Disaster-related

Statistics: Some Thoughts

Cristina (Kika) Klimsza

United Nations ECLAC
United Nations | Department of Economic and Social Affairs
UNDRR UN Office for Disaster Risk Reduction
ECA
ESCAP Economic and Social Commission for Asia and the Pacific
United Nations ESCWA
UNECE
UK Health Security Agency

As an introduction

- The Forum's debates and exchanges show major progress in understanding disaster risk.
- There is a comprehensive theoretical framework for understanding the impacts and consequences on society, territory and economy.
- The framework proposes tools and recommendations for action, prevention and response to such events.
- These procedures highlight the role of information availability for evidence-based decisions.
- As well as considering the links between producers and users, as suppliers and demanders of data.

This presentation aims to contribute on the thinking of…

- The key nature and particularities that define disaster-related statistics.
- Outlined as open questions.
- Bearing in mind the universe of data across the risk cycle.
- From an integrative perspective of the data production flow and transition into information.
- The linkage between producers and users.
- Possible future exercises.

Nature of disaster-related statistics

- Disaster-related statistics are part of a complex and multidisciplinary environmental/territorial/economic domain.
- Therefore, statistical treatment must take into account for biophysical as well as socioeconomic and institutional phenomena.
- Based on different data collection or compilation sources.
- Grounded on specific statistical methodologies.
- Duties and responsibilities are spread on different institutions, not always well coordinated.

Disaster-related statistics' requirements

- Such a conceptual spectrum requires specific scientific and technical knowledge for its production.
- Adequate technological resources and trained technical staff.
- The capacity to select and interpret data in order to draw truthful and accurate conclusion.
- A structure that enables the exchange of data and information capable of providing trust and credibility.
- A governance structure that enables participation and manages interdependencies among stakeholders.

Transition from *ad hoc* data to systematized data

- In the early stages, data needs related to disasters were addressed on *ad hoc* basis, driven by the urgency of an immediate response to the event.
- Advances in management and understanding of these phenomena promoted, not only immediate action, but the preparedness, prevention, and recovery of damage.
- Processes that require continuous, integrated and systematized information.
- Supported by statistical procedures and methodological guidance.

How to meet data demand?

- We have pointed out that disaster-related data requirements span a broad and multidisciplinary spectrum.
- They arise from countries' international agenda commitments.
- From national requirements tied to goals and objectives of risk-management strategies, contingency plans and recovery actions.
- From local plans and/or policies with specific, targeted demands.

How to meet to data demand?

- This leads us to consider segmenting demand according to the stages of the risk cycle.

- Along with identifying the data required at each stage.

¿Who what and when?

- Based on identifying data sources along with the responsible institutions.

¿Who produces what and how?

Role of National Statistical Offices and National Statistical Systems

- NSOs play a central role in the data ecosystem about disaster- related statistics, as coordinators of the institutions that integrate the National Statistical Systems (NSS), because they have:
  - Technical expertise to meet data demands within their own institutions and across partners.
  - Methodological and operational expertise to support the production, processing, exchange and dissemination of diverse data.
  - Also, NSOs ensure availability and confidentiality of data at the same time that they endorse the comparability.

Role of National Statistical Offices and National Statistical Systems

- NSOs ensure the use of common standards, classifications, and terminology.
- NSOs are mandated to provide data based on professional independence, quality criteria as well as the use of robust, transparent, and agreed methodologies.
- NSOs guarantee accessibility to all users.
- Also, the NSSs are the solid institutional network and integrate the experience coordinating multiple information producers.

Fundamental principles of official statistics

Some questions arise here:

- How can we overcome the gap between single data to timely and systematic data?
- How can we respond to the demand for data in a comprehensive, coordinated manner, supported by methodological standards, and sustainable over time?
- Is it feasible for disaster-related statistics to be part of a country's official statistics?
- How can we certify that such data follow the Fundamental Principles of Official Statistics?

