

The Social Studies Network for Disasters Prevention in LatinAmerica - LA RED
Permanent Committee of Contingencies – Honduras

Technical Assistance Report for the Evaluation of the Effects of
Hurricane Mitch in Honduras, 17 Nov - 8 Dec, 1998

By
Cristina Rosales C.
Seismological Observatory of
Southwest of Valle University,
OSSO – COLOMBIA

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***Additions:**

- Disasters effects graph IG/CNE (Nov 13th/1998)
- Revised Disasters effects graph (Nov 13th/1998)

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1.Presentation

DesInventar is a disasters Inventory System designed by researches of **The Social Studies Network for Disasters Prevention in LatinAmerica - LA RED**. La Red as an inflow of the International Decade for the Reduction of Natural Disasters, declared by The United Nations.

It's objective is to store and homogenize the information of small, medium and big disasters in a data bank and has many tools for the consultation of information:

-A question generator to the data bank through which a user can specify the disasters he/she wants to consult.

-A graph generator which basic objective is to give the researcher a temporary vision of the frequency of the disasters.

-A Geographical Generator through which it gives a distributive vision of the data and an intuitive access tool to the data bank through a map.

-A Statistic Generator to obtain different level totals and grouped in different ways.

DesInventar is a proved product and solid disaster inventory, prospective and retrospective. Its potential users are the countries and their institutions for civil protection and planification like organisms from local and international scales.

COPECO started to formally use DesInventar in March of this year when La Red made a visit that included a capacitation workshop.

2.Activities

Technical Assistance Objectives:

- 1.Evaluation support for the effects of Hurricane Mitch in Honduras with the DesInventar tool-Disaster Inventory System.
- 2.Creation of a data base with the actualized information (effects and character) of Hurricane Mitch in the municipal scale.
- 3.Capacitation of people for the use of the tool.
- 4.Digital Map of Honduras (a Municipal scale) in DesInventar Format.

All the objectives where accomplished although 1 and 2 were not in satisfactory way because there wasn't enough information on the different areas affected by Hurricane Mitch. For example it wasn't possible to find information on the loss of cattle and harvests; about affected routs and specific number of destroyed bridges by municipal towns.

The information found was the most actualized possible made public and December 3rd by the Government of Honduras (although the information was confirmed and corrected it kept the November 13 date).

Sources and information

Source: National Emergency Commission/Management Engineering

During the tropical storm (product of Hurricane Mitch) through the country and by decision of the president, the operation centers that was formed in COPECO by the institutions personnel of the government and the armed forces was taken to an operations center improvised in a private engineering management company, which had, at the moment technical capacity installed to store and process information about the effects on human lives and goods that the prolonged rains left in the country. COPECO concentrated its efforts in coordinated the reception and distribution of technical and humanitarian help.

From what I understand, the technical capacity installed in IG, consisted of a lot of telephones lines (to recieve information from the different CODER – Regional Emergency Committies and the Municipal Mayors offices),computer equipment with goographical information systems-SIG for the storage of the **georeferential** information ; and plotters.The personnel came from all over the country (There was also personnel from COPECO)

Although it was known that IG made two closedowns of the information recived a day and the final closedown was on Friday November 20th. For different reasons that are not

important , it was only possible to find information on the Municipal Scale. On December 3rd the same information found already corrected but the same closedown date was kept (Nov 13th/1998)

Other Information Sources

COPECO:

-During the first week of this consultation information was found on the effects and losses that Hurricane Mitch left in Honduras until November 11th on the department scale. The information was found on the first days ,by the COPECO team.This information counted on these fields:

Deaths,wounded,dissapeared,damnificated,evacuated,destroyed houses;wrecked and flooded,destroyed and wrecked bridges.

With this information a small data bank was made and some analysis in DesInventar,but it wasn't used anymore because the objective was to incorporate in DesInventar, Municipal Scale information,what helps to have a clearer vision on the effects.(The data base,graphs and analysis where left in the COPECO.This information will help to compare,evaluate and validate with other sources of information).

