Emergency Preparedness and Response: From Lessons to Action

Report of the Regional Consultation

Bali, Indonesia, 27-29 June 2006

World Health Organization

Regional Office for South-East Asia
New Delhi

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Executive summary

Even for veteran emergency health experts, the tsunami was a unique experience, as one of the worst natural disasters in recent history, and one that affected six countries of the WHO South-East Asia Region simultaneously. The event marked a watershed in the history of disasters in the Region. It highlighted many critical issues, and enabled comparisons between different approaches to disaster management in different countries. After the response and early recovery phase, the current period has provided an appropriate time to reflect on the work done and strategies undertaken in the past, and learn how the lessons from this experience can be applied to future disasters all over the world.

The Regional Consultation on Emergency Prepared and Response: From Lessons to Action therefore focused on how to act on and incorporate the lessons learnt from the tsunami into disaster management policies and plans of every nation, so that they could be implemented to strengthen emergency preparedness and response at every level in every country in the Region. The emphasis was on action.

A global perspective of disasters revealed that disasters had increased in the past decade, highlighting the need to strengthen preparedness for such events. These crises have brought many important lessons to the fore and have highlighted, among others, the need for:

- ➢ national capacity building for risk management and vulnerability reduction,
- ➢ immediate availability of accurate information in order to take appropriate action,
- ➢ better coordination among different partners involved in disaster management through the cluster approach,
- ➢ local expertise trained to international standards.

WHO is adapting its role and preparing its future direction accordingly. The need for political commitment to disaster management has been stressed in the World Health Assembly resolutions WHA 58.1 and WHA 59.22 adopted by the Health Assembly 2005 and 2006 respectively.

The response to the tsunami by the health sector was reviewed. It was seen that the lessons learnt from the tsunami – the need for preparedness, for better coordination among health agencies, etc. – were successfully applied to the response to the Yogyakarta earthquake.

Among the key lessons learnt from the tsunami were the need for community empowerment to deal with disasters, for multi-sectoral coordination, and national capacity building. Community empowerment involves providing the community with timely, correct information, relevant training and resources, and identifying a leader within the community. The experience of the Thai Red Cross in working with the tsunami-affected communities emphasized the need for the community to be trained to respond appropriately and immediately when disasters occur, without relying on external assistance which may take time to arrive. To achieve this, the people need to be aware of the risks of potential disasters in their geographical area, to organize warning systems, have a community-based leader and trained volunteers, to identify in advance evacuation points and the closest hospital/health centre/place of assistance. Exercises and drills for emergencies, both real-time and scenario-based, are crucial for effective community preparedness.

The importance of multi-sectoral coordination during disasters has emerged as a fundamental issue following the tsunami. No single agency or sector can effectively respond to a disaster, and competition among agencies is detrimental to the agencies and, more importantly, to the affected people and benefits nobody. While in many countries such as India, the vertical chain of command during emergencies has been established, and coordination mechanisms within the government, at the central, state and district and local levels have been put in place, ways to consolidate 'horizontal coordination' among partners is less clear. The health cluster approach, where all health sector agencies work together with WHO leading on behalf of the Ministry of Health, could be one approach. This was successfully implemented in Indonesia following the Yogyakarta earthquake of May 2006.

The role of nongovernmental agencies (NGOs) has been discussed. While NGOs that possess the required skills and logistical capabilities can play a very important role in a disaster-affected community, NGOs without the necessary skills could cause difficulties. There is also the question of accountability. In discussions, the general consensus was that the role of NGOs should be coordinated by the government at the local level. Political

commitment was also seen as crucial for effective multisectoral coordination, and this has led to disaster management agencies to be headed by the Prime Minister or President in countries such as India, Myanmar, and Sri Lanka.

Even with the highest level of political commitment, no country can be prepared for a disaster without national capacity to deal with disasters. Capacity building, and training of human resources, is therefore integral to disaster management. Experiences from recent disasters have revealed that while technical knowledge is necessary, successful management of disasters requires efficient and capable managers and operators. Accordingly, the Asian Disaster Preparedness Centre (ADPC), has now adapted its training courses to emphasize wider skills to build more effective 'managers' rather than building technical skills.

The first step in capacity building is capacity assessment, and benchmarks are needed to assess what one needs to achieve and how far one has to go in every country. Member States of the South-East Asia Region had developed 12 benchmarks for emergency preparedness and response in a meeting in Bangkok in November 2005. At the Bali consultation, participants analyzed the progress in the benchmarks in relation to community empowerment, multisectoral coordination, capacity building and standards and guidelines. They looked at specific achievements, as well as barriers to achieving those benchmarks. In some cases, benchmarks were modified, for example, the benchmark on advocacy and awareness was changed to include media relations and now reads as follows:

'Advocacy and awareness developed through education, information management and communication, including effective media relations (pre-, during and post-event)'

For all activities, financial resources are needed. A Regional Emergency Fund has been suggested. More flexibility in funding mechanisms was emphasized.

At the consultation, the Bali Declaration was adopted, urging Member States to improve multi-hazard disaster preparedness, and convert the Bangkok meeting benchmarks into a strategic action framework by developing measurable indicators with timelines. For full text of the Declaration, please see Annex 1.

Opening of the Meeting

The opening session of the meeting was attended by: Dr Samlee Plianbangchang, Regional Director, WHO South-East Asia Region; Dr Poonam Khetrapal Singh, Deputy Regional Director, WHO South-East Asia Region; Dr. Nyoman Kandun, Director-General, Communicable Disease Control and Environmental Health, Ministry of Health, Government of Indonesia, who represented the Minister of Health. Also present were the Head of the Bali Provincial Health Office, Dr Dewa Ketut Oka, representing the Governor of Bali, and Dr Georg Petersen, WHO Representative to Indonesia.

In his welcome address, Dr Oka's emphasized that Bali was no stranger to disaster, having suffered two bomb blasts in 2002 and 2005, which caused hundreds of deaths. Due to lessons learnt from the 2002 disaster, the response following the 2005 blasts was more effective, with victims being rapidly transferred to hospitals. The outcomes of this meeting, and lessons learnt from other disasters, would also benefit Bali. For full text of the address, see Annex 2.

Delivering the keynote address, Dr Samlee said that this is an opportunity to learn from the lessons of the past to be able to cope better in future. He cited the example of the Yogyakarta earthquake, where two features were significant: firstly, preparedness was better than in past disasters. Preparedness for a potential eruption of the Mount Merapi volcano, approximately 20 kilometers from Yogyakarta, resulted in important resources being placed there. These could be easily mobilized following the earthquake. Secondly, having learnt lessons from the tsunami, work in the health sector was done in a more coordinated manner. It was worth mentioning, he said, that guidelines developed during the tsunami helped in the emergency following the Yogyakarta earthquake. The full text of Dr Samlee's address is in Annex 3.

Representing the Minister of Health, Dr Kandun delivered the inaugural address. He said that since the theme was 'lessons to action' and

involved reviewing recent disasters and crises, he believed this meeting would be useful and effective for all countries, particularly Indonesia, which, for many centuries, has suffered earthquakes, volcano eruptions, floods, landslides as well as drought and consequent famine. Large scale epidemics and new emerging diseases such as Avian Influenza could also be serious threats to the country. He thanked WHO for its assistance before, during and after emergencies. The text of the inaugural address is in Annex 4.

Objectives of the Meeting

The objectives of the meeting were:

> ➢ To review the work done post-tsunami and the lessons learnt from the experience.

> ➢ To review the progress in countries in achieving the regional benchmarks for emergency preparedness and response (EPR), as defined in the Bangkok meeting (November 2005) .

> ➢ To identify strategic actions for the rehabilitation and development of the tsunami-affected areas and for those impacted by the more recent emergencies.

> ➢ To consolidate action points into a framework for intensifying country/community capacities for emergency preparedness and response.

> ➢ To create a cohesive plan by integrating the output from other meetings since November 2005.

Methodology

Presentations were made on key issues related to lessons learnt from the tsunami and their relevance to disaster preparedness in health, by experts from WHO, government representatives, or leading NGOs. These presentations were followed by discussions on the respective topics.

The participants were then divided into four groups. The groups discussed the progress so far, and the way forward to achieving the

Bangkok benchmarks for emergency preparedness and response in the Region. Each group discussed the benchmarks in relation to one of the following:

> ➢ Multisectoral coordination
>
> ➢ Community empowerment
>
> ➢ Capacity building
>
> ➢ Standards and guidelines

Based on the discussions, the participants formulated and adopted the Bali Declaration.

Summary of presentations

1. Health in emergencies: A global perspective

Across the world, crises are triggered due to a number of reasons:

> ➢ **Sudden, catastrophic events** – like earthquakes, hurricanes, flooding, or industrial incidents.
>
> ➢ **Complex, continuing emergencies** – including the large number of conflicts underway at this time, and the many millions of people displaced as a result.
>
> ➢ **Slow onset disasters** – such as the increasing prevalence of fatal HIV infection, or economic collapse.

In the past decade there has been an increase in the global magnitude of crises, highlighting the need to be better prepared for such events. This has implications for the role of WHO and its partners.

Time trend of natural disasters*
1975 - 2005

600
500
400
300
200
100
0

1975   1980   1985   1990   1995   2000   2005

*: Natural disasters = Country-level disasters

Health Action in Crises

World Health Organization
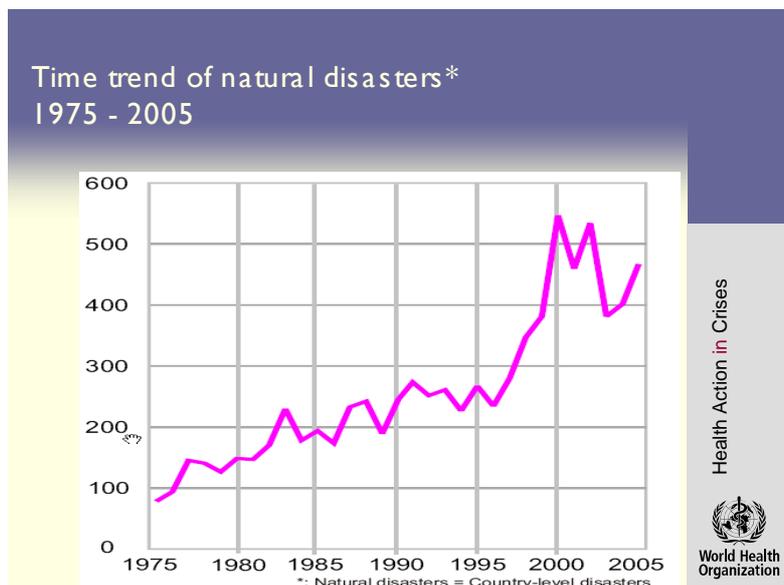
2005 disasters in numbers
Source: CRED

Top 10

Natural disasters by number of deaths – 2005

Earthquake, October	Pakistan	73 338
Hurricane Stan, October	Guatemala	1 513
Hurricane Katrina, August	United States	1 322
Earthquake, October	India	1 309
Flood, July	India	1 200
Earthquake, March	Indonesia	915
Flood, June	China, P Rep	771
Earthquake, February	Iran, Islam Rep	612
Measles Epidemic	Nigeria	561
Flood, February	Pakistan	520

Countries most hit by natural disasters - 2005		Victims (killed and affected) of natural disasters per 100,000 inhabitants - 2005	
China P Rep	31	Comoros	42 512
India	30	Malawi	37 376
United States	16	Guyana	35 909
Afghanistan	13	Niger	30 863
Bangladesh	12	Cuba	22 914
Pakistan	11	Albania	11 240
Vietnam, Indonesia, Romania	10	Zambia	10 666
Iran (Islam Rep), Russia	9	Djibouti	9 859
Haiti	8	Kenya	7 497
Mexico, Turkey	7	Mozambique	7 461

Source: CRED 2005 disasters in numbers

Health Action in Crises

World Health Organization

The recent crises around the world have brought to the fore various important lessons. These include:

> Preparedness : Preparedness and national capacity building for risk management and vulnerability reduction is essential

➢ Information: Immediate availability of accurate information is essential for assessing, monitoring and taking appropriate health actions in emergencies.

