

GENERAL

E/ESCAP/CDR/3 16 December 2008



ORIGINAL: ENGLISH

ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

Committee on Disaster Risk Reduction

First session 25-27 March 2009 Bangkok

ENHANCING REGIONAL COOPERATION ON DISASTER RISK REDUCTION IN ASIA AND THE PACIFIC: NETWORK OF NETWORKS OF KNOWLEDGE SHARING AND ANALYSIS FOR DISASTER MANAGEMENT

(Item 5 (a) of the provisional agenda)

Note by the secretariat

SUMMARY

The present report explores avenues for optimized cooperation for sharing knowledge and analysis for disaster management in Asia and the Pacific. It provides a preliminary overview of major existing regional cooperation initiatives and networks in disaster-related fields, including their activities, territorial coverage, types of disasters addressed and services provided. Based on the overview and findings, the secretariat proposes increased and enhanced regional cooperation towards establishing a network of networks on knowledge sharing and analysis to support the implementation of the Hyogo Framework for Action.

Knowledge sharing and analysis for disaster management in the Asia-Pacific region is of critical importance due to the high vulnerability of ESCAP member States to disasters. Although there are various efforts at the international, regional and national levels to enhance disaster preparedness, there is still an opportunity for further cooperation and collaboration. In this context, a network of networks on knowledge sharing and analysis for disaster management in the Asia-Pacific region could contribute to strengthening the resilience of member States to natural disasters.

The Committee may wish to consider the approach proposed in the present document and examine the possible roles that the ESCAP secretariat could perform in the implementation of the proposed network.

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Introduction

1. In January 2005, the World Conference on Disaster Reduction, held in Kobe, Japan, adopted the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters.¹ In that Framework, the Conference identified multiple priorities for action, one of which was to "use knowledge, innovation and education to build a culture of safety and resilience at all levels."² Some of the key activities envisioned in order to pursue that priority involved strengthening networks among disaster experts, managers and planners, promoting and improving dialogue and cooperation among scientific communities and practitioners working on disaster risk reduction (DRR), and encouraging partnerships among other stakeholders.³

¹ A/CONF.206/6 and Corr.1, chap. I, resolution 2.

² Ibid., para. 14.

³ Ibid., para. 18 (b) and (c).

2. Despite considerable efforts to make these activities a reality, there are significant gaps. The second Asian Ministerial Conference on Disaster Reduction, held in New Delhi in November 2007, adopted a declaration that, among other things, encouraged national Governments to enhance regional and subregional cooperation for DRR, including early warning, capacity-building, networking and sharing of information and good practices among stakeholders, and requested the regional stakeholders to work together more closely towards greater coherence and harmonization of their efforts as a generic point of entry for enhanced regional cooperation.⁴

3. In this context, the purpose of the present report is to explore avenues for optimized cooperation in the sharing of knowledge and analysis for disaster management in Asia and the Pacific.

I. A RECENT DEVELOPMENT: LEARNING FROM THE CASE OF CYCLONE NARGIS

4. Various networks and initiatives provide an increasing amount of data, information, knowledge and services on key elements of disaster management. A regional high-level expert group meeting on post-Nargis issues in Myanmar held by ESCAP and the Association of Southeast Asian Nations (ASEAN) in October 2008 repeatedly emphasized the importance of information sharing and analysis, such as the post-Nargis joint assessment (PONJA).

5. The meeting found that, had an efficient regional information-sharing mechanism been in place, the international community could have better mobilized and enabled expertise from the region to contribute to finding solutions and addressing a wide scope of specific needs in a cost-effective manner, while increasing the effectiveness of humanitarian and disaster recovery and reconstruction activities on the ground, as envisaged in the Hyogo Framework for Action. Clearly, such a mechanism would be a valuable tool enabling experts in various sectors and disciplines to lend their expertise to disaster coordination authorities to aid in the recovery of the affected area, leading to further enhanced disaster preparedness and mitigation in the future.

6. In the wake of the Cyclone Nargis experience, it has been shown that there are an increasing number of networks and initiatives with a specific focus on certain types of natural disasters, phases of disaster management and geographical locations and that they are progressively expanding coverage, data and information. Thus, the challenge lies in leveraging that information, knowledge and expertise so that it can be shared by disaster experts, government officials and various other stakeholders and partners.

