

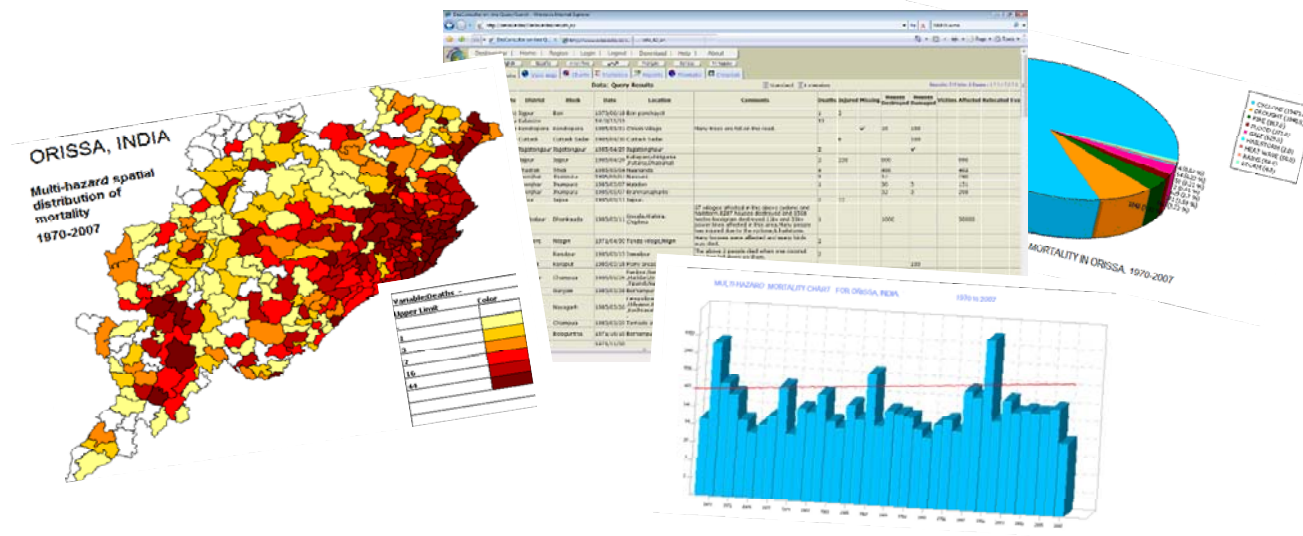


Developing Disaster Loss Databases with Desinventar Sendai

Day 2: Session 1: 14TH November 9:00 – 10:30

Disaster Loss Databases: a definition

- A set of systematically collected records about disaster occurrence, damages, losses and impacts.*



Disasters always have a **temporal** and a **spatial** footprint.
They can hit at different levels.

Types of disaster loss databases

Approach	Disaster Information	Data Analysis	Outputs
Event-based	Disaster damage & loss	Statistic analysis	Disaster pattern and trend over time
System-based	Damage & loss + Context information	Spatial, sectoral, and thematic analysis; disaster mapping	Spatial distribution of damage and loss; spatial correlation among various components of a disaster system
Process-based	Damage & loss + Context information + Process information	Dynamic risk and disaster modeling and mapping	Chain of events; Cascading effects; systemic risk

What is Desinventar?

Methodology

- Disaggregating and geo-referencing of data.
- The collection and use of data about small and medium disasters
- Standardized disaster registration template

Software-tool

- Open-source free tool
- Web-based version
- Data analysis support facilitated by the integrated DesInventar software package (analytical module DesConsultar)

It enables the inventory of high resolution level with the usage of record cards.


Desinventar.net

United Nations DesInventar

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UNISDR | DesInventar Sendai

**SENDAI FRAMEWORK**
FOR DISASTER RISK REDUCTION

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Sendai Framework | 2030 Agenda for Sustainable Development
Multi-Purpose Data, Integrated Monitoring & Reporting
Overall Structure of SFM

Country Z | Country 1 | Country 2 | Country 3 | Country N | Country M

DesInventar Sendai
Disaster Loss
Database

Sendai Framework
Monitoring System

TARGET A
TARGET B
TARGET C
TARGET D
TARGET E
TARGET F
TARGET G

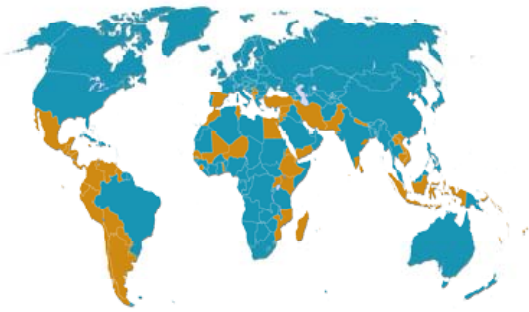
NATIONALLY
DEFINED
TARGETS

SDGs

[Explore Sendai Framework main documents](#)

Welcome to DesInventar Sendai !!!


Disaster loss data for Sustainable Development Goals and Sendai Framework Monitoring System



Available datasets worldwide

Detailed disaster loss data for more than 89

[Download DesInventar Sendai software](#)



The DesInventar Sendai server software is open-source and is free of charge for commercial and non-commercial use. It is distributed under an "Apache-2" license, which is even less restrictive than GNU and FreeBSD licenses.

Please use it well, this software has been built and is distributed this way thinking that it can help a bit making this planet a better place.

[Download DesInventar Sendai and other materials](#)

Origins of Desinventar

- *Project DesInventar, “Inventory of Disasters in Latin America” started in late 1993*
- ***Desinventar** was set up in 1994 by the Network of Social Studies in the Prevention of Disasters in Latin America (LA RED) and maintained and updated by Corporation Observatorio Sismologico del Sur Occidente (OSSO)*
- ***Started as project, researchers wanted to better understand:***
 - Disaster- Development Nexus*
 - Impact of small and mid-scale disasters and how they reveal vulnerabilities*
 - Trends and patterns*



Desinventar Methodology

- *Standardized data collection and registration*
- *Data fields recorded cover human loss, physical damage and economic loss.*
- **No thresholds** for disaster registration: *allow for inclusion of all events that may have had any effect on life, properties or infrastructure, with no limit in size.*
- *The system can accommodate **additional** categories of hazards, data fields of impact indicators, and causes according to local conditions and needs (**extensions**)*

DesInventar Sendai: new software version

- *A historical disaster loss database.*
- *A tool for collecting disaster loss data.*
- *A tool for Reporting on Sendai Framework and the SDG's*
- *Contains a set of tools for analysing the data, such as:*
 - *Impacts by hazard*
 - *Temporal analysis*
 - *Spatial analysis*
 - *Cause-effect analysis*
 - *Statistical analysis (mean, standard deviation, etc.)*
- *But more importantly, DesInventar proposes **a methodology** that allows to develop analysis in a comparative way between the countries that have joined the initiative.*



IRDR Hazard classification

The **Disaster Loss Data (DATA)** project, under the umbrella of the Integrated Research on Disaster Risk (IRDR)



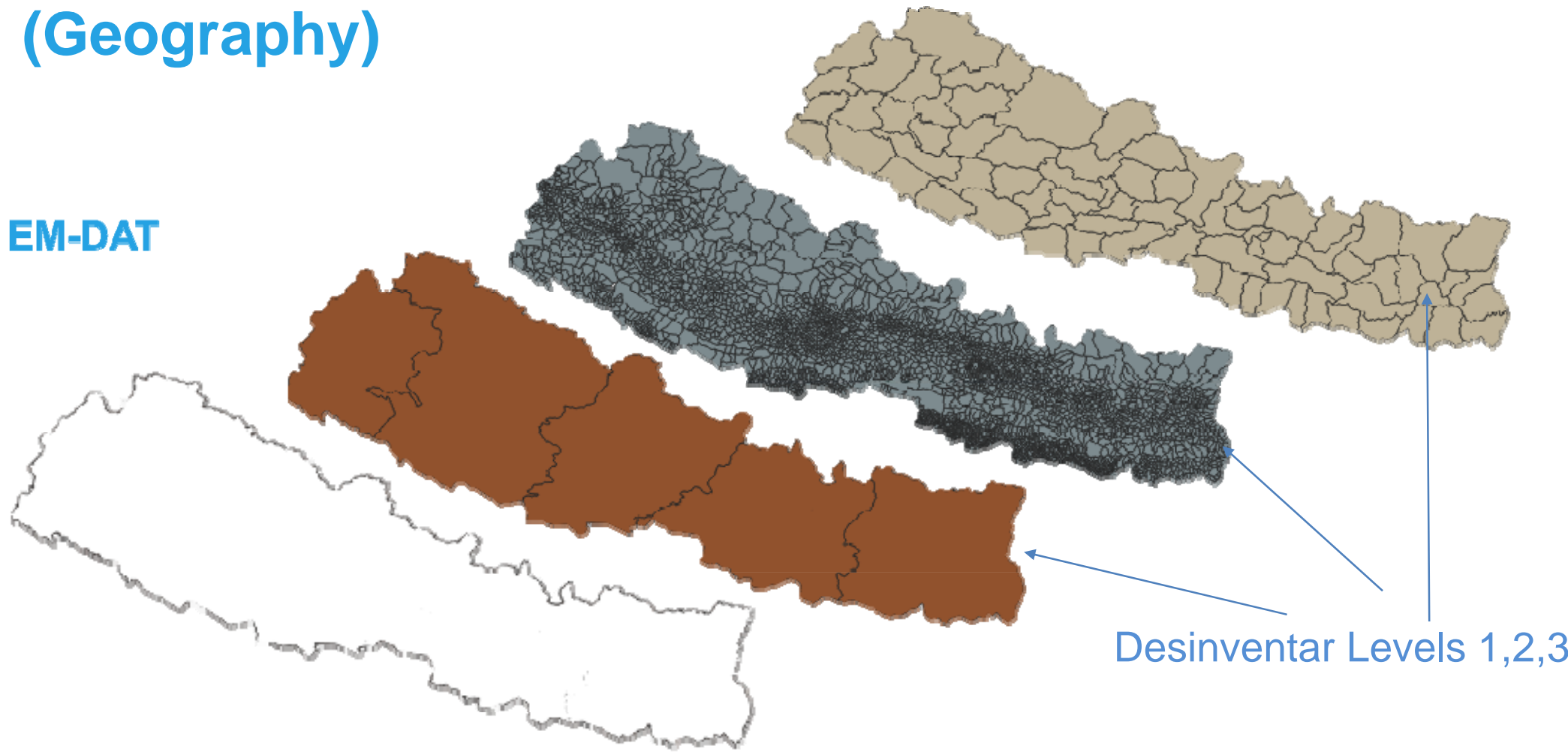
Family	Main Event	Peril
Geophysical	Earthquake	Ash Fall
Hydrological	Mass Movement	Fire following EQ
Meteorological	Volcanic Activity	Ground Movement
Climatological	Flood	Landslide following EQ
Biological	Landslide	Lahar
Extraterrestrial	Wave Action	Lava Flow
	Convective Storm	Liquefaction
	Extratropical Storm	Pyroclastic Flow
	Extreme Temperature	Tsunami
	Fog	Avalanche: Snow, Debris
	Tropical Cyclone	Coastal Flood
	Drought	Coastal Erosion
	Glacial Lake Outburst	Debris/Mud Flow/Rockfall
	Wildfire	Expansive Soil
	Animal Incident	Flash Flood
	Disease	Ice Jam Flood
	Insect Infestation	Riverine Flood
	Impact	Rogue Wave
	Space Weather	Seiche
		Sinkhole
		Cold Wave
		Derecho
		Frost/Freeze
		Hail
		Heat Wave
		Lightning
		Rain
		Sandstorm/Dust storm
		Snow/Ice
		Storm Surge
		Tornado
		Wind
		Winter Storm/Blizzard
		Forest Fire
		Land fire: Brush, Bush, Pasture
		Subsidence
		Bacterial Disease
		Fungal Disease
		Parasitic Disease
		Prion Disease
		Viral Disease
		Airburst
		Collision
		Energetic Particles
		Geomagnetic Storm
		Radio Disturbance
		Shockwave

Exercise: compare definitions and classifications

- *For SAARC countries' representatives:*
 - Which hazard classification do you follow?
 - How close it is your classification to the one standard to Desinventar (IRDR)?
 - Which are the differences? Why do you think customization was required?
- *For INDIA states and India central government representatives?*
 - How are the classifications adopted by MHA and IRDR one different?
 - Which type of additional hazards and perils will the States needs to introduce?