-Since COPECO is the coordinator of the CODER it recieves reports on damage about from the CODER and the Municipal Mayors Offices.This information is valuable because other than the fact of being an official source,it is rich in different kinds of effects and reported losses.For example,it includes detailed information on the losses of different harvests,affected schools,affected hospitals etc.

In the case that COPECO could dispose of all the reports on damage and effects of Hurricane Mitch,of the Municipal Mayors Offices through the CODER the information could be incorporated to DesInventar. Although this would be like a repetition of the work done by the CNE/IG,COPECO could take the decision to use it. After evaluating the quality and homogeneity of the data on CNE/IG,and form thier own data base (with information sources from the Municipal Mayors Offices).

Secretary's office for public works,transportation and housing – SOPTRAVI:

As mentioned earlier CNE/IG managed the information about the effects and damages on housing.A effort should be made to find the information of the difference between damaged and affected homes.

SOPTRAVI should be one of the consulted sources to find this information, as destroyed ,closed and affected routs; and of affected and destroyed bridges.

Data bank – DesInventar

A data bank was created with a marking card for each municipality in the country (297 in total) The serial number of the card corresponds to the municipalities code, what makes esier the future processes of actualization,completion and depuration of the data.

Apart from the 297 cards, 6 were created with information at department level for the cases where there was data but where the exact municipality from where it was coming from was not exact. In these cases the number on the card corresponds to the department code. (The departments were Atlántida, Gracias a Dios, Intibuca, Colón, Santa Bárbara and Valle).

The information that was found and incorporated into the data base of DesInventar was about the human lives, about deaths, injured, missing people, victims and evacuees; goods and affected homes. Information on losses and damages of roads was not found (Km of damaged and affected routes, and bridges), nor about the agriculture (hectares and cattle loss) in the municipal scale.

Information from COPECO/SUMA was added about the number of help sent to the different municipalities of the country. Specifically, actualized data from Nov 26 was added about the number of provisions (in pounds) and clothing (in bundles).

Information on population on municipal scale was added (data from 1996, planification, coordination and budget secretary's office SECP). Although it is not an objective of DesInventar to manage this type of information (SIG should manage it) added to the data base to work as support for future analysis and evaluations on the effects of Mitch (see figure 1. Population distribution)

Capacitation

Capacitation was given to COPECO and outside personnel that had as objective to teach them to use the DesInventar tool. The preparation included:

- Use of software, DesInventar and DesConsultar mode.
- DesInventar methodology transfer.
- Preparation for the implementation of the project in Honduras; and
- Preparation for actualization, completion and depuration of the data bank on the effects of Hurricane Mitch in Honduras.

The capacitation took place between 7:30 am and 12 m on 23, 24 and 25th of Nov.

For its development the United Nation for the Mitch operation gave support and lent computer equipment to make the software practices easier.

The list of participants:

Name	Institution	Function
1. Carlos Alberto Soto	FFAA of Honduras	COPECO operation Mitch support
2. Hector Ayala	FFAA of Honduras	COPECO operation Mitch support
3. Iris Barahona	COPECO	Secretary
4. Jaime Espinoza	FFAA of Honduras	COPECO operation Mitch support
5. Juan José Alvarado	Government and justice secretary office	Information center 's Director
6. Karla Castellanos	Operation Mitch Program - UN	Voluntary
7. Mario Vásquez	COPECO	Auditor
8. Nahum Ortíz	COPECO	Computer Center 's Consultant

Digital Map of Honduras on DesInventar Format

The history of the DesInventar project in Honduras specifically in COPECO started in March of this year.

This month, during a visit by La Red a person from COPECO designated by the person responsible of the DesInventar project in Honduras, Lic. José Anibal Gámez. Unfortunately this person is no longer in COPECO and the project suffered an interruption.

During the visit of our partner of **LA RED**, Eng. Moisés Ortega, COPECO gave him maps of the departments and municipalities of Honduras in printed format, to be typed and incorporated into DesInventar – Honduras .

