

Asian Disaster Management News

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a newsletter of and for the community of disaster risk management practitioners and development workers

Safer health facilities from DRR initiatives

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Multi-sectoral hospitals and local Government volunteers participating in an evaluation of the pre-hospital and hospital mass casualty management simulation exercise, conducted by ADPC in Udonthani Province, Thailand.

Editor's note



Health facilities can be affected by natural phenomena and by human interventions. The consequences are devastating. Besides, losing homes and physical shelter, people are also left without the basic emergency care.

A community's recovery after a major disaster event depends to a significant extent on the ability of health facilities to function without interruption and to provide the extra care to large number of patients affected in a disaster. Hospitals are often identified as cornerstones of response to disaster, but many hospitals are not adequately prepared to respond effectively.

Given the critical importance of this issue, the UN/International Strategy for Disaster Reduction selected the topic of **Hospitals Safe from Disasters** as the theme of its two-year global awareness campaign for 2008-2009.

Health facilities are more than concrete structures—they are made up of people, services, systems and the network of other health facilities, and public safety services like police, fire, civil defence and local government, all of which combine to make a safe hospital. An important component is that it contributes in building the capacity of health facilities to manage emergencies and the development of Emergency Medical Service (EMS). The EMS includes pre-hospital as well as hospital activities which are directly linked together. It is emphasized that they should no longer be regarded as just limited to onsite resuscitation and emergency transport, but rather a system to reduce mortality and morbidity from emergencies and disasters.

The organization and the management of EMS are largely country context dependent and on the overall organization of the delivery of medical care. No single system can be considered as the universal reference model. In many developing countries, the pre-hospital activities are not coordinated with hospital activities. Appropriate pre-hospital care training is necessary for medical and paramedical personnel, and community-based first responders like public safety personnel, schoolteachers, community volunteers, drivers, and industrial workers. Public information campaigns need to be launched to create awareness and the necessary training for skills development.

EMS requires the intervention of several agencies and the contribution of professionals from various disciplines including the health facility as medical control. The Ministry of Health should take a lead role to ensure that operations run within the country's legal framework by following national and international guidelines and standards. The collaboration between the private and the public sector must use efficiently and effectively the available medical resources.

ADPC advocates establishing an EMS System by integrating the existing principles and practices to build a stronger EMS and to enhance the capacity to reduce risks. This issue of the newsletter brings insights, reflections on approaches to "Safe hospitals". I thank all the contributors and ADPC's Public Health in Emergencies team in bringing out this issue.



Loy Rego
Editor-in-Chief



adpc and Public Health in Emergencies

ADPC's Public Health in Emergencies (PHE) team works to improve health outcomes of communities at risk in emergencies and disasters. In collaboration with partners, PHE develops and implements capacity building projects and training programs which addresses continuing and emerging challenges in health emergency management at regional, national, sub-national and community levels. PHE programs help to strengthen health emergency management systems by building relationships between health disciplines and by integrating the health sector into community-wide disaster management systems.

For the past year, the PHE Team has been working with key partners from UN agencies, ASEAN+3, NGO's, national governments and academics, to build capacity on epidemic and pandemic preparedness including the ongoing avian influenza threat.

ADPC's flagship PHE regional and national courses, covering wide spectrum of comprehensive curriculum, namely the Public Health and Emergency Management in Asia & the Pacific (PHEMAP), Hospital Emergency Preparedness & Response (HEPR) Course, Basic Emergency Response Course (BERC) combines Training of Trainers (TOT) and community level training to build health emergency response capability in communities.

Other courses include the Public Health in Complex Emergencies (PHCE) for health personnel working with refugees and internally displaced persons in conflicts and wars. Disasters and Development (D&D) Course is designed for health and development professionals and focuses on integrating health emergency risk management and sustainable development.

ADPC's flagship course, the PHEMAP, initiated in 2002, has successfully completed eight (8) courses. The course is specifically designed for people who play critical health emergency management and coordination roles in managing the health risks in emergencies. The inter-regional PHEMAP course familiarizes health emergency managers with policy-making, risk management, emergency response and recovery planning, international standards and regional cooperation. Through the course, participants develop their own management and leadership capacities to the improvement of emergency health services that include environmental health, mass casualty management, feeding and nutrition, emergency medical systems, psychosocial support and communicable disease control and develop plans for strengthening health emergency management capacity in their respective country settings, and their own personal development plans as Health Emergency Managers.

ADPC designed and conducted the first HEPR course in 2004 to assist administrative and medical health care personnel to prepare health care facilities and first responders to respond effectively to internal or community emergencies that involve large numbers of casualties. The six (6) successful run courses enable hospitals and health facilities to develop well designed facility-specific plans to increase their ability to respond to emergencies. The participants are also able to describe the role of health care facilities in disaster management, apply a method of assessing structural and non structural components of

a health care facility, simulate a mass casualty incident addressing the roles and responsibilities of each component of Hospital Emergency Incident Command System (HEICS), understanding the basic medical requirements of managing mass casualty incidents, apply on-site medical care concepts to specific emergency situations and to prepare an outline of a health care facility disaster preparedness plan including response and recovery.

ADPC conducted the first International multi-disciplinary workshop on the Management of the Dead and the Missing in Disasters (MDM) in 2005. Furthermore, national training workshop on Nutrition of Children and Mothers in Disasters (NCMD) in Iran and Nutrition in Disasters (NDC) trained health staff on managing nutritional needs in disasters.

Emerging infectious diseases, such as avian influenza and the potential for a human influenza pandemic have led ADPC to create warning and alerting systems, training, emergency plans, developing resource tool kits and simulation exercises.

ADPC engaged in Mass casualty management simulation exercise in partnership with hospitals and a scenario-based planning exercise for hospitals on epidemic and pandemic preparedness and response.

Other areas covered by ADPC under PHE are Disaster Mental Health, Management of Supplies in Disaster Program, Emergency Medical Services System, Mass Casualty Management, Developing National EMS Guidelines, Collapsed Structure Search & Rescue, Road Accident Rescue and Canine (K-9) Search and Rescue (SAR).



the author

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Hospital and health facility emergency preparedness for safer communities and sustainable development

by John Abo

Healthcare facilities are considered a basic institution in the community that play a critical role in determining health outcomes of the population both in providing regular health care and in providing life saving services after a major emergency. This is the reason why healthcare facilities should not be complacent over emergency preparedness and need to adopt a structured approach in developing healthcare facility and specific emergency response plans addressing specific risks that can affect the facility itself and at the same time the community it serves.

Emergencies and disasters can significantly disrupt temporarily or permanently the normal functioning of healthcare facilities reducing its capacity to provide the needed immediate medical care to the affected community. It can also damage the facility's infrastructure, and results to partial or total loss of the considerable investment made in the structure (load bearing) and non-structural components (architectural, furnishing, installations, equipment) of the building not to mention the various expensive medical diagnostic and therapeutic equipment - all of which has a significant negative impact on the social and economic development of the country and the community it serves.¹

In most emergency scenarios, health facilities will have to be prepared to manage the sudden influx of patients during an emergency and the accompanying challenges to the health facility like decontamination and infection control. In cases when the health facility is directly affected, procedures should be in place to ascertain the safety of its personnel, and the existing patients confined in the health facility while making critical decision whether to evacuate the facility or to continue operations. These are just some of the circumstances wherein the health facility needs to consider planning in order to prepare key personnel to perform their roles during emergencies. The structural and non structural components of the facility to effectively cope with the possible surge in capacity and the needed emergency systems need to be in place to manage the various challenges that emergencies and disasters creates - from an everyday management of multiple casualties, from vehicular accidents to a major catastrophic event like an earthquake.

Emergency preparedness is a continuous process. As the community and the health facility progress, the level of risks changes based from new hazards that may emerge like communicable disease outbreaks and the re-emerging threat of pandemic influenza. The ongoing development process must ensure that plans are constantly reviewed and revised. Written healthcare facility emergency operations plans (EOP) must be dynamic in order to be effective. Training of personnel may need to be done regularly, plans need to be exercised regularly, and the overall plan reviewed and amended as a result of exercises and real world response to emergencies. These are another facet of challenges for health facilities' considering that emergency preparedness is an additional responsibility of the personnel performing their regular tasks in their everyday work as doctors, nurses, and technicians. The healthcare facility response to an emergency will require personnel to step outside their routine day-to-day roles and responsibilities, and to take on tasks and situations that are considerably less familiar. Not only are many of the assignments untried, but must also be carried out in a highly stressful environment.

This can be addressed from a national systems perspective most especially for the government operated health facilities. The national health ministry has a normative role to play and should develop a national policy and technical guidelines on health facility risk management that will guide the development of a Comprehensive Emergency Management Program (CEMP) at the health facility level addressing hazard and vulnerability reduction and emergency preparedness, response and recovery.

This will also pave the way to tap additional resources to implement risk management activities and establish an emergency manager position, already practised in several hospital establishment. The position becomes the focal point for emergency management and coordinates the CEMP, ensuring regular assessment of risks, addressing training and resources needs. Additionally, the position ensures that the health facility EOP is tested, revised and updated on a regular basis.

These are some of the issues and challenges that hospitals and health facilities face in lieu of the dynamic interaction of hazards, vulnerabilities and risks, both in the health facility and the community and the needed readiness required to meet those challenges. Having a health facility emergency management program to address these challenges will reduce morbidity and mortality from emergencies and disasters that will contribute in making our communities safe and that development gains are sustained.



¹Guidelines for Vulnerability Reduction in the Design of New Health Facilities, WHO-PAHO April 2004

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What you can do: the ‘hospitals safe from disasters’ campaign

by Sálvano Briceño

Every disaster is a health issue. Functioning, safe and prepared health facilities and health systems are fundamental to saving lives during and after a disaster. Furthermore, saving health systems and facilities from destruction is key to protecting social and economic development. This is why the UN disaster prevention secretariat UNISDR is partnering with WHO in a two year campaign ‘Hospitals Safe from Disasters: Reduce risk, protect health facilities, save lives’.

Every two years UNISDR collaborates with a key implementing agency to advocate for a major disaster risk reduction issue. Disaster risk reduction is everybody’s business – meaning every sector, the health sector included. This also means that disaster risk reduction community as a whole needs to have a specific focus on health, and to work on creating a political space and platform for this issue. The health sector, like the education sector, needs to be an integral part of wider disaster risk reduction policies and programs, both from a humanitarian and a development perspective. UNISDR and WHO have been working since January this year to promote the issue to governments and international organizations at forums like the World Economic Forum, the Congress of Asia-Pacific Women in Politics (CAPWIP), the International Disaster and Risk Conference, World Health Day and the International Day for Disaster Reduction. However, much more needs to be done at many different levels to make health facilities safe from disasters.