Relevance of Disaggregation (Geography)

EM-DAT

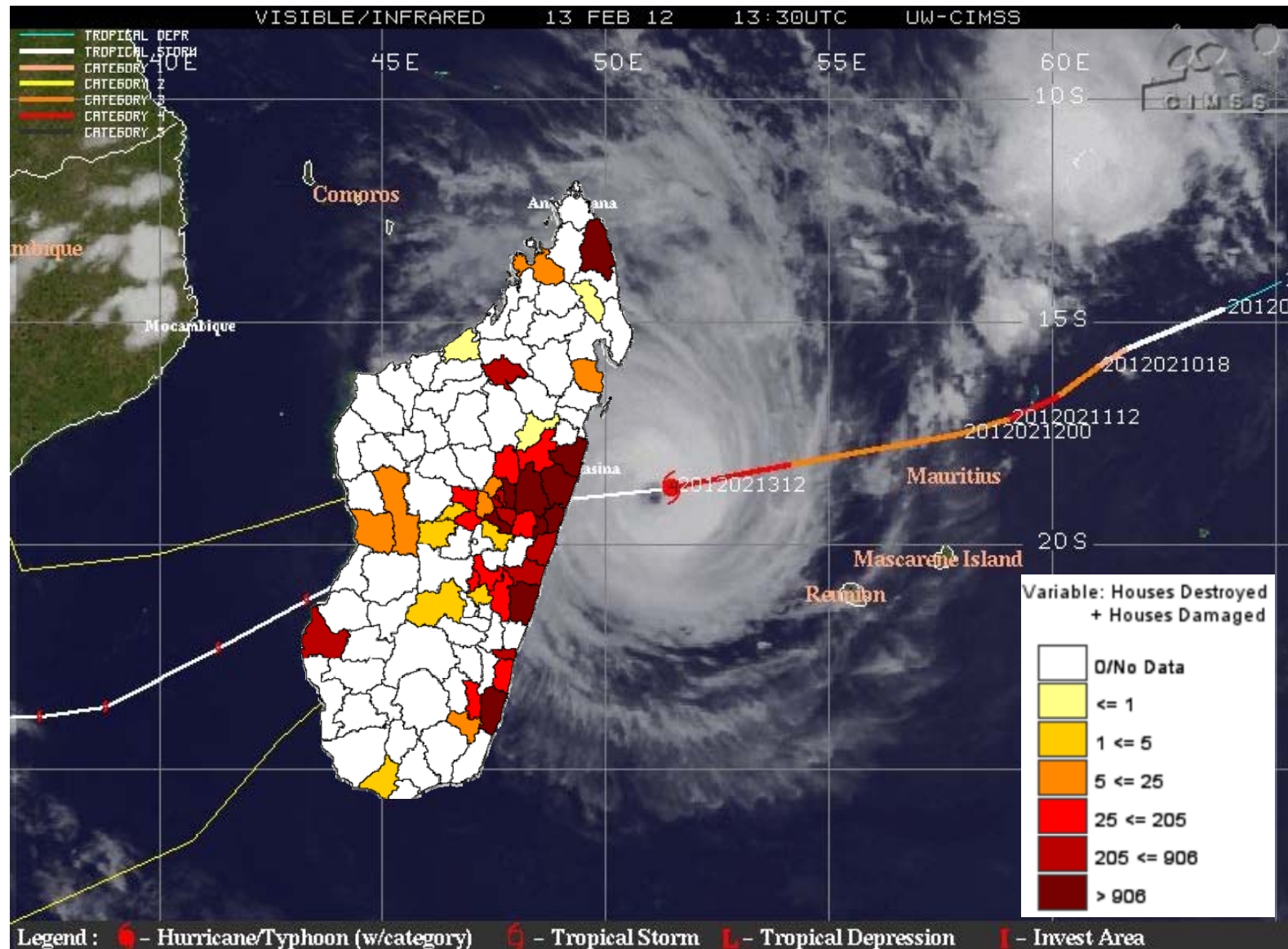


Desinventar Levels 1,2,3

*The **geographical disaggregation** of disaster data will allow to visualize the impact of hazards at local level. This will enable to take action in critical spots and to prioritize activities based on the financial and human resources available.*

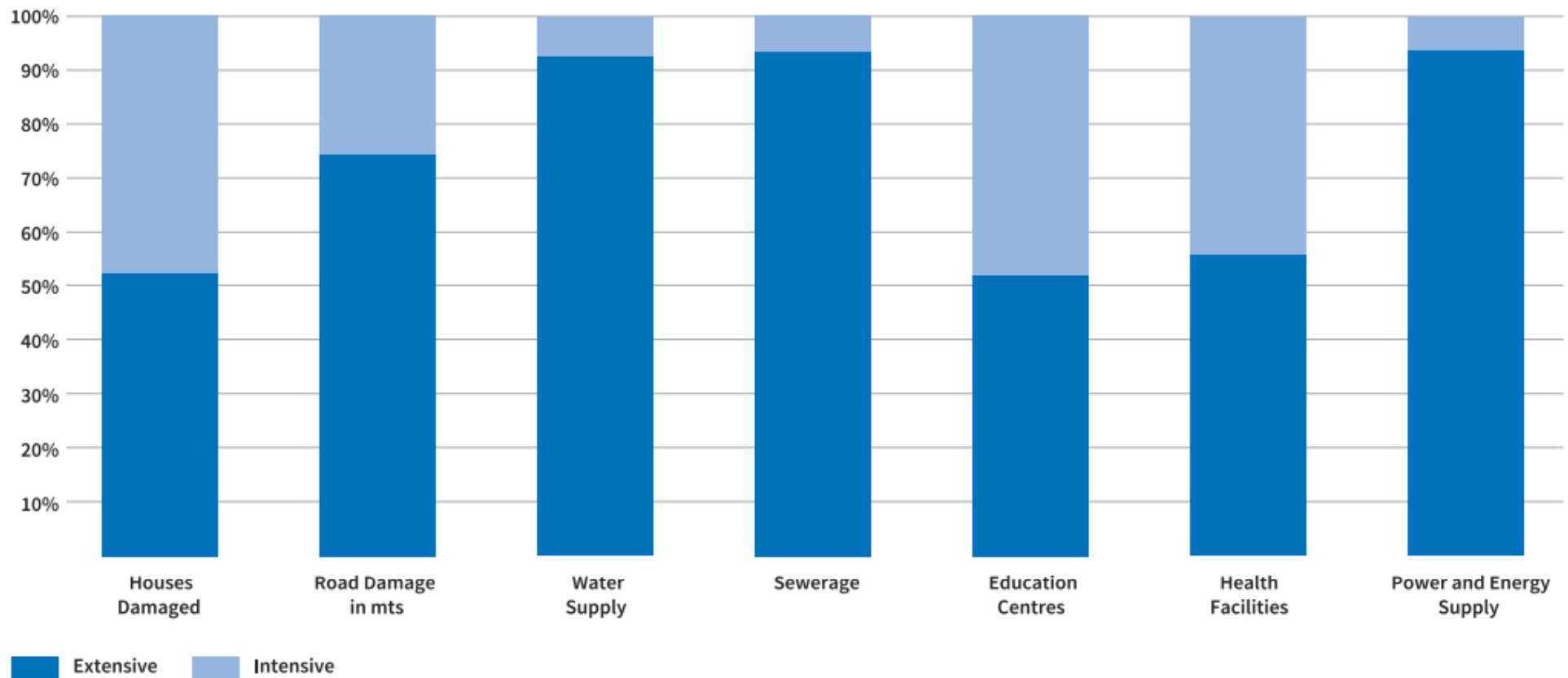
Disaggregation (geography)

- *Impact in houses of cyclone Giovanna in Madagascar (2012)*



Extensive and Intensive disasters

➤ The impact of extensive disasters



Criteria for loss accounting

Recommendations

- *Disaggregate to an optimal scale and the administrative boundaries*
- *Select specific names and codes for each administrative level*
- *Search for data for the longest possible period of time (30 years?)*
- *Select, rate and prioritize data sources*

What to do if...

- *Disaggregated data is not available?*
- *There are differences between the sources regarding the same event?*
- *If an event is followed by another event?*
- *If an event hits different geographical units?*
- *Slow-onset events?*

Approaches to work with Desinventar

Work online

Desinventar.net (regions to be created by UNISDR and access granted to administrator in the country)

Training.desinventar.org for practicing purposes

Install the software

Download from website and install (available on pen drive for this training)

Install in your local server and publish online

Work on your laptop:
Local host

Classic version

Migration path

Sendai version

Non migrated databases on production or training server

Classic view

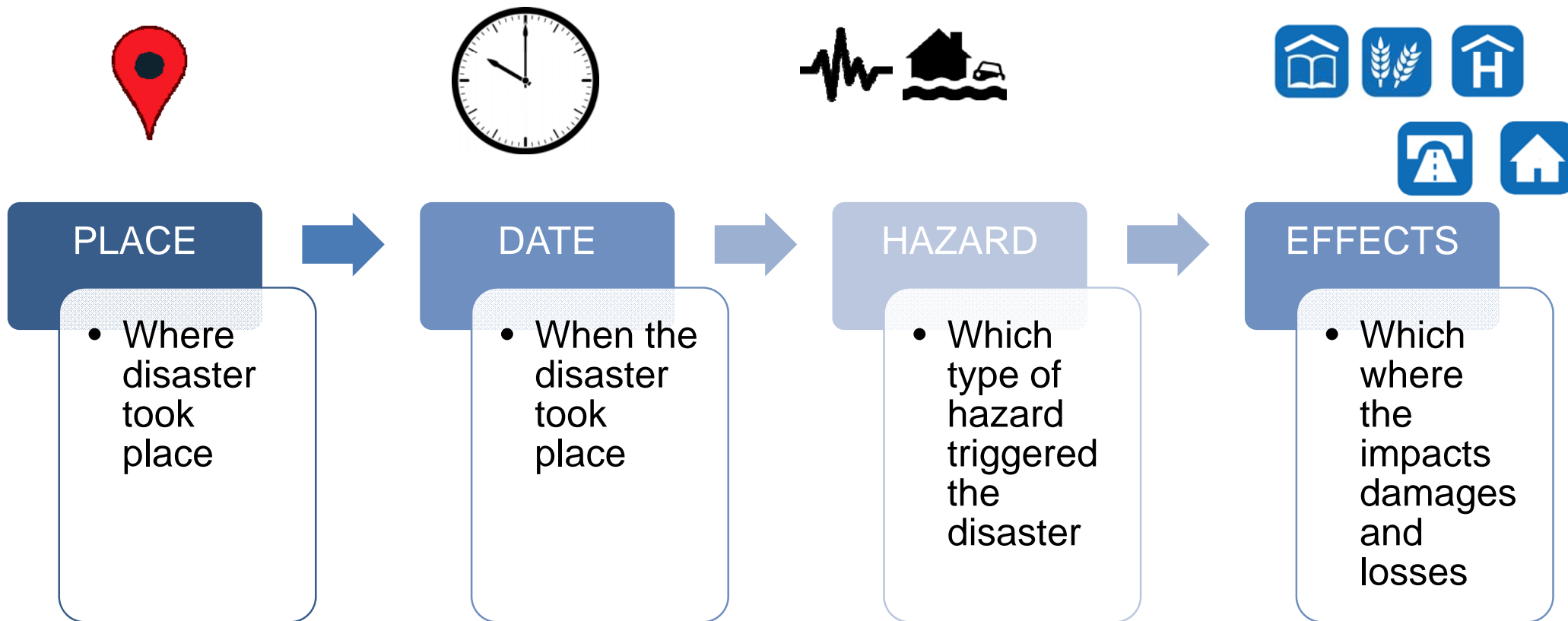
Variables grouped per Sendai Targets indicators

