

# ESCAP/WMO Typhoon Committee

FOR PARTICIPANTS ONLY

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Typhoon Committee  
Forty-fifth Session  
29 January – 01 February 2013  
Hong Kong, China

WRD/TC.45/9.2  
29 January 2013

ENGLISH ONLY

## ADVISORY WORKING GROUP ACTIVITIES ANNUAL REPORT 2012

**(Item 9 of Provisional Agenda – Report of the Activities of TCS and AWG)**

*(Submitted by AWG)*

### **ACTION REQUIRED:**

The Committee is invited:

- a) To take note of the major activities of the Advisory Working Group during 2012
- b) To endorse the recommendations

### **APPENDIX:**

APPENDIX I: Summary Report of AWG Meeting, Seoul, 28-29 May 2012

APPENDIX II: Summary Report of Post-7<sup>th</sup> IWS AWG Meeting, Nanjing, 30 November 2012

## SUMMARY REPORT ON ACTIVITIES OF AWG IN 2012

### 1. Introduction

In accordance with TOR (the Terms of Reference), AWG aims to assist the Chairperson of the Typhoon Committee and the TC Secretary to coordinate the implementation of TC decisions and to act as a “Think Tank/Steering Group” function to advise and offer options or proposals, as required, to the Typhoon Committee Members, the Typhoon Committee, the TC Chairperson, TC Secretary.

In 2012, the activities of AWG for fulfilling the decisions and recommendations of 44<sup>th</sup> Session of the Typhoon Committee which was held in Hangzhou, China from 6 to 11 February 2012 can be summarized as follows:

- a) Hosting the AWG meeting in Seoul;
- b) Organizing TC 7<sup>th</sup> Integrated Workshop and AWG meeting;
- c) Reviewing basic documents of TC;
- d) Updating the follow-up Action list
- e) Allocating TCTF budget and proposing budget for 2013;
- f) Examining the state of AOP and proposing plans;
- g) Organizing the 45 Session;
- h) Reviewing ToR of SSOP project;

### 2. AWG Membership

The current composition and focal point members list of WGM include:

- Dr. CHO Seok Joon, Republic of Korea as Chairperson (according to 44<sup>th</sup> TC Session Decision 1. g – Paragraph 138 bullet h)
- Ms. Genevieve Miller, USA as Vice-Chairperson
- Chairpersons of the TRCG, and the three working groups (meteorology, hydrology, and DRR) and the Head of RSMC Tokyo as core members, and
- Representatives of WMO and ESCAP (as ex-officio members)

### 3. The AWG Meetings.

#### • **Seoul, Republic of Korea, 28-29 May 2012**

According to Paragraph 138 c in final report of 44<sup>th</sup> TC Session in order to discuss proposals on the improvement of the governance and efficiency and effectiveness of the Typhoon Committee, AWG meeting was held at the KMA headquarters on 28-29 May presided by Dr. LEE Woo Jin, a director general of KMA in place of Dr. CHO SeokJoon, the chairperson of AWG. The meeting was attended by AWG members or their representatives including representatives of ESCAP and WMO.

At the meeting, participants had a productive discussion on (a) Improvement of governance of TC, (b) Efficiency of TC meeting, (c) Resources mobilization, (d) Usefulness and application of in-kind contributions, (e) Procedures for hosting TCS and selection of the secretary for the next four-year cycle (2015-2018), (f) Agreements between TC and other entities, (g) TCTF, (h) New rules and procedures “Dr. Roman L. KINTANAR award for typhoon-related disaster mitigation”, (i) Any other business. Details of the outcomes are reported in Appendix I -Summary Report of AWG Meeting, Seoul, 28-29 May 2012.

#### • **Post-7<sup>th</sup> IWS AWG meeting, Nanjing, China, 26-30 November 2012**

According to Paragraph 133 in final report of 44<sup>th</sup> TC Session and decision of AWG meeting, held in Seoul, 28-29 May 2012, the 7<sup>th</sup> IWS with the main theme of “Effective Warnings” and the sub-theme of “Common Alerting Protocol-CAP” was held at the WMO RTC Nanjing on 26-29 November 2012.

Also, the AWG meeting was held from 8:30 a.m. to 17:30 p.m. 30 November 2012, in conjunction with the Integrated Workshop and was chaired by Ms. Genevieve Miller, vice-chair of AWG. Topics that AWG members dealt with include (a) Evaluation of the 7<sup>th</sup> IWS, (b) Follow-up action list of the recommendation of AWG, (c) Revision of the basic documents of TC, (d) The 8<sup>th</sup> IWS with the Forum of TRCG, (e) Organization of the Annual Session, (f) Next small AWG meeting and (g) SSOP project. Details of the outcomes are reported in Appendix II - Summary Report of Post-7<sup>th</sup> IWS AWG Meeting, Nanjing, 30 November 2012.

At the 7<sup>th</sup> IWS, AWG had its concern on more balanced participation of Members and working groups. In particular, considering countries that did not attend the workshop including Cambodia, Lao PDR and DPR Korea, it was recommended a visit of representatives of ESCAP, WMO and TC to the members. With regard to keynote lecture, active engagement of DRR component was called for.

#### **4. Advice and Recommendation Discussed**

- **Review of the basic documents of TC**

Based on the recommendations in Paragraph 131 (*AWG to review the governance of the Committee, with the assistance of TCS, and submit a report to the 45th Session with a view to achieving the Committee's objectives in a more efficient and effective manner*) and 187 (*noted there was a need to further review the existing legal documents of the Typhoon Committee*) of the Report of the 44<sup>th</sup> Session, the AWG reviewed the basic documents of the Typhoon Committee with the assistance of TCS for improvement of governance of the Committee and drafted the final versions (see the working document WRD/TC.45/10) to be submitted to the 45<sup>th</sup> TC Session for endorsement through the AWG meetings in Seoul, 28-30 May and in the 7<sup>th</sup> IWS. AWG reached an agreement on the following proposals and recommendations:

- a) The representative of ESCAP (Mr. Yuich Ono) confirmed that TCS is allowed to directly send an invitation letter for the TC Session to the governments of member countries (from this Session).
- b) It was agreed that the more routine task originally under the ToR of TC Secretary should be integrated into the ToR of the TCS
- c) Considering stability and efficiency of TC's governance, it was proposed that AWG chairperson and vice-chairperson be elected and their terms including chairs of WGs be extended to two years from one year.
- d) Action-based document might serve as guide for assessing and follow-up the status of the decisions taken by the Committee at its 44<sup>th</sup> Session. The AWG recommended that more supplementation is prepared for better use of action sheet through discussions at the AWG Meeting held on 28-29 May in Seoul.

- **Follow up Action list**

The Secretary of TC presented the status of implementation of the AWG recommendations in post-7<sup>th</sup> IWS AWG Meeting using revised follow-up Action list, reflected AWG's suggestions. The updated follow-up Action list is shown in Annex I.

- **TCTF**

- a) The AWG reviewed the 2012 approved budget status, and then developed a proposed budget for 2013 to be funded through the use of the TCTF for the Committee to consider (see document WRD/TC45/14.4/2). The proposed budget for 2013 is based upon the recommended priority items contained in their respective AOP. In addition AWG concurred and recommended to the Committee to allocate USD 55,000 to TRCG for the organization of the 2<sup>nd</sup> TRCG Forum which is expected to be held in late November 2013. The request for the allocation of TCTF to support the 2<sup>nd</sup> TRCG Forum will be included in the Proposal for 2<sup>nd</sup> TRCG Forum at 8<sup>th</sup> Integrated Workshop (WRD/TC.45/14.4/1) submitted by Chair of TRCG. The budget proposed by AWG based on the input from WGs and TRCG for 2013 are presented in WRD/TC.45/14.4/2.

It was decided to organize the AWG meeting according to the TC decision *“To arrange a small meeting of the AWG in order to discuss proposals on the improvement of the governance and efficiency and effectiveness of the Typhoon Committee. Consider the timing of this meeting in conjunction with other TC meetings to minimize expenses”* (Paragraph 138 c in final report of 44<sup>th</sup> TC Session).

For supporting the participants to the AWG meeting, which is not included in approved TCTF Budget, the Work Plan 2012 item 6 (USD 1,680) and item 22 (USD6,000) were reallocated to cover the unforeseen expenditure of AWG meeting. AWG meeting was held in Seoul on 28-29 May 2012 given that the AWG chairperson is Korean and that the airfare cost can be saved if the meeting takes place back to back with 7<sup>th</sup> Meeting of Typhoon Committee Working Group on DRR held in Seoul on 30-31, May

- **AOP**

The AWG thoroughly reviewed the WG's AOPs for 2012 endorsed by the Committee at the 44<sup>th</sup> Session. Through the reports of each working group and TRCG, AWG concluded that the AOP of each WG have been successfully conducted. The implementation status of the AOP of the WGs in 2012 are shown in Annex II. The draft of AOP for 2013 to be submitted to the 45<sup>th</sup> Session was also reviewed. With regard to WGM's AOP, a new format which includes the AOPs, the Perennial Operating Projects (POPs) and the Preliminary Projects (PPs) was proposed by WGM. POPs are now referring to the WGM activities that will be carried out repeatedly in the following years while the PPs referring to the projects of which preliminary studies needed to be undertaken by WGM. AWG concurred with this proposal with the understandings that the new structure of WGM AOP could better reflect the WGM activities. The proposed 2013 AOP of the WGs are shown in annex III.

In addition, there was a discussion whether to include SSOP as a new item and a cross-cutting project in AOP activities for 2013 of each working group.

- **Organization of the 45<sup>th</sup> Session**

The AWG recommended that the duration of the annual Sessions would be reduced to a 4-day event without the Members' Reports and Technical conference. By proceeding in this manner and by separating the technical matters from the Session it is expected to have more involvement of high-level officials in the Session.

Also an Executive Summary of Members' Reports was drafted by the AWG to be endorsed by the Session and to be distributed to Governments (Please see WRD/TC.45/5). This way of

proceeding is expected to draw Permanent Representatives of the Members with WMO or more senior officials to the Sessions. Opportunity should also be taken to make a conscious and strategic effort to invite international observers and funding agencies to the Sessions for resource mobilization purposes.

It was suggested that well-known scientists related to WMO PTC be invited to address a keynote lectures so that there would be greater participation of high-level officials. The possibility of presenting a lecture on SOP for EWS was raised.

- **SSOP project**

SSOP project was introduced to AWG Members at the 7<sup>th</sup> IWS and detailed discussion was undertaken at the post-7<sup>th</sup> IWS AWG Meeting.

The AWG discussed the Terms of Reference (ToR) of the Steering Committee, ToR of Task Force and ToR of Project Manager for the SSOP and recommended TCS to provide an Implementation Plan. Based on further discussion after the AWG post-7<sup>th</sup> IWS Meeting, AWG recommended the establishment of the Steering Committee, Task Force and the composition of Steering Committee. The respective proposals recommended to be endorsed by the Committee at the 45<sup>th</sup> TC Session will be presented as working document WRD/TC.45/7.2 by TCS.

