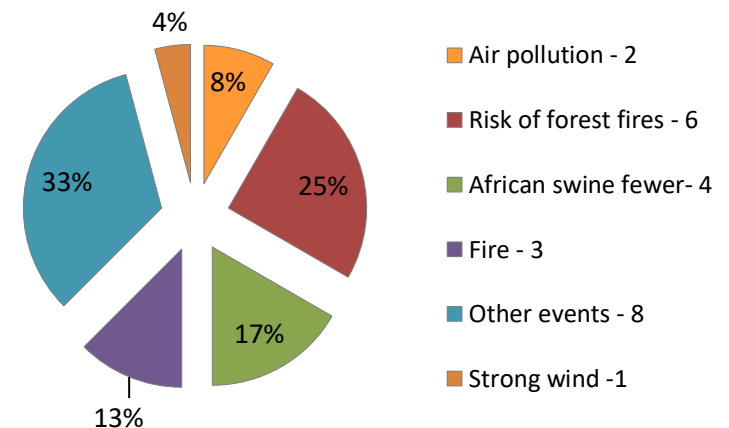
- Air pollution – 2 (8 %)
- Risk of forest fire – 6 (25 %)
- African swine fever – 4 (17 %)
- fire – 3 (13 %)
- Other events – 8 (33 %) (cancelled drink water supply, chemical pollution, other)
- stipraus vèjo – 1 (4 %)

Municipalities in addition sent 15 messages due to exercises and sirens testing

Messages by nature 2019



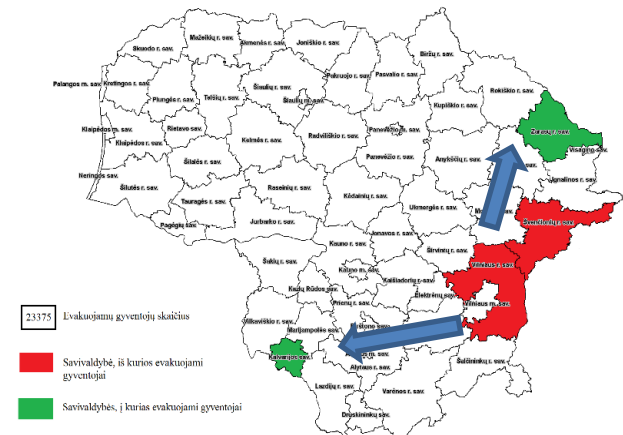
Messages by nature in municipalities 2019



# Challengies in applying protective actions

## Hampering factors:

- Lack of information and poor public trust to the Government
- Time pressure or co-inciding events impact on evacuation
- LTU: Preplanned evacuation of 23 375 inhabitants, time needed (3-5 hours)  
Polution may reach state border in 1 -1,5 hour.
- Fukushima 2011 – 44 deaths during evacuation of hospital near NPP...
- Distribution of iodine in an emergency situation, limited amout in pharmacies, limited working hours