Disaggregation levels

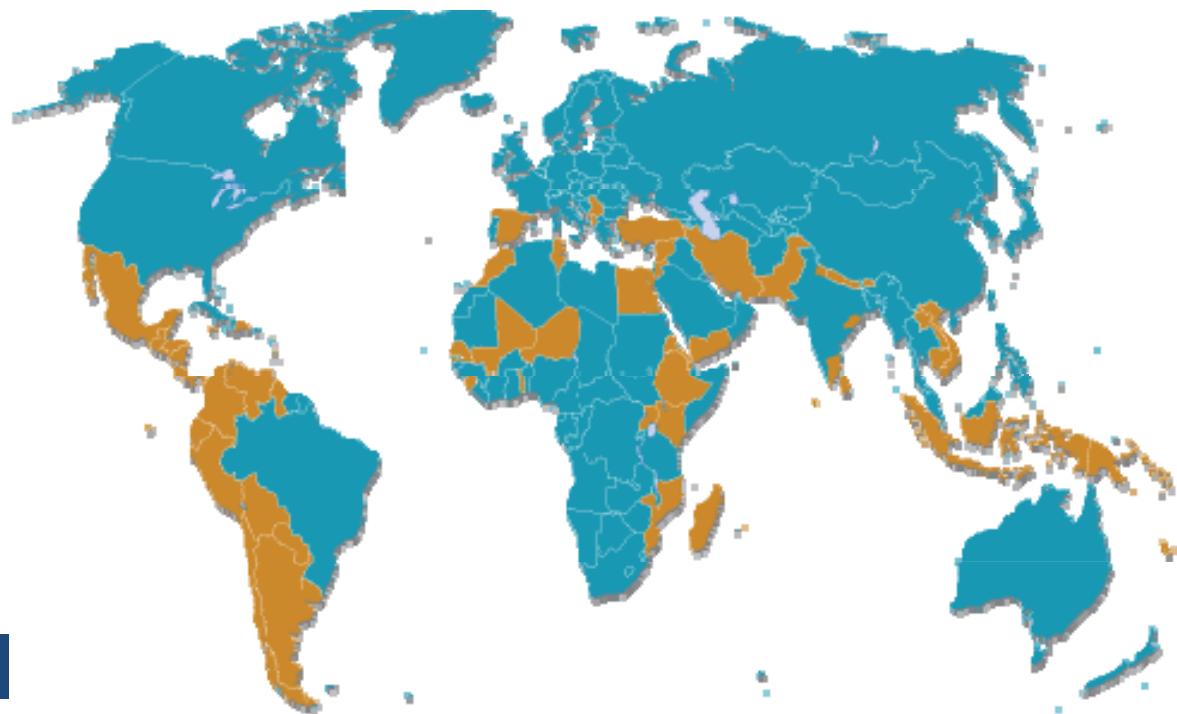
What is needed to record disaster losses?

4 things need to be taken into account when recording disaster losses:

Disasters have to be treated as events



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Login:

GETI

Password:

Sendai2015

Administrator Module

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Multi-Purpose Data, Integrated Monitoring & Reporting
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Country 2 Country 1
Country 3
Country N Country M

DesInventar Sendai Disaster Loss Database
NATIONALLY DEFINED TARGETS

SDGs

Sendai Framework Monitoring System
2015-2030

TARGET A
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Administrator access is password protected.

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Login to DesInventar on-line

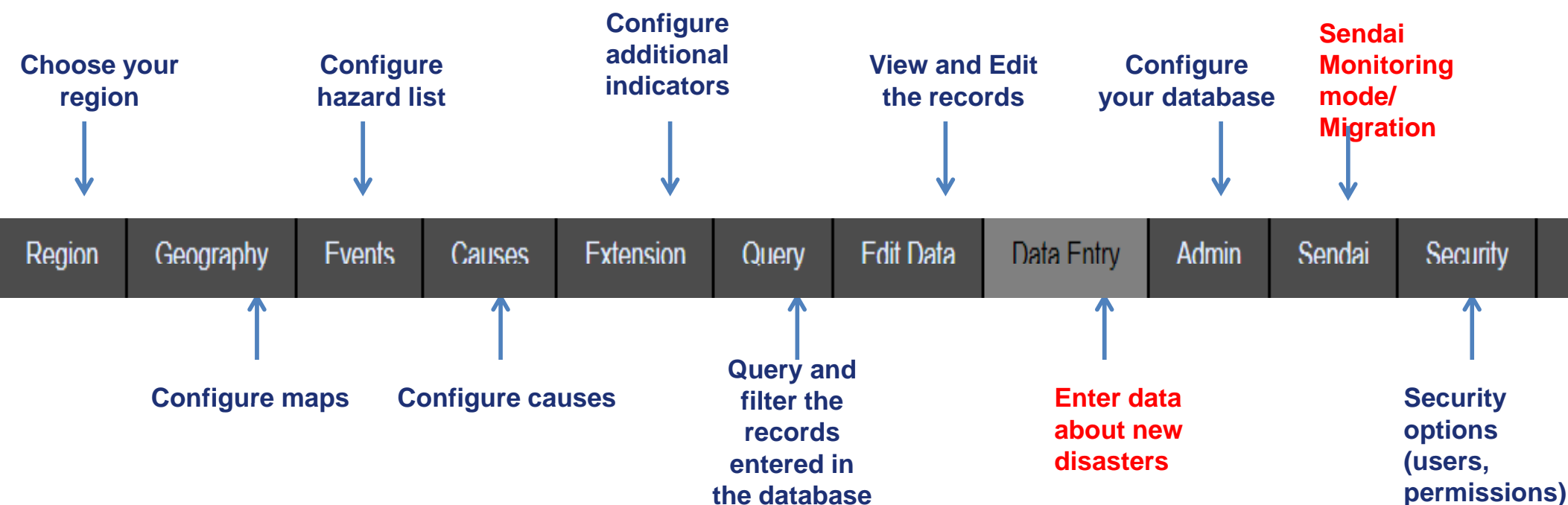
DesInventar User Identification

Username :

Password:



The Administration Module



The **Administration and Data Entry module** is the interface through which the relational database is fed. Filling the database is done through data registration in predefined fields (space and temporal data, types of events and causes, sources) and by both direct and indirect effects (deaths, houses, infrastructure, economic sectors).

Configurations

Hazard list (under Event tab)

The image displays two screenshots of the SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION web application. The top navigation bar includes tabs for Region, Geography, Events, Causes, Extension, Query, Edit Data, Data Entry, Admin, Sendai, and Security. The 'Events' tab is highlighted with a red circle and an arrow pointing to it from the text 'Hazard list (under Event tab)'. Below the navigation bar, the 'Event Manager' screen shows a list of event types: FIRE, FOREST FIRE, CONFLICT, FLOOD, FLASH FLOOD, INTOXICATION, LIQUEFACTION, ACCIDENT, SNOWSTORM, and ACCIDENT. The 'Add Event' button is circled in red. A red dashed arrow points from the 'Add Event' button to the 'Definition of Event' form on the right. The 'Definition of Event' form includes fields for Name, Name(English), and Description, along with 'Save Event' and 'Cancel' buttons. The bottom navigation bar includes buttons for Add Event, Edit Event, Delete Event, and Merge With Other Event.

Geography management

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SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION

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Region Geography Events Causes Extension Query Edit Data Data Entry Admin Sendai Security

Region *Djibouti* - [dji]

Geographic Level Definition

Level 0.	Name: <input type="text" value="Region"/>	English: <input type="text" value="Region"/>	Code length: <input type="text" value="3"/>
Level 1.	Name: <input type="text" value="Village/Commune"/>	English: <input type="text" value="Village/Commune"/>	Code length: <input type="text" value="6"/>
Level 2.	Name: <input type="text" value="Block"/>	English: <input type="text" value="Block"/>	Code length: <input type="text" value="9"/>

001 - ALI SABIEH
002 - ARTA
003 - DIKHIL
004 - DJIBOUTI
005 - OBOCK
006 - TADJOURAH

Data Entry: new Data Card

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FOR DISASTER RISK REDUCTION

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Region Geography Events Causes Extension Query Edit Data **Data Entry** Admin Sendai Security

Region **Maldives** - [mal]

New DataCard

Serial:	<input type="text" value="2074"/>	Date (YMD):	<input type="text" value="2018"/>	<input type="text" value="11"/>	<input type="text" value="13"/>	Duration (d):	<input type="text"/>	Source:	<input type="text"/>	Status:	<input type="text" value="Draft"/>
Atoll:	<input type="text"/>	Island:	<input type="text"/>					- :	<input type="text"/>		
Event:	<input type="text" value="FLOOD"/>	Location:	<input type="text"/>				GLIDENumber:	<input type="text"/>			
Cause:	<input type="text"/>	Description of Cause:	<input type="text"/>								

Please click on Save to proceed to enter data about this disaster

ALL OTHER FIELDS WILL BE SHOWN AFTER SAVING THIS SCREEN

NOTE: DON'T use your browser's Back button to modify the datacard once saved: IT WILL CREATE ANOTHER CARD INSTEAD!!!!...

The Datacard – Entering an event ‘Classic Mode’

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FOR DISASTER RISK REDUCTION

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Region Geography Events Causes Extension Query Edit Data Data Entry Admin Sendai Security

Region **Tamil Nadu (India) - [033]**

<< < > >> Find serial: Upload media Done [AUTO-SAVE mode]

Serial: 44799 Date (YMD): 2018 11 11 Duration (d): Source: Status: Draft ▼

State: ▼ District: ▼ Block: ▼

Event: FLOOD ▼ Location: GLIDENumber:

Cause: ▼ Description of Cause:

EFFECTS

Deaths: ☐ Missing: ☐ Injured: ☐ Magnitude:

Indirectly Affected: ☐ Relocated: ☐ Houses Damaged: ☐ Losses \$Local:

Evacuated: ☐ Directly affected: ☐ Houses Destroyed: ☐ Losses USD:

Affected Sectors

☐ Transportation ☐ Communications ☐ Relief

☐ Agriculture ☐ Water supply ☐ Sewerage

☐ Power and Energy ☐ Industries ☐ Education

☐ Other sectors ☐ Health sector

Damages in roads Mts:

Damages in crops Ha:

Lost Cattle:

Education centers:

Hospitals:

OTHER LOSSES:

Comments:

By: Date:

Extension

Risk Type: Non-GAR ▼

Economic loss (infrastructure):

Event type: Non-GAR ▼

Sum of all extension fields:

Economic loss (w/Agriculture):

Please locate approximately the centroid of the disaster
Right-click to position disaster. Double-click to zoom in, and drag to pan. Use controls to zoom in/out.