➢ Cluster Approach: This has been a positive experience but future implementation requires additional efforts in management, planning, and institutional capacity building. Clarity on roles and responsibilities of various agencies is required. Coordination with governments and health partners should be improved.

➢ Response: Gaps in the response need to be addressed in various areas e.g. mass casualty management, water and sanitation, nutrition, non-communicable diseases, maternal and newborn health, mental health etc.

➢ Private Sector Involvement: The private sector and military are frequently involved in disaster response. There is therefore a need to agree on procedures/criteria for collaboration and joint efforts.

➢ Heath, Nutrition & WATSAN/hygiene: Gaps have been identified in joint work in nutritional assessments and medical aspects of management of nutrition. Coordination has to be strengthened between the health, water and sanitation and nutrition sectors/clusters.

➢ Vulnerable groups: The vulnerability of women and children and the risks their health faces in crises need to be addressed. To achieve this, one element needed is data disaggregated by sex. The impact of response on women and female field workers needs to be assessed and adequate supplies in reproductive health and emergency obstetrics provided.

➢ Local Expertise: Local experts trained to international standards will form a valuable resource for their region, providing long-term support.

➢ Human Resources: Quick identification and mobilization of appropriately equipped and trained personnel is essential. There should therefore be a roster of experts on call.

WHO has recognized the need to incorporate these lessons as the basis for future directions in emergency preparedness and response. This recognition was translated into political commitment through the World

Health Assembly 2005, resolution WHA 58.1 in 2005. The resolution committed to:

> ➢ Enhance capacity to support countries in developing and implementing health-related emergency preparedness plans
>
> ➢ Enhance capacity to respond to the critical health needs during crises
>
> ➢ Mobilize WHO health expertise for response operations
>
> ➢ Enhance capacity to assist countries in planning and implementing transition and recovery programmes
>
> ➢ Intensified WHO support for Member States affected by crises and disasters through:
>
>> – Needs assessments
>> – Health coordination
>> – Filling gaps and restoring public health functions
>> – Capacity building

The World Health Assembly resolution WHA 59.22 in 2006 further committed to disaster preparedness, through:

> ➢ Support to national health emergency preparedness and response programmes with emphasis on community preparedness and resilience
>
> ➢ Assessment of resilience and risk management capability of hospitals
>
> ➢ Maintaining joint work with other UN agencies and partners
>
> ➢ Taking part in UN system-wide mechanisms for logistics supply and management
>
> ➢ Establishing a mortality tracking service
>
> ➢ Compiling a global database of technical health references

WHO has four core functions in emergencies:

Health assessment and tracking: Ensuring proper assessments are undertaken, assessing needs and priorities, surveillance and monitoring of the impact of humanitarian responses.

Coordinated health action: Convening different actors, exchanging information, agreeing on strategies in response to assessments, joint and focused action.

Filling gaps: Identifying gaps in the response that have a significant impact on survival rates and levels of ill-health and restoring public health functions.

Strengthening local capacity for health outcomes: Training, rehabilitating essential structures, repairing and restarting broken systems, empowering critical professionals.

There are three areas for strengthened action for WHO and Member States:

(1) Emergency preparedness and capacity building

(2) Emergency response and operations

(3) Recovery and transitions

Current WHO initiatives in this regard include:

➢ WHO Strategy on the promotion of country emergency preparedness and response capacities

➢ Global survey on the status of emergency preparedness at country and community levels

➢ Guidelines and best practice in mass casualty management

➢ Implementation of the cluster approach; global health cluster lead; roll out of the health cluster in selected countries

➢ Emergency SOPs and operational platforms

➢ Guidance and standards on chronic disease management in emergencies

➢ Training courses and development of the roster of rapidly-deployed well-trained personnel

➢ Health, nutrition and mortality tracking service (partnership between the Health and Nutrition Clusters)

➢ Global consultation on health aspects in transition and recovery situations

2. Review of the tsunami response

This session looked at how lessons from the tsunami have been taken forward, and how to address the gaps.

Following the tsunami, the need to invest in national capacity for risk management, preparedness and vulnerability reduction has been clearly recognized. Improved needs assessment tools also need to be developed, adapted and made available. To achieve high levels of preparedness, benchmarks and standards need to be developed in various areas. In this regard, WHO had recently developed benchmarks for emergency preparedness and response for the Region.

The post-tsunami response particularly highlighted the need for coordination. This included:

> ➤ the need for pre-arrangements, pre-agreements, clear mechanisms and leadership in the context of decentralized governance

> ➤ rules of engagement with humanitarian actors (also a benchmark)

Progress on this has been variable in countries where legislation and administrative changes have taken place.

The lessons learnt from the tsunami have been reflected in the response to the earthquake in Yogyakarta. Consequently, in Yogyakarta, the response was

> ➤ government-led and well coordinated

> ➤ public health needs were addressed according to the local context and resources

>> – guidelines from the tsunami adapted for Indonesia were quickly mobilized and used (e.g., communicable disease surveillance, environmental health)

> ➤ public health gaps were addressed through proper assessments in coordination with other sectors

> ➤ the affected community was involved as a partner- e.g., students trained by the academies assisted in psychosocial efforts.

However, we need tools to identify gaps so that the situation is constantly monitored and precisely described. This is the key, as in all phases in disasters and for various players we should be able to match the gap, need and strategic action. Systems to monitor progress of efforts should not only be quantitative but qualitative as well- this was partly addressed by the Tsunami Recovery Impact Assessment and Monitoring Systems (TRIAMS).

Another challenge is penetrating to the community level. Much of our work should penetrate the lower levels of administration, and, at the same time, encourage action from the communities themselves which will be integrated into the larger picture of EPR. The linkages of governments and communities; the platforms provided for these to happen are key in making this happen.

The third challenge is applying lessons and extending them to different contexts. Much of the mechanisms needed for proper preparedness and response are the same. However, due to certain issues whether technical, socio-political or economic, these are not addressed.

Although good progress has been made, much more needs to be done to ensure that the lessons learnt from the tsunami are incorporated and implemented in disaster preparedness and response in the Region.

3. Lessons learnt from the tsunami: Community empowerment

The technical sessions on Lessons Learnt: Sharing Experiences on (a) Community Empowerment, (b) Multi-sectoral Coordination and (c) Strengthening Country Capacity for Preparedness and Response were chaired by Dr Poonam Khetrapal Singh.

Lessons learnt from Thailand

The Thai Red Cross has been working closely with the tsunami-affected people ever since the tsunami struck. Initially, it had sent a small medical unit to assess the situation. Then, a small team was put together and a plane load of necessary supplies sent for the affected people. It is now setting up a community-based disaster risk reduction (CBDRR) programme in tsunami-affected areas.

Its success in responding to the tsunami has been attributed to many reasons: royal patronage, its ability to mobilize volunteers across district and other boundaries; strong leadership and focus, prompt action, as well as the inherent compassion of the Thai people, and the willingness of all agencies to work together.

However, there were many weaknesses that made the impact of the tsunami worse. People were unprepared because nobody knew much about tsunamis. People did not take warnings seriously. Traditional wisdom and knowledge – old tales about tsunamis – had been forgotten. Had they been remembered and taken seriously, people would have recognized the threat and reacted accordingly, and fewer lives would have been lost. Destroying nature and natural protection by building hotels and resorts next to the shore line also exacerbated the impact of the tsunami.

In the experience of the Thai Red Cross, the core components of community preparedness are:

- ➢ Everyone should recognize the different types of disaster and their effect to themselves, their families and property.

- ➢ Everyone should be familiar with the warning system

- ➢ A leader should be identified and recognized within the community

- ➢ All should know the geographical area and potential risk in that area

- ➢ People should learn how to prepare food in an emergency and also where to get the food

- ➢ When a disaster occurs, people should know where to go

- ➢ When a disaster occurs, pre-identified volunteers should be available to provide help

- ➢ Communication network system

- ➢ Transportation

- ➢ Important documents should be safeguarded in advance

- ➢ First aid and Medical treatment for injuries

- ➢ Supplies and necessities

- ➢ Coordination between concerned organizations

➢ Security system, including prevention of robbery

➢ A clearly designated meeting point for agencies involved in relief operations

➢ Channel of disaster information

➢ Monitoring of disaster impact

➢ Planning together, developing a work plan

➢ Drills conducted in real time based on scenario communication may face

➢ Identifying the nearest health station / hospital / mobile medical teams/ place for assistance

In conclusion, to be effective, community capacity strengthening and ownership is needed in following areas:

(1) Knowledge and understanding of risks, hazards and response systems that should be in place

(2) Disaster risk assessment

(3) Disaster response plan and exercise

(4) Disaster announcement and communication including news update

(5) Disaster response system including supplies, materials and equipment

(6) Disaster management structure in the community and in the province

To achieve this, the following steps need to be taken:

(1) Volunteers should be trained from the community in the skills needed for each phase in the cycle, including search and first aid

(2) Community fund for disaster

(3) Establishment of a network of communities for collaboration

(4) Arrangement of collaboration and assistance from public and private partners including government agencies and NGOs

Comments and Discussions: Questions were raised on how to recognize leaders in the community. It was commented that although the

government has various authorities, for cohesive community participation, leaders should be from within the community. The important role played by religious leaders in relief efforts following the tsunami was highlighted.

The role of WHO was also discussed briefly. It was suggested that WHO should help in mapping out roles and responsibilities of health partners and NGOs in advance.

Dr Samlee commented that the issue of inter-agency coordination has been discussed often but not much has been done. The key issue now is action, not talk. The tsunami of 2004 has taught an important lesson – that international agencies cannot work in isolation.

Dr Poonam Khetrapal Singh cited collaboration between UNICEF and WHO in the area of water and sanitation during the tsunami of 2004 as a good example of international agencies collaborating for the benefit of the people.

The session concluded with a reminder of the 'triple A' needed for effective community preparedness: awareness, action and advocacy.

4. Lessons learnt: Sharing experiences on multisectoral coordination

The Indian experience

The presentation on the subject provided an overview of how the large number of disasters in the past decade led India to form a National Disaster Management Authority (NDMA) and pass the Disaster Management Act 2005 on December 26 2005, exactly one year after the tsunami.

The economic, social and political consequences of several major disasters in India in the past decade had made it clear that a more comprehensive approach to disaster management was needed. Before the tsunami, among the lessons learnt from the Gujarat earthquake of 2002, it was realized that there was:

➢ No national level policy/plan/ legislative framework

➢ No dedicated disaster management framework at the Central/ State/ District levels

➤ Inadequate sectoral coordination for prevention, preparedness, mitigation and response

➤ Low level of organized participation by community / nongovernmental organizations and

➤ The district magistrate's role was mainly relief-centric.

The Orissa cyclone of 1999, and the Gujarat earthquake of 2002 highlighted the need for a change in orientation in disaster management from relief-based to a more holistic, multi-dimensional approach. The tsunami of 2004 accelerated this process. The new approach, it was felt, should encompass prevention, mitigation, preparedness, response, relief and rehabilitation for sustainable development. A well-defined chain of command and coordination mechanisms between agencies should also be put in place.