The AWG recommended the representative of WMO to report the current status and the implementation plan of the SSOP project to the PTC at its Annual Session, which will take place in Colombo, Sri Lanka from 25 February to 1 March 2013.

- **Other Matters**

- a) **Next AWG small Meeting**

- It was recommended to hold AWG small Meeting in 2013 as it was in 2012. It was tentatively determined to be held in Bangkok on 18-19 March in conjunction with SSOP Workshop.

- b) **Host of TCS for the period 2015-2018**

- It was decided to promote the stipulation of the procedures on hosting TCS and selection of secretary and to recommend that Members should be informed in advance about criteria and application procedure for TCS hosting.

- c) **Agreement between WMO Regional Training Center Nanjing and TC**

- It was agreed to sign a MoU to jointly utilize RTC Nanjing as TC training center at the 44<sup>th</sup> Session. The agreement between WMO Regional Training Center Nanjing, hosted by Nanjing University of Information Science and Technology (NUIST) and TC was signed.

- d) **Member's Report**

- The AWG suggested that Member's Report were presented at the IWS instead of TC Session for efficiency of TC meeting.

## 5. Recommendations:

Based on the outcomes of the AWG meeting in Seoul and the AWG post-IWS meeting in Nanjing,

AWG recommends the Committee:

- a) To approve the amendments made on the TC basic documents as presented in the WRD/TC.45/10.
- b) To adopt the use of decision and action based documents and consistent follow up of decisions and recommendations.
- c) To request NDMI to further study effective way to reliably assess the death and economic impact of typhoon-related disasters for performance review under the Strategic Plan's KRAs.
- d) To encourage Members' collaboration in providing the disaster information data to the Committee.
- e) To request TCS continue to work with ESCAP and WMO through the formulation, implementation and update of the Strategic Plan, and align with the high objectives and policies of WMO.
- f) To encourage Chairs of WGs to develop or adapt evaluation methods and procedures with reference to the TRCG's evaluation template on training course.
- g) To hold the 2<sup>nd</sup> TRCG forum as part of the 8<sup>th</sup> IWS.
- h) To approve the establishment of the Steering Committee, Task Force, Project Manager and the Implementation Plan as presented in WRD/TC.45/7.2.
- i) To endorse the AOPs of the WGs and TRCG.

## ANNEX I

### ANNEX XV-AWG MEETING, SEOUL, 28-29 MAY 2012 and POST-7<sup>th</sup> IWS AWG MEETING, NANJING, 30 NOVEMBER 2012

#### FOLLOW-UP ACTIONS LIST OF THE RECOMMENDATIONS OF AWG (updated 25 Jan 2013)

Title of Recommendation	Text of Recommendation	Follow-up action	To be initiated by	Derivable	Target date	Status in January 2012
Amendment of TC Statute (1)	Clarify whether submission to UN legal department is necessary, or if amendments could be effected by simply following Article 11 of the Statute	TCS would follow up with ESCAP and WMO on this matter	TCS ESCAP WMO	Information from ESCAP and WMO	Before November 2012	As TC doesn't belong to UN System, no need submit to UN legal Dep. Nevertheless AWG considered not necessary to change the Statute.
Invitation letters to the Governments for attending the annual sessions (2)	ESCAP to provide to TCS a list of addressees for of Governments of Members	ESCAP to send the list to TCS	ESCAP	List of addressees	15 October 2012	Done
Relevance of the text: "as part of the World Weather Watch Programme" in Terms of Reference of TC (3)	Clarify the relevance of the text: "as part of the World Weather Watch Prog." towards the end of ToR of TC and to propose updated wording	TCS to remind WMO	TCS	Message from WMO to TCS updating the phrase	15 October 2012	No need mention WWWP. Instead it will be adopted: <u>the Committee will ensure that the plans/projects adopted by the appropriate bodies of the WMO are fully respected at all times</u>
To compile and consolidate a revised ToR of TCS for consideration at the Integrated Workshop (IWS) in Nanjing later this year (4)	Routine tasks originally under the ToR of TC Secretary should be integrated into the ToR of the TCS.	TC Secretary to revise the TCS ToR for consideration at the 7 <sup>th</sup> Integrated Workshop (IWS)	TCS	Proposal of revised ToR of the TC Secretariat	15 October 2012	Done
Review of ToR of AWG and WGs (5)	The ToRs should be separately reviewed by the respective groups, and any revisions or amendments to be made would be discussed and vetted at the 7 <sup>th</sup> IWS.	Chairs of AWG, WGM, WGH, WGDRR, TRCG Will present proposed changes	Chairs of WGs	Proposals of revised ToR of the WGs	15 October 2012	The main changes consist of: (1) The WGs and TRCG Chairs are proposed to be appointed by the TC, based on the proposals of the respective WGs/TRCG, for a period of 2 years, with possibility of reappointment. (2) The AWG Chair and Vice-Chair are proposed to be appointed by the TC, taking into consideration recommendations from AWG and TC Chairperson, for 2 years shall be

						eligible for re-appointment
Review the practice of appointing the outgoing of TC Chair as the new AWG Chair (6)	It was agreed that AWG chairmanships could be de-linked from TC chairmanships and hence TC session hosting arrangement.	TCS will consult the Members on elective appoint of AWG Chair and Vice-chair for one year or more	TCS/AWG	Summary of comments from the Members	15 October 2012	Done. <u>The appointment of TC Chair will continue to be linked the host of the Session, but the Chair and Vice-Chair of the AWG will appointed for 2 years and de-linked from the host</u>
Decision and Action-based Documents and Consistent Follow-up of the Decisions and Recommendations (7)	Observations and comments made by KMA were presented, and relevant suggestions would be taken into consideration in preparing future AOPs.	Mr CM Shun would provide suggestions and samples of action-based documents for reference by TCS.	KMA/Mr CM Shun	Suggestions and samples of action-based documents	June - September	Mr. CM Shun delivered examples of follow-up documents used in ICAO (in June 2012)
Engagement of media representatives for discussion on CAP at the IWS. (8)	As CAP is related to message delivery at the users' end, it was considered a good opportunity to engage media representatives for more in-depth discussion at the IWS.	Mr Koji Kuroiwa would explore possibilities to engage media representatives at IWS after discussions with WMO/PWSP	Mr Koji Kuroiwa (WMO)	Participation of WMO/PWSP and media representatives in IWS		Done  Organizers of IWS invited representatives of the media, who have actively participated in the discussions.
TCS was requested to call for earlier submission of country reports from Members.(9)	As country reports would be presented at the 7 <sup>th</sup> IWS instead of TC 45 <sup>th</sup> Session, TCS was requested to call for earlier submission of country reports from Members.	TCS to send letters inviting Members to send the reports earlier	TCS	Country reports delivered to TCS before the IWS	15 November 2012	Done
Usefulness and application of in-kind contributions (10)	TCS was requested to contact Members to provide information on their in-kind contributions. TCS also consulted WMO	TCS will request Members to provide information	TCS	Summary will be presented as inf. paper at the 45 <sup>th</sup> Session.	31 December 2012	The Members were requested (TCS/248-2012- 15 October 2012). WMO informed that no special criteria are used
Standardization and Harmonization of Members' Practices (11)	Standardization and Harmonization of Members' Practices to Promote Effective Warning, in particular Communication of Advisory and Warning Messages to the Users	Mr Lei Xiaotu indicated that WGM would consider this issue at the next IWS.	Chair of WGM			This topic will be addressed in Preliminary Projects (PP) 2 and 3, respectively "Harmonization of TC intensity analysis" and "Harmonization of timing of upgrade TD to TS by various warning centers"
Procedures for Hosting TCS and Selection of the	Procedures for Hosting TCS and Selection of the Secretary	Request Macao Government to	TCS	Letter from the Government of	July 2012	TCS received a letter from Dr. Fong Soi Kun, dated 18 Jan



Secretary for the next Four-Year Cycle (2015-2018) (12)	for the next Four-Year Cycle. TCS was tasked to request a document from the Macao SAR Government to confirm.	express in writing the intention to host TCS in the period 2015-2018		Macao		<p>2013, announcing the desire of Macao Government to host TCS in the period 2015-2018.</p> <p>And other TC's member, which want to host TCS for the period 2015-2018, can apply by 19 August 2013.</p>
Transfer of TCS to another Member (13)	"Criteria for Hosting the Typhoon Committee Secretariat" will be guidelines for future reference. TCS was requested to formalize the procedures based on the existing practice.	Inform the Members on the "Criteria for Hosting the Typhoon Committee Secretariat"	TCS	Circular Letter to Members inviting to submit candidatures to host TCS	September 2012	Done.
Agreement between WMO RTC Nanjing and TC (14)	Mr. Edwin Lai undertook to provide some input to the draft agreement from TRCG perspectives, and subject to any revisions required	TCS to send draft provided by Mr. Kunitsugu, reviewed by Mr. Edwin Lai, to WMO RTC Nanjing	Mr. Edwin Lai/TCS	Agreement revised by WMO RTC	September/October	Done
Signing ceremony of the Agreement between NUIST, Nanjing and TC. (15)	As the next IWS would be held in NUIST, TCS was requested to consult NUIST on the possible arrangement of a signing ceremony.	TCS to request RTC information on signing ceremony	TCS	Information from RTC Nanjing	September/October	Signing has taken place at the on 27 and 30 November, respectively by Secretary of TC and President of NUIST
Follow-up actions list regarding AWG meeting. Seoul, 28-29 May 2012 (16)	TC Secretary was requested to draw up a follow-up actions list to remind the parties concerned and to aim at a timely completion of actions before the 7th IWS.	TCS will distribute a follow-up actions list of the recommendat. of AWG	TCS	Follow-up actions list	July	TCS sent the current document to the parties (WMO, ESCAP, AWG, members)

