



# **Desinventar Sendai 10.1.2**

## **User Manual**

### **Administration and Data Management**

**February 2019**

**United Nations Office for Disaster Risk Reduction**

# CONTENTS

<b>ACRONYMS</b> .....	<b>4</b>
<b>1. INTRODUCTION</b> .....	<b>5</b>
Introduction: Disaster Information Management System .....	5
<i>DesInventar Methodology</i> .....	6
<b>Structure</b> .....	6
<i>Basic Concepts and Definitions</i> .....	7
<b>Concept of geographical unit</b> .....	8
<b>Disaster definitions used in Desinventar</b> .....	9
<b>Considerations regarding data entry</b> .....	10
<b>2. WELCOME TO THE DESINVENTAR SENDAI SYSTEM!</b> .....	<b>11</b>
Main Menu .....	12
<b>DATA MANAGEMENT</b> .....	<b>14</b>
Entering and Modifying Disaster Datacards .....	14
Data Entry Tab .....	14
“New DataCard” Button .....	14
“Edit DataCards” Button .....	16
Finding a Record .....	16
“Delete” Button .....	17
<b>DATACARD SECTIONS</b> .....	<b>18</b>
<i>Field Types</i> .....	18
Serial [Card Serial Number] .....	18
<b>Date (YMD) [Disaster date]</b> .....	19
<b>Duration (d)</b> .....	19
<b>Source [Information Source]</b> .....	19
<b>Status</b> .....	19
<i>Events: Hazardous events</i> .....	21
<b>GLIDE Number</b> .....	21
<b>Cause</b> .....	22
<i>Geography</i> .....	23
<b>Geographical Level 0</b> .....	23
<b>Geographical Level 1</b> .....	23

Geographical Level 2 .....	24
Location [Place] .....	24
<b>Effects</b> .....	<b>25</b>
<b>Sendai Framework Target A</b> .....	<b>26</b>
Number of deaths (A-2) .....	26
Number of missing [Missing persons] (A-3) .....	26
<b>Sendai Framework Target B</b> .....	<b>27</b>
Injured or Ill (B-2) .....	27
Impact in damaged and destroyed dwellings (B-3 &B-4).....	28
Impact in livelihoods (B-5).....	28
Other Human and Economic Impacts .....	29
<b>Sendai Framework Targets C and D</b> .....	<b>30</b>
Damages and losses in Agriculture (C-2).....	30
Damages and losses in all other Productive Assets (C-3).....	31
Losses in Housing Sector (C-4) .....	31
Other Damages and losses in Critical Infrastructure (C-5).....	31
<b>EXTENSION TAB</b> .....	<b>33</b>
<b>ADMIN TAB</b> .....	<b>36</b>
<b>GEOGRAPHY TAB</b> .....	<b>42</b>
<b>SENDAI TAB</b> .....	<b>44</b>
<b>SECURITY TAB</b> .....	<b>47</b>
User Management .....	47
<b>ANNEX 1: CONFIGURATION OF MAPS IN DESINVENTAR</b> .....	<b>49</b>
<b>ANNEX 2: DEFINITIONS OF EVENT (HAZARD)</b> .....	<b>53</b>
<b>REFERENCES</b> .....	<b>57</b>

*This manual was led and coordinated by Ms. Ritsuko Yamazaki-Honda, Programme Management Officer of UN Office of Disaster Risk Reduction (UNDRR) ([honda@un.org](mailto:honda@un.org)), and drafted by Ms. Sreeja S. Nair, independent consultant ([sreejanair22@gmail.com](mailto:sreejanair22@gmail.com)), with contributions by Ms. Iria Touzon Calle, Programme Officer of UNDRR ([iria.touzoncalle@un.org](mailto:iria.touzoncalle@un.org)). Mr. Julio Serje was a lead designer and developer of the DesInventar-Sendai and provided a guidance on the manual.*

## Acronyms

ADRC	Asian Disaster Reduction Center
DI	DesInventar
ENSO	Entry of El Niño events
GLIDE	GLobal IDEntification Number
ISO	International Organization for Standardization
LA RED	Red de Estudios Sociales en Prevención de Desastres en América Latina
Mbar	Millibar (also used as mb)
Mph	Miles per hour
OIEWG	Open-ended Intergovernmental Expert Working Group on Indicators and Terminology Relating to Disaster Risk Reduction
PCRAFI	Pacific Catastrophe Risk Assessment and Financing Initiative
PDaLo	Pacific Damage and Loss Information System
PDN	Pacific Disaster Net
SDGs	Sustainable Development Goals
SFDRR	Sendai Framework for Disaster Risk Reduction 2015-2030
TGN	Technical Guidance Notes for monitoring and reporting on progress in achieving the global targets of the Sendai Framework for Disaster Risk Reduction
UNDRR	United Nations Office for Disaster Risk Reduction (formally called UNISDR)
UNDP	United Nations Development Program

# 1. Introduction

## Introduction: Disaster Information Management System

The Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted in 2015 and is the first major agreement of the post-2015 development agenda, with seven targets and four priorities for action. The Framework has explicitly stressed the importance of risk knowledge as seen in the Priority 1: Understanding Disaster Risk. The paragraph 24 stipulates “To achieve this, it is important;

*(a) to promote the collection, analysis, management and use of relevant data and practical information and ensure its dissemination, taking into account the needs of different categories of users, as appropriate ...*

*(d) To systematically evaluate, record, share and publicly account for disaster losses and understand the economic, social, health, education, environmental and cultural heritage impacts, as appropriate, in the context of event-specific hazard-exposure and vulnerability information ...*

Disaster information management system requires a sustainable arrangement within an institution for the systematic collection, documentation and analysis of data about losses caused by disasters associated with hazards of natural as well as anthropogenic origin. It can also disseminate location-based disaster loss information, which can help to analyze the disaster trends and their impacts in a systematic manner. With increased understanding of the disaster trends and their impacts, better prevention, mitigation and preparedness measures can be planned to reduce the impact of disasters on the communities.

Having disaster information management system based on common standards and formats to record and share disaster losses and relevant disaggregated data and statistics would enable to make comparisons among countries and regions, as well as to strengthen disaster risk modelling, assessment, mapping, monitoring and multi-hazard early warning systems. It would also establish a mechanism of case registry with detailed information and contribute to disaster risk reduction.

The targets A-D of the Sendai Framework are outcome oriented, which address reduction in disaster losses and damages, some in relative terms, by decade. Disaster loss database could play a major role in measuring progress in the implementation of disaster risk reduction in accordance with the Framework in terms of disaster impacts.

Actually disaster loss database could contribute to monitoring of the Sendai Framework as a sub-system of the online Sendai Framework Monitoring system (SFM) developed by UNDRR. SFM provides an option of data import from National Disaster Loss Database for indicators under targets A-D of the Sendai Framework. In the case of countries using the DesInventar Methodology (with UNDRR informed), they could import data to SFM for targets A-D and Metadata. Notably, a new version of DesInventar, DesInventar-Sendai embeds reporting panels by all global indicators of Targets A-D of the Sendai Framework by hazardous event with disaggregation options by sex, age group, and other disaggregation such as persons with disability or below poverty line. The pre-defined hazards include biological, technological, environmental hazards in line with the expanded scope of the Sendai Framework. In order to support countries in achieving efficient and effective monitoring of the Sendai Framework, updating and retrofitting of disaster loss database is ongoing.

## DesInventar Methodology

DesInventar is a conceptual and methodological tool for the generation of National Disaster Inventories and the construction of databases of damage, losses and in general the causes and impacts of disasters. The development of DesInventar, with its conception that makes disasters visible from a local scale (town or equivalent), facilitates dialogue for disaster risk reduction among stakeholders sectors, across level of governments.

Until the mid-1990's, systematic information about the occurrence of disasters of small and medium impact and disaggregated data about the effects of large scale disasters was not available in most countries in the world. From 1994, the creation of a common conceptual and methodological framework was begun in Latin America by groups of researchers, academics, and institutional actors linked to the Network of Social Studies in the Prevention of Disasters in Latin America (Red de Estudios Sociales en Prevención de Desastres en América Latina - LA RED). DesInventar project was initiated by LA RED and then expanded by UNDP and UNDRR who sponsored the implementation of similar systems in the Caribbean, Asia and Africa. UNDRR has been the host and main sponsor of the development and world-wide dissemination of DesInventar as well as developed a new version, DesInventar-Sendai. UNDP has supported uses in many countries and has generously funded in part the effort of DesInventar-web, as well as provided its continuous support spreading the ideas, methodology and tools around the world.

DesInventar Sendai can accommodate data required for the so-called global indicators agreed through intergovernmental process (OIEWG) for Targets A to D of the Sendai Framework, which are commonly used for monitoring Sustainable Development Goals (SDG's), under Goals 1, 11 and 13. Among many other new features, it also allows for the definition and use of metadata to describe several indicators with option of data disaggregation.

The Methodology is based on a set of definitions and classifications, and the concept of a space subdivided in multiple levels of zonings, but above all it proposes:

- Disaggregating and geo-referencing of data that will enable to analyse in detail the localized data from various levels.
- Collection and analysis of data from small and medium disasters.

The Methodology also highlights a series of suitable sources of information that can be used to gather the inventory information.

### Structure

DesInventar includes a software product with two main components:

- **Administration module** is a relational and structural database through which the database is fed by filling 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).
- **Analysis module** allows access to the database by queries that may include relations among the diverse variables of effects, types of events, causes, sites, dates, etc. This module allows at the same time to represent those queries with tables, graphics and thematic maps.

The DesInventar Methodology proposes a deductive approach i.e. the use of historical data about the impact of disasters, collected in a systematic and homogeneous manner in the process of identifying hazards and vulnerabilities and thus risks on specific regions. Data must be collected following a set of standards and is

time-stamped and geo-referenced and disaggregated to a relatively small geographic unit, usually at the lowest level administrative unit.

The basic criteria guiding DesInventar are:

- All inventories must use the same variables to measure the effects and the same homogeneous and basic classification of events. Please take note that it is not essential to enter data pertaining to all variables in the system for every data card or event. Additional variables can be added as extensions if the desired variable is not there in the data card.
- The information compiled and processed must be entered in a scale of time and at a geo-referenced spatial level;
- The information comprising DesInventar inventories must be spatially disaggregated in order to show (and later analyse) the effects of disasters at local level. For country level disaster inventories it is recommended a minimum disaggregation level equivalent to Municipality, usually one or two levels below the first administrative/political division (Province/State/Department, depending on each country).
- The inventories can then be analyzed following a number of existing and emerging methodologies, starting with the Preliminary Analysis Methodology, which give users an immediate understanding of the impact of disasters in a country or region, the possibilities of comparative research and support to decision-making processes related to risk reduction actions (including Risk Assessments) and risk management as a whole.
- Desconsultar i.e. the analysis module of allows visualizing, in space and time, the phenomena that have been registered using charts and maps.

## Basic Concepts and Definitions

This user manual for the Desinventar aims to maintain a standard with definitions, terms, references and information relevant globally. However each country can have own list of disasters and the definitions.

### *Events as defined in the DesInventar*

The core of the methodology is contained in the definitions of “Event” and “Disaster”.

“Event” is defined as hazardous event in the DesInventar whether natural or human induced phenomena which once triggered produces adverse effects on human lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries”. Event can be considered synonymous to a “hazard” as each Data Card is produced by “Event” with “Cause” (optional) which has triggered disaster.

**IMPORTANT:** Events without any loss and damage are not captured in the database.

“Disaster” is redefined in the OI EWG report and endorsed by UNGA in 2017<sup>1</sup> as

---

<sup>1</sup> [https://www.preventionweb.net/files/50683\\_oiewgreportenglish.pdf](https://www.preventionweb.net/files/50683_oiewgreportenglish.pdf)

*a serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts.*

Other important terms relating to DRR are found in the same report. Different types of hazards associated with events are thoroughly defined in the methodology, and the definitions are available in the set of links on the DesInventar website. The team of researchers that formulated and refined the Methodology aimed at reaching an agreement on which effects should be tracked by the system, its definition, measuring units and other problems associated with quantitative and qualitative measures and representation of these effects.

A set of effects attributed to disaster are defined in Technical Guidance Notes (TGN): human aspects (dead, missing, injured or ill, directly affected people by damaged or destroyed dwellings, disrupted or destroyed livelihoods), other economic and physical aspects (direct economic loss by sector including agriculture, housing, health and education, loss and damage on critical infrastructure and basic, etc.).

The words selected to designate the types of events are not “orthodox” for disciplines such as geology, meteorology, etc.; the purpose is just to come closer to the most common definitions used in each region for the phenomena. The selection was made based on several dictionaries and technical glossaries, although the search was not exhaustive. Neither do we intend to propose or impose a new glossary. The point is more to provide a set of terms with which each research team or user can enter, in a practical manner, the information on disasters that can be compiled from different sources: existing databases, graphic material, files, or from the search-and-rescue activities that entities and institutions carry out every day.

The description of the use of each term can be accessed in the **Glossary**, through the menu “**Help**”. It includes some alternative words or synonyms that may appear frequently, depending on the sources or on country or sub-region uses. If preferred, or for practical, the option “Create Type of Event” has been included in the system. Thus, DesInventar could be applied even to follow up threatening phenomenologies in industrial sectors or in evaluations of environment degradation over time.

### ***Concept of geographical unit***

A good deal of the effort made by DesInventar has focused on “geo-referencing” the information<sup>2</sup>. This process assumes the existence of geographical units to which the information will be “anchored”.

The suggestion to work with DesInventar is to use the official political-administrative divisions of each country as the basis to geo-referencing the disaster information entry cards. The geographical units might be, for example, elements of a uniform grid. This could be very advantageous, but impracticable, because neither natural territorial units nor political-administrative divisions are square. The alternative is then to use more “human” geographical units, which may be less homogeneous, but can be used in a practical way. These geographical units must be known zones, established to last over time.

Theoretically, a user or researcher could define own geographical unit, and use it to geo-referencing the information. This is valid, but it might not allow cross-referencing information, such as the social-economic information, which could be absolutely relevant in a study from the social point of view of disasters.

---

<sup>2</sup> **Georeferencing** means to associate something with locations in the physical space. In DesInventar each datacard is associated with geographic level (e.g. district, subdistrict, state or municipality) as per information entered there. It does not mean assigning geographic latitude / longitude



Another concept is disaggregation of the geographical information in the inventory. When a project is started in a given "Region", which means a entire *territory* as a set to work on with DesInventar (in most cases equivalent to country), the first steps is to select a division (zoning) that will allow users to perform analysis and reach to the desired conclusions at a convenient level of detail.

It is a well known fact that relief organizations, emergency management agencies and media tend to aggregate the information of disaster losses with several different purposes that go from allocating budget and resources to support the relief operation to just obtain sensational data for news headlines. However, the analytical objectives of the information gathered for disaster inventories require fully disaggregated data for each of the geographical units in the selected zoning system.

Disaggregated data has tremendous implications on decision/policy ,making and potentials of later usability of various information from different angles. On one hand, utilizing disaggregated data, e.g. gathered at highest geographic resolution (that is, with the smallest possible sizes of geographic units), will lead to a finer detail in analysis and results, however, on the other hand it will raise the level of effort and difficulty in data collection.

To facilitate geographically disaggregating data, and to demonstrate results at different levels of geography, DesInventar considers the space as hierarchically divided into several levels of divisions. At each level of the hierarchy each geographic unit is conformed by several units at the next level of detail. For national level databases the system considers a first level of geography to be equivalent to province, and a second level typically assimilated to municipalities in most cases. Adherence to the official political-administrative division is recommended for consistency and comparability, as other statistical data is likely to be produced in the same manner and A disaster management agencies are organized in most cases according to the official administrative division.

### ***Disaster definitions used in Desinventar***

Now that the concepts of geography and data resolution have been described, the cornerstone of the DesInventar Sendai can be introduced: **the definition of "Disaster"**. Desinventar Sendai will follow the definitions and terminologies used in the Technical Guidance Notes (TGN) for monitoring SFDRR, some of which are from the OIEWG Report.

#### **Disaster**

*A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts.*

Disasters are often described as a result of the combination of: the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences. Disaster impacts may include loss of life, injury, disease and other negative effects on human physical, mental and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption and environmental degradation.

