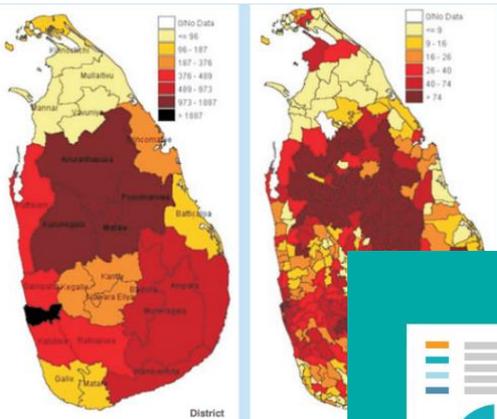




Desinventar.lk

User Manual



<http://www.desinventar.lk/>

Disaster Loss and Damage System

User Manual-Analysis and Query



www.desinventar.lk

LA RED



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Introduction

The Disaster Loss Accounting System using DesInventar was established with support from the United Nations Office for Disaster Risk Reduction (UNISDR). The initiative strengthens capacities in different countries to provide information on damage and loss for disasters to support national planning and investment decisions which currently do not necessarily consider disaster risks. Disasters and their impacts represent major losses for governments and communities. The information system provides improved access to national and regional disaster data and enables to monitor, analyze and disseminate information on key hazards and vulnerabilities. The information system uses the DesInventar methodology.

Welcome to the Analysis and Query Module!

Countries are experiencing an increasing demand for information on disasters. This interest is partly driven by the expected increase in catastrophic events as a result of climate change and also the desire to better understand the impacts of past events and strengthening disaster preparedness and prevention.

The DesInventar **Analysis Module or “DesConsultar”** provides an instrument that allows users to query, visualize and analyze, in space and time, the phenomena that have been registered in the database.

The basic criteria guiding the system are:

- ☐ All inventories must use the same definitions and variables to measure the effects, and a homogeneous and basic classification of events.
- ☐ The information compiled and processed must be entered in a scale of time and at a geo-referenced spatial level.
- ☐ The inventories must be analyzed (with computer tools, in this case), which is a basic requirement in comparative research and to support decision-making processes related to mitigation actions and risk management as a whole.

Definition of the Analysis Module “DesConsultar”

The Analysis Module or “DesConsultar” is a querying instrument and a tool for the thematic and spatial-temporal analysis of the disasters hosted by DesInventar in a standardized format. Its purpose is to facilitate the understanding of disasters as a reality ever present in the daily relationship of society (and its economic, environmental, technological and human development) and nature. The functionality provided to make statistical analyses and spatial representations of queries are oriented to suggest some answers to the user, and raise questions to inform the ongoing debate in Disaster Risk Management (DRM) policy decisions.

To facilitate the compilation and treatment of the information, all inventories represented in the Analysis Module use the same variables to measure effects, and the classification of effects is homogeneous and basic. As mentioned previously, the information entered in the system is geo-referenced according to the basic political-administrative division of each country.

The Analysis Module helps discovering several classes of trends and patterns:

- ② **Spatial patterns** by means of thematic maps showing the occurrence and/or effects over a region, and charts comparing the impact in different regions along time.
- ② **Temporal patterns** and trends with the aid of various types of time-oriented charts, including seasonal and multi-period occasional charts.
- ② **Statistics** generated by aggregation of effects by different fields of information.

The Analysis Module does not have the functionality to edit or update data. Please see the DesInventar Disaster Loss Accounting System User Manual Data Management for more details which is available for download from <http://www.desinventar.net/DesInventar/download.jsp>.

Issues and Challenges

The reader should consider that the database used to produce these results is a live system and still a work in progress while errors cannot be excluded.

Quality Control (QC)

Many QC issues can be found while building and during the final validation stage using some of the analysis depicted in this document.

1. **Chart production.** Some of the most common problems related to dates can be seen while producing simple temporary histograms and seasonal histograms. Dates entered outside the period (for example a two-digit year) distort the histograms. Use the expert function to quickly target the problematic DataCards.
2. **Composition Analysis.** Exaggeratedly large values in effects due normally to typos (but also to mistaken data sources) can be seen as large slices in composition analysis or bars of too high values in histograms.
3. **Duplicated events.** Statistics by event and or geographical unit can also highlight other problems such as potentially duplicated event types (against fundamental recommendations of the DesInventar methodology).
4. **Thematic mapping.** Can show the geographic units without any information.
5. **Number of people evacuated.** Numbers for evacuation did not include those that were relocated. This is a priority to be modified and will be updated in due course.

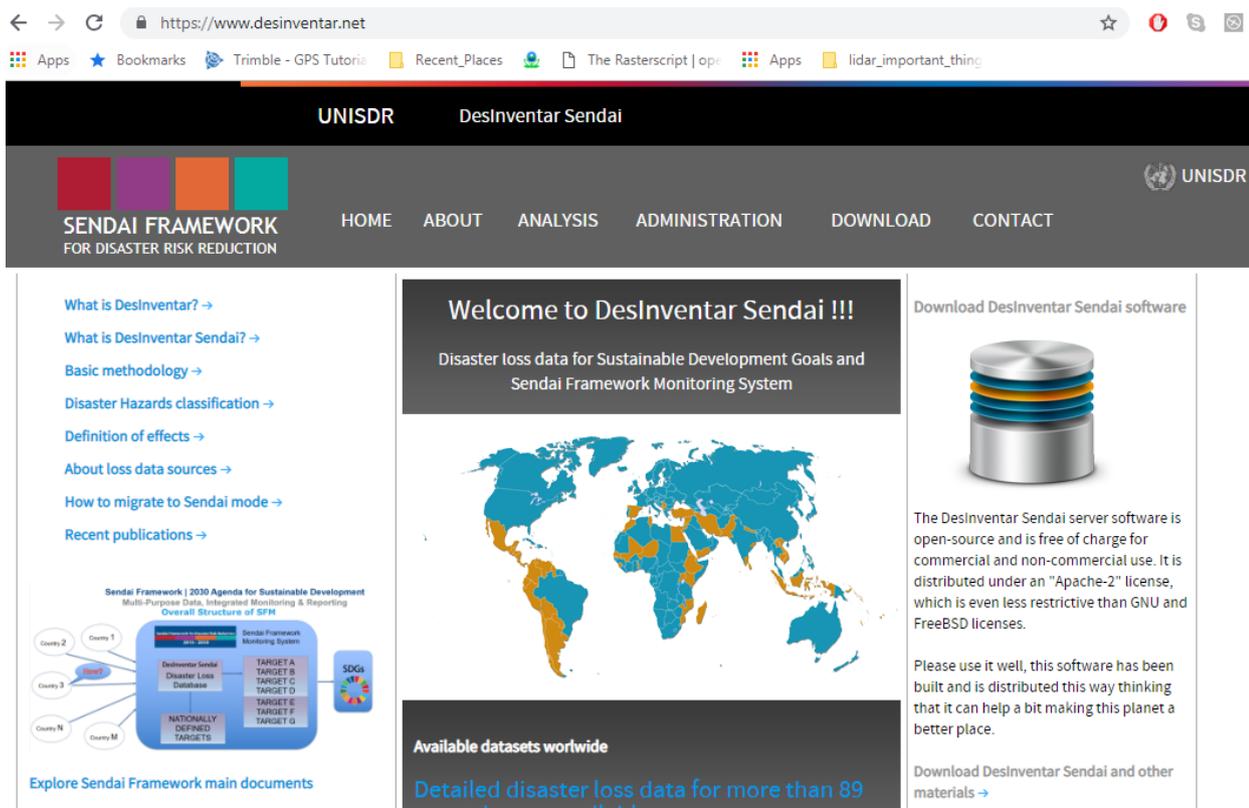
Starting the Analysis Module

Starting the DesInventar Disaster Loss Accounting System is normally accomplished by starting a browser and typing the URL:

Globally - <http://www.desinventar.net>

Local host - <http://localhost:8081/DesInventar>

The Welcome screen of the system will be displayed:



The screenshot shows a web browser window displaying the DesInventar Sendai website. The browser's address bar shows the URL <https://www.desinventar.net>. The website header includes the UNISDR logo and the text "DesInventar Sendai". Below the header is a navigation menu with links for HOME, ABOUT, ANALYSIS, ADMINISTRATION, DOWNLOAD, and CONTACT. The main content area is divided into three columns. The left column contains a list of links: "What is DesInventar?", "What is DesInventar Sendai?", "Basic methodology", "Disaster Hazards classification", "Definition of effects", "About loss data sources", "How to migrate to Sendai mode", and "Recent publications". Below these links is a diagram titled "Sendai Framework | 2030 Agenda for Sustainable Development" showing the relationship between the Sendai Framework Monitoring System, the DesInventar Sendai Disaster Loss Database, and the Nationally Defined Targets (A through G). The middle column features a large heading "Welcome to DesInventar Sendai !!!" followed by the text "Disaster loss data for Sustainable Development Goals and Sendai Framework Monitoring System" and a world map with several countries highlighted in orange. Below the map, it says "Available datasets worldwide" and "Detailed disaster loss data for more than 89 countries are available". The right column is titled "Download DesInventar Sendai software" and features an image of a server. Below the image, it states: "The DesInventar Sendai server software is open-source and is free of charge for commercial and non-commercial use. It is distributed under an 'Apache-2' license, which is even less restrictive than GNU and FreeBSD licenses." and "Please use it well, this software has been built and is distributed this way thinking that it can help a bit making this planet a better place." At the bottom of this column, there is a link: "Download DesInventar Sendai and other materials".

URL : www.Desinventar.lk

Management System - SRI LANKA

WELCOME to Disaster Information Management System in Sri Lanka

Search GO

ABOUT US

- What is Disaster Information Management System
- Data Sources
- Data Collection Process
- Data Validation
- Disaster Definitions
- Incident Reporting Formats
- User Manual
- Training and Awareness

DISTRICTS PROFILES

Lightning

Lightning is a disaster that has occurred throughout the period with a cyclical pattern. Seasonally, too, it has taken on a cyclical pattern. Although the number of people affected, damage to houses and agricultural loss are not very high, there have been relatively high levels of death due to lightning...

RECENT DISASTERS

- May 2017, Flood**
Heavy rains were received on 25 of May to the South-western watersheds in the country. Large amount of rains were received within 12 hours in SW regions including Namunuthanna (619mm) of, Bulathsinghele (419mm), Morawaka (406mm) and Walisemulla (437mm) leading riverine floods of the Kalu, Nilwala and Gin rivers. Around 717,622 People were affected in 15 Districts. 212 Deaths reported as per the situation report issued by DMC on 04-06-2017. 1800hrs. Further, over 2,313 houses fully destroyed and around 12,529 houses partially damage.
- March 2017, Drought**
Nearly 951,597 people in several districts have been affected by the prevailing drought. 95,334 people in Eastern Province, 428,181 people in Northern Province, 133,198 people in North Western Province, 101,498 people in Sabaragamuwa Province, 7650 people in North Central Province, and 185,728 people in western province are facing a water shortage due to the drought in Sri Lanka.
- October 2016, Drought**

Disaster Information Management System - Sri Lanka

Welcome to ...

