

# Workshop on Managing Disaster Health Information

*Report of the Meeting  
Jakarta, Indonesia, 10-12 November 2009*



**World Health  
Organization**

**Regional Office for South-East Asia**

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## 1. Rationale

Countries in the South-East Asia Region of WHO are highly vulnerable to disasters. In the last two decades, 38% of all the global disasters have occurred in the countries of the Region. Almost two thirds (61%) of the deaths due to disasters globally have been reported from this Region during 1998-2008. <sup>1</sup> Besides natural disasters, civil conflicts have displaced several thousands in the affected countries.

In the recent past, countries of the Region have faced different types of disasters:

- two severe tropical cyclones (Bangladesh- Cyclone Sidr & Myanmar- Cyclone Nargis);
- devastating floods in Nepal and India caused by the Kosi River;
- earthquakes in Indonesia - West Sumatra and West Java; and
- civil conflict in Sri Lanka.

After the Tsunami of 26 December 2004, several Member countries invested in improved mechanisms for disaster management which have seen some visible outcomes such as: strong decentralized emergency response activities; improved inter-sectoral collaboration between the involved agencies including the health sector, army, and civil society organizations; and information sharing and dissemination. The UN itself is implementing its humanitarian reform programme together with the international community with good results.

However, in most cases, disaster management remains response-oriented and supplies-driven. This situation is primarily because the lessons learnt and experiences gained are lost with the end of the emergency response phase. Thus, memories from disasters and its management experience usually fade after the acute phase of events is over. This is a major deterrent to the further development of disaster preparedness and risk management systems.

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1 World Disasters Report 2008, IFRC Geneva Switzerland

It is fairly difficult to imagine managing risk reduction, preparedness and response activities without information management. Every programme has a set of information management policies, systems, databases, and products that need to be in place for proper decision making whether for the acute response phase or for future planning for recovery.

In order to utilize the memory of past disasters for future benefits, there is an urgent need to establish a system of collecting and storing information to create a repository of "good practices" in different countries, their compilation and sharing of information between scientists, practitioners, technical institutions and end-users through the existing medical library networks.

The need is enormous in terms of an information management system that stores all types of information for disasters and emergencies. Organizing such information allows for analysis and drawing more lessons from several events. Information that is stored systematically allows for: (1) availability of the evidence base for review, adaptation and revision of guidelines; (2) improved management and operations for future emergencies; and (3) improved planning processes and interventions for recovery and rehabilitation.

## **2. Global initiatives and the use of the World Wide Web (WWW)**

The confluence of WWW and its underlying internet infrastructure, combined with a growing list of major natural and man-made disasters, has focused attention on the use of the web for disaster management and emergency preparedness.<sup>2</sup> In many response and preparedness activities, recent or current, the use of the WWW in relaying and managing information is tremendous. Specialized websites for emergencies by WHO, or UN OCHA (reliefweb) point to the future of using the web and applications for it as essential in information management for disasters.

Applications such as internet telephony, web-based tele-conferencing, blogs, social networking sites, programmes for databases and converging

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2 Scott J *et al.* Web-based public health information dissemination and evaluation. In: Oxford Textbook of Public Health. Chp 5.3 p 427-442,

mobile apparatuses have all upgraded the quality and consistency of responses in emergencies.

The overall concept of web-based emergency information management seems broadly applicable to and needed by all countries that have to deal with the possibility of a natural or man-made disaster and the role of health libraries and associated libraries in disaster management likewise seems appropriate for those countries that have a reasonably developed library infrastructure.<sup>2</sup>

The following are some examples:

- The Central American Network for Disaster Health Information (CANDHI) is an established and ongoing system for managing disaster health information and is done together with health libraries<sup>3</sup>;
- The US National Library of Medicine has several initiatives for disaster information management:
  - its long-range plan for 2006-2016 gives special attention to disaster health information management and has created the Disaster Information Management Research Centre (DIMRC) at NLM;
  - portable devices that hold necessary emergency information (eg. toxic chemicals) applied during hurricane Katrina; and access to up-to-date information coming from the hazardous substances databank; and
  - resources on disaster recovery available online;
- CDC website on natural disasters and severe weather all link to essential updates on natural disasters.