Disasters imply human and material damages and losses. Therefore, a series of damage and loss indicators are proposed by the system, so users can track them in order to evaluate the effectiveness of disaster risk reduction measures and also to compare them with other developmental processes, policies and indicators.

One important aspect of this system is that it allows to understand the impact of localized disasters. Therefore, the system does not have a threshold for registering losses. The purpose of not having such a threshold is precisely to keep track of extensive disasters. As risk accumulates over time, it manifests as a large and rising number of localized disasters, mainly associated with storms, flooding, fires and landslides, and linked to climate variability. These localized disasters may account for only a small proportion of overall

disaster mortality but, closely mirroring development processes, they are responsible for significant damage to housing, crops, livestock and local infrastructure, and particularly affect low-income households and communities. This risk layer is called extensive risk.

### **Causes**

It is usually difficult to differentiate between the cause and the effect of a phenomenon in the generation and development process of an event that leads to disaster. Therefore, each research team may include observations on causality relationships under “Comments”. In Annex 4, you will find the alphabetical list of causes included in the datacard and a description of use.

### ***Considerations regarding data entry***

The Methodology contains a series of suggestions and recommendations that will help those in charge of creating the historical inventories in facing frequently happening challenges including data disaggregation.

In summary take note on the following issues in data entry:

- Possible alternatives of data disaggregation
- Treatment of non-disaggregated data to be combined in the existing disaggregated data set
- Classification and prioritization of information sources
- Management of discrepancies between multiple data sources
- Treatment of long duration events
- Treatment of multi-hazard events including cascading ones
- Treatment of missing values
- Procedures when geographic units are split or consolidated

## 2. Welcome to the Desinventar Sendai System!

### Getting Started

There can be two approaches to work with Desinventar.

- **Work Online** on Desinventar.net: UNISDR will create a profile on the server and provide access granted to administrator in the country.
- **Install DesInventar software:** Go to <https://www.desinventar.net> and click “DOWNLOAD”. Install it as *Administrator* in your local server, and then you could publish online or work on your laptop or local host. (For details, refer to the installation manual available in the desinventar website<sup>3</sup>).

#### How to Install Desinventar software

Go to [www.desinventar.net](http://www.desinventar.net). Click the “Download” tab and then start the Windows installer. Please note that you will not be able to run DesInventar in a Mac. Once downloaded, open your setup by double clicking. Select your language, accept the conditions and continue. Open it and right-click and run it as Administrator. Please note that if you do not run the system as Administrator, the server will not start. Open your internet browser (Explorer, Mozilla Firefox, Chrome...). Type down the following address: <http://localhost:8081/>. As you already started your DesInventar software in the previous step, by doing this, your computer will automatically run the software in your browser. Document that sometimes it does not work because Skype is using the same port. For details refer to the Installation Manual available in the desinventar website (<https://www.desinventar.net/documentation/DesInventar-web-Installation.pdf>).

Starting of the DesInventar is normally accomplished by starting a browser and typing the URL:

- **Work Online** <http://www.desinventar.net> (online)
- **Install DesInventar software in** local host - <http://localhost:8081/DesInventar>

The Welcome screen of the system will be displayed as below:

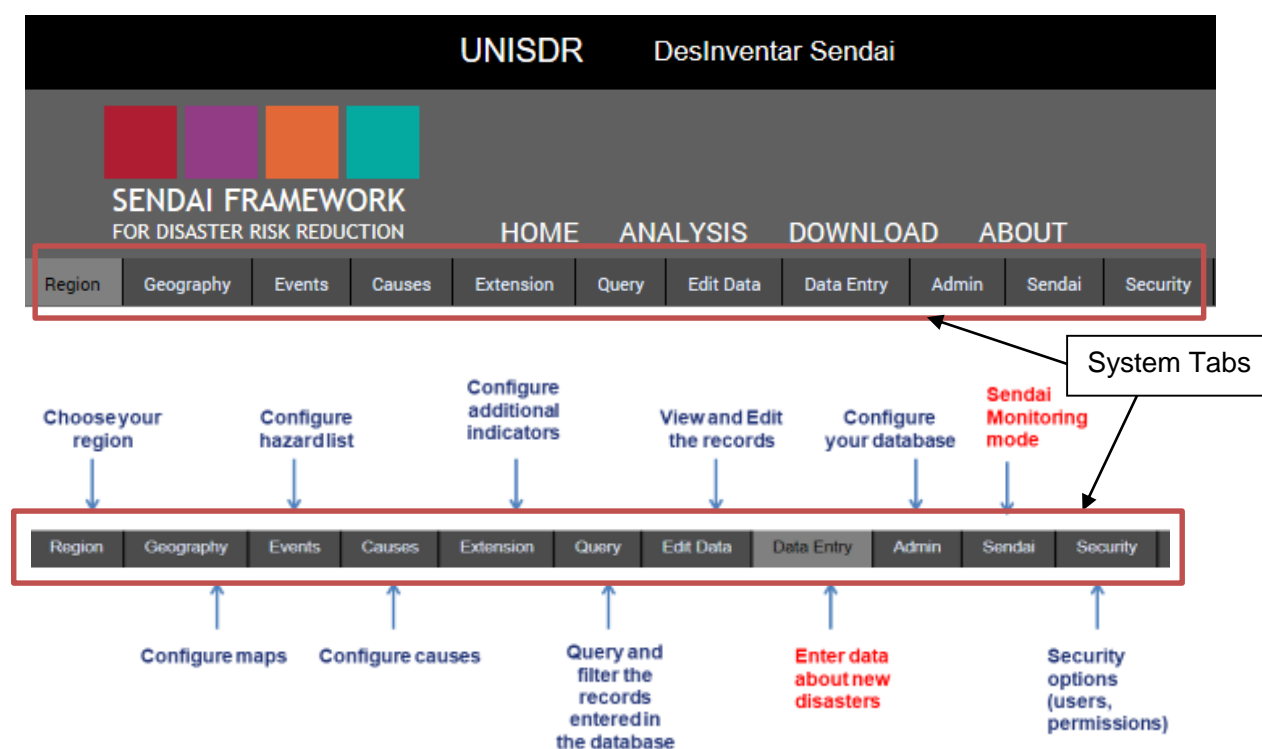
Once you click on the “ADMINISTRATION” tab, the system will prompt you to enter the DesInventar user

<sup>3</sup> <https://www.desinventar.net/documentation/DesInventar-web-Installation.pdf>

identification details. Enter the username and password and click the button “connect”. You will be able to see the list of all the “Authorised Regions” which you have an access right. In case if you are working on your country database as a national level user, all the states in your country may appear in Authorised Regions. The main menu contains different functions and is always the first screen that is displayed once you login.

## Main Menu

The main menu contains different functions in *System Tabs* and is always displayed on the first screen:



The System Tabs are composed of a set of tabs of administrative functions used for data entry and system management; each of the major function is shown above. Before clicking on any Tabs, remember to select “Region” in the first tab, which allows the user to select a specific country/region to work with.

The next tabs are used to create, edit or delete Geographic units, Events and Causes.

The Extension tab allows to “extend” a set of data that will be kept for every disaster, in addition to the pre-defined DataCard. The standard disaster DataCard is designed such that the information can be homologized in all inventories across the Desinventar Sendai. You may create extensions that will sufficiently meet the needs of other possible fields to be added in the database.

Two tabs (Query and Edit Data) will let you quickly query the system and find the data you want to edit (or delete).

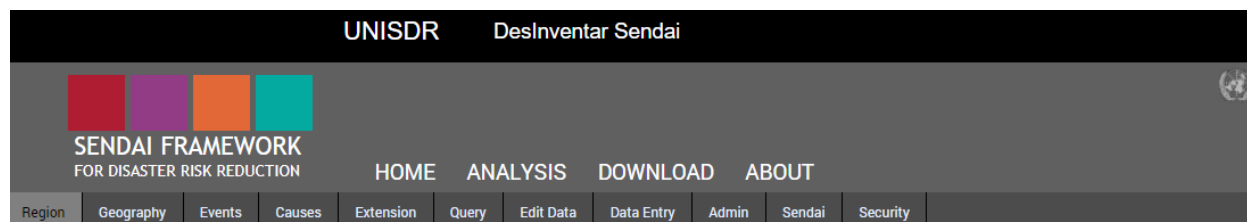
The methodology for entering data on the cards (and on events, causes and other objects) is consistent across the system. You can usually choose from the functions “Create”, “Update” and “Delete” functions.

The last two tabs of the system (Admin and Security) contain all the functions needed to administer it; it includes import/export functions, country creation and management, definition of the users that will be allowed to access the system, privileges and permissions.

The Sendai Tab contains Sendai Framework Manager which is supporting the Sendai Framework Monitoring process including data migration from the classic desinventar database to Desinventar Sendai and management of metadata.

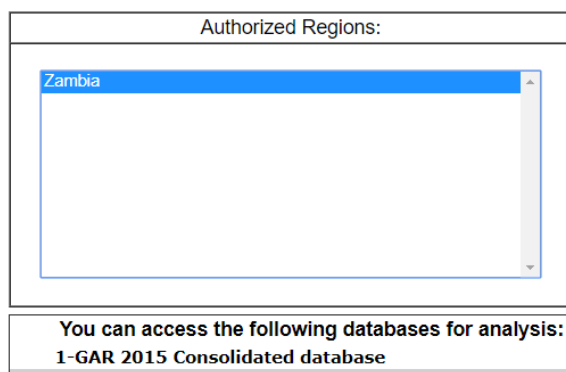
### Selecting the country/region of Study

Once the information system has been set up or installed, your first action is to choose the region you are going to work on. You can do this on the following window, clicking on the **Region** tab:



**Welcome to DesInventar module on-line!!, Zambia**

This *DesInventar* database management module will let you add, edit and obtain basic data about effects of disasters in your regions and countries. This software has been developed as part of the *LA RED's DesInventar Project*

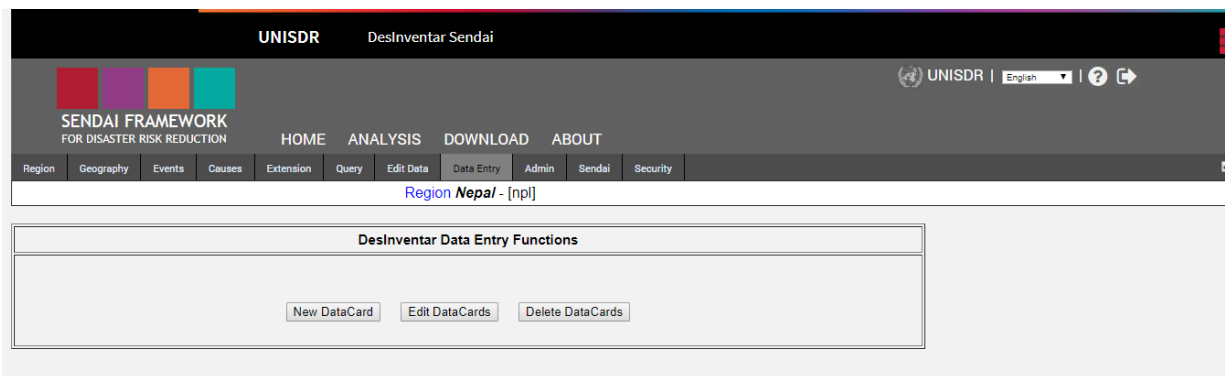


Choose a country/region (database) from the list with a click and it will be highlighted. Your choice will not be “activated” until you click on another tab.

## DATA MANAGEMENT

### Entering and Modifying Disaster Datacards

To initiate the Disaster data entry process, please click **Data Entry** in the main menu.



### Data Entry Tab

DesInventar Data Entry Functions are composed of the three buttons, mutually exclusive, except for the “Print” function. When you activate one of them, the others are disabled.

### “New DataCard” Button

#### Creating a New Record

As suggested by its name, it is used to add new disaster cards to the inventory.

The blank datacard will be displayed in a few seconds. The content of the card is distributed in several sections:

When you click this button, you can start entering the information on the new card.

The “Serial” number and “Date” will be automatically given. The fields corresponding to Geography contain information, i.e. the “Region” field contains the predefined highest geographical level (Level 0) and same as in lower level in “District” and “Commune”(Level 1 & 2). “Event” field usually shows the information of the card

that was displayed just before creating the new card.

Click on Save to proceed to enter data about this disaster and all other fields will be shown as below.

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

**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  $\Sigma$  button to calculate the sum of each subgroup

**Number of deaths (A-2)**

Total Deaths (Sub-indicator A-2a): Number   $\Sigma$

By sex: Female: Number  Male: Number

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

Other disaggregation: With disabilities: Number  Below Poverty Line: Number

Latitude:  Longitude:

**Number of missing (A-3)**

Total missing (Sub-indicator A-3a): Number   $\Sigma$

By sex: Female: Number  Male: Number

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

Other disaggregation: With disabilities: Number  Below Poverty Line: Number

**Sendai Framework Target B**

In this section please register human and physical impact required to compute Indicators B2, B3, B4 and B5

The fields can be filled in an orderly manner using the keyboard. To move from one field to another you can use the TAB key.

Data collector: User Name  Date: date

**Extension**

Risk Type: Non-GAR

Event type: Non-GAR

Number of incidents:

Villages affected:

Families affected:

Total: Roads:

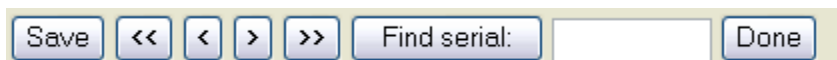
The system allow to enter all the indicators under the target A,B,C & D of SFDRR. However counties or states can add more indicators which will appear under the “Extension” at the bottom part of the data entry screen.

## “Edit DataCards” Button

### Updating a Record

Click this button to edit and update the fields of the current card. Its function is to allow editing information in cards previously entered to the system.

An extra set of buttons will be shown on the top:



### Finding a Record

Use “Find serial” button to find a card when you know its serial number. When you activate it, a field is displayed to enter the card serial number. More than one card may have the same serial number; serial numbers are NOT exclusive since several persons may be entering data into the system simultaneously. For this reason, you may have to click on the search button more than once, one to find the first card identified with the serial number, and another to find the next:

If the card actually exists, it will be displayed. Then you can use the “Update” or “Delete” buttons.

If you want to edit a Datacard other than the one displayed on the screen, you have several options:

- Moving through the set of cards using the scroll arrows found at the top of the page. The internal arrows (< and >) allow moving forward and backward one record number (to the next serial number), and the outer arrows (>> and <<) will take you to the first card (left arrow) or to the last card (right arrow) of the database;
- Use the search function to type the serial number in the field next to “Find serial”
- Go to “Edit Data” Tab in the System Tabs above and find manually;
- If you don't know the serial number of the record to edit, run “Query” using details of your record. For instance, selecting the "Disaster Type" and "Country" of your record and there are other selections to narrow down your search to find your record.

Once you have located your record and opened the datacard, make your changes directly to the fields on the



datacard. Once you are certain about your data entries, click the “**Done**” button at the top of the datacard. The data card will be closed and the “DesInventar Data Entry Functions” window will open again where you can create a new datacard, edit or delete a datacard. Your updates will be auto-saved. You can update this process repeatedly; it allows to continue updating cards any number of times.

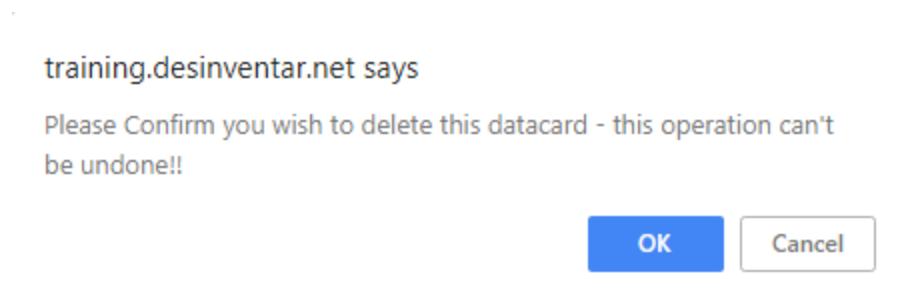
## “Delete” Button

This button eliminates cards from the inventory - a similar process to that of the “Update” button.

### Deleting a Record

Click “Delete” to choose the card you wish to eliminate.

When you click DELETE, the Information System displays a sign to confirm the elimination of the card activated, which corresponds to a record of the database. It will ask you:



Click OK to approve deletion.

