Strengthening National Disaster Databases in Asia

Study in Indonesia

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1. Introduction

In the context of the Global Risk Identification Program (GRIP) of the United Nations Development Program (UNDP) framework, sponsored by the United States Agency for International Development / Office of Foreign Disaster Assistance (USAID/OFDA), the Centre for Research on the Epidemiology of Disasters (CRED) coordinates a collaboration activity with disaster data compilation initiatives in the Asian region. The present collaboration aims at the sharing of knowledge in order to improve the visibility, accessibility and applicability of disaster databases at national and regional level. This will be done by helping to reinforce disaster database structures and methodological and operational approaches. Capacity building is an essential component of this activity. The strengthening of disaster databases will eventually serve the global, international, and national humanitarian communities involved in disaster response planning and risk reduction.

In order to provide useful and reliable disaster data, there is a need for adequate database structures, standardized methodology and operational approaches, and interoperable data formats. Improvement of disaster analysis, as well as increased visibility and access of disaster data, need to be focused specifically on smaller, intra-country special scales and on an expanded scope, by including human and economic impact indicators.

CRED hosts the EM-DAT international database[1] on natural and technological disasters. In EM-DAT, disaster events and their human and economic impact are analyzed at a global level. National and sub-national databases provide disaster information at smaller, intra-country scales, and are complementary to the EM-DAT database.

Next to on-site and remote technical assistance, CRED, in collaboration with the *Badan Nasional Penanggulangan Bencana* (National Agency for Disaster Management; BNPB) and UNDP Indonesia, will describe in this report the general structure and present functioning of the BNPB disaster database. Based on discussion of the methodological and operational procedures and identification of strengths and weaknesses of the database, recommendations for reinforcing the disaster database have been

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[1] See: www.emdat.be

established. Finally, the inputs of these discussions will be the basis for the "*General Guidelines for the Development of Disaster Databases and the Compilation of Reliable Data*", to be developed for existing and newly developing disaster data compilation initiatives, and the humanitarian community, worldwide.

2. Disaster database in Indonesia

The historical disaster database in Indonesia is called *Data dan Informasi Bencana Indonesia* (Indonesian Disaster Information and Data; Dibi). It is managed by BNPB. The database has been introduced by UNDP Regional Bureau for Crisis Prevention and Recovery (RBCPR) and UNDP Indonesia. Together with the Indonesian National Development Planning Agency (BAPPENAS), BAKORNAS PB (now BNPB), the Ministry of Home Affairs and DFID, UNDP's SCDRR programme[2] has supported the further application of the database in Indonesia. With the law of the Republic of Indonesia number 24 of 2007 concerning disaster management, natural disasters have become the domain of newly founded Government institutions: BNPB and *Badan Penanggulanggan Bencana Daerah* (BPBD). At the national level, BAKORNAS PB (the previous National Disaster Management Coordinating Agency) is replaced by BNPB while BPBD has taken over the task and mandate of the SATKORLAK PB (Provincial Units for Disaster Response Coordination) and SATLAK PB (District Units for Disaster Response Coordination) bodies at provincial and district level.

In 2005, the disaster database in Indonesia, a Desinventar database, was housed within UNDP Indonesia. In 2008, after a legal reforming process, the database was launched as a nationally owned database housed within BNPB[3]. Dibi's objectives are to provide data for risk identification, policy formulation and decision making, ultimately ensuring that funds are channelled to risk reduction based on the trends and patterns identified through Dibi-based analysis. This type of analysis will benefit all stakeholders,

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[2] Safer Communities through Disaster Risk Reduction (SCDRR) in Indonesia is part of the UN Joint Strategic Programme on Disaster Risk Reduction.

[3] See: Lessons learned: Disaster Management Legal Reform - The Indonesian Experience. National Agency for Disaster Management (BNPB), Indonesia - gov; United Nations Development Programme - Indonesia (UNDP), 2009.

focussing attention on disaster risk initiatives in a coherent manner across the country. The database is available through the BNPB Dibi website[4] for the years 1997 to 2008 and the Desinventar website[5] for the years 2002 to 2006. Dibi is accessible in the Bahasa and English language.

