2002 – A Year of Calamities. The Romanian Experience

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Abstract

A short history of the major abnormal weather phenomena that occurred in Romania in 2002 is described in this short article. Although perhaps less harmful than in the rest of the continent and mainly local or in small regions, their unusual frequency and rapacity stimulated the local people to call the year 2002 a year of “calamities”. During all the extreme weather events, local Disasters Defense Committees are created to minimize losses, to repair the damages, but mainly to help local people with supplies, medicine, safe drinking water and hospitalization. The general health measures in cases of disasters are presented. They are classified as applied on-place and in-hospitals. The specific emergency measures discussed in this chapter include: drinking water, water and sewerage infrastructure, chemical hazards as well as other implications. Finally, two important education problems are mentioned which were put in evidence by the inappropriate behaviour of the population under calamities and the rather poor efficiency of the medical personnel in case of disasters.

1 Introduction

The beginning of the third millennium finds mankind faced with a considerable number of unsolved problems. The most serious one, by its immediate and long-term effects, is related to the environment. The international scientific community has to give more convincing answers to some questions people ask more and more often: is the climate changing? If so, how quickly and how much will human society be affected? And what can we do in order to minimize the risks?

The paper presents the experience of a year of natural hazards in Romania and the measures taken to counterbalance the risks on population due to disasters.

2 The calamities of the year 2002 in Romania

The year 2002 in Romania was characterized by spectacular changes in weather and by calamities. The events occurred month after month and resulted in important damages (Tab. 1).

January started with extremely cold weather in Transylvania and the Republic of Moldova. About 10,000 hectares cultivated with rape and barley were destroyed resulting in a decrease of production of 50 %. Temperatures under 20 ° below zero characterized the month of February. In central and northern Moldova 30 – 35 % of the vineyards were destroyed by frost. Late hoarfrosts at the end of March caused the loss of 40 % in the fruit production of the whole country. The economic losses for the first three months were estimated to be 14 million Euros.
April was a month during which the absence of water in the soil became acute. Thus, for the first time in the past 20 years, irrigation was started in April. A devastating drought and isolated heavy rains and hails in the centre and south of the country characterized the month of May. In June, drought continued to affect the crops. The absence of rain and very high temperatures for this period of the year, 30 – 40 °C, destroyed 50 % of the wheat and barley cultures. The second trimester resulted in losses of about 23 million Euros.

In July, on the background of drought, devastating torrential rains were recorded in some areas. Torrents wiped out 70,000 hectares of agriculture. The vineyards in the Vrancea county, situated in the east Romania, were affected by successive hails, the estimated loss being 30 – 40 % of the vine production. Early August was also characterized by drought and very high temperatures (40.8 °C in the shade in the southern part of the country). In the second part of the year some weather phenomena characteristic of tropical areas occurred. Heavy and extremely violent rains caused catastrophic floods. One hundred and thirty one localities were affected: 3,000 households and 70 houses were destroyed, 70,000 hectares of farmland were damaged, 47 bridges were damaged, of which 4 collapsed, and 10 national roads partially destroyed. Also, 3 persons died (one old person with cardio-vascular disease and two drowned children).

However, the most dreadful phenomenon was recorded in Făcăieni, in southern Romania. It was a tornado, a phenomenon recorded for the first time in Romania. The strong wind totally destroyed 16 houses, left 300 houses without roofs, uprooted tens of trees, jammed railway traffic for 24 hours, injured 22 persons and killed 3 victims (a family was crushed under a collapsed ceiling and a car crashed into a tree).

After the crops had been seriously damaged by drought, heavy rains in September augmented the losses. In all, the economic losses of the three summer months rose to 18 million Euros.

In October the temperatures were much below the normal average. The fact that temperatures were close to zero degrees had a negative impact on the growth of crops seeded during autumn. November and December registered severe cold, with the soil freezing. This had major implications on the cultivated farmlands (20 % reduction of the estimate harvest, 50 % of the barley crops, vineyards and orchards compromised). The economic losses of the fourth trimester went to 3 million Euros.

<table>
<thead>
<tr>
<th>Months</th>
<th>Events</th>
<th>Economic losses</th>
</tr>
</thead>
<tbody>
<tr>
<td>January – March</td>
<td>cold weather, hoarfrosts</td>
<td>14 mill Euros</td>
</tr>
<tr>
<td>April – June</td>
<td>drought, heavy rains, hails, high temperatures (30 – 40 °C)</td>
<td>23 mill Euros</td>
</tr>
<tr>
<td>July – September</td>
<td>drought, high temperatures 45°C, torrential rains, floods, tornado</td>
<td>18 mill Euros</td>
</tr>
<tr>
<td>October – December</td>
<td>very cold weather, freezing soil</td>
<td>3 mill Euros</td>
</tr>
</tbody>
</table>

**Responsibilities in case of disasters**

Every Romanian county has a Local Disaster Defence Committee (Tab. 2). They are activated during any of these unhappy events in order to minimize losses, to rehabilitate water and sewerage pipes, to recover from electricity faults, to repair roads, bridges and railways, but mainly to help people in need with living supplies, medicines, safe water and health care. These committees usually include: local authorities, the Department of Public Health (DPH), Civil and Military Defence Departments, the Police, the Fire