The Disaster Management Centre (DMC) of the Ministry of Disaster Management with technical and financial support from the Disaster Risk Management (DRM) programme of the United Nations Development Programme (UNDP) and the UNDP Regional Centre in Bangkok (RCB) has initiated the development of a database on the past disaster incidents from 1974 to date.

The Disaster Information Management System is a sustainable arrangement within an institution for the systematic collection, documentation and analysis of data about losses caused by natural and man made disasters.

Please click on Following Link to Enter in to the Database:

This querying system will provide you with basic data about the effects of many types of natural disasters occurred in the country.

Home Analysis Administration Download Logout Help About Get bookmark Open Source Server - Version 3.0.12-2011 English

Desinventar
Disaster Information System

UNISDR
The United Nations Office for Disaster Risk Reduction

WELCOME to Desinventar, a free, open source Disaster Information Management System

Please select the region database to query:

Country/Region	Period	Institution
Sri Lanka	1965 - 2018	Profile More info...

Members Login here

LARED

UNDP

Description of the system

The ultimate rationale of an information system goes beyond the initial and basic objective of achieving a methodical, homogeneous and systematic storage of information. Information is useless if there are no tools to retrieve, (query) and analyze. The information retrieval processes must be selective, specific to the characteristics of the information. In the Analysis Module, retrieval is made based on thematic criteria (type of event and causes), spatial component (geography) and time (dates) criteria.

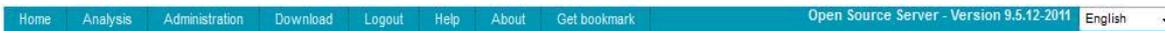
The **Query** window can be accessed by selecting the Query tab to determine what data is to be retrieved and displayed. In this screen you will be able to select the information in the system, which you want to see in terms of the dimensions described. Please see detailed explanations of each of the options in this screen below.

Graphic 2. Main screen of the Analysis Module

Main menu bar

The main menu (see Graphic 3), is permanently available at the top of the screen of the Query module.

It consists of:



Graphic 3. Menu Bar

Home: This option navigates the user to the home of DesInventar, a 'Welcome' page with a brief description of the system.

Analysis: Click on this link to return to the list of countries/regions contained within the system. From here users will be able to access the country profiles by selecting the chosen country/region from the list.

Administration: Clicking this link will bring you to the module for data entry or administration purposes. Note that this module may be password protected in which case instead of the module itself you will be presented with the Login screen (see Login and Logout options later in this section).

Download: Click on this link to get to the download page. In the download page you can (usually) download the software of the system and/or the databases and manuals. This behavior can be modified by your system administrator.

Login/Logout: These options may also be accessed using the tool bar located to the right of the map, and will be disabled if you are not seeing the map windows.

Help: The Help menu gives you different ways to take advantage of the help system, which normally starts with the Table of Contents (first page). The help system is recommended to catch the spirit of the tool, and search quickly a general subject. Use the links in the text to get to other topics from here.

About: This page gives credits to organizations that have supported the DesInventar Initiative.

Get bookmark: Clicking on this link will instruct the system to produce a link in the address bar that can be used to set a page in the Favorites menu of your Internet browser. This link can also be sent to other users when the DesInventar server is accessible over the Internet.

The Analysis Module 'tabbed' interface menu

The most important feature of the Analysis Module is the 'tabbed' interface menu (see Graphic 4) which will enable you to navigate the various tools to help you manipulate the data. You can move from any tab of the system to any other tab at any given time. That gives you, the user, a lot of freedom in the way you wish to do your work.



Graphic 4: The Tabular Interface

For example, in the Query tab you can specify what datacards you want, and then move immediately to the Statistics tab in order to obtain statistics about the resulting query. **However, you must remember that settings in each tab will influence the results displayed in another tab.** For example, if you select volcano in the query tab and move to the profile tab this will display the profile for volcanoes held in the system.

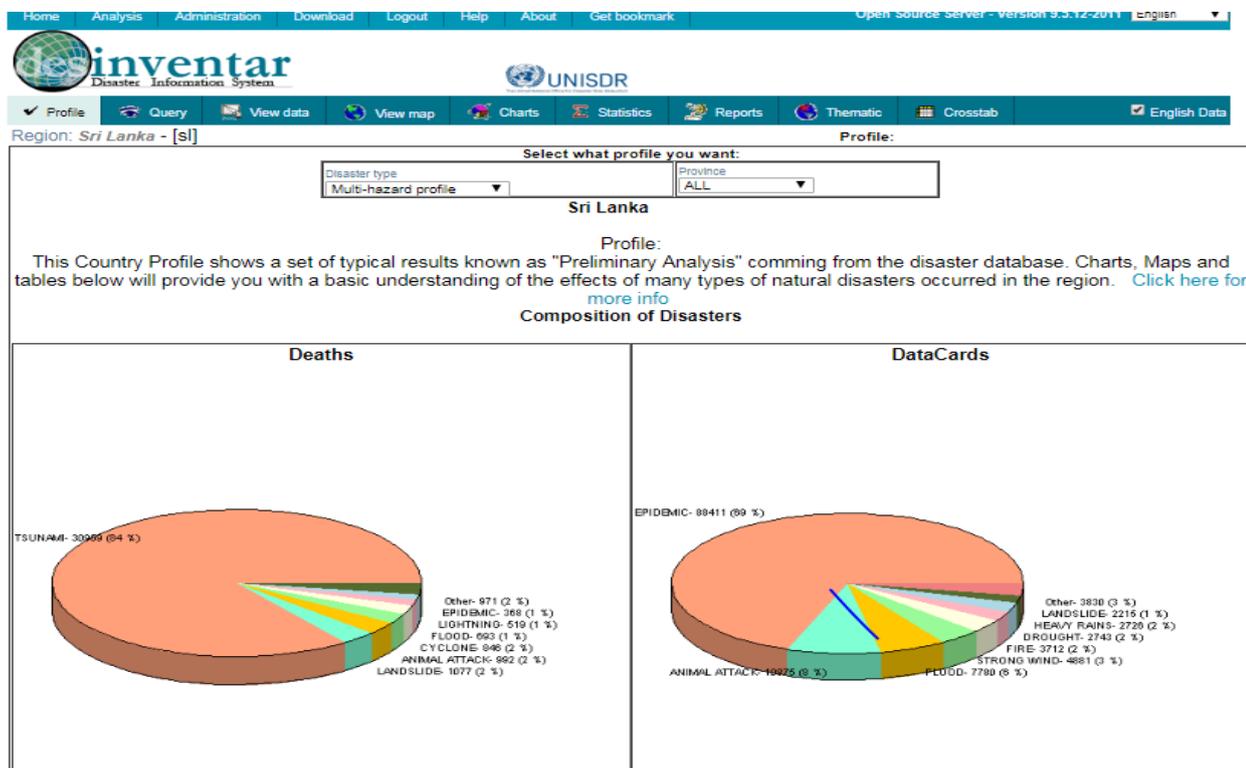
The chapters that follow describe each of the tabs providing details on how a user can develop a query within the Analysis Module.

Profile (Preliminary Analysis)

If the user is short on time or only wishes to get a high-level overview of events the analysis module has a user-friendly profile option which produces key graphics and data tables to give the user a basic understanding of the effects of different types of natural disasters occurred in the region as predefined "Preliminary Analysis".

This type of analysis is called "Preliminary" because it is solely based in the data contained in the repository, without looking at other external information such as demographic data, topography, ecology, climate, etc.

The user has the option to select "Disaster Type" and "Country" using the drop-down menus shown in below Graphic. The system will then generate the profile accordingly. In the profile window tables and graphs depicting the Composition of Disasters, Spatial Distribution and Temporal behavior are produced.



The "Preliminary Analysis" consists of the following displays:

- **Composition Analysis:** shows the number of records and effects with variables composed of different events. It is made usually by building charts comparing the value of a variable for each type of event.
- **Temporal Analysis:** shows the behavior of an effect variable over time (or the number of records for a specific event). This will be discussed further in Temporal Data chapter.
- **Spatial analysis:** shows the behavior across space of a variable (number of records or a specific effect variable). This will be discussed in Thematic section.
- **Statistical Analysis:** calculates several statistical indexes
- **Correlation analysis:** shows the relation of events.

Composition of Disasters [get it as Excel](#)

Event	DataCards	Deaths	Injured	Missing	Houses Destroyed	Houses Damaged	Affected	Relocated	Evacuated	Losses \$USD	Losses \$Local	Education centers	Hospitals	Damages in crops Ha.	Lost Cattle	Damages in roads Mts
ACCIDENT	92	88	148	0	0	5	269	0	0	0	0	0	0	0	0	0
ANIMAL ATTACK	10875	992	629	2	197	7714	80194	0	59	0	0	0	0	0	0	0
BOAT CAPSIZE	19	57	43	21	0	0	62	0	0	0	0	0	0	0	0	0
Chemical	6	10	21	0	1	0	424	0	0	0	0	0	0	0	0	0
coastal erosion	7	0	0	0	15	13	167	0	0	0	0	0	0	0	0	0
COASTLINE	83	0	1	0	138	424	3957	0	646	0	0	0	0	0	0	0
Collapse of building	6	15	53	0	0	1	12	0	0	0	0	0	0	0	0	0
Collapse of Gabbage Fill	1	32	11	0	60	22	1782	0	0	0	0	0	0	0	0	0
Collapse of Mine	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CUTTING FAILURE	364	30	42	1	128	1578	27673	0	0	0	0	0	0	0	0	0
CYCLONE	105	848	588	21	18119	110588	1369376	0	3941	0	0	0	0	0	0	0
CYCLONE & FLOOD	28	9	12	0	13178	37371	319128	0	0	0	0	0	0	0	0	0
DROUGHT	2743	0	0	0	0	0	19631569	0	600	0	0	0	0	109887	0	0
DROWNING	115	169	10	15	0	0	145	0	0	0	0	0	0	0	0	0
EARTH SLIP	80	10	10	7	56	168	3043	0	0	0	0	0	0	0	0	0
Electrocution	6	8	16	0	0	8	53	0	0	0	0	0	0	0	0	0
EPIDEMIC	88411	388	0	0	0	0	572644	0	0	0	0	0	0	0	4149120	0
EXPLOSION	2	1	0	0	161	346	7952	0	0	0	0	0	0	0	0	0
FIRE	3712	106	368	0	1952	998	15757	0	1040	0	7700000	0	0	0	0	0
FLASH FLOOD	41	5	4	2	70	630	6386	0	0	0	0	0	0	0	0	0
FLOOD	7780	693	455	111	54263	175518	14707270	32	45951	0	378500	73	15	9078	0	523
FOREST FIRE	241	1	0	0	16	19	198	0	10	0	0	0	0	0	0	0
FROST	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GALE	550	8	21	1	138	1863	11850	0	36	0	0	0	0	0	0	0
GROUND VIBRATIO	83	0	0	0	1	104	72	0	0	0	0	0	0	0	0	0
HAILSTORM	20	1	1	0	16	134	1250	0	0	0	0	0	0	0	0	0
HEAVY RAINS	2726	37	205	1	689	7580	780049	1	1206	0	0	0	0	0	0	0
LAND SUBSIDENCE	187	17	8	0	69	1742	10403	0	401	0	0	0	0	0	0	0
LANDSLIDE	2215	1077	331	242	2895	11959	291098	348	2369	0	1038000	0	0	0	0	0
LEAK OR SPILL	16	0	0	2	1	0	30690	0	0	0	0	0	0	0	0	0
LIGHTNING	725	519	467	3	34	453	3181	0	3	0	0	0	0	0	0	0
PLAGUE	423	0	0	0	0	0	16155	0	0	0	0	0	0	0	0	0

Graphic 6: Composition of Disasters

The **Composition Analysis** shows what types of events are relevant in the database and a comparison to other events. Relevancy is calculated in terms of the number of records and different effect variables, such as number of deaths, number of houses destroyed, etc.