**NOTE:** The DELETE operation cannot be undone. Once the card is erased, it will be impossible to recover it. It will be necessary to enter the data again.

## Datacard Sections

### Event Selection and Localization in Space and Time

The data characterizing the event according to type, time and space are entered in this section. **Strongly recommended** to fill in ALL the fields in the header, or at least those corresponding to **Card No., Date, Type of Event and those related to geographical levels already coded**, that is, the levels previously entered. Note that the field Site is not geo-referenced, and is optional.

### Field Types

The the Desinventar Sendai Information System contains seven different types of fields and data types:

Text	Single line of text, up to 255 chars
Integer	Number with no decimals, up to 10 digits
Floating Point	Any other number
Currency	Numbers with 2 decimals
Date	DD/MM/YYYY
Memo	Extended field for text of unlimited length
Yes/No	Yes or No
Dropdown list	Drop down list with a series of values.
Multiple choice	Radio button list with a series of values.

Serial: <input type="text"/>	Date (YMD): <input type="text"/>	Duration (d): <input type="text"/>	Source: <input type="text"/>	Status: <input type="text" value="Approved"/>
Country: <input type="text"/>	Province: <input type="text"/>	District: <input type="text"/>		
Event: <input type="text" value="TC - Tropical Cyclone"/>	Location: <input type="text"/>	GLIDENumber: <input type="text"/>		

### Serial [Card Serial Number]

It is recommended to use the number that is assigned by the system. If you decide to assign your own serial number, it is recommended that the number you assign corresponds to characteristics of the original record (for example, in paper) that you may transcribe on it, to facilitate future references or reviews.

Type in this field a number, an abbreviation or a code to identify the card. We recommend that you use numbers in sequential order, although this is not mandatory. You can also use letters, hyphens and other symbols.

We also recommend that the number given correspond to a characteristic of the original card (on paper, for example), or that it is transcribed onto the card to facilitate future references or revisions.

**IMPORTANT:** Remember that serial numbers are NOT exclusive; more than one card may have the same serial number.

## Date (YMD) [Disaster date]

The date is defined as the day which the incident was happened (e.g. Earthquake) or the first day where damage and / or loss is reported (e.g. Flood).

Type the date of the disaster in the three fields available in numbers, in this order: year, month and day. Years must be written in full: 1995, 1845, etc.

The letters YMD remind you of the order in which you must type these data.

The Desinventar Sendai System does not require leading zeroes for one-digit months or days. If you type them, the system will ignore them automatically, without affecting the information in the database. For example: if you enter month 06, Desinventar will only register number 6.

## Duration (d)

Count of days between the "Date (YMD)" and the end of the event.. The end date is the date when damage no longer occurs. This can be difficult to determine as this date is rarely one that is recorded.

## Source [Information Source]

Enter the source(s) here: information mean(s), existing database(s), entity or entities from which you obtained the information.

### **Tip!**

TRY TO BE CONSISTENT: always use the same spelling, the same abbreviations and letter types (capital or small letters) in the same places. E.g. same location entered differently i.e. in Title case and upper case will be shown as different location in the database. It is recommended that users may document their standard procedures and decisions on nomenclatures, abbreviations and keep them in the form of a manual and/or SOP.

## Status

The status of the record can be viewed by the drop down menu field appears in the top right corner of the datacard, only when you are logged in. This field is for administrative use only and cannot be altered unless you have a password and administrative rights. Status categories are:

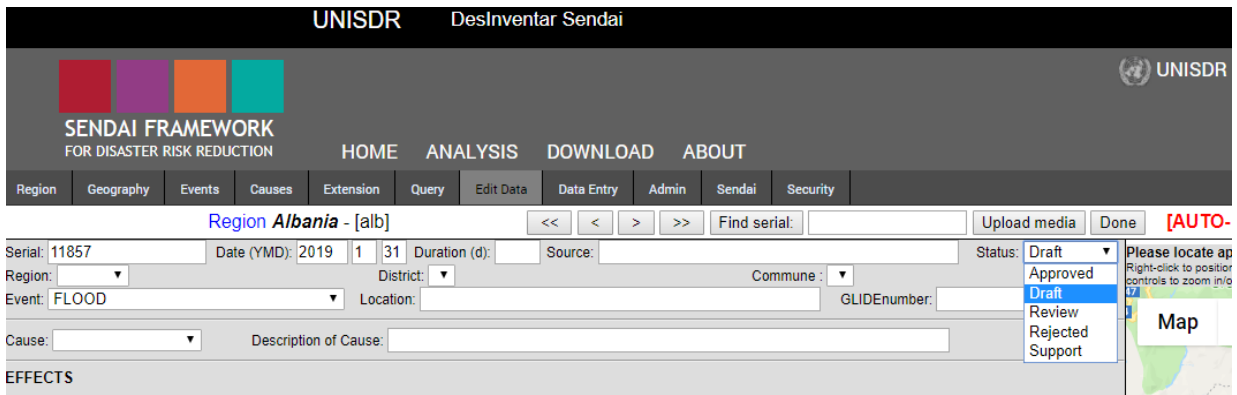
- **Approved** (light blue) – Only Record in Approved status is available to public users, and included in all outputs of the Analysis module (charts, maps, statistics, reports, etc.) - shown in a light blue background color
- **Draft** - Record is NOT visible in the Analysis module to public users. This status means that a record is incomplete, in process and still in draft mode, only available to authorized users in the Administration module. When the record is completed then is moved to Approved status. – shown in light blue
- **Review** - Record is NOT visible for Analysis. Records marked with this status are meant to be reviewed for validity and can only be viewed by authorized users in the Administration module. When the record is reviewed, corrected if necessary and verified to comply with all quality criteria then is moved to Approved status. – shown in yellow
- **Rejected** - Record is NOT visible to public users in the Analysis module. These records are kept in the system as a reference, i.e. corresponding to reports that were received, reviewed and not deemed

appropriate to be Approved, for example, because of credibility issues, inaccuracy, or other problems. The record can potentially be removed from the system but is advised to keep them as reference and proof that the report was received, reviewed and not approved. Shown only to authorized users in the Administration module with red color background. – shown in red

- **Support** - Record is NOT visible to public users, only available to authorized users in the Analysis module. For multiple records with different sources for the same event, where the information should be maintained as reference, for example, a lower level source with different but useful information, not included in analysis requests. . – shown in green

**IMPORTANT:**

Records that are newly entered or reviewed in the system should be marked "Review" for quality control. Once the records review has been finalized the status can then be changed to "Approved".



## Events: Hazardous events

Select the type of Hazard from the dropdown menu.

If it is not included among the events predetermined in the menu, first create the event in *Event Manager* under **Events Tab**. You can Add, Edit, Delete, and Merge with other events. Follow the rules established in the Menu of Hazards.

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

Region **Albania** - [alb]

---

**Event Manager**

ACCIDENT  
ANIMAL ATTACK  
AVALANCHE  
BIOLOGICAL  
BOAT CAPSIZING  
COASTLINE  
COLD WAVE  
CONTAMINATION  
Sick People  
CYCLONE

Up    Down

### GLIDE Number

The Global Identifier (GLIDE) Number reflects the idea of a globally common Unique ID code for disasters where the "GLIDENumber.net, and the GLIDE generator facilitate linkages between records in diverse disaster databases"<sup>4</sup>.

"The components of a GLIDE number consist of two letters to identify the disaster type (e.g. TC - Tropical Cyclone); the year of the disaster; a six-digit, sequential disaster number; and the three-letter ISO 3661 code for country of occurrence." For example, the GLIDE number for a Tropical Cyclone in Fiji is: TC-2010-000054-FJI.

It is not mandatory to enter GLIDE number, however it can be used as a reference to compare with other global databases.

<sup>4</sup> <http://www.glidnumber.net/glide/public/about.jsp>

**Tip!**

Keep in mind that the Consequences Database extension section has other Identification Numbers as well, including EMDAT, EDIS, Relief Web, etc..

## Cause

Cause:  Description of Cause:

It is usually difficult to differentiate between the cause and the effect of a phenomenon in the generation and development process of an event that leads to disaster. Therefore, each research team in your country may include observations on causality relationships under “Comments”. E.g. Floods can be the result of heavy rainfall or release of water from Dam. Cause list can be modified similar to events before starting a new database.

The screenshot shows the 'Cause Manager' interface. At the top, there is a navigation bar with tabs: HOME, ANALYSIS, DOWNLOAD, and A. Below this is a sub-menu with tabs: Region, Geography, Hazards, Causes, Extension, Query, Edit Data, Data Entry, and Admin. The 'Causes' tab is selected. Below the sub-menu, the text 'Region Odisha - [019]' is displayed. The main area is titled 'Cause Manager' and contains a scrollable list of causes: DESIGN ERROR, EARTHQUAKE, El Nino, FAILURE, FLOOD, HUMAN BEHAVIOR, HUMAN MISTAKE, LANDSLIDE, OTHER, and HEAVY RAIN. Below the list are three buttons: 'Add Cause', 'Edit Cause', and 'Delete Cause'.

## Geography

### Geographical Level 0

The largest geographical unit in the dataset may be State, Province, etc., depending on the nomenclature of each country. The number gets larger, the unit gets smaller. The title of this field changes according to the names of the levels in each country. Administrator users can Add regions to the list, and Edit or Delete existing regions from the Region Administration screen. However, Avoid create regions if it is not absolutely necessary. This occupies space in the hard disk, in your database server and slows down overall processing. Consult your Administrator if you wish to make changes to datasets.

For example of the India databases, Geographical level 0 is used to identify the State. Level 1 is for district and level 2 is for blocks. However, an exception is the Pacific region database; no other Geographical level is used while DesInventar national level, County have applied.

**IMPORTANT:** This **IS A MANDATORY FIELD** of the datacard, because it's the minimum possible geo-referenced level (largest geographical unit in the dataset).

HOME ANALYSIS DOWNLOAD ABOUT

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

Region **Odisha** - [019]

**Geographic Level Definition**

Level 0. Name:  English:  Code length:

Level 1. Name:  English:  Code length:

Level 2. Name:  English:  Code length:

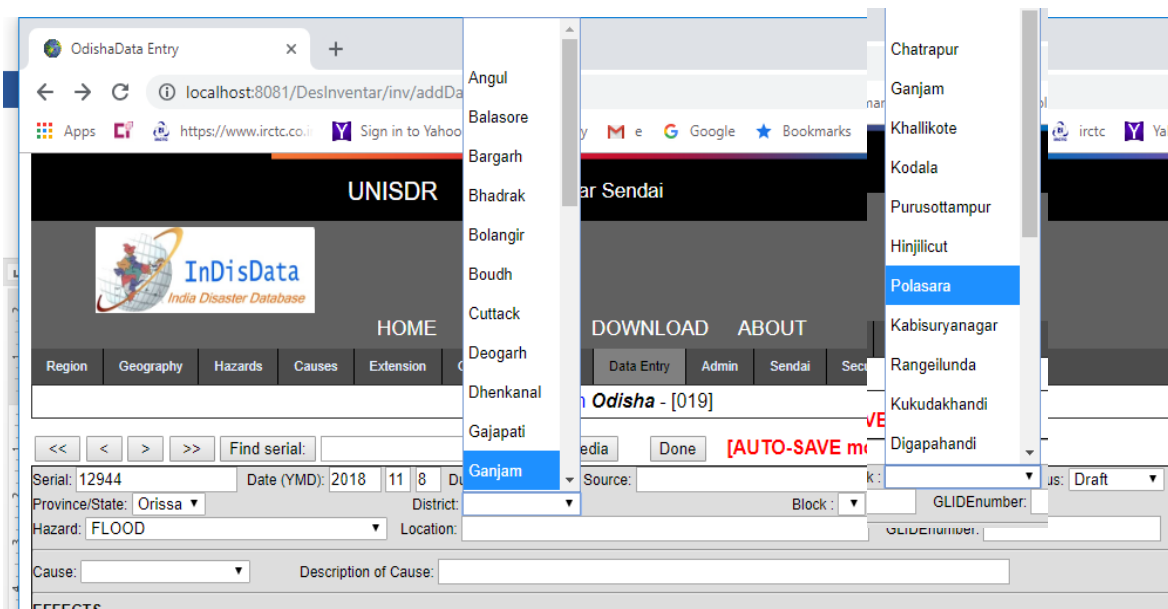
**IMPORTANT:** It is advisable to use **Census Codes** for the different levels since the data can be analysed with other datasets and also will help in maintaining uniformity.

### Geographical Level 1

The title of this field changes according to the names of the levels in each country. It may be Municipality/block, district, etc., and corresponds to the second classification level or political-administrative subdivision.

This field is NOT mandatory, but it **MUST** be entered **when a disaster affects only one block or a municipality.**

If you do NOT enter this field, the system will assume that the disaster affected ALL the element of this ENTIRE LEVEL. For example, if you don't choose Level 1 & 2, the system will show that the event affected the entire Level 0.

**How to use it:**

This is a multiple-choice list that you can use in several manners:

- Use “arrow up” and “arrow down” keys to change the selection;
- Use the first letter of each option. If more than one option begins with the same letter, press the letter several times until the option you are looking for appears;
- Use the cursor: when you click the downwards-arrow that is found to the right of the list, the list is displayed. If the list includes more elements than those visible, a scroll bar will be displayed; use it to see all the options. A click an option will activate it, or disable it if it is already activated.

## Geographical Level 2

The title of this field changes according to the names of the levels in each country. It may be District, Parish, etc., and corresponds to the third classification level or political-administrative division. This field is NOT mandatory, but it MUST be entered when a disaster affects only one subdivision.

For example, if this level district is not entered the program will assume that all the districts of the state were affected. Use it in the same way as Level1 list. See above & screen capture for detailed explanation.

## Location [Place]

Enter in this field the site where the event occurred, if the information is available. If the site corresponds exactly with the last geographical level reported, it is NOT necessary to type it again. This space is to specify the exact place in the municipality or geographical unit where the disaster occurred. It can be a rural settlement, a village or post, a farm, a city address, a geographical accident, a river, etc.



## Effects

Recording loss and damage information of hazardous events can be very challenging at times. Often, the reported figures will change as the data is received from the field and different sources, or it can be reported in different formats such as percentage instead of count, or mph instead of km/h, etc. Research can be very time consuming and requires acute attention to detail. For each country workflows and standards needs to be developed and tested to maintain consistency across all data. Data card structure and organising is different in both classic (i.e. older version) of DesInventar and DesInventar Sendai. However the fields are organised under respective Sendai Framework Targets A-D in Desinventar Sendai while in the classic version the general impacts are populated but not organised accordingly.

Select only events with:		Select events that affected:	
<input type="checkbox"/> Deaths	<input type="checkbox"/> Injured	<input type="checkbox"/> Water supply	<input type="checkbox"/> Sewerage
<input type="checkbox"/> Houses Destroyed	<input type="checkbox"/> Houses Damaged	<input type="checkbox"/> Health sector	<input type="checkbox"/> Education
<input type="checkbox"/> Directly affected	<input type="checkbox"/> Indirectly Affected	<input type="checkbox"/> Industries	<input type="checkbox"/> Transportation
<input type="checkbox"/> Evacuated	<input type="checkbox"/> Relocated	<input type="checkbox"/> Communications	<input type="checkbox"/> Power and Energy
<input type="checkbox"/> Hospitals	<input type="checkbox"/> Missing	<input type="checkbox"/> Relief	<input type="checkbox"/> Agriculture
<input type="checkbox"/> Damages in roads Mts	<input type="checkbox"/> Damages in crops Ha.	<input type="checkbox"/> Other sectors	
<input type="checkbox"/> Lost Cattle	<input type="checkbox"/> Education centers		

Date range: (YYYY MM DD)  
 From:  To:  GLIDNumber:

**SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION**

HOME ANALYSIS DOWNLOAD ABOUT

Region: **Albania - [alb]**    Upload media    Done    [AUTO-SAVE mode]

Serial: 11852    Date (YMD): 2018 12 7    Duration (d):    Source:    Status: Draft

Region:    District:    Commune:    GLIDNumber:    Event: FLOOD    Location:    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: Number

Male: Number

**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-  
3):  
Number

**By sex:**

Female: Number

**By Age:**


Children (0-14): Number

**Other disaggregation:**

With disabilities: Number

Please locate approximately the center  
 Right-click to position disaster. Double-click to :  
 controls to zoom in/out.