The database is an interactive web-based system and consists of a tabbed interface, including pre-made summary tables, query, data, map, chart, statistics and reports options, hold in PostGreSQL in a Linux environment. The observation of data[6] is at provincial level and the resolution of data[7] is at the district level. The geographical coverage of the database is nationwide. The database contains natural, non-natural and social disasters (for definitions, see Annex 1). The disaster type definitions are based on national recognized standards through the law of the Republic of Indonesia number 24 of 2007. Annex 2 lists the disaster types that are present in the database including their definitions. The number of disaster records in the database is 6,110 at the time of reporting. Each record is accompanied by information on the human and structural impact of the disaster by district. In the database each entry is linked to a serial identification code, a province code and a district code.

A disaster is defined as 'an event or a series of events threatening and disturbing the community life and lively hood, caused by natural and /or non-natural as well as human factors resulting in human fatalities, environmental damage, loss of material possessions, and psychological impact'. In the database, the following human impact indicators are present: killed, injured, missing, affected and evacuated. The definitions of these human impact indicators are shown in Annex 3. Damages to the following sectors are reported in the database: houses, health facilities, education facilities, rice fields, roads, and occasionally for worship facilities, offices, kiosks, infrastructure, plantations and ponds. A general definition used for damaged material property is the following: *includes houses, education facilities (schools, madrasas, or Islamic boarding schools), health service facilities (hospitals, puskesmas facilities,*

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[4] See http://dibi.bnpb.go.id, access on November 10, 2009.

[5] See www.desinventar.net, accessed on November 10, 2009.

[6] Level of observation refers to the sources of information that are used by the agents collecting loss data. At global level, observers rely on communications from international aid organizations or central Government agencies. At national or sub-national levels local Governments, field information and local media reports are often used.

[7] Level of resolution refers to the level of aggregation at which data is presented. Global observers like EM-DAT collect and present data as national level aggregates. National observers collect and present data at provincial, municipal or higher resolutions. Urban observers disaggregate data at neighbourhood, block or household levels.

auxiliary puskesmas facilities), places of <u>worship</u> (mosques, churches, Buddhist and Hindu temples), <u>other</u> constructions (office buildings, marketplaces, kiosks), and <u>roads</u> experiencing damage (light damage, moderate damage, heavy damage or destroyed and collapsed) and affected and dried up (experiencing harvest failure) wet <u>rice fields</u>[8]. Individual sector impact indicators are not defined. For some disasters, economic losses (in million Rp) are reported. No definition exists for economic losses caused by disasters. However, since the 2004 Indian Ocean earthquake, the Indonesian government has adopted the Economic Commission for Latin America and the Caribbean (ECLAC) methodology to assess losses, especially for large scale disasters.

3. Evaluation of database

Methodology

Dibi is developed using the Desinventar and Desconsultar methodology. The Desinventar module is a relational and structural database through which the database is populated in predefined fields and direct losses. The Desconsultar module allows access to the database by queries that can include relations among the diverse variables of impacts, disaster types, location and date. The module allows for representation of the answers to the queries in tabular of graphical form and maps. The database has no impact thresholds for entering disasters in the database, the so-called 'entry criteria'. All disasters that are reported by the data sources and that are included in the list of 18 disaster types (including 13 natural disaster types) covered by the database are compiled. The disaster classification is of an equal level, as opposed to a hierarchical disaster classification[9]. Primary disasters and triggered secondary disasters are not recognized in the database, but triggered events are included as an additional disaster type in the list of disaster types (e.g. 'earthquakes and tsunami'). Causes of disasters are not inserted. A disaster identification number per event is not included in the database. As such, events are searched by type and date.

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[8] Data Bencana Indonesia Tahun 2006-2007 (Data on Disasters in Indonesia 2006-2007). Badan Nasional Penanggulangan Bencana (BNPB)- Government of Indonesia- and SCDRR, Jakarta, Indonesia, 2008.
[9] For an example of a hierarchical disaster classification, see: BELOW R., WIRTZ A., GUHA-SAPIR D. (2009). Disaster Category Classification and Peril Terminology for Operational Purposes, CRED: Brussels; MunichRe: Münich [ID n°264].