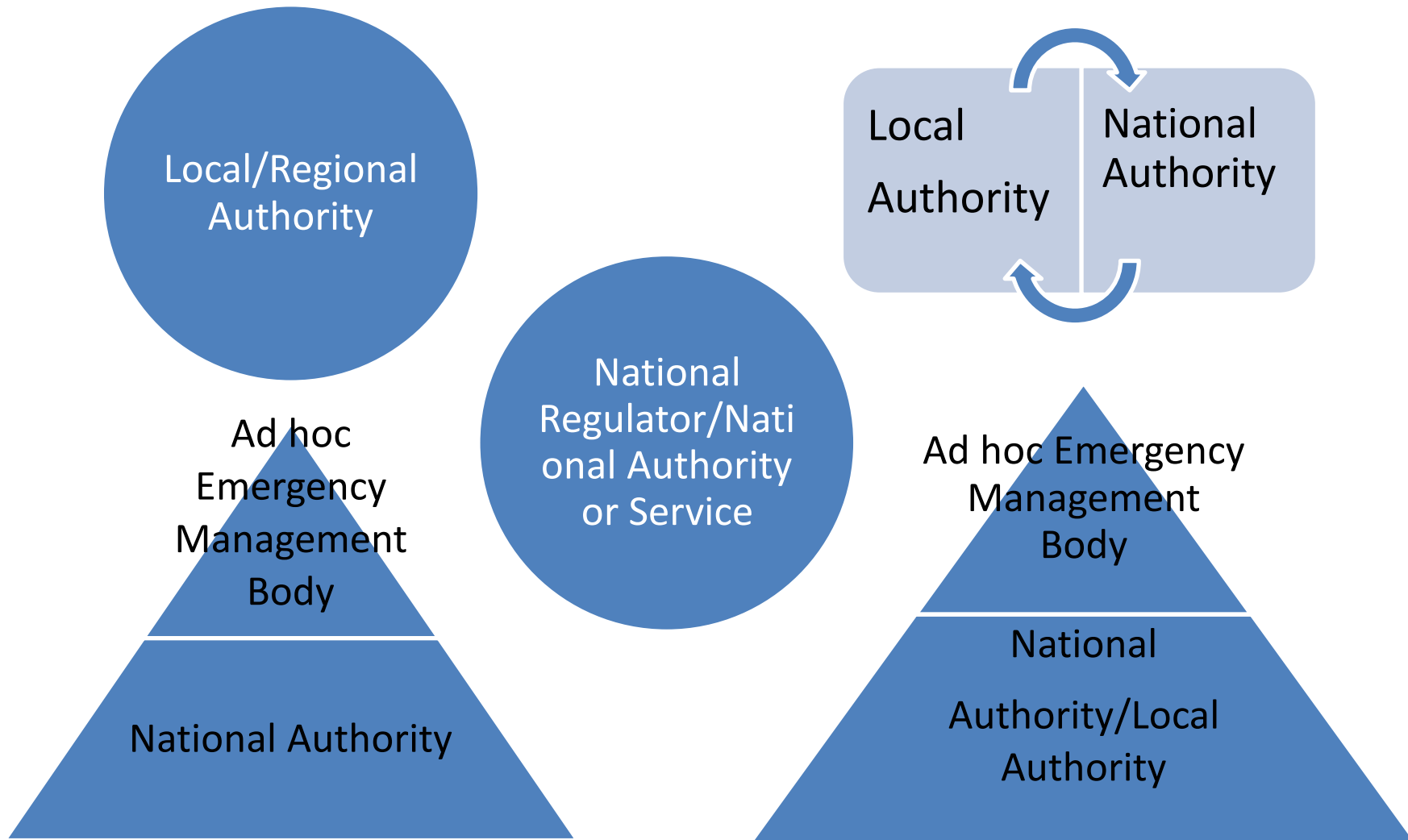
# Protective measures

## Decision making and implementation

MEASURES	RECOMMENDS/IMPLEMENTS
SHELTERING	LOCAL AUTHORITY/MINISTER OF INTERIOR, NATIONAL HEALTH AUTHORITY, COUNTY ADMINISTRATIVE BOARD, CRISIS COMMITTEE/NATIONAL POLICE, EMERGENCY MANAGRMENT OPERATIONAL CENTER/NATIONAL HEALTH AUTHORITY/LOCAL AUTHORITY
EVACUATION	LOCAL AUTHORITY/MINISTER OF INTERIOR, NATIONAL POLICE, COUNTY ADMINISTRATIVE BOARD, CRISIS COMMITTEE/NATIONAL POLICE, EMERGENCY MANAGRMENT OPERATIONAL CENTER/NATIONAL HEALTH AUTHORITY/LOCAL AUTHORITY
IODINE	LOCAL AUTHORITY/MINISTER OF INTERIOR, NATIONAL HEALTH AUTHORITY AND RADIATION PROTECTION, COUNTY ADMINISTRATIVE BOARD, CRISIS COMMITTEE/NATIONAL HEALTH AUTHORITY, EMERGENCY MANAGRMENT OPERATIONAL CENTER/NATIONAL HEALTH AUTHORITY/LOCAL AUTHORITY
FOOD BANS	LOCAL AUTHORITY/MINISTER OF INTERIOR, NATIONAL VETERINARY AND FOOD ADMINISTRATION, NATIONAL FOOD AGENCY, EMERGENCY MANAGRMENT OPERATIONAL CENTER/NATIONAL VETERINARY AND FOOD AUTHORITY/LOCAL AUTHORITY
RELOCATION	LOCAL AUTHORITY/MINISTER OF INTERIOR, EMERGENCY COORDINATING BODY, NOT APPLICABLE IN LEGISLATION, N/A, EMERGENCY MANAGRMENT OPERATIONAL CENTER/NATIONAL HEALTH AUTHORITY/LOCAL AUTHORITY