Map    Satellite



Latitude: 41.153332    Longitude:

**Tip!**

Be mindful when entering data and checking the boxes. The check mark will remain if you change an entry number to 0, so you MUST manually remove the check. Integrate validation checks for data entry and updates through quality control and manual cross checks.

## Sendai Framework Target A

Report human losses (in number of people); number of deaths and missing persons attributed to disaster. If available, enter disaggregated figures.

### Number of deaths (A-2)

Report the number of people who died due to direct causes, whether immediately or some time after the disaster. Once the final official data is available, it must be re-entered to the respective part with comments for any reference. For example, when official figures differ from those of other sources. Assumptions about deaths not officially verified must be registered under “Comments”, stating the information source.

Disaggregated data can be entered in Sendai Version. The  $\Sigma$  button can only be used for calculation of the sum of Female and Male.

#### Tip!

Sum button will only work for gender disaggregation not from age disaggregation and disability. There is no automatic error detection is available if total of people entered in disaggregation by age does not correspond to total from disaggregated numbers by gender.

### Number of missing [Missing persons] (A-3)

Report the number of persons whose whereabouts after a disaster are unknown. It could include people presumed dead without physical evidence according to the national legislation, however, data on dead and missing persons must be mutually exclusive. (E.g. A country presumes that a person will be considered as dead in government records if not returned or found after 5 years of the disaster event.)

## Sendai Framework Target B

Report human and physical impacts required to compute Indicators for Target B (and Target C). Only directly affected people are reported here.

Definitions below are from OIEWG Report:

**Directly affected** : People who have suffered injury, illness or other health effects; who were evacuated, displaced, relocated; or have suffered direct damage to their livelihoods, economic, physical, social, cultural and environmental assets.

**Indirectly affected** : People who have suffered consequences, other than or in addition to direct effects, over time due to disruption or changes in economy, critical infrastructures, basic services, commerce, work or social, health and physiological consequences.

Directly affected people attributed to disasters (B-1) are comprised of injured or ill people (B-2), people whose damaged dwellings were damaged or destroyed (B-3 & 4) and people whose livelihoods were disrupted or destroyed (B-5).

### Injured or Ill (B-2)

Report the number of persons with physically injured and ill, including cause of epidemics and outbreaks.

#### Tip!

Historically, there has been very little mention of 'Injured' in the situation reports available in many countries. Injured is generally available in the case of accident related disasters and also Data is recommended to be entered as such if it is stated. If no reference to 'Injured' is given do not enter data

**Sendai Framework Target B**

In this section please register human and physical impact required to compute Indicators B2, B3, B4 and B5

**Injured or Ill (B-2)**

<b>Total injured/ill (Indicator B-2):</b> <input type="text"/> <input type="checkbox"/> <input type="text"/> <input type="text"/> Σ	<b>By sex:</b> <b>Female:</b> <input type="text"/> Number <b>Male:</b> <input type="text"/> Number	<b>By Age:</b> <b>Children (0-14):</b> <input type="text"/> Number <b>Adult (15-64):</b> <input type="text"/> Number <b>Elder (&gt;65+):</b> <input type="text"/> Number	<b>Other disaggregation:</b> <b>With disabilities:</b> <input type="text"/> Number <b>Below Poverty Line:</b> <input type="text"/> Number
--	--	--	---

#### Tip!

For many countries, 'Affected' includes people affected during and immediately after the event. However countries may choose to have different timeframes for each type of hazard..

## Impact in damaged and destroyed dwellings (B-3 &B-4)

Numbers of damaged and destroyed dwellings are reported here, together with people living in dwellings. The information on the numbers of these dwellings is used for. The definition of damage may be varied across countries, however, damaged dwellings and destroyed dwellings are mutually exclusive and the definition is consistent throughout the reporting period.

## Impact in livelihoods (B-5)

Report the number of people whose activities required for securing a means of living or as their source of income has been affected.

<p><b>Impact in damaged dwellings (B-3)</b></p> <p>People Living in damaged dwellings:</p> <p>Number of Dwellings Damaged (Sub-indicator B-3a):</p> <p>Number <input type="text"/></p> <p>People Living in these dwellings(Indicator B-3):</p> <p>Number <input type="text"/> <math>\Sigma</math></p>	<p>By sex:</p> <p>Female:</p> <p>Number <input type="text"/></p> <p>Male:</p> <p>Number <input type="text"/></p>	<p>By Age:</p> <p>Children (0-14):</p> <p>Number <input type="text"/></p> <p>Adult (15-64):</p> <p>Number <input type="text"/></p> <p>Elder (&gt;65+):</p> <p>Number <input type="text"/></p>	<p>Other disaggregation:</p> <p>With disabilities:</p> <p>Number <input type="text"/></p> <p>Below Poverty Line:</p> <p>Number <input type="text"/></p>
<p><b>Impact in Destroyed dwellings (B-4)</b></p> <p>People Living in destroyed dwellings:</p> <p>Number of Destroyed Dwellings (Sub-indicator B-4a):</p> <p>Number <input type="text"/></p> <p>People Living in these dwellings(Indicator B-4):</p> <p>Number <input type="text"/> <math>\Sigma</math></p>	<p>By sex:</p> <p>Female:</p> <p>Number <input type="text"/></p> <p>Male:</p> <p>Number <input type="text"/></p>	<p>By Age:</p> <p>Children (0-14):</p> <p>Number <input type="text"/></p> <p>Adult (15-64):</p> <p>Number <input type="text"/></p> <p>Elder (&gt;65+):</p> <p>Number <input type="text"/></p>	<p>Other disaggregation:</p> <p>With disabilities:</p> <p>Number <input type="text"/></p> <p>Below Poverty Line:</p> <p>Number <input type="text"/></p>
<p><b>Impact in Livelihoods (B-5)</b></p> <p>Whose livelihoods were affected(Indicator B-5):</p> <p>Number <input type="text"/> <math>\Sigma</math></p>	<p>By sex:</p> <p>Female:</p> <p>Number <input type="text"/></p> <p>Male:</p> <p>Number <input type="text"/></p>	<p>By Age:</p> <p>Children (0-14):</p> <p>Number <input type="text"/></p> <p>Adult (15-64):</p> <p>Number <input type="text"/></p> <p>Elder (&gt;65+):</p> <p>Number <input type="text"/></p>	<p>Other disaggregation:</p> <p>With disabilities:</p> <p>Number <input type="text"/></p> <p>Below Poverty Line:</p> <p>Number <input type="text"/></p>

## Other Human and Economic Impacts

This section maintains continuity of “classical” DesInventar. Data reported under the following categories will not be used for the Global Indicators of the Sendai Framework, however, countries should continue reporting if they may wish. In many cases evacuated and relocated people are included in affected people by the fact that their dwellings were damaged and destroyed (B-3 and B-4).

### Relocated

Number of persons who have been moved from their homes to new permanent sites. If the information is available by family, the number of persons will be estimated based on the average number of households.

### Evacuated

Number of persons temporarily evacuated from their homes. If the information is available by family, the number of persons must be estimated based on the average number of households .

**Other Human and Economic Impacts (DesInventar)**

Number of evacuated people: Number <input type="text"/>	Estimate of number of affected: Number <input type="text"/>	Estimate of Directly affected: Number <input type="text"/>	Number of Relocated: Number <input type="text"/>
Total economic loss (local currency): Number <input type="text"/>	Total economic loss (US\$): Number <input type="text"/>	Other losses (description): Text <input type="text"/>	Magnitude of the hazard: Text <input type="text"/>

### Total economic loss (local currency)

Amount of direct losses in present value (local currency).

### Total economic loss (US\$)

Amount in US dollars equivalent to the losses entered in the previous field, based on the exchange rate in force the date of the disaster. This value is useful to make comparative evaluations.

### Other losses

This is a text field for additional information such as estimated value of losses due to indirect or induced effects attributable to interruptions or deficiencies in the provision of public services, the hampering of trade and work, and geographical isolation.

### Magnitude of the hazard

This alpha-numeric field is used to enter international magnitude values for earthquake, volcanic eruption, tsunami, tropical cyclone (hurricane, or tropical storm are other terms used, depending on what part of the world you are in).

## Sendai Framework Targets C and D

Report direct economic losses and damages to different sectors, productive assets, critical infrastructure and disruption to basic services.

Definitions below are from OIEWG Report:

Economic loss: Total economic impact that consists of direct economic loss and indirect economic loss.

**Direct economic loss:** the monetary value of total or partial destruction of physical assets existing in the affected area. Direct economic loss is nearly equivalent to physical damage.

Indirect economic loss: a decline in economic value added as a consequence of direct economic loss and/or human and environmental impacts.

Direct economic losses usually happen during the event or within the first few hours after the event and are often assessed soon after the event to estimate recovery cost and claim insurance payments. Direct economic losses attributed to disasters (C-1) are comprised of direct agricultural loss (C-2), all other damaged or destroyed productive assets (C-3), losses in housing sector (C-4), damaged or destroyed critical infrastructure (C-5) and cultural heritage (C-6).

### Damages and losses in Agriculture (C-2)

Report economic losses and physical damages to Agricultural products and productive assets.

#### Damages in crops Ha. [Hectares]

Crop or pasture fields are damaged or destroyed. You can disaggregate by crop type.

### Sendai Framework Targets C and D

In this section please register damages to productive assets, critical infrastructure and disruption to basic services.

#### 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"/> $\Sigma$	<input type="text" value="Number"/>	<input type="text" value="Number"/>

Disaggregation:

	Economic loss:	Total Affected (Area) [Ha]:	Damaged (Area) [Ha]:	Destroyed (Area) [Ha]:
Crops	<input type="text" value="Number"/>	<input type="text" value="Number"/> $\Sigma$	<input type="text" value="Number"/>	<input type="text" value="Number"/>
Maize	<input type="text" value="Number"/>	<input type="text" value="Number"/> $\Sigma$	<input type="text" value="Number"/>	<input type="text" value="Number"/>

**Tip!**

In few countries, damaged and destroyed hectares are both counted as a total here under Crop Area Affected.

To convert areas from acres to hectares please use the following formula:  $ha = ac / 2.411$   
or use an online conversion tool under the following link

<http://www.metric-conversions.org/area/acres-to-hectares.htm>

**Livestock, Forestry, Aquaculture, Fisheries**

Number of animals lost etc.

**Agricultural Productive Assets Losses (C-2LA)**

**Damages and losses in all other Productive Assets (C-3)**

Productive assets would be disaggregated by economic sector, including services, according to standard international classifications. Countries would report against those economic sectors relevant to their economies, which would be described in the associated metadata.

**Losses in Housing Sector (C-4)**

Damaged housing is defined as housing suffering minor damage other than structural or architectural, and **continuing to be habitable**, although requiring basic repairs and cleaning. Destroyed housing is that have collapsed, or have been swept, submerged or damaged in such a manner that they are **not habitable any more**. The number of damaged or destroyed dwellings can be imported from Target B by click the  $\Sigma$  button.

Housing Sector (C-4)	Economic loss
<p>Affected (damaged or destroyed) dwellings:</p> <p>Total number of dwellings (from Target B):</p> <p>69 <math>\Sigma</math></p>	<p>Cost of damaged / destroyed dwellings:</p> <p>Total (Indicator C-4):</p> <p>Number <math>\Sigma</math></p> <hr/> <p>Economic value of Houses Damaged:</p> <p>Number</p> <p>Economic value of Houses Destroyed:</p> <p>Number</p>

**Other Damages and losses in Critical Infrastructure (C-5)**

**Health sector**

hospital, health center, etc.

**Education sector**

Schools, universities, training centers, etc. destroyed or damaged.

**Other infrastructure**

Including damages in roads, transportation, basic services such as electricity, water, and communication

**Tip!**  
 In many countries, the term partial damage is used for damaged and fully damaged is used for destroyed. In the Pacific region, damaged and destroyed roads in meters are both counted as a total here.

Economic loss and number of facilities/units of other infrastructures (C-5, D-4):				
Economic loss from affected Infrastructures (for C-5):	Number of other affected infrastructures (D-4):	Number of damaged infrastructures:	Number of destroyed infrastructures:	
Number	Number	Σ	Number	Number
Disaggregation:				
Roads	Economic loss:	Total Affected (Road) [M]:	Damaged (Road) [M]:	Destroyed (Road) [M]:
	Number	Number	Number	Number
		Σ		
Paved road - 1 Lane	Economic loss:	Total Affected (Road) [M]:	Damaged (Road) [M]:	Destroyed (Road) [M]:
	Number	Number	Number	Number
		Σ		

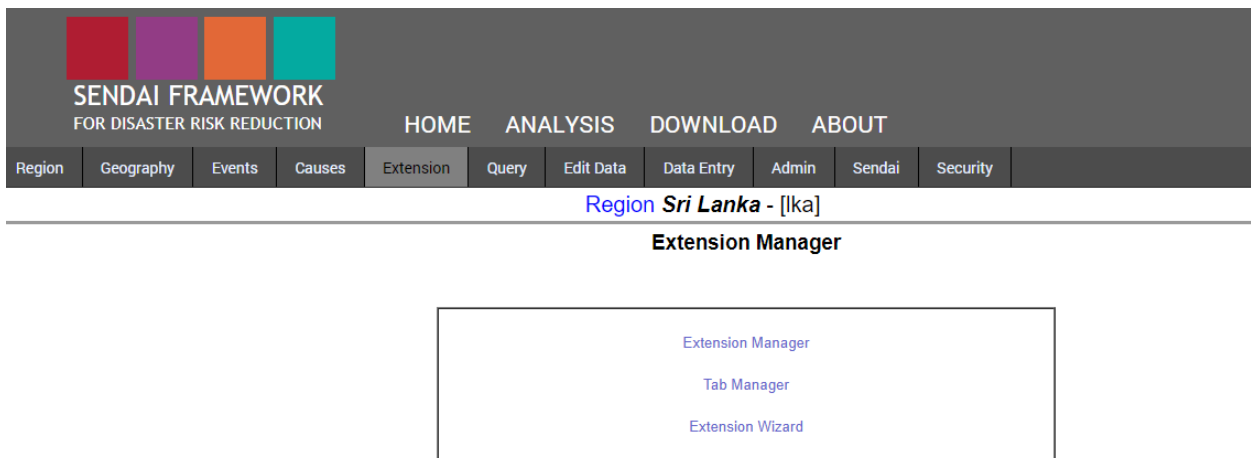


## Extension Tab

If you are familiar with the definition of databases, you will find this process very similar. The expanded card is basically a set of “Fields”, each with its corresponding type of data. You can define additional labels for interpretation by the operator, and comments for long term documentation. The definition of both variables and tabs includes the three usual possibilities: creation of new fields or tabs, deletion of fields, and modification of the attributes of the fields/tabs. It is quite common that users find it necessary to maintain additional variables in each event record that are not included in the datacard.

Desinventar Sendai is designed in a way to capture all the data required for analysing typological, spatial, temporal and sectoral impact and also to support Sendai Framework Monitoring. It is quite usual that Desinventar Database managers find it necessary to keep record of a series of additional variables in each disaster, that are not included in the standard structure (pre-defined in the system) one. The administrator (the “owner”) of the database decides which additional variables will be included in the expanded card for each case. An extended datacard can be organized in several sections (tabs) with additional information, e.g. on health, education, transportation etc. as desired. For example a database manager wish to add a new variable e.g. number of IDP camps damaged, this new variable can be added and appeared under housing and critical infrastructure respectively.

The Extension Tab provides indications about the process for defining the extended card. The process functionality is split into two. One is Extension Manager and **Extension Wizard** for extension variables management, and the other **Tab Manager** for tabs management. Once the Extension tab is selected a screen with three links will be shown. The three links are “Extension Manager”, which contains the functions to define all the additional variables needed, the “Tab manager”, where these groups are defined and managed and the Extension Wizard.



