ESCAP/WMO Typhoon Committee

WRD/TC.45/5.1

FORTY-FIFTH SESSION

HONG KONG, CHINA

AGENDA ITEM 5

29 JANUARY – 1 FEBRUARY 2013

Original: ENGLISH

EXECUTIVE SUMMARY OF MEMBERS' REPORTS 2012

(submitted by AWG)

Summary and Purpose of Document**:**

This document presents an overall view of the progress and issues in meteorology, hydrology and DRR aspects among TC Members with respect to typhoons and related hazards in 2012.

Action Proposed

The Committee is invited to:

(a) take note of the major progress and issues in meteorology, hydrology and DRR aspects as reported by Members in 2012 (http://www.typhooncommittee.org/IWS Nanjing/members.html) ; and

(b) review and refine the draft Executive Summary in the APPENDIX with the aim of adopting a finalized version for reference by Members' governments and other collaborating or potential sponsoring agencies.

APPENDIX: Executive Summary of Members' Reports 2012 (draft version – Dec 2012)

APPENDIX

EXECUTIVE SUMMARY OF MEMBERS' REPORTS 2012

Edwin S.T. Lai (for AWG)

This executive summary is based on Members' Reports submitted by: Cambodia; China; DPR Korea; Hong Kong, China; Japan; Lao PDR; Macao, China; Malaysia; Philippines; Republic of Korea; Singapore; Thailand; USA (Pacific region) and Viet Nam.

1. Objectives

1.1 The objectives of this Executive Summary are to extract the key aspects of typhoon impact and related topical issues of regional interest in Members' countries or territories, and to consolidate the information and observations for:

(a) the attention of Members' governments with a view to allocating the necessary resources strategically for the purposes of operational effectiveness and readiness, disaster mitigation and risk reduction, or leveraging available resources and support for technology transfer and capacity-building through regional cooperation initiatives; and

(b) reference by sponsoring agencies with a view to coordinating and synergizing effort in the planning of relevant projects and programmes for such purposes, as well as channelling resources and aids into identified areas of gaps or needs.

2. Key Observations in 2012

2.1 There were more cases of co-existing typhoons (and as such, complicated interaction in terms of cyclone motion), typhoon strikes in quick succession, significant intensification ahead of landfall, and landfall impact over coastal areas at higher latitudes (e.g. the first time four tropical cyclones affecting the Korean Peninsula in a year since 1962, and calling to mind also the impact of Hurricane Sandy on New York in October 2012). All these presented real challenges to reliable forecasting and warning of rain, wind and storm surge associated with changes in cyclone tracks, intensity and structure.

2.2 In the Republic of Korea, implementation of long-term disaster risk reduction programmes as a result of lessons learnt from Typhoon Rusa in 2002 and the popular use of information-sharing social media networks had led to better preparedness and hence less damage and casualties despite a rather busy typhoon season. While in China, the northward shift in landfall positions and extensive impact on the more-developed coastal

provinces brought heavier economic losses as compared to previous years. And after sweeping across and bringing much damage to the Philippines, Tropical Storm Son-Tinh made landfall on the other side of the South China Sea, moving along the long coastline of Viet Nam and causing great loss in life and property.

2.3 A WMO initiative for the Typhoon Committee region, Severe Weather Forecast Demonstration Project for Southeast Asia, was being planned for Viet Nam, Thailand, Cambodia and Lao PDR. The project aimed to promote the use of computer models' forecast guidance in the forecasting and warning of severe weather and, through such regional collaboration and information sharing, to enhance the technical capability and capacity of meteorological and hydrological services in these countries. Lao PDR had responded favourably through her active support for the project, and other participating countries were also encouraged to take up a proactive role to derive maximum benefits from this initiative.

2.4 With heavy rain from typhoons becoming a hazard trigger of major concern ahead of high winds, attention became more focused on disasters and damage brought by flooding and landslides. For example, flood damage and landslides in the northern part of DPR Korea by the typhoons in 2012 had adversely affected drinking and industrial water supply. Japan also reported widespread mudflow and landslides in the aftermath of Typhoons Guchol, Sanba and Jelawat. During the year, Cambodia installed a Doppler weather radar for the monitoring of severe weather, especially heavy rain that led to perennial flood hazards. Rainfall warning decision support system was established and became operational in the Philippines. Techniques for reliable quantitative estimation and prediction of rainfall amount, such as those developed in Hong Kong, were in popular demand. Systems for flood analyses, monitoring, forecasting and warning were at various stages of development for major river basins or cities in Cambodia, Malaysia, Philippines, Thailand and Viet Nam.

2.5 Based on the nature of hazards brought by typhoons, as well as in consideration of other social and environment factors, effort was underway to construct risk-assessment models in countries like China and Republic of Korea for gauging the potential impact of landfalling typhoons. But despite the readiness of a GIS-based Typhoon Committee Disaster Information System (TCDIS) to support Members' effort in disaster management and planning, utilization of the tool and input to its database remained rather limited. Effort by Members to step up the collection and collation of such data and statistics would be useful for mapping out long-term disaster risk reduction strategies.

2.6 Members such as China; Hong Kong, China; Japan and Republic of Korea continued to offer resource persons and support for technology transfer and capacity-building purposes. Hong Kong set up two community-based weather stations in Mindanao (Philippines) and Guam (USA) to raise public awareness and community preparedness. Japan started providing storm surge forecast products for three selected locations in Hong Kong, Macao and Thailand under WMO's Storm Surge Watch Scheme. Meanwhile, Republic of Korea ran technical assistance programmes for Lao PDR (systems for detection of severe weather events), Thailand (flood control knowledge and technology), Viet Nam (typhoon information software), and Philippines (monitoring and early warning system for flood forecast).

2.7 Other areas of work with potential for further development and extended applications included: (a) reconnaissance flights undertaken in the vicinity of Hong Kong to gather meteorological data around typhoons for operational reference and research studies, and the possibility of extending such flights to cover a wider ocean area through the participating support of more Members; (b) deployment of buoys such as those used in Guam for monitoring swell and surf, a major coastal hazard arising from distant typhoon activity; and (c) research undertaken in Singapore to study trends in long-term rainfall patterns associated with climate change and the resultant impact on water resources and flood management.