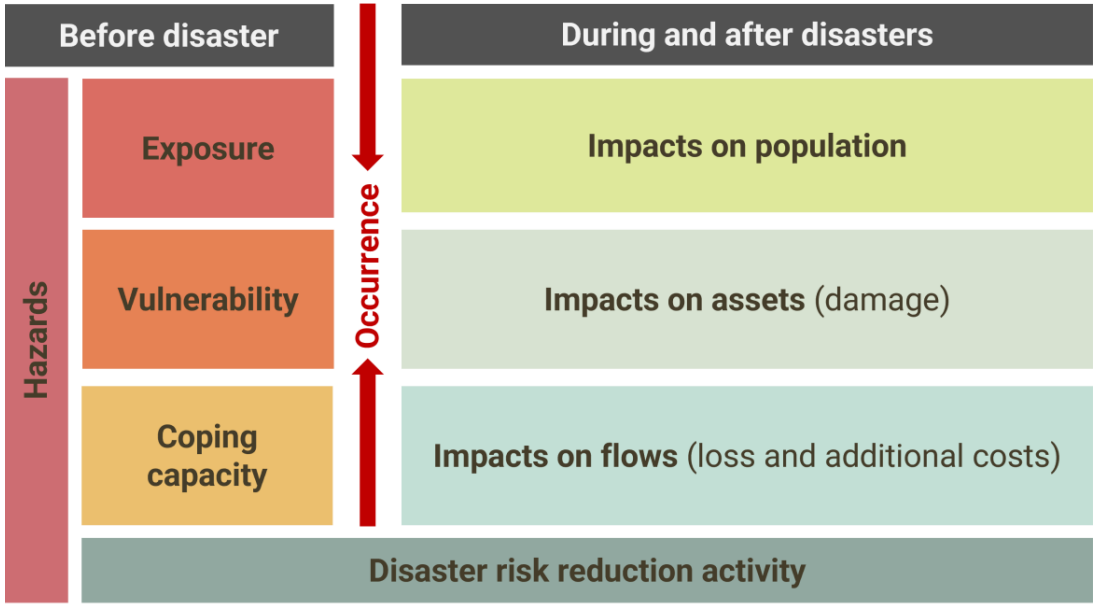
Fundamental principles of official statistics

- Principles that promote methodologies and statistical production of quality data.
- Allowing users to apply criteria for data accuracy, validation, consistency, and comparability across time and space.
- Essentials for analyzing data and drawing accurate conclusions.
- Endorsed by statistical community of all countries.

Global Framework for Disaster-related Statistics (G-DRSF)

- Represents major progress in establishing a foundation for compiling and using disaster-related statistics.
- It proposes standardized statistical methodologies, conceptual definitions, classifications, and new data sources.
- Emphasizing that the availability of accurate and consistent data is essential for effective action.
- Such data must be articulated within a common statistical framework.
- To enable better understanding of risk, support evidence-based planning and policies.
- To facilitate consistent comparisons across time and space.

Global Framework for Disaster-related Statistics (G-DRSF)



- The conceptual framework is structured around three measurement areas:
  - Risks
  - Impacts
  - Risk reduction
- Data are required for different moments
  - Before the event
  - During the event
  - Post-event

Global Framework for Disaster-related Statistics (G-DRSF)

- Bringing the three areas together leads to the identification, characterization, and understanding of the set of associated phenomena.
- However, as highlighted in the global framework, data availability is only partial.
- Limitations are observed.
- Certain conceptual definitions require operationalization and delimitation of statistical units.
- There is a need for precision in collection/compilation methodologies.
- Use of harmonization and standardization criteria.
- Definition of both quantitative and qualitative units of measure.
- Documentation and preparation of methodological sheets.

