



ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

Committee on Disaster Risk Reduction

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**ACTIVITIES OF ESCAP COOPERATIVE MECHANISMS ON DISASTER  
RISK REDUCTION: TYPHOON COMMITTEE**

(Item 6 (a) of the provisional agenda)

*Note by the secretariat*

**SUMMARY**

The Typhoon Committee is an ESCAP-affiliated regional institution and a regional body of the Tropical Cyclone Programme of the World Meteorological Organization. It develops activities under three substantive components: Meteorology, Hydrology, and Disaster Prevention and Preparedness, and supports training and research relevant to these areas.

In the present document, the secretariat: (a) briefly outlines the historical background of the Typhoon Committee; (b) highlights aspects of the Typhoon Committee's Strategic Plan 2007-2011 and Annual Operating Plan; and (c) provides an overview of the main activities of the Typhoon Committee since its last annual session (21-26 November 2007).

The Committee on Disaster Risk Reduction may wish to provide the Typhoon Committee with guidance on its future course of action, particularly in regard to obtaining the support of international organizations and funding sources, and developing partnerships with other organizations.

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## Introduction

1. The Typhoon Committee is an intergovernmental body officially established in December 1968 under the auspices of the Economic Commission for Asia and the Far East (now the Economic and Social Commission for Asia and the Pacific (ESCAP)) and the World Meteorological Organization (WMO) in order to promote and coordinate the planning and implementation of measures required to minimize the loss of life and material damage caused by typhoons.

2. The Typhoon Committee is composed of 14 members: Cambodia; China; Democratic People's Republic of Korea; Hong Kong, China; Japan; Lao People's Democratic Republic; Macao, China; Malaysia; Philippines; Republic of Korea; Singapore; Thailand; United States of America; and Viet Nam.

3. Four similar institutions were set up to cover all the tropical cyclone basins around the world: the WMO/ESCAP Panel on Tropical Cyclones, the Regional Association I and Regional Association V Tropical Cyclone Committees (covering Africa and the South-West Pacific, respectively), and the Regional Association IV Hurricane Committee (North America, Central America and the Caribbean). The Typhoon Committee and the institutions mentioned above are regional bodies of the Tropical Cyclone Programme of WMO, which is tasked with establishing national and regionally coordinated systems to minimize the loss of life and damage caused by tropical cyclones. The Programme is part of the WMO Weather and Disaster Risk Reduction Services Department.

4. The Typhoon Committee maintains and implements activities and projects under an umbrella of three substantive components: Meteorology, Hydrology, and Disaster Prevention and Preparedness. Meteorology and hydrology are the most significant areas of study with regard to typhoons, which affect thousands of people each year and cause major damage in the Asia-Pacific region. The third component, disaster prevention and preparedness, is intrinsic to the first and second, given that it is essential to establish an effective connection between civil protection services and meteorological and hydrological services in order to reduce the time gap between the issuance of early warnings and the engagement of rescue brigades. Working groups have been set up for each component, supported by the Advisory Working Group, the Training and Research Coordination Group and the Resources Mobilization Group. Assistance is also provided by the members of the Typhoon Committee, ESCAP, WMO and other agencies. The Advisory Working Group is composed of the chairperson of the previous Typhoon Committee session, the chairpersons of all the above Committee groups, the director of the Regional Specialized Meteorological Centre Tokyo and representatives of ESCAP and WMO.

5. The annual sessions of the Typhoon Committee are convened by ESCAP and organized by the secretariats of ESCAP, WMO and the Typhoon Committee. At these sessions, the Typhoon Committee reviews the progress it has made since the previous session, as well as the implementation of the strategic plan and the annual operating plan, and makes specific recommendations, with a view to reducing the consequences of typhoon-related disasters. Representatives of international organizations and non-members participate as observers. Experts on the three components are invited to give scientific lectures.