The provided sequence of analyses normally gives a good idea what types of events and variables should be taken into consideration and/or correlated to other factors not comprehended in the database:

- **Deaths:** The number of people killed for each type of disaster.
- **Data cards:** The number of records for each type of disaster.
- **Affected:** The number of people being affected for each type of disaster.
- **Houses destroyed** and **Houses damaged:** The effects on housing for each type of disaster.

Tip!

The total **Number of Records** in a database does NOT necessarily reflect the number of disaster events. The DesInventar methodology suggests that the effects of a disaster should be disaggregated in each of the affected geographic units. Under this approach a medium or large-scale event that affects multiple geographic units will generate also multiple Reports in the database. This is why this variable will be named as number of Records (or **DataCards**) and not 'events'.

However, should the user have some specific questions that they are seeking answers to it is recommended that they follow the steps in the upcoming chapters to see how they can develop their own bespoke analysis.

Query

It is expected that the Query window (see Graphic 7) is where most users will spend the majority of their time, developing queries to answer their own specific questions and needs. A brief description of the components of the Query Window can be found below.

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desinventar
Disaster Information System

UNISDR

Profile Query View data View map Charts Statistics Reports Thematic Crosstab English Data

Region **Sri Lanka** - [at] **Query Definition** Keyword search (slow)

Select events and geographic units, and set the options that specify the disasters you want to query:

Disaster type	Province	District	Division	Cause
<input type="checkbox"/> EPIDEMIC	<input type="checkbox"/> Central			<input type="checkbox"/> Acute FP
<input type="checkbox"/> ANIMAL ATTACK	<input type="checkbox"/> Eastern			<input type="checkbox"/> AIDS
<input type="checkbox"/> FLOOD	<input type="checkbox"/> North-Central			<input type="checkbox"/> Chicken pox
<input type="checkbox"/> STRONG WIND	<input type="checkbox"/> North-Western			<input type="checkbox"/> Cholera
<input type="checkbox"/> FIRE	<input type="checkbox"/> Northern			<input type="checkbox"/> Crocodile
<input type="checkbox"/> DROUGHT	<input type="checkbox"/> Sabaragamuwa			<input type="checkbox"/> Cutting Failure
<input type="checkbox"/> HEAVY RAINS	<input type="checkbox"/> Southern			<input type="checkbox"/> Cyclone
<input type="checkbox"/> LANDSLIDE	<input type="checkbox"/> Uva			<input type="checkbox"/> Dengue
<input type="checkbox"/> LIGHTNING	<input type="checkbox"/> Western			<input type="checkbox"/> Diarrhoea
<input type="checkbox"/> GALE				<input type="checkbox"/> Diphtheria

Use Ctrl-Click and/or Shift-Click to deselect or for multiple selections. If no selections are made, all items will be selected.
NOTE: Selections of District have precedence over selections of Province

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

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

Expert Selection Expert Clear

Sort results by | Entry order Hits per page 100

View data New Query Save Query Load Query

LARED UNDP UNISDR

Tip!

Select the event to by clicking on the word. To deactivate, use ctrl-click (press the Ctrl key, and without releasing it, click it again).

Using a very standard Microsoft (MS) Windows methodology you can:

- Select and deselect individual elements of the list with Ctrl-Click
- Select only one element with a single click
- Select a Range of contiguous elements in the list by Clicking in the first element and Shift-Clicking on the last.

To clear all selections of events, click on the "New Query" button.

Disaster type

A list of all the events that have been defined is displayed in the first window. If you want a query (or report) on one or more events, select them from the list. As you make your selections they will appear highlighted.

If you DO NOT select any event, the query (report) will include ALL the events

Geography level

Geographic levels are shown in three lists, Country, Level 1 and Level 2 from which you can select the geographic regions required for your query.

As before, if you DO NOT select any geography, the query (report) will include ALL the events. Consequently, if you select no countries in the first list, the datacards of all the countries will be retrieved.

Cause

Selecting causes from this list will restrict the results to those datacards in which this cause is set. Again, as in the list of events and geography, if you do not select something from a list, you are implying that you want information about all the causes.

Events with specific effects

If you are interested in events that have had specific impacts you can choose descriptive features to generate a report that meets your needs, i.e. you work in the Housing sector looking for, Houses Damaged, Relocated, etc. Simply click the empty box to the left of each option.

Please note:

- If the checkbox of the effect is set results will be restricted to those cards in which the effect happened.
- If an entry is placed in the first of the to/From boxes results will be restricted to those datacards where the effect was equal to or greater than this number.
- If an entry is made in the second of the to/From boxes, results will be restricted to those datacards where the effect was equal to or less than this number.
- Both numbers can be set, in which case results will be restricted to those datacards with this effect magnitude between the two values (and including the values as well).

Remember: if you do not select any specific effects, all effects will be included in your query.

Events that affected...

Queries can also be restricted to events that have affected the sectors you are interested in e.g., "Agriculture", "Education", etc. Click once on the fields in "Events that Affected", on the Query Window.

Remember: if you do not select anything, all of them will be selected.

Logic of Selection

If you want to query events that have destroyed homes **AND** affected public services, click the corresponding describers and select the option "AND" in the logic box. Similarly, if you want to query events that destroyed homes **OR** affected public services, select the option "OR".

Date Range: (YYYY MM DD)

As with the lists, using the date range fields or not will determine whether or not the datacards are within the selected timeframe. If you do not use the date From, the datacards will be displayed with no restrictions, except for those resulting from the date UNTIL. The same applies to “To” dates.

- ❓ If you type the date “From” only, all the cards with a date equal to or later than the “From” date will be retrieved.
- ❓ If you use the date “To” only, the cards with dates prior to the date indicated will be retrieved.
- ❓ If you include both dates, the cards whose dates are within the period specified will be retrieved.

It is important to clarify that if you enter a year as a date, you must also enter the month and the day. Otherwise, January 1st will be taken as the rest of the “Since” date, and December 31 as the rest of Until date. This is particularly important in the case of the “UNTIL” date. If you enter the year only, only the cards of THAT YEAR AND PREVIOUS will be retrieved.

GLIDE Number

You can do a search by GLIDE number if you know the GLIDE number of the record you are looking for by entering the number in the GLIDE number box.

The Global Identifier 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” ¹.

View the GLIDE number website for more details and history events under <http://www.glidenumber.net>

Query Buttons

View Data - This button will link you to the view data tab, which displays the tabular form of the results of your query. You will be able to see the datacards that comply with the specifications given in the Query tab.

New Query - This button erases all the selections marked in the fields of the Query Window. All queries will be deleted or not, prior confirmation, with a double click.

Save Query - This button allows you to save the current status of your selections.

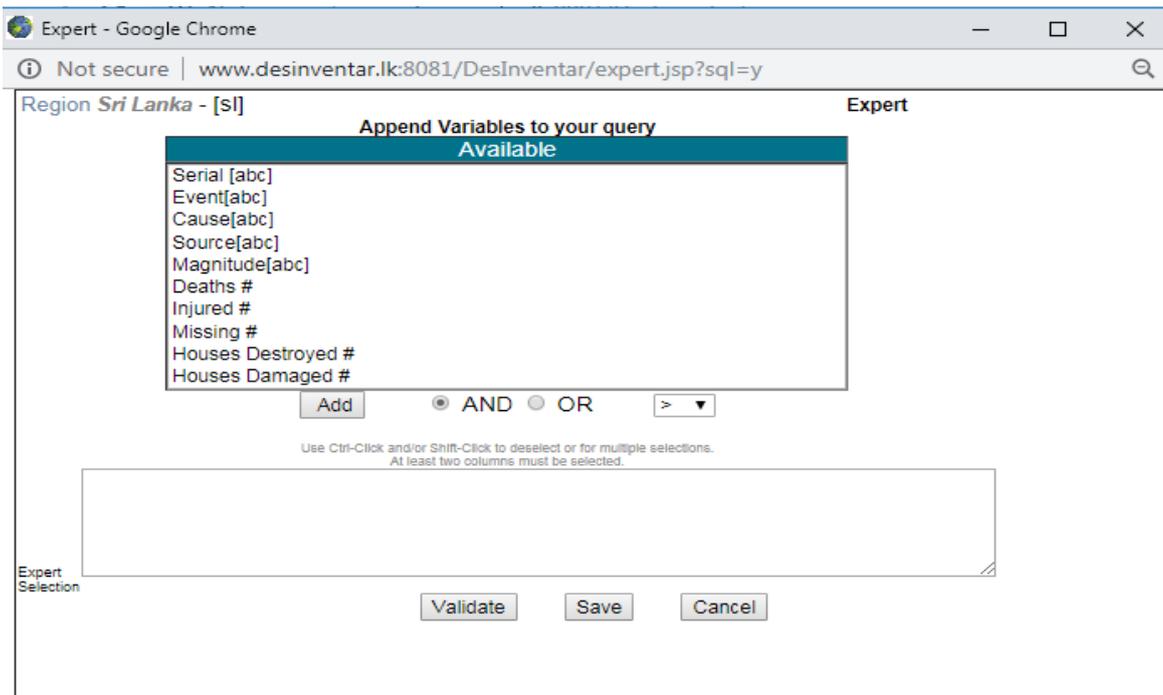
Load Query – This button allows you to update your own data files/do files.

Expert Selection

At the bottom of almost every window in the Analysis Module (DesConsultar) you will see the ‘Expert Selection’ field with button. The Expert button showed here in the Query window and in other windows (See Graphic 8) opens another window to prepare a query using the universal language of database query and management: SQL (Structured Query Language).

This window is designed for users that have some experience in computing, especially in the area of databases, and they are already familiar with these concepts. As the button implies, this is for experts in SQL therefore, this section is not a lesson in SQL, rather a description of it and what an expert can do.

The variables appear in a list, to use them in SQL, find the variable you wish to use and double click. Alternatively, you can mark the variable and click the 'Add' button. The selected variables will appear in the 'Expert Selection' box underneath. To run the query, select 'Validate'. If an error occurs, a pop-up box detailing the error will appear, read the error message carefully; consider the relevant parenthesis, and make sure that the words typical of SQL are correct (select, from, where, order by).



