NATIONAL RISK ASSESSMENT AND REDUCTION IN THE EUROPEAN CONTEXT

Francisc Senzaconi
General Inspectorate for Emergency Situations
### TABLE 5 Total number of reported disasters, by type of phenomenon and by year (2006-2015)

<table>
<thead>
<tr>
<th>Type of Phenomenon</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Droughts¹</td>
<td>208</td>
<td>n.a.</td>
<td>6</td>
<td>2</td>
<td>10,000</td>
<td>10,000</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>35</td>
</tr>
<tr>
<td>Dry-mass movements²</td>
<td>11</td>
<td>n.d.r.</td>
<td>120</td>
<td>36</td>
<td>n.d.r.</td>
<td>n.d.r.</td>
<td>16</td>
<td>46</td>
<td>n.d.r.</td>
<td>13</td>
<td>242</td>
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<tr>
<td>Earthquakes³</td>
<td>6,692</td>
<td>780</td>
<td>87,918</td>
<td>1,893</td>
<td>226,733</td>
<td>20,946</td>
<td>711</td>
<td>1,120</td>
<td>773</td>
<td>9,526</td>
<td>357,092</td>
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<tr>
<td>Extreme temperatures</td>
<td>5,104</td>
<td>1,044</td>
<td>1,608</td>
<td>1,212</td>
<td>57,064</td>
<td>806</td>
<td>1,674</td>
<td>1,982</td>
<td>1,168</td>
<td>7,418</td>
<td>79,080</td>
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<tr>
<td>Floods⁴</td>
<td>5,845</td>
<td>8,565</td>
<td>4,026</td>
<td>3,581</td>
<td>8,481</td>
<td>6,151</td>
<td>3,577</td>
<td>9,819</td>
<td>3,574</td>
<td>3,408</td>
<td>57,027</td>
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<td>Insect infestations</td>
<td>n.a.</td>
<td>n.d.r.</td>
<td>n.d.r.</td>
<td>n.a.</td>
<td>n.d.r.</td>
<td>n.d.r.</td>
<td>n.d.r.</td>
<td>n.d.r.</td>
<td>n.d.r.</td>
<td>n.d.r.</td>
<td>n.a.</td>
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<tr>
<td>Landslides</td>
<td>1,638</td>
<td>271</td>
<td>504</td>
<td>649</td>
<td>3,427</td>
<td>309</td>
<td>501</td>
<td>235</td>
<td>943</td>
<td>1,000</td>
<td>9,477</td>
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<td>Storms</td>
<td>4,329</td>
<td>6,035</td>
<td>140,985</td>
<td>3,287</td>
<td>1,564</td>
<td>3,103</td>
<td>3,105</td>
<td>8,603</td>
<td>1,424</td>
<td>1,260</td>
<td>173,695</td>
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<tr>
<td>Volcanic activities</td>
<td>5</td>
<td>11</td>
<td>16</td>
<td>190</td>
<td>166</td>
<td>10</td>
<td>22</td>
<td>35</td>
<td>16</td>
<td>64</td>
<td>753</td>
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<tr>
<td>Wild fires</td>
<td>16</td>
<td>148</td>
<td>86</td>
<td>190</td>
<td>166</td>
<td>10</td>
<td>22</td>
<td>35</td>
<td>16</td>
<td>64</td>
<td>753</td>
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<tr>
<td>Total Subtotal</td>
<td>17,140</td>
<td>16,063</td>
<td>147,215</td>
<td>8,921</td>
<td>80,702</td>
<td>20,579</td>
<td>8,879</td>
<td>20,674</td>
<td>7,125</td>
<td>13,185</td>
<td>340,283</td>
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<tr>
<td>Subtotal disasters triggered by climate-, hydro- and meteorological hazards</td>
<td>17,140</td>
<td>16,063</td>
<td>147,215</td>
<td>8,921</td>
<td>80,702</td>
<td>20,579</td>
<td>8,879</td>
<td>20,674</td>
<td>7,125</td>
<td>13,185</td>
<td>340,283</td>
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<tr>
<td>Subtotal disasters triggered by geophysical hazards</td>
<td>6,708</td>
<td>791</td>
<td>88,054</td>
<td>1,929</td>
<td>227,056</td>
<td>20,049</td>
<td>727</td>
<td>1,166</td>
<td>875</td>
<td>9,539</td>
<td>367,794</td>
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<tr>
<td>Total DTNH</td>
<td>23,848</td>
<td>16,854</td>
<td>235,269</td>
<td>10,850</td>
<td>307,758</td>
<td>41,328</td>
<td>9,066</td>
<td>21,840</td>
<td>8,000</td>
<td>22,724</td>
<td>698,077</td>
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<td>Industrial accidents</td>
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<td>1,669</td>
<td>776</td>
<td>947</td>
<td>1,061</td>
<td>727</td>
<td>787</td>
<td>1,907</td>
<td>891</td>
<td>1,056</td>
<td>11,691</td>
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<tr>
<td>Miscellaneous accidents</td>
<td>1,126</td>
<td>909</td>
<td>895</td>
<td>911</td>
<td>1,507</td>
<td>755</td>
<td>1,112</td>
<td>1,003</td>
<td>646</td>
<td>3,322</td>
<td>12,186</td>
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<tr>
<td>Transport accidents</td>
<td>7,021</td>
<td>5,075</td>
<td>5,275</td>
<td>5,008</td>
<td>4,177</td>
<td>5,144</td>
<td>4,153</td>
<td>3,804</td>
<td>4,852</td>
<td>5,448</td>
<td>49,967</td>
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<tr>
<td>Total DTTH</td>
<td>10,017</td>
<td>7,663</td>
<td>6,946</td>
<td>6,866</td>
<td>6,745</td>
<td>6,626</td>
<td>6,052</td>
<td>6,714</td>
<td>6,389</td>
<td>9,826</td>
<td>73,834</td>
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<tr>
<td>Total</td>
<td>33,865</td>
<td>24,507</td>
<td>242,215</td>
<td>17,716</td>
<td>314,503</td>
<td>47,954</td>
<td>15,658</td>
<td>28,554</td>
<td>14,389</td>
<td>32,550</td>
<td>771,911</td>
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</table>