### **3. Efforts in addressing this need**

Several efforts in addressing this need have been started in the WHO Regional Office for South-East Asia and are presented below in chronological order;

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3 Available at [www.candhi.org](http://www.candhi.org)

- Maintenance of an emergency preparedness and response website which covers country profiles and special pages for events in countries of the Region with protocols and formats for its management and products;
- Visit of the Programme manager of the Central American Network for Disaster Health Information (CANDHI) in Tsunami-affected countries (eg India, Sri Lanka) in the middle of 2006 to assess the feasibility of setting up a similar network in South-East Asia;
- Meeting in Thailand to brainstorm on a proposed South East Asian Disaster Information Network with the Asian Disaster Preparedness Center and the US National Library of Medicine (Meeting to brainstorm on a Disaster Health Information Network in South East Asia with the Asian Disaster Preparedness Centre in Thailand and the US National Library of Medicine);
- Internal discussions between EHA and IMD on how to proceed with the issue including discussion of IMD with members of HELLIS network (Health Literature, Library and Information Services) in 2008;
- Informal communication with the President of the Centre for Public Service Communications and some of the HELLIS national focal points in SEAR on the workshop in 2009; and
- Development of a Beta version of the web-based information site for disaster information with Myanmar Cyclone Nargis information uploaded in the pilot version.

In the South-East Asia Region (SEAR) of WHO, inter-linkages amongst the medical libraries of the Member countries exist under the umbrella of the ongoing HELLIS Network, founded by WHO/SEARO in 1980. Under this network, the international public health information is made available to the Member countries besides sharing national health information from one country to another. However, presently disaster-related health information is not part of this network. In view of the existing library network, it is intended to include the Disaster Health Information Network in close partnership of the HELLIS network with a proposed name of SEADHIN (South-East Asia Disaster Health Information Network).

## 4. Objectives of the workshop

The workshop aims to establish a SEAR network to link organizations and create a mechanism to collect and archive disaster-related information in the Region and make it accessible to individuals, institutions, agencies and organizations.

Specifically its activities aim to:

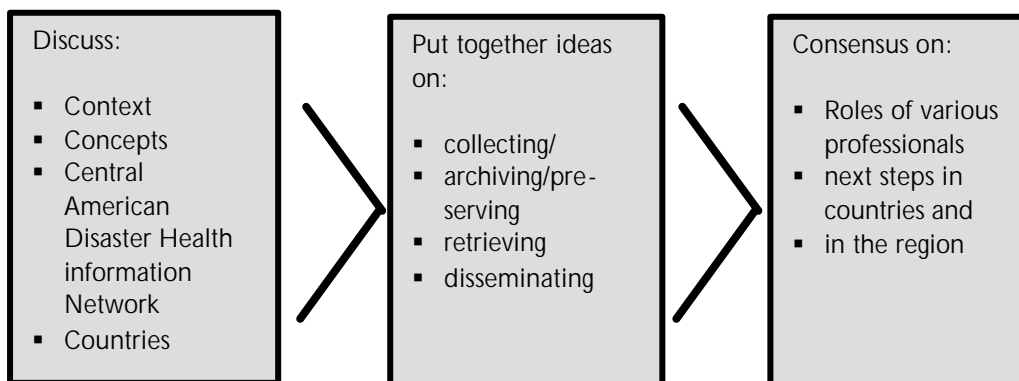
- (1) Review options on archiving and retrieving disaster health information;
- (2) Exchange ideas and experiences on various options on how to take this issue forward in countries looking at existing models, feasibility and sustainability; and
- (3) Arrive at a consensus and commitment on the next steps in setting up SEADHIN and define the roles of EHA and HELLIS focal points in this endeavour.