Graphic 8: Expert: an advanced query system

With this language, an average user can “pose questions” to a database, especially to relational databases such as the Disaster Loss Accounting System (DesInventar).

This window shows in a box the SQL query, which corresponds with the user query that was specified in the Query Window. For example, if you make a query choosing the event FLOOD only, the SQL question will look pretty much like this:

```
select * from datacards where event='FLOOD'
```

As you select events, geographical units, dates and other possible conditions for data retrieval, the SQL question becomes more and more complex. For example:

```
select * from cards
```

```
where ((event='LANDSLIDE') or (event='FLASH') or (event='HURRICANE') or
(event='SEDIMENTATION')) and ((level0='05') or (level0='08') or (level0='17')
or(level0='23')) and (((dateyear*373)+(datemonth*31)+dateday)>= 740437)
and ((deaths<>0) OR (injured<>0) OR (health<>0))
```

```
order by event, name0, name1, name2, dateyear, datemonth, dateday
```

This question asks four possible types of events, in four Level 0 regions (Dpts...), limited to a date, where people were killed, or injured, or the health sector was affected, ordering the result by event, geography and date.

The study of SQL is not within the scope of this tool, here are some basic rules to get you started:

The general form of SQL questions is as follows:

```
select {fields in the database}
from {table}
where {selection condition}
order by {ordering fields}
```

DesConsultar will allow users to add mathematical expressions to the WHERE **{selection condition}** as part of the SQL question. Many users find the WHERE clause the most useful and interesting option for creating new and useful queries.

For example, if you want to retrieve from the database cards of events where more than 10 people died, the WHERE clause would be as follows:

```
select * from cards where
(deaths>10)
```

The Expert will help you to generate the clauses corresponding to most of the variables of interest. Take your time and try. YOU WILL NOT DAMAGE THE DATABASE.

Hits Per Page

Choose the number of records you would like displayed per page when viewing the results of your query.

View Data

This tab displays the tabular form of the results of your query. You will be able to see the datacards that comply with the specifications given in the Query tab. The following text describes how you can alter the view to better meet your needs.

View Datacard

The Disaster Card or Data Card Window (See Graphic 10) stores the details of the event that are entered using the Data Entry module of DesInventar. The disaster DataCard is designed that the information can be homologized in all inventories made with DesInventar. You cannot change the card, but you may create extensions that will sufficiently meet the needs of other possible fields in the database.

Once you have ordered your data you can view the information in each datacard by clicking on the serial number of the event you are interested in. This will take you to the associated datacard (see Graphic 10). This window is called the DataCard Viewing Sheet.

The content of the card is divided into several sections including a map depicting the location of the event and comments from the individual who entered the data (See Graphic 10):

The screenshot displays the DesInventar Disaster Information System interface. At the top, there is a navigation bar with links for Home, Analysis, Administration, Download, Logout, Help, About, and Get bookmark. The main header includes the DesInventar logo and the UNISDR logo. Below the header, there is a navigation menu with options like Profile, Query, View data, View map, Charts, Statistics, Reports, Thematic, and Crosstab. The main content area is divided into several sections:

- Region:** Sri Lanka - [st]
- DataCard:** Navigation controls and a search field for serial numbers.
- Event Details:** Serial: TS2004, Date (YMD): 2004 | 12 | 26, Duration (d):, Source: Ds Office, Province: Western, District: Colombo, Division: Colombo, Event: TSUNAMI, Location:, Cause:, Description of Cause:.
- EFFECTS:** A grid of input fields for various impact categories, including Deaths, Missing, Injured, Affected, Relocated, Houses Damaged, Houses Destroyed, Evacuated, Victims, Damages in roads, Damages in crops, Lost Cattle, Education centers, and Hospitals.
- AFFECTED SECTORS:** A list of checkboxes for sectors such as Transportation, Communications, Relief, Agriculture, Water supply, Sewerage, Power and Energy, Industries, Education, and Health sector.
- OTHER LOSSES:** A field for additional loss information.
- COMMENTS:** A text area for user comments.
- Map:** A Google Maps satellite view of Colombo, Sri Lanka, with a red pin indicating the event location.
- Footer:** A tabbed interface with 'Human Lives & General' selected, showing fields for 'No of Males Affected', 'No of Females Affected', and 'No. of males dead'.

Tip!

It is recommended to familiarize with the Disaster Loss Accounting System User Manual Data Management for a full breakdown of the functionality of datacards. The user manual can be accessed via the following link: <http://www.desinventar.net/documentation.html>.

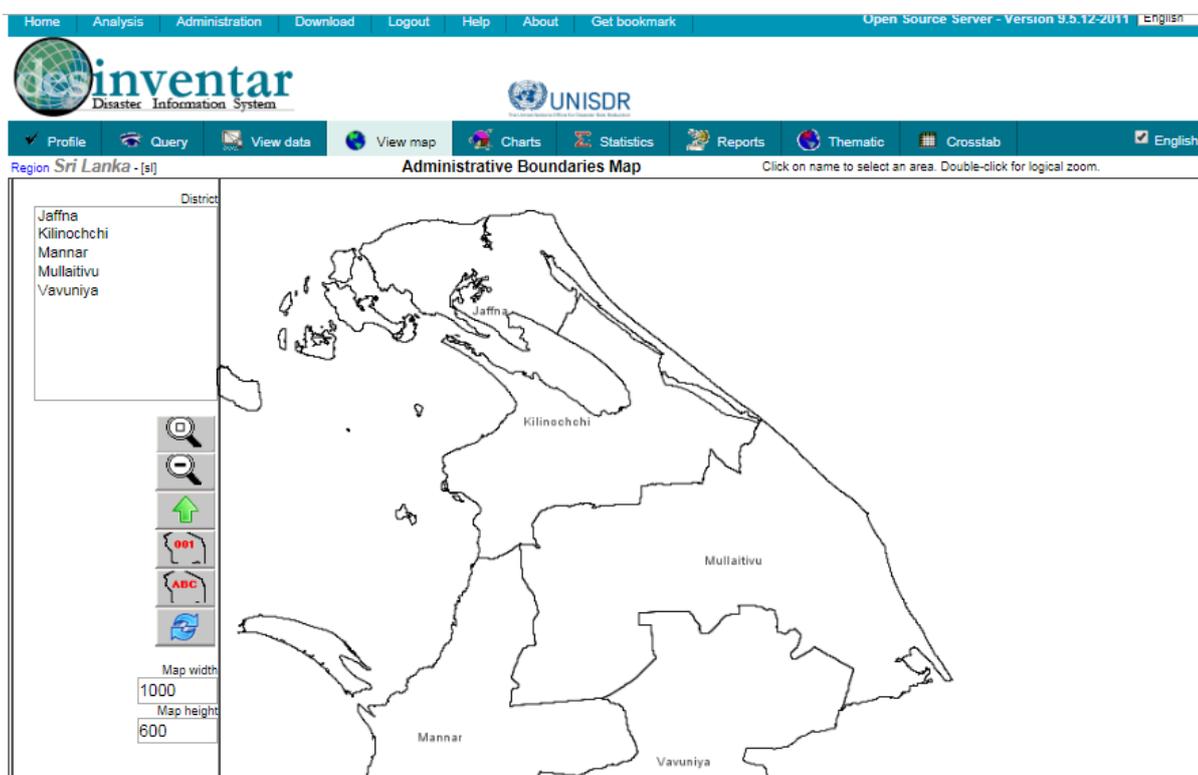
View Map

The analysis module is provided with facilities to handle simple maps of the study regions. These maps can be exported in to other documents by doing a right click on your mouse and selecting “Copy”. In this way, the user can then go to the file in which they would like to insert the map and right click again, select “Paste” and the map will be inserted in to the document and can be formatted using the picture toolbar.

These maps serve three purposes:

- ② Show users the shape, size and location of the zones forming the division (usually political/administrative boundaries) used to geo-reference the data.
- ② Serve as a tool to select specific zones of which information is required. The application is particularly useful for users who do not have a practical knowledge of the study region.
- ② Serve as an initial model for the production of thematic maps. See more information in the corresponding section.

When users first select the View Map tab the geographic regions selected in the Query window will be highlighted (see Graphic 12).



Graphic 12: View Map Window

It is also possible to select the geographical areas of interest from the left-hand side. A visual interactive tool bar is also displayed to the left of the map, with the following options:

Zoom (Enlarge) Map. When you select this option the system enlarges the map by 25%.



Reduce Map. This option reduces the map size by 25%.



One level up: after drilling down to one area you may click this button to get back to the previous higher level.



Map showing codes. This option displays the codes of the geographical areas, instead of the names. Depending on the density of the geographical (or political-administrative) areas, the map might result illegible due to overlapping of the codes. In this event, it would be advisable to enlarge the map.



Map showing names. This option displays the names of the geographical areas, instead of the codes. Depending on the density of the geographical (or political-administrative) areas, the map might result illegible due to overlapping of the names. In this event, it would be advisable to enlarge the map.



Map refresh. This option will force a re-display of the areas names.

Map width
1000
Map height
600

Map Width and Height. Allows the user to adjust the size of your map to suit your needs.

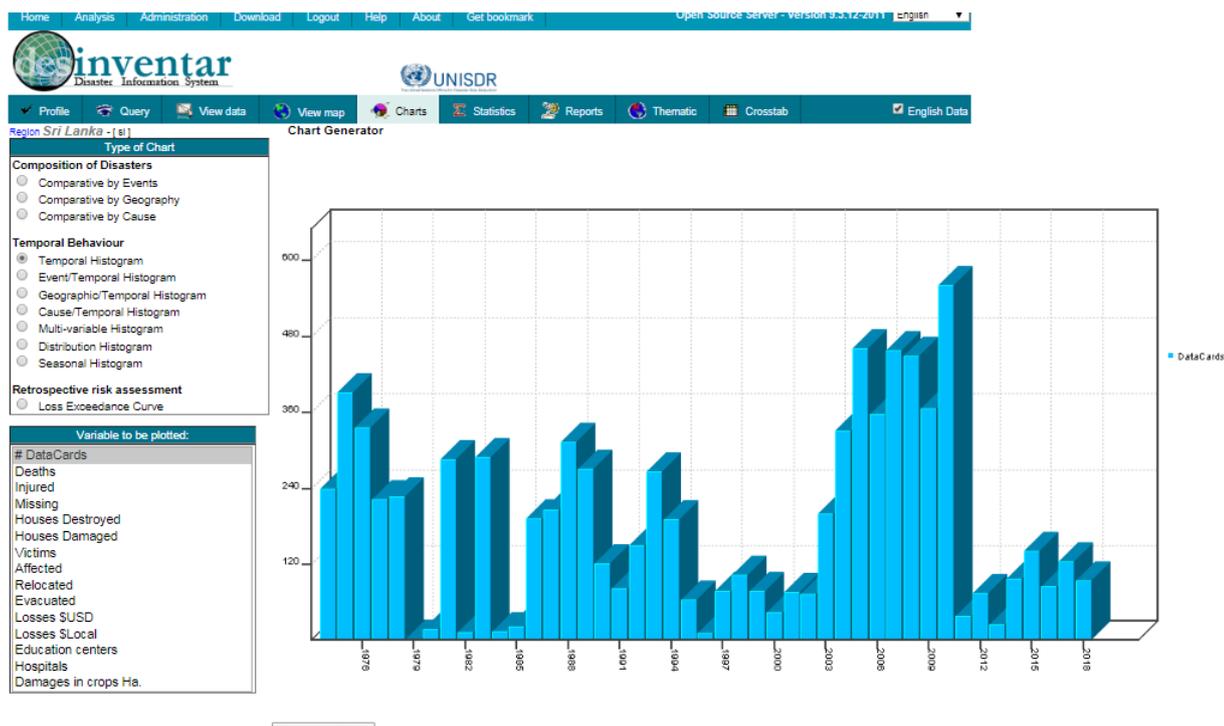
Charts

Everybody knows that a picture is worth a thousand words. One of the main strengths of the analysis module is the ability to generate charts about disasters. Charts are excellent means to represent the behavior of a variable over time and to compare a set of variables.