A National Disaster Management roadmap was therefore drawn up, and recommended the following:

➤ legal/policy framework
➤ institutional mechanisms
➤ prevention, preparedness & mitigation
➤ early warning systems
➤ robust response
➤ human resource development
➤ capacity building

Based on the roadmap, the Disaster Management Act 2005 was passed by Parliament. It includes several key features that lays the framework for the disaster management structure and function in India, at the national, state and district levels:

➤ establishment of NDMA, SDMA, DDMA at National, State and District levels respectively and lays down roles and responsibilities, powers & functions of each institution

➤ Measures to be taken by the Central and State Govts., and local authorities

➤ National executive committee consisting of secretaries of 14 major disaster related departments

> National Disaster Response Force

> National Disaster Response & Mitigation Funds at three levels

> National Institute of Disaster Management

Highlighting the importance of disaster management in the country, the NDMA has the Prime Minister as the chairperson. The structure is given in the following diagram. Similar structures have been set up at the state and district levels. The role of NDMA is as follows:

> Lays down policies on disaster management and approve the National Plan

> Lays down guidelines for different departments for the purpose of integrating the measures for prevention/ mitigation

> Coordinates the enforcement/ implementation of the policy and plan for DM

> Provides support to other countries affected by major disasters

> Recommends guidelines for minimum standards for relief

> Similarly, SDMA & DDMA would coordinate and implement the National Plan, State Plan & District Plan

National Disaster Management Authority

Prime Minister – Chairperson

Vice Chairperson

8 Members

Advisory Committee of Experts

National Executive Committee of Secretaries

When a disaster strikes, the immediate response is at the district and state level, with the district magistrate's office playing a key role. However, the central government has a crucial, coordinating function. Its role includes:

➢ Coordinating the actions of ministries/ departments of Central/ State Govt. statutory bodies and NGOs

➢ Ensuring integration of measures for prevention, preparedness and mitigation

➢ Coordinating with the armed forces

➢ Coordinating with UN agencies and other international agencies

To ensure coordination for effective preparedness:

➢ An annual review of preparedness at the national level takes place in the meeting of State Relief Commissioners/ Secretary (DM)

➢ Similar review meetings take place at the state and district levels prior to the national meeting

➢ Inter-ministerial meetings review the status and serve as an interface between line ministries and States

➢ Issues flagged in these meetings are fast-tracked for action

However, although India has taken many steps recently in the area of disaster management, some important challenges remain. These include:

➢ Need to strengthen vertical chain of command and horizontal coordination at State/ District level

➢ The role of NGOs needs to be defined clearly at all levels

➢ Coordination between civil administration and defence forces at operational level (district level mainly) needs to be strengthened

➢ Integration of incident command system with existing disaster management framework

➢ Resource mapping for India Disaster Resource Network

Comments and Discussion

➢ **High-level political commitment:** this was seen as the most important factor in multisectoral coordination for effective disaster preparedness. In Myanmar too, for example, the National Disaster Authority is chaired by the Prime Minister, with relevant ministers involved. Each minister coordinates with UN agencies, iNGOs and local NGOs, in line with the cluster approach[1] of the UN. In Sri Lanka, too, the National Council of Disaster Management is headed by the President.

➢ **Coordination:** The question of coordination between the government and NGOs was brought up by Bangladesh as a problem. In India, the office of district collector is seen as playing a pivotal role and is the focal point for civil society, including NGOs, in a disaster. NGOs can play a very important role in disasters. However, they need to have the relevant expertise and experience to match the needs of the moment, and unless they work in a coordinated manner they could add to the burden. Dr Poonam Khetrapal Singh shared that after the tsunami, for example, India allocated one village to one NGO in the relief and recovery phase and this seemed to work well.

➢ **The role of international agencies**: It was felt that the national authorities should tell UN agencies what role they should play. It is important that UN agencies add to, rather than substitute, government efforts.

➢ **Information management:** The importance of information flow and management in disasters was emphasized. This is crucial as only with accurate information about the situation and needs following a disaster can the response be effective. It was suggested that the government should provide information to NGOs, and the NGOs working in the field can also provide valuable information to the government.

➢ **Role of the military:** Another important player in disasters is the military. The consensus was that the military played an important

[1] The cluster approach is the current framework of response being implemented by the UN.

role in disasters as few civil organizations can match their logistical resources from troops, for search and rescue, to helicopters and other equipment. In India, for example, the Chief of the Integrated Defence Staff is also on the committee of the National Disaster Management Authority.

➢ **Accountability:** Accountability of all was emphasized, not just financial accountability, but accountability to the people.

5. Lessons learnt from the tsunami: Building country capacity

Strengthening Country Capacities: A systematic approach

The presentation focused on Asian Disaster Preparedness Center's (ADPC) strategies and experiences in building capacity for disaster preparedness in countries of the Asia-Pacific. It began with a definition of national capacity to manage health risks during disasters:

"the sum of capability, resources and relationships aimed at reducing illness, disability and death from these risks and at promoting health, safety and security"

This was the definition used in the report "National capacity to manage health risk of deliberate use of biological, chemical and radiological agents: Guidance on capacity assessment" (WHO, final draft 2006).

Building capacity, therefore, involves building:

(1) **systems** operating at each administrative level; systems in specific sectors; systems to manage specific types of risks; systems for specific functions or services.

(2) **organizations** that contribute to these systems by providing coordination and the capacity to perform functions

(3) **people**- investing in those who work in this sector for a **career or as volunteers and those people in the community, as well as managers, coordinators, and operators**.

The first step in capacity building is **capacity assessment,** which can be done with the help of the 12 benchmarks developed by WHO/SEARO. Then follows capacity development, which should be oriented towards

critical issues of institutional sustainability. There should be cross-sector, multidisciplinary partnerships.

Training is key to successful capacity building for disasters. At ADPC, using case studies and demonstration projects, real lessons from past disasters are converted to simulation exercise scenarios so that they get incorporated into training. There should be simultaneous implementation of bottom-up and top-down strategies.

While technical knowledge is necessary, recent disasters have shown that successful management of disasters requires efficient, capable managers and operators. Accordingly, in the new Public Health and Emergency Management in Asia and the Pacific (PHEMAP) courses designed by ADPC, the training emphasis has changed from technical areas to wider skills to build more effective 'managers'.

To summarize, the following steps are recommended for national capacity building:

> Develop the health emergency risk management framework
> Conduct capacity assessment at national, sub-national and regional levels
> Work towards institutionalizing health emergency management system
> – Establish and sustain health emergency management units
> – Build partnerships – intrasectoral and intersectoral
> – Adopt multi-disciplinary activities
> – Strengthen and support the capabilities of health emergency managers
> Develop and disseminate case studies and demonstration projects
> Advocate for people's health in disasters

Comments/Discussions

> **Access to information and tools for disaster management:** There were questions about how NGOs could access and learn from those tools on disaster management. The SEARO website was identified as a good source of information.

> ➢ **Research on disaster health:** It was also pointed out that disaster health as a science has been neglected. As a consequence, in India, for example, thousands of lives were lost due to leptospirosis in Mumbai, and there is a current outbreak of Chikungunya of which little is known. It was felt that while there was plenty of research on disaster management in general, health emergency management had not received due attention. PAHO's training material, particularly the publication, 'Myths and Realities in Disasters' was seen as a good resource.

> ➢ **Standards and benchmarks:** The importance of standards and benchmarks, and a systematic approach to health emergency preparedness for capacity building, was emphasized. So was the importance of information and communication at various levels.

> ➢ **Other key issues** discussed included the following points:
>   – Need for institutionalization of health emergency management
>   – Capacity building is best directed at the local level, but there must be systems in place
>   – Plans for systematic capacity building must be in place at all levels
>   – Standards are needed for effective capacity building.

Conclusions: key lessons learnt

Experiences from disasters create windows of opportunity to learn and improve. For example, in India, lessons learnt from the Gujarat earthquake set into motion systems for disaster preparedness which were accelerated by the tsunami. The tsunami also created international awareness and the need for political commitment which led to the adoption of World Health assembly resolutions on emergency preparedness and response in 2005 and 2006. Medical care is only a small part of the broader spectrum of public health issues in emergencies.

A combination of skills are needed for effective disaster preparedness and response, and no single agency can act in isolation. Multisectoral coordination is therefore crucial for effective response. The government of the country is best suited to lead the coordination, with agencies supporting the government in this role, such as the health cluster formed following the

Yogyakarta earthquake which was led by WHO on behalf of the Indonesian Ministry of Health. However, challenges remain. While vertical coordination – the command and control system within a country – can be resolved through a good national disaster plan and political commitment at all levels, the way forward in 'horizontal' coordination among partners, and the role of each partner is more difficult. Coordination involves all partners, including the private sector and the military, and their roles in a disaster also need to be clarified in any plan.

In any disaster, it is the community that responds in the first few hours, before external assistance arrives. Therefore, building community awareness and empowerment is very important. This includes leadership at the community level, knowledge of what to expect, how to respond, where to go, etc.. Education and training at the community level is the key. In countries like Myanmar, including disaster management related issues in school curricula has helped increase awareness.

Training, and therefore capacity building, is in fact needed at all levels. Standards are required for this, and SEARO's 12 benchmarks are a significant step forward.

At all levels, information management and dissemination and communication plays a vital role.

6.   Evaluation of tsunami operations

In evaluating SEARO's response to the tsunami, several points can be highlighted. The speed of response was notable as experts were mobilized within hours of the tsunami. The speed at which a response is mobilized can reduce the direct as well as indirect impact. The personal commitment of those involved also impacts response effectiveness and was notable during tsunami operations. Communities are, nonetheless, the first responders and the most effective tool available in early response.

WHO is characterized by a unique privilege and responsibility in its relationship with the Ministries of Health of Member States. The relationship has worked particularly well in some post-tsunami environments, notably in Sri Lanka. WHO's technical capacity is a unique feature, not available elsewhere. There is a large body of experience within

the Organization that can be utilized by countries to build their capacities from to move forward.

Within WHO there was delegation of authority to country offices post-tsunami that allowed for the flexibility needed in disaster response. However, such delegation calls for increased training as needed and expanded terms of reference. The tsunami forced a degree of financial flexibility within the Organization that did not previously exist but was necessary for prompt and appropriate response. As surveillance data was collected within a week of the tsunami, the visibility of the impact of early response was recorded.

Several questions were, however, raised in the evaluation of the tsunami response:

➤ Inclusiveness – not all technical programmes were represented

➤ Prioritization – not all priorities of disaster response were met

➤ Evidence-based decision making was not always implemented

➤ Coordination – technical resources were under-utilized as a result of competition

➤ Monitoring – situations change more rapidly on the ground than organizations have the ability to keep pace with

➤ Human resources – utilization of available resources was not a strong point and duplication was common. The community should be used first, then country experts

➤ Procurement – a specialized procurement system should be explored to support the needs of the organization

➤ Resource mobilization – a new approach is called for as well as a contingency plan

Funding for tsunami operations lacked absorbability. Programmes were limited by the conditions of the flash appeal that lacked flexibility. The role of the donors was additionally redefined as greater flexibility in spending was needed as activities changed.

The proliferation of NGOs in the past decade is also an area that must be addressed as not all NGOs are equally competent or accountable.

Governments must be selective in accepting aid from NGOs and should ensure that projects launched meet the needs of the population.

The logistical strengths of the military were also very apparent in the tsunami response. Greater coordination is called for with the military in order to best determine the most effective means of collaboration.

Religious institutions can be employed in areas particularly in need of cultural sensitivity such as mental health. Proselytizing aside, religious institutions are most often the places that affected populations seek for comfort and support.

The media is one of the most important driving forces during an emergency. They are often the first to report on disaster situations and are usually on the ground shortly after an emergency.

Coordination was a weakness during the tsunami. There is still much to learn and will be the key to future successes. An awareness of the reconstruction phase is also a key point for both organizations and donors. Disasters move to a development phase through the transitional reconstruction phase.

The themes highlighted during the Tsunami Evaluation Coalition included:

> ➢ Variable quality needs assessments had a low impact

> ➢ Policy makers must use tools more effectively

> ➢ There was poor coordination and high competition

> ➢ Local capacity was impacted inconsistently

> ➢ The environment was constrained

> ➢ Funding was inflexible

Growing climatic, social and health changes demand a new system that respond better to the new environment. There are changing health and health system needs and WHO is in a unique position to fill the gaps. The number of disasters, both natural and man-made, are increasing worldwide and reform is necessary both in functions and programmes to enable the Organization to keep pace.