SP's KRA and SG	Objective Number	Objective	Action	Other WG's	Expected Quarter Completed	Other Organizations Involved	Success Indicators	Funding Required	Funding Sources	Coordinator	Completed – Yes or No
KRA 1 KRA 2 KRA 4	1	Assessment report on the impact of climate change on tropical cyclone in TC region	(a) Publish the "2 <sup>nd</sup> assessment report on the impact of climate change on tropical cyclone track and impact area in TC region" (b) Follow-up of the recommendation of the best-track consolidation meeting	WGDRR	(a) 3 <sup>rd</sup> (b) 4 <sup>th</sup>	HKO/China, CMA, USA, JMA, KMA, Macao/China (coordinator) and Members	(a) Publish the 2 <sup>nd</sup> report in 45 <sup>th</sup> Session; (b) Consolidate the operational procedures of tropical cyclone analysis for inclusion in the TOM, exchange and compare the historical best-track datasets, including CI numbers if available, among the centers	US \$2,500 (for publication of the 2 <sup>nd</sup> report)	TCTF	(a) Tam Iu Man/Leong Weng Kun (Macao, China) (b) Masashi Kunitsugu (JMA)	(a) Yes (b) Yes
KRA 1 KRA 2 KRA 4 /SG4(a)	2	Storm surge watch scheme for UFRM	(a) To conduct training of storm surge model for UFRM during the annual TC attachment training by RSMC Tokyo (b) To provide storm surge time series charts at one point upon TC Member's request (c) To develop storm surge time series charts at more than one point if so requested by Members	WGH WGDRR TRCG	(a) 3 <sup>rd</sup> (b-c) 4 <sup>th</sup>	JMA	(a) Conduct of training and subsequent evaluation (b) Provide storm surge time series charts at one point upon TC Member's request (c) Develop storm surge time series charts at more than one point if so requested by Members	/	/	Masashi Kunitsugu (JMA)	(a) Yes (b) Yes (c) Yes
KRA 1 KRA 2 KRA 6 / SG 6b and 6c	3	Transfer of the Typhoon Information Processing System technology	(a) To improve the English version of KMA's typhoon information processing system (TAPS) (b) To train the meteorologists and forecasters of TC Members on TAPS from May with the duration of 2 months	TRCG	2 <sup>nd</sup> - 4 <sup>th</sup>	KMA, Viet Nam, Members	Submission of report on the technique and training of TAPS	US \$2000	TCTF	Mr. Ki-Ho Chang (KMA)	(a) Yes (b) Yes
KRA 1 KRA 2 KRA 6 /SG 6b and 6c	4	Enhanced use of ensemble forecast	(a) To get feedback from Members for improvement of the TCEFP website through WMO's questionnaire (b) To promote Members' understanding of EPS through SWFDP and its training workshop	WGDRR TRCG	2 <sup>nd</sup> - 4 <sup>th</sup>	JMA, CMA, HKO/China, Viet Nam, KMA and WMO	Improvement of the web site will be implemented and will be reported in the Progress report	/	/	Masashi Kunitsugu (JMA)	(a) Yes (b) No (postponed)
KRA 6 / SG 6b and SG 6c	5	Web-based typhoon forum	(a) Expand the number of registered users and the team of moderators on related topics (b) To upgrade the on-line forum by sharing more real-time observation, forecast and warning information by Members	AWG, WGH WGDRR	1 <sup>st</sup> - 4 <sup>th</sup>	CMA RSMC Tokyo, JTWC, Members	Effective use of web-based typhoon forum as shown by website access statistics	/	/	Li qingqing (CMA)	(a) Yes (b) Yes

KRA1 KRA2 KRA6 /SG6b and 6c	6	Development of regional radar network	(a) Specialized attachment training for TMD radar staff upon submission of the progress report of the operating status of the TMD radar system by TMD  (b) To follow-up the recommendations and the suggested roadmap of the expert team and to develop the radar composite map which covers the area of the UFRM pilot city in Thailand as the first step	TRCG	4 <sup>th</sup>	TMD, JMA	Submission of the progress report, including a detailed schedule for the establishment of the radar composite map	US \$3000	TCTF	Masashi Kunitsugu (JMA) Derek Leong (TCS) PatcharaPetvir oichai (TMD)	(a) Yes (b) Yes
KRA1 KRA2 KRA6 / SG 6b and 6c	7	Verification of tropical cyclone operational forecast	(a) Organize a training workshop on typhoon landfall forecast demonstration project  (b) Modify the methods to verify the generation, track and intensity forecast accuracy of tropical cyclones in the Asian-Pacific Region  (c) Assess the performance of objective model prediction and the official forecast of Members.	TRCG	(a-b) 2 <sup>nd</sup> (c) 4 <sup>th</sup>	CMA, RSMC Tokyo, JTWC, Members, WMO	(a) Hold a training workshop and subsequent evaluation of the training  (b) Submit report of the assessment of the performance of objective model prediction and the official forecast of Members in 45 <sup>th</sup> Session	US\$3,000	TCTF	Yu Hui (CMA)	(a) Yes (b) Yes
	8	Publication of <b>Tropical Cyclone Research and Review</b>	(a) Improvement of the editorial procedure (include visit the visiting editor)  (b) Publish the journal quarterly	AWG, WGH, WGDRR, TRCG	1 <sup>st</sup> - 4 <sup>th</sup>	CMA, TCS Members	Progress report	US\$3,000	TCTF	Zhou Xiao (CMA)	(a) Yes (b) Yes
KRA1 KRA2 KRA4 / SG4a	9	QPE/QPF for UFRM	(a) To conduct a forum and training for UFRM pilot cities  (b) To provide QPE/QPF training to TC Members participating in the UFRM pilot projects upon a request  (c) To conduct training on QPE/QPF during the annual TC attachment training at RSMC Tokyo  (d) Upon availability of budget, QPE/QPF Workshop to be held by MMD	WGH WGDRR TRCG	(a) 4 <sup>th</sup> (b) 1 <sup>st</sup> - 4 <sup>th</sup> (c) 3 <sup>rd</sup>	RSMC Tokyo HKO, CMA	Conduct of training and subsequent evaluation of the training	US\$5,000	TCTF	Masashi Kunitsugu (JMA)	(a) No (b) Yes (c) Yes (d) No (due to budget constraint)

KRA1 KRA2 KRA6	10	South China Sea typhoon forecast	(a) Further improvement of TRAMS model (b) Provide more products relate to typhoon assess through website (c) Establish the feedback column for all Members			CMA, Viet Nam, PAGASA, MMD	Submission of the report on the assessment of model and website	/	/	Zhang Zhongcheng (CMA)	(a) Yes (b) Yes (c) Yes
KRA1 KRA2 KRA6	11	Development of web-based typhoon seasonal prediction system	(a) Development of web portal for typhoon seasonal prediction (b) Providing typhoon seasonal prediction results to members through web-based portal page together with the participating members' results			KMA, CMA Members	Submission of the report on assessment of seasonal prediction models	/	/	Sangwook Park (KMA)	(a) Yes (b) Yes
KRA1 KRA2 KRA6	12	Improvement of severe weather forecasting and interaction with user communities	Development of collaborative relationship with WMO severe weather forecast demonstration project	WGH, WGDRR, TRCG	2-4	Viet Nam, Cambodia, Lao, Thailand, WMO	Progress report	/	/	NHMS of Viet Nam	Yes

**WORKING GROUP on HYDROLOGY (WGH) - AOP 2012 Implementation Status**

SP's KRA and SG	Objective Number	Objective	Action	Other WGs Involved	TCS Responsibility	Expected Quarter Completed	Other Organizations Involved	Success Indicators	Funding Required	Funding Sources	Completed – Yes or No
KRA 1 SG 1 KRA 2 SG 2 KRA 4 SG 4a KRA 5 SG 5b	1	Projects on Urban Flood Risk Management in TC Region	a)Initiate developing OSUFFIM in case the STDF of Macao, China approved the proposal; b)case Study on QPE/PQF Application in UFRM in cooperation with WGM; c)Continue to conductcase Study on SSWS Application in UFRM; d)Continue to conductpilot study in Pilot cities; e)Drafting UFRM Guidelines	WGM WGDRR	coordination	(a) First (b) Second (c) Third (d) Fourth	ESCAP WMO	(a-1) compile the first draft and send to all drafting members ASAP, but not later than Jan. 1, 2012; (a-2)UFRM guidelines drafting meeting was proposed to be held in WMO Nanjing RTC (a-3) UFRM Workshop, funded by ESCAP (b-1)Fund application from Macao STDF (b-2)initiate developing OSUFFIM (c-1)start the case study on QPE/QPF application in UFRM, in cooperation with WGM (c-2)start the case study on SSWS application in UFRM (c-3)continue the pilot study in pilot cities (c-4)training for pilot city Members (d-1)second version of UFRM guidelines at IWS (d-2)pilot study report from related Members (d-3)finalizing the Guidelines at 45 <sup>th</sup> Session.	(a) TCTF 10000USD for TF/PC activities  (b)Funding from STDF of Macao, China	potential ESCAP, WMO, ADB, JICA, KOICA, Macao STDF; etc	(a-1) <b>YES</b>  (a-2) <b>YES</b>  (a-3) <b>YES</b> (b-1) <b>YES</b> (b-2) <b>YES</b> (c-1) <b>YES</b>  (c-2) <b>YES</b>  (c-3) <b>YES</b>  (c-4) <b>YES</b> (d-1) <b>YES</b> (d-2) <b>YES</b> (d-3) <b>YES</b>
KRA 1 SG 1 KRA 2 SG 2 KRA 4 SG 4a KRA 5 SG 6b	2	Assessment System of Flood Control Measures on Socio-economic Impacts	Apply ASFCM system in TC members who want to participate in to evaluate and enhance system capability		See above	(a) First (b) Second (c) Third (d) Fourth		(a,b,c,d)Drafting ASFCM User's manual (a,b,c,d)Apply and assess the information provided from TC members to consult the effect of the measures		MLTM	(a,b,c,d) <b>ongoing</b>
KRA 1 SG 1 KRA 2 SG 2 KRA 4 SG 4a KRA 5 SG 5b	3	Project on Hazard Mapping for sediment-related disasters	To raise local people's and local government's awareness for sediment-related disasters. To separate people and their properties from high-risk areas to reduce their damages by disasters	WGDRR	See above	(a) First (b) Second (c) Third (d) Fourth		(a,b,c,d) guide Members countries to make Hazard map. (b) Find requirement from TC Members. (d) Workshop to solve the Member's issues at next IWS (d) Drafting the guideline to reduce damage of sediment-related disaster and to spread Japanese technique	TCTF (1)2000USD for publishing the guideline;	TCTF NILIM SABO	(a,b,c,d) <b>YES</b> (b) <b>Cancelled</b> (d) <b>Cancelled</b> (d) <b>YES</b>

SP's KRA and SG	Objective Number	Objective	Action	Other WGs Involved	TCS Responsibility	Expected Quarter Completed	Other Organizations Involved	Success Indicators	Funding Required	Funding Sources	Completed – Yes or No
								in Typhoon Committee Region.			
KRA 1 SG 1 KRA 2 SG 2 KRA 4 SG 4a KRA 5 SG 5b	4	Project on development and application of flood disaster preparedness indices		WGDRR	See above	(a) First (b) Second (c) Third (d) Fourth		(a-1) establish evaluation equation (a-2)conduct direct FDPI survey and feedback analyzed results to Marikina city(Philippines), UbonRachathani(Thailand), and Hat Yai(Thailand) (b)create multi-language FDPI and FDPI automatic self - evaluation system on the website (c)collect and compile the information for feedback to TC members (d)drafting and printing the final report	TCTF 2000USDforPricing final report	ICHARM	(a-1) <b>YES</b> (a-2) <b>YES</b>  (b) <b>Soon</b>  (c) <b>Soon</b>  (d) <b>Soon</b>
RA1, SG1 KRA2, SG2 KRA4 SG 4a, KRA5, SG 5b	5	Project on the utilization of Satellite-based information for Typhoon-related disaster management		WGM, WGDRR, TRCG	See above	(a) First (b) Second (c) Third (d) Fourth	ESCAP, JAXA, ICHARM	(a) Operational Sentinel Asia and Urban Flood Training for TC, PTC & Pacific membersfrom 27 <sup>th</sup> Feb – 2 <sup>nd</sup> March 2012 in Macao, China. (b-d) to conduct case study and good practice of image product of various satellites	Funds for inviting participants, lecturers and other WS organization cost	ESCAP, JAXA, ICHARM	(a) <b>YES</b>   (b-d) <b>YES</b>
KRA1 KRA 4 SG 4a SG 4bKRA 5 SG 5a KRA 7 SG 7b	6	Development of comprehensive counterplan for extra-ordinary flood	Develop comprehensive counterplan for extra-ordinary flood by investigation and analysis of historical flood damage	WGDRR WGM	See above	(a) First (b) Second (c) Third (d) Fourth	RID of Thailand, PAGASA of Philippines	(a) Understand TC members' causes and effect of extra-ordinary flood damage including dam operation. (b-1)Survey and data collection of selected TC members (Thailand and Philippines) about external forces caused historical flood (b-2)workshop (c)Investigate selected TC members' flood control capacity considering geological and social conditions	TCTF 4,000USD for survey and data collection	MLTM (KICT, K-water) TCTF	(a) <b>YES</b>  (b-1) <b>YES</b>  (b-2) <b>YES</b> (c) <b>ongoing</b>  (d) <b>ongoing</b>