## 5. Workshop process and methods

A combination of various methods were used;

- (1) Presentations from resource persons;
- (2) Country presentations based on guidelines (Annex 1); and
- (3) Group discussions (Annex 2).

The conceptual map of the workshop is presented below:



The schedule is annexed following this conceptual map and process.

## 6. Summary of presentations

### On regional perspectives and information

The following key points were made;

- (1) The 11 member countries of the Region are vulnerable to disasters accounting for over 61.6% of deaths globally from natural disasters over the past decade (1998-2008);
- (2) Several efforts leading to a central repository were made since 2006 after the tsunami of 26 December 2004. This workshop is a culmination of those initial efforts;
- (3) Information on disasters and in particular health issues are available and collected. However, the following characteristics were observed:
  - (a) Fleeting and perishable
    - there is no single repository or category in libraries (health libraries in particular) for this discipline ;
  - (b) Different types
    - there are several types and formats such as published material, unpublished material, photos, audio/video resources, maps, presentations;
  - (c) Spread out in several places
    - not one agency/institution is responsible for collecting and archiving such information nor is a single method for collection is applied and therefore it is not accessible in the public/technical domain (locally, nationally or regionally);
  - (d) Not always published
    - "grey literature" including media reports provide a wealth of information on disasters and all their phases;
  - (e) Available only from those involved in operations of a particular emergency
    - It is thus personalized/institutionalized in different and varying styles and formats and with tremendous

turnover rates of staff this adds another factor for information to be fleeting;

- (4) Several challenges and solutions were presented
  - (a) An overall framework for disaster information management is needed according to country needs and context and this includes: establishing and/or improving capacity of national/subnational repositories and the development and agreement on common procedures for information collecting and sharing; according to the country context;
  - (b) Clear roles and responsibilities for various professionals in information management should be laid down;
  - (c) Access to and preservation of real-time information for Disaster Risk Reduction strategies as-well-as operational decision making in response and recovery should be considered essential; and
  - (d) Sustainability strategies for all the above should be in place.

### **On digital repository systems and SEADHIN**

- (1) Information needs to be stored so that lessons can be drawn regularly from past disasters and also for better preparedness and risk reduction;
- (2) For disaster health information and setting up a repository for this there are three groups that need to work together;
  - (a) Subject area specialists
    - Producers and users of information;
  - (b) Information managers
    - Identify, select and process information;
  - (c) IT professionals
    - Provide systems support;
- (3) The key to successful information service is 1) Sharing; and 2) Integration of information
  - (a) For sharing there is a need for human networking to create and sustain the willingness to share information and this is the primary role of disaster health professionals; and
  - (b) On integration there is a need for classifying, categorizing and creating machine networking to achieve

interoperability of several information systems. This is the role of information managers;

- (4) There are two basic types of information:
  - (a) Formally published materials:
    - Books, articles in journals, reports, guidelines, manuals, advocacy materials etc.; and
    - Librarians have the advantage to identify and process the materials;
  - (b) Unpublished materials:
    - Policy and strategy documents, directives, personal information, diaries, reports, presentations, maps etc.;
    - Disaster managers have an advantage in identifying and selecting the materials;
- (5) There are several software systems that can be used for repositories. However, for SEADHIN the beta version used DSpace software developed by the Massachusetts Institute of Technology. This software has also been accepted by WHO HQ and WCO staff have been trained in this software called DSpace:
  - (a) Is an open source system;
  - (b) Supports existing information standards and protocols;
  - (c) Is mature and robust;
  - (d) Has a strong and dedicated developer group;
  - (e) Has large user-base and active experience sharing network;
  - (f) Easy to set-up and maintain;
  - (g) Runs right out-of-the-box; and
  - (h) Has availability of training institutions in the Region.