Map Satellite

Latitude: 11.1271225 Longitude: 78.656894200000

Google Map data ©2018 Google 100 km Terms of Use


DR
Risk Reduction

The Datacard – Entering an event

‘Desinventar Sendai - SDG Mode’

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Admin

Sendai

Security

Region *Sri Lanka* - [lka]

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Find serial:

Upload media

Done

AUTO-SAVE mode

Serial: 914104

Date (YMD): 2018 11 11

Duration (d):

Source:

Status: Draft

Province:

District:

Division:

Event: FLOOD

Location:

GLIDENumber:

Cause:

Description of Cause:

EFFECTS

Sendai Framework Target A

Please record in this section human losses (in number of people) needed for Target A, Number of deaths and missing persons attributed to disaster. These fields will be used to compute Indicators A2, A3, B2, B5 and others. If possible, enter disaggregated figures and use the Σ button to calculate the sum of each subgroup

Number of deaths (A-2)

Total of Deaths (Sub-indicator A-2a):
Number Σ

By sex:

Female:
Male:

By Age:

Children (0-14):
Number
Adult (15-64):
Number
Elder (>65+):
Number

Other disaggregation:

With disabilities:
Number
Below Poverty Line:
Number

Number of missing (A-3)

Total missing (Sub-indicator A-3a):
Number Σ

By sex:

Female:
Male:

By Age:

Children (0-14):
Number
Adult (15-64):
Number
Elder (>65+):
Number

Other disaggregation:

With disabilities:
Number
Below Poverty Line:
Number

Please locate approximately the centroid of the disaster
Right-click to position disaster. Double-click to zoom in, and drag to pan. Use controls to zoom in/out.

Map

Satellite

Map data ©2018 Google 100 km

Latitude: 7.873053999999 Longitude: 80.771796999999

NISDR

The United Nations Office for Disaster Risk Reduction

Exercise 1

- *Entering a disaster event on the datacard*

Disasters have a **temporal** and a **spatial** footprint

When did the disaster happen?
YYYY-MM-DD *Start date*

Who provided
the information?

The image shows a screenshot of a disaster datacard form. The form is divided into several sections. The top section contains fields for 'Serial' (24), 'Date (YMD)' (2016, 4, 21), 'Duration (d)' (empty), 'Source' (empty), and 'Status' (Approved). Below this is a section for 'Province' (dropdown), 'Municipality' (dropdown), and 'Township' (dropdown). The next section contains 'Event' (EARTHQUAKE), 'Location' (empty), and 'GLIDEnumber' (empty). The bottom section contains 'Cause' (dropdown) and 'Description of Cause' (empty). Annotations include: a red oval around the date fields with an arrow pointing to the text 'When did the disaster happen? YYYY-MM-DD Start date'; a purple arrow pointing to the 'Source' field with the text 'Who provided the information?'; a yellow arrow pointing to the 'Event' dropdown with the text 'Dropdown menu: Which type of hazard event?'; and two green arrows pointing to the 'Municipality' and 'Township' dropdowns with the text 'Dropdown menus: Where did the event took place?'.

Dropdown menu:
Which type of
hazard event?

Dropdown menus: Where
did the event took place?

Exercise 1

➤ *Entering a disaster event on the datacard*

Disasters have different **human and physical impacts** that are measured through **damage and loss indicators**

EFFECTS		<input checked="" type="checkbox"/> Standard						
Deaths:	<input type="text"/>	<input type="checkbox"/> Missing:	<input type="text"/>	<input type="checkbox"/> Injured:	<input type="text"/>	<input type="checkbox"/> Magnitude:	<input type="text"/>	
Affected:	<input type="text"/>	<input type="checkbox"/> Relocated:	<input type="text"/>	<input type="checkbox"/> Houses Damaged.:	<input type="text"/>	<input type="checkbox"/> Losses \$Local:	<input type="text"/>	
Evacuated:	<input type="text"/>	<input type="checkbox"/> Victims:	<input type="text"/>	<input type="checkbox"/> Houses Destroyed:	<input type="text"/>	<input type="checkbox"/> Losses \$USD:	<input type="text"/>	
Affected Sectors				Damages in roads Mts:				<input type="text"/>
<input type="checkbox"/> T				Damages in crops Ha.:				<input type="text"/>
<input type="checkbox"/> A				Lost Cattle:				<input type="text"/>
<input type="checkbox"/> F				Education centers:				<input type="text"/>
<input type="checkbox"/> C				Hospitals:				<input type="text"/>
OTHER LOSSES:				Latitude:				<input type="text"/>
Comments:								
Additional information about the disaster event (comments)								

**Human,
physical and
economic
impacts
(quantitative
indicators)**

Exercise 1: Entering a disaster on the datacard (classic Mode)

The Orisa State Disaster Management Agency reported that the 14 July 2018 a flood hit the Sambalpur district and 2 (Jojomura and Bamra) out of the 9 blocks were affected

After two days of intense raining, official numbers about the impacts were published:

- 3 people were reported killed and 2 are missing,
- 24 people were injured and 900 were evacuated. 325 children were hosted in shelters.
- Some 45 houses were completely washed away and 69 were damaged, affecting 405 people.
- As part of the disaster relief operations, special efforts have been put in place for repairing the sewerage system that also suffered important damages.
- The State is requesting resources for food, given that more than 9,500 hectares of crops (mainly rice) have been destroyed.

Reflections from the exercise

- *Geographic disaggregation*
- *Missing information*
- *Impact information disaggregation*
- *Definitions (directly affected)*

Exercise 2: Entering a disaster on the datacard (Sendai Mode)

The Laos Disaster Management Agency reported that the 14 July 2018 a flood hit the province of Vientiane specifically the Kasi district

After two days of intensive flooding, official numbers about the impacts were published:

- 3 people were reported killed and 2 are missing,*
- 24 people were injured and 900 were evacuated. 325 children were hosted in shelters.*
- Some 45 houses were completely washed away and 69 were damaged, affecting 405 people.*
- As part of the disaster relief operations, special efforts have been put in place for repairing the sewerage system that also suffered important damages.*
- The province government is requesting resources for food, given that more than 9,500 hectares of crops (mainly rice) have been destroyed.*

Key difference of working on Desinventar Sendai

- *Please share how your experience in data recording has been different.*
- *What are the challenges of disaggregation?*

Exercise 4

➤ Managing Sendai Disaggregation

Disaggregations are **additional damage and loss indicators** that can be automatically added to the record:

Damages and losses in Agriculture (C-2)

Agricultural Crop Loss (C-2C)

Economic Loss and Physical Damage to Crops (C-2Ca):				
Economic loss from crops affected:	Total Hectares of crops affected:	Hectares damaged:	Hectares destroyed:	
<input type="text" value="Number"/>	<input type="text" value="Number"/> Σ	<input type="text" value="Number"/>	<input type="text" value="Number"/>	

Disaggregation:				
Wheat	Economic loss:	Total Affected (Area) [Ha]:	Damaged (Area) [Ha]:	Destroyed (Area) [Ha]:
	<input type="text" value="Number"/>	<input type="text" value="Number"/> Σ	<input type="text" value="Number"/>	<input type="text" value="Number"/>
Barley	Economic loss:	Total Affected (Area) [Ha]:	Damaged (Area) [Ha]:	Destroyed (Area) [Ha]:
	<input type="text" value="Number"/>	<input type="text" value="Number"/> Σ	<input type="text" value="Number"/>	<input type="text" value="Number"/>
Vegetables, leguminous nes	Economic loss:	Total Affected (Area) [Ha]:	Damaged (Area) [Ha]:	Destroyed (Area) [Ha]:
	<input type="text" value="Number"/>	<input type="text" value="Number"/> Σ	<input type="text" value="Number"/>	<input type="text" value="Number"/>

Exercise 3

➤ ***Dealing with conflicts in the sources***

A strong hailstorm hit Laos the 24th November 2015. The district of Vapi on Saravane province was the most affected, data from the Red Cross suggests: 6 people were killed and 450 were affected; power supply was damaged, and some 12 houses were destroyed, obliging the relocation of 47 people.

The figures reported by the Red Cross about the casualties in Vapi differ from the official numbers released by the National Disaster Management Agency in its latest report, where 3 people were reported killed and 2 are missing, while the disaster relief operations resume.

Decisions, implication and documentation

- *Sources, verification, credibility and approach when conflicting information exists (What is the authoritative information?)*
- *Time for registering data*

Editing an existing datacard

- Edit Datacard*

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Region Geography Events Causes Extension Query **Edit Data** Data Entry Admin Sendai Security

Region *Djibouti* - [dji]

Two approaches

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Region Geography Events Causes Extension Query **Edit Data** Data Entry Admin Sendai Security

Region *Djibouti* - [dji] ☒ Standard ☒ Extension Results: 1312

Serial	Event	Region	Village/Commune	Block	Date	GLID	Number	Location	Deaths	Injured
1312	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/04/-			HAYABLEY		
1311	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/11/-			HAYABLEY		
1310	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/11/-			HAYABLEY		
1309	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/10/-			HAYABLEY		
1308	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/09/-			HAYABLEY		
1307	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/09/-			HAYABLEY		
1306	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/09/-			HAYABLEY		
1305	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/07/-			HAYABLEY		
1304	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/07/-			HAYABLEY		
1303	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/05/-			HAYABLEY		
1302	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/04/-			HAYABLEY		
1301	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/04/-			HAYABLEY		
1300	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/03/-			HAYABLEY		
1299	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/03/-			HAYABLEY		
1298	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/02/-			HAYABLEY		
1297	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/02/-			HAYABLEY		
1296	EPIDEMIC	DJIBOUTI	DJIBOUTI		2009/02/-			HAYABLEY		