Actions to be taken based on the lessons of the evaluation include:

➢ Country adaptive programmes developed in parallel to region-wide preparedness

➢ Region-wide response capacity, resource mobilization, monitoring and evaluation, multisectoral coordination, human resource, commodity pipelines and communication strategy

➢ Rationalization of efforts such as the development of SOPs and guidelines and surveillance databases that are comprehensive rather than limited to communicable diseases

➢ Inter-regional leadership by SEARO and Member States

WHO and Member States must be more proactive and operationally ready in responding to and preparing for disasters. WHO must be operational and technical. Work must be evidence-based and autopsy-oriented in order to ensure that causes and effects are understood. The Organization must be technically ahead in order to best facilitate knowledge sharing and support research, advocacy, training and overall strengthening of the health sector in response to disasters.

Comments and Discussion

➢ **Role of the private sector:** The role of the private sector in coordination efforts was generally supported. WHO has a history of recruiting primarily public sector experts, but the private sector should be explored for possible collaboration as seen with Pfizer in the water and sanitation response.

➢ **Regional funds and planning:** Regional planning is crucial in that the impact of disasters is often felt outside national boundaries. Emergency funds should be set aside by each Member country as it is often difficult to mobilize sufficient funds on time to provide needed support. A Regional Solidarity Fund could be explored in order to reduce dependence on outside sources.

➢ **Inter-agency collaboration:** Inter-agency collaboration was successful as seen in the work conducted in water and sanitation with UNICEF following the tsunami. WHO filled an advisory position while UNICEF provided operational strength. The water

and sanitation team also used a wide range of information from previous disaster response programmes.

➢ **Delegation of authority:** It was noted that in Sri Lanka the delegation of authority was often an issue as there was little preparation for the prioritization of needs and responsibilities. The proliferation of NGOs was an issue in Sri Lanka. Suggestions included collaboration between external NGOs and local NGOs to avoid overlap and duplication.

➢ **Media relations:** WHO did not have media officers at the country level at the time of the tsunami. Although media officers were mobilized shortly after, media relations has a significant impact on donors and policy makers and should be seen as a priority. Quality information should be made available to ensure the public is properly informed and the effect of incorrect information is offset. The ability of the health sector in general to handle media inquiries should be strengthened.

➢ **Role of NGOs:** It is the responsibility of the government to ensure that the role of NGOs is made clear and the quality of output is managed. NGOs are beginning to look at this issue themselves and the UN role could be useful in providing technical guidance and support. Disaster response should be cognizant of long-term needs and transition time. NGOs should not replace government efforts. Ministries must be strengthened as NGOs can come and go but continuity must be maintained.

➢ **Reproductive health needs:** Reproductive health issues could have been better addressed and integrated in the immediate response in order to meet more effectively minimum standards in disaster and recovery efforts. Reproductive health should be addressed comprehensively with less focus on family planning.

7. Applications of lessons learnt from the tsunami – 1

Review of response to the Java earthquake

Indonesia is prone to disasters, both natural and man-made, throughout the archipelago. An evaluation of the geographical distribution of disasters in

the country shows that every island has experienced numerous types of events from volcanoes, earthquakes and floods to conflict, terrorism and environmental pollution. Out of 13 disasters that have occurred in 2006, nine were floods and flash floods, often with resultant landslides. The remaining events included transportation and industrial accidents, the eruption of Mt. Merapi and the recent devastating earthquake in Yogyakarta.

Between 2004 and 2006, Indonesia suffered nine earthquakes in eight provinces, spanning form the most western province to the most eastern. The earthquake that occurred in Yogyakarta and Central Java Province on May 26, 2006 resulted in 5 700 deaths, 151 225 injuries and 2 111 892 displaced people. There was extensive damage to health sector facilities – 104 health centres, 231 sub health centres, 4 hospitals and 173 staff housing facilities. Tetanus infections were a cause for concern – 73 people were treated, of whom 25 died.

During the first day following the earthquake, hospitals recorded 4 115 operations which rose to 14 220 the following day. Three mobile units were provided for the evacuation of victims and another 30 provided health services in remote areas. Food supplements were additionally distributed in Phase I for infants, children under 5 and pregnant women. During the second week following the earthquake, immunization and surveillance issues were addressed. Mobile clinic services during Phase II were increased by adding 20 surveillance teams and 10 specialist units. Phase III, the current phase as of 28 June, will focus on restoring health services, mental health and rehabilitation.

The nature of the disaster in Yogyakarta and Central Java was different from the tsunami in that the ratio of injuries to deaths was 25:1, the opposite of the ratio in Aceh. The affected area in Aceh was much more expansive and damage to facilities often resulted in complete collapse, where as in Yogyakarta and Central Java, buildings often remained standing. The provision of disaster relief in Aceh was additionally complicated by the ongoing civil conflict and inaccessibility.

Despite the differences between the two events, Government officials were able to apply the lessons of the tsunami to the earthquake and enhance planning for preparation and management of emergencies. The applications of lessons learnt include:

➢ Preparedness and contingency planning included the preparation of health facilities, MoH planning and training, the replacement of the Crisis Centre directly under the Minister of Health and coordination with the Secretary-General

➢ Logistics set–up and Supply Management including transport and communication, human resources and supplies

➢ Rapid assessment

➢ Coordination with other sectors through the cluster mechanism and internal coordination between MoH, provincial and district health officers and hospital networks

Specific health sector responses that emerged from the lessons of Aceh included:

➢ A re-adapted communicable disease surveillance system

➢ Quick distribution of mental health guidelines

➢ Hospital needs addressed promptly

➢ Mobilization of specialists from other districts

➢ Immunization

➢ Tetanus infection control

The leadership of the government was a key characteristic of the earthquake response in Yogyakarta. Preparedness was heightened prior to the earthquake as the Mt. Merapi volcano, 30 kilometers from Yogyakarta, showed increased activity. Local experts and institutions were tapped in mobilizing resources, health staff, funds and supplies from nearby provinces and districts. The command post approach which utilizes operational units was also employed.

The areas that need improvement include:

➢ Earthquake-proof health facilities and staff housing that can withstand earthquake

➢ Screening of health professionals, supplies and donor support

➢ Multiple entry supply sites for supply management

➢ Health staff trained in mass casualty management

➢ Information management system

➢ Specific SOPs

➢ Quality of care for the injured

The national organizational structure for disaster management in Indonesia emanates from the National Disaster Coordination Board (*Bakornas PBP*) chaired by the Vice President. At the provincial level, the Governor chairs the Province Disaster Coordination Board (*Satkorlak PBP*) which further interacts with the District Disaster Coordination Boards (*Satlak PBP*) chaired by district heads. Districts are responsible for the organization of a Health Task Force among other task forces including social, public works and security.

Health sector coordination in Yogyakarta was supported by WHO in the formation of the Health Cluster which addresses general issues including surveillance, immunization, mental health, child health, reproductive health, nutrition, health services, health information and supplies.

Improving area-based response efforts can be accomplished through:

➢ Monitoring and analyzing the tendency of health crisis and potential disaster
➢ Mobilizing local resources
➢ Increasing cross-sectoral cooperation
➢ Evaluating response efforts to improve the system
➢ Improving the capability and capacity of available resources
➢ Institutionalizing response activities based on local potential

Recommendations for improving the disaster response mechanism in the future included:

➢ Coordination with all parties under authorization of Bakornas
➢ Efforts by all parties in handling emergency health problems
➢ Activities to handle post-disaster outbreaks
➢ Communication and transportation improvements that do not impede logistics and health staff mobilization
➢ Health crisis budget allocation from central government and other parties
➢ Disaster area mapping and contingency plan establishment
➢ Capacity building for health staff and the community through training, technical assistance and promotion

➢ Facility rehabilitation and reconstruction

➢ Disaster information system establishment

➢ Developing safe communities using a holistic approach to risk management

➢ Logistic supplies in each province

8. Application of lessons learnt from the tsunami – 2

Issues in Pandemic Preparedness

Prevention of outbreaks and epidemics was a key achievement of the disaster response to the tsunami. The success was partially accredited to the prompt establishment of surveillance and reporting systems for communicable diseases in combination with appropriate responses within affected countries. The system established during this time in Aceh was transplanted to Yogyakarta and Central Java following the 27 May earthquake. Trained staff from the surveillance system in the tsunami-affected areas of Indonesia were tapped for sharing expertise and experience. Specific risk assessments were conducted prior to initiation of the system.

Principles of influenza pandemic preparedness can be found in the differentiation of phases of pandemic alert. In times of no discernable pandemic, the inter-pandemic period, there are two phases: Phase I when there is no new influenza virus sub-type and Phase II when there is also no new influenza virus sub-type but there is a risk of transmission from animals. The Pandemic Alert Phase will follow if Phase III occurs with the rare instances of infection in humans with no sustained human-to-human transmission. Phase IV involves clusters with limited and localized spread and a virus not fully adapted to humans. Phase V is characterized by larger clusters, but the virus is still not fully adapted to humans. The Pandemic Phase is marked by increasing and continuous spread of infection to the community on a large scale followed by the Post-Pandemic Phase and return to the inter-pandemic period.

Strategies for pandemic preparedness include:

➢ HPAI Control in animals

➢ Epidemiological surveillance in animals and humans

> ➢ Management of human cases of AI
> ➢ Protection of high risk groups
> ➢ Risk communication and public awareness
> ➢ Capacity building
> ➢ Action Research
> ➢ Strengthening supporting laws (IHR-2005)
> ➢ Monitoring and Evaluation
> ➢ Developing preparedness and contingency plans

When compared to pandemic preparedness, key points from the tsunami response and recovery include the necessity for appropriate, efficient, community-based epidemiological surveillance in animals and humans in combination with an effective reporting system. Coordination with other sectors is crucial in preparedness and contingency planning, particularly in the animal and agriculture sectors. Logistics activities can be supported with capacity building, purchase of personal protective equipment if needed and distribution and stockpiling SYSTEMS. Contingency planning is supported through scenario building based on health intelligence. It is also important to remember that the pandemic scenario is fast evolving and varied and preparedness plans must be responsive to changing conditions.

9. Group sessions – 1: Determining progress in benchmarks with regard to complex emergencies

The participants were divided into four groups. The groups discussed the progress in benchmarks in the Region, and the best way forward, in the following four areas:

> ➢ *Multisectoral coordination*
> ➢ *Community empowerment*
> ➢ *Capacity building*
> ➢ *Standards and guidelines*

Outcomes:

Benchmark	Concrete examples of progress	Factors that have helped to achieve progress	Barriers to achieving progress	Other comments
Multisectoral coordination				
Legal framework and functioning coordination mechanisms and an organizational structure in place for health EPR at all levels involving all stakeholders	1. IND – DMA has integrated 14 major sectors including health giving equal emphasis to 14 sectors (health, same status as defence) 2. BAN – Ministry of DM (since 1992); National disaster coordination committee (headed by PM) – Minister of Health is a member of the committee and at district level it is led by the local govt and rural development (civil administration) – main work is to enhance surveillance 3. BAN – for AI – three ministries in the forefront – Ministry of environment; poultry and livestock ministry (doing surv) followed bt MOH behind them; 4. INO – new – natl coordn board for DM chaired by Vice President (modification of old system) New – vice chairman – coordination ministry for peoples welfare; 5/6	1. IND/BAN: Realization of increased vulnerability as a result of repeated disasters and awareness of miseries – realization that risk reduction, prevention and mitigation were essential elements of preparedness and mechanisms are required to keep the system on track 2. IND: Heavy economic cost of damages and reconstruction efforts 3. BAN – epidemic outbreaks (eg diarrhoea) was the motivation 4. BAN – both party in power and opposition support	1. BAN – miscoordination and apathy at grassroot level; communication and logistics problems 2. MAV – lack of trained people in this sector 3. MAV – EPR focal point in MOH. 4. IND/THA/BAN – Long time taken for making legal changes; Tedious parliamentary procedures 5. NEP – EHA collaborates primarily with the Epidemiology & Disease Control Division of the Department of Health Services. The division has no staff allocated to disaster management or risk mitigation. Institutionally, it remains a weak setup	In Nepal, a special chapter on disaster management was included in the 10th Five Year Plan but there is little indication of substantial impact. WHO is in the process of establishing an Emergency Medical Working Group to institutionalize a mass casualty management system in the country.