Brief comments on the tables

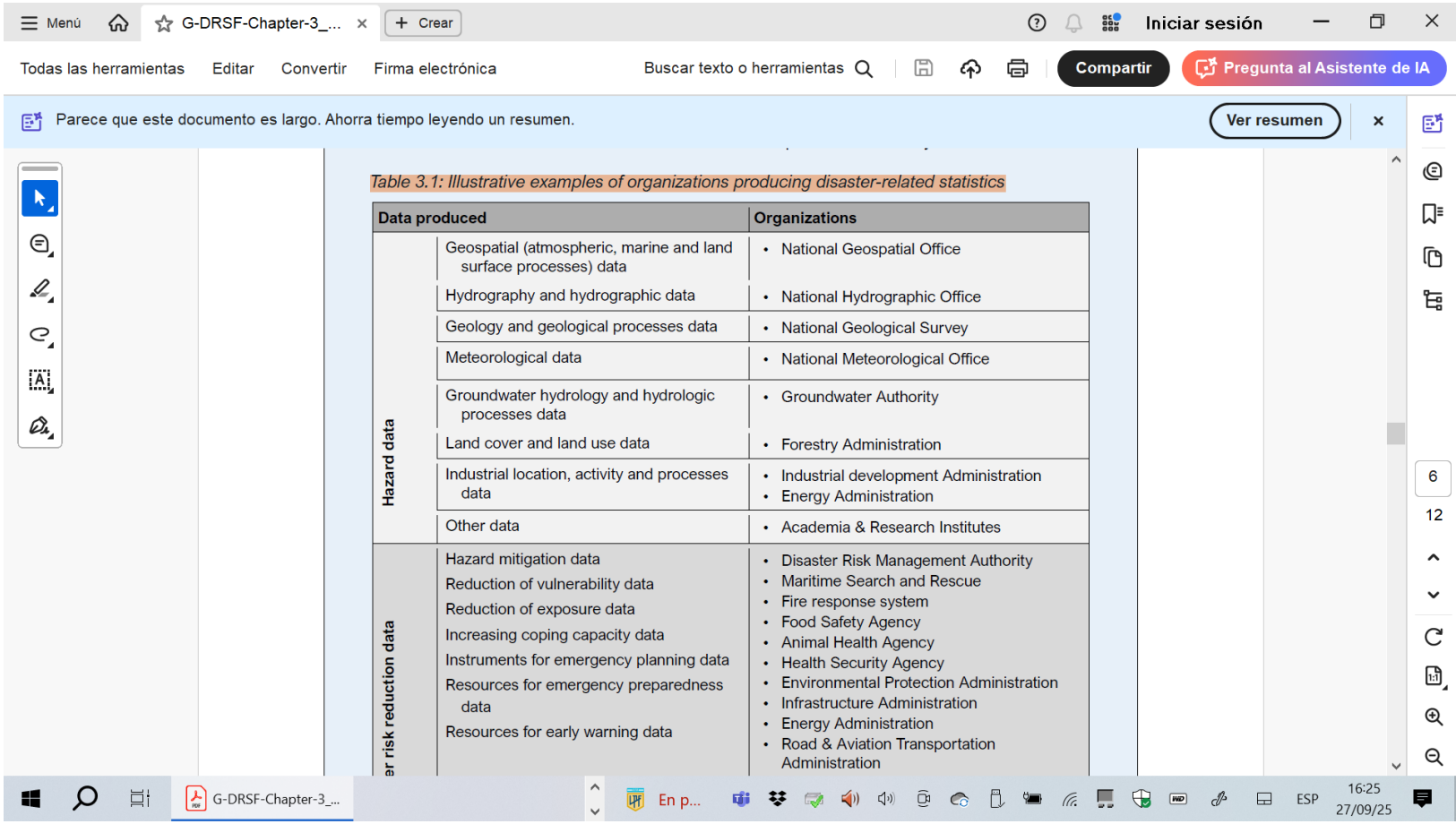
