The European Commission’s science and knowledge service
Joint Research Centre

Disaster Damages and Loss Data for Policy: Pre- and post-event damage assessment and collection of data for evidence-based policies

Directorate for Space, Security and Migration – April 2018

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The key role of Loss & Damage Data

Source: Resilience synergies in the post-2015 development agenda
From Disasters to Knowledge

Disaster Loss Data: EU policy and global initiatives

Understanding Risk

Global initiatives

EU legislation

Civil Protection Mechanism

Solidarity Fund

Climate Change Strategy

SEVESO Directive

Tech / chemical

Flood Directive

INSPIRE Directive

Geospatial data

UN World Conference on Disaster Risk Reduction
2015 Sendai, Japan

Learning from Disasters
DRMKC: Coordinated Approach
Data for Prevention and Climate Adaptation
National Risk Assessments

Validation and improvement of Risk Assessment models (better impact assessment)

Quantitative National Risk Assessments: possibility to compare potential impacts from different hazards and to establish priorities

Cost benefit evaluation Mitigation/Prevention/Adaptation measures vs acceptable risk (non-reaction cost)

Elaboration of Risk Management Plans based on evidences and including adaptation strategies, possibility of using structural funds, ..... 

Monitoring the positive impact of DRR strategies implementation
The Floods Directive

- Georeferenced information on people, assets and activities at risk
- Impacts on human health: immediate or consequential impacts, including fatalities, interruption of services related to water supply and treatment, detrimental impacts on local governance and public administration
- Impacts on the environment: adverse long-term consequences on the ecological or chemical status of surface and ground waterbodies, protected areas, and potential pollution sources (including SEVESO installations)
- Impacts on cultural heritage: adverse permanent or long-term consequences to cultural heritage and cultural landscapes
- Impacts on economic activity: adverse consequences to property (including homes), infrastructures, land use, industry and services
Thematic Data sets for Preparedness

- **European Flood Awareness System (EFAS)**
  - GLOFAS: Global Flood Awareness System
  - GEO CA-28 community on Global Flood Risk Monitoring
  - Global Flood Partnership

- **European Forest Fire Information System (EFFIS)**
  - GWIS: Global Wildfire Information System

- **European Drought Observatory (EDO)**
  - GEO CA-16 community on Global Drought Information System

- **Global Disaster Alert and Coordination System**
  - Earthquakes, tsunamis, cyclones
  - UN-EU cooperation framework to improve alerts, information exchange and coordination in the first phase after major sudden-onset disasters
Data for Response

Support to the ERCC:
- Daily Report
- Daily Maps
Data for Recovery and Reconstruction

Data
- Data comparison
  - Cross-border
  - Cross-scale
- Data storage
  - Elements at Risk
  - Hazards
- Data processing
  - Elements Exposed model
  - Vulnerability Curves

Visualization
- Link to local data
  - High resolution data
  - Bottom-up approach
  - will effectively configure competences and resources
  - Identify priority areas
  - Identify resources
  - Connect platforms in areas of common interest
Data for Recovery and Reconstruction

- ... and back to **Prevention** starting at the Recovery and Reconstruction phase: anticipating losses by assessing risk

**Potential Impact**
(Exposed assets)

<table>
<thead>
<tr>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood</td>
<td>8 mil</td>
</tr>
<tr>
<td>Subsidence</td>
<td>23 mil</td>
</tr>
<tr>
<td>Landslide</td>
<td>45 mil</td>
</tr>
<tr>
<td>Fire</td>
<td>18 mil</td>
</tr>
<tr>
<td>Earthquake</td>
<td></td>
</tr>
</tbody>
</table>

**LOSS DATA & EXPOSURE**

[Map showing potential impact areas]

[Table with data]

[European Commission logo]
From Data to Knowledge

Develop. of EU approach to systematically record and manage Disaster Loss Data

JRC leads an EU process with MS to develop solutions for measuring disaster losses

- Recording Disaster Losses (July 2013)
- Current status and best practices (Nov. 2014)
- Guidance for Disaster Loss Data Recording (Apr. 2015)
- Disaster Damage and Loss Data for Policy (Dec. 2017)
- Loss database architecture for DRM (Dec. 2017)

Development of guidelines... ...Support to Member states (DRMKC Support Service)...
Develop. of EU approach to systematically record and manage Disaster Loss Data

JRC leads an EU process with MS to develop solutions for measuring disaster losses

Risk Data Hub

Standardized EU Disaster Loss Database

Support to Member states (DRMKC Support Service)... ...Software
....and what about methodology?

We have to identify **which data** we need and for what
- Same data for **multiple purposes**

We need **methods/tools for collection** of data:
- SOP: comparability
- Interoperability

We need methods for **analysis of data**:
- Impacts are strongly dependent on the region
- Evaluation of impacts to be done at local level

We need to establish **monitoring methods**
Thanks!
Questions?