During this consultation the digital map of Honduras on DesInventar format was handed in. During the analysis and seeking time the effects of Mitch (Nov. 17-20) I found out that the digital map (that were made using the printed maps handed in by COPECO to **LA RED** in March) does not correspond to the actual political-administrative division, in which the data of the losses of the disaster on the municipal scale was stored.

The map handed in counts with 278 municipalities and the most recent division counts with 297. Although DesInventar allows to take the data to 297 territorial units (As done with the data base for Mitch) the actual map (DesInventar) permits the representation of 278.

To surpass this inconvenient a printed map was used of the 297 municipalities, which will be typed and added to DesInventar by **LA RED** – Colombia (Engineer Julio Serje). It will be sent (via email and post) to COPECO when it is ready with the corresponding instructions.

3.Data Analysis

Previous Discussion

As mentioned before the data that was found and incorporated to DesInventar on the effects of the disaster produced by Mitch are based on the reports of the National Commission of Emergency/ Management Engineering – CNE/IG, on Nov. 13, 1998.

These reports contain information on: Deaths, injured, missing people, evacuees, victims and damaged homes on municipal scale. (see graph in annex 1)

The department and national totals on the graph don't necessarily correspond to the DesInventar totals because on the graph there are some information of municipalities with non-existent codes (and with no names). This occurred in the cases where it was not possible to know exactly the municipality from where the information was coming (verbal communication Mario Vásquez, Nov. 1998)
(see graph in annex 1)

On the data about damaged homes an effort should be done to find information on the difference between destroyed houses (where there was total loss) and affected homes (the ones that need only cleaning or repairment to be liveable once more; includes damaged roofs, flooded or the ones that are missing a wall(s) . This information will be useful in the next weeks, months or years where the National policies and International Cooperation, of Housing and Reconstruction will depend on consolidated and disintegrated numbers. In the information data base for damaged homes an Extended Filecard: Damaged Homes was included in the field. The fields of Basic Filecard ,Destroyed and Affected Homes has no information.

Since processing form and storage in IG was not known an informed discussion could not be held on the quality of the data and on the homogeneity of the spacial coverage. Some possible limitations of the information :

1. The information may not have a homogenic coverage in the space because there is very little or no information on the farthest areas of the country or areas that are still continua (or continued, Nov.13) uncommunicated (for example Lempira and Intibuca department); this in contrast of a lot of information found on the most populated areas and/or developed of the country where the information was actualized daily (for example Central District) .

2. Because of the force of the disaster and the number of towns and villages to attend, it is possible that the number of deaths (confirmed) may rise a bit, after the cleaning campaigns of mud and debris, in these places. (for example a family of 9 people in a village, Las Minas close to El Progreso, that were found buried and whose corpses were only found on November 20th – El Heraldo, Nov.22 1998 newspaper)

3. There can be duplicity in some data.

4. The number of evacuees can be below the reality because not all the people are in the shelters, if not, they are in friends and relatives homes.

The information in DesInventar reports that in 166 municipalities (66%), there were effects of Hurricane Mitch on human lives (deaths, injured, missing, evacuees and victims) and on homes (destroyed). Which means that 2/3 parts of the country reports losses/effects on the mentioned aspects; that proportion will grow when the effects are analyzed about the agricultural and Infrastructure of the Roads.

4. Preliminary Analysis of the Effects of the disasters

The evaluation of the effects of Hurricane Mitch in Honduras should include, evaluation of losses, all the fields of productive and enterprise section that were affected; evaluation on the type of homes that were affected; the kind of bridges and evaluation of the effects on the population.

One of the variables that should be included in the evaluation and that during this assistance was not seen was that no organism was handling data on affected persons. Defined as *that*

suffer indirect or secondary effects associated to the disasters. That corresponds to people different from the “victims”, suffer the impact of secondary effects of disasters for reasons such as deficiencies in the provision of public services, in commerce or work, because of isolation and people affected in mental health (DesInventar Manual, LA RED, 1998)

For example, in Tegucigalpa the affected was 100% of the population.

