Technical Expert Forum 2022

Advancing tracking of hazardous event and disaster damages and losses

29-30 November 2022, Bonn
110 countries with L&D databases = Over 750,000 events recorded

- Provides a comprehensive picture of human, economic, and infrastructural losses at subnational levels.
- Nationally owned systems: data on disaster impact collected and validated within the country.
- System based on collection and analysis of homogeneous disaster data at all scales (small, medium, and large) and generated from the lowest administrative levels in a country.
- **DesInventar Sendai**: Enables closer alignment with relevant targets and indicators of the Sendai Framework, enabling streamlined reporting to the SDGs and the Sendai Framework.
Building off DesInventar

- Tracking, accounting and needs as well as technologies for data collection, analysis dissemination and visualization have changed significantly over the last 25 years since the first inception of DesInventar.

- Present-day challenges originate from different factors including technical and governance issues, limited institutionalization, capacities for disaggregated data collection, horizontal and vertical coordination, loss estimation, data management and analytics.

- Strong need to further understand the triggering factors and causes of each recorded event, to be able to link the impact of events with weather-related and other hazardous events.

- Further need to understand the cascading impact of events.

- Application of data standards related to common terminologies, hazard classification, etc.
Progress in developing a new generation system for tracking hazardous events and disaster impacts

- **Discovery and Needs Analysis** has been completed
  - Consultations; surveys (112 respondents); 31 countries (governments and stakeholders)

- **Vision and Roadmap** drafted
  - Transform DesInventar –
  - Advance information governance
  - Connect and innovate loss and risk data
  - System-wide approach

- **Data and Digital Maturity** analyzed
  - System development and technical assistance to be contextualized to the maturity level of a country
Cataloging of Hazardous Events

Opportunity to link climate-related variables, losses and damages, and disaster events.

- Methodology approved by the WMO Congress in 2019
- Provides the basis for NMHSs to systematically record the physical parameters of hazardous events
- Will help strengthen the data value chain (hazardous events, causal factors + impact) by strengthening linkages between NMHS’ existing observation and monitoring capabilities with the resultant impact of events.
- Records of hazardous events will ensure that events are recorded uniquely with a standardized event name, beginning and end times, spatial area of impact, and linking the events to larger-scale phenomena
The proposed model

Recording of Hazardous Events
[NMHS]
- Originator
- Record creation
- Event start
- Event end
- Event type
- Spatial area
- Hazard specification
- Event description
- Event linkage
- Status

Recording of Event (Impact)
[NDMO]
- Impact (cascading effects)
- Cause
- Place
- Time

Application
- Strengthened monitoring of disaster losses
- Risk-informed national and local plans
- Better financing and insurance products
- Informed post-disaster needs assessments
- Informed early warning systems enabling Early action
- Strengthened humanitarian action
- Better understanding of disaster impact on sustainable development

Data Standards
Data Governance
Data Architecture

Drought
Flood
Heat wave
Cold wave
Tropical Cyclone
Hail
Non-hydro-met events
Example

Recording of Hazardous Events
[NMHS]

Regional
Tropical Cyclone

National
Heavy rain
Wind
Storm Surge

Flooding

Recording of Event (Impact)
[NDMO]

- Fallen trees
- Inundated houses
- Power lines disrupted
A new system to enhance the events and disaster damage and losses value chain

Use cases-
inform collection, analysis and product development

Data collection, access or aggregation as per common standards and classifications

Technological solutions and capacity to transform data, integrate, import and export

Functionalities and technical support for analysis and statistics

Enhanced visualization with interactive options (e.g., dashboards, charts, etc.).

Capacity development and technical support to interpret, insights and implications

Decision making support tools for better policies and programs at all levels.
Feedback and suggestions: Guiding questions for the breakout groups

Solutions relevant for countries in different levels of data maturity:

1. How well the joint approach presented responds to the needs, challenges and opportunities identified by different data producers and users across the data value chain?

2. For the proposed model, and referring to the data value chain, can you provide any specific recommendation for:
   a) Data on hazardous events (e.g., weather observations, etc.)? What are the suggestions for hazardous events other than weather-related events?
   b) Strengthening the linkages between hazardous events and losses and damages. How can NMHS and NDMOs better coordinate?
   c) How can we better communicate insights from data analysis to their users and policy makers and ensure largest impact of data solutions?

3. What are the areas where support from UNDRR, UNDP and WMO on the hazardous event and disaster impact tracking system is most needed in your country, and what should the support look like? (e.g., priority areas, entry points & leverage points for interventions)?
Thank you