### **On the Central American Disaster Health Information Network (CANDHI)**

- (1) The project had its origins after a huge disaster - Hurricane Mitch in 1998 and the El Salvador Earthquake in 2001;
- (2) The project presented a unique opportunity for collaboration between the US National Library of Medicine, as the world's largest medical library and PAHO whose mission is improving the health of the people of the

Americas. The implementation partners for CANDHI are: the Regional Disaster Information Center for Latin America and the Caribbean (CRID) and the Center for Public Service Communications (CPSC);

- (3) The project objectives for CANDHI are:
  - (a) Involvement of health science librarians in disaster risk reduction and response;
  - (b) Collection and protection of disaster health information and development of information "products"; and
  - (c) Improving technology infrastructure in health science libraries;
- (4) The information products developed are:
  - (a) digital library
    - 3,800 documents digitized and available through the web site;
    - Links from DESASTRES database to documents;
    - Documents also available from local disaster information centres; and
    - CDs, including Top 100 documents and special topics;
  - (b) document accessibility has been provided by full-text searching capability for documents;
  - (c) Web site development by participating sites:
    - Health resources;
    - Disaster resources; and
    - Local resources;
- (5) The project has expanded with several services and participating libraries and the valuable lesson is that an effort such as this should not begin or be treated solely as a "project" so that its sustainability is ensured and ownership is clear.

## 7. Country presentations

This section of the report summarizes the commonalities of the presentations from countries with regard to information management for disasters, specifically health information. The following points were made:

- Understanding on emergencies/disasters is different and thus the information collected and how it is collected varies as well;
- Disaster health information is collected in various places in all countries; these do not reach the health libraries;
- There is a notion that health data in emergencies is limited to communicable disease surveillance, other information should include;
  - information from other phases of disasters (eg, risk reduction, preparedness, recovery and rehabilitation; and
  - information on other public health issues: water quality surveillance, sanitation, health facilities, human resources mobilized for emergencies etc.;
- Raw data for analysis is available and stored but not processed information or analysis; however, it is important to note that those who want to use this raw data do not know where to access it;
- Collecting information from other sectors and sharing with them needs strengthening;
- Websites are present, however, they do not serve the purpose of repositories; and
- Need for common approaches is key in getting repositories in place.

## **8. Demonstration and country experience on DSpace-based SEADHIN**

- (1) Prior to the workshop a prototype was created such that information management issues are clarified. The presentation on SEADHIN beta version pointed out the required features such as:
  - (a) Conformity to existing information standards and protocols;
  - (b) Easy migration to future systems;
  - (c) Capability to manage different information formats;
  - (d) Built-in data provider and service provider modules;
  - (e) Capability to structure information into categories, sub-categories and collections;
  - (f) Ability to map information items across different categories;

- (g) Built-in email alert subscription facility; and
- (h) Comprehensive reporting and usage statistics capability.

As such, DSpace fits all these characteristics.

- (2) Myanmar, Sri Lanka and Thailand participated in trying out the prototype. This was done through the WHO Office, WHO librarian and emergency focal points in WCO and MoH;
- (3) Each country experience with DSpace was different. However, the common aspects were the following
  - (a) Ease of use;
  - (b) Availability of information both published and unpublished- all useful for preparedness and response;
  - (c) Difficulty in getting permission for some materials to be uploaded to the repository;
  - (d) Need for protocols and guides on how to better organize information; and
  - (e) need to make the sites more interactive and reflect a national identity/culture in design.

## 9. Field visit

A field visit was organized for the participants to the following sites:

- MoH INO - library and public communications centre;
- MoH INO - Operations Room of the Crisis Centre- Jakarta; and
- WHO EHA Operations Room.

The objective of the visit was to demonstrate the links of the three units in terms of information management. It was made clear to the participants that these three offices have a role to play in producing, packaging and archiving information. Their intern-relationships are essential.