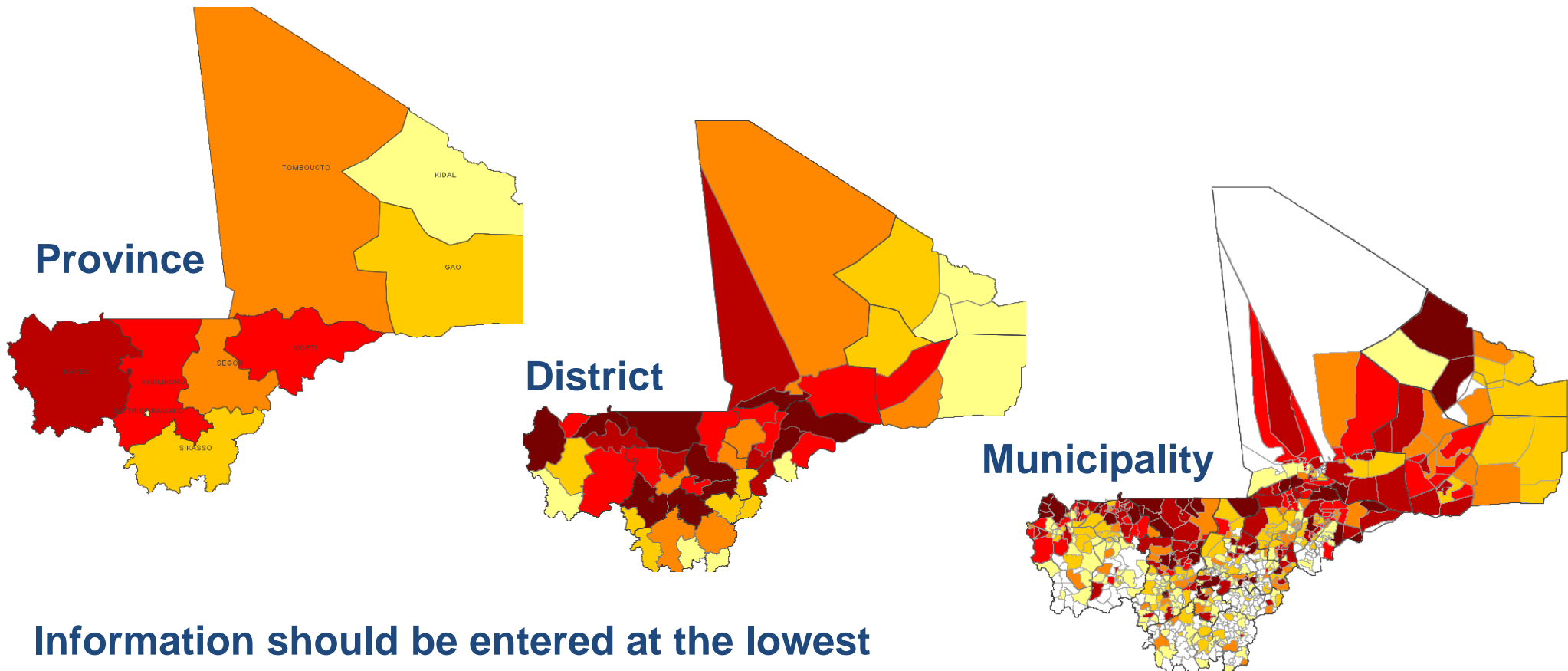
DesInventar Data Entry Functions

New DataCard **Edit DataCards** Delete DataCards

Exercise 4

➤ *Geographic disaggregation of the data*

Disasters have a **temporal** and a **spatial** footprint



Information should be entered at the lowest geographical level possible

Exercise 4

➤ *Geographic disaggregation of the data*

Intense floods affected the province of Bokeo (Laos) between January 8 and 11 2016. The Laos National Disaster Management Agency released official numbers about the impacts. Paktha, the most affected district of the province, accounted for 23 people killed, 54 houses destroyed, 28 houses damaged and 300 m. of roads destroyed. Followed by Meung, where 9 people lost their lives, and 26 houses were destroyed. While no people was killed in the municipality of Pha-Oudom, important damages to housing and local infrastructure were registered: 12 houses destroyed and 34 damaged; water supply was interrupted, affecting some 50 households.

Exercise 5

➤ Managing the extensions (Classic mode)

Extensions are **additional damage and loss indicators** that can be **customized** and **organized in tabs**.

EDUCATION	HEALTH	POWER AND ENERGY	WATER AND SANITATION	AGRICULTURE	TRANSPORTATION	CULTURAL ASSETS	GENDER AND AGE
Primary schools damaged (#):	<input type="text"/>						
Primary schools destroyed (#):	<input type="text"/>						
Secondary schools damaged (#):	<input type="text"/>						
Secondary schools destroyed (#):	<input type="text"/>						
Tertiary schools damaged (#):	<input type="text"/>						
Tertiary schools destroyed (#):	<input type="text"/>						
Other education centres damaged (#):	<input type="text"/>						
Other education centres destroyed (#):	<input type="text"/>						

Exercise 5

➤ Managing the extensions

Nepal, Central Region, April 22, 2016. A 6.8 magnitude earthquake hit the district of Dolakha, destroying 9 houses and damaging more than 70, reports from the NDMA reported. 15 people lost their lives and 7 are reported missing. Sector damage and loss assessments were made:

- 2 clinics were destroyed and 1 hospital damaged.
- One primary school was damaged
- 4 pipelines have been destroyed

Exercise 6

➤ Managing the extensions

A landslide hit the capital Katmandu (central region) last 26th April 2016, destroying a total of 17 buildings and damaging other 25. Two primary schools were damaged, injuring four children and killing 1, due to the collapse of a column. So far, it is the only casualty that has been confirmed.

The local clinic was also destroyed. Water supply to the population is restricted. Some 120 people were evacuated. The local temple was closed for security, as the structure also suffered damage and could collapse.

Exercise 7

➤ Query: filtering the information for data revision/validation

Region	Geography	Events	Causes	Extension	Query	Edit Data	Data Entry	Admin	Security	<input checked="" type="checkbox"/> English Data
Region Ethiopia - [eth]										
Query Definition										
Select events and geographic units, and set the options that specify the disasters you want to query:										
Disaster type EPIDEMIC DROUGHT BIOLOGICAL PLAGUE FLOOD FIRE HAILSTORM CONFLICT LANDSLIDE FOREST FIRE	Region Addis Ababa Afar Amhara Benishangul Gumz Dire Dawa Gambella Harar Harari Oromiya SNNPR	Zone Tongo SW Metekel Asosa Kamashi TONGO S	Wereda Yaso Sirbaabay Kamas Agalometi Bellew Oda Godere	Cause Cond.Atmosph. Contamination Deforestation Design Deterioration Drought Earthquake El Niño Erosion Error						
Use Ctrl-Click and/or Shift-Click to deselect or for multiple selections. If no selections are made, all items will be selected.										
NOTE: Selections of Zone have precedence over selections of Region										
Select only events with:										
<input type="checkbox"/> Deaths	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Injured	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Houses Damaged	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Affected	<input type="text"/>
<input type="checkbox"/> Houses Destroyed	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Houses Damaged	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Affected	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Relocated	<input type="text"/>
<input type="checkbox"/> Victims	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Affected	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Relocated	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Relocated	<input type="text"/>
<input type="checkbox"/> Evacuated	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Relocated	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Relocated	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Relocated	<input type="text"/>
<input type="checkbox"/> Hospitals	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Relocated	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Relocated	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Relocated	<input type="text"/>
<input type="checkbox"/> Damages in roads Mts	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Relocated	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Relocated	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Relocated	<input type="text"/>
<input type="checkbox"/> Lost Cattle	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Relocated	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Relocated	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Relocated	<input type="text"/>
Select events that affected:										
<input type="checkbox"/> Water supply	<input type="checkbox"/> Sewerage	<input type="checkbox"/> Education	<input type="checkbox"/> Transportation	<input type="checkbox"/> Power and Energy	<input type="checkbox"/> Agriculture					
<input type="checkbox"/> Health sector	<input type="checkbox"/> Sewerage	<input type="checkbox"/> Education	<input type="checkbox"/> Transportation	<input type="checkbox"/> Power and Energy	<input type="checkbox"/> Agriculture					
<input type="checkbox"/> Industries	<input type="checkbox"/> Sewerage	<input type="checkbox"/> Education	<input type="checkbox"/> Transportation	<input type="checkbox"/> Power and Energy	<input type="checkbox"/> Agriculture					
<input type="checkbox"/> Communications	<input type="checkbox"/> Sewerage	<input type="checkbox"/> Education	<input type="checkbox"/> Transportation	<input type="checkbox"/> Power and Energy	<input type="checkbox"/> Agriculture					
<input type="checkbox"/> Relief	<input type="checkbox"/> Sewerage	<input type="checkbox"/> Education	<input type="checkbox"/> Transportation	<input type="checkbox"/> Power and Energy	<input type="checkbox"/> Agriculture					
<input type="checkbox"/> Other sectors	<input type="checkbox"/> Sewerage	<input type="checkbox"/> Education	<input type="checkbox"/> Transportation	<input type="checkbox"/> Power and Energy	<input type="checkbox"/> Agriculture					
Logic										
<input type="radio"/> OR <input type="radio"/> AND										
Filter by Date (lower and higher limits)										
Date range: (YYYY MM DD)										
From: <input type="text"/> To: <input type="text"/>										
SLIDENumber <input type="text"/>										
Approved <input type="text"/>										
Filter by Status										
<input type="text"/>										
Apply the filter and Edit Data										
<input type="button" value="Edit Data"/>										
<input type="button" value="New Query"/>										
<input type="button" value="Save Query"/>										
<input type="button" value="Load Query"/>										
Expert Selection										
<input type="text"/>										
<input type="button" value="Expert"/> <input type="button" value="Clear"/>										
Sort results by <input type="text"/> Entry order Hits per page <input type="text"/> 100										

Exercise 7

- **Query: filtering the information for data revision/validation**

The more criteria you ask, the less data you get!



Exercise 7

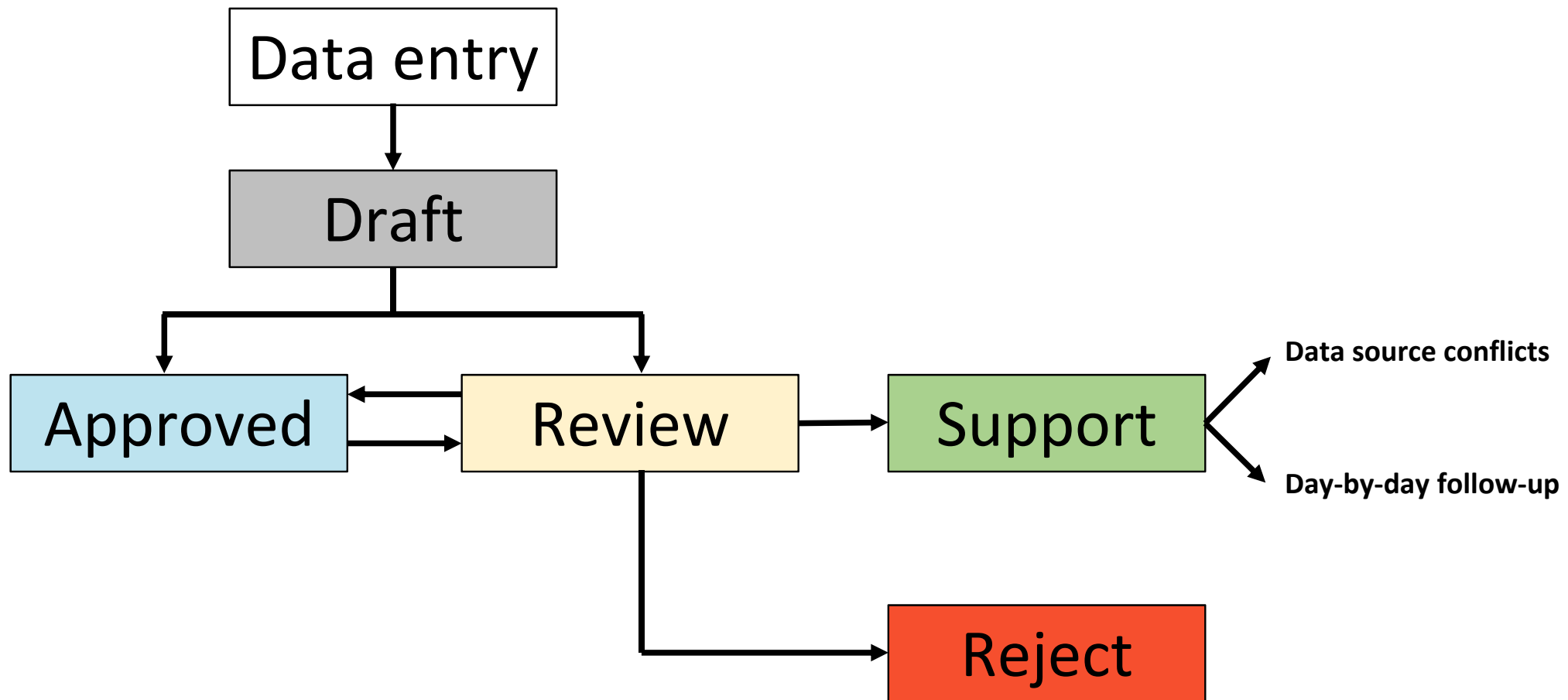
➤ **Query: filtering the information for data revision/validation**