II. OVERVIEW OF EXISTING INITIATIVES AND NETWORKS FOR DISASTER RISK REDUCTION IN THE ASIA-PACIFIC REGION

7. In pursuit of the Hyogo Framework for Action priority for action 3 mentioned in paragraph 1 above, the secretariat carried out a survey of major national, regional and international initiatives and networks for disaster management that assist ESCAP member States in their respective areas and capacities. Key international and regional mechanisms which provide a framework for member States to determine a course of action, policies and regulations were also surveyed. Online search, literature review and informal interviews with disaster experts were conducted as part of the methodology. As the survey is an ongoing activity, the list is in no way exhaustive.

⁴ See http://nidm.gov.in/amcdrr/declaration.asp.

8. These surveyed networks and initiatives can be distinguished by the type of structure, activities and services and territorial scope. For a list of key international, national and non-governmental networks, see E/ESCAP/CDR/INF/5.

A. Type of structure

9. Non-governmental initiatives and networks. The two main categories of organizations are: (a) not-for-profit entities, including civil society actors, such as non-governmental organizations and academic institutions; and (b) for-profit companies in areas such as logistics, transportation, construction and health care which have joined networks such as the World Economic Forum's Disaster Resource Network.⁵ Some for-profit organizations have become globally influential; thus they have the power, within the framework of corporate social responsibility, to join with Governments and civil society to work towards DRR.

10. For instance, the Sahana Disaster Management System, a web-based collaboration tool, is the result of a project initiated by volunteers in the Sri Lankan free and open-source software development community after the December 2004 Asian tsunami. The Government of Sri Lanka used the system, which was released as free and open-source software. Sahana⁶ has also been used to manage different aspects of disaster relief and recovery operations in China, Indonesia, Pakistan, Peru, the Philippines and Sri Lanka.

11. National Government initiatives and networks. Some Governments have established national disaster management centres (NDMCs) and as part of the actions recommended in the Hyogo Framework for Action. Some have established national platforms for disaster risk reduction (NPDRs), in cooperation with international organizations and civil society. Information on NPDRs is available on the website of the International Strategy for Disaster Reduction (ISDR).⁷

12. Regional and international initiatives and networks. National Governments have understood the benefits of sharing information with countries around the world. They have committed to working towards DRR through such mechanisms as the Hyogo Framework for Action and have joined regional and global intergovernmental organizations in their efforts. These networks have taken various shapes, such as multi-stakeholder declarations of cooperation, working groups, information-sharing mechanisms. The humanitarian information centres of the Office for the Coordination of Humanitarian Affairs, for example, support coordination for a wide range of parties encompassing national Governments, non-governmental organizations and United Nations agencies through online information-sharing platforms, such as the Humanitarian Information Centre for Myanmar.⁸

13. The Mekong River Commission (MRC) is an organization that was established in 1995 by an agreement between the Governments of Cambodia, the Lao People's Democratic Republic, Thailand and Viet Nam "to cooperate in all fields of sustainable development, utilization, management and conservation of the water and related resources of the Mekong River Basin".⁹ Their programmes include flood management and mitigation¹⁰ with real-time precipitation data provided for flood forecasting.¹¹

⁵ http://www.weforum.org/en/initiatives/drn/index.htm

⁶ http://www.sahana.lk

⁷ http://www.unisdr.org/eng/country-inform/ci-national-platform.html

⁸ http://myanmar.humanitarianinfo.org/.

⁹ http://www.mrcmekong.org/about_mrc.htm

¹⁰ http://www.mrcmekong.org/programmes/flood.htm

¹¹ http://ffw.mrcmekong.org/

B. Activities, information and services

14. Effective disaster management requires certain activities, types of information and services. The networks working in disaster management can further be distinguished by their different objectives. Some are focused on particular disaster types (for example, floods, earthquakes) and the others on certain services (for example, earth observation by satellite, early warning systems, capacity-building). Furthermore, some initiatives and networks focus specifically on certain phases of disaster management, such as risk reduction, preparedness, response, recovery and long-term reconstruction. The types of disaster information and services could also be categorized broadly by sector and community, including space, information and communications technology (ICT), geographic information systems, scientific research, statistics and other socio-economic clusters.