# Protective measures

## Decision making and implementation models

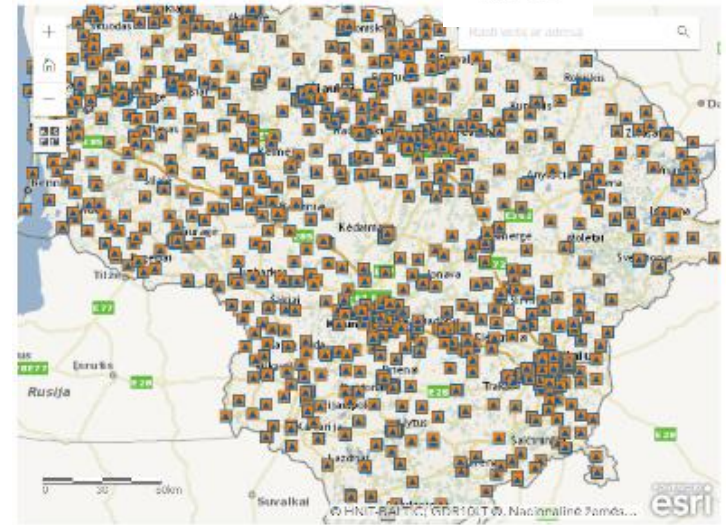


# Sheltering



- Indoor sheltering
- Maximum of 2 days, with possibility to prolong in some cases (children)
- Underground shelters **is not** an option
- No preplanned living facilities for long term evacuees – more than 400 thousand people evacuated during Fukushima disaster, most of them never return...

Kolektyvinės apsaugos statiniai



Primername, kad gyventojai turėtų pasirūpinti savimi ir artimaisiais bent 72 val.

## LT practice:

- Stay inside (at home) – 1 st option. Recommended to be prepared for 3 days.
- Shelters/collective centers are envisaged for evacuated or relocated people. Municipality administrations have preplanned mostly public buildings to provide temporary stay for 1.232,1 thousand/around 42 percents of country population.



# Stable iodine

## PROVISION AND SUPPLY

- Pre-planned to be provided on the whole territory of the country/dedicated to sensitive social groups (children, pregnant women)
- Pre-distributed up to 15km around local NPP with possibility to send out more to public
- Recommended to buy and store iodine tablets at home/municipalities obliged to ensure some amount in local storages/hospitals for patients



### LTU:

- Iodine tablets pre-distributed to population up to 30 km from Belarus NPP
- provided to municipalities up to 100 km from and to be distributed according to local regulation:
  - pre-distributed in advance or
  - to be distributed in shortest time when emergency strikes

# Awareness raising



## Taking iodine tablets in the event of a nuclear accident

Published 28.01.2019, updated 16.10.2020 14:08

Keywords: [Preparedness](#)

Under 40 years of age, pregnant, breast-feeding or having children at home? If so, we recommend that you store iodine tablets at home. These tablets can provide protection against radioactive iodine in the event of a nuclear accident and should only be taken on the advice of the public authorities.

Read more:

- [Taking iodine tablets in the event of a nuclear accident](#)

In different languages:

- Russian: [Таблетки йода при ядерных авариях](#)
- Polish: [Tabletki z jodem w przypadku awarii jądrowych](#)
- Arabisk: [أقرص اليود في حالة حصول حوادث نووية](#)
- Urdu: [نیوکلیئر حادثات کی صورت میں آیوڈین کی گولیوں](#)
- Tyrkisk: [Nükleer kazalarda iyot tablet kullanımı](#)
- Vietnameseisk: [Viên iodine trong trường hợp có tai nạn hạt nhân](#)
- Tamil: [உட்கரு விபத்துகளின் நிகழ்விற்கான அயோடின் மாத்திரைகள்](#)

In the event of discrepancies between the translated versions, it is the Norwegian version which is correct.

# To conclude



- Proper planning leads towards good decisionmaking
- Good planning is never perfect: must be ready to plan not only measures, but challenges as well and then pre-plan solutions
- Solutions to be accumulated in best practices, best practices to be transferred to National Plans and international Flagbooks





Thank You for your attention!