The mechanism of producing charts with the analysis module involves a similar process as with the other result generators: It is based on a definition of a query based on a selection of geographical units, event types, range of dates and several data characteristics.

Once a query is satisfactory, its results can be charted in the several formats.

The main screen of the Charts tab is shown in Graphic 13, charts are displayed to the right-hand side of the screen and the type of chart and variable to be plotted are selected using the lists on the left-hand side.



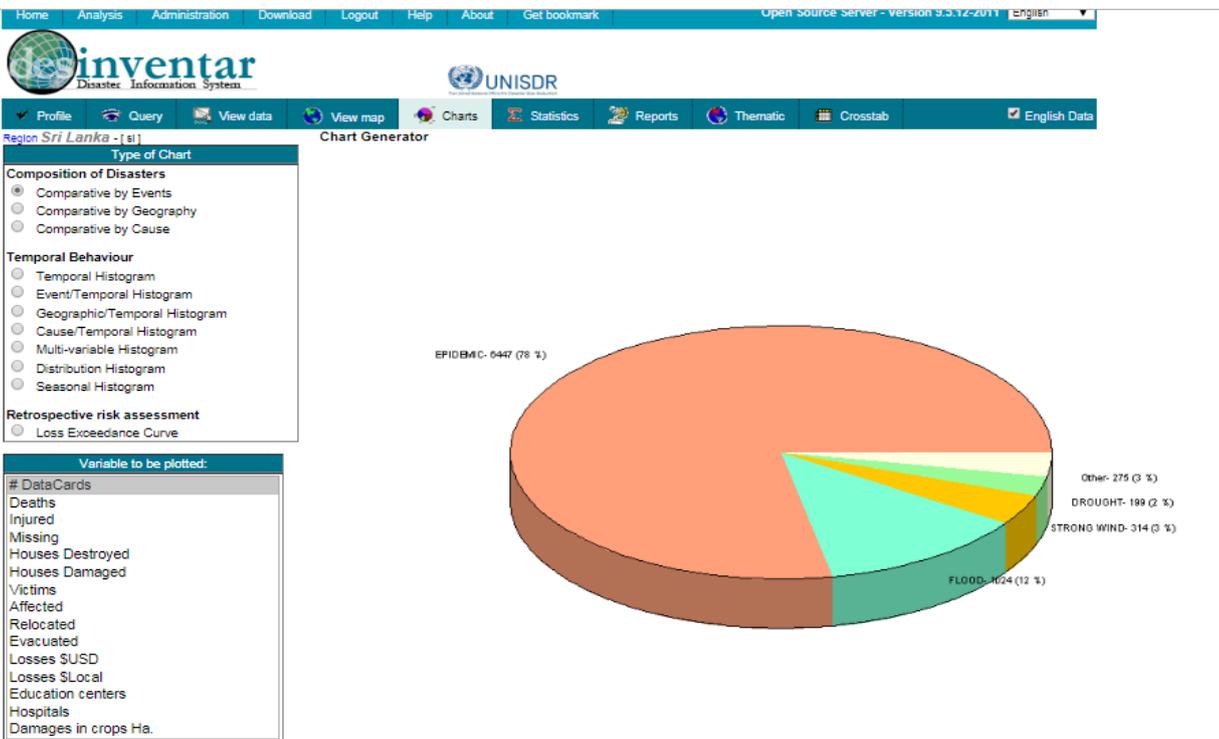
Graphic 13: Charts Window

Users must select the type of graph they wish to produce by first identifying the composition of disaster.

The user can choose from the following three options:

Comparative by Event – Initially this displays a Pie chart, proportionally segmented according to the values aggregated per event for the variable to be graphed (see Graphic 14). This graphic can also be generated as bar or line chart by selecting the chart type in the chart features box.

The 'Variable to be plotted' can be selected from the window below the type of chart. Initially the variable to be plotted is data cards and more details can be found below.



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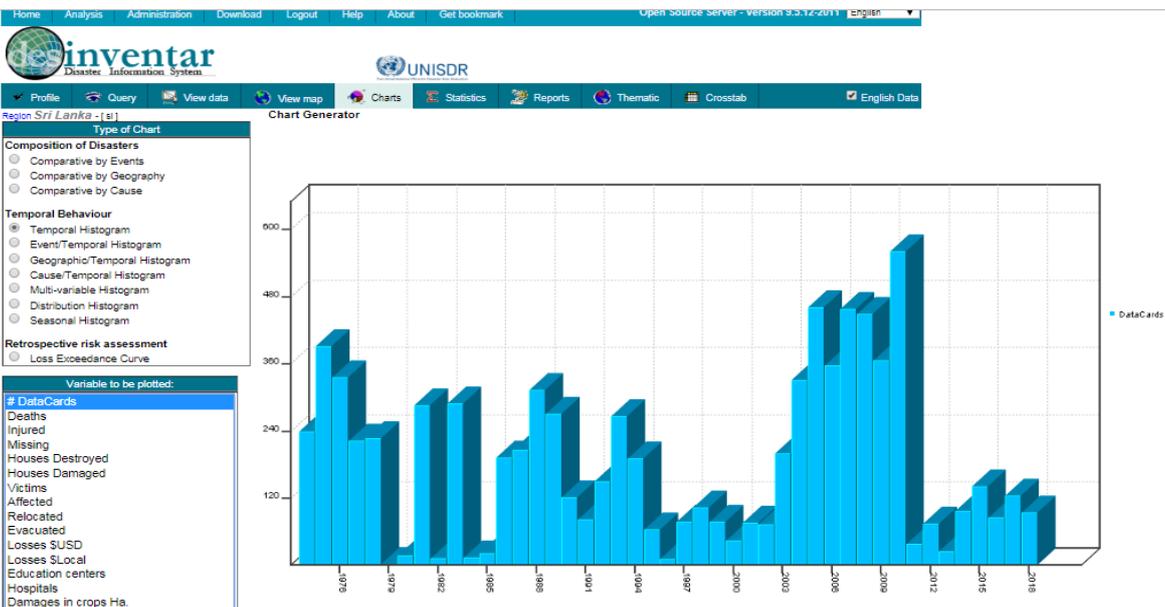
Comparative by Geography - It is similar to the Comparative by Event, except this chart shows the proportion by geographical region. Again, this graphic can be generated as a bar (See Graphic 15) or line chart.

Comparative by Cause – In line with the above this chart shows the proportion of causes while the graphic can be generated as bar or line chart as well. Currently the Causes will not display a result due to a data review of the entries.

Temporal behavior

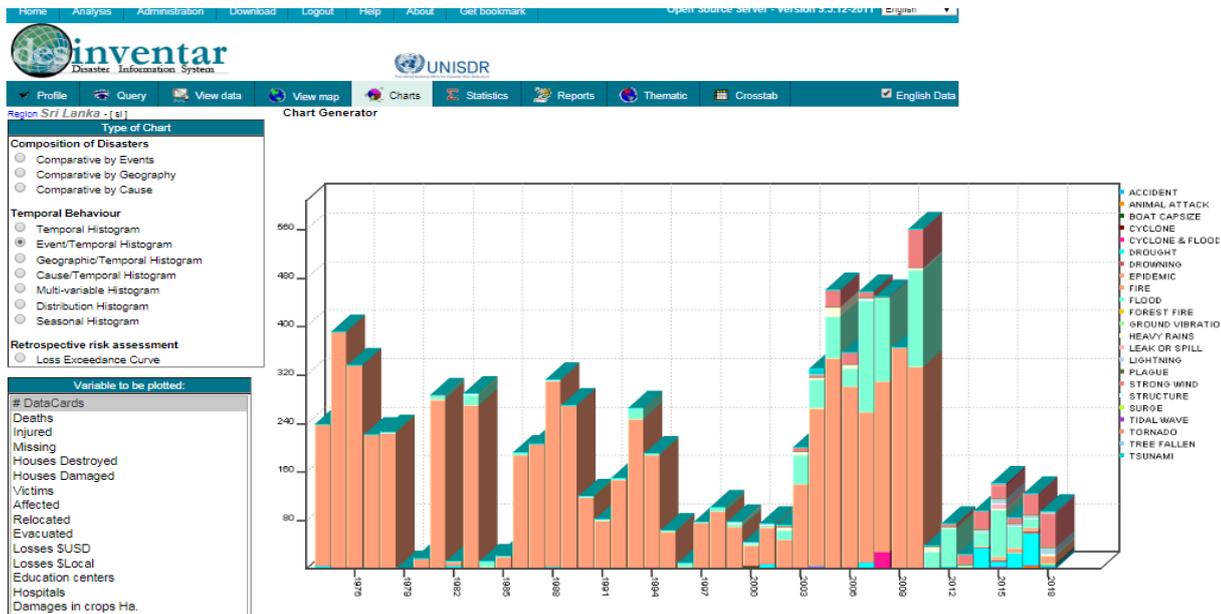
Users may also select the following options from the 'Temporal Behavior' list:

Temporal Histogram - Generates a simple histogram according to the variable selected for graphing. The occurrence frequency (Y axis) of the variable to be graphed will be displayed according to the period selected in the Period window, which defines the time intervals (X axis). This graphic is generated as bar or line chart (see Graphic 15).