## 10. Outcome of group discussions

The participants were divided into three groups and they all addressed similar questions (Annex 2). Below is a summary of their responses:

On information requirements for various phases of disasters, the participants agreed on the following:

Phase of Disasters	Types of Information	Reliable/ Trusted Sources	Users	Others
Risk Reduction	<ul style="list-style-type: none"> <li>Guidelines, Building Codes and</li> <li>Bye-laws, Hazard Vulnerability and</li> <li>Capacity &amp; Assessment Reports</li> <li>Local wisdom</li> </ul>	<ul style="list-style-type: none"> <li>Govt. departments,</li> <li>Research oriented educational institutions,</li> <li>UN agencies (UNOCHA),</li> <li>Selected NGOs and INGOs,</li> <li>Universities and</li> <li>Medical faculties.</li> </ul>	<ul style="list-style-type: none"> <li>Policy makers, Administrators, Disaster managers, Media</li> <li>Academia</li> </ul>	
Preparedness	<ul style="list-style-type: none"> <li>Contingency plans</li> <li>Training and Orientation</li> <li>Roster of human resources</li> <li>IEC materials (Multilingual, multicultural),</li> <li>Training materials</li> <li>Credential presentation by individuals</li> <li>Early warning strategies and protocols</li> <li>GIS mapping of the province/ country for health information</li> <li>Media sensitization</li> <li>Hospital disaster management plan and drill with feedback records</li> <li>Directory of Emergency Medical teams</li> <li>Logistics Inventory</li> <li>Local wisdom</li> </ul>	<ul style="list-style-type: none"> <li>Benchmark of other countries</li> <li>Ministry of Health, other concerned ministries.</li> </ul>	<ul style="list-style-type: none"> <li>Policy makers</li> <li>Administrators</li> <li>Librarians</li> <li>Disaster managers</li> <li>Public safety officials</li> <li>Transportation officials</li> <li>Academia</li> <li>Country-specific media</li> <li>Private sector</li> </ul>	
Response	<ul style="list-style-type: none"> <li>SOPs</li> <li>Rapid Assessment tools and check lists</li> <li>Case definitions, logistics, maintenance, Rosters of personnel deployed</li> <li>Surveillance formats</li> </ul>	<ul style="list-style-type: none"> <li>Nodal officers in each disaster site.</li> <li>Technical agencies,</li> <li>Disaster Managers</li> <li>UNOCHA</li> </ul>	<ul style="list-style-type: none"> <li>Disaster managers</li> <li>Media</li> <li>Local administrators</li> <li>Small agencies</li> <li>Police</li> </ul>	
Recovery and Rehabilitation	<ul style="list-style-type: none"> <li>Agency reports,</li> <li>Damage assessment reports,</li> <li>Minimum standards( e.g.</li> </ul>	<ul style="list-style-type: none"> <li>Govt. departments</li> <li>UN agencies (UNOCHA)</li> <li>Selected NGOs</li> </ul>	<ul style="list-style-type: none"> <li>Policy makers</li> <li>Administrators, librarians</li> <li>Disaster</li> </ul>	

Phase of Disasters	Types of Information	Reliable/ Trusted Sources	Users	Others
	guidelines), <ul style="list-style-type: none"> <li>• Safer health facilities (after disaster) plan</li> <li>• Recovery plan</li> <li>• Resettlement plan</li> <li>• GIS maps</li> </ul>	and INGOs,	managers <ul style="list-style-type: none"> <li>• Public safety officials,</li> <li>• Transportation officials</li> <li>• Academia</li> <li>• Country-specific media</li> <li>• Private sector</li> </ul>	

## 11. Repositories of information

There are repositories of information in countries except that they are multiple, are not standardized and therefore do not interlink. The need for these repositories to be established in countries are:

- Awareness generation amongst various agencies who store information;
- Networking among the various agencies so that they agree to participate and partner;
- Regular and timely updating of these repositories; and
- Proactive “marketing” campaigns to promote availability of information.

In terms of resources the following are needed:

- ICT Infrastructure;
- Human resources training;
- Information networking;
- Setting up of an up-to-date database with back-up and regular maintenance;.
- Political and legislative support; and
- Financing.