6. The executive body of the Committee was originally the Joint Unit on Typhoons, which was located in Bangkok, along with the ECAFE secretariat. In 1971, in response to an invitation from the Government of the Philippines, the unit was transferred to Manila and renamed the Typhoon Committee secretariat (TCS). This secretariat was officially transferred from Manila to Macao, China, in February 2007. The move entailed two agreements: one between the Government of China and the

Typhoon Committee and another between the government of the Macao Special Administrative Region of China and the Typhoon Committee.

7. The TCS staff currently comprises one secretary, one meteorologist (seconded by the Macao Meteorological and Geophysical Bureau), one hydrologist (seconded by the Bureau of Hydrology, Ministry of Water Resources, China); one senior administrative secretary and one senior finance clerk. The secondment of an expert on disaster prevention and preparedness is being explored by the TCS.

8. Since 2006, the Typhoon Committee has held annual integrated expert workshops on its three substantive components. At the workshops, discussions are held and recommendations on measures relevant to the components are made.

9. The vision of the Typhoon Committee is to be the world's best intergovernmental regional organization for improving the quality of life of the members' populations through integrated cooperation to mitigate impacts and risks of typhoon-related disasters. Its mission is to integrate and enhance regional (meteorological, hydrological, and disaster prevention and preparedness) activities of members within international frameworks to reduce the loss of lives and minimize social, economic, and environmental impacts by typhoon-related disasters.

#### **I. STRATEGIC PLAN OF THE TYPHOON COMMITTEE**

10. At its thirty-seventh session, held in Shanghai, China, and at its thirty-eighth session, held in Hanoi, the Typhoon Committee decided to restructure its Regional Cooperation Programme Implementation Plan and establish a strategic plan to better reflect its priority areas, which were designated as key result areas (KRA).

11. In the Strategic Plan, the Typhoon Committee has identified the regional areas and activities on which it wishes to focus and the goals it intends to achieve in 2007-2011, with a view to continuing to produce meaningful results in its focus areas. The development of the Strategic Plan has taken into account various international and regional frameworks, protocols and strategic plans pertaining to tropical cyclone-related activities within the region, such as the Millennium Development Goals, the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters,<sup>1</sup> the WMO Long-term Plan, the Hashimoto Action Plan: Compendium of Actions,<sup>2</sup> the Beijing Declaration on Disaster Reduction in Asia,<sup>3</sup> and the Statute of the Typhoon Committee, as well as the ESCAP thematic areas.

12. The Typhoon Committee has identified seven key result areas for the period up to 2011:<sup>4</sup>

- KRA 1: Reduced loss of life from typhoon-related disasters.
- KRA 2: Minimized typhoon-related social and economic impacts.
- KRA 3: Enhanced beneficial typhoon-related effects for the betterment of quality of life.<sup>5</sup>
- KRA 4: Improved typhoon-related disaster risk management in various sectors.

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

<sup>2</sup> A/C.2/61/4, annex I.

<sup>3</sup> Adopted by the First Asian Ministerial Conference on Disaster Risk Reduction (Beijing, 2005), available at [www.gov.cn/misc/2005-09/30/content\\_73398](http://www.gov.cn/misc/2005-09/30/content_73398).

<sup>4</sup> See E/ESCAP/63/32.

<sup>5</sup> This key results area refers to proactive disaster management actions that can be taken to potentially use typhoon activity to improve the quality of life in certain places. For instance, in a region with severe drought, the construction of reservoirs could enable the excess water of a typhoon to be captured for later use.

- KRA 5: Strengthened resilience of communities to typhoon-related disasters.
- KRA 6: Improved capacity to generate and provide accurate, timely and understandable information on typhoon-related threats.
- KRA 7: Enhanced typhoon committee effectiveness and international collaboration.

13. To support the Strategic Plan 2007-2011, each year the Advisory Working Group prepares a draft Annual Operating Plan, which is approved at the annual session of the Typhoon Committee. The draft is prepared with input from the secretariat and three working groups of the Committee, the Training and Research Coordination Group and the Resources Mobilization Group. Each Annual Operating Plan contain the detailed actions and success indicators that will be employed that year to guide the Committee and its members towards achieving by 2011 the strategic goals and activities contained in the Strategic Plan.