In 2005 168 governments agreed that all new hospitals should be built to disaster-resilient standards, as part of the Hyogo Framework for Action 2005-2015: Building the resilience of nations and communities to disasters. Much more needs to be done to make sure this commitment is kept in practice. It has become clear that investment in risk reduction needs to be substantially increased, both in national budgets and in international funding for sustainable development or as part of humanitarian work. And yet building disaster-safe hospitals or schools is not expensive. For the majority of new health facilities, incorporating comprehensive safety standards from earthquake and weather events into early designs will only add 4% to the cost.

There is much that individuals and institutions can do to further this cause. UNISDR is already supporting WHO to promote tools such as the Hospital Safety Index online, and linking with regional training initiatives such as the NSET-Hospital Preparedness for Emergencies programme (HOPE) in Asia. UNISDR is collecting good practices to showcase in a publication to be released in October 2009, and is calling for submissions of initiatives across the full range of stakeholders, on making health facilities safe from disasters.

Governments need to make the issue of safe health facilities a national priority, creating frameworks and legislation that demand disaster resilience, particularly in building codes. Donors and International Financial Institutions must also take heed of this commitment to no new unsafe health facilities in their projects. Donors can carry much weight in mainstreaming the issue into development project design, and IFIs are urged to support research into the positive impacts of safe hospitals, and to work with governments to make sure building standards are enforced.

Academic institutions and professional associations can develop courses that contribute to hospital safety for university and professional curricula, and act as repositories of specialized expertise, encouraging innovations and cutting-edge designs. They can also participate directly in their country’s institutional priorities, contributing to the development and periodic review of national building standards.

Health institutions and the health workforce can take a proactive role in National Platforms for Disaster Risk Reduction or other similar coordination processes at national levels. Of the utmost importance is the role of health workers as disaster risk reduction practitioners themselves, as they are the ones who will need to promote upskilling, preparedness, and contingency plans to keep systems working during disasters.

International organizations and NGOs can promote the importance of this issue internally, and build on the existing inter-agency mechanisms and strategic partnerships for disaster risk reduction and development such as the ISDR System’s Global Platform for Disaster Risk Reduction. UNISDR and WHO are aiming to build support for a network that will result in a Health and Disaster Risk Reduction platform as a regular thematic focus of the Global Platform, lasting beyond the two-year campaign. This will require involvement of stakeholders across all sectors committing to the issue of disaster-resilient health facilities and health systems.

Disaster risk reduction and health professionals are encouraged to join the online campaign network via the campaign website www.safehospitals.info, where they can submit case studies, research initiatives and resource tools to be showcased, and share information with others directly via the email list-server. Campaign related training events, conferences and meetings can be submitted to the campaign calendar, which is administered by the disaster risk reduction community site www.preventionweb.net.

UNISDR’s role in these efforts is to find good examples to share, and the team is looking forward to supporting more dedicated people from across different sectors to engage in the Campaign.



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International Strategy for Disaster Reduction – World Health Organization 2008-09 Campaign on safer healthcare facilities

by Richard N. Bradley

Many recent emergencies highlight the need for hospitals that are safer and more resistant to disasters. After the Indian Ocean earthquake and tsunami of 2004, suffering and loss of life among those affected increased because of the number of healthcare facilities that failed as a result of the event. For example, of the 240 medical clinics in the Aceh Province of Indonesia, 30 were destroyed, 77 were seriously damaged, and another 40 had moderate damage.^[1] This type of loss of essential services in the aftermath of a disaster leaves the population feeling insecure and abandoned. Not only is an intact health care system necessary for the immediate and ongoing response to the emergency, but it is also essential for the recovery of the community and nation, as confidence in an intact health-care system is an important part of the public's perception that the situation is improving. The effectiveness of health and medical care during and after a crisis is a reflection of the national response to the emergency.^[2]

The International Strategy for Disaster Reduction, an instrument of the United Nations General Assembly, and the World Health Organization have addressed the need for safer and more disaster-resistant healthcare facilities by making this priority the theme of their 2008 – 2009 biennial World Campaign on Disaster Reduction. The title of this campaign is "Hospitals Safe from Disasters." Its objectives are to:

1. protect the lives of patients and health care workers by ensuring the structural resilience of health facilities;
2. make sure health facilities and health services are able to function in the aftermath of emergencies and disasters, when they are most needed; and
3. improve the risk reduction capacity of health workers, including emergency management.^[3]

An effective disaster preparedness plan involves four components. These include mitigation, planning, response, and recovery. Mitigation is perhaps the most important step. It is defined as any sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event. Mitigation planning is a process that involves organizing resources, assessing risks, and developing, implementing and monitoring mitigation plans.^[4] The Hospitals Safe from Disasters Campaign will put mitigation into practice through public education and dissemination of educational materials.

Hospital and governmental leaders will face some challenges as they take on this important task of creating safer hospitals. Many people perceive that building facilities that are resistant to disasters will be prohibitively expensive.^[5] While this may be true for some major renovations, there are many valuable interventions that have only a modest cost. Adding effective mitigation features into the design and construction of a new hospital should add only about four percent to the overall cost of the project. Regardless of the intervention planned to make a hospital safer, "the most costly hospital is the one that fails."^[6]

Nevertheless, when hospitals do fail in the aftermath of a disaster, it is often due to functional collapse and not structural damage. Thus, health care facilities must plan for not only structural, but also operational resilience. Mitigation efforts should not be implemented by only a few motivated personnel; effective planning must be performed by a multi-disciplinary team. To accomplish this, the executive of each health care facility must identify hazard mitigation as an institutional priority.

Disaster mitigation planning teams have several specific tasks to accomplish. One of the most important of these will be to conduct a risk and vulnerability assessment. An effective risk mitigation plan must always be based on a clear understanding of the most

significant threats. Another significant task for disaster planning teams will be to create or revise the facility's emergency management plan. This plan must address how the facility will deal with the significant threats identified during the vulnerability assessment. In case the facility does face an extreme situation, the plan must also include procedures for safe evacuation of patients when necessary. The team will also develop a training plan that will ensure that healthcare workers are familiar with the emergency procedures. A final step is to implement a schedule of exercises and evaluations of the emergency management plan. The results of these evaluations will take the team back to the beginning of the cycle with further revisions of the emergency plan.

Implementation guidance and other excellent information regarding the ISDR/WHO Initiative on Hospitals Safe from Disasters is available from http://unisdr.org/eng/public_aware/world_camp/2008-2009/wdrc-2008-2009.html and <http://www.searo.who.int/en/Section1257/Section2263/Section2519/Section2520.htm>.

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The hospital safety index

by Patricia Bittner

Preparedness alone is not enough

Latin America and the Caribbean have witnessed a host of major sudden-impact disasters in recent decades. However, the 1985 earthquake in Mexico City served as a critical turning point – a watershed moment. When the 7.6 magnitude earthquake struck in September of that year, Mexico City was already one of the world’s largest metropolitan areas, and thanks to a well-trained workforce, Mexico’s health services responded remarkably well. The recently-created metropolitan emergency plan was set in motion, the evacuation of damaged health facilities proceeded smoothly and victims that needed treatment were redistributed throughout the metropolitan health system.

However, an important lesson was also learned in the wake of this disaster: preparedness alone was not sufficient. Nowhere was this lesson more clear than at Mexico’s Juarez Hospital, where an entire wing of the 12-story tower collapsed. At that site alone, 561 patients, doctors and nurses lost their lives. Ironically as well as tragically, a good part of those very same health professionals were among the best prepared to respond to mass casualties. But no amount of preparedness could compensate for a hospital that proved unsafe in disaster situations.

Fast forward two decades to 2005, when 168 countries approved the Hyogo Framework for Action (HFA)—a blueprint for building disaster-resilient nations. The HFA calls for all new hospitals to be built to a standard that enables them to withstand disasters and remain functioning.

Today, as a result of past and present country projects, with support from PAHO/WHO, it is commonly accepted that we can improve the safety of hospitals and health facilities in emergencies and disasters. Both the knowledge and the tools are at hand. One new evaluation method to help achieve this goal is the Hospital Safety Index.

What is the Hospital Safety Index?

The Hospital Safety Index is an easy-to-apply evaluation tool that helps hospital directors or administrators determine the likelihood that their hospital or health facility can or will remain operational in emergency situations.

The Hospital Safety Index provides a snapshot in time of a hospital’s level of safety. The Index can and should be reapplied a number of times, over an extended period, in order to continuously monitor safety levels. In that way, safety is not seen as an absolute state of ‘yes-or-no’ or ‘all-or-nothing,’ but rather as something that can be improved gradually. The Hospital Safety Index is not designed to replace detailed vulnerability studies. However, because these can be very costly and time consuming, the Hospital Safety Index is a cost-effective first step.

Determining a hospital’s safety index begins with applying the Safe Hospitals Checklist. This standardized Checklist examines the level of safety of 145 items or areas that have an impact on the safety of a health facility. These items are grouped into four categories: the hospital’s geographical location in relation to natural hazards; its structural and non-structural

safety; and items that affect its functional capacity—issues such as whether a hospital has a disaster committee, an emergency plan, or if maintenance is performed regularly.

The Safe Hospitals Checklist is applied by a Team of Evaluators that has received prior training. The profile of the team members can vary from country to country, but it is generally comprised of experienced professionals such as hospital staff (directors, physicians, nurses, maintenance personnel, and others) and can include outside specialists such as engineers or architects.

The Evaluation Team works together or in small teams to assess the items covered by the Checklist. Prior training helps team members arrive at a standardized score or grade—High, Medium or Low—for each of the facility’s individual components. (A Guide for Evaluators provides more in-depth discussion of how to objectively evaluate each component or area of the hospital.) Once the Checklist has been completed, the Team reassembles to discuss and agree upon the results.

Calculating a hospital’s safety score

The final step of the process is to calculate the safety score using the Safety Index Calculator. The scores given to each component are weighted according to an agreed-upon formula. The data are entered into the Calculator, which automatically generates a numerical score that places a hospi-

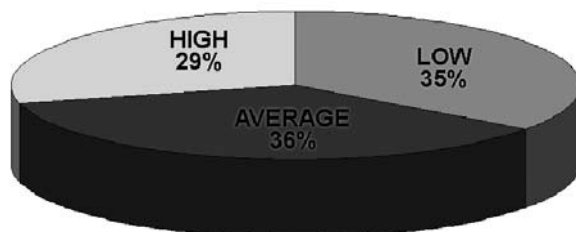
Figure 1. Hospital safety index score

Category of Components	Unlikely to function	Likely to function	Highly likely to function	Total
Structural	7.5	24.38	18.13	50%
Non-structural	10.36	10.98	8.67	30%
Functional	6.93	6.92	6.15	20%
Total	24.79	42.37	32.94	100%

tal or health facility into one of three safety categories: high, medium, or low. The results are output in an easy-to-understand graphic format. In the hypothetical case presented in Figure 1, we see that the hospital’s structural safety makes up 50% of the total score; non-structural safety 30% and functional safety 20%. The raw scores for each category are given as a reference.