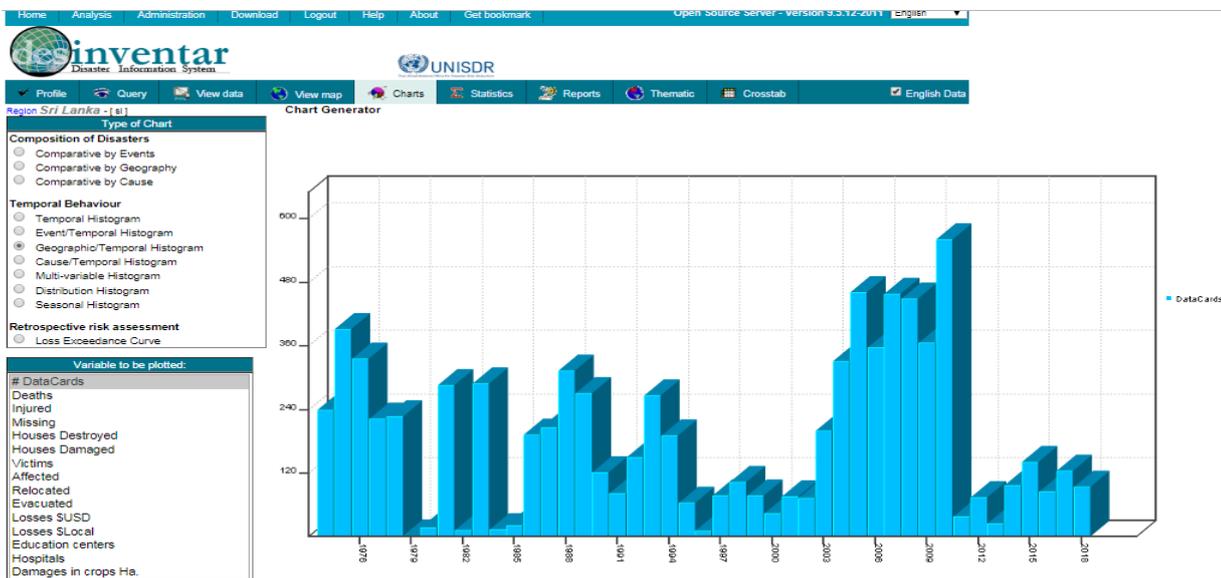
Graphic 15: Temporal Histogram

Event/Temporal Histogram - If the user has selected up to six types of events in the query, this histogram will represent the values that correspond to the variable that is to be graphed, in each class interval, differentiating each event series by colors. The conventions for event type will appear on the right. Note: this type of histogram will not be displayed if the user has selected more than six variables. In this case a message will be displayed. This graphic is generated only as bar or line chart (see Graphic 16).

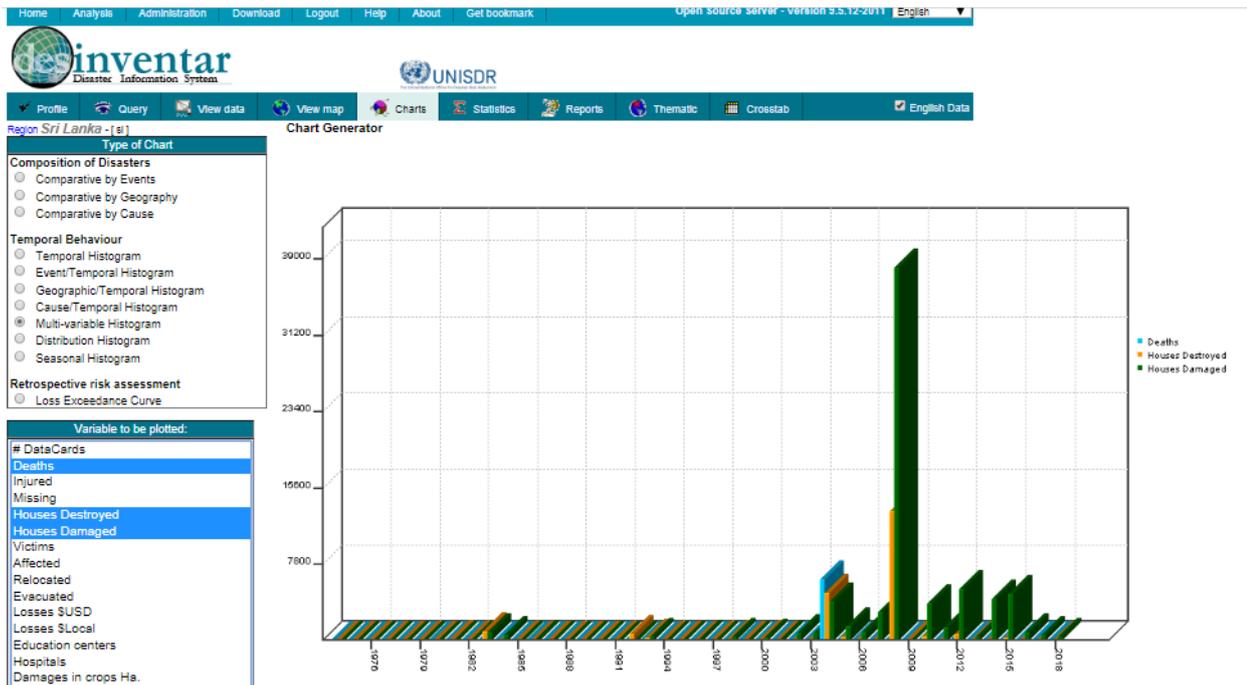


16

Geographic/Temporal Histogram - If the user has selected up to six geographical units in the query, this histogram will display values that correspond to the variable to be graphed allocating colours for each geography. It works similarly to the previous Event/Time Histogram graph. This graphic is generated only as bar or line chart.



Multi-Variable Temporal Histogram- If the user has selected of up to six variables to be plotted, this graphic will produce a histogram with one series for each variable. This graphic is generated only as bar or line chart. Variable histogram of Houses and Houses Destroyed showed as below example



Seasonal Histogram - Seasonal histograms display accumulated frequencies of the variable that is to be graphed, during the selected season and at a level of detail defined by the period. The season, of course, must be longer than the period.



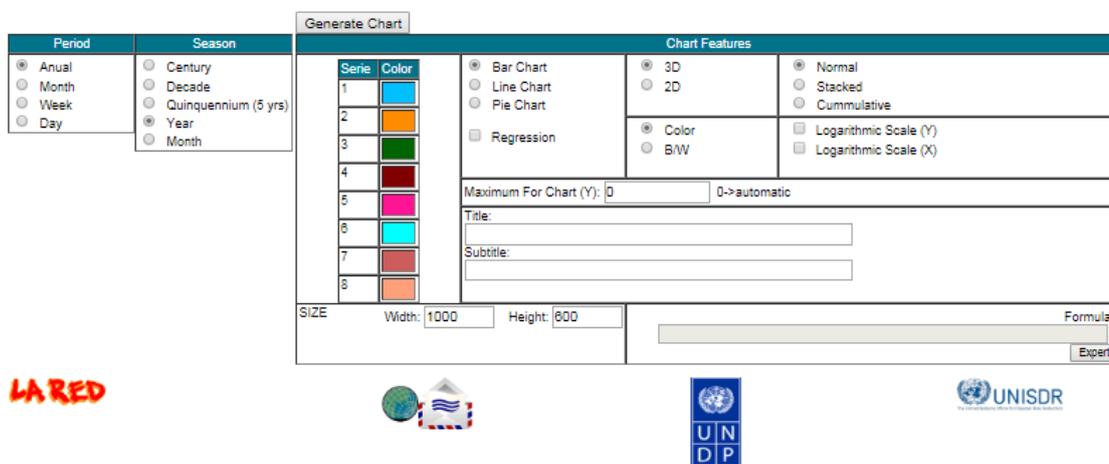
A typical (and most natural) example is a yearly season. In this case all the values generated during January will be accumulated in the first bar, the values of February in the second, and so on.

It is recommended that the user first selects the type of season according to the date range of the query. The analysis module will suggest a period suitable to each type of season, which can be modified by the user. If you make an incorrect choice, a warning will be displayed indicating that “the period must be shorter than the season”. This graphic is generated normally as bar or line charts (see Graphic 20).

Variable to be plotted

Possible variables to graph can be selected from the list in the relating window, such as the number of events, the effects that the disaster produced or the losses it has left. Based on the current query, the Analysis Module allows charting variables one by one. In the case of Event and Geographic Histograms, it allows the user to graph the effects of up to six types of events or geographical choices.

At the bottom of the ‘Charts’ tab there are additional options which can be selected to enable the user to display the type of graphic which best fits their requirements (see Graphic 21).



Graphic 21: Additional Variables to be Defined by the User

Period

Allows the user to select the unit of time for the display of information in all Histograms. Simply click in the circle to the left-hand side of your selected option. Only one option may be chosen.

- Annual
- Month
- Week
- Day

Season

With this option, multi-temporal histograms can be created. When using it, it is recommended to select first the type of season as the Analysis module will suggest the recommended analysis period. This type of chart is particularly useful to formulate hypothesis and verify correlations with climate variables or other types of variables and particularly with all of those that present periodic behaviors

(or almost periodic) and those with secular variations. For reasons of visualization, the intervals of class cannot be greater than 1000.

- Century=100 years
- Decade=10 years
- Quinquennium= 5 years
- Year
- Month

Chart Features

Color range - Choose from a range of colors to represent the different variables identified in your graph. When you click on one box of color, a pop-up box with a wide range of colors will allow you to customize what colors you want to use on your chart.

Bar Chart - Generates a bar chart, typical in histograms.

Line Chart - Represents the frequency of occurrence values of each class interval by means of a continuous thick line. Additionally, it graphs the linear regression with dotted lines.

Pie Chart - Draws the results in the form of a cake or 'pie', indicating the values that were obtained for each selection.

Regression – This is a mathematical procedure that determines the strength of the relationship between one dependent variable (usually denoted by Y) and a series of other changing variables (known as independent variables). This relationship is typically in the form of a straight line (linear regression) that best approximates all the individual data points.

3D or 2D - There are two options to choose from, Three-dimensional (3D) and Two-dimensional (2D) for graphs of bars or pies; for lines, only 2D appearance is possible. For more clarity, it is recommended that two-dimensional be used when there are more than 30 class intervals.

Graph Mode

Normal - In this mode the system will show a histogram, line graph or pie with the values exactly as retrieved from database.

Stacked - For the Event and Geographic histograms with the bar option in Graph class, it allows to visualize the values of geographical units or events selected (six as maximum) on the same bar. The difference with

Normal mode for these two types of histograms is that in the Normal mode there are as many bars graphed as the number of events or geographical units selected. This graphic is valid only for bar diagrams.

Cumulative - The class intervals accumulate sequentially the values for frequency of occurrence.

This type of graph is particularly useful to evaluate the tendencies of events, frequency, their associated effects or phenomena of interest. This option is valid only for bar or line charts.

Color

The user may select either displaying graphics with full color or in black and white. If the full color choice is selected the Analysis Module will assign colors automatically. The user may later edit the colors exporting the figure, with the option Copy, to graphics editors.

B/W

If the choice is black and white, the Analysis module will assign the fill automatically.

Logarithmic Scale

The analysis module allows the user to apply a logarithm to the X and/or Y axis.

This is a mathematical function that when the data covers a large range of values – the logarithm reduces this to a more manageable range. On a logarithmic scale, each tick mark on the scale is the previous tick mark multiplied by some number.

Maximum for Chart

This allows the user to set a maximum value for the Y axis. *The functionality is currently under review.*

Titles

Main Title: Allows the ability to identify each graph (histograms and pie) with a title that will appear horizontally on top of the chart. There can be up to 65 characters (including spaces) entered.

Subtitle: Allows enlarging or clarifying of the legend of the title; there can be up to 45 characters entered (including spaces).