Sources of data that are collected for the database are the former sub-national units for disaster response coordination, SATKORLAK PB and SATLAK PB, now being transformed into BPBD units at the provincial/district level. These sub-national units send information to the Government, which then validates and summarizes the information and transfers this to BNPB. Information is provided by the provinces to BNPB on a daily basis. The frequency for data entry in Dibi is on yearly intervals. It is foreseen to shorten this to a period of three months. Types of information inserted in the database are: disaster type, location (province, district, specification), date, human impact, sector/economic activity impact. Economic costs are not reported in the database. GIS codes related to the shape-files for provinces and districts are included for mapping purposes.

The Desinventar database structure is a location-based data entry model, as opposed to an event-based data entry model like EM-DAT[10]. In Dibi data are compiled at the provincial and district-level, meaning that disaster events that affect several districts are double-counted when descriptive statistics are applied to calculate the total number of events per province. To overcome this problem, the Dibi methodology has attributed weights to the districts according to the number of districts affected by a disaster event. The same applies to information on the occurrence and impacts of disasters at the provincial level in order to provide country figures.

The number of event recorded per year varies between around 100 and 1300 events depending of the year. Data source archives are stored in electronic format (excel). Yearly back-ups of the data are made and stored at an external server (at SCDRR). Data are analyzed with the Desconsultar module as well as in excel for internal use. Analytical outputs include annual/bi-annual disaster reports, maps and hazard prone indices (weighted scores based on the number of events, number of people killed, and injured, damaged infrastructure and population density), and serve the Government and the international humanitarian community.

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[10] For an event-based data entry model, see www.emdat.be/guidelines

Accuracy and reliability

In general, the accuracy and reliability of data is strongly linked to the accuracy and reliability of the data sources. Up to 2009, collected data were being transferred as a complete file on a yearly basis from the Government to BNPB. After receiving the information from the sub-national Governments, the Government summarized the information and sent it back to the sub-national Government units for validation. After validation, the Government sent the data to BNPB where data were inserted into the database. Thus, only final validated data were provided to BNPB. Currently, standardized forms are being used for data collection and entry, which have been developed by the Data and Information Forum. It is also referred to by the provincial Dibi. Annex 4 and 5 show respectively the BNPB disaster event report and the database entry form. Certain sensitivities such as status or funding issues could influence the figures reported by the local Governments. These possible biases remain difficult to check.

The information that is provided by the data sources generally contains the standard necessary information; however, more detailed information (e.g. gender impact) could still be added. Out of 440 districts in the country, 387 districts are covered by the data sources. Data sources do not always use the same terminology as BNPB.

Data are not being checked with additional sources other than the Government. Missing data are left as such in the database. Although the data are already double-checked, spot checks are also performed from time to time. New data provided by the Government are updated on the general website after each report and as mentioned, final data are updated in the database on a yearly basis.

Training opportunities for staff involved in the database development were available at the time of creation of the database. Hereafter, regular training opportunities have been provided by UN RCB and SC-DRR for BNPB, BAPPENAS and other Government personnel, to participate in regional learning events. Since 2008, Dibi has been gradually introduced at the national level of Government through socialisation/familiarization workshops (for users and administrators). These were followed up by focus group discussions. Pilot programs for the implementation of Dibi into local context have also been performed at provincial Government level (Central Java, Yogyakarta, Aceh, Bengkulu). Furthermore, a

series of trainings for data users and for data administrators has been performed. On-line and printed textual guidelines exist for data handling for internal database staff.

Minimum required fields in the database are the disaster type, date of events, automatic serial number, location name and location code. Ideally, the inclusion of information on gender and specific vulnerable groups would be perceived as useful for further analysis. However, this information is rarely reported by the data sources and therefore not included in the database.

Serviceability

Users of the database can access data and analytical reports on-line. Reports are furthermore distributed in paper format. Data can be aggregated or disaggregated using the web interface, according to the user's convenience. No additional information is available to facilitate the interpretation of data outputs. New data are available for the users on a yearly basis. Database guidelines are available on-line. Reviews of web traffic for the Dibi website in November 2008, February 2009, and June 2009 indicated a steady increase in the number of pages viewed and in the time spend on the website. IP address checking indicated an increase in the number of users. The majority of users are BNPB staff, ministries and sub-national administrations. Some users have suggested that Dibi is complicated, not enough user-friendly.