Figure 2 shows the further breakdown by category, in this case, by non-structural elements (see yellow shaded column above). In this case, the results show that among the non-structural elements assessed, 29% are rated “high,” in other words, they are highly likely to function; the safety of 36% of the elements assessed is considered average; and 35% are considered “low” or unlikely to function.

Figure 2. Safety of non-structural elements



What can countries do with the results?

The Hospital Safety Index yields an objective, numerical score. But what, exactly, can countries do with this information? The Evaluation Team plays an important role. Prior to beginning the process, they will have met with hospital staff to explain the rationale and purpose of the ‘safe hospitals’ program in general and why it is important to apply this evaluation tool. Once the Checklist has been filled out and the data entered into the Scoring Calculator, the evaluation team analyzes and discusses the results with hospital staff and helps to interpret the score in terms of the next steps that a health facility can take to improve safety.

The Hospital Safety Index does not produce a detailed review, hospital administrators will get a solid overview of where the facility stands in terms of safety, helping them decide where to invest to maximize return. Sometimes very small or low-cost improvements (relative to the overall cost of the facility) will go a long way toward improving safety, making it possible for some facilities to move from Category C (urgent measures are required immediately, as the health facility’s current safety levels are not sufficient to protect patients and staff during and after a disaster) to Category B (necessary measures are required at some point, as the health facility’s current safety levels can potentially put patients and staff at risk during and after a disaster) or better.

It is important that hospital and health decision makers view the safety score in a positive light – which is why this instrument is called the “Safety” Index rather than the ‘Vulnerability Index.’ The final score should not be viewed as a “failing” grade but rather as a starting point for gauging how a health facility is likely to respond to major emergencies and disasters. This first but critical step is a cornerstone to ensuring that hospitals are safe from disasters and one that will contribute significantly to the Hyogo Framework for Action.

For more information, visit www.paho.org/disasters.



Web Resources



Evaluation of hospital disaster drills: A module-based approach

<http://www.ahrq.gov/research/hospdrills/hospdrill.htm>

Reopening shuttered hospitals to expand surge capacity

<http://www.ahrq.gov/research/shuttered/>

Hospital pandemic influenza planning checklist

Pandemic Flu Home: <http://www.pandemicflu.gov/index.html>

Emergency medical services and non-emergent (Medical) transport organizations pandemic influenza planning checklist

<http://www.pandemicflu.gov/plan/healthcare/emgncymedical.html>

WHO Interim infection control guideline for health care facilities

http://www.who.int/csr/disease/avian_influenza/guidelines/infectioncontrol1/en/

Centers for Disease Control and Prevention

http://emergency.cdc.gov/healthcare/?s_cid=ccu022309_HealthFacilities

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The Emergency Medical Service (EMS) System

by Marcel Dubouloz

Key characteristics of contemporary EMS System

During the past 30 years, EMS in South East Asia have experienced explosive development and growth. Yet, initiatives to create a network of systems to provide emergency medical care had began with limited knowledge about what constituted the most efficient processes for delivering ideal resources to the spectrum of situations encountered by contemporary EMS in low income countries.

There is no internationally agreed definition of the EMS System (components, stakeholders and service delivery mechanisms, management structures). Here, the following working definition is proposed: a community-based system, which provides for the utilization of available personnel, equipment, transportation and communication to ensure effective and coordinated delivery of medical care (including First Aid, BLS, etc.) in emergency situations from the site up to hospital care delivery, and to contribute to mass casualty management (including disasters). There are no hard and simple rules (internationally applicable) because communities, economics, health sector characteristics and geography all present unique problems in establishing each individual EMS system (rural, urban context, etc.). However, if the system is to be of life saving quality and cost-effective, then it is necessary to develop: policy, strategy and standards for personnel training, vehicles, manpower, facilities (mainly referral or critical access hospitals), communications, and continuous quality improvement. EMS should be community-based health management systems that are fully integrated with the overall health care system (public and other health care providers) and public safety agencies (importance of First Responders for delivering quality First Aid, local community first aid volunteers).

Each country must define what is covered by the concept of EMS whether it is limited to only ambulance services and transport or integrated into a complex and cohesive network of local systems. The EMS system must have strong continuous medical leadership. In many countries, the EMS system is under the control of local government– public hospitals are usually community based facilities. The use of all existing resources of the local community is therefore recommended in order to provide public safety-type services and emergency medical care to customers. This implies the creation of an “EMS Council/Committee” at national level and its counterpart at local/community government level. There is an advisory function that is needed for both levels. The EMS system must be supported by laws and regulations to ensure liability, sustainability and professionalism, and norms and standards for quality improvement and efficient use of existing resources.

Core components of the EMS System

There are several organizational models of EMS System. They mainly differ in term of the stakeholders involved for running the ambulances and managing the Dispatching Centre and the type of medical or paramedical staff engaged in the pre-hospital activities. The main strategy is to integrate the EMS System into the overall health care system and first aid delivery system. The modern concept of EMS System identifies the following core components:

- Policy, laws, regulations, norms and standards (indicators)
- Funding
- Manpower/Human Resources - Training programs
- Communications
- Transportation
- Hospitals and other health care facilities

- Dispatching Centre and management and coordination mechanisms
- Access to the system and access to emergency care
- Utilization of public safety agencies
- Public education and information
- Prevention and research
- Review and evaluation, quality improvement
- Disaster planning

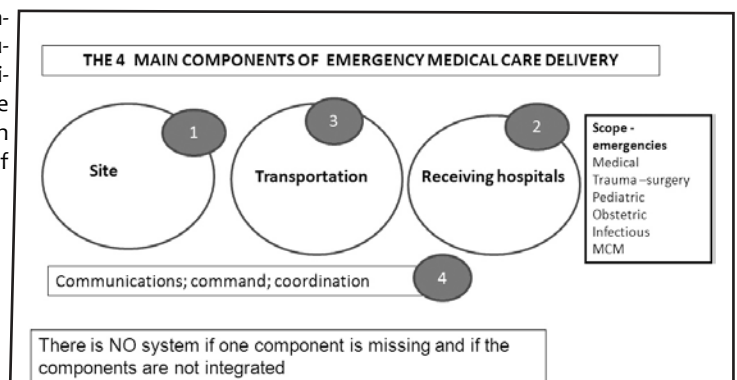
Key resources are needed and strong mechanism must be in place for accessing, managing the system and reporting:

- Pre-hospital service delivery & transport mechanisms
- Coordination mechanisms between the partners/stakeholders (inter-agencies; pre-hospital and hospital). Counseling and dispatching of patients
- Definitive, specialty and rehabilitative care facilities (ED and surgical units of Hositals are full part of the System)

Key constraints and limiting factors in any EMS System

There are many constraints that limit the development of an efficient full scale EMS System. The mere increase of only one component of the System has only limited positive impact. Of course there is no System if no efficient management structure in place. The priority list of the four main limiting factors in many low-income countries, by order of importance are:

1. Inadequate capacity of emergency department in the receiving hospitals –staff readiness. The enhancement of the capacity in this area will benefit to the entire hospital
2. Inadequate pre-hospital management for life saving procedures–staff readiness– and inadequate access to care
3. Inadequate transport capacity
4. Inadequate funding



the author

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Post-disaster healthcare: What is missing?

by Nebil Achour

Introduction

Post-disaster hospital response to natural hazards and extreme weather events is not a recent issue, but recent worldwide trends have imposed it on research and social agendas. The WHO and PAHO have consistently assessed the vulnerability of hospitals in natural hazards and extreme weather events however due to a six fold increase in the number of natural disasters in the last three decades from 1975 to 2005 this imposition is indisputably necessary.

According to WHO, 85-90% of the total building cost of a healthcare facility is attributed to non-structural elements. With such an economic investment, ensuring that healthcare facilities are safe and continue to operate post disaster is not only an economic requirement, but also a social, moral and ethical obligation; particularly in terms of public confidence (UN/ISDR, 2008).

The aim of this article is therefore to understand the causes of possible damage and/or interruption to this vital public service. Healthcare facilities have many and varied components and can be classified by their systems, components and/or installations but in order to best achieve our aim let's refer to them as physical, social and management services and try to answer the question of "what is missing from post-disaster healthcare?"

Physical services

Literature reveals a large number of approaches to design new facilities or retrofit existing structures to enhance resilience. Researchers and engineers proposed solutions to reduce the vulnerability of healthcare physical division components which are composed of structural elements (including architectural), equipment (e.g. medical, mechanical & electrical, IT) and lifelines (e.g. electricity, water and gas supply, medical gases). Some examples proposed are base isolation systems to protect structures from earthquakes and draining systems to protect from floods. While, redundancy is one of the solutions to reduce lifeline vulnerability. Many researchers suggested methods to assess the vulnerability of physical division components using checklists as introduced by Johnson et al. (1999); Porter et al. (1993) and PAHO/WHO (2008) or evaluating hospital fragility based on component fragility and their interconnectivities as proposed by Achour (2007). Clearly, the approaches that were developed are good to support and protect healthcare facilities.

Social services

Healthcare social services comprises medical and support staff within a facility and also stakeholder groups who are able to help in emergencies. Post-disaster stress is one of the most important parameters that affect medical staff. In order to ensure effectiveness in emergencies, scenarios were developed for staff tutoring as understanding the risk exposure, risk perception and coping strategies have direct relation to stress and therefore

response to disasters. In addition, countries like Japan relate the minimum number of doctors to the number of patients in major hospitals, which releases pressure on doctors and reduces delay in patients treatment. As for stakeholders groups, the quality of individual and group/team response during major incidents is a critical aspect of healthcare resilience. For example, an agreement with a catering company would help in providing food to patients if a hospital kitchen is out of service; and volunteers provide considerable help if they are properly engaged in activities that do not need a particular qualification (e.g. serving food, guiding patients). Evidentially, the literature and the international best practice reveal good solutions to help the resilience of healthcare facilities social services.