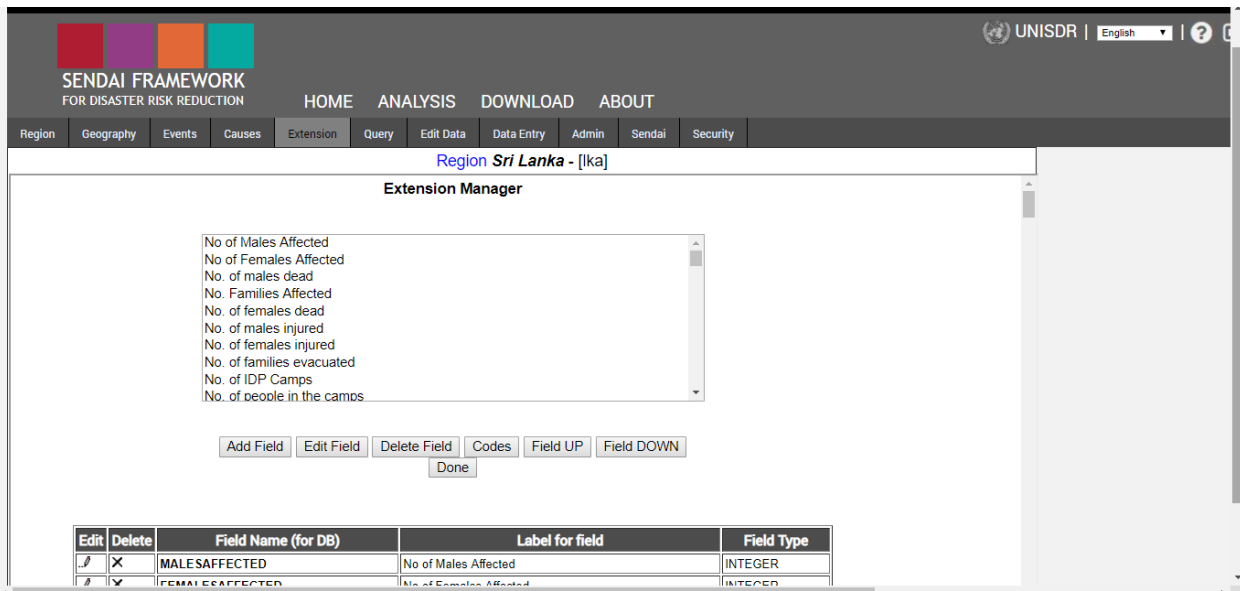
### Extension Manager

To add any additional field click Extension tab, go to **Extension Manager** and click the add field button. Under the add field button input information including Field name, Label, Field type (text, numerical etc. ) and length of field. Also select under which tab you would like to add the newly created field. Once the field definitions are entered, click Save Field if you wish to complete this step or cancel to ignore.

Depending on the database platform you can create MAXIMUM 180 fields in an extended card, the limit for MS ACCESS databases. In other database platforms (SQL Server, Oracle, etc.) this limit goes to 1000 variables. The field must be named following the convention of database names: the name must start with a

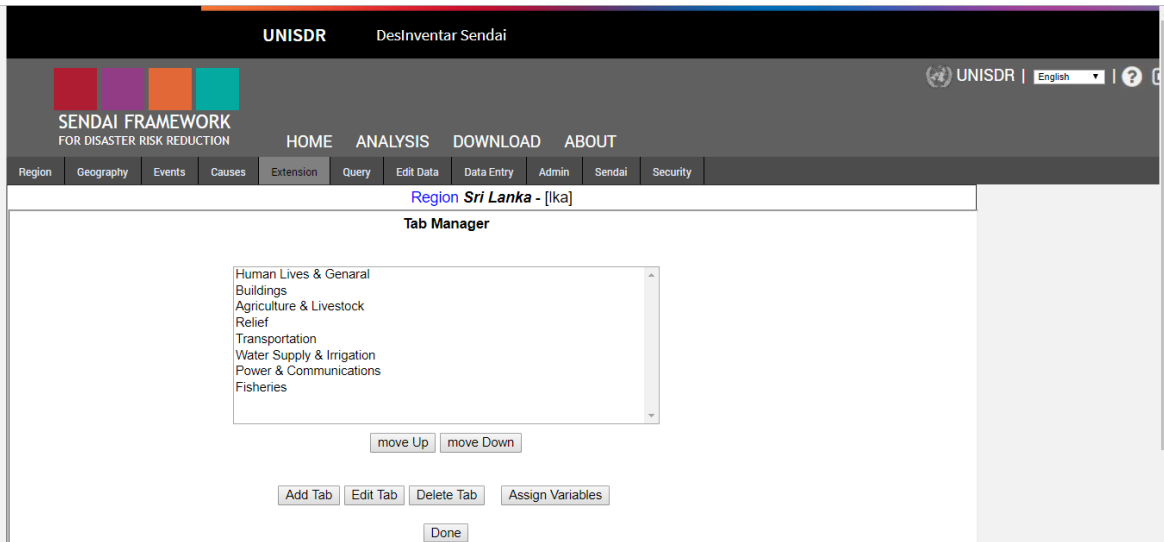
letter, followed by any combination of letters and numbers, with no embedded spaces and be of 32 character or less length. Note that the length attribute is applied only to text-type fields. The maximum length is 255 letters. If you need longer texts, use a Memo field (without length limits).

There are 7 different data types of fields available. This include Text, Integer, Floating Point, Currency, Date, Memo, Yes/No (Boolean), Dropdown list and Multiple choice. The Extension Manager contains the following functions, each one on a button. To include a new field press the button add field and the newly created field will appear at the bottom i.e. end of the list by default. To modify the labels (local language and English) as its description click the button edit field. To delete a field, click the button delete field but keep in mind that when you delete a field, you eliminate the information stored in this field in all the cards, and this is IRREVERSIBLE. The same applies to a change in the length: if you reduce the length of a field, you will cut the information, and this is irreversible too.



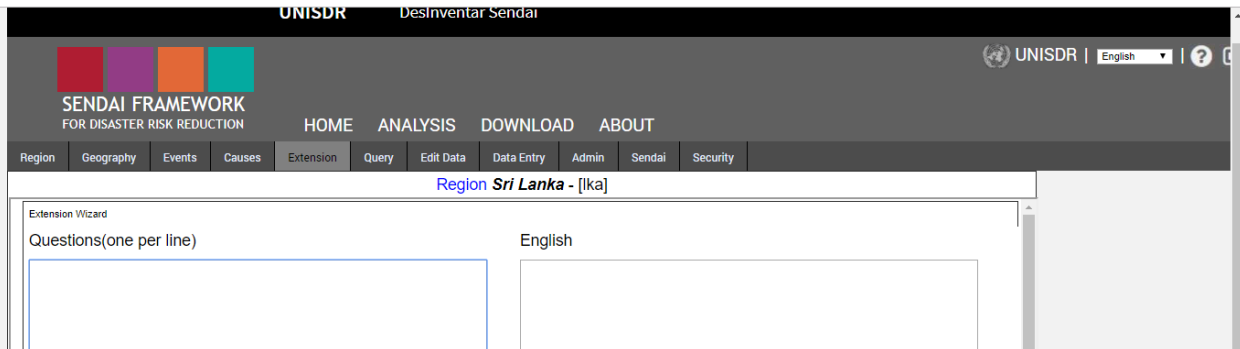
### Tab Manager

Tab Manager under the Extension tab allows you to organize the extension variables in a way it is easier to find them, to type and update them and to produce smaller data entry screens, extended variables can be grouped in tabs. The Tab Manager contains the following functions, each one on a button similar to extension manager. Once you create a new tab e.g. Education, the new tab will appear at the end of the list. Using the Edit Tab you can modify the labels (both in local language and English). It is possible to delete a tab using delete function, but keep in mind that when you delete a tab, all fields return to the default extension group. Once a new tab is created for example Education, you can add variables using the Assign Variables function. This function allows the user to define which variables are to be shown under each tab. User must select one tab from the list, and click on this button. All variables will be shown on the left hand list, and the list of variables that will appear on the tab in the right side list. Variables can be selected and moved to the right and left with the corresponding “Add to Tab” and “Remove from Tab” buttons. Use Field UP/Down buttons help moving the place the tabs appear up and down (left and right on the datacard).



### Extension Wizard

The Extension Wizard allows a country to input multiple variables at a time, while under the Extension Manager the process has to be done one by one. This is useful when a country already has a list of additional variables.

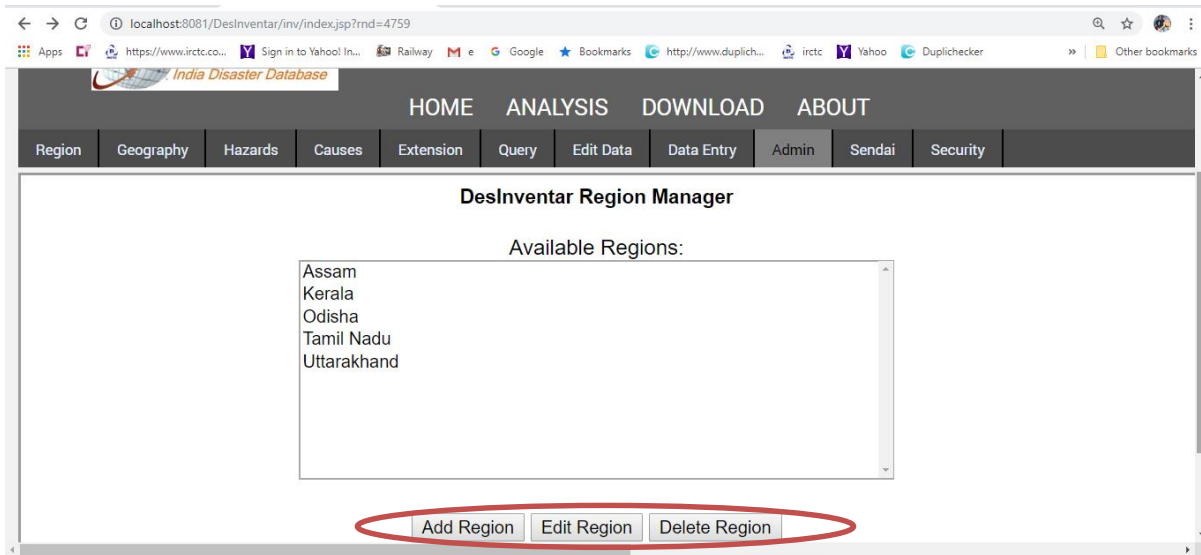
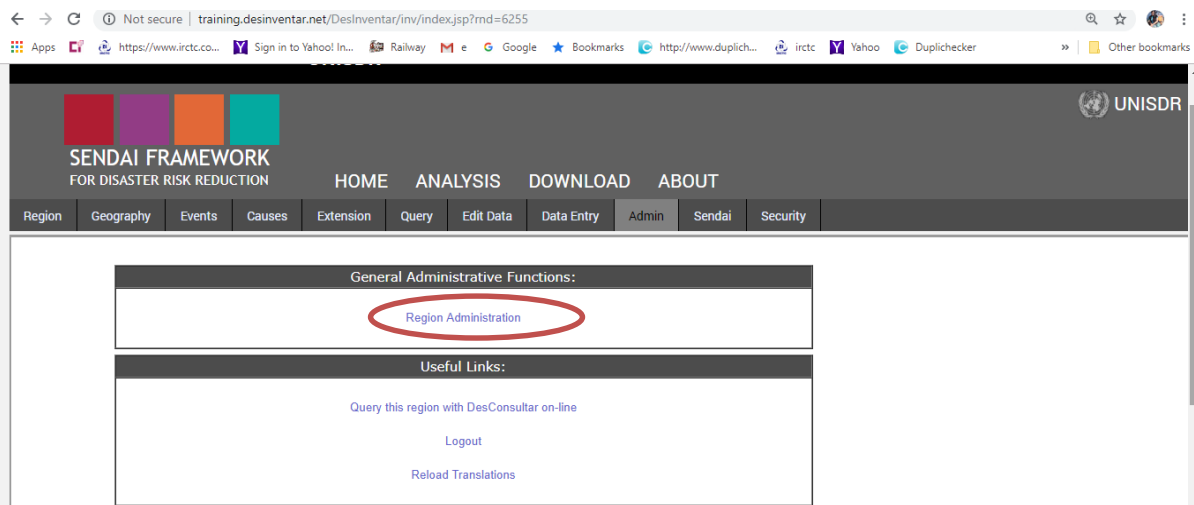


## Admin Tab

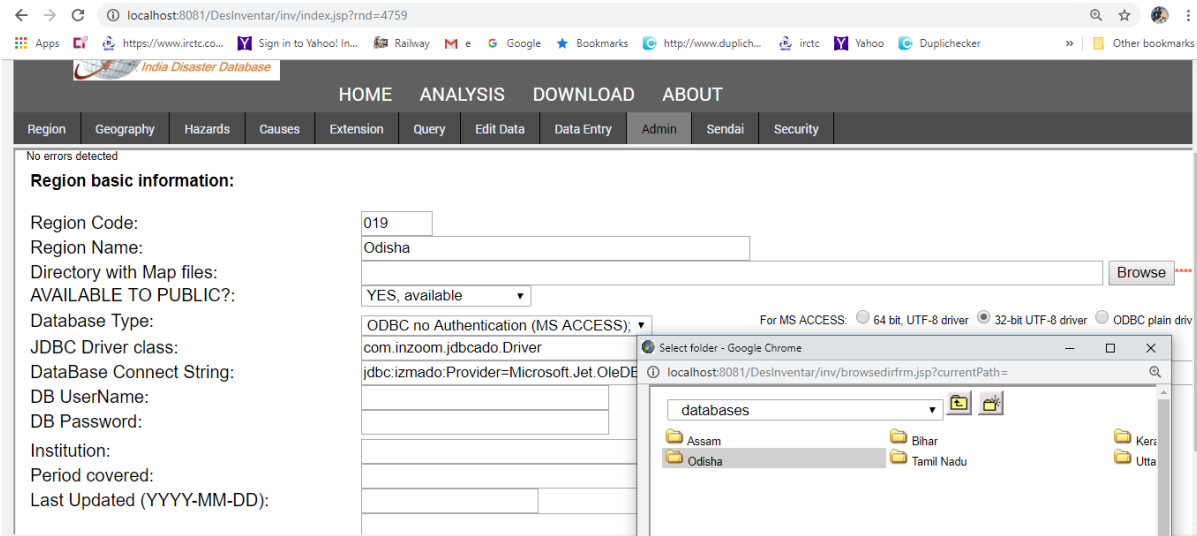
The Admin tab allows you to work on administration of geographic regions, creating or modifying geographic regions.

### Create new region or modify existing regions

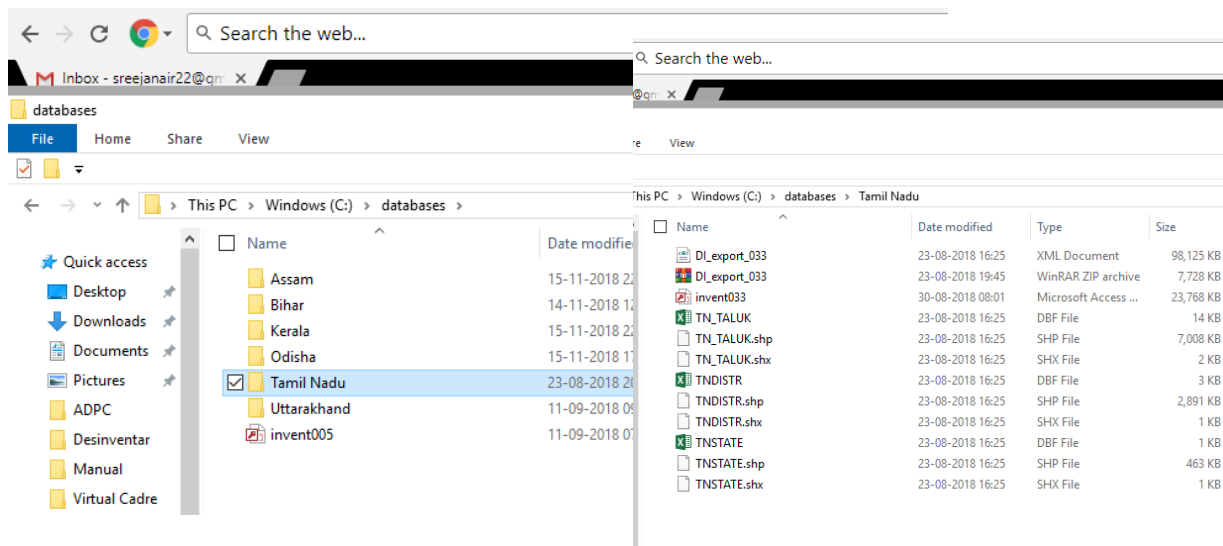
To create a new region, go to Region Administration and then under the DesInventar Region Manager select the option “Add region”.