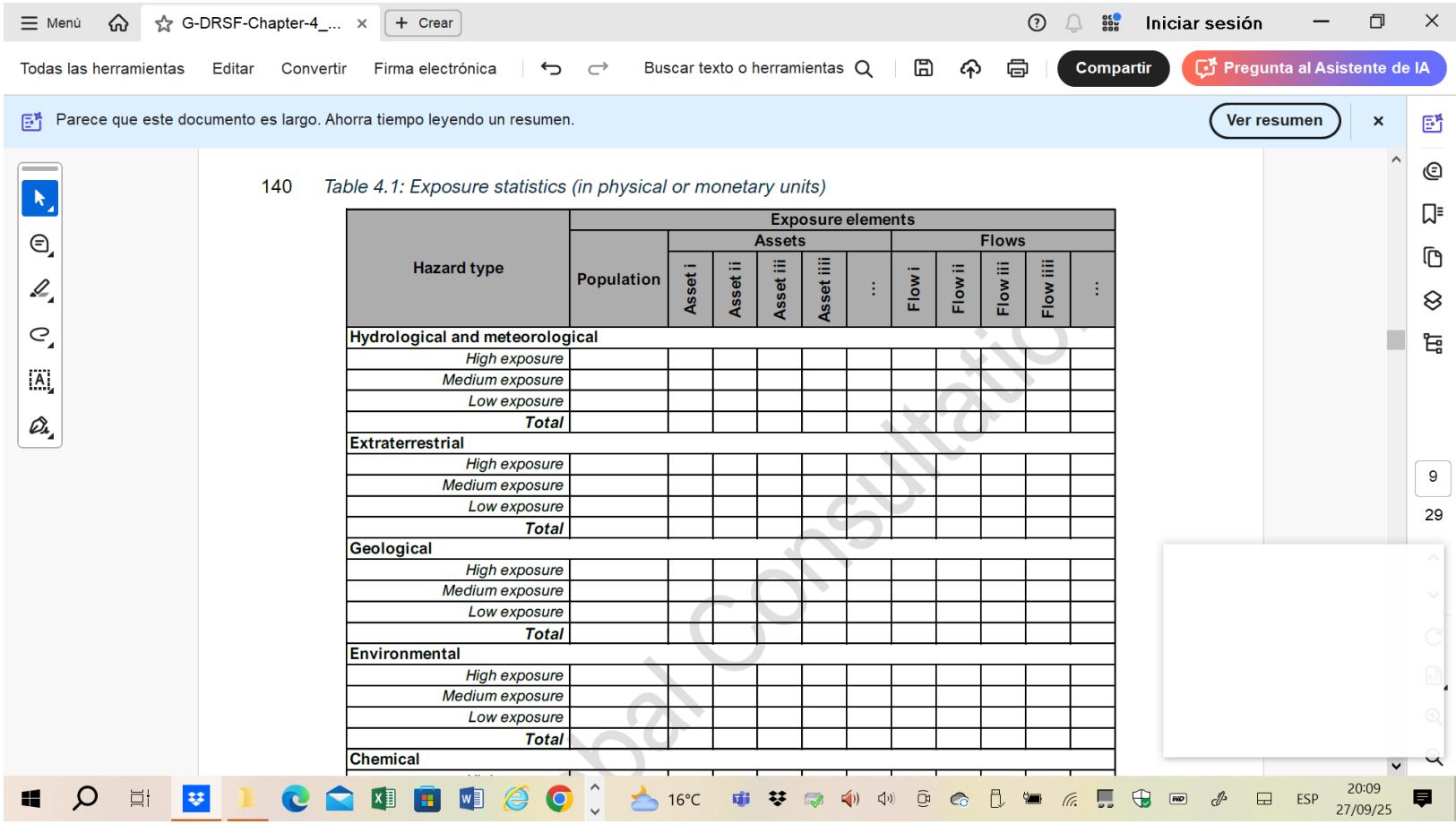