Strategic/management concerns

Strategy and management process the outcome of social and technological (physical) research. Healthcare facility management depends on onsite facility administration; local and central authorities and Private Investigators (PIs) for the case of Private Finance Investment (PFI) healthcare facilities. Although the responsibility of the onsite administration is not simple it is still relatively limited. Major decisions are usually taken by local and central authorities and PIs, i.e. decision makers. Adopting strategies to reduce disasters impact on healthcare facilities is one of these major decisions; and economical condition; infrequent occurrence of disasters and nature blaming are the 'classic' response of decision makers. Although, designing a healthcare facility resilient to hurricanes and earthquakes does not cost more than 4.5% extra on top of the total facility cost (Gibbs, 2007), it is not a priority on the decision making agenda. Thousands of billions are being injected recently in economical institutions and prevention from political conflicts, but not much on reducing the impact of natural dis-

Disaster type	Disasters in 2000-2007		Total losses (Billion Pound Sterling - £B)	Budget allocated - in £B
	Total #	Affected people		
Political conflict (terrorism)	25	1,011	No available data	1 (2001) 2.5 (2007/8) 3.5 (2010/11)
Floods	14	395,000<	9.1<	0.6 (2007/8) 0.8 (2010/11)

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asters, see table for the UK case. Moreover, the UK Planning Policy Statement (PPS25, 2006) classifies hospitals in 3rd (second last) important level.

According to the above, there is lack of strategies to protect healthcare facilities.

Conclusion

Post-disaster healthcare response is an important issue specifically with the increasing risk of disaster. Much research has been done on assessing the physical and social vulnerabilities and solutions were suggested to reduce healthcare malfunctioning risk. Despite that, healthcare facilities are still under threat of inoperability because strategies, planning and enthusiasm are still missing.

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Reinforcing safe hospitals in the Western Pacific

by Arturo M. Pesigan

Hospitals are not really the safest places on earth.

Nobody will contest to that fact. The recent earthquake in Sichuan China in May 2008 destroyed or damaged up to 52% of 6 800 health facilities mostly hospitals and health centers in worst-hit areas. Similarly, in June 2008, Typhoon Fengshen damaged or destroyed 89 hospitals and health facilities in central Philippines obstructing services to affected communities.

Safe hospitals campaign in Western Pacific region

The World Health Organization Regional Office for the Western Pacific (WHO-WPRO) recently launched Safe Hospitals Campaign aiming to raise awareness about why and how to redouble efforts to protect health facilities and staff, ensuring their continued function during and in the aftermath of disasters.

The theme "Hospitals Safe from Disasters: Reduce Risk, Protect Health Facilities, Save Lives" is relevant considering that of the 6 WHO regions, the Western Pacific is most prone to disasters from natural hazards. Over the last 10 years, the region encountered 127 major disasters from natural hazards hitting the record of 23% of all disasters worldwide.

WHO notes that disasters damage or destroy health facilities worsening the havoc they create in many parts of the world.

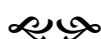
- In 2005, the South Asian earthquake destroyed almost 50% of health facilities in the worst affected region of Pakistan.
- The earthquake and tsunami in December 2004 damaged or totally destroyed more than 360 hospitals and health facilities in Indonesia, Sri Lanka, Maldives, and India.
- In 2001, the Gujarat earthquake in India destroyed 3 812 health facilities, requiring US\$60 million for reconstruction.

One can only surmise the devastating effects these damages bring to victims and families in affected communities. The question goes beyond the destroyed structures and medical equipment. The services, health and lives of health personnel are equally important. The integrity of medical care can be preserved even with limited facilities. Intact services and prepared staff can minimize the suffering of disaster victims and their families.

The campaign is part of the 2008-2009 World Disaster Reduction Campaign organized by the World Health Organization, UN International Strategy for Disaster Reduction and the World Bank. The objective of safe hospitals is a priority provision of the Hyogo Framework for Action 2005-2015. Other UN and international agencies are committed to this 2-year campaign while national level implementation requires the commitment of ministries of health of Member States.

Studies show that damages disasters incur to health facilities reach millions of dollars and may range from 15% to 60% of annual government spending. It has been shown that retrofitting – bracing, reinforcement or other engineering interventions – of health facilities are cost-effective and can protect up to 90% of the value of the hospital.

Retrofitting health facilities have cost implications that require commitment from policy-makers and investors. It was shown that additional cost to ensure safety of health structures requires only 4% added cost of new health facilities while protecting expensive facilities and medical equipment and saving thousands of lives.



Launching the campaign in Manila

Responding to the international call, the Philippines Department of Health (DOH) launched safe hospitals campaign in Manila last 20 August 2008 in partnership with WHO. More than 150 participants represented different sectors including DOH national and regional officials, WHO, the United Nations Population Fund (UNFPA), deans of universities, and professional organizations.

In his message, the Secretary of Health Dr. Francisco T. Duque III emphasized the significance of the campaign since the country has high vulnerability to disasters causing damages to many hospitals and health facilities. The WHO Representative in the Philippines, Dr. Soe Nyunt-u, also reiterated the importance of strong and functioning health facilities as symbols of economic growth, political stability and social security.

The campaign is timely after recent data revealed that the Philippines is the most disaster-prone country in the Western Pacific region exceeding China and Vietnam. In 2007, the Philippines experienced the most number of natural hazards worldwide. In fact, one report shows that disasters have killed and injured more than 5 million Filipinos over a span of 10 years

Manual on safe hospitals

To augment the campaign, the Philippines DOH and WHO-WPRO also published the manual on Hospitals Should be Safe from Disasters. This new publication gives a practical definition and description of the essentials of a safe hospital.

The manual recommends the elements for safe hospitals and enumerates structural, non-structural and functional indicators which every hospital and health facility can easily comply to ensure functional safety.

Structural indicators refer to the design and integrity of the building to withstand earthquakes, typhoons and other disasters. Included in non-structural factors are the safety of internal infrastructure, communication system, lifeline facilities, water supply, emergency and fire suppression system, laboratory services, and department units. Accessibility, policies, staff preparedness, and operational and security systems are necessary functional indicators for safety.

This manual was developed through collaboration between DOH Health Emergency Management Staff (DOH-HEMS), National Center for Health Facility Development (DOH-NCHFD), WHO-WPRO, and the Association of Hospital Administrators in the Philippines.

It was presented to representatives from national and regional health offices, hospitals, universities, and professional medical and nursing organizations last August 2008. They gladly accepted the manuals and expressed their commitment to implement them within their jurisdiction.

This manual can be accessed at http://www.wpro.who.int/sites/eha/disasters/emergency_reports/safe_hospitals_campaign_opening_page.htm.

Documentary short film

WHO-WPRO also produced a documentary film for local advocacy. Drawing from the experiences of real patients and their families, this short film describes the health and socio-economic impacts of damaged and dysfunctional health facilities.

This 9-minute film illustrates what a safe hospital is and enumerates factors that put health facilities at risk. The principles of structural resilience, health workforce action, preparedness, and collaboration are set on vivid images and moving music that makes the film suitable for promotion targeted to a wide variety of audience. The film is narrated in English and is in DVD format.

Plans, expectations

Plans are underway to expand implementation to the rest of the Western Pacific area. The Regional Meeting on Ensuring Safe Hospitals and Health Facilities in Disasters is set on 8-10 December 2008, in Phnom Penh. The support of national governments has been favorable and WHO plans to maximize benefits by developing field guidelines on safe hospitals for the administrative, design and engineering sectors.

WHO-WPRO highly acknowledges the support of international NGOs, country-level health ministries, health institutions, the academe, professional organizations, and civil society in this program. Partnership between different sectors and political commitment to this endeavour are crucial to achieve the benefits of disaster safe facilities.

“Preparedness and response can be reinforced so that human suffering is prevented or minimized,” explained Dr Arturo Pesigan, head of the WHO Emergency and Humanitarian Action. “This can only be achieved by structures that will not collapse in disasters, with an organized contingency plan, and with a trained health workforce to continue and provide its services during critical situations.”

We may not be able to control or eliminate natural disasters, but by working together, health facilities can become safe place places on earth, always vigilant and prepared to face challenges and protect human lives.



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Contextualizing DRR in Health System Development in the post disaster-underdeveloped area (of Nias Islands, Indonesia)

by Astrid Kartika and Heracles Lang

Health service provision on Nias Island has always been insufficient and has become worse after the disasters. The 28 March 2005 earthquake that hit Nias islands right after the 26 December 2004 Tsunami has added misery to the life of communities already suffered by poverty and underdevelopment. Prior to the disaster, the 5,625 square kilo meters wide islands was served by 28 community health centers, locally known as Puskesmas, spread all over the islands and one referral hospital, the Gunungsitoli General Hospital located in the city of Gunungsitoli. Similar to other remote areas in Indonesia the health facilities are mainly poor in terms of building condition, drug and equipment availability, as well as availability of medical doctors and specialists. These have lowered the health centers' capacity in providing services. The geographical situation of the islands and its earthquake prone condition posed series of constraint to the rehabilitation and reconstruction effort. Low accessibility throughout the main islands, limited means of communication and transportation, lacking skilled personnel, high rate of poverty, limited budget and capacity of local government, and low capacity in health service management have indirectly threaten the communities' access to health services. To address those issues, the Indonesian Agency for Rehabilitation and Reconstruction for Aceh and Nias (in short: BRR) has integrated its recovery program into a local health system development.

Health facilities improvement

All structures built by the BRR were designed with earthquake resistant elements that withstand earthquake up to 9 on the Richter scale while maintaining its function. In health facilities improvement program, buildings were designed to function and responsive in any emergency situation. There are two major types of health facilities that the BRR focused on: the Gunungsitoli General Hospital as the referral hospital which is the backbone of health service provision during emergency situation, and the 28 Community Health Centres (Puskesmas). Other than earthquake resistant, an accessible spacious courtyard is provided in the hospital as 'disaster management zone'. In emergency situations when number of casualties suddenly increases and have to be treated, the courtyard could be useful for tents or field hospital.