## **II. COMPONENTS OF THE TYPHOON COMMITTEE**

### **A. Meteorology**

14. The Typhoon Committee Working Group on Meteorology has continued to develop three ongoing projects: (a) Typhoon Information Processing Systems (TIPS), (b) Experiment to improve Precipitation Forecasting related to Interaction between Monsoon and Tropical Cyclone, and (c) Global Telecommunication System and Digital Video Broadcasting System (DVBS) Data Sharing. These systems will be presented to Typhoon Committee members for possible adoption in the near future.

15. The Working Group on Meteorology is preparing a workshop to introduce TIPS and provide potential users (members of the Typhoon Committee) with an opportunity to interact with each other and with system developers. TIPS help forecasters process and display prognostic information for either deterministic or probabilistic forecasts. While such systems are powerful tools in early warning, only a few members have them. This workshop is expected to support members, particularly those that are less developed, in their efforts to develop such systems.

16. The Training and Research Coordination Group is preparing a workshop on Ensemble Prediction Systems. This workshop will provide forecasters with information and training on the use of numerical prediction methods, which generate representative states of the atmosphere and complement other forecasting methods. The more advanced members of the Typhoon Committee already employ such methods, and some of the resulting information can be used by other members.

### **B. Hydrology**

17. Four projects in the following areas were finalized in 2008: (a) the development of guidelines for reservoir operation in relation to flood forecasting; (b) a decision support system for the operation and planning of flood forecasting systems; (c) operational flood forecasting systems and their Applications; and (d) the establishment of a community-based flood forecasting and warning system. The first two projects were led by the Republic of Korea, the third by China and the fourth by the Philippines.

18. Two projects are to be finalized in 2009: one on flood hazard mapping and another on a debris flow and landslide warning system, both to be led by Japan. One project, dealing with on-the-job training on flood forecasting between Typhoon Committee members, led by Malaysia, will continue beyond 2009.

19. Four new projects on the following topics have been proposed in the Working Group on Hydrology: (a) urban flood management in the Typhoon Committee region (proposed by China); (b) a system to assess the socio-economic impacts of water-related disasters on infrastructure (proposed by the Republic of Korea); (c) hazard mapping for sediment-related disasters (proposed by Japan); and (d) the establishment of flood disaster preparedness indices (proposed by Japan). The project on urban flood management in the Typhoon Committee region involves all three substantive components of the Typhoon Committee.

### **C. Disaster prevention and preparedness**

20. The Working Group on Disaster Prevention and Preparedness is currently developing the Typhoon Committee Disaster Information System (TCDIS), which is intended to facilitate timely and efficient access to typhoon-related disaster information through the Internet. It can also serve as a platform for members to share disaster data, knowledge, experiences, good practices and other information related to typhoon-disaster risk reduction. The respective website is under construction and will contain detailed information on the disaster management and early warning systems of certain members of the Typhoon Committee.

21. In order to introduce TCDIS and compile disaster-related information, an expert mission visited four Typhoon Committee members between 12 and 19 May 2008: Lao People's Democratic Republic, Philippines, Thailand and Viet Nam. Representatives of those countries were provided with detailed documents prepared by the Korean National Emergency Management Agency, namely, guidelines for TCDIS and a questionnaire on a TCDIS based on Geographic Information System (GIS) technology. Information was collected on the need for public outreach projects in relation to early warning systems and disaster risk reduction in the countries visited. The development of a Web-GIS-based TCDIS is the next step is using GIS technology to provide spatial information on typhoon-related disasters, and will enable users to see the locations where the disasters occurred.

22. In 2008, the Working Group published the technical documents entitled "Typhoon Committee Expert Mission Report" (WMO/TD-No. 1448) and "Typhoon Committee Disaster Information System" (WMO/TD-No. 1449), and drafted two others: "Early Warning System" and "Disaster Management System".