Benchmark	Concrete examples of progress	Factors that have helped to achieve progress	Barriers to achieving progress	Other comments
	agencies represented include MOH and the army		for a multi-facetted EHA programme. EHA programme should be established in the ministry to address policy and hospital issues.	
	5. Disaster law – draft is awaiting parliamentary approval			
	6. MAV – no law, national DM centre set up after tsunami by Presidential decree– lead by defence and national security			
	7. Units for housing, provision for IDPs, health			
	8. Not really functional – the units work through respective line ministries, not through the NDM centre			
	9. MAV – Draft national disaster management plan. There is a separate Defence Ministry Plan. The health sector plan is not integrated into the national disaster management plan. But now the Ministry of Health is part of the structure of the National Disaster Management Centre.			
	10. SRL – updating the existing mental health law			
	11. THA – Has a Civil Disaster Act which is 15 years old –new Act			

Benchmark	Concrete examples of progress	Factors that have helped to achieve progress	Barriers to achieving progress	Other comments
	is pending parliament approval – PM as chairperson – Act expected to improve coordination in big disaster – change organizational structure; Every three years the POA will be reviewed (this year will be the review year) 12. NEP: Disaster Preparedness Law being revised. WHO has recently established an Emergency Health and Nutrition Working Group to facilitate coordination with operational agencies in the sector.			
Emergency financial (including national budget), physical and regular human resource allocation and accountability procedures established	1. BAN – fund allocated for disaster from regular govt budget; augmented by EB resources from donors; Human Resources and physical space available 2. THA – Line of credit extended to governors from Central Fund (about 50 m bahts per event) 3. THA – human capacity developed in the area of identification of dead bodies	1. IND – law has facilitated the process 2. MAV – all voluntary contributions received from the private sector after the tsunami have been put into a specific account by the government, with a board appointed by the President to administer the funds.	1. MAV – lack of funds and trained people. No funds have been allocated to the national budget for EPR 2. BAN – no retaining of trained people 3. NEP – Lack of substantial budget to reduce the vulnerability of the health infrastructure in Nepal; a public health priority in view of the seismic risk.	NEP – Reflecting the allocation of resources, disaster management is often viewed as donor / NGO business among government officials in Nepal.

Benchmark	Concrete examples of progress	Factors that have helped to achieve progress	Barriers to achieving progress	Other comments
	4. IND – Act has put in place a national centre of excellence (NIDM) and National Disaster Relief Fund and disaster mitigation fund set up			
	5. MAV – No EPR funds in budget. However, Ministry of Health has identified funds for EPR activities. Funds for short-term training in waste management and disaster preparedness received from tsunami funding			
	6. NEP – For the first time, Ministry of Health and Population has allocated a minimal budget to initiate non-structural mitigation of Bhaktapur hospital in the Kathmandu valley.			
	7. IND – Post-tsunami – core group established in Planning Commission to oversee rehabilitation and reconstruction; Dedicated amount of money from national budget to be earmarked for future emergencies too			
	8. IND – established national disaster response course – 10,000 people (central paramilitary forces) being trained for DM			

Benchmark	Concrete examples of progress	Factors that have helped to achieve progress	Barriers to achieving progress	Other comments
Rules of engagement (including conduct) for external humanitarian agencies based on needs established	1. IND – policy decisión – doesn't need humanitarian assistance; loans from multilateral agencies like ADB and WB welcome for rehabilitation and reconstruction 2. BAN – aid to NGOs has to be channelled through the National NGO Bureau 3. MAV – all humanitarian aid coordinated through dept of external resources 4. NEP – The issue of trigger factors for humanitarian interventions and enhanced contingency planning were discussed at a UN OCHA contingency planning workshop (April 2006). As for the health sector, WHO pursues contingency planning in the Emergency Health and Nutrition Working Group and the Emergency Medical Working Group.	1. Delegation of monitoring to local subordinate staff (INO) 2. Permitting time bound operation of humanitarian actors (INO)	1. Capacity constraints for monitoring and regulation (MAV) 2. NEP – The sectoral working groups formed in 1993 (Food & Agriculture, Logistics and Health) needs to be revitalized and expanded to facilitate sectoral coordination among UN, government, donors, international organizations and NCOs. The active years of the Disaster Health Working Group (2001-2004) could serve as an example of best practice.	Group considered only humanitarian relief phase NEP – OCHA to play a key role in managing expected inflow of human resources and donations in the event of a major emergency. Considering the limited capacity of Tribhuvan International Airport, it is vital to prepare 'triage' procedures to sort essential supplies from non-essential donations.

Benchmark	Concrete examples of progress	Factors that have helped to achieve progress	Barriers to achieving progress	Other comments
Community Empowerment				
Community plan for mitigation, preparedness and response developed, based on risk identification and participatory vulnerability assessment and backed by a higher level of capacity	IFRC, 'listening' project after Tsunami; with local Palang Merah, Indonesia (PMI), Indonesian Red Cross.

BHU: new disaster management system from the top down to village level. (early 2006).

NEP: WHO plans to engage at community level as part of the upcoming Consolidated Appeal Process (CAP) programme to be implemented during THE second half of the year. Four target districts in the country will be chosen and community interventions proposed in collaboration with partners.

THA: Defence volunteers form at least 1% of the population

The community-based disaster risk management programme is now working in more than 300 villages | In Indonesia, Local PMI staff and chapters are resident and (culturally aware and can speak the local language).

Training of Trainers took place in Aceh, district level coordination and village/community EPR. | NEP: The complex emergency in Nepal has, for a long time, limited access to the field. After the democratic revolution in April 2006 and the subsequent peace-agreement between the Seven Party Alliance and the CPN(M), it is currently relatively easy to move to the field. | NEP: UNDP, WFP, GTZ and several NGOs are working on hazard mapping and risk mitigation at the community level. |

Benchmark	Concrete examples of progress	Factors that have helped to achieve progress	Barriers to achieving progress	Other comments
Community-based response and preparedness capacity developed, supported with training and regular simulation/ mock drills	PMI Aceh has set up local 'listening project'. In Sri Lanka, public health inspector and female village health worker (midwife) were trained on various aspects of community preparedness In Nepal, this is one of the objectives of the upcoming WHO CAP programme. Rapid response teams will be trained in humanitarian monitoring and response and equipped with essential supplies. In Thailand, sub-district search and rescue teams cover all areas.		Traditional CBOs have a potential but do not always realize their additional roles Especially, their potential for religious entities. Considering that the MUSTER software needs to be phased out soon, it is necessary to invest in new, attractive training modalities to keep up the high profile of the programme in Nepal.	WHO Nepal has recently published new mass casualty management training guidelines summarizing lessons learned during previous years.
Local capacity for emergency provision of essential services and supplies (shelters, safe drinking water, food, communication) developed	Gandhigram Rural Institute trained community in watsan Provided replacement services in the temporary shelters which were later also adopted in neighbouring villages Nepal: WHO / UNICEF / UNFPA conducted a country-wide assessment of 33 hospitals' mass casualty management response capacity during and shortly after the	Community realized risks after awareness camps Residual chlorine testing, guidelines on solid waste management, drainage, etc Documentation and preparation of a technical manual In view of the vulnerable (health) infrastructure with limited response capacity,		In Nepal, Several UN agencies and communities have pre-positioned essential supplies and equipment for emergency response. UNICEF is currently drilling 5 seismic safe boreholes and water treatment facilities in Lalitpur Municipality (Kathmandu

Benchmark	Concrete examples of progress	Factors that have helped to achieve progress	Barriers to achieving progress	Other comments
	culmination of the democratic movement in April 2003. Pre-positioning of essential supplies and equipment in target districts and in Kathmandu is another component of the WHO CAP programme, which is in the process of being implemented.	Supply Management (SUMA) / Logistic Supply Management (LSM) would be an important training package to introduce to Nepal.		Valley) for supply of drinking water in the even of a major earthquake.
Capacity Building				
Advocacy and awareness developed through education, information management and communication (pre-, during and post-event)	Myanmar: • Training of trainers (to create awareness at the grassroots level in the community) • Advocacy to community level utilizing media and community members • Training courses conducted in local languages India: • Political sensitization • Training of community in a very comprehensive way (regarding basic social services more than 17000 villages)	• High-level political commitment • NGO collaboration (with advocacy, involvement & awareness programme, esp. where needs requirement are identified and materials are prepared accordingly) • Inter-sectoral coordination • Documentation and information management	• Language barriers (adopting the training in different languages to involve the communities at large) • Resources: fund allocation for emergency situations • Human resource capacity in cultural and language awareness Nepal: The challenge is to move out of the Kathmandu Valley and addressing local risk management and	Nepal: Awareness of risk management and mitigation is relatively high in the Kathmandu Valley due to sustained efforts for years. The challenge is to build on awareness leading to concrete action. We would like to add media relations in this existing benchmark as it is important in advocacy as well as a training tool Advocacy and awareness developed through education, information

Benchmark	Concrete examples of progress	Factors that have helped to achieve progress	Barriers to achieving progress	Other comments
	Sri Lanka: • District Disaster coordinators appointed (decentralization) • Unit dedicated to disaster preparedness • Strengthening of the existing surveillance system (improved the reporting system from grassroot level to national level) Nepal: An integral part of the WHO EHA presence in Nepal. WHO plans to engage more actively in advocacy and awareness at community level as part of the CAP programme. Maldives: Disaster management is to be incorporated in the school curriculum.		humanitarian challenges in remote locations. Maldives: challenge is capacity building of all teachers at all levels	management and communication, including effective media relations (pre-, during and post-event)
Capacity to identify risks and assess vulnerability at all levels established	India: • Nation wide surveillance system up to the grassroots level established	• Availability of relevant tools and guidelines for vulnerability assessment • Having a primary health care system	• Although human resource capacity is available in some countries of the Region, some countries do not have adequate human resource	Building capacity at the community level and local capacity Raising current human resource capacity in Bi and multi-lingual ability

Benchmark	Concrete examples of progress	Factors that have helped to achieve progress	Barriers to achieving progress	Other comments
	Myanmar: • Vulnerability and risk mapping Nepal: WHO is currently preparing an assessment of the National Public Health Laboratory and central / regional blood banks in collaboration with NSET-Nepal. Epidemiology and Disease Control Division (EDCD) / Department of Health Services (DHS), WHO Nepal and NSET-Nepal have seismically assessed 14 hospitals throughout the country. Maldives • Disaster Risk Assessment report published in June 2006 • Risk assessment is strong at central level	• Inter-sectoral collaboration (MoH is closely working with DAR in Sri Lanka) • Human resource availability (India)	• In Nepal, the real challenge is to convert the seismic assessments into actions in terms of mitigation measures. • In the Maldives, decentralizing risk and vulnerability assessment is a challenge • There is a lack of professional capacity in this area in the Maldives, and capacity building is needed.	
Human resource capabilities continuously updated and maintained	• Training on mass casualty management as well as public health management • In Nepal, only the PEER programme has an effective system of updating trained human	• Integration of different disaster management plans from different hospitals into the national disaster management plan	• Challenges in bilateral commitment • Frequent transfer of government staff and poor communication makes it a challenging	To have rosters of those trained at institutional level and make them available for other Member countries to tap whenever necessary

Benchmark	Concrete examples of progress	Factors that have helped to achieve progress	Barriers to achieving progress	Other comments
	resources in their respective courses. • In the Maldives, capacity building of healthcare workers in disaster management, life-support care, public health emergencies, pre-hospital care and hospital emergency preparedness is ongoing. • Capacity building of the community in first-aid and psychosocial first-aid is also ongoing in the Maldives.		task to trace the people who have been trained through the years. • Appointing people having these capabilities to different areas is a challenge. • Due to the unique geographical distribution of the Maldives, it is a challenge to train human resources to be available at all levels required (i.e. national, atoll and island levels). • Retaining healthcare workers who have been trained in different areas of disaster management is also a challenge.	