15. In the area of space-based disaster information and services, the International Charter Space and Major Disasters was established to provide "a unified system of space data acquisition and delivery to those affected by natural or man-made disasters through Authorized Users".¹² At the regional level, Sentinel Asia,¹³ in close association with the Asia-Pacific Regional Space Agency Forum (APRSAF), provides countries in the region with satellite images upon request in a disaster situation.

C. Territorial coverage

16. National networks gather information and share it with their citizens and institutions within their national boundaries, while international and regional networks usually gather and share information within the boundaries of the member countries. For example, the Pacific Islands Applied Geoscience Commission (SOPAC), the Association of Southeast Asian Nations (ASEAN), the Asia-Pacific Economic Cooperation (APEC) forum, the South Asian Association for Regional Cooperation (SAARC) and the Bay of Bengal Initiative for Multi-Sectoral and Technical and Economic Cooperation (BIMSTEC) have structures and teams working on disaster management.

- 17. Additionally, ESCAP member States take part in the following:
 - (a) At the global level:
 - (i) The Global Platform for Disaster Risk Reduction;
 - (ii) The Global Facility for Disaster Reduction and Recovery;
 - (iii) The International Recovery Platform;

(iv) The Tampere Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations;¹⁴

- (b) At the regional level:
- (i) The Asian Ministerial Conference on Disaster Reduction;
- (ii) The Pacific Framework of Action for Disaster Risk Management;

(iii) The Comprehensive Regional Framework for Action 2006-2015 in South Asia;

¹² http://www.disasterscharter.org/

¹³ http://dmss.tksc.jaxa.jp/sentinel/

¹⁴ United Nations, Treaty Series, vol. 2296, No. 40906.

(iv) The South Asian Regional Platform for Disaster Risk Reduction and Management;

(v) The ASEAN Agreement on Disaster Management and Emergency Response;

(vi) The Regional Consultative Committee of the Asian Disaster Preparedness Center (ADPC);

(vii) The Asian Conference on Disaster Reduction of the Asian Disaster Reduction Center (ADRC);

(viii) The APEC Task Force on Emergency Preparedness;

(ix) The Shanghai Cooperation Organization Agreement on Disaster Reduction;

(x) The Regional Cooperative Mechanism for Disaster Management for South-South Cooperation in the Asia-Pacific Region;

(xi) The Economic Commission for Europe Convention on the Protection and Use of Transboundary Watercourses and International Lakes.¹⁵

18. An overview of major international and regional mechanisms active in the Asia-Pacific region can be found in E/ESCAP/CDR/1.

19. The survey covered more than 100 initiatives, including governmental and non-governmental organizations and United Nations agencies and programmes, all of which deal with activities or specialties that are useful for reducing risks associated with various types of disasters and address immediate disaster response needs. Examples of these activities and specialties are earth observation, weather forecast, water level measurement, government and community capacity-building, hazard-resistant design, land-use planning, and multi-hazard early warning systems.

20. The scope of their geographical coverage, areas of expertise, range of information, knowledge and services, and specialization in a certain disaster phase varies. There may be areas of considerable overlap in some sectors and areas where coordination and collaboration could be enhanced among some of the initiatives and networks; on the other hand, certain types of hazards and disasters are not addressed sufficiently. In that regard, the Global Survey of Early Warning Systems¹⁶ highlighted the proliferation of communication technologies and the loss of a single authoritative voice as one of the major gaps in the context of assessing the effectiveness of early warning components. In particular, it expressed concern over the fact that different organizations issue untargeted disaster warning messages, inducing wrong responses due to misinterpretation which in at least one case caused unnecessary losses among agricultural operators. The report also highlighted the following as major gaps in the context of monitoring and warning services:

(a) No adequate or effective sharing of information with affected countries urgently after major disasters occur;

¹⁵ http://www.unece.org/env/water/

¹⁶ United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction, Global Survey of Early Warning Systems: An Assessment of Capacities, Gaps and Opportunities toward Building a Comprehensive Global Early Warning System for All Natural Hazards, 2006 (available online at http://www.unisdr.org/ppew/info-resources/ewc3/Global-Survey-of-Early-Warning-Systems. pdf). See also A/62/340.