SP's KRA and SG	Objective Number	Objective	Action	Other WGs Involved	TCS Responsibility	Expected Quarter Completed	Other Organizations Involved	Success Indicators	Funding Required	Funding Sources	Completed – Yes or No
								(d)Analyze selected TC members' flood control guidance and management system			
KRA 1 SG 1 KRA 2 SG 2 KRA 4 SG 4a KRA 5 SG 6b	7	Project on estimation for socio-economic impact of sediment-related disaster	to improve former projects with establish common collecting format and methods of investigation for disasters to estimate estimation for socio-economic impact of sediment-related disaster and to share common technical background in TC members.	WGDRR	See above	(a)First (b)Second (c)Third (d)Fourth		(a) Submit tentative format and methods of investigation from Japan for TC members. (b) Collecting the idea to improve tentative format and make trial version.		NILIM SABO	(a) <b>YES</b>  (b) <b>YES</b>

SG1: To enhance cooperation among TC Members to reduce the number of deaths by typhoon-related disasters by half in the ten years of 2006 – 2015 (using the ten years of 1990 - 1999 as the base line).

SG2: To reduce the socio-economic impacts of typhoon-related disasters per GDP per capita by 20 per cent in the ten years of 2006- 2015 (using the ten years of 1990 - 1999 as the base line).

SG 3a: To identify and explore the beneficial use of resources such as rainfall brought by typhoon.

SG 3b: To study and promote the increasing use of typhoon-related beneficial effects among the Members.

SG 4a: To provide reliable typhoon-related disaster information for effective decision making in risk management in various sectors.

SG 4b: To strengthen capacity of the Members in typhoon-related disaster risk management in various sectors.

SG 4c: To enhance international and regional cooperation and assistance in the field of disaster risk reduction.

SG 5a: To promote and enhance culture of community-based disaster risk management among the Members.

SG 5b: To promote education, training and public awareness of typhoon-related disasters among the Members.

SG 6a: To facilitate RSMC capability to respond to the needs of the Members in forecasting and capacity building.

SG 6b: To improve capacity of Members to provide timely and accurate user-oriented and friendly tropical cyclone products and information.

SG 6c: To enhance capacity of Members' typhoon-related observation, monitoring, forecasting and warning.

SG 7a: To strengthen the capacity of Typhoon Committee to effectively discharge its responsibilities and functions described in this Strategic Plan and completed its stated mission in accordance with the Typhoon Committee's Statute.

SG 7b: To mobilize available resources and engage collaborators for the implementation of the strategic goals.

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.

KRA 4: Improved Typhoon-related Disaster Risk Management in Various Sectors.

KRA 5: Strengthened Resilience of Communities to Typhoon-related Disaster.

KRA 6: Improved capacity to generate and provide accurate, timely and understandable information on typhoon-related threats.

KRA 7: Enhanced Typhoon Committee's Effectiveness, Efficiency and International Collaboration.

## WORKING GROUP on DISASTER RISK REDUCTION (WGDRR) - AOP 2012

SPs KRA and SGs	Objective Number	Objective	Action	Other WG's	TCS Responsibility	Expected Quarter Completed	Other Organiza- tions Involved	Success Indicators	Funding Required	Funding Sources	Completed Yes or No
KRA 4 SG 4b SG 4c KRA 5 SG 5b	1	Transferring the WGTCDIS	(i) Extend the WEB GIS based Typhoon Committee Disaster Information System (WGTCDIS) for early warning system and localized assessing in conjunction with other WGs (ii) Perform the expert mission on the WGTCDIS for Philippines and USA on March, 2011	TCS WGM WGH	Assist in planning the expert mission	First	WMO UNESCAP ADRC UNISDR	(i) Complete collecting disaster information from Thailand, Philippines, USA and Cambodia (ii) Send expert team for implementation of the WGTCDIS to two Members of Philippines and USA	US \$12,000	NDMI, Korea and TCTF	(i) Yes (ii) Yes
KRA 4 SG 4b SG 4c KRA 5 SG 5b	2	Enhancing the WGTCDIS	(i) Develop Geo-Linking system for integrated disaster risk assessment (ii) Develop GIS based information sharing system to collect and disseminate various disaster related information	WGM WGH	Provide guideline to support \$1000 for collecting disaster information	Fourth	ADRC UN/ISDR	(i) Complete developing the Geo-Linking system (ii) Complete developing the GIS based information sharing system	US \$ 36,000	NDMI, Korea and TCS	(i) Yes (ii) Yes
KRA ALL SG ALL	3	Providing WGTCDIS for UFRM Project	(i) Provide WGTCDIS training in a focused, integrated WGM, WGH, TRCG Workshop (ii) Review progress of WGTCDIS project for UFRM and future activities of WGDRR (iii) Produce localized disaster risk maps for TC Members	WGM WGH TRCG AWG RMG	Provision of administrative support	Second or Third		(i) Complete report on Urban Flood Risk Management (UFRM) Project			On going
KRA 4 SG 4b SG 4c KRA 5 SG 5b	4	Modifying the WGTCDIS	(i) Calibrate and validate the WGTCDIS for all typhoons in 2012 with TC Members (ii) Modify the estimation methods to adapt WGTCDIS on TC Members.		Assist in including presentation on the TC Session agenda	Fourth		(i) Successful acceptance of WGTCDIS by TC Members			(i) Yes
KRA 4 SG 4b SG 4c KRA 5 SG 5b	5	Publishing the annual disaster assessment report	(i) Collect disaster information from TC Members (ii) Held annual WGDRR Workshop (iii) Assess typhoon related disasters in the TC Region (iv) Establish the standard disaster information database	WGM WGH TRCG AWG	Assist in collecting disaster information from Members	Fourth		(i) Publish the annual disaster assessment report (ii) Hold WGDRR workshop	US \$ 3,000		(i) No (ii) Yes



SP's KRA and SG	Objective Number	Objective	Action	Other WG's	TCS Responsibility	Expected Quarter Completed	Other Organizations Involved	Success Indicators	Funding Required	Funding Sources	Completed Yes or No
KRA 4 SG 4b SG 4c KRA 5 SG 5b	6	Emergency response network for urban risk management	(i) Develop the urban disaster risk assessment system based on risk maps (ii) Develop the dissemination system to share situation information to escape from dangerous area or reduce traffic jam (iii) Provide guideline to manage disasters in urban area, educate and train earlier disaster	AWG WGH TRCG	Provision of administrative support	Fourth	WMO UNESCAP ADRC UNISDR Columbia University	(i) Develop the urban disaster risk assessment system			On going
KRA 4 SG 4b and 4c KRA 5 SG 5b	7	A feasibility study on the real-time transmission of severe weather warning and carry out trials	(i) Assist in liaison work for implementation commenced (ii) Extend dissemination of warnings to become available on SWIC (Severe Weather Information Center) by the 44th Session	WGM TRCG	Assist in liaising with focal points	Fourth	WMO	(i) Complete trial dissemination of weather warnings (ii) Extend dissemination of warnings to a few more members			(i) Yes (ii) Yes
KRA 4 SG 4b and 4c KRA 5 SG 5b	8	A pilot project of community weather stations in TC Members	(i) Raise public awareness on climate change (ii) Offer an expert of Hong Kong, China for visiting Vietnam to implement the community weather station	WGM WGH	Assist in liaising with focal points	Fourth	ESCAP	(i) Weather station installed in two interested TC member	US \$4,000	TCTF	(i) Yes

- SG 1:** To enhance cooperation among TC Members to reduce the number of deaths by typhoon-related disasters by half (using the decade 1990-1999 as the base line to compare with the decade 2006-2015).
- SG 2:** To reduce the socio-economic impacts of typhoon-related disasters per GDP per capita by 20 per cent (using the decade 1990-1999 as the base line to compare with the decade 2006-2015).
- SG 3a:** To improve the beneficial use of typhoon-related effects of typhoons by 10 per cent in water management by selected Members (using the decade 1990-1999 as the base line to compare with the decade 2006-2015)
- SG 3b:** To promote increasing use of the typhoon-related beneficial effects among the Members
- SG 4a:** To provide reliable typhoon-related disaster information for effective policy making in risk management in various sectors.
- SG 4b:** To strengthen capacity of the Members in typhoon-related disaster risk management in various sectors
- SG 4c:** To enhance international and regional cooperation and assistance in the field of disaster risk reduction.
- SG 5a:** To promote and enhance culture of community-based disaster risk management among the Members
- SG 5b:** To promote education, training and public awareness of typhoon-related disasters among the Members
- SG 6a:** To strengthen RSMC capacity to respond to the needs of the Members in forecasting and capacity building
- SG 6b:** To improve capacity of Members to provide timely and accurate user-oriented and friendly TC products and information
- SG 6c:** To enhance capacity of Members' typhoon-related observation and monitoring
- SG 7a:** To strengthen the capacity of TCS to effectively discharge its responsibilities and functions described in the Terms of Reference and support the Members in the implementation of the strategic goals
- SG 7b:** To strengthen the capacity for resources mobilization for the implementation of the strategic goals

**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.**

**KRA 4: Improved Typhoon-related Disaster Risk Management in Various Sectors.**

**KRA 5: Strengthened Resilience of Communities to Typhoon-related Disaster.**

**KRA 6: Improved capacity to generate and provide accurate, timely and understandable information on typhoon-related threats.**