Gaining a better referral health service through Puskesmas Plus Development

Access is one major issue on the islands since before the earthquake. The BRR's road projects mostly rehabilitated provincial roads, and limited number of district roads. Therefore only limited numbers of population can be served by roads especially those living in flat areas of the islands. Those living in settlements located on hilly and mountainous areas which are the typical topographic contour of the islands have very limited access to road. To serve these low accessible areas the population cannot depend on the main hospital in Gunungsitoli. There should be an intermediate referral form of health service to bridge secondary care provided by the Gunungsitoli Hospital and the lower level primary health centers Puskesmas. Therefore the BRR developed an intermediary layer of referral health service to address the issue of access by regionalizing the services in the form of "Puskesmas Plus". Located in the strategic sub districts, ten out of 28 Puskesmas were designated as the intermediate referral community health centers. These ten Puskesmas Plus are designed with 10 – 20 bedded inpatient room and a spacious hall as the disaster management zone. In a smaller scale the Puskesmas Plus can provide services like a hospital in emergency

Puskesmas is an acronym of Pusat Kesehatan Masyarakat or community health center. Each Puskesmas serves a subdistrict. With the current subdivision of subdistrict, not all subdistrict has a Puskesmas.

situations. The word 'Plus' designates a higher level of medical services including in-patient beds, emergency room, and skilled staff. To promote a contextual health care concept stronger community participation and ownership were encouraged. One of the key elements in the community participation is preparing community and Puskesmas to be more alert to the disasters. Along with the Puskesmas Plus development the alert village program is being developed in selected villages. The alert village program included trainings for the Puskesmas staffs to response in emergency situation.

Human resource development

As in other remote places in Indonesia limitations of available and capable health workers needs serious attention because improved health facilities without capable health workers would be a waste. Therefore the BRR Nias addressed the issue by providing scholarships and capacity building program to add numbers of health workers and to improve the skills. Total budget for the program was USD 3 millions and implemented in collaboration with universities in Indonesia. In 2006 the BRR provided scholarships for 13 specialists, 16 General Practitioners (GPs), and 9 Master degrees to support not only the Hospital demand of skilled medical personnel, but also the local health department both in Nias and South Nias sub-districts. In 2007 scholarships were provided for 4 specialists, 6 masters, 10 GPs, 8 nursing degrees and 37 nursing diplomas. Capacity building program are provided through training and assistance for health workers and health institutions.

Conclusion

The efforts and approaches implemented by the BRR are in line with thematic action of World Disaster Reduction Campaign 2008-2009, "building safer health facilities". In the disaster reduction campaign it was agreed that special attention must be given to ensure the physical and functional integrity of hospitals and health facilities in

emergency conditions. It is about more than just protecting buildings. Health facilities are only truly safe from disasters when they are accessible and functioning, at maximum capacity, immediately after a hazard strike (UNISDR, 2008).

For the poor in remote underdeveloped islands such as Nias, reconstruction is required to be more than just rebuilding what were destroyed in anti hazard construction but also building them contextually. The challenges in accessibility, low institutional capacity, and providing on hands knowledge about safe construction and how the system and community can be resilient to the hazard were part of the DRR scheme implemented by the BRR. If these lessons learned were taken seriously by the local government and the communities a contextual and sustainable health system development would be beneficial for all.



Financing recovery in rural hospital development

Gunungsitoli General Hospital, the main health facility on Nias Islands, North Sumatera, Indonesia, was struck and heavily damaged by the 28th March 2006 earthquake that followed the 26th December 2004 Tsunami. Located in the town center of Gunungsitoli, Nias, this hospital serves more than 700.000 populations, which majority is the poor, plays the single role of referral hospital. The hospital has been struggling with chronic problems of limited available specialists and medical doctors, limited clinical skills of nurse and mid-wifery services in providing better hospital treatment. Poor management and lack of maintenance in the hospital has made the service worse after the earthquake. More than 50 % of the hospital buildings were damaged and made them dangerous to work in. Equipments were destroyed and further worsen the services.

Having learned from the destruction and based on the pre-disaster condition, the Indonesian Agency for Rehabilitation and Reconstruction of Aceh and Nias (BRR Aceh Nias) put Gunungsitoli General Hospital as one of the reconstruction flagships within the health sector. In the spirit of building back better of the hospital there are four approaches: 1) Improvement of the facility planning, building construction, and provision of equipments, 2) Human resource development, 3) Improvement of hospital management, and 4) Development of specialized system i.e. hospital waste system, and billing system. In the context of the remoteness and high disaster hazard of the area, poverty and low capacity of institutions, the project has comprehensively combined the development requirements of rural hospital with disaster risk reduction (DRR) approach. The challenge is how to finance these?

With the enormous scale of destruction Aceh has received majority of the reconstruction funds. Aceh has been the world's attention even prior to the 2004 Tsunami with its political conflict that put Nias under the shadow of Aceh reconstruction as well as the world's attentions and supports. Since the emergency phase commitments and immediate reconstruction programs from donors, including for hospitals, were more attractive to Aceh. With most attention on Aceh, it was difficult for Nias to gain commitment or funding. The most appropriate way to revitalize the hospital was through partnership.

A Hospital Working Group was established 6 (six) months after the earthquake. Initiated by the World Health Organization (WHO), MERCY Malaysia and BRR in September 2005, the Hospital Working Group marked the first step of a partnership approach to reconstruct the general hospital and in the broader sense laid down the basis of health service strategy for the islands. The synergy of the working group has produced a strategic and master plan of Gunungsitoli General Hospital Revitalization. The working group also identified potential donors and partners to support construction and equipment provision and capacity building.

According to the master plan, the Gunungsitoli Hospital construction is divided into four (4) phases. Each phase was designed to be constructed after funding from relevant donors was committed. After three years since the project was initiated the BRR has engaged four donors to work in partnership in financing the four phases of the construction project through "basket funding" approach. Basket funding is adopted as a term used in collecting donors to finance the project during the implementation because of limited fund and commitment was available at the initial stage. The donors i.e. Mercy Malaysia has donated USD 1 million for completion of phase 1 construction. This part of the hospital was opened to public in January 2007. The People's Republic of China has supported USD 1.5 million for Phase 2 construction. This part of the hospital opened in March 2007. The government

of Japan has also donated USD 5 million for construction works and equipments of Phase 3. The construction was completed in June 2008 and being operated since then. Phase 4 is currently under construction and expected for completion in January 2009. This last and main phase of the project is financed by the Singapore Red Cross and cost USD 4.6 million. The BRR has added another US\$ 2 million for scholarships and trainings to support clinical as well as managerial skills for the hospital.

The challenges to ensure sustainability of the hospital services on the islands are: 1) majority of the population are the poor; 2) capacity of the local government to subsidize hospital is very limited; 3) limited skills and capacity of hospital staffs. To cope with the first two challenges, efficiency in service provision is the key. By applying efficient service, good financial management and smart use of resources, the hospital will be able to efficiently utilize its own revenue. Good and efficient management would also attract donors for further development. One proven way to cope with the third challenge is to keep donors and partners within the network of the hospital. By keeping good relationship with the donors/partners and being proactive to seek grants for training of nurses or hospital staff, continuous capacity building can be implemented. Through this network, the University of Gadjah Mada is currently assisting the management of the hospital. The networks with donors also granted the hospital with trainings i.e. the Singapore Red Cross in collaboration with Alexandra Hospital and Changi Hospital has trained nurses. Furthermore a Training Centre is being built in Gunungsitoli Hospital along with the construction of the final phase of the hospital. Mercy Malaysia is also planning to support the hospital waste management and "case-mix study" programs.

In conclusion, there are three lessons learned potential for replication in reconstructing remote and poor post disaster areas:

1. Partnership is proven useful for better hospital reconstruction and services.
2. Implementing a comprehensive approach in reconstructing and revitalizing hospital services.
3. Application of DRR in the health facilities development needs to address the context of the area. For example the remoteness and high poverty level on Nias islands was carefully considered in facility planning of the Hospital. The design was developed by avoiding "high technology" applications but still met the basic needs of the referral hospital.



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Capacity building approaches through exercise management training programs

The increasing and ongoing outbreaks of avian influenza in poultry and in humans in the Asian region have raised the alarm that the world is drawing closer to the brink of an influenza pandemic and have demonstrated the need to prepare effectively for communicable disease emergencies. Emergency preparedness is essential in the face of known and unknown risks that may cause severe disruption to health, society, economics and the environment. Emerging infectious diseases, such as avian influenza and the potential for a human influenza pandemic, have created a need for warning and alerting systems, training,



emergency plans and exercises. Without an actual outbreak of such a disease, or other type of emergency, it is difficult to be sure that systems, training and plans are well targeted and appropriate. Simulation exercises can test these plans and systems, and increase awareness and reinforce training. There is also limited management skills and experience in conducting exercises among health and animal health communities and ministries involved in addressing the Emerging Infectious Diseases (EID).

The primary purpose of the Exercise Management Training Program is to build the knowledge and skills of those people responsible for conducting exercises in ASEAN+3 countries. Being the primary beneficiaries, they will be the agents of capacity development in their respective countries by contributing to the facilitation of national exercise management training courses for the benefit of the communities at risk of emerging infectious diseases.

Exercises have taken place in ASEAN+3 countries at national, provincial, community, cross border and regional levels. In the coming years, ASEAN+3 countries plan to conduct more exercises to develop and test response plans, in particular, for avian and human influenza at different levels.

One among various activities was the ASEAN+3 Regional Exercise Management Pilot Training Workshop, which was held in Bangkok, Thailand from the 30 April – 4 May 2008. The workshop was organized by ADPC and Ministry of Public Health, Thailand in collaboration with ASEAN+3 Emerging Infectious Disease Programme (EID) and the Australian Agency for International Development (AusAID).

The 5-days pilot course included designing, developing, conducting and evaluating exercises to train national personnel who have responsibility for managing exercises in their respective countries or may have a role in training personnel in exercise management. They will contribute as facilitators for subsequent sub-national or national exercise management training courses.

The workshop was composed of ten (10) units. The sessions were based on the Exercise Management Model Cycle guiding the participants through the different steps, approaches, techniques and issues in managing an exercise. Each unit was designed and facilitated

to assist participants from the initial phase of identifying the need, analyzing the need of the exercise they agreed to develop, designing the exercise, conducting the exercise and the plan how to evaluate the exercise.

Replicating the similar exercise, ADPC together with Ministry of Public Health, Thailand, Ministry of Health, Brunei Darussalam, the ASEAN+3 Emerging Infectious Disease Programme (EID) and the Australian Government Overseas Aid Programme (AusAID) conducted the first Sub-regional Exercise Management Training Workshop in Brunei from 9-13 June 2008. The objective was to build the capacities of responsible personnel for exercise management for preparedness, prevention and control of emerging infectious diseases in Brunei, Indonesia, Malaysia, Philippines (BIMP) and Singapore.

In Phnom Penh, Cambodia, the Exercise Management Training workshop was conducted from 15-19 December 2008 in partnership with Ministry of Public Health, Thailand, Ministry of Health, Cambodia, ASEAN+3 Emerging Infectious Disease Programme (EID) and the Australian Government Overseas Aid Programme (AusAID) to build the capacities for preparedness, prevention and control of emerging infectious diseases in Cambodia, Lao PDR, Myanmar, Thailand and Viet Nam.