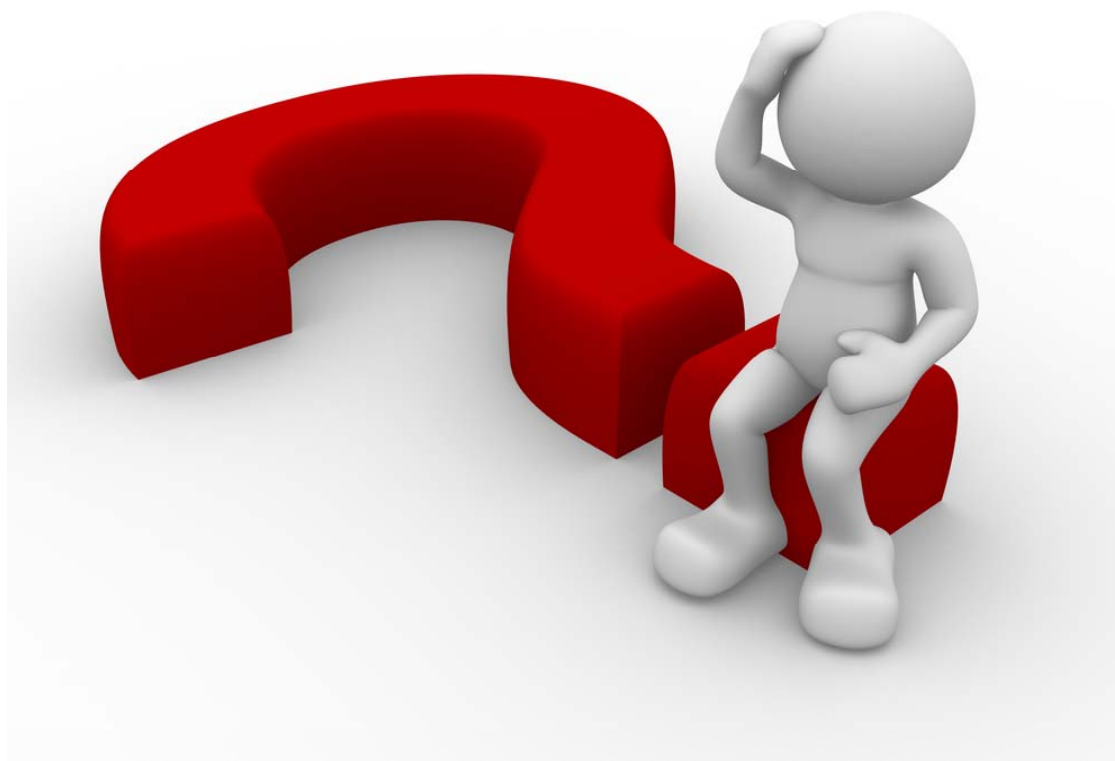
Proposed database: Laos (training.server)


- ❖ Filter only the datacards about floods: How many records you obtain?
- ❖ Filter all datacards since 1st of April 2016: How many records you obtain?
- ❖ Filter only the datacards that have registered houses damaged: How many records you obtain?

Workflow

- Using the “Status” drop-down menu helps to facilitate the workflow of data entry and validation.



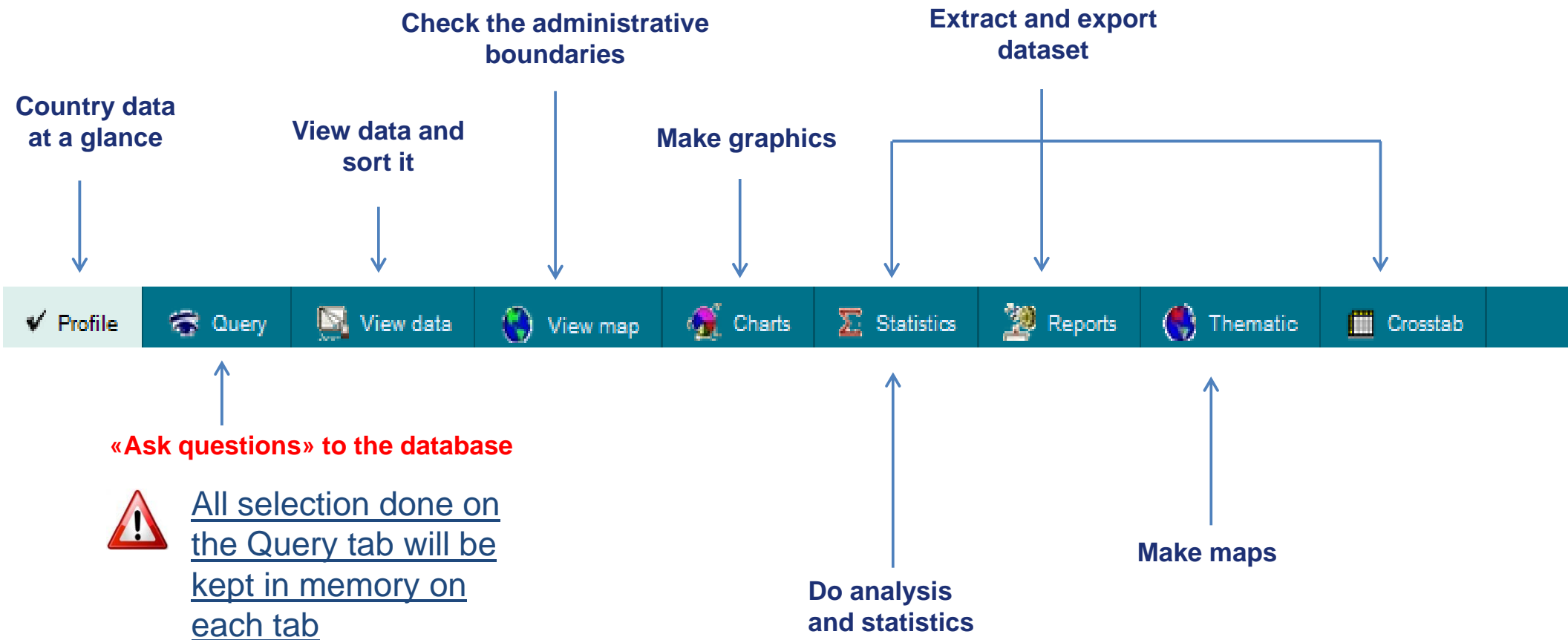




DesInventar hands-on training (Analytics – DesConsultar)

Analysis Module

Tool main menu presentation



Profile tab


➤ Country and province data at a glance

Country data
at a glance



UNISDR

DesInventar Sendai


SENDAI FRAMEWORK
FOR DISASTER RISK REDUCTION

HOME ANALYSIS ADMINISTRATION DOWNLOAD ABOUT GET BOOKMARK

✓ Profile Query View data View map Charts Statistics Reports Thematic Crosstab

Region: *Nepal* - [npl] Profile:

Select what profile you want:

Disaster type
Multi-hazard profile ▼

region
ALL ▼

Nepal

Profile:

This Country Profile shows a set of typical results known as "Preliminary Analysis" coming from the disaster database. Charts, Maps and tables below will provide you with a basic understanding of the effects of many types of disasters occurred in the region. [Click here for more info](#)

Composition of Disasters

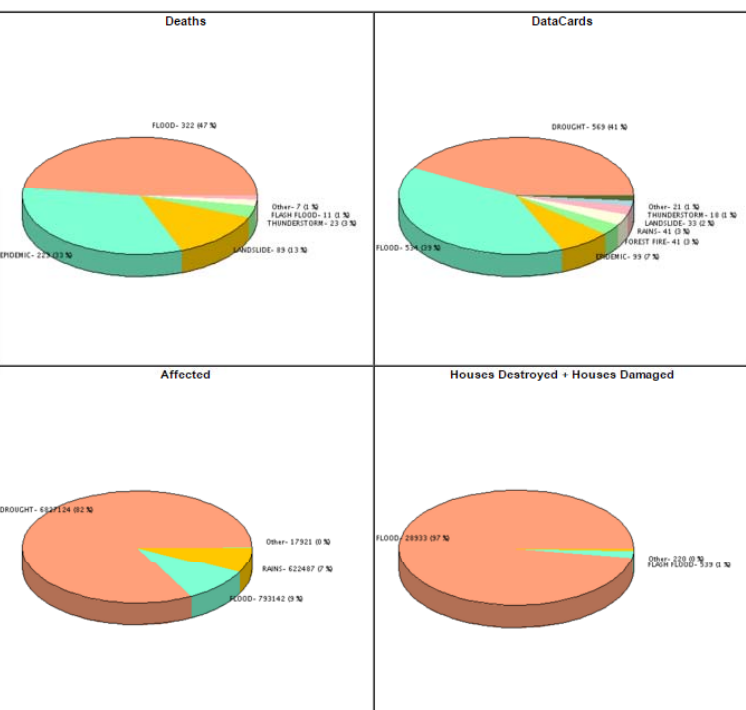
Deaths

DataCards

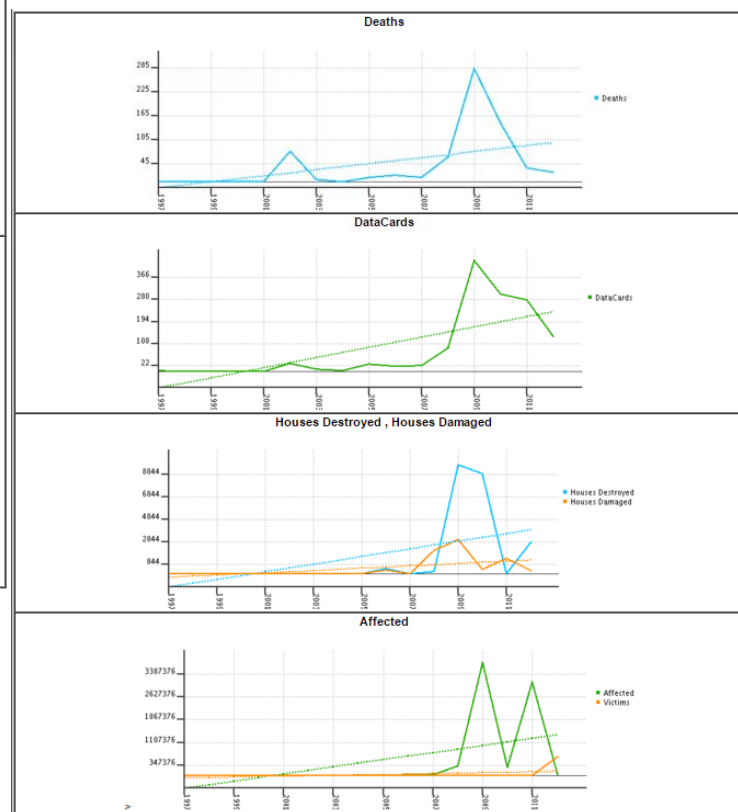
Profile tab

➤ Country and province data at a glance

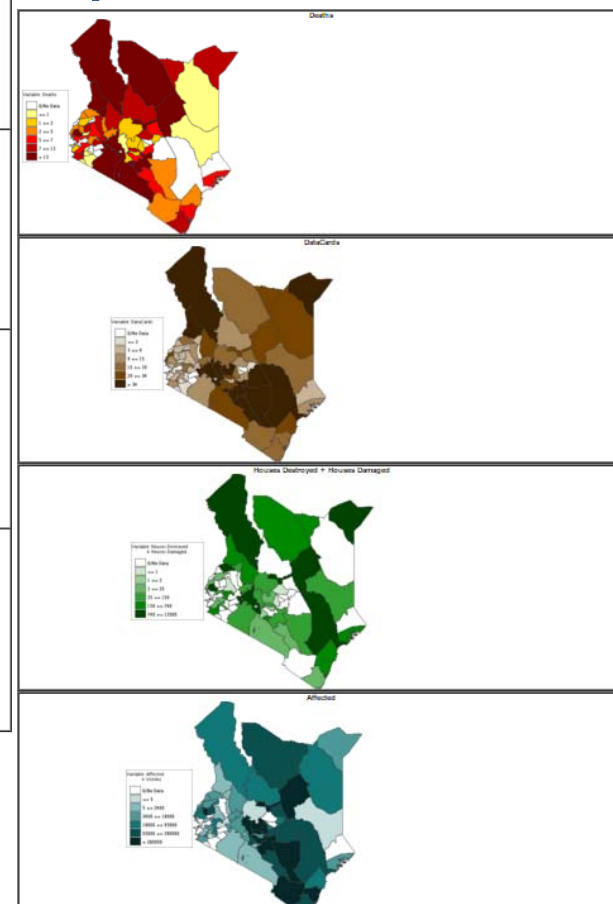
Loss and damage by hazard



Loss and damage in time



Loss and damage in space



Only four indicators are provided, to give an **overview** of disaster impacts in the country or province.