Staff from BNPB indicates that standardization and linking with EM-DAT would be beneficial for improving the database, allowing for international comparative analysis of vulnerability to disasters by type and socio-economic impact data. Furthermore, inclusion of a 'response'-field, informing on all response services provided, including costs of reconstruction and revalidation, would be perceived as beneficial for BNPB. Ideally, baseline pre-disaster information for each district would be added to the database, to compare the post-disaster situation with the pre-disaster situation. One factor that is currently hindering the applicability of Dibi is the incompatibility of the Desinventar system with GIS software. Although disaster occurrence maps can be produced, no further analysis can be performed using the system. Multi-layer GIS development is seen as beneficial. Furthermore, no module exists in the Desinventar system for damage and loss assessment. BNPB expresses the need for more

information on the community level, in order to increase the usefulness of the database. Finally, more staff is needed to fulfil the tasks related to Dibi at BNPB. The goal is to host the database at BNPB, who will then be in charge of all database-related tasks.

BNPB, with support from SCDRR, provides focus group discussions as a follow up-activity of the socialization/familiarization workshops for national and sub-national Governments. The aims are to clarify remaining questions and to propose context-based modifications for particular needs.

BNPB has developed a Data and Information Forum which provides a platform for key stakeholders to discuss issues of disaster-related data, collect and validate disaster data and ensure availability of data through Dibi to all stakeholders.

Dibi is interoperable with the Indonesian SIMPADU PNPM Mandiri information system. SIMPADU PNPM Mandiri is an integrated information system (Simpadu) for National Programme for Community Empowerment (PNPM) Mandiri[11]. With support from SCDRR, UNDP and the World Bank, numerous changes to the source code of Desinventar have been made, hereby synchronizing database structures between PNPM, Dibi and Desinventar. The aim of linking data from Dibi and PNPM is to analyze relationships between poverty levels and disaster events. Dibi is one of the several disaster databases using the Desinventar methodology, who share the goal of capacity building to analyze and represent hazards, vulnerabilities, and risks in terms of space and time, both retrospectively and prospectively. The purpose of this capacity is its application in risk management, including mitigation actions and post-disaster attention and recovery actions. However, currently there is no exchange of information or knowledge between the Desinventar databases. The GLobal IDEntifier number (GLIDE)[12] is not used in Dibi. Data exchange is not restricted by the institution, however only final validated data are shared with the public.

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[11] http://simpadu-pnpm.bappenas.go.id
[12] See: www.glidenumber.net; accessed on November 10 2009.

Accessibility

Access to the database is free of charge. Users do not have to register and the database is fully accessible for the time-span 1997-2008. Non-published data are not available upon request. Contact details (email) of the database manager are available on the website.

Credibility

The database website provides information on the institute and the goals and objectives of the database. General explanations on the database methodology are available on the Desinventar website[13]. Data sources used for the database, applied analytical procedures, and changes in policies and practices concerning the database are mentioned in reports. Data products are identified by an institute reference. Database-related conferences are attended by database staff whenever possible. Reports are not submitted to peer-reviewed journals. While the intention of Dibi is to provide historical information on disasters, it also provides the opportunity to identify trends, risks and vulnerabilities. The philosophy of Dibi, and the SCDRR programme, is one of open access to information and transparency in actions for DRR. In reality, this leads to competition of regions for status and funding and the most useful information is sometimes deemed politically-sensitive and not publicised.

Prerequisites and sustainability

Dibi is seen as a reference database for disasters in Indonesia. Collaboration is a key process within the maintenance of Dibi. The database is hold by the Government, with support from UN. Funding is partly covered by SCDRR-Indonesia, as part of UN Joint Strategic Programme on Disaster Risk Reduction (UN JSP-DRR), partly by UNDP and by the Government of Indonesia (through BNPB). Although BNPB receives funding from the National Budget, the database can currently not be fully maintained functional independent from its institutional framework. Since its development, Dibi is included in a collaborative network between UNDP RBCPR, UNDP Indonesia, Desinventar team. The database is currently linked to the activities of SIMPADU PNPM Mandiri. BNPB hosts the Data and Information Forum consisting of more than 12 Government agencies and services, including police, military, public works, social services, the health department, education department, and the National Statistics Bureau (BPS). The

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[13] See: www.desinventar.net

methodology for analysis of data, compilation of information, and derivation of knowledge has been enhanced by the combined forces of the Agency for Research and Application of Technology (BPPT), National Institute of Aeronautics and Space (LAPAN), Agency for Meteorology, Climatology and Geophysics (BMKG), National Mapping and Coordination Agency (Bakosurtanal) and Department of Energy and Mineral Resources (DESDM) in Indonesia. Future possible collaborations could be developed, depending on the Governments' needs.