Enter all the basic information for the region in the table. First enter the region code (preferably census code) as per the Census data of the country and the Region name (for example country name).



Please note that you should first create a database folder in C: drive of your computer with the name of databases and create another sub folder with the country or state name (lower level of geography) in the folder to save maps and database in the same folder. You can create the database folder any where in your system.



Once the directory with maps is ready and saved in your local system, Click on the Browse button of Directory with Map files to select the directory.

The data can be made available to public or for local use only. Select database type from the pulldown menu. You can also import an already existing database in other formats. Provide DB UserName and Password. Users are encouraged to provide more information about the name of the institution, time

period, description and webpages although these information is not mandatory. Once you enter the basic information about the region, click on the Save Region button. Then you will see a new screen with the following options.

If you want DesInventar to create a BLANK DesInventar database, select b). The database will be created as: C:/database/<folder name>/invent032.mdb.

If you already have an existing database for the region, you can import and use it in DesInventar. The database expected location is: C:/database/. Click here to finish setting and testing your database Connection. Now you can see the newly created region with in the Available Region list.

Options to edit and delete the regions also available in the system.

Meeting of government departm x Desinventar on-line : Uttarakhan x +

localhost:8081/Desinventar/inv/index.jsp?rnd=4759

Apps https://www.ircct.co... Sign in to Yahoo! In... Railway e Google Bookmarks http://www.duplich... ircct Val

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

**Desinventar Server has not been able to find your Database.**

Message was: -net.ucanaccess.jdbc.UcanaccessSQLException: UCAExc:::4.0.3 given file does not exist: C:\databases\Assam\invent021.mdb  
SRC=jdbc:ucanaccess://C:\databases\Assam\invent021.mdb; 2nd try with UCanAccess-net.ucanaccess.jdbc.UcanaccessSQLException: UCAExc:::4.0.3 given file does not exist: jdbc:ucanaccess:C:\databases\Assam\invent021.mdb SRC  
64=jdbc:ucanaccess://jdbc:ucanaccess://C:\databases\Assam\invent021.mdb;

**You have the Following options:**

a) You have an existing database in that location and you want **Desinventar** to [find it and use it](#). The database expected location is: C:/databases/Assam/

b) You want **Desinventar** to [create a BLANK Desinventar database](#)(the database will be created as: C:/databases/Assam//invent021.mdb).

c) You want **Desinventar** to [create a BLANK Desinventar database with predefined EVENTS and CAUSES](#) (the database will be created as: C:/databases/Assam//invent021.mdb).

d) You have created/fixed your **Desinventar** database and just want to [retry the Connection](#)

3) If you typed a wrong parameter, click [HERE](#) to re-enter or fix your Database connection parameters

## Manage Geographic regions and maps

Geographic Regions and Maps are essential for configuring a disaster loss database using DesInventar. As the rationale behind this disaster loss tracking system is that disasters have a temporal and a spatial footprint, maps are a core part of the tool, as they allow to register data at different geographic scales. When opening a new datacard for registering a disaster record at a specific geographic unit, the system will automatically refer to the names and codes that have been configured in the maps.

Desinventar software allows you defining a maximum of **3 geographic** level. The disaggregation levels you define will determine the type of geographical disaggregation that you could reflect in your database and therefore how you can register and analyze data.

While the system accepts DesInventar maps, the most common format used and accepted is Shapefile

format (.shp), that can be configured using GIS software such as QGIS, ArcGIS or other GIS software.

The shapefiles need to be pre-configured with names and codes, as this will allow the system to identify each region and the data to be entered on each geographical scale at Level 0, Level 1 and Level 2 of geographical disaggregation. For each level you will need to have a different shape file with the names and codes of units stored in the attribute table.

Level 0	Higher level of disaggregation	<i>e.g. State, Province</i>
Level 1	Intermediate	<i>e.g. Municipality, District</i>
Level 2	Lower level of disaggregation	<i>e.g. Block</i>

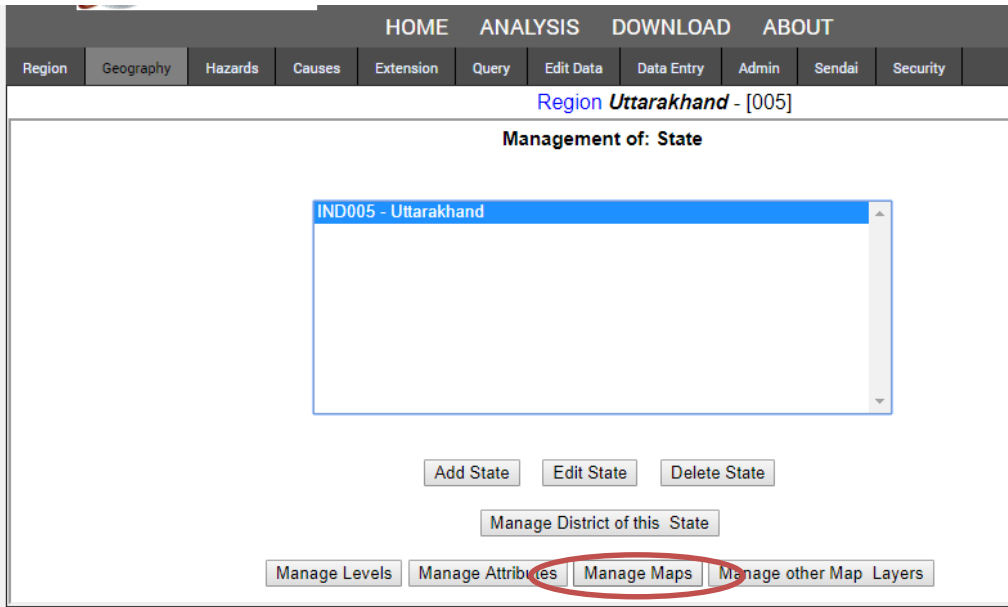
**Step 1** is to save maps.

The maps must in **shape file format** and geo-referenced. While copying the map files, assure of copying the all additional formats that support the reading of shapefiles (including attribute tables containing the names and the codes). Minimum 3 files i.e. the ones with extensions \*.shp, \*.dbf and \*.shx need to be copied to the database folder. Coordinate system shall be in **WGS-84**.

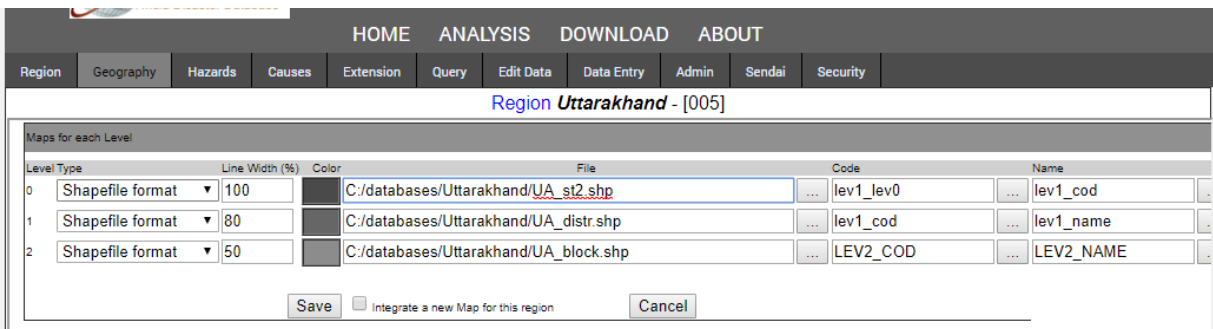
The shapefiles need to be pre-configured with names and codes, as this will allow the system to identify each region and the data to be entered on each geographical scale at Level 0, Level 1 and Level 2 of geographical disaggregation. For each level you will need to have a different shape file with the names and codes of units stored in the attribute table. (see Annex 1 for details)Once the maps are pre-configured to be compatible with the system, you can proceed to add them as part of the database. Before start working on the geography, make sure that the maps are saved in the same folder where the database is saved. Same as you did with your database, your maps need to be saved in your C: drive, so the system can identify where to find them. It is normally the case that the databases are saved in C:\Database. But you can save your database and maps in any drive or location in the system, as far as you remember the path.

**Step 2** is to upload the maps.

Once you have set up your database into the system, select your region in the Region Tab to upload the maps. Then, go to the Geography Tab, and click on the “Manage Maps” button. Here, you will be able to upload and customize your maps.



You can configure the maps for each level. At each Level type (0, 1 and 2), follow the next steps for the explanation of each section.



This drop-down menu allows you to select the type of map. If you are not using Desinventar format, change by Shapefile format. By clicking this button, you will be able to browse your map file for each layer. By doing this, you are informing the system where to find your map for each layer. Remember, that in Step 1, you saved your database and maps on the C:\Database folder. Remember that Level 0 refers to the higher level of geographical disaggregation (Province or equivalent), and Level 2, the lowest level of disaggregation (Municipality, sub-district or equivalent). Browse the directory and save. You need to pre-configure your map layers with names and codes in order to make them compatible with the system. By clicking the drop menu under code, you will be able to select the column of the attribute table containing the codes (for Uttarakhand database it is CODIGO). The system will automatically refer to those columns and codes for displaying your map. After selecting the codes you can choose the column containing the names in the Attribute Table that are going to be displayed by the system (for Uttarakhand database it is NOMBRE). Once you have completed all the steps, don't forget to tick the check-box and integrate a new map for this region and then Save.

### Step 3 is to configure the maps.

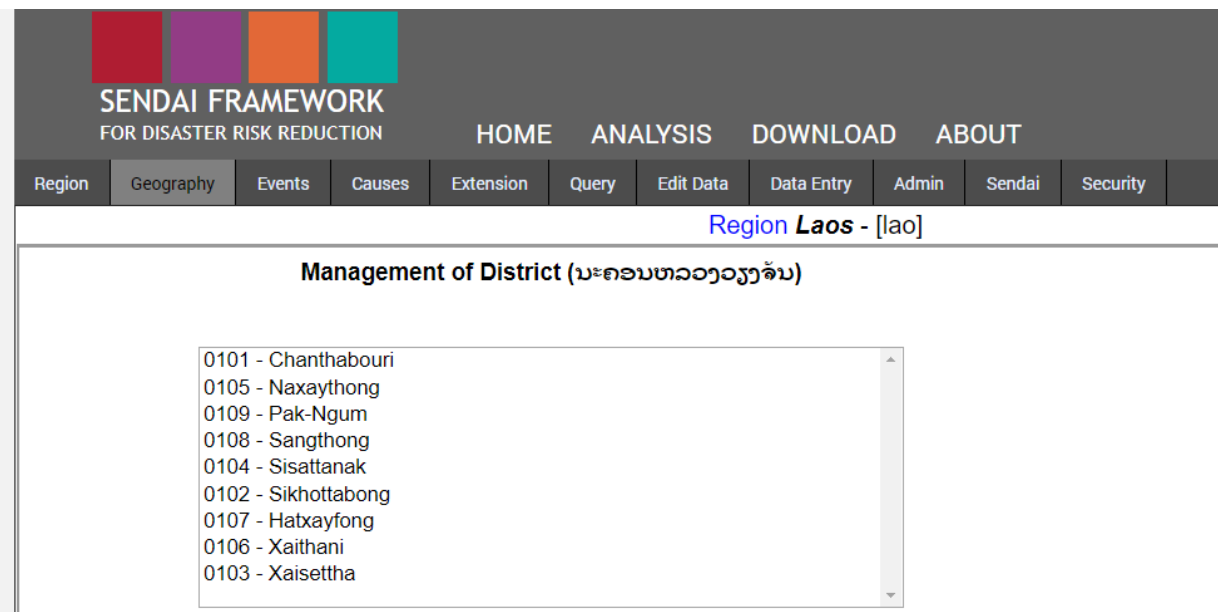
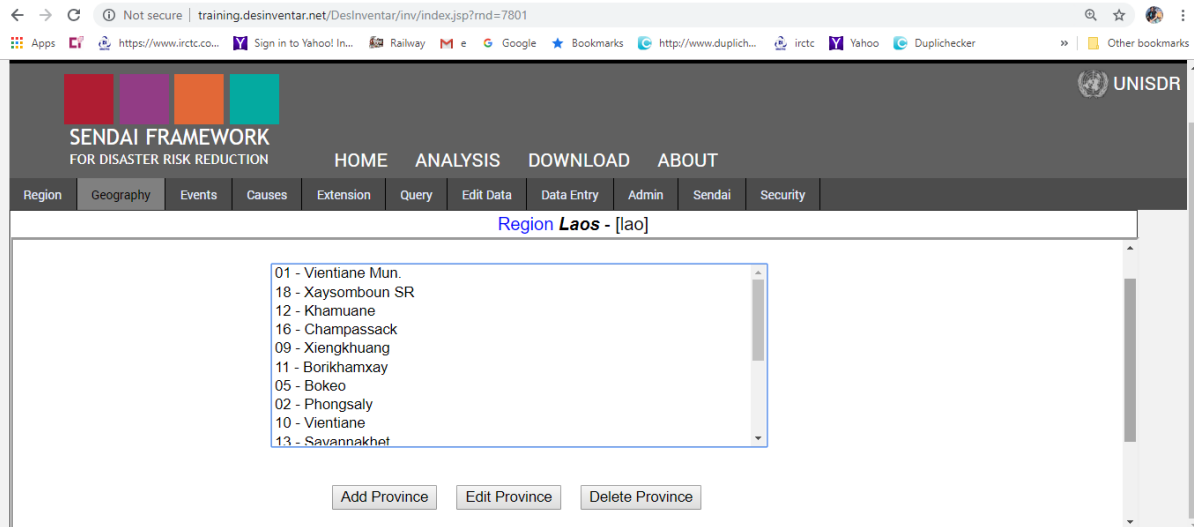
Once you have uploaded the maps go back to geography tab again. The system will automatically displays Level 0 (Region, Province or equivalent) with its codes and names. You can now add, edit and delete each



one individually. However, if you have successfully pre-configured your shapefiles, you do not need to use this. By first selecting a Region/Province and clicking on “Manage District of this Region/Province”, you will be able to explore Level 1 (District or equivalent) of that region. You will see that the system will display only the districts contained in that region. For example, if you select the Province 01 Vientiane Mun. of Lao (with Code=001), has 09 districts (with codes=0101 to 0109), which reflects the pre-configuration of codes and names. At its turn, you will be able to configure Level 2 of that district. This will enable you to check and confirm that all of the regions are duly configured. (see Annex 1 for details)

## Geography Tab

Once maps have been configured, the Geography Tab allows you to manage lower levels of geography. The first screen shows a list of Level 0 (Region, Province, etc.).



By clicking on the “Manage Levels” button, you will be able to configure your different levels of geographical disaggregation. As you see, the system displays default names for the Levels (1). If the administrative divisions of your country have different names (e.g. Department instead of Province), feel free to rename them, as well as in your local language. You can also configure the Level names in English (2).

Region **Laos** - [lao]

### Geographic Level Definition

Level 0.	Name:	<input type="text" value="Province"/>	English:	<input type="text" value="Province"/>	Code length:	<input type="text" value="2"/>
Level 1.	Name:	<input type="text" value="District"/>	English:	<input type="text" value="District"/>	Code length:	<input type="text" value="4"/>
Level 2.	Name:	<input type="text" value="Sub-district"/>	English:	<input type="text" value="District"/>	Code length:	<input type="text" value="6"/>

Make sure that the code length is the same as the one you pre-configured in your shapefiles (attribute table in the map files). If the code length is different from the codes pre-configured in your shapefiles, the system will not be able to display your map (remember that in Step 2, you selected names and codes, therefore the lengths of the codes need to match). In the example of Laos province shown above, Code length was 2 (two digits) and its respective districts, the code length was 4 (four digits). So, you need to check and confirm your code lengths accordingly. By clicking on the “Manage Attributes” button, you will be able to change the Attribute Table of your shapefiles. You can also use your GIS software (e.g. QGIS) to edit the attribute table (See Annex 1).

If you want to add other map layers such as rivers, roads, etc., you can do it by clicking on the button “Manage other map layers”. This option is useful if you want to overlay disaster information with other information (e.g. road infrastructure, hydrology, etc.). Please keep in mind that when going to Thematic Tab under the Analysis Module, you will not be able to deactivate the map layers like in GIS Software. All map layers will appear, which may hamper a good visualization. But this option is useful if you are running specific analysis (e.g. River basins and flood impacts). This step is optional and not mandatory.