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Partnership for initiating Mainstreaming Disaster Risk Reduction into Health Sector in Bangladesh

by Syed Ashraf and Md. Anisur Rahman

The Regional Consultative Committee (RCC) on Disaster Management has been implementing the program on Mainstreaming Disaster Risk Reduction into Development since 2004 when the program was launched at the 4th meeting of the RCC in Dhaka. The RCC 5 adopted the Hanoi RCC 5 statement on Mainstreaming Disaster Risk Reduction in Development in Asian Countries. The goal of the program is to promote safe development and good governance in RCC member countries with increased community resilience to natural disasters; thus contribute to realizing the Millennium Development Goals by 2015 and advancing priorities of the Hyogo Framework for Action.

The program has adopted two track approach of mainstreaming disaster risk reduction into both national development process and in priority sectors such as Agriculture, Education, Health, Infrastructure and Housing. In all these sectors, the program is developing Tools and Techniques and supporting the RCC member countries in undertaking Priority Implementation Partnerships (PIP) on mainstreaming disaster risk reduction in the said theme.

Ministry of Food and Disaster Management of the Government of the People's Republic of Bangladesh is a member of the RCC mechanism, and had expressed interest to initiate a PIP on Mainstreaming DRR into the Health Sector. Mainstreaming disaster risk reduction is identified as an important aspect for progressing disaster risk reduction in the country and the Comprehensive Disaster Management Programme of Government of Bangladesh identifies Mainstreaming disaster risk management into the development planning process as one of the key objectives of the program.

The PIP on Mainstreaming disaster risk reduction into the Health Sector has been initiated recently by the Disaster Management Bureau of Ministry of Food and Disaster Management, in partnership with the Ministry of Health and Family Welfare, with technical support from Asian Disaster Preparedness Center and financial support from AusAID.

It is realized that the Health sector is vast and in order to mainstream disaster risk reduction into the sector, the approach should highlight both the structural and non structural functions of the health sector. There is a need to ensure that any development activity in the said sector is hazard resilient. However, in the current phase of the PIP, the initiative only focuses on the structural aspects of the health facilities and promoting hazard risk assessment in the construction of health facilities. The PIP aims to strengthen the partnership between the Ministry of Health and Family Welfare and Disaster Management Bureau and to identify the current gaps in the process of planning, design and construction of health facilities in the country and the process to integrate hazard resilience techniques in the system.

It is understood that various stakeholders are involved in the construction of health facilities in Bangladesh. While the initial demand of health facilities come from the Annual Development Plan prepared by the Directorate General of Health through its Department of Planning and Research and others. It is the Construction and Maintenance Management unit (CMMU) and Public Works Department (PWD) (depending on the number of beds), are responsible to design and construct the hospital under the guidance of the Ministry of Health and Family Welfare. Within the Ministry too, various departments are involved at various stages of the planning and construction process. Hence, the PIP has adopted an approach to form a Technical Working Group that is composed of Director-Planning & Research, Director General-Health, Director-Primary Health Care, Director, Program Manager

and Deputy Program Manager of CDC and EPR, Director-CMMU, representative of National Institute of Preventive and Social Medicine (NIPSOM), Deputy Chief -Ministry of Food and Disaster Management, Director-Planning & Training of Disaster Management Bureau (DMB), Director-Health of Bangladesh Red Crescent Society, Principal Staff Officer of Armed Forces Division, Dhaka Cantonment, Dhaka and Media and Communication Specialist from DMB.

As the first step, the Technical Working Group is involved in documenting the entire process for construction of Health facilities, both under National funding as well as through external agencies, identifying the stakeholders and their involvement in each phase, steps undertaken in the project cycle management, kind of reports prepared and their content in each stage. This documentation and analysis would enable to identify the entry points/agencies for integrating disaster risk reduction concerns in the process of construction of health facilities in the country. Additionally, the PIP would take a stock of the existing guidelines/design typology used in the country for construction of health facilities and analyze the scope of hazard resistant features of the same. It would also look at the TOR prepared by CMMU and PWD for tendering and selection of contractors for construction of health facilities and the integration of disaster resilient aspects in the content of the TOR. With an ultimate objective of understanding the gaps in the process and filling it in actual projects in the subsequent phases of the PIP, the PIP would also compile a list of future pipeline projects for construction of health facilities for the next few years in the country. This would help in selecting specific projects in hazard prone areas to test out the recommendations of this phase of the PIP in the future.

Based on the recommendations stemming from PIP and the results of existing studies and surveys such as the National survey conducted in 2001 on Building conditions of Health facilities as well as GIS Mapping of Health facilities by CMMU, stakeholder consultation would be carried out involving the Government, NGOs, UN Agencies, bilateral donors and IFIs to advocate for integration of disaster risk reduction in the National Health Sector Policy plans and programmes funded under both national budget as well as external support.



Resources

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Resource Kit

Experience sharing in community-based management of Avian and Human Influenza in Asia

As part of an effort to strengthen community-based preparedness, prevention and control of avian and human influenza (AHI) in Asia, the resource kit is the outcome of the project on 'Strengthening Community-Based Approaches to Management of Avian and Human Influenza in Asia' funded by the Canadian government via the Asian Development Bank (ADB) and jointly implemented by the AHI-NGO-RC/RC-Asia Partnership – comprising Asian Disaster Preparedness Center (ADPC), CARE, the International Federation of Red Cross and Red Crescent Societies (IFRC) and the International Rescue Committee (IRC).



The overall aim of the resource kit is to strengthen the capacity of community-based organisations (CBOs) and non-government organisations (NGOs) working to manage AHI at the community level in the Asian region and beyond. The resource kit also aims to enhance the strategies by which these CBOs and NGOs can engage with international technical agencies and the government and to advocate for greater importance to be given to community-based projects and programmes founded on participatory, empowering and sustainable processes and practices.

The AHI resource kit showcases past experiences and key issues and highlights some lessons identified so far from a diverse array of projects that focus on community-based management of AHI in Asia. Drawing on the experiences of various CBOs, NGOs, Red Cross and Red Crescent societies, governments, UN organisations and academic institutions, the resource kit aims to identify, document and compile experiences in community-based management of AHI across the Asian region. It also seeks to highlight and complement existing resources, guidelines and tools developed by organisations involved in community-based AHI management, contributing to a more comprehensive multi-sector perspective on AHI preparedness, prevention and control at the community level.

The AHI resource kit is comprised of two parts. The first consists of a booklet compiling selected case studies in community-based management of AHI involving different implementing organisations. The case studies cover five key topics relating to community-based management of AHI: community-based assessments and research; communication strategies and tools for behaviour and social change at the community level; healthy and sustainable small-scale poultry production and trade; community-level surveillance and training of community level animal and human health workers; and community-level emergency preparedness.

The case studies highlight past experiences and key lessons in community-based management of AHI in Southeast Asian countries – Cambodia, Indonesia, Lao PDR, the Philippines, Thailand and Vietnam.

The second part of this resource kit consists of a DVD compiling resources (guidelines, training materials, IEC materials, etc.) that are currently available and that provide useful tools for strengthening community-based management of AHI.

The resource kit acts as a vehicle to bring the voices of the communities coping in their daily lives with the risks of AHI to the attention of policy makers, donors, governments and international organisations. To download the Resource Kit, visit www.adpc.net.

Publication



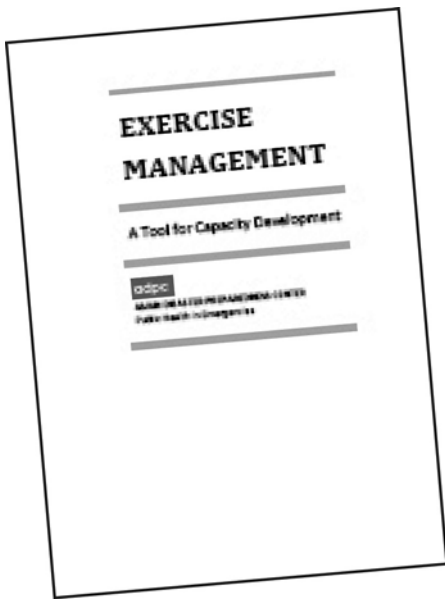
Simulation exercises on influenza pandemic responses in the Asia-Pacific region

Prompted by concerns resulting from the spread of avian influenza, almost all the world's nations have now developed national pandemic preparedness plans. The publication explores testing of pandemic preparation - through simulation exercises - an effective and efficient way to validate assumptions, examines capacity and ensures an optimal state of readiness. This book includes experiences of simulating responses to an influenza pandemic by Countries in the Association of Southeast Asian Nations (ASEAN).

The book was published in response to recommendations made at the Regional Experience Sharing Workshop on Exercise Management for Avian and Human Influenza in ASEAN+3 Countries which took place in Bangkok, Thailand, from 27 to 28 November 2007, organized by ADPC in collaboration with the United States Agency for International Development (USAID), the Kenan Institute Asia (K.I.Asia) and the Ministry of Public Health, Royal Thai Government.

Tools

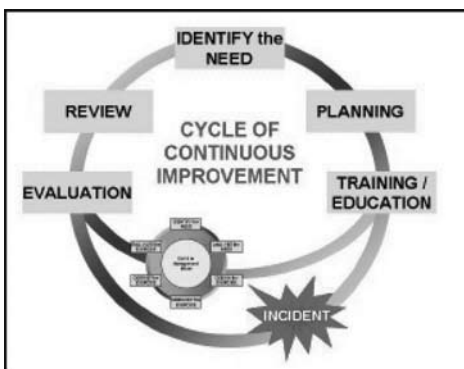
Exercise Management A Tool for Capacity Development



The success of any exercise depends upon the adoption of a structured approach. Exercises are only part of a larger range of activities that allow to prepare for, respond to and recover from emergencies. As such the range of activities should be incorporated into a Cycle of Continuous Improvement for Developing Capacity in Health Emergency Management.

The reference paper on Exercise Management Model, a tool highlights the stages for designing, conducting and evaluating an effective exercise. The modules include identifying and analyzing the need, training & education, resource management, emergency response & recovery, designing an exercise, scope of the exercise, planning team and responsibilities, exercise control, pre-exercise

Pictorial representation of the cycle of continuous improvement for developing health emergency management capacity



Strategy & Recommendations in Organizing & Managing Emergency Medical Services (EMS)



The publication is aimed at helping the decision makers and the policy makers to develop a comprehensive approach to deal with the creation and/or the strengthening of existing emergency medical services. The recommendations presented have been prepared so as to have a logical sequence.