Long-term objectives of the database are: to create sub-national database platforms that are linked to the national Dibi; and to illustrate the costs of disasters in terms of losses in the development progress. Dibi will be ideally populated by BNPB and BPBD's in order to cover all provinces, for use of the database by all relevant parties. Ultimately, Dibi at national and sub-national level is expected to raise capacity for disaster management planning at every stage of the disaster management cycle, support disaster reporting and monitoring, and provide information on disasters for Government and humanitarian actors. When provincial and district level BPBD's will be established, BNPB will support the sub-national administrations to implement Dibi with training for data users and data input. The aim is to implement a system where all BPBD's will collect and report electronically to the provincial and national administrations, hereby reducing the burden on BNPB to collect regionally-held data. Integration of socio-economic data will support linking disaster risk and poverty in Indonesia. Furthermore, improvement of data within Dibi will allow for assessing the level of vulnerability in regions, and risk exposure. Indicators that would preferably be added to Dibi are: health data, data on infrastructure, public facilities, income levels, types of livelihoods, spatial data and data on school age-children.

4. Conclusions and recommendations

Under the law of the Republic of Indonesia no. 24 of 2007 concerning disaster management, the National Disaster Management Agency (BNPB) has the mandate to collect and analyze information on the occurrence and impacts of natural disasters in Indonesia, using the Indonesian Disaster Data and Information Management Database (Dibi). The development of provincial (sub-national) Dibi systems is

now being pilot tested within 3 provinces in Indonesia. For strengthening the quality, reliability and sustainability of the national Dibi currently employed, the following recommendations have been established:

Methodology

Concepts and definitions – definitions of disaster types, although partly established, should be completed and clearly reported to data sources, database users and administrators. The following disaster types are currently not defined: epidemic, plague, surge, and combined (triggered) disaster events. In addition, the definitions of the human impact indicators 'affected' and 'evacuated' should be clarified. Besides this, individual sector impact indicator definitions should also be developed.

Data entry – the database could benefit from moving from a location-based data entry model towards an event-based data entry model. Through the use of a unique disaster identifier per event, disaster occurrence and impacts can be analyzed at national and local level, without biasing results or double-counting disaster events.

Data entry – the applicability of the database could be strengthened by regular and timely data entry, and dissemination. This will prevent missing or incomplete information, leading to increased accuracy and completeness of data.

Data analysis – GIS software should be implemented into the Desinventar module to support spatial data visualization and analysis in Indonesia, to be used by the Government and all different stakeholders. Furthermore, a method for estimating economic losses following disasters should be developed in a functional way.

Accuracy and reliability

Accuracy and reliability of data sources – new data could be validated against additional sources, such as data received from field NGO's and academic institutions. Validation of data against additional sources would serve to increase the accuracy and completeness of the compiled information.

Accuracy and reliability of data in the database – The update and verification of historical disaster data currently present in the database could increase the accuracy and reliability of the data. This could be done through completing and checking of data and field verification through conducting community meetings for historical timelines of disaster events in the selected districts.

Serviceability

Timeliness - the serviceability of the database could be improved through increasing the timeliness of updating and publishing disaster data on the website.

Relevance and user profile - additional types of information (e.g. gender, vulnerable groups) could be included in the database to allow for cross-sectional analysis and specialized analysis for vulnerable groups or regions, to be ultimately used for targeted programming.

Outputs and functions – based on comments received from database users, the database could evolve in a more user-friendly way. It is recommended to gather information from the user-group in order to capture the specific needs of the users.

Credibility

Impartiality - The reporting of data by the data sources should ideally be done in transparency. When administrations are sensitive for status or funding issues, received data should be validated against other sources. Furthermore, efforts to desensitise the administrations should be developed, in order to create trust and compliance to the task of data and information sharing.

Transparency – information on data sources, dissemination of data and limitations of the database should be made available for concerned stakeholders.

Prerequisites and sustainability

Resources - to develop a structure for sub-national data collection feeding into the national database structure, capacity in terms of IT infrastructure, human resources, training, and technical knowledge are

needed. This should be supported by all stakeholders. Staff and additional resources should be made available in order to develop and lead this process.

