3-3. Construction of Natural Disaster Database Linked to GDIN

It is extremely important to know what kind of counter measures have been taken against what scale of disaster, what effects/review points/lessons have been obtained regarding catastrophic disasters that had occurred in the past in order to devise various disaster reduction counter measures in the future. The consolidation of such information on disasters, which occurred in Asia this century in a database, will serve as an invaluable asset in the next century.

At present, the statistical data regarding natural disasters that occurred in this century are accumulated in the Center for Research on the Epidemiology of Disasters, Louvain Catholic University (CRED) in Belgium. Disaster related information is transmitted on the Internet from various organizations beginning with the circumstantial report on the main disasters since 1980 from the United Nations Office for the Coordination of Humanitarian Affairs (UN-OCHA).

The Asian Disaster Reduction Center (ADRC) confirmed the necessity for constructing while cooperating, a comprehensive database on natural disasters that had occurred in the 20th Century by effectively utilizing these existing databases at the ADRC International Meeting (Member Country Meeting) held in December 1999. Furthermore, in order to positively promote such global activities, the ADRC participated in the GDIN and proposed world-wide use of common disaster ID's at the Canberra Assembly in March 2001 and then started actual operations in fiscal year 2001.

3-3-1. Current Situation of Sharing Disaster Reduction Information

At present, the majority of organizations are conducting data collection and studies solely related to themes assigned to them and transmitting the results on the Internet and by other means. Additionally, partial sharing is being planned through linking of related organizations on the Internet.

Amongst these, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) is already promoting and tackling the sharing of reliable disaster reduction data and have set up the ReliefWeb to issue various global data related to disasters onto the Internet. Detailed Situation Reports particularly those regarding major disasters after 1980, are stored so that outlines and countermeasures can be documented and tracked.

The ReliefWeb Kobe Office was opened in August 2001 to setup and begin an around-the-clock information dissemination system with bases in three cities: New York, Geneva, and Kobe.

In addition, the Center for Research on the Epidemiology of Disasters, Louvain Catholic University (CRED) in Brussels, Belgium, is collecting statistical data on natural disasters and human disasters centered on disasters totaling over 10 deaths that had occurred worldwide after 1900 and transmitting the information on the Internet.

Others in universities and research organizations worldwide own respective disaster information for each area or target fields and some parts of this information are available on the Internet.

However, since it is difficult to specify the dates for occurrence such as flood damage or droughts from past disasters, since information sources record different times and dates. Regarding the classification and names of disasters, since consolidated terms are not being used, in many cases it is often difficult to link the data transmitted from separate data organizations as being the same disaster, particularly those that are very old.

Regarding the disasters in Japan, the “Science Chart” and “Weather Almanac” cover past disasters in detail completely. There is also “Disaster White Paper” on the Internet where a list of major disasters can be downloaded but a database listing all disasters has not been publicized. Furthermore, when comparing these with the data from CRED, many cases have unclear corresponding relationships and discrepancies exist in the figures.

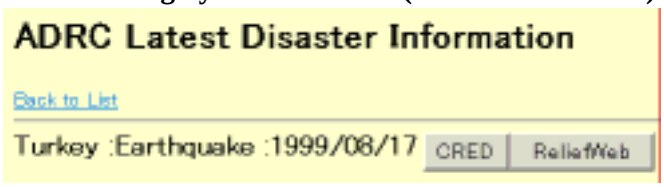
3-3-2. Databook of Natural Disasters in Asia in the 20th Century

ADRC signed an agreement on the memoranda with CRED and conducted verifications of CRED's EM-DAT. However, in most countries the information on disasters of the past 100 years seldom remain available and the truth is this verification process is extremely difficult.

In member countries, it is often the case when the data presently reported in EM-DAT is the only data on the history of natural disasters in each country. Since there is no background of this valuable data having been generally published and distributed in Asian nations, we published the "Asian Natural Disaster Data Book for the 20th Century" in July 2000 after adding individual tables, various calculations and analysis to the data collected in the EM-DAT on member nations, thinking that the verification process would be advanced by offering for them to the use of many persons needed as well as drawing the attention of many people. A revised version is planned for release in the fiscal year 2002.

3-3-3. Proposal by ADRC <Unique ID Project (GLIDE)>

1)Disaster information sharing by use of GLIDE (GLobal IDEntifier) Number



Many disaster reduction-related organizations design and operate disaster databases, which are made available to the public. When a new disaster strikes, not only the organizations and mass media in the country stricken, but other countries also send out quite a few pieces of information over the Internet. ADRC is one such organization and, when a disaster occurs, it searches through Internet sites managed by research organizations and mass media from around the world and sends e-mail messages to contact persons in the disaster-stricken country to gather information concerning the disaster. Results are presented in the latest disaster information pages.