Developing countries too often lack sufficient material resources which is the most important limiting factor for running efficient and effective EMS. Further, the real problem is the lack of managerial expertise in the organization of the available resources, services and the lack of trained staff.

The document will help those having to manage the development and the strengthening of EMS to select priorities and to develop an action plan that will lead to sustainability of the system and its integration into the overall organization of the services offered by the health sector.



Significant steps forward...

3rd Asian Ministerial Conference on Disaster Risk Reduction, 2-4 Dec 08, Malaysia

ADPC actively participated as a key partner of the 3rd Asian Ministerial Conference on Disaster Risk Reduction that was attended by Ministers from more than 40 Asia-Pacific countries. The conference was attended by over 600 participants including Governments, private sector, Non-Government organizations, media, technical and specialized institutions, UN Agencies, local communities, local authorities from various fields of DRR disciplines. Hosted by the Malaysian Government, the conference's theme of 'Multistakeholder Partnership for Disaster Risk Reduction; From National to Local', emphasised on exchange of knowledge on practical ways of implementing disaster risk reduction efforts and promoting public-private partnerships and community participation.

ADPC showcased its activities, initiatives and achievements in disaster risk reduction at the conference exhibition with a display & distribution of information & knowledge products & video presentations.



ADPC, as the Asia Regional Task Force on Urban Risk Reduction (RTF-URR) enthusiastically contributed to the pre-conference event on Asia Regional Task Force on Urban Risk Reduction. The session recognized the need to develop further regional collaboration on urban risk reduction initiatives, to enhance information sharing among RTF-URR members and beyond, including the expansion of the membership and to agree upon next steps for

the collaborative work through RTF-URR, including modality of a session on UDRM during the Global Platform.

The conference saw Asian ministers reaching an agreement on the "Kuala Lumpur Declaration on Disaster Risk Reduction in Asia 2008", which stressed for regional and national stakeholders in disaster risk reduction for public-private partnership, high technology and scientific applications, involvement and empowerment of local governments and civil society in disaster risk reduction, engaging the media in increasing coverage and public awareness and education for disaster risk reduction. ADPC was also a member of the Kuala Lumpur Declaration Drafting Committee.

Dr. Bhichit Rattakul, Executive Director of ADPC, made the plenary statement, where he stressed on the significance of the 3rd Asian Ministerial Conference on Disaster Risk Reduction which expressively signalled the political commitment to accelerate the pace of the

implementation of the Hyogo Framework for Action through "Multistakeholder Partnership for Disaster Risk Reduction; From National to Local".

As the regional DRR resource centre in the Asia and Pacific, ADPC led the following six events;

1. High Level Round Table 03 (HLRT3): Empowering Local Governments and Community Organizations (CBOs) to Implement Community-based DRR
2. Technical Segment 03 (TS3): Decentralized Community Based Disaster Risk Reduction; Involvement & Empowerment of Local Governments and Non-governmental Organizations for DRR in Asia
3. Side Event A & E: Reducing Disaster Risk in Urban Areas
4. Side Event F: Mainstreaming DRR into Development: Experiences and lessons learned from the RCC MDRD programme

ADPC also held separate bilateral and tri-lateral discussions with heads of delegations from the Governments of Afghanistan, Bangladesh, Brunei, Malaysia, Myanmar, Iran, Sri Lanka, Vietnam and International Organizations such as UNISDR, UNESCAP, UNOCHA and Civil societies and networks such as, ADRC, ADRRN, Duryog Nivaran, Mercy Malaysia, NSET etc.



ADPC in action

Sep-Dec 2008

ADPC joins the editorial board of the World Disasters Report 2009

Disaster Policy and Preparedness Department of International Federation of Red Cross and Red Crescent Societies has invited Mr. S H M Fakhruddin, Technical Specialist of ADPC to join the editorial board for the 2009 edition of the World Disasters Report focusing on early warning & early response.

ADPC Evaluation of Government of India-UNDP Disaster Risk Management Program, Sep-Oct

ADPC has conducted an assessment and evaluation in 14 states in India of the measures required to institutionalize DRM in the Government system for long-term sustainability and lessons learned for an approach required to cover all at risk areas of the country. The project analyzed how DRM activities could be further mainstreamed to ensure sustainability, integration with the policy and institutional framework put in place by the Government of India and the State Governments; identified strengths of the strategies pursued namely, capacity building, awareness generation, community-based disaster preparedness approach, partnership building, knowledge networking and management effectiveness etc. Assessment of coverage of cross cutting issues including mainstreaming within the government programmes, gender sensitivity and equity approaches and linkages were also focused. A key result of the evaluation was the graduation strategy for institutionalizing the efforts in the Government and sustainability of the program outcomes.

ADPC undertakes regional stock taking and mapping of disaster risk reduction interventions

ADPC will capture the regional DRR initiatives by various regional organizations, intra-governmental agencies and United Nations organizations on past, ongoing and planned activities for 2005-2009. The project is an ISDR Asia Partnership (IAP) initiative with funding support from the Asian Development Bank. The project will present an overview of DRR interventions within the broader context of the regional disaster risk profile. The collated information will contribute to improved regional planning and programming and will highlight areas for cooperation among regional/sub-regional organizations.

Regional celebration of the UN International Decade for Natural Disaster Reduction (IDNDR), 10 Oct, Bangkok, Thailand

ADPC joined the IDNDR Day panel discussion on "Community safety and disaster resilient infrastructures in the Asia Pacific region", and made a presentation on improving schools disaster resilience.

ADPC holds the 9th Board of Trustees Meeting, 21 Oct, Bangkok, Thailand

The increasing frequency and ferocity of natural disasters in the region and the onset of climate changes brought on by global warming have more and more governments and agencies request ADPC's services around the world. Hence, there is an urgent need to clearly define the future strategic direction of the organization to cope with the increased activities.

Awards & accolades

ADPC's Executive Director (ED) honored for outstanding contribution to South-South Cooperation

Dr. Bhichit Rattakul was honored for his outstanding contribution to South-South Cooperation at the 5th Annual United Nations Day for South-South Cooperation held at the U.N. Headquarters on the 19 Dec 2008. Dr. Bhichit in his address on South-South Cooperation on Climate Change Adaptation and Disaster Risk Reduction shared ADPC processes, resources in devising solutions for replications across countries of the South. For more information on the event, visit <http://ssc.undp.org>



ADPC received the World Center of Excellence award for promoting knowledge sharing, innovations and institutions with South-South focus network on Landslide Risk Reduction in Asia. The award was given at the First World Landslide forum at the United Nations University, Tokyo, Japan, 18-21 Nov 2008. For more details: <http://www.iclhq.org/>



During the 9th Annual Meeting of the ADPC Board of Trustees, the concern was raised and it was agreed that the Board will need to provide more guidance and increase its engagement with ADPC in the time of change. A resolution was approved and a Special Task Force (STF) was established with five members namely, the Ambassadors from Australia, Bangladesh, Norway, Vietnam & Vice Chair of the ADPC Board of Trustees along with three advisors (Indian embassy, the Philippines embassy & the EU) to explore mechanisms to improve ADPC and further engage the Board in ADPC activities. STF shall consider the feasibility, applicability, and logistical arrangements of these mechanisms. The first meeting was held in Nov 2008 to review the current ADPC governance structures and to provide suggestions on further improvements. The STF would also consider ways to increase the visibility of the organization internationally.

5th Meeting of Disaster and Environment Working Group of Asia (DEWGA), 24 Oct, Bangkok, Thailand

Established in 2007, DEWGA serve as a collective body to advocate and promote linkages between DRR & environmental management. It is a multi-disciplinary community of practitioners in the Asia Pacific region that is concerned with closing the gap among sectors with a view to increasing effectiveness of risk reduction through environmental sustainability. The initiative integrates its activities along the lines of the Hyogo Framework for Action. The initiative facilitates exchange of information on new and upcoming initiatives that provide structured opportunities to strengthen linkages. It consists of six founding members-ADPC, CARE, the International Environment and Disaster Management, Graduate School of Global Environmental Studies, Kyoto University (IEDM/KU), IUCN, the Stockholm Environment Institute (SEI), WWF, that met in Bangkok to discuss collaborations & joint programmes of work.

Comprehensive Disaster Management Program (CDMP), Bangladesh

ADPC, under the broad CDMP umbrella conducted the contingency planning project with agency level meetings with first responder organizations such as Disaster Management Bureau (DMB), DG-Health Services, Armed Forces Division (AFD), Fire Services & Civil Defense City Corporations on follow up agency level contingency plan. Technical Advisory Group (TAG) meeting was held on 18 Sep to review the deliverables. Under the seismic hazard and vulnerability project, ADPC submitted the interim report on Time Predictive Fault modeling to CDMP. The training, advocacy and awareness project included field based training on seismic vulnerability assessment and evacuation plan of school buildings.

Program for Hydro-Meteorological Disaster Mitigation in Secondary Cities in Asia (PROMISE) updates

Philippines conducted the 2nd National Community Conference on Community-based Disaster Risk Reduction (CBDRR) on 12-13 Sep in Quezon City. Around 130 participants

including representatives from eight pilot barangays of PROMISE attended the event. The community conference provided an effective venue for various people's organizations from Luzon, Visayas and Mindanao to discuss priority issues related to DRM. Education Cluster Meeting was held on 29 Sep. Promise partner were asked to help in mainstreaming DRR in the Educational System in Dagupan City.

CBDRM Training Learning Circle (TLC) write shop, 10-11 Sep, Philippines

Fifty two (52) participants addressed gaps in CBDRM-related training materials at the write shop. Gender and DRR, accountability and ethics; community resilience indicators, monitoring and evaluation, climate change and CBDRM, integrating DRM in curriculum and armed conflict and peace building issues were discussed.

Regional Conference on creating a culture of safety in the Media in Asia-Pacific, 15-16 Dec, Jakarta, Indonesia

Covering natural calamities is part of the day-to-day tasks of journalists and many have been doing so without any measures of protection. What can be done to prepare journalists for covering dangerous assignments like disasters? ADPC participated in the Regional Conference on creating a culture of Safety in Media in Asia-Pacific organized by the International News Safety Institute, Belgium. The Jakarta Declaration on Safety of Journalists in Asia-Pacific crafted by delegates from 11 countries in the region was a fitting testament to make the practice of journalism safer.



Back issues..

Asian Disaster Management News back issues are available at www.adpc.net. For a copy, do write to adpc@adpc.net.