**KRA 7: Enhanced Typhoon Committee's Effectiveness and International Collaboration.**

SP's KRA and SG	Objective Number	Objective	Action	Other WG's	Expected Quarter Completed	Other Organizations Involved	Success Indicators	Funding Required	Funding Sources	Coordinator
KRA 1 KRA 2 KRA 4	1	Contribution to SSOP	(a) To collect current status of Members' SOP for multi-hazard early warning (MEW) for coastal region (b) To convey the above outcomes to SSOP project for the implementation of SSOP	WGH WGDRR TRCG	1 <sup>st</sup> -4 <sup>th</sup>	TCS, Members, ESCAP WMO PTC ADRC	(a) Report of the collection of current status of Members' SOP for MEW for coastal region	TBD	SSOP Budget	Renito Paciente (PAGASA)
KRA 1 KRA 2 KRA 6 /SG 6b and 6c	2	Enhanced use of ensemble forecast	(a) To get feedback from Members for improvement of the TCEFP through WMO's questionnaire and SWFDP in Southeast Asia (b) To investigate tropical cyclogenesis prediction in the western North Pacific on medium-range timescales using the TIGGE data and on intraseasonal timescales using the JMA 1-month EPS conjunction with WMO-TCEFP	/	1 <sup>st</sup> -4 <sup>th</sup>	JMA	(a) Improvement of the web site responding to the feedback considering the provided data and feedback from SWFDP, if available (b) Investigate the TC genesis prediction over the western North Pacific during the 2009 and 2010 seasons using the TIGGE and JMA EPS data, and report the results	/	/	Masashi Kunitsugu (JMA)
KRA1 KRA2 KRA6 / SG 6b and 6c	3	Verification of tropical cyclone operational forecast	(a) To carry out post-season verification and reliability analyses on the operational forecast of tropical cyclones in Committee session (b) To further improve the evaluation system for tropical cyclone forecast, with special attention on genesis forecast conjunction with WMO-TLFDP (to be included in the TC Fellowship Scheme) (c) To offer fellowship for training on (b)	AWG, TRCG	1 <sup>st</sup> -4 <sup>th</sup>	CMA, KMA, HKO, RSMC Tokyo, Members	(a) Submission of the post-season verification report (b) Progress report on the improvement of evaluation system for tropical cyclone forecast	US\$5,000	TCTF	Ms. Yu Hui (STI/CMA)
KRA1 KRA2 KRA6	4	Improvement of South China Sea typhoon forecast	(a) Further improvement of TRAMS model (b) Provide more products relate to typhoon assess through website	/	1 <sup>st</sup> -4 <sup>th</sup>	CMA, Viet Nam, PAGASA, MMD	Submission of the report on the assessment of model and website	/	/	Chen Zitong (CMA)

KRA1 KRA2 KRA6	5	Development of typhoon seasonal prediction system	(a) To further develop the techniques of typhoon seasonal prediction (b) To establish the semi-operational web-based portal to provide the products of typhoon seasonal prediction for TC Members	/	1 <sup>st</sup> -4 <sup>th</sup>	KMA Members	Submission of the report on assessment of seasonal prediction models	/	/	Sangwook Park (KMA)
KRA1 KRA2 KRA6	6	Improvement of severe weather forecasting and interaction with user communities	(a) Semi-operation of SWFDP-Sea portal webpage (b) Provide more products in real time such as Daily Severe Weather Forecasting Guidance, thunderstorm index forecasting map, AMV, ASCAT, tropical cyclone track and intensity forecast, nowcasting for rainfall and storm, and Medium Weather Guidance (c) Investigate interpretation of EPS products as well as its NWP guidance (d) coordinate real-time 24/7 communications among the participating centres in the region of the project (to maintain a list of 24/7 contact information; telephone, fax, e-mail)	WGH, WGDRR, TRCG	2 <sup>nd</sup> -4 <sup>th</sup>	Viet Nam, Cambodia, Lao, Thailand, WMO	Progress report	/	/	Vo Van HOA NHMS of Viet Nam
KRA1 KRA2 KRA6 /SG6b and 6c	7	Development of regional radar network	(a) Development of source codes for conversion from UF format to GRIB2 format, as well as ones for production of EILS with the technical support from JMA (b) Specialized attachment training for TMD radar staff or an expert mission to TMD to complete the action (a) upon receipt of the progress report from TMD (c) To make the preparation studies on developing the composite map for the coverage of Thailand as well as utilizing QPE techniques by TMD	TRCG	(a) 4 <sup>th</sup> (b) 4 <sup>th</sup> (c) 4 <sup>th</sup>	TMD, JMA	Submission of the progress report, including a detailed schedule for the establishment of the radar composite map	US \$5000	TCTF	PatcharaPetvir oichai (TMD) Masashi Kunitsugu (JMA) Derek Leong (TCS)

KRA1 KRA2 KRA4 / SG4a	8	QPE/QPF for UFRM	(a) To collaborate with TC Fellowship scheme to provide QPE/QPF training to TC Members participating in the UFRM pilot projects upon a request (b) To provide follow-on technical assistance to MMD and PAGASA on the adaptation of HKO's SWIRLS (c) Upon availability of budget, QPE/QPF workshop to be hosted by MMD	WGH WGDRR TRCG	(a) 2 <sup>nd</sup> -4 <sup>th</sup> (b) 1 <sup>st</sup> -2 <sup>nd</sup>	RSMC Tokyo HKO, CMA	(a) & (b) Conduct of training and subsequent evaluation of the training	US\$5,000	TCTF	Masashi Kunitsugu (JMA) ST Chan (HKO)
KRA 1 KRA 2 KRA 4 /SG4(a )	9	Storm surge watch scheme	(a) To develop the storm surge model for expansion of the region (b) To provide storm surge time series charts at more than one point if so requested by Members	WGH TRCG	1 <sup>st</sup> -4 <sup>th</sup>	JMA	Submission of the progress report	/	/	Masashi Kunitsugu (JMA)
KRA 1 KRA 2 KRA 6 /SG 6b and 6c	10	Transfer of the Technology of the Typhoon Analysis and Prediction System (TAPS)	(a) To construct data server for operating the TAPS (b) To upgrade the user-compatible version of the TAPS (c) To train the typhoon forecasters on the use of the TAPS upon Member's request	TRCG	(a) 2 <sup>nd</sup> -3 <sup>rd</sup> (b) 2 <sup>nd</sup> -4 <sup>th</sup> (c) 2 <sup>nd</sup> -4 <sup>th</sup>	KMA Members	Submission of the progress report	US \$3,000	TCTF	Jiyoung Kim (KMA)

**Working Group on Meteorology (WGM) – Perennial Operating Projects (POPs)**

SP's KRA and SG	Objective Number	Objective	Action	Other WG's	Expected Quarter Completed	Other Organizations Involved	Success Indicators	Funding Required	Funding Sources	Coordinator
KRA 1 KRA 2 KRA 4 /SG4(a)	1	Improvement of QPE/QPF and storm surge techniques for TC Members	(a) To collaborate with TRCG to conduct the yearly RSMC Tokyo Attachment Training for operational forecaster from TC Members including the training of storm surge model and QPE/QPF.	TRCG	1 <sup>st</sup> -4 <sup>th</sup>	JMA, WMO	Submission of the evaluation report	/	/	Masashi Kunitsugu (JMA)
KRA 6 / SG 6b and SG 6c	2	Web-based typhoon forum	(a) To run routinely (b) Opening for scientists and operational forecasters upon Member's request (nominated by Members)	WGs	1 <sup>st</sup> -4 <sup>th</sup>	CMA Members	Submission of the progress report	/	/	Li qingqing (CMA)
KRA 1 - 6	3	Tropical Cyclone Research and Review	(a) To publish the journal quarterly in 2013 (b) Improvement of the editorial procedure (includes inviting the visiting editor) (c) Application of online ISSN	AWG, WGs	1 <sup>st</sup> -4 <sup>th</sup>	CMA, TCS Members	Progress report	US\$3,000	TCTF	Ms. Wang Dongliang & Zhou Xiao (CMA)

**Working Group on Meteorology (WGM) –Preliminary Projects (PPs)**

SP's KRA and SG	Objective Number	Objective	Action	Other WG's	Expected Quarter Completed	Other Organizations Involved	Success Indicators	Funding Required	Funding Sources	Coordinator
KRA 1 KRA 2 KRA 4	1	Assessment report on the impact of climate change on tropical cyclone in TC region	(a) To carry out the preliminary studies, on the impact of climate change on tropical cyclone, especially on the unusual behavior of tropical cyclone in the TC region (b) To prepare the AOP for drafting the 3rd assessment report upon the results of the preliminary studies (it'll be issued before IPCC AR6 in 2016)	WGH WGD RR TRCG	1 <sup>st</sup> – 4 <sup>th</sup>	HKO/China, CMA, USA, JMA, KMA, Macao/China (coordinator) Members	Submission of the progress report	/	/	Tam Lu Man (Macao/China)
KRA 1 KRA 2 KRA 4 /SG4(a)	2	Harmonization of Tropical cyclone intensity analysis	Based on the recommendation of the best track consolidation meeting, continue to study the methodology to compare the best track datasets with the consideration on the progress of digitization of CI numbers in hard copy	/	1 <sup>st</sup> – 4 <sup>th</sup>	JMA, CMA, HKO	Submission of the progress report	/	/	Masashi Kunitsugu (JMA)
KRA 1 KRA 2 KRA 4 /SG4(a)	3	Harmonization of timing of upgrade of TD to TS by various warning centers	To continue with the work of the Taskforce on TC Intensity Analysis for Upgrading TD	/	1 <sup>st</sup> – 4 <sup>th</sup>	Taskforce on TC Intensity Analysis for Upgrading TD	Submission of the progress report	/	/	ST Chan (HKO)

**WORKING GROUP on HYDROLOGY (WGH) - AOP 2013**

SP's KRA and SG	Objective Number	Objective	Action	Other WGs Involved	TCS Responsibility	Expected Quarter Completed	Other Organizations Involved	Success Indicators	Funding Required	Funding Sources
KRA 1 SG 1 KRA 2 SG 2 KRA 4 SG 4a KRA 5 SG 6b KRA 6 SG 6b	1	Assessment System of Flood Control Measures on Socio-economic Impacts	To develop the manual of ASFCM system and distribute to the TC members who want to apply the system		coordination	(a) First (b) Second (c) Third (d) Fourth		(a,b,c) To develop the system manual to help members' application of ASFCM in their own basins. (b,c,d) To consult the effect of the proposed flood control measures in selected basins	TCTF \$2,000 for developing the manual	MLTM TCTF
KRA1 KRA 4 SG 4a SG 4bKRA5 SG 5a KRA 6 SG 6b	2	Extreme flood forecasting system	To develop the TC homepage for WGH members and investigate flood forecasting systems in the selected members		See above	(a) First (b) Second (c) Third (d) Fourth	RID of Thailand, PAGASA of Philippines Laos	(a,b) Development of the Korean and English version of TC homepage for WGH members (a,b) Development of the member's reports and data sharing page (b,c) Investigation of the current flood forecasting systems and operation conditions in the selected basins (b,c,d) Comparison of the flood forecasting systems of the selected members	TCTF \$3,000 for the investigation	MLTM TCTF
KRA 1 SG 1 KRA 2 SG 2 KRA 4 SG 4a KRA 6 SG 6b	3	Project on estimation for socio-economic impact of sediment-related disaster	to improve former projects with establish common collecting format and methods of investigation for disasters to estimate estimation for socio-economic impact of sediment-related disaster and to share common technical background in TC members.	WGDRR	See above	(a)First (b)Second (c)Third (d)Fourth		(a) Providing a draft format to collect the record of sediment-related disaster (b) Deciding the format to collect the record of sediment-related disaster (c) To report the results of survey based on the format by each TC members (d1) To make a "Sediment-related Disaster Record Database" to share the records in TC members (d2) To report and share the results of estimation of socio-economic impact		NILIM SABO
KRA 1 SG 1 KRA 2 SG 2 KRA 4 SG 4a KRA 6 SG 6b	4	Development of Operational System for Urban Flood Forecasting and Inundation Mapping (OSUFFIM)	todevelop a prototype real time OSUFFIM for TC Members to promote the capacity of early warning of urban flood and emergency response, particularly urban flood forecasting and inundation mapping.		diver	(a)First (b)Second (c)Third (d)Fourth	SMG, Macao; Sun Yat-Sen University of China; TMD/RID of Thailand	(a1) kick-off meeting for discussion plan (a2) Survey of Pilot City—Hat Yai; (b1) Data collection, analysis and procession of the chosen pilot cities (Hat Yai) (b-c) developing system (d) report the progress at IWS	TCTF \$6000 for supporting activities related to OSUFFIM development	STDF of Macao; SYS Univ. ; TMD/ RID of Thailand; TCTF