Size - The size of your chart.

Width - How wide you want your chart.

Height - How tall you want your chart.

Formula - If you are an expert and familiar with using code, you can customize your charts here.

Additional Graph Operations (right-click):

Copy - Allows copying the image on screen and pasting it in other applications.

Print - Displays the standard print dialogue for printing.

Save - Generates an image in BMP format to archive

Analyzing Temporal Data

This type of analysis, as indicated by its name, reveals the behavior and occurrence of different variables over time.

Temporal analysis can be applied considering different variables (number of reports of deaths, housing, etc.). However, temporal analysis in DesInventar can be also targeted to specific events and to specific geographical areas.

Temporal analysis can show the following behaviors:

- **Trends:** increasing, decreasing or stable. This is very useful while thinking of vulnerability. If the impact of some type(s) of disaster are increasing or decreasing that may be a sign that vulnerability is also increasing or decreasing. In particular the implementation of risk mitigation plans, early warning systems, etc., could be shown to create a decline in effects from certain disasters by aligning the implementation dates of these plans to declines shown in plotted variables.
- **Continuity:** in some cases, the occurrence of certain types of disasters is irregular, for example, earthquakes while other types of disasters may occur on a seasonal basis i.e. Tropical Cyclones. Each of these cases must be further analyzed and approached differently from a risk mitigation perspective.
- **Correlations:** in many cases there is a cause-effect between some types of disasters. Some of the most well-known are the relation between floods and epidemics or between droughts and fires. These facts can in many cases be identified using the visual tools and charting two types of events along time and looking at similarities in the shapes of the series.

Statistics

Upon selecting the Statistics tab the statistics relating to the query can be produced (see Graphic 22). It has been designed to obtain global and semi-detailed results from the databases.

To define the information for your statistics you can select data from the 'Available' list and use the button 'Add' to include the details with your 'Selected' data. The button 'Remove' will essentially remove any selection from the 'Selected' box that you don't want showing up in your statistics.

Simply select the information to include from the 'Available' list and click either the 'Add' or 'Remove' buttons to alter the data in the 'Selected' list.

The 'Up', 'Down', 'Top' and 'Bottom' buttons allow you to move your selections within the 'Selected' box into an order that will make sense for your resulting report.

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inventar
Disaster Information System

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Profile Query View data View map Charts Statistics Reports Thematic Crosstab English Data

Region: Sri Lanka - [SI]

Statistics Generator:
Select the columns you want to appear in your report:

Available

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

Selected

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

Add >> Remove <<

Up Down Top Bottom

Formula Expert

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

Please define Statistical Functions to produce:

Sum Average Maximum Variance Standard Deviation

Please define your aggregation levels:

First level of totalization:	Second level:	Third level:
Event	Event	Event
Province	Province	Province
District	District	District
Division	Division	Division
Date	Date	Date

Don't use Don't use

Continue Report format

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

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Graphic 22: Statistics Generator

Users must select the statistical functions that they would like from the horizontal list by selecting the check box to the left of the statistical function. The user has a choice of

- Sum
- Average
- Maximum
- Variance
- Standard Deviation.

Totalization Levels

The three levels of totalization correspond to three lists containing the different possibilities of data aggregation, including the Date, Cause, Event, Geography Level, etc.

The fields of each level are mutually exclusive. For example, if you choose Geography Level 0 in the first level, and YEAR in the second, they will be excluded from the third totalization level.

Click on the button "Continue" to display a spreadsheet containing information similar to that in Graphic 10 (Datacard viewing sheet): a statistical summary of the query made in this window.

Reports

The Analysis Module (DesConsultar) is provided with functionality to generate customized reports.

These reports can be viewed on the screen or exported as Excel or CSV spreadsheets.

Simply select the data that you would like to appear in your report from the 'Available' list. This can be done either by double clicking on the data item or highlighting the data item and clicking the 'Add>>' button. The selected data will then appear in the 'Selected' list.

To remove any item from this list simply highlight it and click the 'Remove<<' button (see Graphic 23).

The 'Up', 'Down', 'Top' and 'Bottom' buttons allow you to move your selections within the 'Selected' box into an order that will make sense for your resulting report.

Graphic 23: Reports Generator

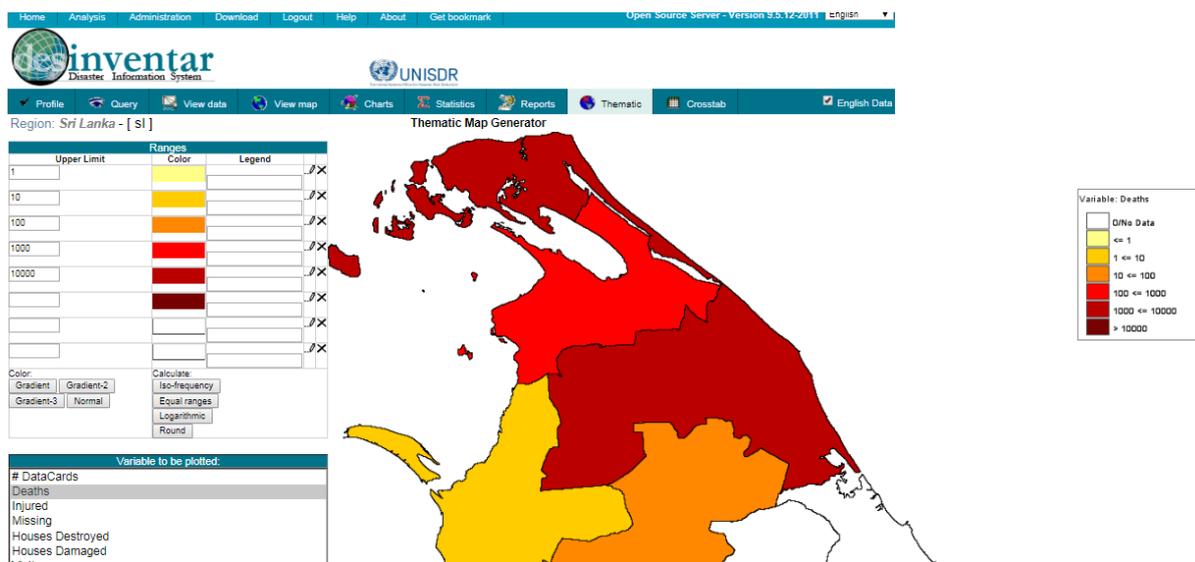
Once you are satisfied with your data selection press the 'Continue' button and your data will appear in the same format as the **View data** tab.

To export the data in to a Excel or CSV file simply click the '**get it as Excel / CSV**' link in the top right hand corner as shown in Graphic 24.

Serial	Event	Code	Province	Province	Code	District	District	Code	Division	Division	Location	Date (YMD)	Comments	Cause	Description of Cause
FL2008	FLOOD	ika004	Northern	Northern	ika004001	Jaffna	ika004001003	Island North(Kayts)	Island North(Kayts)	Island North(Kayts)	Karampon West(GN)	2008/3/19	2008/09/15		Rain
FL2008	FLOOD	ika004	Northern	Northern	ika004001	Jaffna	ika004001003	Island North(Kayts)	Island North(Kayts)	Island North(Kayts)	Narantbanai North(GN)	2008/3/19	2008/09/15		Rain
FL2008	FLOOD	ika004	Northern	Northern	ika004001	Jaffna	ika004001003	Island North(Kayts)	Island North(Kayts)	Island North(Kayts)	Narantbanai North West(GN)	2008/3/19	2008/09/15		Rain
FL2008	FLOOD	ika004	Northern	Northern	ika004001	Jaffna	ika004001003	Island North(Kayts)	Island North(Kayts)	Island North(Kayts)	Narantbanai (GN)	2008/3/19	2008/09/15		Rain
FL2008	FLOOD	ika004	Northern	Northern	ika004001	Jaffna	ika004001003	Island North(Kayts)	Island North(Kayts)	Island North(Kayts)	Narantbanai South(GN)	2008/3/19	2008/09/15		Rain
FL2008	FLOOD	ika004	Northern	Northern	ika004001	Jaffna	ika004001003	Island North(Kayts)	Island North(Kayts)	Island North(Kayts)	Sunzivil(GN)	2008/3/19	2008/09/15		Rain
FL1998	FLOOD	ika004	Northern	Northern	ika004005	Kilinochchi	ika004005006	Kandavalai	Kandavalai	Kandavalai	Puliyampokkanai (GN), Thrumapuram East (GN)	1998/12/15	2008/12/19		
ST2008	STRONG WIND	ika004	Northern	Northern	ika004001	Jaffna	ika004001042	Delft	Delft	Delft	Delft Centre(GN)	2008/10/28	2008/09/09		
ST2008	STRONG WIND	ika004	Northern	Northern	ika004001	Jaffna	ika004001042	Delft	Delft	Delft	Delft West(GN)	2008/10/28	2008/09/09		
FL2008	FLOOD	ika004	Northern	Northern	ika004001	Jaffna	ika004001003	Island North(Kayts)	Island North(Kayts)	Island North(Kayts)	Puliyankoodai(GN)	2008/3/19	2008/09/15		Rain
FL2008	FLOOD	ika004	Northern	Northern	ika004001	Jaffna	ika004001001	Varanavayal	Varanavayal	Varanavayal	Karanavayal(GN)	2008/3/19	2008/09/15		Rain

Thematic

In the “Thematic” tab the user can generate colored maps that can show the spatial distribution of the data selected in the Query tab. A set of options is displayed for the user to define in this window (see Graphic 25).



Graphic 25: Thematic Map

The user may alter the values of **Ranges**, **Captions** and **Colors** to generate the legend in the ‘Ranges’ list. They are specified in three columns as follows:

- ❑ **Upper Limit:** type here, from smaller to larger, the upper limit of the ranges.
- ❑ **Color:** to change the colors of each range, click the color you want to change, and then click another in the color palette at the bottom of the window.
- ❑ **Legend:** type here the title for each range. If you do not type anything, the system will generate a caption automatically according to the ranges.

The “**Variable to be plotted**” listings can also be changed. They are presented in a list with the quantifiable variables of disasters that can be represented graphically. To select a variable, simply click on it. You may choose one or more variables. If more than one variable is chosen, the **sum of the variables will be plotted**.

By clicking on ‘GENERATE MAP’ button, the thematic map will be displayed according to the specifications determined in the window represented in Graphic 26. These maps cannot easily be copied. The best way to make a copy is to take a screenshot using ALT-PrtSC keyboard combination or other tools and then paste and trim the resulting image.