Similarly by clicking on the “Google Geocode” button, you can select your location in Google maps for in the Analysis Module. Once you have configured your maps, you can go to the Analysis tab, then “Thematic Tab”, to make sure that your maps have been integrated in the system. If the map doesn’t display, check if names, codes, and code lengths etc. are correct and the maps are in the desired format and geo-referenced.

## Sendai Tab

Once you click Sendai tab in the main menu Sendai Framework Manager page will be opened with 5 major functions.

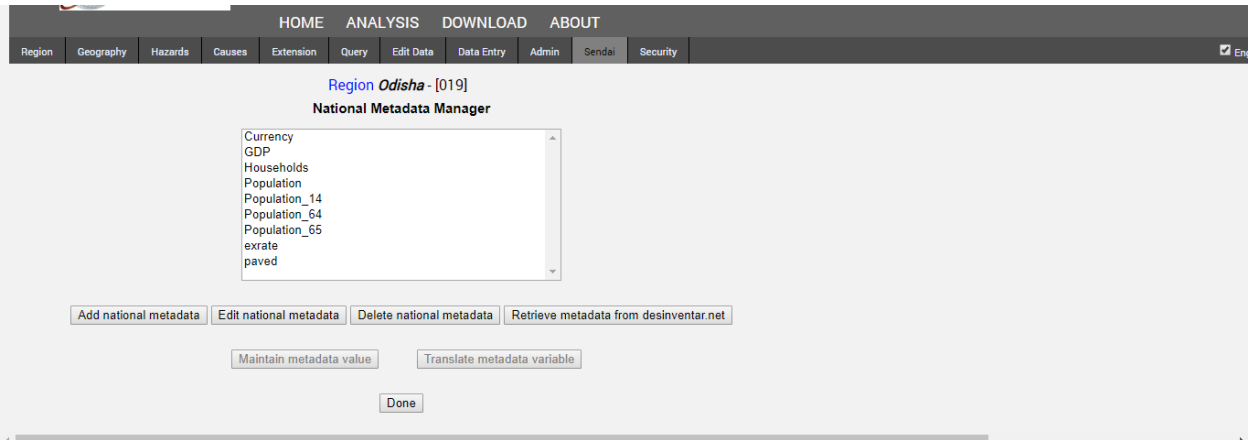
### Migrate database to support Sendai Targets and Indicators

This function will enable you to migrate the database from classic Desinventar database to Desinventar Sendai. Once you migrate the data to Desinventar Sendai, you will find a new format of Data Card with Sendai target A to D and indicators as well as the Sendai tab among the System Tabs above. In a classic Desinventar database you can enter sector wise effects i.e. damages and losses, however, they are not grouped under the Sendai Targets.

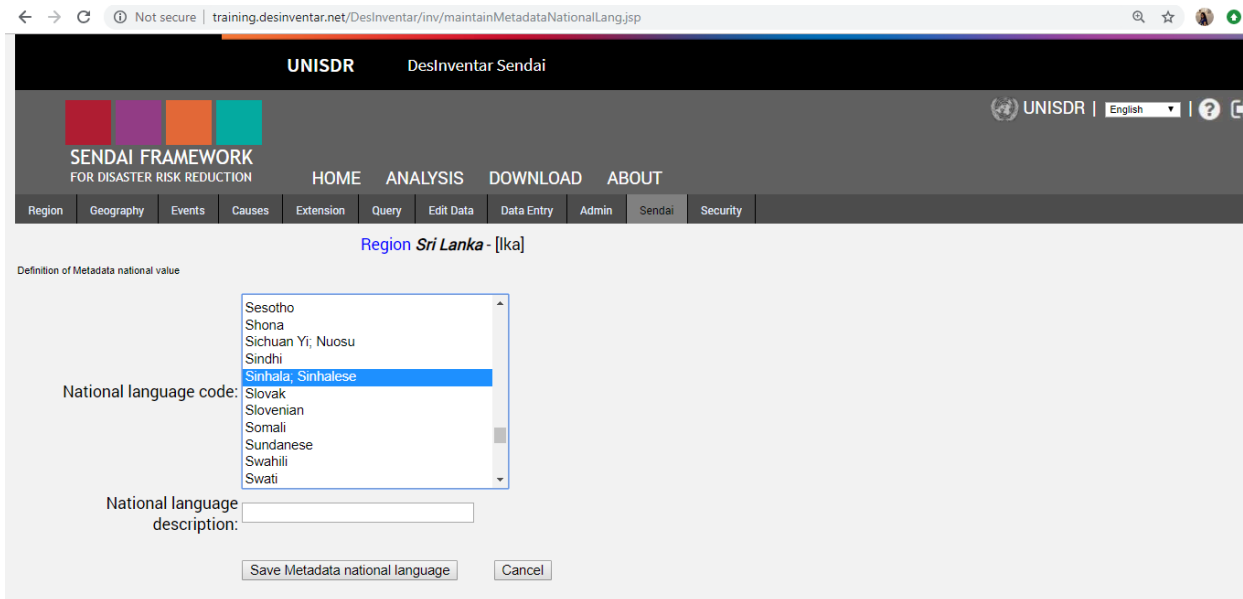
To go back to classic Desinventar database click on the second option “Roll-back the Sendai migration of database”.

### Metadata management

Once you click on the third option “Maintain National Metadata” the **National Metadata Manager** will be opened and you can find separate buttons functions such as add, edit, delete and retrieve metadata. Select “Add National Metadata” and then type the variable, description and source with exchange rate in the case of currency (as applicable). Click the button Save Metadata. Similarly you can edit variable, description or source by clicking the button edit metadata. Translate metadata option is available for Arabic, Russian, French, English and Spanish. Once you click this button you can view the description of the indicators in other languages as well.

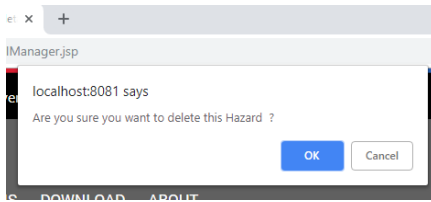


Besides translating metadata you can also save metadata in the national language of your country. This can be done by selecting any metadata in the list and clicking the button “Translate metadata variable”. Then select the language in the list and click “Save Metadata national language”.



If you wish to eliminate a variable click on the button delete metadata. Please keep in mind that once deleted you cannot undo this step.

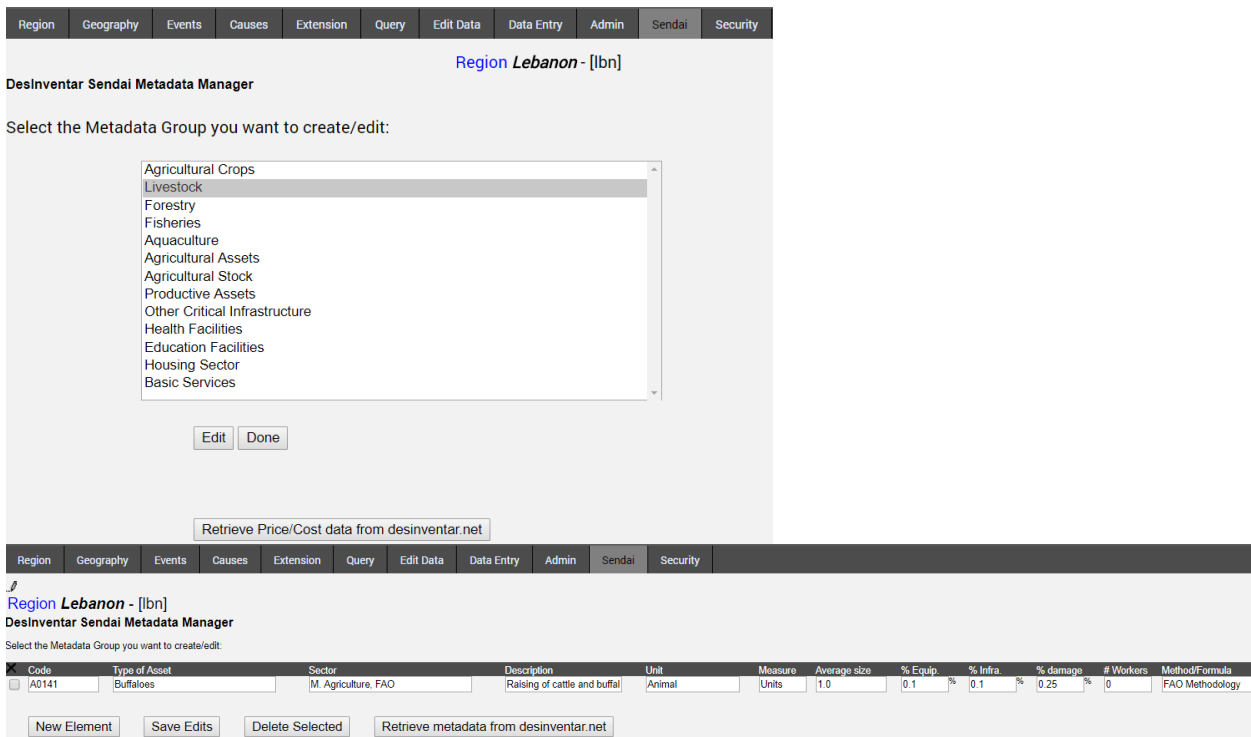
By clicking the last button you can retrieve the available data from desinventar.net. This option can be used only for countries where the metadata is uploaded already in the desinventar website.



Once you set up the list of Metadata, enter respective values by clicking “Maintain metadata value”, where you can add annual values or retrieve values from desinventar.net.

### Select Metadata to disaggregate Targets C and D

You can create or edit Metadata to disaggregate Targets C and D. For example, select livestock from the dropdown and click the “Edit” button. A new page will open with the list of livestock, from which you can select applicable ones. Once the new elements are added or edit the characteristics of the element you can save the edits. The new elements selected will appear in the data entry sheet under Target C, as a sub indicator of Agricultural Livestock Loss (C-2L).



### Map Extension fields to indicators

This last option allows to merge the extension variables with Sendai indicators. Once you click on this option a new window will open with extension variables which you already added available to merge in left side drop menu and pre-installed Sendai indicators to merge with in the right side menu. For example you can select Cows from the left side menu and loss from livestock total in the right side and then click the button in the bottom “Transfer the extension data into selected Sendai Indicator”.

## Security Tab

### User Management

The security model in the DesInventar Sendai considers two objects:

- Users that access the system
- Regions (databases) which can potentially be modified by those users.

Users themselves are classified into several categories:

User	Authority
Guests	Can only visit the public part of the system (i.e. DesConsultar) and have no permissions to modify the system in any way.
Operators	Can be authorized to enter data in one or more Regions. Entering data means here the permission to add, remove or modify DataCards in those regions
Administrators	Can modify all objects of the Regions he/she has been granted permission. All objects include Events, Causes, all levels of Geography, and also enter data (add, remove or modify DataCards)
Owner	Has all the privileges of an Administrator but can also modify the Regions in the system: change the settings of a given region, add more regions, or remove a region from the system. (Note the system NEVER deletes a Region. It only removes it from the list of available ones). The owner can also add, modify, deactivate and remove users and give them up to Owner category. It is the user in charge of the overall security of the system. It is recommended only one Owner per system
SuperUser	Has all the privileges of the system (all of the previous categories) and it can also create Owners, other SuperUser but basically his/her main privilege is to manage the global parameters of the system. It is recommended only one SuperUser per system

Using the Security tab, you can manage users :



In this screen new Users can be added to the system, existing user settings can be changed, unwanted users may be removed from the system and permissions can be granted to existing users. The Add and Edit user buttons will display the User definition screen, in which the properties of the User are established:

**Important remarks:**

- User name, last name, first name and email are mandatory fields.
- The default access type of a user is guest. Set it to the desired level.
- In order to de-activate a user, just turn it into a guest.

In this screen new Users can be added to the system, existing user settings can be changed, unwanted users may be removed from the system and permissions can be granted to existing users.

The Add and Edit user buttons will display the User definition screen.

If you click on “Permissions”, you can manage Region permissions for the selected User as Authorized Regions, Level 0 and Level 1.



## Annex 1: Configuration of maps in DesInventar

### 1. What type of maps do you need?

Please ensure that your maps are:

- Polygon maps (vector polygon information no raster) e.g. Shapefiles
- Each of the layers (shapefiles) to be used correspond to one of the levels decided for the Desinventar database, that should correspond to administrative boundaries.
- The coordinate system is based on Latitude and Longitude coordinates, preferably using the WGS84 standard.

You are not required to define up to 3 levels if you don't have them in your official administrative boundaries.

Below an example from the geographic level definition used by the city of Cali, Colombia.

Region	Geography	Events	Causes	Extension	Query	Edit Data	Data Entry	Admin	Sendai	Security
Region <b>Cali - Colombia</b> - [clo]										
<b>Geographic Level Definition</b>										
Level 0.	Name:	<input type="text" value="Zona"/>	English:	<input type="text" value="Zone"/>	Code length:	<input type="text" value="5"/>				
Level 1.	Name:	<input type="text" value="Comuna/Corregimiento"/>	English:	<input type="text" value="Commune"/>	Code length:	<input type="text" value="7"/>				
Level 2.	Name:	<input type="text" value="Barrio/Vereda"/>	English:	<input type="text" value="Neighbourhood"/>	Code length:	<input type="text" value="11"/>				
<input type="button" value="Save"/> <input type="button" value="Cancel"/>										

### 2. Maps need to be on GIS format known as Shapefile (.shp)

It is important to highlight that **the shapefiles need to be pre-configured with names and codes**, as this will allow the system to identify each region and the data to be entered on each geographical scale (this is Level 0, Level 1 and Level 2 of geographical disaggregation).

This configuration of names and codes requires some thinking, as the system needs to read the code of all administrative divisions vis-à-vis their superior and inferior administrative levels. For example, the Block (Level 2) of **Y**, is part of the Municipality (Level 1) of **YY**, and the Province of **YYY** (Level 0). But if both Level 2 and Level 1 (Y and YY) are attributed to Level **YXX** instead of **YYY**, the system will not be able to read, and therefore fail to display the maps.

Please note that Maximum 3 levels can be setup in the system.

### 3. An example on how code are interlinked

Samoa	NAME	CODE LENGTH
Level 0	Island	3 DIGITS
Level 1	Region	6 DIGITS
Level 2	District	9 DIGITS

\* The length of the more internal codes should always contain the superior level.

