

Risk management strategy for snowfall and frost in the Region of Epirus (Greece)

The Region of Epirus is located in the north-west part of Greece and consists of four Regional Units. The problems of snowfalls and frost are two of the main problems that the Civil Protection has to deal with in Epirus, during winter. Low temperatures result to ice on road, making driving extremely dangerous, while heavy snowfalls can make villages in the mountains inaccessible. Each Regional Unit therefore defines and materializes several measures against snowfalls and frost.

The risk of snowfalls and frost in Epirus

Epirus is a mountainous Region where winters can be harsh.

Temperatures lower than -5°C and snowfalls that make inaccessible inhabited places

are situations faced every year. Places with high altitude, located far from the coastline, face the greatest problems.

The existence of ice on roads results to two main problems:

- increase of the number of injured people due to falls while walking
- increase of car accidents

The second point indicates potential damages in vehicles, casualties, traffic problems in motorways and accidents involving vehicles transfer-



ring dangerous substances. Additionally heavy snowfalls may result to:

- inaccessibility of villages, towns or even main roads or motorways like Egnatia motorway in Epirus, which is the most important motorway in northern Greece and has an outstanding economic importance on national level;
- inaccessibility to farms, putting in danger livestock.

All the above reasons make clear that the implementation of a policy for the protection of the economic and social life from snowfalls and frost is of great importance for Epirus. The guidelines for the necessary actions in order to mitigate the im-

impact of snowfalls and frost are given by the General Secretariat of Civil Protection and the Regional Units should “form” these guidelines into specific actions and measures in accordance with their needs.

Mitigation planning on different levels

Mitigation planning has, in the general case, three different levels in Greece. However, it should be made clear that these levels do not refer only to mitigation but they have a multilayer safety approach. On the highest level, there is the General Plan for Civil Protection named “KSENOKRATIS”.

Ksenokratis is the general frame for the protection of natural environment and people's lives, health and fortunes from all kinds of disasters, both natural and manmade. A list of potential disasters is provided, while the plan refers to the whole country and to all levels of public administration.

On the middle level there are the plans/guidelines from the General Secretariat of Civil Protection. Each one of them refers to a specific kind of hazard and can be applied to the whole country. Of course, those guidelines are in accordance with Ksenokratis.

On the lowest level there are the plans on regional/local level. Those plans are based on the guidelines of the General Secretariat of Civil Protection and take into consideration the vulnerabilities and the needs of an area. Many partners, such as the Re-

gion, the Municipalities, the traffic police, the fire brigade, the army, volunteer organizations, enterprises etc. are involved in the implementation of the plans. The body that coordinates all these partners is the Coordinating Body of the Regional Unit. This Body has meetings at least twice a year under the presidency of the Vice President of the Regional Unit.

Actions per period of the year

Dividing the year into periods and specifying the necessary actions per period, is an important point in the plan of the General Secretariat of Civil Protection against snowfalls and frost. The year is divided into the three periods mentioned below and each one of them is connected with specific actions that should be implemented:

- Pre-winter period (April-early October): during that period, the effectiveness of the measures which had been taken the previous winter period must be evaluated and the main problems which were faced must be identified. Moreover, a capacity analysis of the available infrastructure and human resources for the next winter period should be made, while materials like salt should be supplied and stored. The available equipment and machinery should be maintained.
- Preparedness period (October): the decisions for hiring private de-icing equipment and seasonal staff should be made with reference

to the available funds, while the condition of the available equipment should be checked. Moreover, allocation of the available staff should be made, working timetables should be created and the responsible for the organization and operation of related facilities should be assigned. Finally,

during the preparedness period the Coordinating Body of the Regional Unit has a meeting and the priorities of actions during the winter period are set.

- Winter period (November-early April): ensure proper information flow about meteorological predictions, alerts and data concerning the condition of the road network. The available equipment should be repaired, while reallocation of available resources and supply of more material should be made, if necessary.



Meeting of the Coordinating Body of the R.U. of Thesprotia

Defining the competences

One of the chapters of the plan refers to the competences of the involved bodies. For example “Egnatia S.A.” is responsible for all the actions concerning de-icing and relevant preparedness on Egnatia motorway. The Region and the Municipalities are responsible for de-icing the rest of the roads in Epirus and for keeping the roads in good condition in order to minimise the probability of accidents. Each road is under the responsibility of a municipality or under the responsibility of the region. The local traffic police have to impose traffic prohibitions due to snowfalls and frost, while they also have to inform all relevant bodies for the prevailing situation in the road network.