Table 3.1: Illustrative examples of organizations producing disaster-related statistics

	Data produced	Organizations
Hazard data	Geospatial (atmospheric, marine and land surface processes) data	• National Geospatial Office
	Hydrography and hydrographic data	• National Hydrographic Office
	Geology and geological processes data	• National Geological Survey
	Meteorological data	• National Meteorological Office
	Groundwater hydrology and hydrologic processes data	• Groundwater Authority
	Land cover and land use data	• Forestry Administration
	Industrial location, activity and processes data	• Industrial development Administration • Energy Administration
	Other data	• Academia & Research Institutes
er risk reduction data	Hazard mitigation data Reduction of vulnerability data Reduction of exposure data Increasing coping capacity data Instruments for emergency planning data Resources for emergency preparedness data Resources for early warning data	• Disaster Risk Management Authority • Maritime Search and Rescue • Fire response system • Food Safety Agency • Animal Health Agency • Health Security Agency • Environmental Protection Administration • Infrastructure Administration • Energy Administration • Road & Aviation Transportation Administration

Brief comments on the tables



Menú G-DRSF-Chapter-4_... Crear Iniciar sesión

Todas las herramientas Editar Convertir Firma electrónica Buscar texto o herramientas Compartir Pregunta al Asistente de IA

Parece que este documento es largo. Ahorra tiempo leyendo un resumen. Ver resumen

140 *Table 4.1: Exposure statistics (in physical or monetary units)*

Hazard type	Exposure elements										
	Population	Assets					Flows				
		Asset i	Asset ii	Asset iii	Asset iiii	...	Flow i	Flow ii	Flow iii	Flow iiii	...
Hydrological and meteorological											
High exposure											
Medium exposure											
Low exposure											
Total											
Extraterrestrial											
High exposure											
Medium exposure											
Low exposure											
Total											
Geological											
High exposure											
Medium exposure											
Low exposure											
Total											
Environmental											
High exposure											
Medium exposure											
Low exposure											
Total											
Chemical											

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Brief comments on the tables