SP's KRA and SG	Objective Number	Objective	Action	Other WGs Involved	TCS Responsibility	Expected Quarter Completed	Other Organizations Involved	Success Indicators	Funding Required	Funding Sources
KRA 1 SG 1 KRA 2 SG 2 KRA 4 SG 4a KRA 6 SG 6b	5	Extend application of Xin'anjiang Model in Selected River Basins in TC Members	To promote the Capacity of Flood Forecasting for TC Members; Use the Model in Pilot River basin in Malaysia in 2013		Coordination	(a)First (b)Second (c)Third (d)Fourth	BOH and Hohai University of China; DID of Malaysia	(a1) perfecting the English version of Model (China) (a2) select river basin and prepare necessary data by DID (b) Send profs/experts to Malaysia for training (c) Use the model on trial in flood season (d) report to TC IWS and Session	TCTF \$2000 to support experts for training course in Malaysia	BOH of China; DID of Malaysia
KRA 1 SG 1 KRA 2 SG 2 KRA 4 SG 4a KRA 6 SG 6b	6	Guidelines for extreme flood risk management in TC region	To define the concept of extreme flood and host a workshop to develop the consensus about the guideline among the members		See above	(a) First (b) Second (c) Third (d) Fourth		(a) Development of the definition of extreme flood in TC region (b,c) Host a WGH meeting(workshop) for TC members to discuss about TC AOP including extreme flood risk management (b,c,d) Development of consensus about the contents in the guideline among the members	TCTF \$2,000 for hosting the WGH meeting( workshop)	MLTM TCTF
KRA 1 SG 1 KRA 2 SG 2 KRA 4 SG 4a KRA 5 SG 5a KRA 6 SG 6b	7	Study on Prediction of Debris flow and Shallow landslide by the Satellite Rainfall Data	To study on prediction of debris flow and shallow landslide by the satellite rainfall data	WGDRR	See above	(a)First (b)Second (c)Third (d)Fourth	accept application	(b) kick-off meeting for discussion plan (c) accept proposal as pilot basin (d) Study on pilot basin		ICHARM
KRA 1 SG 1 KRA 2 SG 2 KRA 4 SG 4a, SG 5a KRA 5 SG 5a SG 5b KRA 6 SG6b	8	Project of Synergized Standard Operating Procedures for Coastal Multi-hazard Early Warning System (SSOP)	To develop a Manual/Handbook of Synergized Standard Operating Procedures for Coastal Multi-hazard Early Warning Systems	WGM WGDRR TRCG	Coordination Focal Point	(a)First (b)Second (c)Third (d)Fourth	PTC, ESCAP, WMO, ADRC, IOC of UNESCO	(a) Workshop of SSOP (b) Piloting in selected countries (c-d) Drafting the Manual/Handbook of SSOP		ESCAP funding

SG1: To enhance cooperation among TC Members to reduce the number of deaths by typhoon-related disasters by half in the ten years of 2006 – 2015 (using the ten years of 1990 - 1999 as the base line).

SG2: To reduce the socio-economic impacts of typhoon-related disasters per GDP per capita by 20 per cent in the ten years of 2006- 2015 (using the ten years of 1990 - 1999 as the base line).

SG 3a: To identify and explore the beneficial use of resources such as rainfall brought by typhoon.

SG 3b: To study and promote the increasing use of typhoon-related beneficial effects among the Members.

SG 4a: To provide reliable typhoon-related disaster information for effective decision making in risk management in various sectors.

SG 4b: To strengthen capacity of the Members in typhoon-related disaster risk management in various sectors.

SG 4c: To enhance international and regional cooperation and assistance in the field of disaster risk reduction.

SG 5a: To promote and enhance culture of community-based disaster risk management among the Members.

SG 5b: To promote education, training and public awareness of typhoon-related disasters among the Members.

SG 6a: To facilitate RSMC capability to respond to the needs of the Members in forecasting and capacity building.

SG 6b: To improve capacity of Members to provide timely and accurate user-oriented and friendly tropical cyclone products and information.

SG 6c: To enhance capacity of Members' typhoon-related observation, monitoring, forecasting and warning.

SG 7a: To strengthen the capacity of Typhoon Committee to effectively discharge its responsibilities and functions described in this Strategic Plan and completed its stated mission in accordance with the Typhoon Committee's Statute.

SG 7b: To mobilize available resources and engage collaborators for the implementation of the strategic goals.

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.

KRA 4: Improved Typhoon-related Disaster Risk Management in Various Sectors.

KRA 5: Strengthened Resilience of Communities to Typhoon-related Disaster.

KRA 6: Improved capacity to generate and provide accurate, timely and understandable information on typhoon-related threats.

KRA 7: Enhanced Typhoon Committee's Effectiveness, Efficiency and International Collaboration.

**WORKING GROUP on DISASTER RISK REDUCTION (WGDRR) - AOP 2013**

SPs KRA and SGs	Objective Number	Objective	Action	Other WG's	TCS Responsibility	Expected Quarter Complete d	Other Organi- zations Involved	Success Indicators	Funding Required	Funding Sources	Complete d Yes or No
KRA 4 KRA 5 SG 4b SG 4c	1	Extending the WGTCIDS	(i) Collect disaster information from TC Members (ii) Upgrade the search option for similar Typhoon in WGTCIDS	TCS	(i) Provide guideline to support \$1000 for collecting disaster information (ii) Assist in collecting disaster information from Members	Fourth	NDMI	(i) Complete collecting disaster information from Thailand, Philippines, USA and Cambodia (ii) Present various search option for finding similar Typhoon in WGTCIDS	US \$4,000	NDMI, Korea and TCTF	
KRA 4 KRA 5 SG 4b SG 4c SG 5b	2	Provide the training program	(i) Perform Expert Mission for training disaster prevention technologies and policies including WGTCIDS	TCS	Assist in planning and performing the expert mission	Fourth	NDMI	(i) Send expert team to four members of Lao PDR, Thailand, USA, and Viet Nam	US \$ 7,000	NDMI, Korea and TCTF	
KRA ALL SG ALL	3	Promote the international cooperation research	(i) Dispatch the experts of Korea and TCS for visiting Philippines to install the Flash Flood Alert System (FFAS) and AWS	WGH TCS	Assist in planning and performing the international cooperation research	Fourth	NDMI PAGASA	(i) Complete report on Northern Mindanao project		NDMI, Korea	
KRA 4 SG 4b SG 4c KRA 5 SG 5b	4	Application of SWIdget to Member countries	(i) Promote and extend the dissemination of warnings and alerts by Members through SWIC (Severe Weather Information Center)	-	Assist in liaising with focal points	Ongoing	WMO HKO	(i) Number of Members providing and using the warnings/alerts disseminated through SWIdget			
KRA 4 SG 4b SG 4c KRA 5 SG 5b	5	Setting up of community weather stations for raising public awareness on climate changes and extreme weather	(i) Liaise with Members on requirements and ways to take part in the project (ii) Offer an expert of Hong Kong, China for visiting Viet Nam and DPR Korea to implement the community weather stations	-	Assist in liaising with focal points ad provide logistic support for the expert visits	Fourth	HKO	(i) Weather stations installed in two interested TC member	US \$6,000	TCTF	

SP's KRA and SG	Objective Number	Objective	Action	Other WG's	TCS Responsibility	Expected Quarter Completed	Other Organizations Involved	Success Indicators	Funding Required	Funding Sources	Completed Yes or No
KRA4 KRA5 KRA7 SG4b SG5a SG6b	6	Provide benefit evaluation of Typhoon disaster prevention and preparedness	(i) survey and evaluate the response of government, department, company and person to typhoon disaster  (ii) survey and evaluate the benefit of different response		Assist in planning and performing the international cooperation research	Fourth	CMA KMA Macao, China Hong Kong, China	Complete collecting response of government and departments, evaluation report finalized	From TCTF: US \$2,000	CMA and TCTF	
KRA ALL SG ALL	7	Support the Synergized Standard Operation Procedure (SSOP) project		WGM WGH TCS							

SG1: To enhance cooperation among TC Members to reduce the number of deaths by typhoon-related disasters by half in the ten years of 2006 – 2015 (using the ten years of 1990 – 1999 as the base line).

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SG 4a: To provide reliable typhoon-related disaster information for effective decision making in risk management in various sectors.

SG 4b: To strengthen capacity of the Members in typhoon-related disaster risk management in various sectors.

SG 4c: To enhance international and regional cooperation and assistance in the field of disaster risk reduction.

SG 5a: To promote and enhance culture of community-based disaster risk management among the Members.

SG 5b: To promote education, training and public awareness of typhoon-related disasters among the Members.

SG 6a: To facilitate RSMC capability to respond to the needs of the Members in forecasting and capacity building.

SG 6b: To improve capacity of Members to provide timely and accurate user-oriented and friendly tropical cyclone products and information.

SG 6c: To enhance capacity of Members' typhoon-related observation, monitoring, forecasting and warning.

SG 7a: To strengthen the capacity of Typhoon Committee to effectively discharge its responsibilities and functions described in this Strategic Plan and completed its stated mission in accordance with the Typhoon Committee's Statute.

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KRA 4: Improved Typhoon-related Disaster Risk Management in Various Sectors.

KRA 5: Strengthened Resilience of Communities to Typhoon-related Disaster.

KRA 6: Improved capacity to generate and provide accurate, timely and understandable information on typhoon-related threats.

KRA 7: Enhanced Typhoon Committee's Effectiveness, Efficiency and International Collaboration.

SUMMARY REPORT (Version 120810)  
ADVISORY WORKING GROUP (AWG) MEETING  
Seoul, Republic of Korea  
28-29 May 2012

The meeting was held at the KMA headquarters and was chaired by Dr Lee Woo Jin on behalf of the Chairman of the AWG, Mr Cho Seok Joon, Administrator of KMA.

The meeting was attended by AWG members or their representatives, representatives of Typhoon Committee (TC) Chairperson, ESCAP, WMO and TC Secretariat (TCS), Vice-chairperson of TC, as well as staff from KMA and NDMI ([Annex I](#) – List of participants).

Considering the large number of issues to be addressed, it was agreed that the most important matters should be tackled first. However, for practical reasons, this summary report follows the sequence of items of the Tentative Agenda ([Annex II](#)).