The following stakeholders are necessary for establishing and maintaining these repositories:

Political	Administrative	Private	International Organizations	Academia
<ul style="list-style-type: none"> <li>• National disaster management council/authority</li> <li>• Ministry of Disaster Management</li> <li>• Other Ministries</li> </ul>	<ul style="list-style-type: none"> <li>• Secretaries (national &amp; regional level)</li> <li>• Directorate-General of Health Services</li> </ul>	<ul style="list-style-type: none"> <li>• Hospitals</li> <li>• Pharmacies</li> <li>• Other private agencies involved in health care</li> <li>• Media conglomerates</li> </ul>	<ul style="list-style-type: none"> <li>• NGOs</li> <li>• Red Cross</li> <li>• Other INGOs</li> <li>• UN Agencies</li> </ul>	<ul style="list-style-type: none"> <li>• Health libraries</li> <li>• Medical universities,</li> <li>• Other health-related institutions</li> </ul>

The following information is needed to establish national repositories for disaster health information :

- Administrative approval/clearance from the relevant authorities;
- Development of user-friendly software (DSpace is one that fits the criteria);
- Training on various aspects such as technical/ managerial;
- Support or guidance referral expert/centre; and
- Exploring new avenues of financing the various efforts/ projects to manage disaster related information with its proper archiving in the repository for future referral.

## 12. Conclusions and Recommendations

- (1) Disaster health information is available and, in some cases, is being systematically collected at sub-national/community levels. However, there are no common repositories for this information in its many forms – currently this information is scattered throughout many different agencies and organizations;
- (2) As part of a road map towards the establishment of a regional disaster health information repository; national repositories for disaster health information should be established first and provide the information network base. A protocol or set of procedures which can guide national information managers, national emergency coordinators and managers, librarians and EHA focal points should be provided;
- (3) Disaster health information should be collected with key sources and users in mind that meets the needs of each participating country. It is proposed that a common framework, including categories of information would include:

- (a) Phases of disasters
  - i. Risk reduction;
  - ii. Preparedness;
  - iii. Response; and
  - iv. Recovery;
- (b) Events
  - i. Event 1 (eg Cyclone Nargis/Cyclone SIDR/)
    - Risk reduction;
    - Preparedness/early warning;
    - Response; and
    - Recovery;
  - ii. Event 2 (West Sumatra Earthquake)
    - Risk reduction;
    - Preparedness/early warning; and
    - Response;
- (c) Links
  - i. Key ministries;
  - ii. Key agencies; and
  - iii. Key libraries and health institutions/universities;
- (4) Countries must identify needs in order to establish national disaster health repositories; this should include the following:
  - (a) Common approach (consistent with other countries in the Region but also compatible with international systems and methodologies);
  - (b) Human resources;
  - (c) Hardware;
  - (d) Software;
  - (e) Training; and
  - (f) Policy guidance in order to ensure sustainability;
- (5) Use existing structures and organizations to improve management of disaster health information. The purpose is not to develop a "project" but improve business process and how work is being implemented;
- (6) Each country has determined how to improve information flow towards a national repository and the next steps are common to all :
  - (a) Awareness and advocacy for this is needed with key producers of information and users;

- (b) Develop concept paper and plans according to national context;
  - (c) Take administrative approval;
  - (d) Encourage collaboration to start and maintain the repository network; and
  - (e) Mobilize resources to ensure sustainability;
- (7) The participants (national repositories initiative focal points) agreed to take time to update on progress once a month (for three consecutive months) with SEARO. And after three months conduct a more formal review of progress.

## Annex 1

### Programme

#### Day 1

09:00-10:00

- Welcome Remarks
- Introduction to the meeting and its objectives
- Introduction of participants
- Administrative announcements
- Group photograph

11:00-12.30

**Presentation and discussion:**

- a. Introduction to Disasters in SEAR and issues and challenges with information management *Roderico Ofrin*
- b. Conceptual framework in establishment of South-East Asia Disaster Health Information Network-- The role of libraries in disaster information management *Anchalee Chamchuklin*
- c. Information Management Models in other countries *John Scott*