Query tab



«Ask questions» to the database



All selection done on
the Query tab will be
kept in memory on
each tab

Exercise 8

➤ Query: filtering the information for data analysis

Explore in your preferred database...(suggested to use Laos)

- ❖ How many records are there on Floods?
- ❖ How many records are there on Floods that killed people?
- ❖ How many records are there on Floods that killed more than 10 people?
- ❖ Can you tell how many records are there for the year of 2010 only?

Thematic tab

➤ Build thematic maps

Make maps



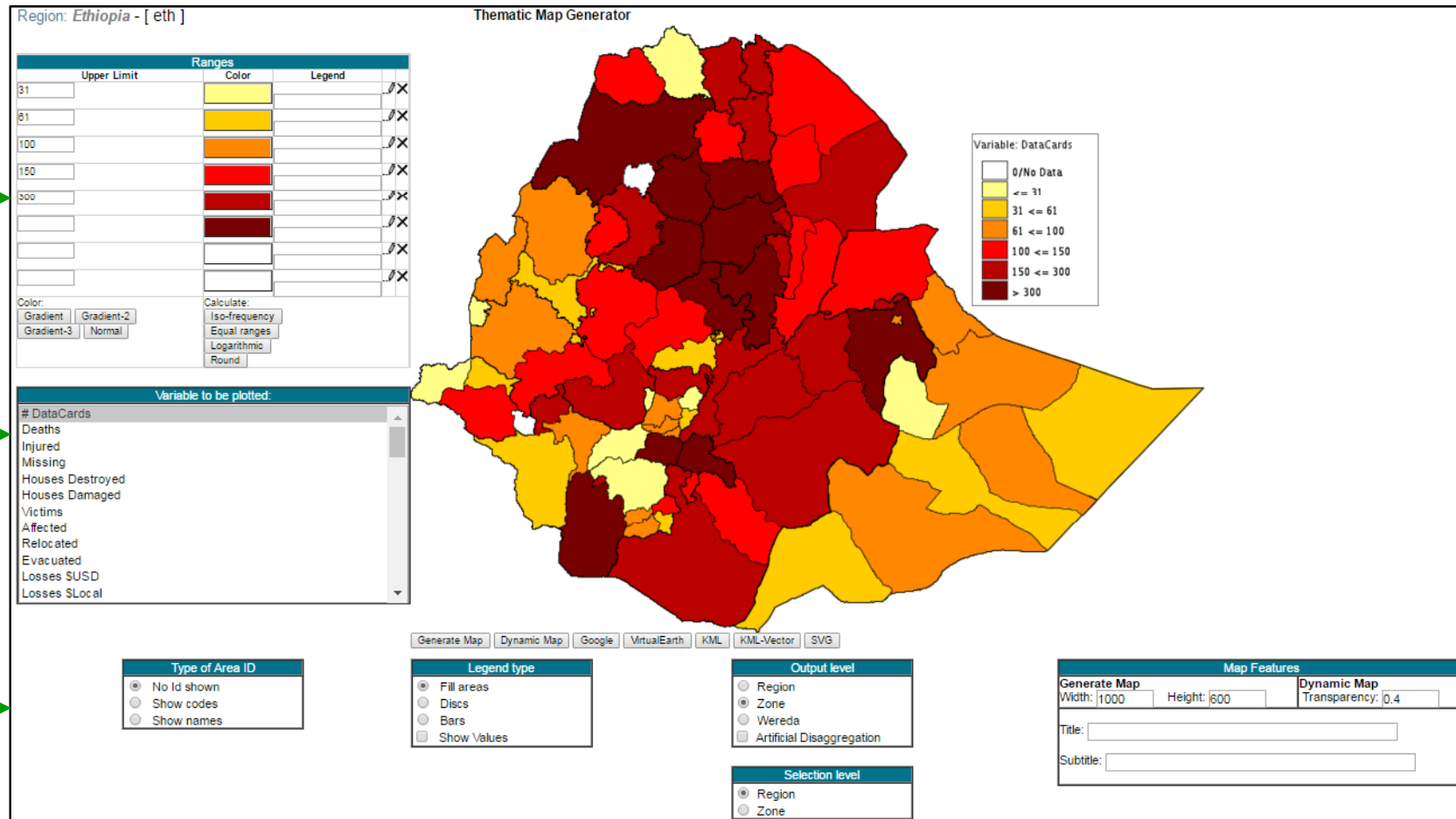
Thematic tab

➤ Build thematic maps

Choose the colors, and the ranges (classes)

Choose the variables to be plotted in your map

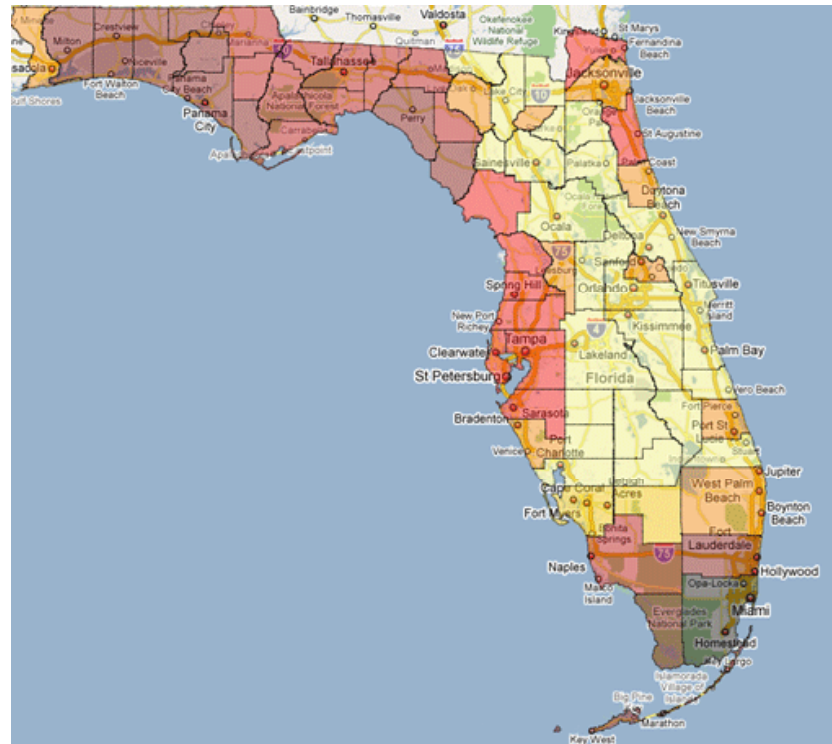
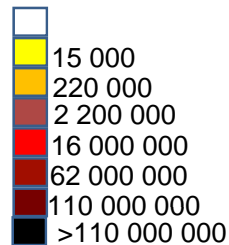
Choose additional display options



Thematic tab

- **Spatial Analysis (patterns):** distribution of losses over space

Economic Losses (US\$)



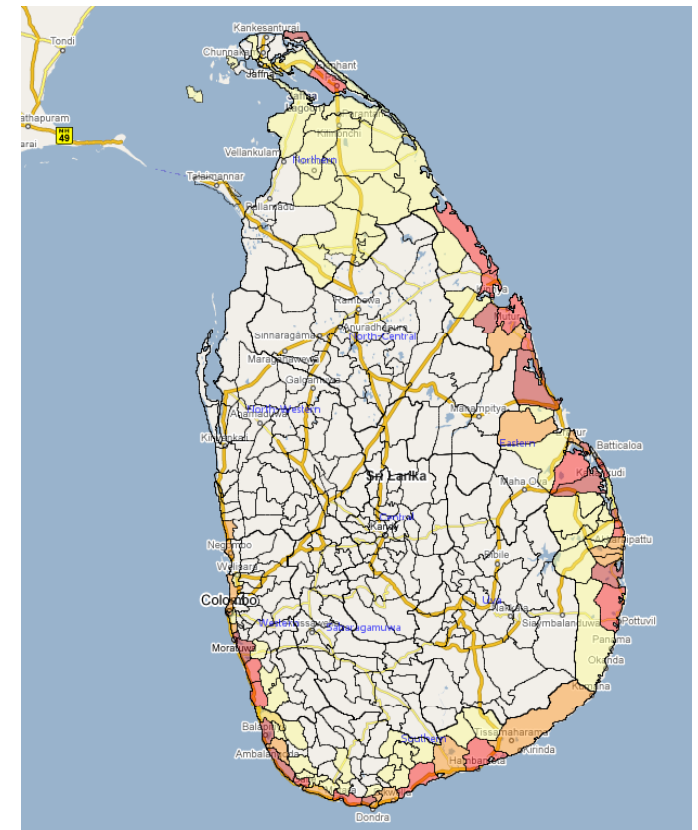
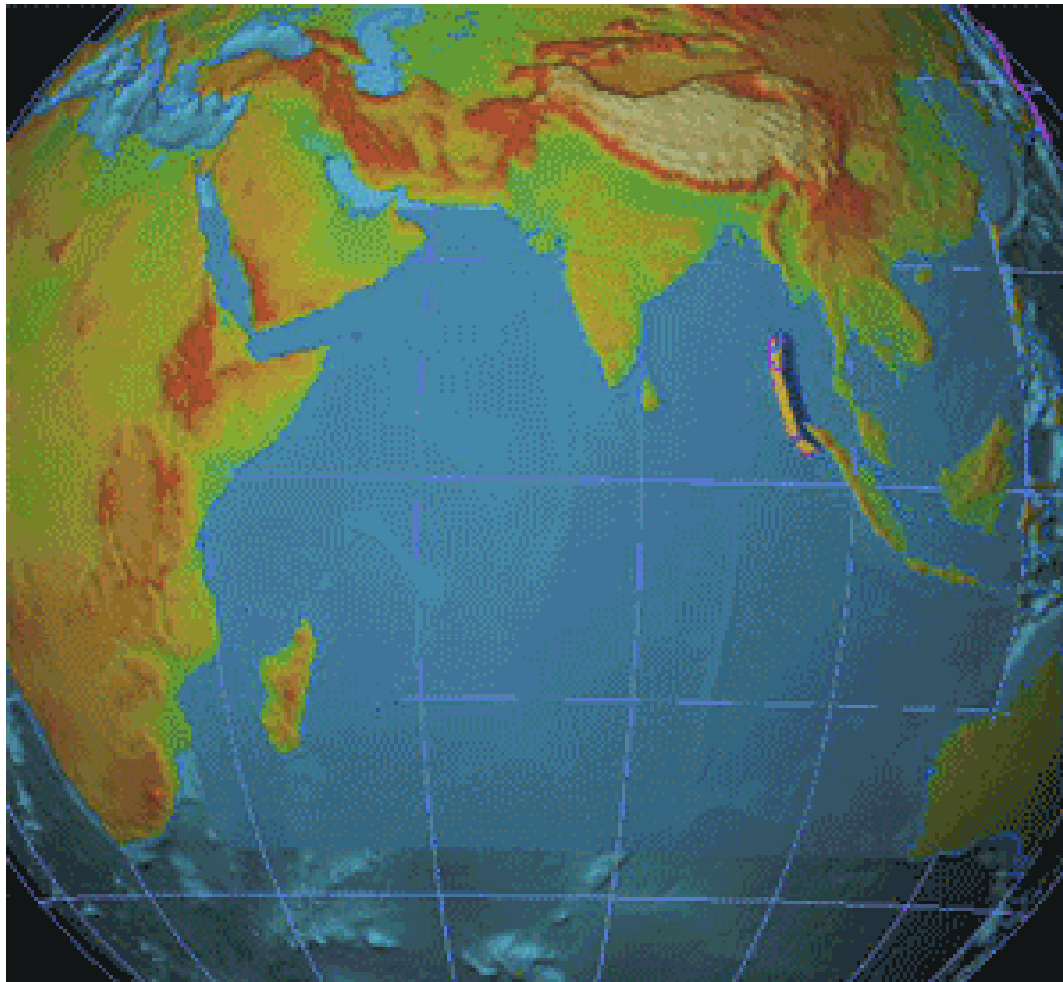
Spatial distribution of Economic losses by hurricanes in Florida, USA

Counties situated in the hurricane paths have been more affected. Coastal counties in the Gulf Coast have more economic losses also due to the impact of storm surges.