**1. IMPROVEMENT OF GOVERNANCE OF TC**

**1.1 Review of the existing legal documents of TC**

**a) TC Statute**

Proposed changes to the current Statute of TC ([Annex III](#)) were discussed:

- (a) to update and replace "ECAFE" by "ESCAP";
- (b) to add "and services" after "meteorological and hydrological facilities" in Article 6(b);
- (c) to update the references made to UNDP and WMO World Weather Watch plan; and
- (d) to clarify the nature and objective of the "annual report" mentioned in Article 10.

On the procedures required for amending the Statute, it was noted that TC at its 37<sup>th</sup> Session considered: *"Any changes identified were minor in nature and because of the difficulty associated with changing this Statute (approval of UN legal department, ESCAP, WMO, and all Governments), the WG ROSTY recommends that the Typhoon Committee not change the Statute of the Typhoon Committee"*.

Despite this point of view, it was considered desirable to clarify once and for all whether submission to UN legal department was really necessary, or if amendments could be effected by simply following Article 11 of the Statute (*“Amendments to the present statute which may be proposed by any participating Government shall be examined by the Committee and shall take effect when approved by all participating Governments”*). TCS would follow up with ESCAP and WMO on this matter.

Noting that the Statute did not specify any legal link between ESCAP and TC, Mr Yuichi Ono opined that TC should be considered as an independent inter-governmental organization in its own right, supported by ESCAP and WMO. He also confirmed that the change of name from ECAFE to ESCAP was not absolutely necessary.

Given that the changes identified were relatively minor and non-essential, AWG agreed that there was no need to expend effort to pursue amendments to the Statute at this stage. It was agreed that for enhancing TC governance, improving the Rules of Procedures (RoP) would serve the purpose just as well.

#### **b) TC Rules of Procedure (RoP)**

The following changes to the current TC RoP (**Annex IV**) were proposed:

##### Rule 2

*“Notice to convene each session of the Committee, with copies of the provisional agenda, shall be issued to the Governments of Members by the Typhoon Committee Secretary, in consultation with ESCAP, WMO, TC Chair and AWG, at least three months before the commencement of the Session.”*

##### Rule 2A

*“In response to the invitation letters to attend the session, the Governments of Members shall be requested and required to: (a) nominate the head of the delegation, and (b) provide credential letters for delegates attending the session who are authorized to vote on behalf of the Members.”*

##### Rule 2B

*“The Typhoon Committee Secretariat shall ensure that all the action-based working documents and related information papers from Working Groups and Members are made available for reference and posted on the TCS website at least one month before the commencement of the session.”*

##### Rule 6

*For ensuring familiarity with TC works and enhancing continuity, and also in consideration of the Terms of Reference (ToR) of TC Vice-chairperson, it was agreed that the newly added text referring to the nomination of successors during mid-term of office by respective Governments of Members be removed. The text would as such revert to its original version as follows:*

*"The Committee shall, at each Session, elect from its representatives a Chairperson and a Vice-Chairperson, who shall hold office until their successors are elected. They shall be eligible for re-election."*

#### Rule 8

*To add the word "simple" before "majority" to clarify the nature of majority required, and also to align with the majority required under Rule 7.*

#### Rule 10

*"In implementing Article 3 of the Statute of the Typhoon Committee, the Typhoon Committee shall review regularly the appointment of TC Secretary and any issues relating to TCS hosting arrangement."*

Mr Yuichi Ono confirmed that TCS could send the invitation letters for attending the annual sessions directly to the Governments of Members, and he would make arrangement for ESCAP to provide a list of addressees for reference by TCS.

The proposed changes were in general supported for consideration and endorsement by TC at its 45<sup>th</sup> Session, except for the requirement of credential letters under Rule 2A. There were expressed reservations that some Members might find it difficult to meet this obligation and further consultation among Members on the way forward would be necessary.

(Annex IV A – TC Rules of Procedure with changes proposed by AWG)

#### **c) Terms of Reference (ToR) of the Typhoon Committee (Annex V)**

To change and combine Items 5 and 6 as follows:

*"Develop and approve the TC's draft Annual Operating Plan, programmes, activities and TCTF budget for implementation in the subsequent one-year period;"*

To delete Item 11.

To amend Item 12 as follows:

*"Promote the establishment of programmes and facilities for training personnel from Members in typhoon forecasting and warning, hydrology and flood management within the region and arrange for training outside the region, as necessary;"*

To amend Item 14 as follows:

*"Determine the location of TCS and establish an agreement with the host Member."*

In consideration of Rule 10 of RoP, to amend Item 15 as follows:

*"Appoint the TC Secretary, in consultation with the Member hosting the TCS."*

To insert Item 17 as follows:

*"Review and update the TC Strategic Plan."*

To insert Item 18 as follows:

*"Process and approve applications from potential candidates to become Members of TC."*

To re-number the items after consolidating the above revisions.

TCS to work with WMO to clarify the relevance of the text: "as part of the World Weather Watch Programme" towards the end of this ToR and to propose updated wording (see also Section 1.5 below).

**(Annex V A – Terms of Reference of TC with changes proposed by AWG)**

**d) ToR of the Chair of TC (Annex VI)**

To replace the words "work plan" by "Annual Operating Plan" in all items.

Item 2: To change "AOP submitted by TCS" to "AOP submitted by AWG".

To delete Item 5.

Item 8: Report to the Typhoon Committee the progress and achievement in relation to the Committee's initiatives since the last session.

**(Annex VI A – Terms of Reference of Chair of TC with changes proposed by AWG)**

**e) ToR of the Vice-Chair of TC (Annex VII)**

No change was proposed.

**f) ToR of the TC Secretary (Annex VIII)**



It was agreed that the ToR of the TC Secretary should be formulated in a more strategic and target-oriented manner, with high-level language reflecting his/her executive capacity and supervisory role. The following text was proposed as a first draft:

1. *Direct and supervise the tasks and duties of TCS*
2. *Maintain and manage an adequate workforce in TCS for effective delivery of TCS output.*
3. *Promote maximum participation of Members of TC in the implementation of programmes and activities.*
4. *Coordinate and link up with TC Chair, AWG, ESCAP, WMO, various key players and stakeholders within the Committee, as well as with collaborating partners and interested parties outside the Committee.*
5. *Liaise closely with the Governments of Members for effective organization of the session and attendance by high-level senior government officials.*
6. *Organize or undertake missions or visits to identify Members' needs and report on specific typhoon-related events.*
7. *Identify emerging issues and propose solutions for timely attention by TC Chair and AWG Chair.*
8. *Identify and liaise with potential sponsors for resource mobilization in support of TC initiatives.*
9. *In consultation with WMO, plan and manage the utilization of TCTF in support of TC programmes and activities.*
10. *In consultation with Members and AWG, plan and facilitate the nominations and selection of candidates for the annual presentation of Dr Roman L Kintanar Award.*
11. *Prepare and submit to the Session a report on actions and activities taken by TCS.*

*(Annex VIII A – Terms of Reference of TC Secretary with changes proposed by AWG)*

**g) ToR of the TCS (Annex IX)**

It was agreed that the more routine tasks originally under the ToR of TC Secretary should be integrated into the ToR of the TCS. TC Secretary and TCS were requested

to compile and consolidate a revised ToR for consideration at the Integrated Workshop (IWS) in Nanjing later this year.

## **1.2 Review of ToR of AWG and WGs**

It was recommended these ToRs should be separately reviewed by the respective groups, and any revisions or amendments to be made would be discussed and vetted at the IWS in Nanjing later this year.

Considerations were given to the prevailing practice of appointing the outgoing TC Chairperson as the new AWG Chair (see **Annex X** for details). To address the issues arising, it was agreed that Solution B in Annex X be adopted, such that AWG chairmanships could be de-linked from TC chairmanships and hence TC session hosting arrangement. Elective appointment of AWG Chair and Vice-chair **for up to XXX (e.g. two) years**, duration of office to be further consulted among Members or as decided by TC at the annual sessions, would provide more continuity and enhance AWG's leadership role in planning and implementing TC's initiatives. The rationale of this approach should also be suitably reflected when reviewing and revising the ToR of AWG.

It was also agreed that the appointments of office-bearers under AWG and the WGs should be included in the main text of the Session Report, not as part of the ToRs among the annexes.

## **1.3 Use of Decision and Action-based Documents and Consistent Follow-up of the Decisions and Recommendations**

It was recognized that the use of action-based documents would greatly facilitate the conduction of TC sessions and follow-up of decisions/recommendations. Other background or technical material could be presented in the form of information papers. Mr CM Shun would provide some suggestions and samples of action-based documents for reference by TCS.

## **1.4 Standardized Performance Based Metrics in the Key Results Areas (KRAs)**

Mr Shim Jae Hyun indicated that NDMI would study further effective ways to reliably assess the death and economic impact of typhoon-related disasters for performance review under the Strategic Plan's KRAs. He noted that TCDIS was potentially a good tool for this purpose, but it also depended on the collaboration of Members considering that, up to now, only several Members had filled in the forms supplied by NDMI for damage data input.

It was pointed out that in the absence of validated data, reports from news media, insurance industry and NGOs (e.g. Red Cross) could also be compiled for reference purpose.

### **1.5 Development of Synergies with ESCAP and WMO through Strategic Objectives and Policies and Operating Plans**

TCS would continue to work with ESCAP and WMO to ensure synergy through the formulation, implementation and update of the Strategic Plan, and how it could be better formulated to reflect and align with the high-level objectives and policies of WMO.

## **2. EFFICIENCY OF TC MEETINGS**

### **2.1 Review, Investigate, and Implement Methods and Procedures to Evaluate the Effectiveness of Training and Workshops**

Mr Edwin Lai presented the templates used to evaluate the Roving Seminars ([Annex XI](#)). Mr Masashi Kunitsugu also indicated that evaluation surveys were also carried out for the annual forecasters' attachment at RSMC Tokyo.

Chairs of other WGs were encouraged to make reference of these materials and requested to develop or adapt evaluation methods and procedures that would enable them to assess the effectiveness of training and workshops.

### **2.2 Technical Conference (TECO)**

### **2.3 Integrated Workshop (IWS)**

### **2.4 TC Annual Sessions**

The meeting was generally supportive of a proposal presented by Mr Edwin Lai ([Annex XII](#)) in re-structuring and streamlining the organization of TC Session, IWS and TECO.

**In summary, the following key changes were adopted:**

TECO, previously a pre-Session activity for technical presentations, will become part of IWS which already, at present, has a technical seminar component. WGM, WGH, WGDRR and TRCG will take turns to organize the technical theme to ensure a balance among the three main components, as well as accommodating the four-yearly TRCG forum and meeting. The TRCG forum can also serve as a cross-cutting platform for organizing a major technical seminar every four years, with active support and participation from the other three WGs.

For IWS: (i) more time to be allocated for discussing cross-cutting initiatives; (ii) Members' country reports to be presented at the IWS (in the parallel sessions) instead

of TC Session; and (iii) drafting of an executive summary and message for Members' respective governments at the AWG planning session, to be endorsed at TC Session, then issued by TCS for delivery via Members' PRs.