Benchmark	Concrete examples of progress	Factors that have helped to achieve progress	Barriers to achieving progress	Other comments
Standards and Guidelines				
Regularly updated disaster preparedness and emergency management plan for health sector and SOPs (emergency directory, national coordination focal point) in place	• All countries in the Region have disaster management plans except DPRK and Timor-Leste • In Nepal, WHO SOPs under preparation and an Emergency Control Room in the making.	• A disaster management plan acts as an advocacy and awareness tool. But advocacy and awareness building is also needed to convince policy-makers to formulate a plan. • Along with a plan, regular drills help in the implementation.	• Capacity to respond must match plan • Plan needs to be regularly updated, but this may be difficult. It may be better if the plan remains, but if SOPs are changed according to the context. • In Nepal, a health sector emergency plan has been prepared by the multi-agency Disaster Health Working Group from 2001 to 2003. Unfortunately, not operational and not integrated into the health system.	In Nepal, the dynamic Disaster Health Working Group Secretariat became inactive after DHS / EDCD took over the leadership and formalized the meetings.
Health facilities built/modified to withstand expected risks	Maldives–Health facilities are one storey previously but now two stories. Records and equipment kept on the second floor – floods Thailand–Hospital with high floors create an environment which is conducive to commit suicide	Government needs to implement building codes Bangladesh–Risk assessment done-tidal flows in the South, earthquakes in the North	Building practices below standards/codes. Funding is a critical issue Expensive to retrofit hospitals	Higher building for schools and hospitals required

Benchmark	Concrete examples of progress	Factors that have helped to achieve progress	Barriers to achieving progress	Other comments
	Cyclone shelters built in Bangladesh-3200 shelters *(Schoolters-School shelters)* In Nepal, as part of the CAP programme, WHO plans to initiate non-structural mitigation of strategic health facilities (possibly Bir Hospital and Teaching Hospital) through the second half of the year.	Nepal – seismic assessments of 14 hospitals carried out for safety	Technical assistance regarding structural modification Substantial investments are needed to improve the seismically vulnerable health infrastructure in the country. Despite WHO and partners organizing a donor meeting, no donors have come forward. In Nepal, building codes have officially been approved but are not being implemented. Needs to be discussed with the Division of Urban Development and Building Construction, Department of Physical Planning Works.	
Early warning and surveillance systems for identifying health concerns established	Maldives-Discussion and planning for early warning system-communication arrangement-through the satellite system Bangladesh-CPP-Cyclone preparedness programme		Communication cut off during the Tsunami for 72 hours Need community based early warning and surveillance system	Joint Nepal / DFID missions have studied the issue of health system functionality and proposed a monitoring system that any future humanitarian monitoring must build upon.

Benchmark	Concrete examples of progress	Factors that have helped to achieve progress	Barriers to achieving progress	Other comments
	Indonesia-SMS message through mobile phones Siren system in Bali in place Bhutan-Glacier break up-downstream authorities can be informed (8-10 hours) Thailand-300 warning posts around the country Villages have loudspeakers in Thailand Myanmar-Early warning system by the Department of Meteorology and Hydrology Nepal: September 2005 until May 2006, WHO attempted to establish an early warning system by utilizing 10 WHO field offices and mobilizing Surveillance Medical Officers of the Immunization Preventable Disease programme. WHO plans to involve the Conflict & Health unit at the London School of Hygiene and Tropical Medicine in conceptualizing a new humanitarian monitoring system as part of the CAP programme.		Getting authoritative message through the SMS Cost implications of high-tech communication systems-cost efficiency Many NGOs do not agree on Thailand's early warning system- Unclear definition of IDPs in the Nepal context and low response rates at field level challenged the system at both the conceptual and execution level. The collected data has limited value from an analytical public health perspective.	Enhanced disease surveillance is likely to be funded by the World Bank as part of the Avian Influenza contingency planning process in Nepal.

Comments and Discussion: Most countries have made satisfactory progress on the benchmarks. However, challenges remain, with financial barriers and the lack of appropriately trained human resources being the most important ones.

Some benchmarks have also been revised in order to encompass a wider spectrum. The benchmark on advocacy and awareness has been changed to include media relations and now reads as follows:

'Advocacy and awareness developed through education, information management and communication, INCLUDING EFFECTIVE MEDIA RELATIONS (pre-, during and post-event)'

10. Group session 2: applying benchmarks to pandemic preparedness

Eight of the 12 benchmarks for disaster management are appropriate for pandemic preparedness.

Benchmark	Reasons for selection	Specific Pandemic Preparedness Activities related to benchmark	Other comments
1. Legal framework and functioning coordination mechanisms and an organizational structure in place for health EPR at all levels involving all stakeholders	• International issue • Authority, role and responsibility need to be clearly identified • Legal framework should ensure that within a certain radius chickens should be culled	• Quarantine • Cross-border issues • Assist governments in developing the legal framework and the coordination mechanism between different ministries	Take into consideration legal framework already in place
2. Regularly updated disaster prepared-ness and emergency management plan for health sector and SOPs	• Evolving situation • No time to adapt plan during pandemic	Regular update not sufficient but also simulation and drill exercises Role of military	Specific timeframe for implementing activities, regional commitment Scale, very difficult for

Benchmark	Reasons for selection	Specific Pandemic Preparedness Activities related to benchmark	Other comments
(emergency directory, national coordination focal point) in place		important Lessons learned from previous pandemics	countries to prepare for pandemic
3. Emergency financial (including national budget), physical and regular human resource allocation and accountability procedures established	• No budget allocated yet • Budget needs to be spent within short period of time • Such a system needed for compensation of culled chickens	• Budget needs to be reserved • Partnerships within country • Assist in resource mobilization	
4. Rules of engagement (including conduct) for external humanitarian agencies based on needs established	Command control essential	Staff needs to be trained to protect themselves	Possibility that few agencies are willing to come.
5. Advocacy and awareness developed through education, information management and communication (pre-, during and post-event)	Education, information essential pre-, during and post-pandemic is needed to create awareness among the community	Should include effective, sustainable use of media. Communication plan including draft materials Assist in developing risk communication-health education materials for the community	Regional collaboration on sharing of IEC messages
6. Human resource capabilities continuously updated and maintained	HR may be affected Capacity building needed to educate the community	Staff need to be trained to protect themselves Assist in capacity building for development of human resources including training	Possible limited external HR available

Benchmark	Reasons for selection	Specific Pandemic Preparedness Activities related to benchmark	Other comments
7. Health facilities built/modified to withstand expected risks	Excessive peak demand	Surge capacity	No country can be fully prepared
8. Early warning and surveillance systems for identifying health concerns established	Need for proper guidelines for case detection and reporting Laboratory systems need to be strengthened for surveillance and diagnosis	Assist the government and MOH in developing guidelines for case detection and reporting Assist in strengthening of laboratory capacity in the health sector	

11. Session on partnerships

Discussion with Partners

The tsunami was unprecedented in terms of its scale and the overwhelming response it evoked. Over 80% of WHO's appeal was funded. The main areas funded included:

- Health policy and coordination
- Health protection and disease prevention
- Provision of essential health services
- Arranging medical supplies

In a review of funding policies and practices, some issues become apparent such as the need for flexibility in funding. Funding can be made available in specified or unspecified blocks and is sometimes marked as a technical resource. Dynamic fund management is necessary to respond to evolving needs and changing priorities. It is necessary to avoid over-funding some areas while leaving other areas under-funded.

In understanding the preferred channels and mechanisms of funding it is necessary to recognize the limitations of the Flash Appeal and CAP. Factoring health in bilateral funding channels must be improved as well as learning from experiences with multi-donor trust funds. Lowering of transaction costs has been highlighted as a major issue and can be addressed through consolidated proposals, unified reporting, alignment and harmonization of aid.

Summary of past progress in working toward alignment and harmonization

The UN Summit in 2005 asked partners to take a close look at the need for alignment and harmonization and it was acknowledged that there is a need for centralized revolving funds. The Paris Declaration was consequently developed that endorsed the following Five Principles:

(1) Ownership – Countries are the primary owners

(2) Alignment – Agendas should be aligned with that of the recipient country

(3) Harmonization – Reduce multiple formats and the administrative burden to the recipient country

(4) Managing for Results – Not just proposals, but concrete results

(5) Mutual Accountability – All partners benefit from an accountable system

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Greater inter-agency cooperation can be achieved through reform, the new cluster approach and an improved partnership framework. The Cluster approach developed by

Inter Agency Standing Committee for Humanitarian Action identified nine clusters, one of which is the Health Cluster that is led by WHO. Additional resources may be necessary to make the cluster approach fully operational.

In-kind donations are an aspect of funding that result in a volume of medical supplies and relief equipment. A systematic approach to transportation, storage, installation, maintenance and insurance is necessary

to support the movement and distribution of such donations. Scientific disposal and management of waste is sometimes necessary as a result. In-kind donations can flow through the bilateral route, but it is important for governments to be able to say "No" if the donation does not meet the need.

The issue of capacity building is another crucial component of the funding landscape. Among those in need of capacity are national authorities, local communities and recipient agencies. Capacity building is often needed in planning and preparedness, gap-filling and building community resilience. Needed support can come from donors (from core funds) and should also be supported by the WHO – extrabudgetary resources. Building capacity should also include resource mobilization and more effective and efficient management of aid. Money can have an inverse effect on capacity building if time is a constraint. With little time and more money (push effect), organic developments within institutions are hampered.

Sustainability is always a concern and funding patterns should not exacerbate existing inequalities nor distort resources from existing priorities. The phase of rehabilitation and reconstruction should have a special emphasis in terms of planning for sustainability in addition to the emergency phase and the maintenance of start-ups.

Actions that can come from the lessons learnt from the tsunami response include:

➢ Continued advocacy with and feedback to donors

➢ In-Region resource mobilization – Member states as donors

➢ Examples of Central Emergency Response Fund and National Disaster relief funds

➢ Creating a regional buffer – contingency fund

A key point also taken from the tsunami operations is that support during times of crisis needs to be maintained during non-emergency times with the aim of strengthening emergency preparedness and response and should be considered as an investment.

Comments and Discussion

➤ **Challenges faced by large organizations:** Many large NGOs face the same challenges as WHO in addressing funding issues. Some organizations, such as inter-regional banks, are not currently organized to effectively respond to emergencies and may be currently stronger in response to the needs of rehabilitation and recovery phases. Regional disaster planning should, however, include all partners. In Latin America, there is a history of strong partnership with regional banks in designing development programmes that are cognizant of the threat of disasters and incorporate appropriate precautions in planning.

➤ **Influence of the media on funding:** As natural disasters are increasing worldwide, media coverage has increased in parallel. The "CNN effect" has a large impact on the amount of attention given to a disaster and, as such, can complicate funding once the public eye moves on. In the case of Yogyakarta and Central Java, earthquake needs were clearly expressed and aid organizations and agencies responded, but the role of the Health Cluster in this success was not clear. WHO seems to have a strong relationship with the Ministry of Health, but weaker relationships with NGOs. The Health Cluster seems to be further strengthening the WHO-MoH relationship but further weakening the relationship with NGOs. NGOs have a clear presence in some Clusters, but not in the Health Cluster (in the case of Yogyakarta) which suggests WHO could work harder to improve its leadership role and improve NGO involvement.