Source: EM-DAT, CRED, University of Louvain, Belgium
The impact of the disasters in Romania

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<tbody>
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<td>Europa</td>
<td>104,930</td>
<td>18,469,737</td>
<td>78,322</td>
<td>7,112,676</td>
<td>5,165</td>
<td>232,584</td>
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<td>Romania</td>
<td>503</td>
<td>326,306</td>
<td>579</td>
<td>67,534</td>
<td>57</td>
<td>1,666</td>
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</table>
What is a disaster?

- A disaster is the result from a combination of hazard, exposure, vulnerability and insufficient capacity to cope with the impact.
- A disaster happens when a hazard affect human environment causing damages, casualties and disruption of a community.
- Disaster is the materialization of the risk.
What can we do that disaster does not hit us?

- Disaster management – systematic process (assessment, planning, organising, implementing, checking) aims to reduce the negative impact (consequences) or the frequency of a hazard.
National Emergency Management System

■ The National Emergency Management System is a nationally owned mechanism of multi-stakeholders which operate on multi-levels

■ Assure prevention and preparedness for disasters, as well as coordination and response in case of emergency situations

■ has disaster risk reduction tasks.

■ **Basic principles** are:
  - Prediction & prevention;
  - Priority of human life protection;
  - Local authority responsibility for disaster management;
  - Gradual reaction
Competency levels within the NSES

National level
• National Committee for Special Emergency Situations
• National Operational Center

Ministerial level
• Ministerial Committee for Emergency Situations
• Ministerial Operative Center

County level
• County Committee for Emergency Situations
• County Operational Center

Local level
• Local Committee for Emergency Situations
• Local Operative Center
County Committee for Emergency Situations
- County Operational Center
- Coordination and Command Centre
- Standing Technical Secretariat

Local Committee for Emergency Situations
- Local Operative Center

Action Commander
- Advanced Command Post
A simple logic!!!

- Mayor
- Local council
  - Legislative body
    - prevention
- LCES
  - Technical body
    - prognosis
- State operational structures
- Voluntary intervention units

Censured
Co-ordination

- Between state bodies and structures;
- So called “emergency support functions”
- Basic elements:
  - leading agency - P;
  - supporting agencies - S;
  - their tasks;
- The operative co-ordination belongs to GIES and County Inspectorates for Emergency Situations;
## Emergency Support Functions Matrix