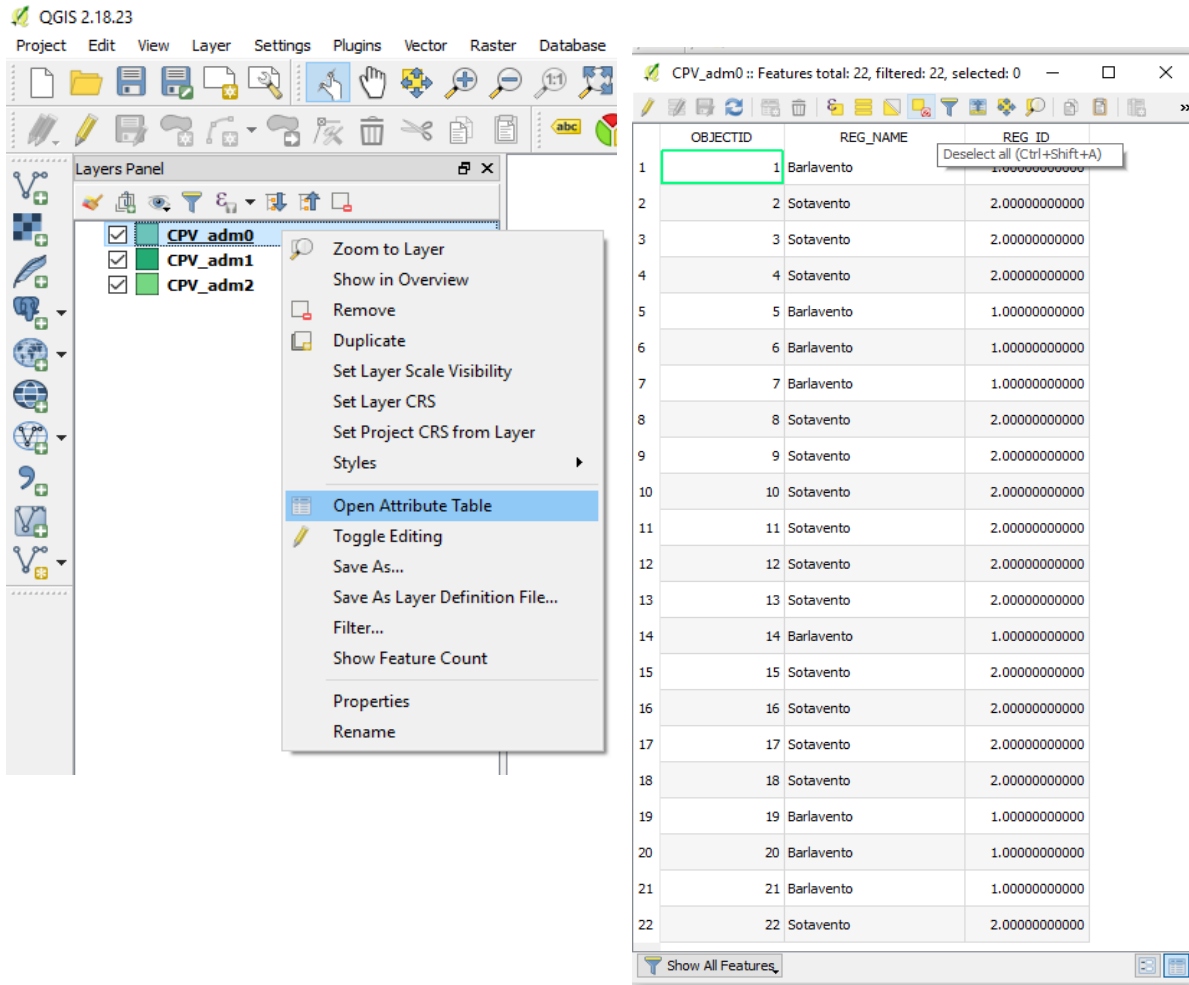
	Codes	Names
Level 0- Islands of Samoa	001	Savaii
	002	Apolima
	003	Manono
	004	Upolu
Level 1- Regions of the Upolu region (004)	004001	Apia Urban Area
	004002	North West Upolu
	004003	Rest of Upolu
Level 2- Districts belonging to North West Upolu (004002)	004002019	Aana Alofi III
	004002020	Aiga i le Tai
	004002021	Falelatai / Samatau
	004002022	Lefaga / Faleseela
	004002023	Safata

Try to use the official codes of your country, region or city to facilitate this (census codes, if available, are recommended)

**Tip : Confirming that codes are correctly organized on the map shape file.**

**Option 1: Using QGIS**

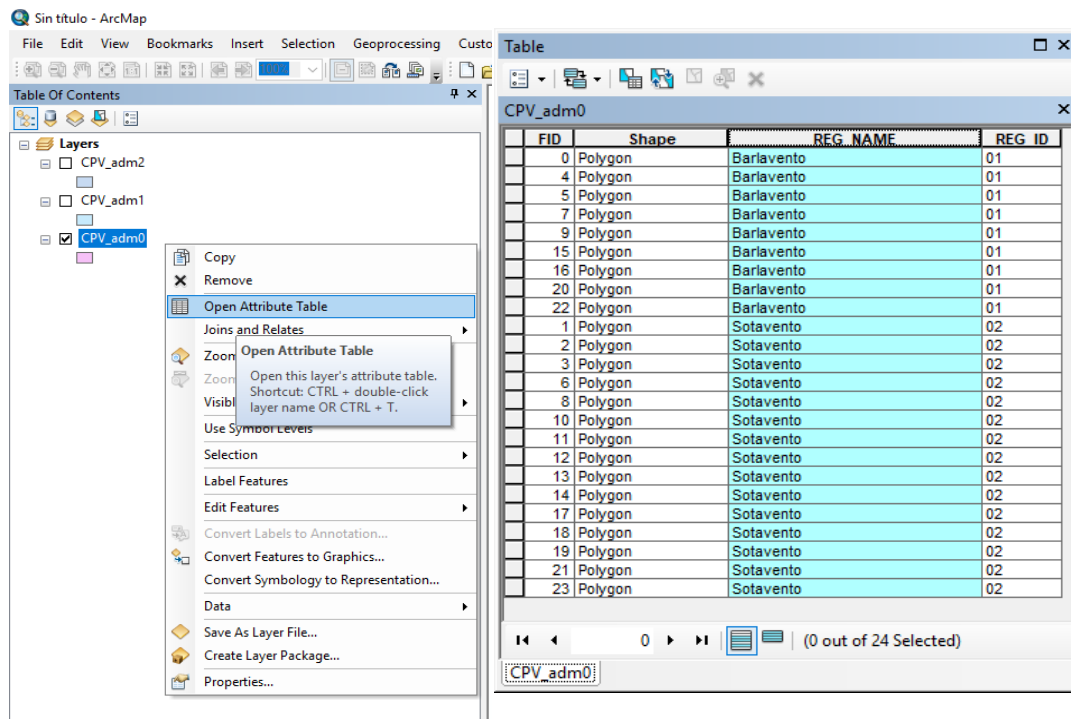
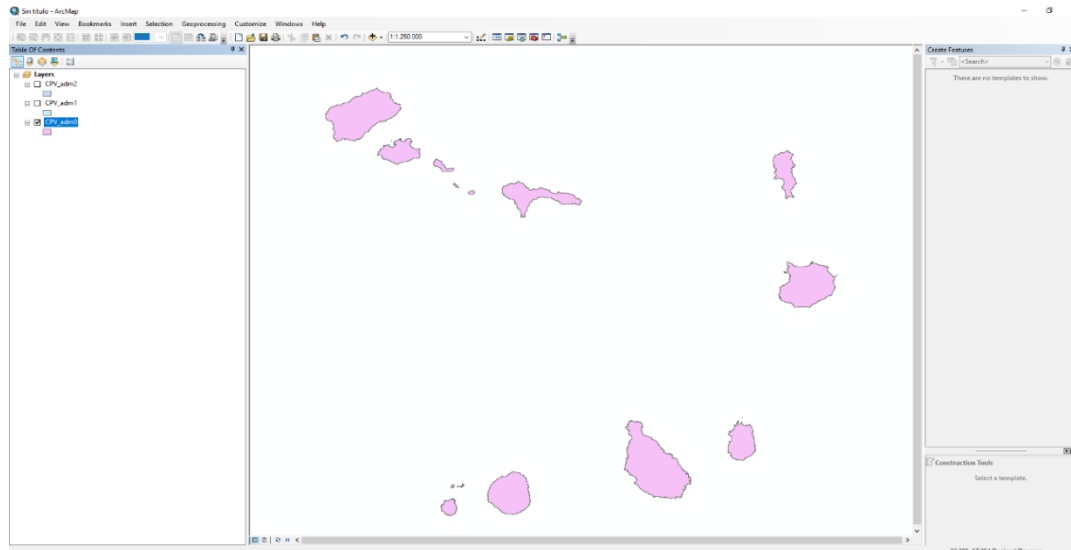
- Select the layer. Right click and select open the attribute table
- Check the information available on the attribute table



## Option 2: Using Arc GIS

### a. Step 1: How to open and edit information in the attribute table in Arc GIS

- Select your layer in the table of content and right click.
- Select Open Attribute table
- Check the information available on the attribute table



## Annex 2: Definitions of Event (Hazard)

The following alphabetical list of events is used in the DesInventar information system:

### **Accident**

Automobile, rail, aircraft or navigation accidents. Limited to accidents induced by natural phenomena, such as landslides, earthquakes, hurricanes, rain, etc. Includes transportation accidents generating spills or leaks of harmful substances, regardless of the cause.

### **Avalanche**

Swift sliding of loosened ice and/or snow masses.

### **Alluvion**

Torrential water flows dragging large amounts of solid material (pebbles, stones, and rock blocks) common in dry regions or river beds produced by heavy rain. Equivalent to the term “huaico” used in Peru.

### **Biological Event**

Destruction of biological species for known or unknown reasons. In the end, these events may be associated to pollution or drastic changes in environmental parameters. An example could be the “red tide”.

### **Boat Capsize**

Overturning of a boat due to hitting the water-bed or due to sea-disturbances or any other reason.

### **Coastal erosion**

Variations of the coast line and/or maritime zones near the coast. Includes formation and destruction of islands, beaches and sand banks and erosion of cliffs affecting populations, navigation, etc.

### **Complex Emergency**

A crisis in a country in which there is a breakdown of authority caused by conflict and where an international response is needed (PDN).

### **Cold Wave**

Drop of atmospheric average temperature well above the averages of a region, with effects on human populations, crops, properties and services.

### **Complex Emergency**

A crisis in a country in which there is a breakdown of authority caused by conflict and where an international response is needed (PDN).

### **DR - Drought**

Unusually dry season, without rain or with rain deficit. As a whole, these are long periods (months, years, and even decades) typical in limited continental areas or on regional scales.

### **Earthquake**

All movements in the earth’s crust causing any type of damage or negative effect on communities or properties. The event includes terms such as earth tremor, earthquake and vibration.

### **Epidemic**

Disease attacking many individuals in a same community during short terms (days, weeks, months maximum), such as cholera, typhoid, bubonic plague, etc.

### **Eruption**

Volcanic eruption with disastrous effects: eruption and emission of gas and ashes, stone falls (pyroclast), flows of lava, etc. This event includes eruption of sludge volcanoes found in some Caribbean regions.

### **Explosion**

Explosions of any type, but limited to those induced or highly connected to natural phenomena, such as electrical storms, earthquakes, droughts, etc.

### **Fire**

Urban, industrial or rural fires, but not including forest fires. Limited to those induced or highly connected to natural phenomena, such as electrical storms, earthquakes, droughts, etc.

### **Forest fire**

Forest fire. The event includes all open-air fires in rural areas, natural and artificial forests, plains, etc.

### **Flood\***

Water that overflows river-bed levels and runs slowly or quickly on small areas or vast regions. Tidal flooding in coastal zones will be reported as “Tidal wave”..

### **Flash-flood**

Torrential freshet. Violent water flow in a watershed, overflowing or as torrent. Flash-floods usually carry tree trunks and/or abundant fine to bulky sediment. They can be caused by rain, dam bursting or abundant landslides on a watershed or basin.

### **Frost**

Temperature low enough to cause freezing, with damaging effects on population, crops, properties and services.

### **Gale/Tornado**

All atmospheric disturbance generating strong and destructive winds, usually without rain or little rain. The term is synonymous with hurricane-type winds, whirlwind, squall, strong wind, blizzard, wind-blast, gust, and *tornado*. .

### **Hailstorm**

Precipitation of hail. Frozen raindrops that fall violently in the form of hard pellets.

### **Heat Wave**

Rise of atmospheric average temperature well above the averages of a region, with effects on human populations, crops, properties and services.

### **Hurricanes/Cyclones**

Violent atmospheric anomaly characterized by strong whirling winds accompanied by rain. They are originated in the Caribbean Sea and tropical areas of the Pacific Ocean. They are equivalent to the cyclones in the Indian Ocean and to typhoons in the West Pacific Ocean.

### **Landslide**

All mass movements other than surface erosion of a hillside. This event includes terms such as precipitation of earth, settling, horizontal land thrust , mass movement, displacement, subsidence, collapse of caves or mines, rock falls, (slow or quick) detachment of soil masses or rocks on watersheds or hillsides.

**Leak**

Leak of harmful liquid, solid or gas substances, whether radioactive or not, generated by technological accidents, human fault or transportation accidents.

**Panic**

Panic or mass hysteria among people concentrated in a certain place (stadiums, theaters, etc.) that can kill or injure them, and cause physical damage. Limited to those induced or highly connected to natural phenomena, such as electrical storms, earthquakes, etc., and early warnings about incoming events.

**Plague**

Proliferation of insects or animal pests affecting communities, agriculture, cattle or stored perishable goods; for example, rats, locusts, African bees, etc.

**Pollution**

Concentration of polluting substances in the air, water or soils, at levels harmful to human health, crops or animal species.

**Rain**

Precipitation. Includes punctual, persistent or torrential rain, or rain exceeding the rainfall averages of a specific region; also, unusual long rain periods. Rain includes terms such as downpour, cloudburst, heavy shower, deluge, persistent drizzle, squalls, etc.

**Sedimentation**

Deposits of solid material on hillsides and river beds produced by mass movements or surface erosion with damages on crops, utilities or other infrastructure.

**Snowfall**

Anomalous fall and accumulation of snow, especially when it occurs in zones not subject to seasonal changes. This term refers to events where precipitation exceeds the average multi-annual values, causing especially serious effects.

**Storm**

Rain accompanied by strong winds and/or electric discharges (lightning). Due to regional connotations, sometimes there is no difference between “storm” and “gale”.

**Structural Collapse**

Damages or collapse of any type of structure for reasons such as excess weight in public places, bridges, etc. This event includes damage that, although not taking the structures to the point of collapse, does make them unusable. Damages in structures caused by natural phenomena are reported as an effect of these phenomena.

**Storm Surge**

Great sea waves breaking on the littoral. Includes reports caused by Tidal waves, gales, storms -other than tsunami or seaquake, in the strict sense indicated under “tsunami”- by coincidence of wind directions and high tide periods, or by rise of average sea level during the phenomenon “El Niño”. In some places, tidal rises reaching maximum bimonthly levels or up to maximum annual levels are called “high tide”.

**Severe Local Storm**

Rain accompanied by strong winds and/or electric discharges (lightning). Due to regional connotations, sometimes there is no difference between “storm” and “gale”.

### **Tropical Cyclone**

Violent atmospheric anomaly characterized by strong whirling winds accompanied by rain. They are originated in the Caribbean Sea and tropical areas of the Pacific Ocean. They are equivalent to hurricanes, the cyclones in the Indian Ocean and to typhoons in the West Pacific Ocean.

### **Technical Disaster\***

A hazard originating from technological or industrial conditions, including [large scale] accidents, dangerous procedures, infrastructure failures or specific human activities, that may cause loss of life, injury, illness or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. Examples of technological hazards include industrial pollution, nuclear radiation, toxic wastes, dam failures, transport accidents, factory explosions, fires, and chemical spills. Technological hazards also may arise directly as a result of the impacts of a natural hazard event (UNISDR).

### **Thunderstorm**

Electrical Storm: concentration of atmospheric static discharges (lightning), with effects on people, cattle, domestic properties, infrastructure (mains, for example, causing blackouts), and industries. It is different from “storm” in that thunderstorms are not accompanied by rain and gusty winds.

### **Tsunami**

The term is applied only to waves generated by undersea movements (caused by earthquakes, volcanic eruptions or landslides).

### **Volcano**

Volcanic eruption with disastrous effects: eruption and emission of gas and ashes, stone falls (pyroclast), flows of lava, etc. This event includes eruption of sludge volcanoes found in some Caribbean regions.

### **Wild Fire**

Forest fire. The event includes all open-air fires in rural areas, natural and artificial forests, plains, etc.



## References

IRDR (2014) IRDR Peril Classification and Hazard Glossary

[http://www.irdrinternational.org/wp-content/uploads/2014/04/IRDR\\_DATA-Project-Report-No.-1.pdf](http://www.irdrinternational.org/wp-content/uploads/2014/04/IRDR_DATA-Project-Report-No.-1.pdf)

United Nations (2015). Sendai Framework for Disaster Risk Reduction 2015-2030

[https://www.preventionweb.net/files/43291\\_sendaiframeworkfordrren.pdf](https://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf)

United Nations (2017). Report of the Open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction (OIEWG)

[https://www.preventionweb.net/files/50683\\_oiewgreportenglish.pdf](https://www.preventionweb.net/files/50683_oiewgreportenglish.pdf)

UNISDR (2017). Technical Guidance for Monitoring and Reporting on Progress in Achieving the Global Targets of the Sendai Framework for Disaster Risk Reduction.

Retrieved from [https://www.unisdr.org/files/54970\\_techguidancefdigitalhr.pdf](https://www.unisdr.org/files/54970_techguidancefdigitalhr.pdf).

(available in 6 UN languages)

UNISDR, La Red, & UNDP (2006, 2011). Disaster Loss Accounting System User Manual-Administration

Module. Retrieved from <https://www.desinventar.net/documentation.html>