Some of the problems we have faced in our current operations are:

(1) Every time a disaster strikes, all related organizations need to be searched.
(2) Names that identify the same disaster are sometimes different among the organizations and using search engines such as Google and Yahoo may not produce hits.
(3) If structures of databases and/or web sites of the organizations are modified, Internet links to such databases or web sites may be lost.

If global identifier (GLIDE) numbers are used searches for disaster data in natural disaster databases of the past and recent occurrences will be substantially easier.

At the conference for the Global Disaster Information Network (GDIN) held in Canberra, Australia in March, 2001, a proposition by ADRC that all disasters that occur in the world should be identified with code numbers for management was adopted as a pilot project.

This project centered on OCHA ReliefWeb and CRED (the Center for Research on the Epidemiology of Disaster at Louvain Catholic University, Belgium). They were joined by ADRC and FAO, WorldBank, USAID/OFDA, NOAA, IFRC, UNDP, and ISDR Secretariat, covering reviews on structures of GLIDE and the measures to popularize and promote it.

The structure of GLIDE is determined as follows:
AA-BBBB-CCCC-DDD
AA: Disaster Type

Drought	DR
Earthquake	EQ
Epidemic	EP
Extreme Temperature	ET
Insect Infestation	IN
Flood	FL
Slide	SL
Volcano	VL

Wave / Surge	WV
Wild Fire	WF
Wild Storm	ST
Complex Emergency	CE
Technological	AC

BBBB: Year of Occurrence (four digits of BC/AD calendar)
CCCC: Sequential Number by the Year
DDD: Country Code Number (ISO Code) (Ex. JPN for Japan)

Temporary operation of GLIDE started in January 2002 according to the following procedures to generate and report a guide number:

1. Upon occurrence of a disaster, ReliefWeb generates a new GLIDE number and reports it to CRED by e-mail.
2. For disasters not covered by the above step 1, CRED generates a GLIDE number within one week.
3. CRED reports to ADRC and other related organizations by e-mail with a list of GLIDE numbers for each week including both cases of steps 1 and 2.
4. ADRC reports GLIDE numbers to each organization through the use of a dissemination route of Highlights.

The three steps to add common code numbers to a database are as follows:
(1) Add a column for GLIDE in the database.
(2) Download past disaster data (http://www.cred.be/emdat/disdat1.htm).
(3) Input numbers assigned to each disaster by CRED in the column created by step 1 above. Next, enable acquisition of data using GLIDE as a key.
(4) Create a program to search through the database and display data using GLIDE as a key. For an organization that has a database open to the public, minor modifications to the existing program would be necessary to effect this feature.
Additionally, provide a feature that allows a visitor searching the database to refer to related information on other sites.
(5) Create button links embedded with URL's to other organizations and GLIDE numbers.
Above steps provide the database with shared information from other databases in the world through the use of GLIDE.
In order to further promote GLIDE, ADRC will open and operate GLIDENUMBER.net which will have features like a description for GLIDE, searches for the latest disaster information, registration for the GLIDE mailing list, registration for participation with GLIDE, and a function for generating a new GLIDE number. When this web site becomes available, we hope that the use of GLIDE by member countries and disaster reduction-related organizations increases. The following merits could be considered by adopting this ID code:

- Disaster data owned by many organizations could be related easily at retrieval per item.
- By developing retrieval engines focusing on necessary items for the organization, the necessary data could be automatically retrieved / indicated on the same page without retrieving each item per organization. (Observe the problems in the next item)
- Thus, the inspection of the duplicate data will become possible by using this code for direct retrieval even when the database design had changed for each organization and changes in retrieval methods by the retrieving side could be conducted easily.

2)Problems on adoption

However we believe that it is necessary to clear the following problems for such a system to function effectively:

- Presently, the lack of data, particularly those in the older eras are prevalent in the CRED database, necessary addition/exclusion amendments are to be taken by rechecking the data brought together with each related organization.
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- The participating organizations of GDIN will need to attach this ID code on their respective databases.
- When the insides of the database cannot be retrieved directly due to the server structure of each organization or security reasons, a new database with the ID code attached to the metadata (stored information location) of each organization would become necessary.

3)Further use of GLIDE

It is desirable to create an environment to facilitate retrieval by devising integration of other items to promote further data sharing in the future.

Effective extraction and comparative studies will become possible if each organization matches whatever data that can be standardized as much as possible, such as classified names for countries and disasters, statistical data items, contents, names of related organizations or order of data.

Regarding this standardization of disaster reduction data, a separate “Standardization Work Group” exists in the GDIN Work Group and the integration of items will begin initially to continue onto the tackling of further standardization in this Working Group.