Collaboration network – the Data and Information forum led by BNPB should continue to expand and include additional stakeholders from different disciplines, such as (I)NGO's, academic institutions in Indonesia and international and national databases worldwide. Linking to EM-DAT international disaster database could benefit data exchange, database development and expansion of analytical products.

Annex 1: Disaster group definitions

- Natural disaster= an event or series of events caused by nature such as earthquake, tsunami, volcanic eruption, flood, drought, typhoon and landslide.
- Non-natural disaster= a disaster that is caused by a non-natural occurrence or a series of non-natural occurrences that includes technological failures, modernization failures, and epidemics.
- Social disasters= a disaster caused by a man-made occurrence or a series of man-made occurrences that include social conflict among groups and among communities and also terrorization.

Annex 2: Disaster type definitions

- Earthquake= shaking of the ground as a result of colliding of tectonic plates, colliding of faults, volcanic activity, or rock fall.

- Volcanic eruption= part of volcanic activity. Hazards posed by volcanic eruption may include heat clouds, ejecta, heavy ash fall, lava, poisonous gas, tsunamis, and debris floods.

- Tsunami= a series of sea waves of long periods caused by an impulsive disturbance to the seabed. Tsunamis may be the result of: (1) earthquakes that are followed by (sea/lake) underwater dislocations/ shifting of massive land/ rock mass; (2) undersea landslides; (3) undersea volcanic or volcanic island eruptions.

- Landslide= a type of movement of land mass or rock mass, or a combination of both, sliding down or off a slope as a result of a disturbance to ground stability or to the rock formation making up the slope.

- Flood= river run-off that exceeds the normal water level to, as a results, overflow off the riverbed and inundate the low-lying ground along the riverbank. Generally, floods are the result of high, above-normal rainfall that causes the existing hydrological network, which comprises rivers and natural branches and drainage systems and flood canals, to be unable to contain the accumulated rainwater and overflow. Flood in the agricultural sector is defined as an occurrence that impacts cultivated (with rice, corn, soybean, etc.) farmland. Meanwhile, flash floods usually occur at river flows featuring steep river beds. The high and immensely rapid flash flood may reach in excess of 12 meters, while run-off may carry large rocks/boulders and trees, destroying/sweeping away anything in its path, though it is quick to subside. This type of flood may claim many lives (of those who did not manage to evacuate) and cause much loss of material property in a short period of time.

- Drought= the correlation of water availability that is so far below the water requirement for necessities of life, agriculture, productive activities, and the environment. Drought in the agriculture sector is defined as an occurrence that impacts cultivated (with rice, corn, soybean, etc.) farmland and crops as their water requirements are not met.

- Forest and land fires= direct or indirect changes to physical or biological qualities that undermine the function of forest or land to sustain life as a result of uncontrolled use of fire or because of natural factors that may result in a forest and/or land fire.

- Cyclone or storm= a strong whirlwind reaching speeds of 120 km/h or higher and frequently occurs between the Northern tropic and the Southern tropic, except in regions in extreme proximity to the equator. Storms are caused by differences in air pressure in a weather system.
- Tidal/Storm Wave= a high ocean wave occurring as a result of tropical cyclones taking place nearby Indonesia's territory and has strong potential to cause a natural disaster. Although Indonesia does not lie in the path of tropical cyclones, the presence of tropical cyclones will strongly affect the occurrence of strong winds and high waves that are accompanied with heavy rainfall.

Annex 3: Definitions of human impact indicators

- Fatality= person reported killed or death in the wake of a disaster.
- Casualty=person suffering injury or illness, in a state of light injury, moderate injury, or heavy injury, and is undergoing treatment as either an outpatient or inpatient.
- Missing person=person reported missing or who cannot be located or who cannot be accounted for in the wake of a disaster.
- Victim= a person or a group of persons that experience adversity in the wake of a disaster, such as damage and or loss of material property, suffering and/or loss of life. Victims include fatalities, missing persons, casualties, persons suffering, and displaced persons.
- Evacuated= *not specified*
- Affected= *not specified*

Annex 4: Disaster event report – BNPB   # _____

<u>**OVERVIEW**</u>

Date of Disaster / Incident :___/___/____(Year / Month / Day)   Duration: ___days