### **D. Training and research**

23. Various research and training activities are already being pursued under the three substantive components of the Committee, namely, on forecasting and warning issues (meteorology), application issues such as flood forecasting and water management (hydrology), and impact issues (disaster prevention and preparedness). The research and training activities that have been undertaken or are being implemented include the following: forecast training at the Regional Specialized Meteorological Centre of Tokyo; research fellowships; and special projects and workshops facilitated by the Typhoon Committee, WMO and other organizations. The Training and Research Coordination Group, which coordinates these activities, recently submitted a concept note on the management of the knowledge-based resources of the Typhoon Committee to the Advisory Working Group. The note can be used as a guideline for future activities on training and research. For example, the document includes a plan to establish a training and research portal, to be managed by TCS through the Typhoon Committee website, with content provided by the Training and Research Coordination Group and members of the Typhoon Committee.

24. In 2008, several activities were undertaken. For example: (a) two forecasters from the Republic of Korea and Thailand participated in a two-month training fellowship at the Regional Specialized Meteorological Centre Tokyo during July and

August; (b) forecasters from Cambodia, Malaysia and Viet Nam took part in the International Pacific Desk Internship Programme in Honolulu, the United States; (c) through the Research Fellowship Scheme of the Typhoon Committee, the Hong Kong Observatory offered a two-month fellowship for one expert from Thailand; and (d) the Korea Meteorological Administration provided one expert from China with a three-month research fellowship.

25. Due to unavoidable circumstances, the roving seminar 2008, with a focus on tropical cyclone warning services, was postponed to 2009.

### **III. ACTIVITIES OF THE TYPHOON COMMITTEE SECRETARIAT: TRAINING AND RESEARCH**

26. TCS puts into practice the decisions taken in the annual Typhoon Committee sessions.

27. Since the last annual session, which took place in Macao, China, from 21 to 26 November 2007, TCS has made presentations at several international meetings: (a) "Towards Flood Disaster Reduction", the Enlarged International Flood Network General Meeting, Beppu City, Japan; (b) the Fifth Disaster Management Practitioners' Workshop for South-East Asia, Phnom Penh; (c) the Typhoon Committee Working Group Meeting for Disaster Prevention and Preparedness on Typhoon Committee Disaster Information System (TCDIS) and Future Activities, Seoul; (d) the sixty-fourth session of ESCAP, Bangkok; (e) the fifth annual meeting of the Asia Oceania Geosciences Society (AOGS 2008), Busan, Republic of Korea; and (f) the Integrated Workshop on Coping with Climate Change, Beijing. The secretary of the Typhoon Committee represented the Committee at the First Asia-Pacific Water Summit in Beppu, Japan; participated in a Disaster Prevention and Preparedness expert mission to Thailand and the Philippines; and attended the Asian Conference on Disaster Risk Reduction in Bali, Indonesia.

28. In consultation with the Advisory Working Group, TCS prepared the rules and procedures for the implementation of the Roman L. Kintanar Award for Typhoon-related Disaster Mitigation.

29. TCS and the Macao Meteorological and Geophysical Bureau held a contest to choose an emblem to celebrate the fortieth anniversary of the Typhoon Committee. The selected logo was proposed by a designer from Macao, China. A song contest was also held. Several members proposed music and lyrics; the selected song, "Typhoon! Typhoon!", was proposed by Hong Kong, China. The judging panel for both contests was composed of the members of the Advisory Working Group.

30. TCS, under the supervision of the Advisory Working Group, also created a brochure and the booklet "ESCAP/WMO Typhoon Committee—Forty years of International Cooperation", outlining the vision, mission, key result areas and strategic goals of the Committee.

31. TCS publishes the annual *Typhoon Committee Newsletter* and the *Typhoon Committee Annual Review*.

### **IV. REQUEST FOR GUIDANCE**

32. The Committee on Disaster Risk Reduction may wish to provide the Typhoon Committee with further guidance on planning its future course of action, particularly in regard to obtaining the support of international organizations and funding sources, and developing partnerships with other organizations.