➤ **Areas of focus:** Funding for the health sector was an important component of the Flash Appeal for Yogykarta. WHO should not attempt to work in areas that are not its strength, such as building hospitals, but should instead focus on coordinating with and supporting those who can. Proposals for funding should additionally be appealing for those not in public health. The Multi-Donor Trust Fund is administered by the World Bank and co-chaired by the BRR and the European Commission. The Fund has focused on using the pooled funds to address gaps, a model that WHO could perhaps learn from. The impression is that the health sector is over funded in Aceh and the challenge is to rebuild health systems using the strengths of the Organization and using others when weaknesses within the Organization are identified. Competencies must be validated and employed more productively.

➤ **Competition for funding:** The relationship between WHO, MoH and NGOs is complex in light of the proliferation of NGOs. Relief work is fast becoming an industry as the competition is not always healthy but a drain on limited resources. We must ask where is the value added and who is bringing it. Many material commodities have posed a burden on local capacities and have not met identified needs.

➤ **Regional Contingency Fund:** Support for the Regional Contingency Fund was expressed as an estimate of needs that can be established as evidence exist for the needs of each specific type of disaster. The funding available does not always fill the need.

➤ **Heterogenous role of NGOs:** NGOs can not be referred to as if they are a homogenous group as some fill very specific niches that would otherwise be left unattended. The Health Cluster is often lead by WHO and the MoH. WHO should be able to tap the dynamism. WHO is additionally not meeting the needs of the recovery period in Aceh as some feel the reduced staff has left the health sector and government lacks the needed support. The post-tsunami experience in Sri Lanka highlighted the specific capacities of WHO as NGOs were valuable in providing immediate medical care and WHO rationalized public health issues. WHO should be a facilitator, not a provider.

➤ **Impact on local providers:** In response to the influx of foreign doctors in Aceh, many local doctors left public hospitals to work in the community as private doctors so that they could increase their income. The impact of relief efforts has on local providers should be carefully considered to avoid unintended consequences.

➤ **Health Cluster:** The use of the Health Cluster in Aceh was the first time this new method of coordination was employed. There were over 40 organizations working in Yogyakarta, which was a much more manageable size than the over 300 that were active in the health sector in Aceh. WHO is still learning the best methods for engaging with NGOs while trying to promote and support the leadership of the government. Inappropriate responses must be weeded out so that development priorities are in line with government agendas.

Consultation Conclusion

The concluding session of the meeting was chaired by Dr. Poonam Khetrapal Singh, Deputy Regional Director, WHO South-East Asia Region. Dr Singh summarized the key issues brought up in the meeting, and elucidated on how the suggestions and ideas from the meeting could be translated into action for a better prepared Region.

Some fundamental issues included the need for improved evaluation, and needs assessment. Evaluation procedures need to look at what is being evaluated, and for whom, and what it is based on. Similarly, a baseline is needed for effective needs assessments. The extent of damage, the available resources, and the cultural settings, need to be taken into account. Accordingly, priorities should be set in the response. Advocacy and health risk communication were also important aspects to be kept in mind.

All these issues highlight the need for standards. In this context, the Bangkok benchmarks are considered realistic and achievable, and applicable in all emergencies, and not limited to sudden-onset natural hazards. These are a good starting point for countries of the Region although they may need to be further refined.

Based on all the issues discussed at the consultation, the 'Bali Declaration: A Commitment to Action' was drafted. This was further discussed and refined by the participants in the concluding session. The Declaration emphasized that multi-hazard disaster preparedness was crucial to prevent future emergencies from spiralling into disasters. This needs appropriate disaster management structures in governments, adequate and properly trained human resources, as well as financial resources. Stronger and more flexible health systems are needed, which will improve the benefits to the community in ordinary circumstances as well as meet the challenges posed during emergencies. Greater advocacy, planning and coordination will ensure that recovery, reconstruction and rehabilitation contribute to the long-term functioning of health systems.

While the Bangkok Meeting Benchmarks are a good starting point, in order to ensure multi-hazard disaster preparedness in the Region, they need to be converted into strategic action points with quantifiable indicators and specific timelines.

In order to meet the gaps in financial resources for disasters, the creation of a Regional Solidarity Fund for Emergency Response has been suggested.

Many of the issues raised at the consultation have been brought up due to lessons learnt from recent emergencies. It is important to capture and document those lessons, and monitor the progress in reducing vulnerability to disasters in the Region.

Annex 1

Bali declaration: A commitment to action,
(29 June 2006)

The participants at the *Regional Meeting on Emergency Preparedness and Response: From Lessons to Action,* held in Bali, Indonesia from 27-29 June 2006,

Recognizing that:

➢ The devastating Tsunami of 26 December 2004 yielded profound lessons and, as we move forward, it has opened windows of opportunity to improve the health management of and response to future disasters;

➢ Despite efforts to improve disaster preparedness and reduce the impact of disasters on the health and well-being of their populations, the frequency and magnitude of impact of natural disasters continue to grow and will have a negative impact on health, health infrastructure, and social and economic development;

➢ Affected communities themselves are the first to respond to disasters and that the effectiveness of their response is directly linked to community solidarity and a commitment to invest in emergency preparedness;

➢ An effective health response to emergency situations demands continuous coordination with multiple actors across sectors before, during and after disasters; and

➢ The benchmarks established at the November 2005 Meeting on the Health Aspects of Emergency Preparedness and Response (Bangkok, Thailand) provides a guide for sustained regional and national action.

Resolve to:

➢ Urge Member States in the Region to improve multi-hazard disaster preparedness, with particular emphasis on creating an appropriate disaster management structure in governments, with adequate human and financial resources and access to decision-making levels;

➢ Reinforce efforts to empower communities to take a pivotal role in the multi-sectoral response to disasters by identifying and fulfilling resource gaps including training and building on already existing capacities;

➢ Develop new and/or improve existing coordination mechanisms among sectors, governments, NGOs and other agencies within and across countries to improve the flow of information in all directions and facilitate the optimal use of resources;

➢ Advocate and plan for responses that ensure that recovery, reconstruction and rehabilitation contribute to long-term functioning of health systems;

➢ Convert the Bangkok Meeting Benchmarks into a strategic action framework by developing measurable indicators with timelines;

➢ Promote the creation of a Regional Solidarity Fund for Emergency Response, a regional team approach and other mechanisms; and

➢ Capitalize on the lessons learned from recent emergencies by systematically capturing, documenting and exchanging examples of progress achieved and translating these into best practices for reducing disaster vulnerability in Member States of WHO's South-East Asia Region in a sustainable and cost-effective manner.

Annex 2

Welcome speech by Governor of Bali

The honourable Minister of Health, Republic of Indonesia, Regional Director of the World Health Organization, All delegates from the United Nations and 11 Members countries of WHO South-East Asia Region, All Participants, Ladies and Gentlemen,

Om Swastyastu,

First of all, I am grateful to the almighty God, Ida Sanghyang Widhi, that through His blessings we can gather here with happiness and wellness to attend this opening ceremony of the Regional Consultation on Emergency Preparedness and Response: From Lessons to Action, here in Bali.

Welcome to Bali to all participants, especially those who come from outside Bali and from abroad. We hope besides attending this conference you may also enjoy the beautiful scenery of this island.

Distinguished guests, Ladies and Gentlemen:

It is clear in our mind that many disasters are occurring in many places, not only natural disasters but also man-made disasters, beside daily emergencies that have been increasing in quantity and severity. We confess that emergency responses have already been actuated, but we still sporadic and unstructured since Emergency Health Services and Disaster has not been the main agenda of our Health Development. But we believe that disaster and emergency health services is still our concern because health is a human right and it is our task to create together with all components including the community, on a "Comprehensive Emergency Disaster Management System".

Ladies and Gentlemen,

Bali is one of the main tourist destinations of the world, geographically and politically it is in high risk of disaster, natural or man made. We have experienced several kinds of disasters like earthquake, tsunami, volcano explosion, landslides, flood, political chaos, and the last disaster were bombing attacks in 2002 and 2005 which caused hundreds of deaths.

Although we offer our deep condolence to all the victims, we are proud of all our health brigade who used their skills to help and rescue victims, in coordination with other helpers and the community.

If we compare what happened in the first bomb explosion in 2002 and the last one in 2005, we will get several experiences and lessons learned since, during the first bomb explosion, all the systems, management and functional system collapsed. Emergency services were provided without a respective system, hospital communication was interrupted, pre-hospital communication was damaged, there was even no field triage. All victims were transferred to hospital and the nearest clinic without basic life services, just "load and go". Fortunately, with the hard work of all health workers, volunteers, and medical helpers also coming from abroad, the fatalities could be minimized.

"Experience is the best teacher". The bad experienced in the past might be a lesson to establish a better system in emergency and disaster preparedness. In the second, and hopeful the last bomb explosion in 2005, the new system has already been run, and needs to be followed by several drills and simulations and medical trainings in order to be ready in the future.

Ladies and Gentlemen,

Through this opportunity I invite all of you to review what we have done in emergency and disaster services in Bali Bomb I and II as lessons learned. I hope we will get some good suggestions to establish the best system in Emergency and Disaster.

I appreciate that you have selected Bali to hold this regional consultation on emergency and disaster. I hope through this meeting we will get some benefits, especially to be more responsive in the future.

Finally, I wish you have a good discussion and field trip. I suggest you all visit some beautiful scenery and experience Balinese culture during stay in Bali.

Thank you very much.

Om Shanti, Shanti, Shanti, Om.

Annex 3

Keynote address by Dr Samlee Plianbangchang, Regional Director, WHO South-East Asia

Distinguished participants, Representatives of partner organizations, Guests, Colleagues, Ladies and gentlemen,

It is with great pleasure that I warmly welcome you all to this Regional Consultation. It is an opportunity for all of us to learn from the past, in order to be able to cope better in the future. This is particularly so in countries of the South-East Asia Region, where risks and hazards of various types are prevailing. We have seen time and again that communities and nations have been able to cope with these events. Just a month ago, Indonesia witnessed a devastating earthquake in Yogyakarta. More than 6000 people died, over 20000 were injured, and 100000 to 600000 were displaced. In this event, two things stood out clearly. The first was that preparedness is vital. Joint preparations by the government and all concerned sectors with regard to the eruption of Mount Merapi helped to put in place important resources that were easily mobilized for the earthquake. Secondly, the lessons from the tsunami were demonstrated. A strong response by the government provided the desired direction to all humanitarian actors.

It is also worth mentioning that the operational guidelines developed during the tsunami helped in the emergency in Yogyakarta as well. A well-developed health system provides a strong base for an emergency response. The provincial health system of Yogyakarta is well resourced with health facilities and health professionals. The system that is in place can cope with the surge of patients. Assistance was mobilized from neighbouring provinces, and international support helped to augment what was already on the ground. We, in WHO, also learnt important lessons. We were able to better support the Ministry of Health in this emergency. We were able to coordinate better within the Organization and with partners. Our effectiveness and efficiency was demonstrated through prompt provision of necessary supplies and staff. It is heartening to note that we were able to respond quickly and effectively.

Yet, there still are many emergencies that we have to face. We had a crisis in Nepal this year; the Timor-Leste civil conflict; and the floods in Northern Thailand. We can share the lessons learnt and apply them in the different contexts and

circumstances. It is, therefore, important to revisit and discuss our experiences, with the view to derive the maximum gains from such lessons.

At this point, distinguished participants, I would like to refer to the tsunami. It is exactly one and a half years since it struck six countries in the South-East Asia Region. It was one of the worst natural disasters in recent history. It caused unprecedented destruction; killing hundreds of thousands of people, and affecting a population of more than two million. The challenges were really enormous. There was no time to lose. We had to respond quickly and effectively, especially in the emergency phase. At the same time, we had to work in a coordinated manner with all stakeholders.

In such a difficult situation, WHO spared no efforts in supporting the affected countries. The very first attempt was to save lives and mitigate the suffering of the people. Because of the magnitude of the devastation, the tsunami emergency and recovery phase lasted for very long, that is for one and a half years. Now, it is time to focus more sharply on rehabilitation and reconstruction.