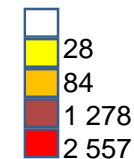
Thematic tab

➤ Spatial Analysis (patterns): distribution of losses over space

Spatial distribution of houses destroyed in Sri Lanka after the 2004 Indian Ocean Tsunami.



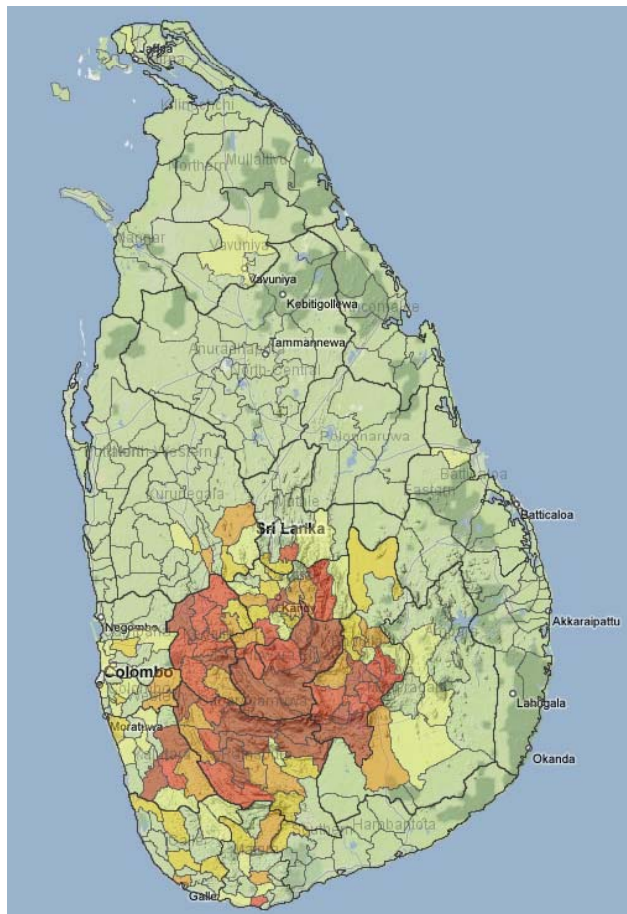
Number of houses
destroyed



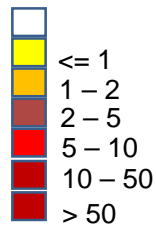
Thematic tab

➤ Spatial Analysis (patterns): distribution of losses over space

Spatial distribution of Landslides in Sri Lanka (1970-2007).



Number of
landslides



Exercise 9

➤ Thematic Maps

- ❖ Produce a map of disaster mortality (No. of deaths).
- ❖ Produce a map of disaster mortality due to floods.
- ❖ Produce a map of damages to crops for all hazards. Change your color gradient.

Statistics Tab

Do analysis
and statistics



Statistics Tab

➤ Build statistical reports

Profile

Query

View data

View map

Charts

Statistics

Reports

Thematic

Crosstab

English Data

Region: *Ethiopia* - [eth]

Statistics Generator:

Select the columns you want to appear in your report:

Available

Losses \$USD
Losses \$Local
Education centers
Hospitals
Damages in crops Ha.
Lost Cattle
Damages in roads Mts
Duration (d)
With Deaths
With Injured
With Missing
With Houses Destroyed

Variables Available

Add >>

Remove <<

Selected

DataCards
Deaths
Injured
Missing
Houses Destroyed
Houses Damaged
Victims
Affected
Relocated
Evacuated

Variables selected

Up

Down

Top

Bottom

Use Ctrl-Click and/or Shift-Click to deselect or for multiple selections.
At least two columns must be selected.

Please define Statistic Functions to produce:

☒ Sum

☐ Average

☐ Maximum

☐ Variance

☐ Standard Deviation

Please define your aggregation levels:

First level of totalization:

Event
Region
Zone
Wereda
Date

Data to be plotted by...(1)

Second level:

Event
Region
Zone
Wereda
Date

Data to be plotted by...(2)

Third level:

Event
Region
Zone
Wereda
Date

Data to be plotted by...(3)

Don't use

Continue

☒ Report format

Don't use

Please note that only levels that make sense should be selected. For example, makes no sense to choose Zone as first level and Region as second level. You can select one, two or all three levels of totalization. The more levels you choose, the more detailed is your statistic.

Exercise 10

➤ Build statistical reports

- ❖ Build a statistical report that summarizes the number of datacards organized by hazard event. Which is the most reported hazard in the database?
- ❖ Build a statistical report that allows you to compare, annually, between the houses that have been damaged and those that have been destroyed.
- ❖ Download your report in Excel.

Using statistics for decision making

➤ Houses damaged by floods in Dakar city, Senegal



1. Query the database



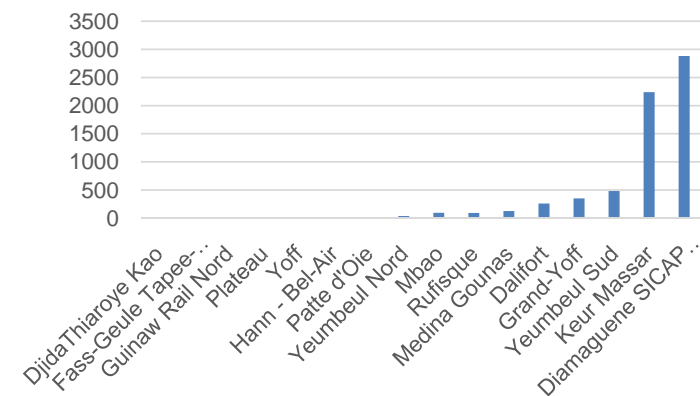
2. Extract and organize the data

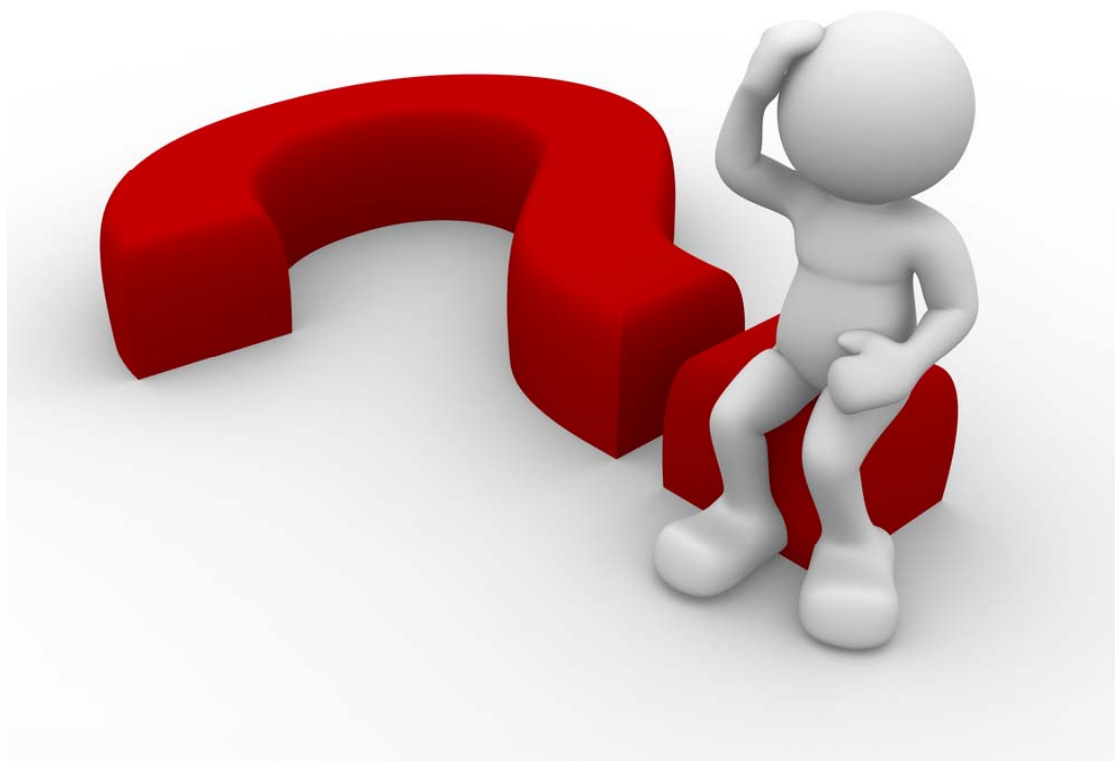


Urban district	Houses Damaged
DjidaThiaroye Kao	0
Fass-Geule Tapee-Colobane	0
Guinaw Rail Nord	0
Plateau	0
Yoff	0
Hann - Bel-Air	1
Patte d'Oie	3
Yeumbeul Nord	37
Mbao	95
Rufisque	92
Medina Gounas	126
Dalifort	259
Grand-Yoff	350
Yeumbeul Sud	482
Keur Massar	2241
Diamaguene SICAP	2884
Mbao	2884
Others	62393
TOTAL	68963

3. Analyze data and build reports which will enable decision making

This tool allows to build statistics based on nationally-sustained and reliable data, which will enable to take decisions by sector, location and priority.





What is needed?

- Geographical data (GIS):
 - Administrative boundaries (districts, municipalities)
 - Roads, etc...
 - Rivers
- Agricultural data:
 - Yield, prices, area and production per district
- Disasters:
 - Loss data since 1980 recommended, 2005 minimum
- Other statistics
 - Population, GDP, Age Groups, Exchange rate, etc...



Workflow

Who hosts the database?

Who validates and updates the database?

When the database should be updated?

Who is the focal point in each institution for sharing data with the host agency?



Which will be the end users?

Who is accountable for the maintenance of the database?

Sustainability

- The workflow should be maintained, with clear responsibilities.
- Quality control and updating needs to be done, to guarantee quality and reliability of the data. UNISDR can provide technical support, through gap analysis and troubleshooting.
- Channels need to be open in terms of data sharing between the different institutions and the host agency.
- Institutional commitment and synergy should function as basis for the maintenance and updating of the database.
- Data needs to be analysed and presented in reports so it functions as basis for policy and decision-making. Results should be communicated with key partners and stakeholders.
- **Ownership means sustainability**

Summary



Activities to put in place:

- Identify the stakeholders
- Set a clear workflow including clear responsibilities and deadlines.
- Develop a historical research for the past **30 years**
- Start a **day-to-day** collection of losses
- Relate loss data with other socio-economic data such as Poverty, Environment, Demography, etc.
- Improve data and develop quality control
- Integrate the analysis in decision-making for improving DRR measures.



Creating **synergies** among the institutions for data collection and follow-up is essential. Without coordination, it is very difficult to implement a successful disaster loss accounting system!



Thank you!