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<tr>
<th></th>
<th>ESF 1</th>
<th>ESF 2</th>
<th>ESF 3</th>
<th>......</th>
<th>ESF 16</th>
<th>ESF 17</th>
<th>ESF 18</th>
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<tr>
<td>Notification &amp; warning</td>
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<tr>
<td>Recon</td>
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<td>P</td>
<td>S</td>
<td>...</td>
<td>P</td>
<td>S</td>
<td>S</td>
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<tr>
<td>Communication &amp; IT</td>
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<tr>
<td>Aids of first necessity</td>
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<td>Social, psychological &amp; religious supp</td>
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<td>Epizootic &amp; zoonosys measures</td>
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<td>M Interior</td>
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<td>M Public Administration</td>
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</table>
Emergency Support Functions – lines of operations
NATIONAL RISK ASSESSMENT PROJECT
<table>
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<th>Leader</th>
<th>IGSU</th>
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<td>UTCB</td>
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<tr>
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<td>UBB</td>
</tr>
</tbody>
</table>
Objectifs

1. development of a set of tools for a unified risk assessment (methodology, database, GIS portal)

2. the actual realization of a first nationally risk assessment
Tracked results

• access to important information on exposure, vulnerabilities and risks:
  – government / authorities responsible for risk management
  – population

• exchange of information between authorities

• identification of interconnections and avoiding overlaps in the authorities' efforts in disaster risk management

• setting priorities for joint action to reduce disaster risk
STEPS

- Development and implementation of an unified risk assessment methodology, which will establish a framework that ensures integration, comparability and compatibility of sectoral risk assessments results.

- Conduct a sociological study to establish the level of acceptable risk in Romania, defined as the potential loss that it is considered acceptable in the existent social, economic, political, cultural, technical and environmental conditions, in order to establish a general indicator on the need to implement measures to reduce risk.

- Analysis of the legal, regulatory and institutional framework governing disaster risk management in Romania and in particular the risk assessment, to identify gaps and overlaps and to develop documented proposals for improvement.
STEPS

- Assessing at the nationally level the risks of floods, droughts, forest fires, earthquakes, mass movements (landslides, collapses and landslides), Seveso accidents, hazardous substances transport accident, nuclear accidents, epidemics and zoonosis, based on the unitary risk assessment methodology.

- Developing an information system - database, WebGIS application and GIS portal - which will provide, on one hand, exchange of information and data between authorities and institutions with responsibilities in risk assessment and support their work to develop risk maps and, on the other hand, information citizens and stakeholders.

- Drafting a country report containing the results of the evaluation, risk diagram, an analysis of uncertainty and recommendations for reducing risk associated with the risk scenarios considered.
Maps developed in the RO-RISK project
Landslide hazard
Landslide risk
Multi-risk
Country report

- A complex document that integrates both the methodological aspects and the framework of the evaluation, as well as the results of the evaluation process of the 10 risks that were investigated during the project.
- In addition, the report also contains a cross-sectional assessment of needs, both in terms of risk and institutional management, as well as a road map for effectively addressing identified weaknesses.
Country report - weak points identified

■ Prevention
  – Lack of disaster risk strategies, policies and plans that include the results of the risk assessment
  – Non-uniform approaches and lack of regulation in hazard and risk assessment
  – Lack of an adequate budgetary mechanism for systematically addressing and prioritizing risk prevention and mitigation measures
  – Poor correlation between the scientific research activity and practical application in the field

■ Response
  – Insufficient correlation between responsibilities and real possibilities to implement the measures set out in the SNMSU
  – Insufficient endowment both in terms of number and specialization in risk types
  – Low effectiveness of Voluntary Emergency Services

■ Restoration / rehabilitation
  – The lack of a legislative framework that clearly establishes responsibilities for this phase
National risk management capability

  - The risk management capability assessment covers the entire risk management cycle (risk assessment, risk management planning for prevention and preparation, and implementation of risk prevention and preparedness measures).

- New Zealand National Capability Assessments & CDEM Capability Assessment Tool
National risk management capability

Score
4 objectives
11 directions of action
45 key indicators
260 progress monitoring actions

Vedere de ansamblu indicatori
simulare cu data reala introductie de jucata

17-19.05.2018 12th ELSEDIMA Conference
Challenges

- Establishment of GLERN and good functioning of PNRRD
- Use the portal as a basis for risk assessments managed at the level of ministries and other central public administration authorities with disaster management responsibilities (HG 557/2016)
- New country report 2018 on risk assessment + country report on risk management capabilities
- Using the results of evaluations in public policies and risk management plans
- Improving the methodology for unitary assessment and risk integration
- Develop a unitary impact assessment methodology
THANK YOU FOR YOUR ATTENTION!