*Discussions*

13.30-15.00

**Country Experiences**

- Bangladesh
- Bhutan
- Indonesia
- India
- Maldives

*Discussions*

15.30 – 17.00

**Country Experiences**

- Myanmar
- Nepal
- Sri Lanka
- Thailand

*Discussions*

## Day 2

- 9.00-9.10 Reflections of Day 1
- 9:10 -10:00 **Presentation**  
Beta Version of Emergency Web-based Repository  
Anchalee Chamchuklin /WCO MMR, THA, SRL  
*Discussions*
- 10.30-12.00 **Group discussions**  
Breaking into three groups, each group will discuss the following three topics.  
➤ Outcome expectations for the three working groups  
➤ Discussion on strategies and options in collecting, archiving and retrieving disaster health information during and after the disaster  
1. How to start establishment of information repositories for emergencies in countries?  
2. What are the most feasible models? their sustainability?  
3. What resources are required?
- 12:00-13.00 *Lunch at Tien Chao Chinese Restaurant, Lobby level*
- 13.00-15.30 **Field trip to MoH Crisis Centre**
- 16.00-17.00 Continue discussions and prepare for plenary presentations

## Day 3

- 9.00-10.30 Presentation of Group Discussions
- 11.00- 12.30 Group discussions per country team on next steps to be taken
- 13.30 -14.30 Presentation of Group Work
- 14.30-15.30  
➤ Presentation of final recommendations  
➤ Closure

## Annex 2

### Guidelines for country presentations

To allow for time for discussions and exchange of views and use the guide questions below and take specific examples of situations to illustrate the information management issues in a country. It would be best to have a maximum of 10 slides.

#### A. During an emergency

Take an example of a recent emergency /event and discuss how information management was done in that situation. Discuss the following;

- Flow of information with MoH, WHO and the health cluster
- What are the products that result from the information produced?
- How is the information put together?
- What are the strengths of the current system? How can it be improved?
- Where is this stored and collected?
- Is this accessed in the future for analysis and review?

Provide a conclusion on your view on how this system can be improved using appropriate technologies and health libraries.

#### B. During non-emergency situations

Take an example of a preparedness activity (eg, training, planning exercise) and how is information management done for this activity Discuss the following

- Flow of information with MoH, WHO and the health cluster
- What are the products that result from the information produced?

- How is the information put together ?
- What are the strengths and weaknesses of the current system?
- Where is this information stored and collected?
- Is this accessed in the future for analysis and review?

Provide a conclusion on your view on how this system can be improved using appropriate technologies and health libraries.

### Annex 3

## Group Discussion Questions

(1) Please work on the table below:

Phases of disasters	Types of information	Reliable/ Trusted sources	Users	Others
Risk reduction				
Preparedness				
Response				
Recovery and rehabilitation				

- (2) Do you have national repositories for disaster health information? What are these?  
What is needed to start/improve these national disaster health information repositories?
- (3) What resources are required to improve disaster health information management in your contexts?
- (4) Who in your country needs to be involved in the development of disaster health information management? What will be their roles and responsibilities?
- (5) What information do you need to take back in order to start/ or take this initiative forward?

## Annex 4

### List of participants

#### Bangladesh

Dr Zaforullah  
DPM, NCD & Injury Prevention  
DGHS  
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Countries in the WHO South-East Asia Region are highly vulnerable to disasters; with 38% of all global disasters in the last two decades occurring here. Almost two thirds (61%) of all deaths due to disasters globally have been reported from this Region during 1998-2008. Civil conflicts have also displaced several thousands in affected countries.

It is crucial that an information management system that stores all types of information for disasters and emergencies and allows for analysis and collates lessons from several events is in place so that programmes for risk reduction, preparedness and response to disasters become more effective. A set of policies, systems, databases and products need to be in place for correct decision-making in all phases of disasters.

A workshop titled 'Managing Disaster Health Information' was conducted at Jakarta, Indonesia from 10-12 November 2009 to share the experiences of countries in the management of various types of information and achieve consensus on methodologies to start a system to manage information on health for disasters and emergencies.



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