Generate Map

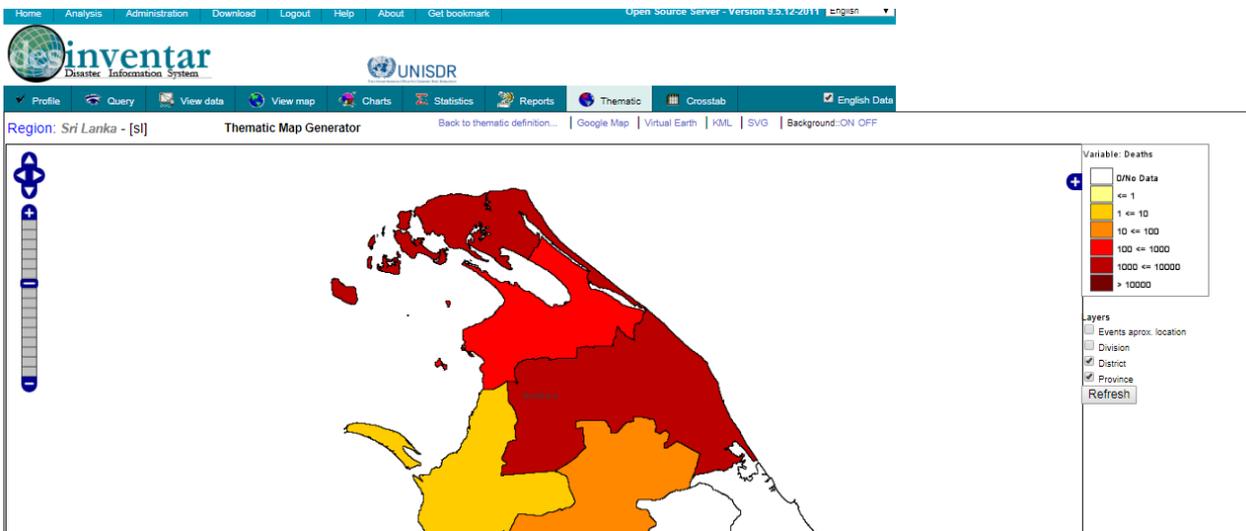
Maps can also be generated superimposed to three external maps providers, as indicated by the corresponding buttons;

Dynamic Map

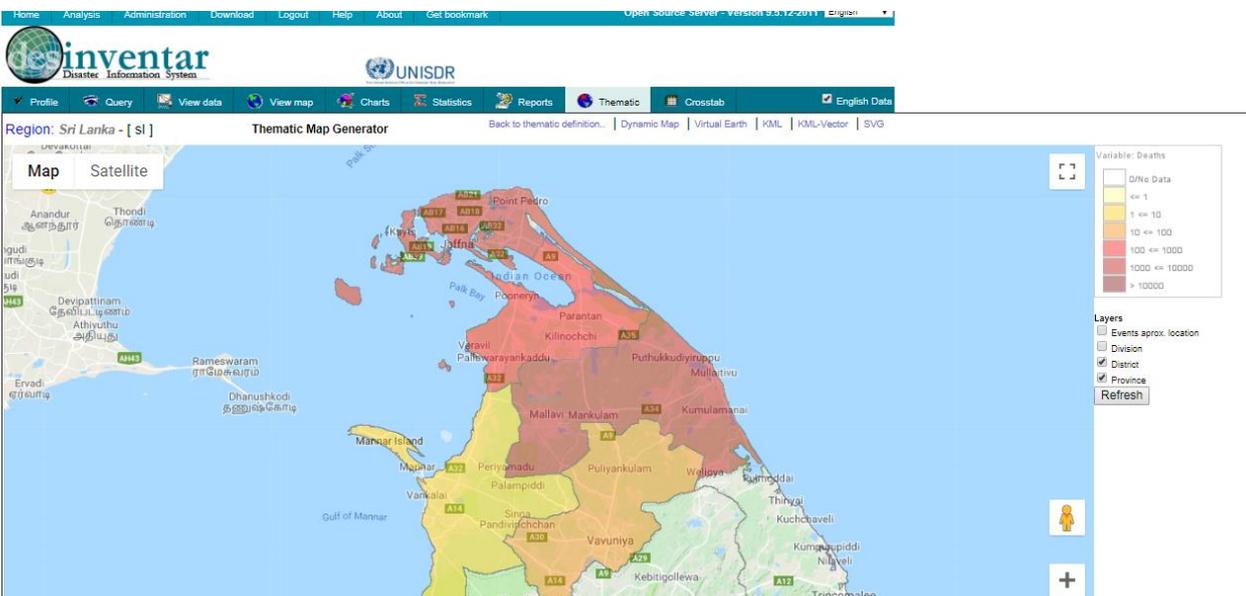
Google

VirtualEarth

- ❑ **Dynamic map:** If you click on this button you can zoom in or out your thematic map. Moreover, clicking in the boxes situated in the right you can choose to visualize (or not) the national, district and/or municipal borders. The dynamic map allows you to manage your map based on your own criteria of representation.



2 **Google:** This option enables you to overlap your thematic map with Google Maps. The advantage of this option is that it will allow you to visualize the indicators selected in the Thematic map with the underlying topography. For example, if your query is about mortality by landslides, you can see the correlation with mountain areas.



2 **Virtual Earth:** Similar to the Dynamic map option, this option allows you to zoom in and out your map. Moreover, it will overlap your thematic map with a background map showing the borders, the neighboring countries or provinces, the main roads, the main cities and other relevant geographical data. Same than with the other options, by clicking in the boxes situated in the right you can choose to visualize (or not) the national, district and/or municipal borders

These maps cannot easily be copied; the best way is to use ALT-PrntSC keyboard combination and then paste and trim the resulting image. You can also drag the image to the desktop and then copy-paste it. Another option for PC users, is to use the "Snipping Tool".

The following features must be defined before producing a thematic map Graphic 27 shows the toolbar and its associated options for selection.

Type of Area ID to show on the map from three choices; (i) no ID, (ii) the codes of the corresponding areas or (iii) the names of the corresponding areas.

Legend Type The user can select the type of legend, they would like to accompany the map by using fill areas, discs, bars or by simply showing the values that correspond to the geographic units.

Output level which corresponds to the display of the geographic units can also be selected namely, country level, level 1, level two and artificial disaggregation.

Selection Level, similar to the output level the selection level must also be chosen, either country level or level 1.

Map Features can be manipulated by the user such as the size of the map, by altering the height and width, adding a title and subtitle to the display and the level of transparency required if the user is producing a dynamic map.

The image shows a software interface for customizing a thematic map. It consists of several panels and a formula input field:

- Type of Area ID:** A panel with three radio button options: "No id shown", "Show codes", and "Show names".
- Legend type:** A panel with four radio button options: "Fill areas", "Discs", "Bars", and "Show Values".
- Output level:** A panel with four radio button options: "Province", "District", "Division", and "Artificial Disaggregation".
- Selection level:** A panel with two radio button options: "Province" and "District".
- Map Features:** A panel with a "Generate Map" section containing "Width: 1000" and "Height: 600" input fields, and a "Dynamic Map" section containing a "Transparency: 0.4" input field. Below this are "Title:" and "Subtitle:" text input fields.
- Formula:** A long horizontal input field with an "Expert" button to its right.

Graphic 27: Bottom Toolbar for the Customization of Thematic Map

Analyzing Spatial Data

This type of analysis, as indicated by its name, attempts to reveal the distribution of different effects of variables across a geographic space. As with the temporal analysis, it can be applied considering different variables (number of reports of deaths, housing, etc.) and can be also targeted to specific events and to specific geographical areas.

DesInventar is capable of producing **thematic maps**, known in academic and scientific circles as choropleth maps.

A choropleth map is a map in which areas are shaded or patterned in proportion to the measurement of the statistical variable being displayed on the map, such as number of reports of number of deaths. It provides an easy way to visualize how a measurement varies across a geographic area.

The maps can be made at different levels of resolution. If a database is fully disaggregated then all analyses can be made at the lowest (more detailed) level. However, if this is not the case, a combination of analysis (maps) at different levels may be required.

It is important to present here the usual note of warning about choropleth maps--especially where they show large areas, because they may hide a lot of internal variation.

When producing a Thematic map, the researcher must choose appropriate ranges of values and associated colors or grey-shades to represent the different classes of data being mapped. For this purpose, the system provides two types of automated scale generation tools:

1. a) Iso-Ranges: a set of value ranges such that a more or less equal number of areas constitute each class. These maps provide the maps with the highest possible contrast.
2. b) Equ-Ranges: the size of each interval is the same, independent of the number of elements in each class. Calculated as the maximum minus the minimum value divided by the number of classes desired.

Spatial analysis is used mainly to discover patterns of spatial distribution, as follows:

- Concentration: A useful pattern for identifying vulnerability. For example, if the impact of some type(s) of disaster is concentrated in a few areas it may be a sign of a high vulnerability.
- Correlations: As mentioned before, there is a cause-effect between some types of disasters, such as the relation between floods and epidemics or between droughts and fires. Thematic maps can confirm or dismiss the hypothesis of high correlation that is that the two variables move together over time.

One final warning to the reader: DesInventar is NOT a replacement for a GIS system and does not have the features and functionality required to produce specialized spatial analysis.



Des user manual.pdf

Crosstab

This tab provides aggregates of the different variables found in the Database organized as cross-tabbed tables. Crosstabs always use two dimensions (one vertical and one horizontal) as levels of aggregation.

The Crosstab window is very similar to the Statistics window and as such, users simply select the information to include from the 'Available' list and click either 'Add' or 'Remove' buttons to alter the data in the 'Selected' list (see Graphic 28).

The 'Up', 'Down', 'Top' and 'Bottom' buttons allow you to move your selections within the 'Selected' box into an order that will make sense for your resulting report.

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desinventar Disaster Information System **UNISDR**

Profile Query View data View map Charts Statistics Reports Thematic Crosstab English Data

Region: Sri Lanka - [SI] **Crosstab Generator:**
Select the columns you want to appear in your report:

Available	Selected
Losses \$USD	# DataCards
Losses \$Local	Deaths
Education centers	Injured
Hospitals	Missing
Damages in crops Ha.	Houses Destroyed
Lost Cattle	Houses Damaged
Damages in roads Mts	Victims
Duration (d)	Affected
With Deaths	Relocated
With Injured	Evacuated
With Missing	
With Houses Destroyed	

Add >> Remove << Up Down Top Bottom

Formula Expert

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

Please define Statistic Functions to produce:
 Sum Average Maximum Variance Standard Deviation

Define Crosstab Dimensions:

Vertical Dimension:	Horizontal Dimension:
Event	Event
Province	Province
District	District
Division	Division
Date	Date

Continue

Please note that only vertical/horizontal dimensions that make sense should be selected. For example, makes no sense to choose District as vertical dimension and Province as horizontal dimension. You MUST select both vertical and horizontal dimensions.

Graphic 28: Crosstab Window

Users must select the statistical functions that they would like from the horizontal list by selecting the box to the left of the statistical function. The user has a choice of

- Sum
- Average
- Maximum
- Variance
- Standard Deviation.

The difference between the Statistics tab and Crosstab relates to how the data is displayed and analyzed. Users must select a vertical and horizontal dimension as to how they would like to see the data. This is done by selecting data in the associated boxes.

Clicking on the "Continue" button will display a spreadsheet containing information similar to that in Graphic 6 (Datacard viewing sheet): a statistical summary of the query made in this window. The data can also be exported to Excel by clicking on 'get it as excel' link in the upper right corner.