Before we move on, we must reflect on what we have done well, and where we could have done better. This is with the view to make the best use of these lessons for the future. At this consultation, we will review what has been done for the tsunami, and learn new lessons. We will also recapitulate the major directions and activities for rehabilitation and reconstruction. In the process, we can identify gaps and actions needed for countries in the Region to enhance country capacity for emergency preparedness and response in the Region.

We have made good progress following the tsunami. We, together with countries:

(1)   Have set up disease surveillance systems;

(2)   Developed community mental health programmes;

(3)   Strengthened emergency preparedness and response, and

(4)   Improved the systems for management of wastes and water resources.

These are just a few examples. Psychosocial needs of the tsunami-affected people contributed to the changes in mental health legislation in Sri Lanka. Changes in the supply management system in Maldives were brought forth, mainly as a result of the response to the tsunami. In India, the government has improved its emergency coordination through a National Disaster Management Authority.

We cannot, however, become complacent as the tsunami revealed many gaps in our response. These were in the areas of policy, legislation, planning, human resources, operation and coordination. In many countries, there was no disaster management system in place, so response was delayed due to confusion about what needed to be done, and by whom. In some places, financial resources did not come through quickly, and therefore the response was held up. People with different skills and expertise were needed, but mobilizing them took time because there was no resource database.

In many places, facilities collapsed because they were built without disaster resistance in mind. Coordination among communities, districts, national governments, international agencies and nongovernmental organizations was not smooth. The global response was tremendous, but to be effective, it needed to be efficiently coordinated. The tsunami has demonstrated that the better prepared a country is, the more effective it can be in responding to any disasters.

We know that emergency preparedness is a part and parcel of national development. It is essential for governments to include it in their national development strategies and plans. This year, the World Health Assembly, once again, underlined the need to strengthen the capacity of Member States in emergency preparedness and response. Last year, the WHO Regional Committee for South -East Asia also provided direction on several key issues so that Member States can move forward rapidly in strengthening their national capacities for emergencies. WHO has assisted countries in strengthening their capacities in the health sector. To this end, in November last year, we invited representatives from all our Member States in the Region to a meeting to discuss various related issues. This meeting then identified a number of key benchmarks that every country should aim to fulfill in mitigating disasters. These benchmarks include, among others:

(1)   A legal framework and functioning coordination mechanism;

(2)   Disaster preparedness plans and standard operating procedures (SOPs);

(3)   Community-based response and preparedness capacity;

(4)   Risk identification and vulnerability assessment, and

(5)   Trained human resources; disaster-resistant health facilities and early warning systems.

Last month, when the earthquake struck Yogyakarta, we saw how important it was to meet these benchmarks. Indeed, the theme of this meeting is also to put

together what we have learnt and how we can apply them in emergencies. Let us take them forward in the next three days as there is no end to learning. We need to keep ourselves constantly updated on all aspects of management of an emergency. Let us keep the momentum moving towards better systems for emergency preparedness and response. This is with the view to ensuring that we will be able to cope with any emergencies in the most efficient and effective manner. Only then can we say that our efforts have not been in vain. In conclusion, I wish you the most productive deliberations; and a pleasant stay in Bali.

Thank you.

Annex 4

Inaugural address by Minister of Health of the Republic of Indonesia[*]

First of all, I would like to extend my gratitude and heartfelt thanks for your visit to Bali, you are very much welcome.

It is a great honour indeed that WHO is holding the Regional Consultation on Emergency Preparedness and Response: From Lessons to Action in Bali, Indonesia.

As we are aware, this is an important and strategic meeting since it discusses recent disasters and crisis, especially in Indonesia, and it is attended by users, providers, UN agencies, NGOs and donors. I believe this meeting will be very useful and effective, not only for Indonesia but also for other countries.

Distinguished Guests, Ladies and Gentlemen,

Indonesia is a disaster-prone country due to its geological and geographical conditions. For many centuries, natural disasters such as earthquakes, volcano eruptions, floods, landslides, as well as drought and consequent famine have presented a serious and even increasing threat to many parts of the country.

Large-scale epidemics of emerging and newly emerging diseases such as avian influenza that caused a lot of deaths in Indonesia, terrorism, armed conflict, turmoil, and technological disasters may also become potential threats to the country, which could affect large populations.

Disaster management in Indonesia is a significant problem. While tsunami relief in Nanggroe Aceh Darussalam has not finished yet, a new disaster emerges. A month ago, an earthquake hit Yogyakarta and Central Java causing 137,000 injured and 5,400 people had to undergo operations; and destroyed 120,000 houses and more than 200 health facilities. Not long after that, South Sulawesi got flash floods which killed more than 200 people.

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[*] Delivered by Dr Nyoman Kandun, Director General, Communicable Disease Control and Environmental Health, Ministry of Health, Government of Indonesia

A lot of efforts have been made in order to reduce the loss by strengthening the coordination, solidarity and quick response from the national and international community and organizations so that we can prevent the bigger loss from disasters and crisis response can be implemented effectively.

We would like to thank to World Health Organization and other international organizations for their support to Indonesia and other countries both in mobilizing health resources, providing supplies and coordinating the international agencies before, during and after disasters. The partnership and solid cooperation between international organizations and the Ministry of Health, Republic of Indonesia has created a system to overcome health crisis and problems in Indonesia. The support and assistance is very much appreciated.

Distinguished Guests, Ladies and Gentlemen,

I would like to take this opportunity to invite you to visit Sanglah Hospital, as one of the Ministry of Health hospitals which has the best standard in disaster emergency response and preparedness among others in Indonesia. It was proven when Bali Bomb Blast II occurred, the response time to manage it was less than 20 minutes. However, we realize that it has not met the international standard yet. Therefore, your support and advice is very much needed.

Finally, on behalf of the Government of Indonesia, and the Ministry of Health, I would like to convey our appreciation to WHO and international communities for their efforts, especially in preparedness to reduce the disaster risks.

I thank you for your attention.

Annex 5

List of participants

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Annex 6

Programme

Tuesday, 27 June 2006

08:00-09:00	Registration	
09:00-10:00	**Opening Session**	
	➢ Welcome Address	Dr Dewa Ketut Oka Head, Bali Provincial Health Office
	➢ Keynote Address	Dr Samlee Plianbangchang, Regional Director, WHO/SEARO
	➢ Inaugural Address	Dr Nyoman Kandun, Director General, Communicable Disease Control and Environmental Health, Ministry of Health, Government of Indonesia
	➢ Group Photograph	
10:00-10:15	*Tea/coffee*	
10:15-10:30	Objectives of the Meeting	Dr. Luis Jorge Perez, Emergency and Humanitarian Action, WHO/SEARO
10:30-11:00	Health in Emergencies: Global Perspectives Discussion	Dr. Ala Din Alwan, Representative of the Director General, Health Action in Crises, WHO/HQ
11:00-11:30	Review of the Tsunami Response ➢ What has been learnt? ➢ What have we done about it? ➢ Current gaps?	Dr Luis Jorge Perez, Emergency and Humanitarian Action, WHO SEARO

11:30-12:30	Lessons Learnt: Sharing Experiences on Community Empowerment Discussion	Lt. Gen. Amnat Barlee, Director, Relief and Community Health Bureau, Thai Red Cross Society
		Discussant: Dr Vijay Chandra, Regional Advisor, Mental Health, WHO SEARO
12:30-14:00	*Lunch*	
14:00-15:15	Lessons Learnt: Sharing Experiences on Multi-sectoral Coordination Discussion	Mr Rajiv Kumar, Ministry of Home Affairs, Government of India
		Discussant: Dr. Bipin Verma, EHA Focal Point, Sri Lanka
15:15-15:45	*Tea/Coffee*	
15:45-17:00	Lessons Learnt: Sharing Experiences on Strengthening Country Capacity for Preparedness and Response Discussion	Mr. Jonathan Abrahams ADPC, Bangkok
		Discussant: Dr Roderico Ofrin Technical Officer, EHA, WHO SEARO

Session Chair:
Dr Poonam Khetrapal Singh
Deputy Regional Director, WHO SEARO

Wednesday, 28 June 2006

09:00-09:10	Recap of Day 1	Dr Marvin Birnbaum President, World Association of Disaster and Emergency Medicine
09:10–10:40	Issues from Evaluations of Tsunami Operations Discussion	Dr. Manuel Carballo, Executive Director, International Centre for Migration & Health, Geneva
		Discussant: Dr Qudsia Huda, STP- Tsunami Operations Manager

10:40–11:00	*Tea/Coffee*	
11:00–11:30	Applications of Lessons Learnt from Tsunami	
	➢ Review of Health Sector Response for the Yogyakarta Earthquake	Dr Rustam S. Pakaya, Ministry of Health Indonesia, Crisis Centre Coordinator
	➢ Issues Related to Pandemic Preparedness	Dr Subhash R. Salunke Communicable Diseases Surveillance and Response WHO/SEARO
11:30–13:15	**Group Work – Session I**	
	Processes and Desired Outcomes of Group Work	Dr Roderico Ofrin, Technical Officer (EHA), WHO SEARO
	Group 1: Benchmarks on Multisectoral Coordination Facilitator: Dr Vijay Chandra, Mental Health and Substance Abuse, WHO SEARO	
	Group 2: Benchmarks on Community Empowerment Facilitator: Mr Han Heijnen, Sanitary Engineer, WHO Nepal	
	Group 3: Benchmarks on Capacity Building Facilitator: Dr Qudsia Huda, STP – Tsunami Operations Manager	
	Group 4: Benchmarks on Standards and Guidelines Facilitator: Dr Yonas Tegegn, Strategic Alliance and Partnerships, WHO SEARO	
13:15–14:15	*Lunch*	
14:15–16:00	**Group Work – *continued* (groups and meeting venue remain the same)**	
16:00–17:00	Plenary Session: Presentations by Work Groups Discussion	Dr Marvin Birnbaum, President, World Association of Disaster and Emergency Medicine

Thursday, 29 June 2006

09:00-09:10	Recap of Day 2	Dr Marvin Birnbaum President, World Association of Disaster and Emergency Medicine
09:10-10:30	Roundtable with Partners: From Lessons to Action	Speakers: Representatives from donor agencies and NGOs
	Detailed agenda to be provided	Discussants: Dr Yonas Tegegn, Strategic Alliance and Partnerships, WHO SEARO; Mr Arindom Mookerjee, EHA/WHO SEARO
10:30-11:00	*Tea/Coffee*	
11:00-12:00	Closing Session	Dr Poonam Khetrapal Singh, Deputy Regional Director, WHO SEARO
	➢ Review and Adoption of the Bali Declaration	
	➢ Closing Remarks	

Session Chair:
Dr Poonam Khetrapal Singh
Deputy Regional Director, WHO SEARO

12:00-13:30	*Lunch*	
13:30 onwards	Field visit – Mass Casualty Management in Bali / Pandemic Preparedness in Bali	

Annex 7

Benchmarks

(1) Legal framework and functioning coordination mechanisms and an organizational structure in place for health EPR at all levels involving all stakeholders;

(2) Regularly updated disaster preparedness and emergency management plan for health sector and SOPs (emergency directory, national coordination focal point) in place;

(3) Emergency financial (including national budget), physical and regular human resource allocation and accountability procedures established;

(4) Rules of engagement (including conduct) for external humanitarian agencies based on needs established;

(5) Community plan for mitigation, preparedness and response developed, based on risk identification and participatory vulnerability assessment and backed by a higher level of capacity;

(6) Community-based response and preparedness capacity developed, supported with training and regular simulation/ mock drills;

(7) Local capacity for emergency provision of essential services and supplies (shelters, safe drinking water, food, communication) developed;

(8) Advocacy and awareness developed through education, information management and communication (pre-, during and post-event);

(9) Capacity to identify risks and assess vulnerability at all levels established;

(10) Human resource capabilities continuously updated and maintained;

(11) Health facilities built/modified to withstand expected risks, and

(12) Early warning and surveillance systems for identifying health concerns established.