The fire brigade is responsible for the evacuation of immobilized vehicles, the rescue of drivers and passengers and the distribution of blankets and meals. However, the removal of the immobilized cars is a competence of the body

which is responsible for the maintenance of the road, while the National Centre of Immediate Help has to transfer injured people to hospital. The National Meteorological Service are responsible for the awareness of the involved bodies about the expected weather conditions, while they also have to warn about extreme weather phenomena. Finally, the Region and the Municipalities can cooperate with bodies, like the army, which have the means to face the difficulties from the temporary interruption of traffic on mountainous areas.

Public awareness

Public awareness is an important aspect of the mitigation process. According to the plan, the General Secretariat of Civil Protection organizes campaigns in order to inform people about the

measures they should take in order to protect themselves in the case of snowfalls or frost. The Municipalities and the Regional Units, mainly through the departments of Civil Protection, participate in the procedure. Moreover, volunteer organizations can also help by distributing relevant flyers. The involvement of volunteer organizations is considered important, since they are part of the local society, while during the meetings of the Coordinating Body of the Regional Unit additional actions of the volunteer organizations can be defined. Dedicated information about measures for the protection of farms and livestock is given by the relevant offices of the Regional Units.



Memorandums of actions

The Regional Units, with reference to the risk of snowfalls and frost, have to draft documents which are called memorandums of actions and must answer to five questions: who, what, when, how,

why:

- The answer to the question *who* defines the actor.
- The question *what* connects the actor to the specific actions which has to undertake.
- The question *when* implies the necessity of defining scenarios and/or stages of mobilization which will make clear the actual time that an action should take place.
- In order to answer to the question *how* and define the means that will be used, a capacity analysis which will give a full view of the available resources and funds should be made.
- In order to answer the question *why* and understand the necessity and the efficiency of an action, a previous risk assessment is required.

The memorandums of actions should also include an information table with the contact information of the responsible persons per action, while a *communication protocol* should be defined. The communication protocol includes the main and alternative means of communication which can be used among the involved persons, like telephone, FAX or specific forms. Moreover, a memorandum should also include a detailed, updated catalogue with the resources that can be disposed for tackling snowfalls and ice, like machinery, vehicles for staff transferring etc.

Special Disaster Files

As we have said, the frame of the plan against snowfalls and frost is drafted by the General Secretariat of the Civil Protection and the Regional Units should adjust it to their needs. The procedure for the improvement of the plan is described in the plan itself. The General Secretariat of Civil Protection should keep "Special Disaster Files" for major disasters on national, regional or local scale. In each file there are data about the actions that have been taken by the responsible bodies, their outcome, reports about their efficiency/weaknesses and proposals for their improvement. The data are provided by the Regions and are actually the feedback used for "the analysis of the whole system of mobilization of the Civil Protection, which has as a goal the improvement of the planning for the efficient tackling of disasters and the mitigation of the impacts on citizens and manmade and natural environment".



- Cooperation among involved bodies is vital, while it is important to be defined exactly what each partner has to do and how this will be done.
- Each partner should take into consideration the available funds and resources (staff, infrastructure, equipment)
- The Regional Units, for the adjustment of the plan of the General Secretariat of Civil Protection, should take into consideration the needs of the area and the experience of the local authorities.

- Emphasis should be given in upgrading the local operational level.
- Constant updating of the plan should be done. The evaluation of the results achieved and the introduction of

new technologies and methodologies, which can be used against snowfalls and frost, should be taken into consideration.

Lessons learnt

Some of the most important lessons from the implementation of the plan against snowfalls and frost are mentioned below:



The MiSRaR project

The MiSRaR project is about Mitigation of Spatial Relevant Risks in European Regions and Towns.

The project is a cooperation between seven partners in six EU member states:

- *the Safety Region South-Holland South, The Netherlands (lead partner)*
- *the city of Tallinn, Estonia*
- *the region of Epirus, Greece*
- *the province of Forlì-Cesena, Italy*
- *the municipality of Aveiro, Portugal*
- *the municipality of Mirandela, Portugal*
- *the Euro Perspectives Foundation (EPF), Bulgaria.*

The goal of the project is to exchange knowledge and experiences on risk mitigation in spatial policies. The project will result in a handbook in which the lessons on the mitigation process and the good practices from the partners are presented.

The MiSRaR project is cofinanced by the European Regional Development Fund and made possible by the INTERREG IVC programme.

www.misrar.eu

Contact information

Nico van Os, general project manager MiSRaR, Safety Region South-Holland South

n.van.os@vrzhh.nl

Batzias Nikos, member of the MiSRaR team, Region of Epirus

Greece

nimpatzi@thesprotia.gr

For further information on this good practice also visit the website of the General Secretariat of Civil Protection: www.gscp.gr