(b) Insufficient multidisciplinary, multi-agency coordination and collaboration;

(c) Inadequate coverage and sustainability of observing systems for monitoring of hydro-meteorological hazards;

(d) Limited membership of global and regional initiatives;

(e) Lack of linkages between global and regional initiatives;

(f) Lack of monitoring and warning systems for many hazards, such as dust- and sandstorms, severe storms, flash floods and storm surges, particularly in atrisk countries and least developed countries;

(g) Inadequate access to information from countries outside the affected region;

(h) Inadequate communication systems to provide timely, accurate and meaningful forecasting and early warning information down to the level of communities.

III. POTENTIAL AREAS OF OPPORTUNITY FOR REGIONAL COOPERATION

21. On the basis of the preliminary findings of the survey carried out by the secretariat, it may be inferred that, in most cases, member States find it time-consuming and difficult to access, vet, analyse and make full use of the available data, information, knowledge and services from the numerous initiatives and networks, especially in the urgency of a disaster situation. In addition, it is not clear how the initiatives and networks surveyed are collaborating to create synergies, assist member States in every disaster phase and address the demand-driven multi-sectoral requirements that are often encountered in a disaster situation.

22. More specifically, noticeable gaps have been identified in the areas described below. These could represent areas of potential regional cooperation for further improving timely access to information, knowledge and expertise by disaster management authorities and experts.

A. Consolidation of data, information and knowledge

23. *Disaster-related statistics at the national level.* There are some initiatives that assist member States in collecting disaster-related statistics, but not all member States are covered. Furthermore, very few collect historical data on disasters for further analysis. This could be a valuable source of information for enhancing disaster preparedness and planning disaster responses.

24. Demand-driven multi-sectoral knowledge and expertise. Disaster management requires a great deal of specialized expertise and knowledge: soil conditions, geology, hydrology, meteorology, agriculture, fisheries, forestry, education, health, business, statistics, settlement, communication and infrastructure, among others. Although a number of initiatives and networks provide much information, knowledge and expertise, it is not clear if the necessary information can be delivered in a timely and quickly accessible manner to government officials and disaster experts on the ground to facilitate evidence-based decision-making.

25. Good practices and lessons learned. In past disaster situations, a number of important lessons learned and good practices were identified in various sectors, such as disaster recovery planning, aid management, resettlement and early warning. This could be a critical factor in planning and implementing disaster response and recovery activities in other member States. For instance, the methodology used in the preparation of the post-Nargis joint assessment report should be widely available to other countries so that they can prepare for or respond to disasters. There have already been a number of reports and analyses on lessons learned from past experiences.

B. Enhanced coverage of international and regional initiatives and cooperation mechanisms

26. Access to disaster-related knowledge and expertise. For some initiatives, membership is limited to certain types of organization and access to information, knowledge and services restricted. This is helpful for preventing abuses of access to information. However, limited membership may prevent beneficiaries from receiving information when they need it most.

27. *Adoption of international conventions.* The International Charter Space and Major Disasters, which is meant to facilitate disaster management at the global level, has only four members in the Asia-Pacific region: China, Turkey, Japan and India. The Tampere Convention has been ratified by 36 countries around the world, but only three of them—India, Sri Lanka and Tonga—are in the Asia-Pacific region.

28. *Membership or involvement in information-sharing mechanisms*. A great number of initiatives and networks are limited in terms of geographic coverage and membership. Not all of the ESCAP member States are covered by them in an equitable manner. This limitation poses significant constraints in planning and implementing disaster responses, especially among the least developed countries, which have fewer capabilities and available data. More often than not, these are the countries which are not covered by the initiatives and networks.

C. Thematic gaps

29. *Multi-hazard cooperation.* There seem to be opportunities for cooperation aimed at reducing the risks from multiple hazards. Such opportunities include hazard zone mapping, hazard-resistant engineering and design, stream and ground water level flow measurement. Data obtained from satellites and other sources could be applied to the mitigation of the effects in various disasters, not only to disaster response and recovery.

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