Source Information: _____

Province Code :_____

Province Name:_____

District Name:_____

Sub District Name:_____

Location :_____ _____

DISASTER TYPE

	Earthquakes		Wind Cyclone		Volcano eruption	
	Tsunami		High tide or abrasion		Fire Point	
	Landslides		Technology Failure		Conflict or social unrest	
	Floods and Landslides		Flood		Forest Fire	
	Drought		Terror acts or sabotage			
	Another					

IMPACT DAMAGE

(Write the number value for each variable; letter **X** can only be marked only if there is a general information about the occurrence of an event of a disaster but the exact number or the number is not known)

IN HUMANS

In Total

Indonesia

Data Type	Child	Pregnant women	Elderly	Adult	Total
	M / F		M / F	M / F	
# Deaths					
# Missing					
# Injury / Illness (heavy, light)					
# Suffering (KK = 5 people)					
# Evacuate					

 # Victims   **= (# + # Injury Death / Pain Lost + # + # + # Suffer refuge)**
 # Dead and Missing   **= (# + # Missing Deaths)**
 # Suffering and displaced   **= (# + # Evacuate Suffering)**

In the Number of Total

IN HOUSE

In Total

	# Units of Totally Damage Houses
	# Units of Light Damage House
	# Units submerged house

In the Number of Total

	# Units of Totally Damage Houses
	# Units of Light Damage House
	# Units submerged house
	# Total units Houses **= (# Units of Damage House Weight + # units of Damage Light House)**

THE SECTOR AND SERVICE

	# Unit School
	# Units Places of Worship
	# Units of Health Facility
	# Unit Office
	# Units Kiosk
	# Other building units
	# Units Public Facilities (FASUM)

In Total

In the Number of Total

 # Total unit Buildings **= (# Units Office Kiosk units + # + # units Other Buildings + # Fasum units)**

IN INFRASTRUCTURE

In Total

	# Km to Street
	# Ha for rice farming
	# Ha for swimming
	# Ha for Irrigation
	# Ha for the Garden or Forest

Estimated Losses

Rp.	**Losses in Rupiah**

Help

Indonesia

Description:

_____
_____
_____
_____
_____

Reported by :_____ _____

Date :_____/_____/_____

Signature :_____

Annex 5: Database entry form

Urutan: 6649	Tanggal (DMY): 2010 2 20	Durasi (d): 0	Sumber:		Status: Approved ⌄
Provinsi: ⌄	Kabupaten: ⌄		Kecamatan : ⌄		
Kejadian: GEMPA BUMI ⌄	Tempat:			GLIDEnumber:	

Penyebab: ⌄ Penjelasan penyebab:

Akibat

Meninggal: 0	☐	Hilang: 0	☐	Luka-luka: 0	☐	Magnitude:
Menderita: 0	☐	Dipindahkan: 0	☐	Rumah Rusak Ringan.: 0	☐	Kerugian Rp: 0.0
Mengungsi: 0	☐	Korban: 0	☐	Rumah Rusak Berat: 0	☐	Kerugian $USD: 0.0

Sektor yang terkena

			Kerusakan jalan Mts: 0.0
☐ Transportasi	☐ Komunikasi	☐ Bangunan	Kerusakan lahan Ha: 0.0
☐ Pertanian	☐ Persediaan air	☐ Saluran pembuangan	Ternak: 0
☐ Listrik dan sumber tenaga	☐ Industri	☐ Pendidikan	Pusat pendidikan: 0
☐ Sektor lainnya		☐ Sektor kesehatan	Sarana Kesehatan: 0

Kerugian lainnya:

Komentar:

| Oleh: DIBI | Tanggal: 2010-02-20 |

Tambahan

Rumah Terendam:	0
Sarana Peribadatan:	0
Kantor:	0
Kios:	0
Jembatan:	0
Pabrik:	0
Kebun / Hutan:	0
Kolam:	0
Irigasi:	0
Bantuan:	
Bangunan:	0
Meninggal Pria:	0
Meninggal Wanita:	0
Luka Luka Pria:	0
Luka Luka Wanita:	0
Menghilang Pria:	0
Menghilang Wanita:	0
Menderita Pria:	0
Menderita Wanita:	0
Mengungsi Pria:	0
Mengungsi Wanita:	0