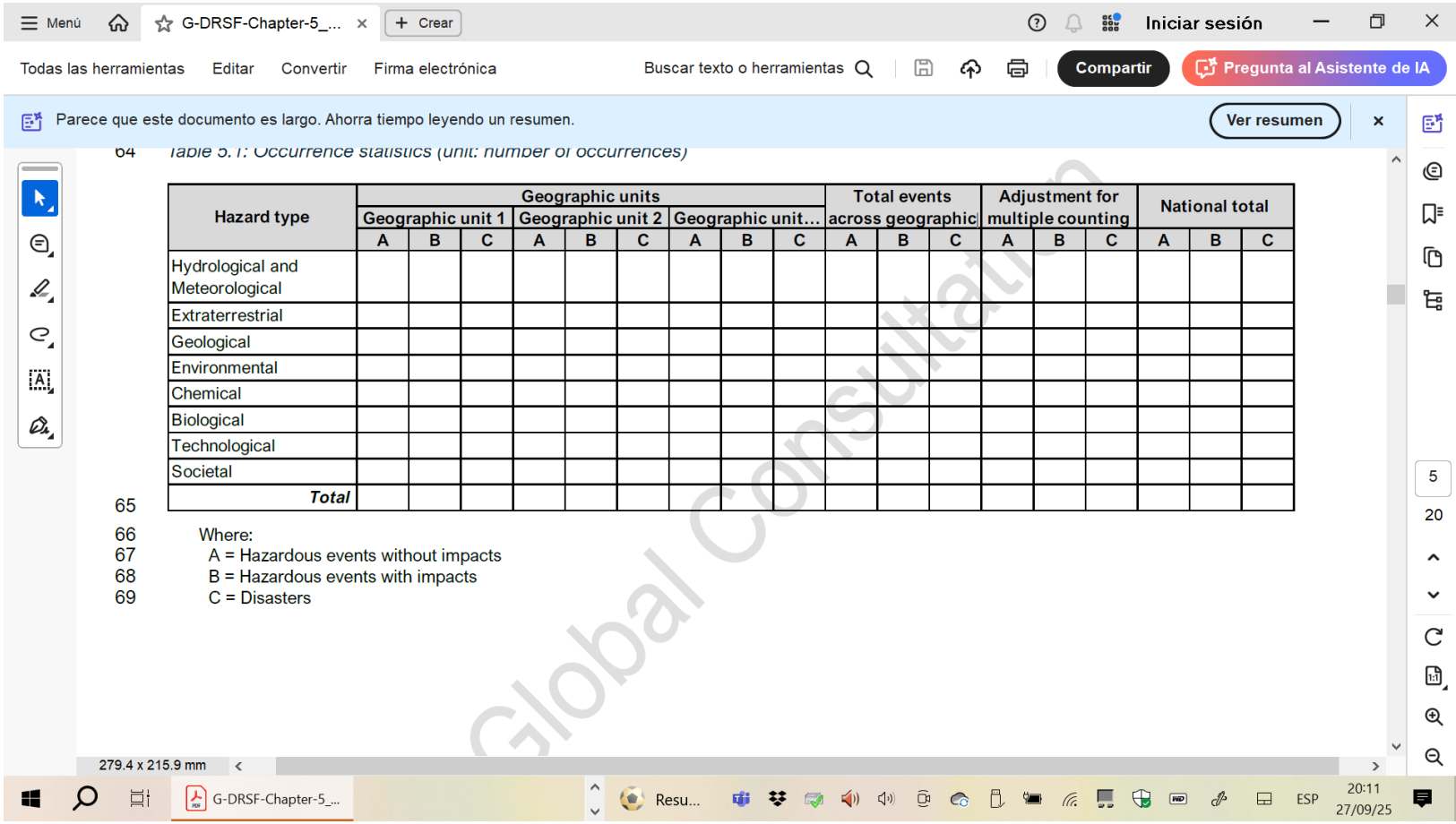


Table 5.1: Occurrence statistics (unit: number of occurrences)

Hazard type	Geographic units									Total events across geographic			Adjustment for multiple counting			National total		
	Geographic unit 1			Geographic unit 2			Geographic unit…											
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Hydrological and Meteorological																		
Extraterrestrial																		
Geological																		
Environmental																		
Chemical																		
Biological																		
Technological																		
Societal																		
Total																		

Where:
A = Hazardous events without impacts
B = Hazardous events with impacts
C = Disasters

Recent work in the LAC region

- SCA/ECLAC Working Group on the Measurement and Recording of Indicators Related to Disaster Risk Reduction (WG-DRR)
- It was created in November 2017 within the framework of the IX Meeting of the Statistical Conference of the Americas (SCA/ECLAC) to attend:
  - The commitments made with the adoption of the Sendai Framework
  - The adoption of the report and recommendations of the Open-ended Intergovernmental Expert Working Group on Indicators and Terminology Related to Disaster Risk Reduction (OIEWG).

SCA/ECLAC WG on the Measurement and Recording of Indicators Related to Disaster Risk Reduction

Some results achieved during the three work periods were:

- Identify certain limitations for indicator analysis on cross country comparison.
- Difficulties in identifying common sources.
- Lack of methodological procedures, formats, definitions, concepts, and calculation methods for indicators.
- Monetary values expressed in different units across the region.
- Data reported as absolute values instead of rates, for example.

SCA/ECLAC WG on the Measurement and Recording of Indicators Related to Disaster Risk Reduction

The WG produced a set of documents, tools and instruments for:

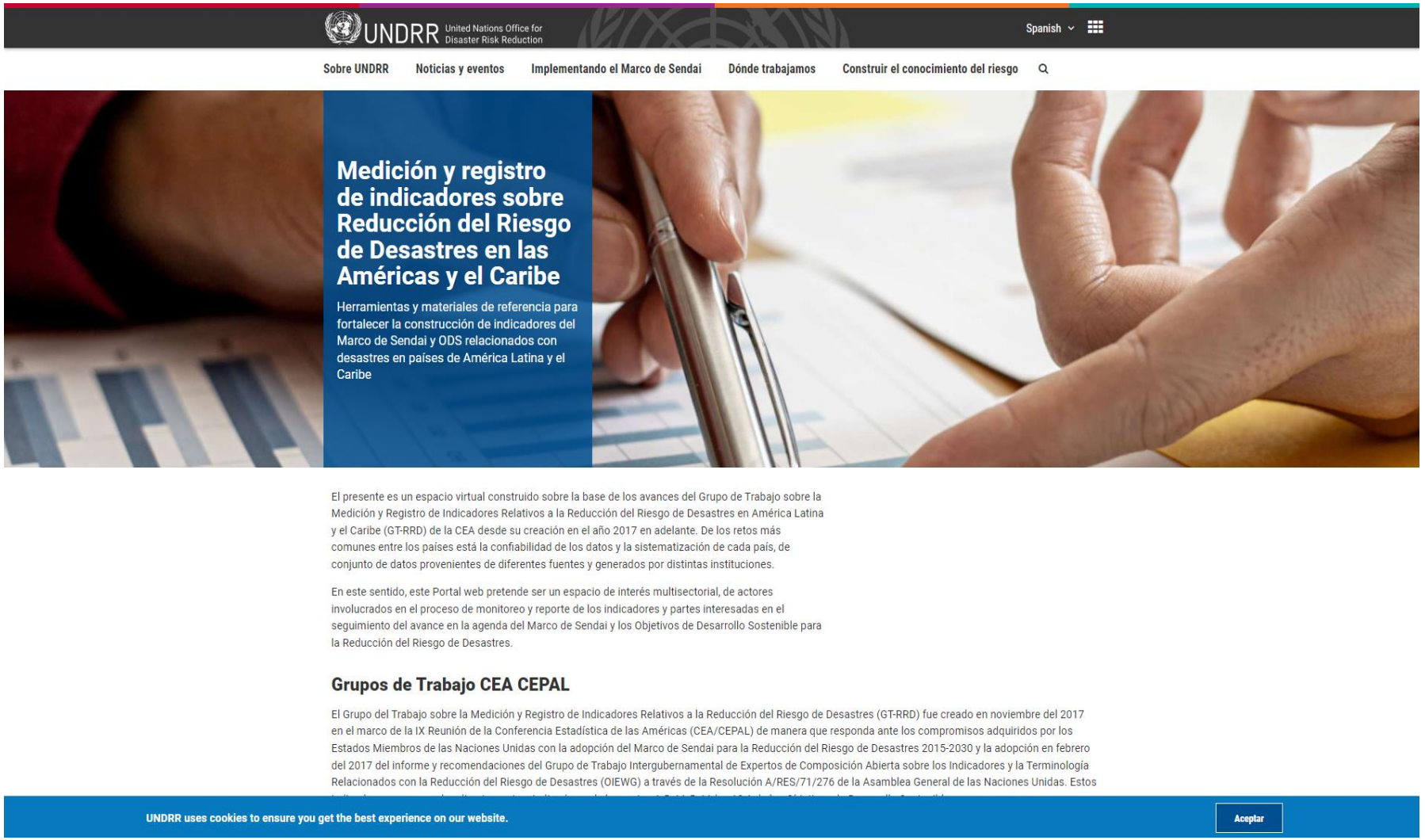
- Helping to improve validation, timeliness and quality of data.
- Highlighting the need to implement systems for documentation and systematization of information.
- Adopting statistical standards that ensure continuity, sustainability and accountability of calculation processes and reporting.
- These materials are available on the website: https://www.undrr.org/es/datos-estadisticos-marco-de-sendai
- The website seeks to be a multisector space for actors involved in monitoring and reporting disaster-related indicators.
- It helps as a didactic user-friendly online training resources, with agreed terminology and gender-sensitive language, summarizing and describing the WG's activities and products by biennium of implementation.

PRODUCTOS

Estructura de la página web

https://www.undrr.org/es/datos-estadisticos-marco-de-sendai

Constituye un espacio virtual que sintetiza los resultados y productos del GT-RRD de la CEA desde su creación a finales del año 2017, por período de implementación



Conclusions and recommendations

- NSSs coordinated by NSOs are well placed to respond to information demands.
- They have expertise in producing high-quality, comparable statistic data over long periods.
- However, they do not always clearly understand the requirements of risk-management agencies.
- They often face limitations in including new topics.
- They need to advance the adoption of new technologies and new data sources.

Conclusions and recommendations

- Disaster risk-management agencies do not always have a complete picture of the information available within the NSS.
- Nor of the methodological criteria for data production.
- Quoting data sources.
- The need of defining the answer before the question, query or data capture—together with the statistical unit, variables and the consistent unit of measure.

Conclusions and recommendations

- Strengthen coordination between disaster risk and the statistical community to implement statistical tools and methodological processes throughout the entire information cycle.
- This will underpin the inclusion of disaster risk management within countries' National Statistical Systems, with a clear mandate integrated in the statistical plans.

Thank you
Muchas gracias

Kika Klimsza