Training and Learning

Sep-Dec 2008

Mainstreaming Disaster Risk Reduction in Local Governance Course No. 3, 1-5 Sep, Manila, Philippines

The course enhanced knowledge and capacity of local urban authorities, associated NGOs and other stakeholders in streamlining disaster risk reduction in urban development. It created opportunities for mainstreaming risk reduction as a component of urban governance. The secondary objective of the training was to build the capacity of national training partner institutions, which will make an attempt to institutionalize the capacity building program on this theme at national level. This would also help communities at risk and NGOs to support the governance and participate in creating safer urban communities and sustainable development through DRR.

Training on knowledge network and facilitation, 3-5 Sep, Teheran, Iran

ADPC and UNDP India shared their experience on knowledge management with more than thirty (30) knowledge network facilitators, project volunteers and representatives from National Task Force for disaster risk reduction. The workshop primarily focused on facilitating the participants to evolve a methodology for design, implementation and monitoring of knowledge management in Iran for earthquake risk reduction.

Contingency planning workshop, 8-12 Sep, Ankara, Turkey

Training cum workshop for Red Cross and Red Crescent societies of Middle East North Africa (MENA) region was conducted for twenty-two (22) officers from Jordan, Palestine, Israel and Turkey. The training program aimed at capacity building of national societies from the MENA region on earthquake contingency planning. Specific focus was made on earthquake hazard vulnerability and risk assessment approaches towards activities related to earthquake risk reduction, contingency planning process, national & local level planning and the monitoring process.

Regional training course on End-to-End Multi-Hazard Early Warning Systems for Disaster Risk Reduction, 15- 26 Sep, Bangkok, Thailand

The course was attended by 26 participants from the region and beyond. The course, under the able leadership of Mr. A.R. Subbiah, Director of ADPC's Climate Risk Management Team and the ADPC-facilitated Regional Multi-hazard Early Warning System builds the capacity of professionals to design, manage, evaluate and undertake improvements in people centered end-to-end early warning systems for hydro-meteorological & geological hazards and extreme events associated with climate change and variability. It extends to institutionalizing weather and climate information applications for disaster mitigation and recently, in the implementation of Indian Ocean and South East Asia end-to-end early warning system for tsunami and hydro-meteorological hazards. International practitioners and experts from different organizations all over the world complemented ADPC's in-house expertise in conducting and delivering the course. ADPC's diverse and dedicated EWS technical professionals with expertise in early warning systems ranged from meteorology to social sciences.

9th Regional Training Course on Flood Disaster Risk Management (FDRM-9), 6-17 Oct, Bangkok, Thailand

The course was designed with an integrated approach to the development of flood risk reduction strategies involving engineering, settlement, development, public administration, community-based strategies and land use planning with environmental considerations. This multi-disciplinary approach towards flood problem and flood risk management enables a holistic view of the situation and the needed preparedness measures. Case examples of various responses at the national and local levels were presented to give the mitigation measures concrete applications. FDRM-9 had 22 participations from Bangladesh, India, Indonesia, Laos, Malaysia, Myanmar, North Korea, South Korea, Pakistan and Thailand.

Training workshop for Community-Based AHI Management Practitioners, under the ADB funded project on "Strengthening Community-Based Management of AHI in Asia", 27-31 Oct, Bangkok, Thailand

The pilot training workshop for community-based management of AHI in collaboration with IFRC, IRC, CARE International was conducted with funding support from the Canadian Government via ADB. The project contributed to the development of a training package for community-level AHI management practitioners. The training package builds on the experience, case studies, and tools that have been brought together through the resource kit, as well as the technical contributions from facilitators and resource persons.

38th Regional Training on Disaster Management Course (DMC-38), 10-28 Nov, Bangkok, Thailand

ADPC's flagship course provided 36 students comprehensive disaster management knowledge and skills to enhance the capabilities of managers who have key disaster management responsibilities. It is designed to enable professionals working in disaster management, development and donor agencies to effectively integrate disaster management into their programs and policies.



Second Regional Training Course on Climate Risk Management: Science, Institutions, and Society, 17-28 Nov 2008, Bangkok, Thailand

ADPC conducted the course for 24 participants from 14 countries to build the capacity of professionals to manage risks associated with climate variability, change, and extremes. It incorporates case studies and sectoral examples from ADPC's climate risk management programs and projects all over Asia. Upon completing the course, participants are expected to design early warning systems for climate-related risks; design climate risk management, climate forecast applications, and climate change adaptation projects, and develop tools to integrate climate risk management practices into development programs and policies. The first CRM course was completed in May 2008 with 27 participants from 14 countries.

9th Regional Training Course on Flood Disaster Risk Management (FDRM-9), 6-17 Oct, Bangkok, Thailand

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Training workshop on Incident Command System for Disaster Management, 24-26 Nov, Yangon, Myanmar

The training workshop was organized by the Department of Meteorology and Hydrology (DMH) and ADPC. More than fifty representative from disaster concerned Governmental, NGOs, INGOs and local community representatives from six townships of Ayeyarwady Division participated.

Participants shared their respective agencies roles and responsibilities for disaster/crisis management with focus on response as well as coordination efforts with other agencies during emergency. Key challenges and constrains in emergency response management and major gaps at the national and local administrative level also addressed during the sessions. Series of table top exercise was conducted for enhancing the capacity of disaster response management in Myanmar. The training workshop concluded by identifying a set of recommendations to enhance disaster response management and realizing the importance of ICS for disaster management in Myanmar.

Briefing cum consultation workshops on initial steps to Support the Development of a Comprehensive Multi-hazard Programme and Action Plan on Disaster Risk Reduction, 18-19 Dec, Yangon, Myanmar

Three workshops were held with UN agencies, I/NGO, and Govt Deptt. The inaugural session was attended by U Than Aye, Deputy Director General and TCG Member, U Minyt Thein, Director, Ministry of Social Welfare and TCG Member and Loy Rego, Deputy Executive Director ADPC. Approx. 70 participants including UNDP, UNOCHA, World Vision, Minglar Myanmar, Myanmar Red Cross Society, Line Departments of Union of Myanmar such as Health, Forest, Fire Services, Education, etc attended the workshops. The workshop informed about the project activities, processes and expected output. The key project activities include review of risk profiles, documentation of past DRR interventions, analysis of DRR institutions at State and Division levels, support to preparation of Action Plan and Standing Order. Initiatives on the Myanmar National Action Plan on DRR were well received and appreciated. Willingness to partner in the initiative was expressed.



The workshop informed about the project activities, processes and expected output. The key project activities include review of risk profiles, documentation of past DRR interventions, analysis of DRR institutions at State and Division levels, support to preparation of Action Plan and Standing Order. Initiatives on the Myanmar National Action Plan on DRR were well received and appreciated. Willingness to partner in the initiative was expressed.

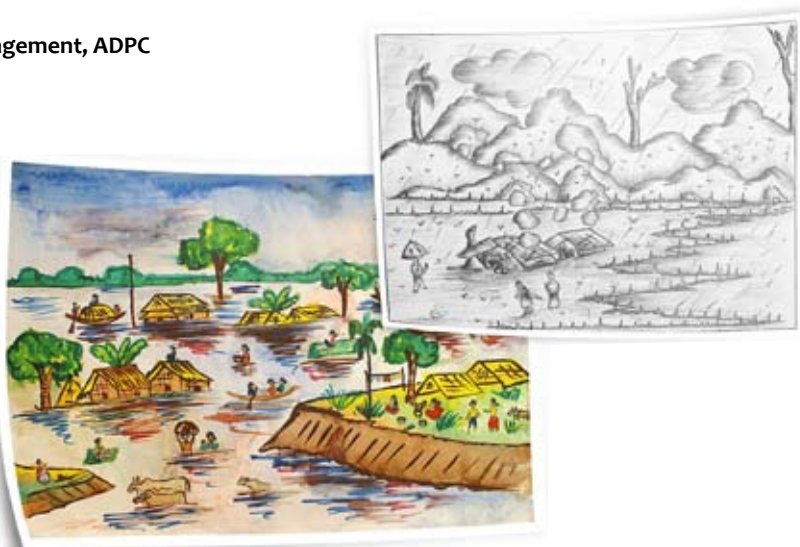


Pictorial

contributed by Arvind Kumar, Urban Disaster Risk Management, ADPC

Past disaster evidence has shown that children are the most vulnerable group when it comes to losing lives and they also make the best advocates to raise awareness and to communicate early warning signals. Concept of disaster and its impact on the society can be reflected very clearly from children's perspective. They not only depict the damage and loss but are able to successfully draw the complete scenario of immediate relief and rehabilitation.

In Commemoration of UN-International Day for Disaster Risk Reduction-08, two cities of Bangladesh, Cox's Bazar & Jamalpur celebrated the event on the 15 & 20 Oct respectively, with the active participation of local government, NGOs, CBOs and community members. Both the cities realize the importance of mainstreaming children in DRR. The event was marked with a drawing competition for children with DRR as the broad theme. Through a very colorful display of artwork, the event acknowledged the Children's awareness on Risk Reduction measures.



ADPC Regional Training Schedule for 2009

8th Earthquake Vulnerability Reduction Course (EVRC-8)

26 Jan-6 Feb, Bangkok
Fee: 2000 US\$

6th Hospital Emergency Preparedness and Response (HEPR-6)

16-20 Feb, Bangkok
Fee: 1500 US\$

3rd GIS for Disaster Risk Management (Introductory course) (GDRM-3)

11-22 May, Bangkok
Fee: 2000 US\$

4th Mainstreaming Disaster Risk Reduction in Local Governance (MDRRG-4)

25-30 May, Manila, Philippines
Fee: 1500 US\$

9th Inter-Regional Course on Public Health in Emergency Management in Asia and the Pacific (PHEMAP-9)

1-12 Jun, Bangkok
Fee: 2500 US\$

8th Public Health in Complex Emergencies (PHCE-8)

6-18 Jul, Bangkok
Fee: 2400 US\$

18th Community Based Disaster Risk Reduction (CBDRR-18)

20-31 Jul, Bangkok
Fee: 2000 US\$

2nd End-to-End Multi-Hazard Early Warning Systems (EWS-2)

14-25 Sep, Bangkok
Fee: 2500 US\$

10th Flood Disaster Risk Management (FDRM-10)

12-23 Oct, Bangkok
Fee: 2000 US\$

39th Disaster Management Course (DMC-39)

2-20 Nov, Bangkok
Fee: 2500 US\$

3rd Climate Risk Management: Science, Institutions, and Society (CRM-3)

16-27 Nov, Bangkok
Fee: 2500 US\$

4th GIS for Disaster Risk Management (Advance level) (GDRM-4)

7-18 Dec, Bangkok
Fee: 2000 US\$

Disaster Risk Management

To be announced, Gilgit, Pakistan
Fee: 2000 US\$

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