A review of the data at department scale, shows that the effects (incorporated to DesInventar) concentrated on two fronts: one approximately E-W on the Atlantic coast (dpts. Colón, Atlántida, Cortés and Santa Barbara); and another front N-NW that passes through the country (dpts. de Yoro, Comayagua, Francisco Morazán and Choluteca). This can be seen in the distribution of the effects by departments, graph 2-3, 5-6, 8-9, 11-12, 14-15, 17-18.

A review on municipal scale shows the same tendency, to stand out other areas such as Gracias a Dios and the south east side of the department of Olancho. See graph 4, 7, 10, 13, and 16.

In the reports, the less affected areas correspond to the south part of the west side of the country (dpts. La Paz, Intibuca, Lempira, Copán, Ocotepeque); where there are areas less developed and populated than in the center and north end of the country and with less force from the tropical storm (generated by Mitch) from the north. It is possible, as mentioned in the second part of this report, that the data in these areas may be incomplete.

Behind the grand total (effects) of departments, there is a municipality, exceptionally two, on who suffered 56 to 87% of the department total; and between 4 and 6 on who suffered 60 to 70% of the national total. For example, of all the damaged homes, 60% corresponds to only 6 municipalities (see graph No.19); about injured people 70% corresponds to 4 municipalities from the country's total (see graph No.7); the number of the municipality with most missing people are three that add 5410 people and represent 63% of the national total (see graph No.10); 968,910 victims are in 5 departments and represent 65% of the national total; the same as in 5 municipalities where 69% are evacuees, at national level (see graph No.16). When the variables of deaths were analyzed in this way, we see that two municipalities have the largest number of deaths (more than 700) represent only 31% of the national total and 15 municipalities (with more than 100 deaths) represent 80% (see graph No.4).

The Department with the largest number of deaths, injured, missing people, etc. And the percentage of the national total they represent:

Department with more than 1,000 DEATHS:

Colón	1,156
Atlántida	1,076
Suma	2,232
% del total	39%

Department with more than 1,000 INJURED:

Choluteca	5,865
Cortés	3,207
Comayagua	1,624
Suma	10,696
% del total	87%

Department with more than 1,000 MISSING PEOPLE:

Santa Barbara	3,233
Cortés	1,286
Suma	4,519
% del total	56%

Department with more than 200,000 VICTIMS:

Yoro	523,570
Cortés	218,190
Francisco Morazán	254,858
Suma	996,618
% del total	67%

Department with more than 100,000 EVACUEES:

Cortés	1,074,113
Francisco Morazán	501,385
Yoro	203,887
Choluteca	137,884
Suma	1,890,269
% del total	87%

5.Contact Information

Data of people and web sites of **LA RED** and the DesInventar Project. These can help to ask for support in the use of the DesInventar Tool and about any doubt that you may have on the methodology.

1.Andrew Maskrey, General Coordinator of LA RED.

Intermediate Technology Development Group - ITDG Perú
Av. Jorge Chávez 275 Lima 18, Perú.
Tels. +511 447 5127, 444 7055, Fax: +511 446 6621

Email: andrew@itdg.org.pe, <http://www.itdg.org.pe>

2.Andrés Velásquez, DesInventar Project Coordinator

U. del Valle / Observatorio Sismológico del SurOccidente - OSSO
Torre de Ingenierías Tercer Piso, Cali, Colombia.
Tel: +572 3301661, Fax: +572 3313418

Email: aveosso@yahoo.com, ave@osso.univalle.edu.co
<http://osso.univalle.edu.co/actividades/desinventar>

3.Julio Serje, DesInventar Software Development and Distribution

Compuarte LTDA
Av 15 No. 119A-43 Of. 409, AA 250442 Bogotá Colombia.
Tel: +571 213 2440, Fax: +571 215 3785

Email: promap@andinet.com

4.Ing. José Sato, DesInventar Project - ITDG

Email: jose@itdg.org.pe

5.Cristina Rosales, DesInventar Project - OSSO

Email: cristina_r_98@yahoo.com, crosales@osso.univalle.edu.co