Actions and recommendations to be adopted by the Session, including a summary of Members' country reports, will be drafted in the IWS. This will greatly facilitate and streamline the discussion to be conducted at the Session.

TC Session will be confined to 4-day event (without the Members' country reports). The formulation of an executive message to governments is likely to attract PRs or more senior government officials to attend. Opportunity will also be taken to make a conscious and strategic effort to invite international observers and funding agencies to attend; the executive message or a summary report can also be made available to these participants for resource mobilization purposes.

The format of the Session Report should be revamped for more concise presentation, and the drafting should cover issues such as areas in which TC needs funding support, as well as facts and statistics on death and damage impact arising from typhoon-related disasters.

### **TC 45th Session and TRCG Forum at the 8th IWS in 2013**

It was confirmed that the 45th TC Session would be held in Hong Kong on the week of 28 January 2013. In consideration of the above proposals, it was agreed that: (a) changes should take place at the 45th TC Session; and (b) the next TRCG Forum in 2013 would be organized as a TECO for the 8th IWS.

### **Themes and dates for the 7<sup>th</sup> IWS**

It was decided to adopt "Effective Warnings" as the main theme, with "Common Alerting Protocol – CAP" as a sub-theme, for the 7<sup>th</sup> IWS to be held at the WMO RTC Nanjing on 26-30 November 2012.

As CAP was related to message delivery at the users' end, it was considered a good opportunity to engage media representatives for more in-depth discussion at the IWS. Mr Koji Kuroiwa would explore such possibilities further with WMO PWSP.

As country reports would be presented at the 7th IWS instead of TC 45th Session, TCS was requested to call for earlier submission of country reports from Members.

### **3. RESOURCES MOBILIZATION**

When the opportunity arose for project funding from external sources, it was recognized that TCS should consult and engage Members to ensure a sufficient level of commitment to the planned initiatives.

It was also recognized that TC should make an effort to correctly manage the Tsunami Trust Fund project (Synergized Standard Operating Procedures for Coastal Multi-hazard Early Warning System) and the UFRM project, and to maximize the utilization of resource available from these projects, for accountability as well as demonstration of TC effectiveness.

It was noted that ESCAP would make an effort to provide regular funding for some activities (approximately every two years), and similar contribution from TCTF to supplement the ESCAP funding would be considered.

#### **4. USEFULNESS AND APPLICATION OF IN-KIND CONTRIBUTIONS**

Mr Olavo Rasquinho reported on the information gathered from Members relating to in-kind contributions. TCS would request Members to provide information on their in-kind contributions and would prepare a summary for presentation as an information paper at the next Session.

#### **5. STANDARDIZATION AND HARMONIZATION OF MEMBERS' PRACTICES TO PROMOTE EFFECTIVE WARNING, IN PARTICULAR COMMUNICATION OF ADVISORY AND WARNING MESSAGES TO THE USERS**

Mr Lei Xiaotu indicated that WGM would consider this issue at the next IWS.

#### **6. PROCEDURES FOR HOSTING TCS AND SELECTION OF THE SECRETARY FOR THE NEXT FOUR-YEAR CYCLE (2015-2018)**

Mr Olavo Rasquinho informed the participants about the willingness of Macao, China to continue hosting TCS. TCS was tasked to request a document from the Macao SAR Government to confirm its intention.

For the transfer of TCS hosting to another Member, it was noted that the document "Criteria for Hosting the Typhoon Committee Secretariat" ([Annex XIII](#)) could serve as a kind of guidelines for future reference.

Regarding the appointment of the TC Secretary, it was stressed that, when this issue was raised at the 37<sup>th</sup> TC Session (Shanghai China, 16-20 November 2004), the WG on ROSTY stated that (Paragraph 3.3 of Appendix XIV to the TC37 Report - Proposed Terms of Reference of the Committee and its Working Groups and Rules of Procedure of the Typhoon Committee): *"The host Member of the Typhoon Committee Secretariat will nominate a TC Secretary and the Typhoon Committee will confirm by a majority of the voting Members"*.

Notwithstanding this recommendation, and considering that it was not frequent to change the hosting arrangement of TCS and that every situation would be different, the

meeting considered it acceptable to review the process on a case-by-case basis. TCS was requested to formalize the procedures based on the existing practice.

## **7. AGREEMENTS BETWEEN TC AND OTHER ENTITIES**

### **a) Draft agreement between Nanjing University of Information Science and Technology (NUIST, Nanjing, China) and TC,**

Mr. Masashi Kunitsugu presented the views of RSMC Tokyo in relation to the contents of the draft agreement. Use of terms such as “shall” and “obligation” were considered not appropriate for training activities made through mutually agreed arrangement.

Mr Yu Jixin confirmed that NUIST had no strong views regarding the wording and the type of arrangement (“agreement”, “memorandum of understanding” or other) to be adopted. NUIST would still render support to TC even if there was no agreement in place.

Mr Edwin Lai undertook to provide some input to the draft agreement from TRCG perspectives (Annex XIV), and subject to any revisions required, TCS would send the draft agreement to NUIST for consideration.

As the next IWS would be held in NUIST, TCS was requested to consult NUIST on the possible arrangement of a signing ceremony.

### **b) Agreement Between China and TC on hosting TCS in Macao**

### **c) Agreement between Macao SAR of China and TC regarding administrative, financial and related arrangements for TCS**

Regarding b) and c), Mr Olavo Rasquinho considered that these two agreements could also serve as reference in the event of changes in future TCS hosting arrangement.

### **d) Agreement between WMO and TC on TCTF**

Mr Olavo Rasquinho reported that it was signed in 2010 the Memorandum of Understanding between WMO and TCS referring to Typhoon Committee Trust Fund (TCTF) Arrangement

## **8. TYPHOON COMMITTEE TRUST FUND**

Mr Olavo Rasquinho presented the demarches in managing the TCTF. In accordance with the MoU between WMO and TCS, TCS would prepare annually a Work Plan based on the allocations decided by TC at the annual session.

It was noted that the MoU provided a certain flexibility allowing the transfer of funds from one item to another as authorized by AWG. However, such re-allocations needed

to be managed in a very efficient way to ensure sufficient funds would be made available for implementing respective planned activities.

## **9. NEW RULES AND PROCEDURES “DR. ROMAN L. KINTANAR AWARD FOR TYPHOON-RELATED DISASTER MITIGATION”**

Mr Olavo Rasquinho presented the nomination and selection processes for the Dr. Roman L Kintanar Award.

## **10. ANY OTHER BUSINESS**

### **a) Ideas for improving TC efficiency and effectiveness**

Dr Lee Woo Jin invited the participants to express ideas that would contribute to the improvement of the efficiency and effectiveness of TC.

#### **Summary of some expressed ideas:**

Attention should be given to the improvement of the forecast and warning of weather hazards.

Effective warnings are a key issue and needs to be discussed in depth at the next IWS.

Close collaboration among the WGs, particularly between WGM and WGDRR, should be pursued for the implementation of the Common Alerting Protocol (CAP) in the area covered by TC. RSMC Tokyo has started to provide advisory messages using CAP.

The next IWS, to be organized in the form of a TECO, will be a good occasion to improve the visibility of TC, with engagement of media representatives to highlight the important linkage between early warnings and effective users' responses.

The next TRCG Forum, in 2013, if organized as a major technical seminar, will be an opportunity for promoting TC's profile and activities in the three components within the region.

Important synergies are being developed between WGM and WGH with support from TRCG regarding QPE/QPF under the UFRM project.

The project “Synergized Standard Operating Procedures for Coastal Multi-hazard Early Warning System” funded by the ESCAP Fund for Tsunami, Disaster and Climate Preparedness in Indian Ocean and Southeast Asian Countries” can be an excellent opportunity to enhance TC's profile in the region and to strengthen the cooperation between TC Members and Members of the Panel on Tropical Cyclones.

Cross-cutting synergies through training and research, under TRCG, are of great importance for a greater role to be played by the DRR and Hydrology components.

Hosting of the next Roving Seminar later this year by NDMI, a non-meteorological institute, will be a first for TC. Extending the TC Fellowship to other components and including more hydrology and DRR experts in TRCG will also help to broaden TC's development perspectives.

The invitation of a representative from Panel on Tropical Cyclones (PTC) to participate in the 7<sup>th</sup> WGDRR workshop is an example how international cooperation can be promoted between regional bodies under the WMO Tropical Cyclone Programme.

The DRR component has a role to perform in international cooperation, in terms of making available software and training relating to the Mountain Flash Flood Prediction System and TCDIS.

It may be helpful to retain experienced resource persons, even after their retirement, to provide continuity and guidance to TC activities. On issues such as TC governance, members of the former WG on ROSTY (e.g. Mr CY Lam and Mr James Weyman) may also be able to give useful advice on delicate issues.

#### **b) Drafting of meeting summary**

- **NOMINATION OF PEER REVIEWERS/CONTRIBUTORS**

In the drafting of the meeting summary to be submitted to the 45<sup>th</sup> TC Session with concrete proposals and decisions on the main issues discussed, Mr Lee Woo Jin recommended the nomination of peer reviewers/contributors from AWG members for each important subject:

TC and AWG chairmanship mechanism (TC Chair and Vice Chair, AWG Chair)

Amendment of RoP and ToR (TC Secretary, AWG Chair and respective WG Chairs)

Review of procedures for hosting TCS and appointing TC Secretary (TC Chair and TC Secretary)

Use of decision and action-based documents and consistent follow-up of decisions and recommendations (TC Vice-chair and AWG Chair)

Standardized performance based metrics in the KRAs (WGDRR Chair)

Re-structuring of TC meetings/activities, and review of session programme and report format (TRCG Chair, ESCAP, WMO).



- **DRAFTING SCHEDULE**

- Early June – TCS to prepare first draft of meeting summary
- June-July – Revise and finalize draft based on feedback from AWG members
- **July-August – Circulate finalized meeting summary to TC Members**
- Late November – Review action items in meeting summary at the 7<sup>th</sup> IWS
- Late December – Submit the meeting summary and the revised RoP and ToRs as discussed and agreed at the 7<sup>th</sup> IWS to the 45<sup>th</sup> TC Session

TC Secretary was requested to draw up a follow-up actions list (Annex XV) to remind the parties concerned and to aim at a timely completion of actions before the 7<sup>th</sup> IWS.

**ANNEX V (TO 7<sup>th</sup> IWS Summary Report)**

**SUMMARY REPORT**

**OF**

**POST-7<sup>TH</sup> IWS AWG MEETING**

**(Nanjing, 30 November 2012)**

**1. Evaluation of the 7th IWS**

The participants were unanimous in considering excellent the organization of the 7<sup>th</sup>integrated workshop. However comments were made referring the imbalanced weight of the DRR component in the Keynote Lectures and it was recommended to correct this in the next IWSs.

TCS was recommended to request more active collaboration on DRR component from some Members. The TCS representatives were also recommended to make efforts to insist in the necessity of Cambodia to participate in the meetings of TC, namely in future IWSs. It was evidenced that in relation to Cambodia, country in which the Permanente Representative with WMO is the Minister of Water Resources and Meteorology, the necessary authorization for its representatives to attend meetings is not easy. WMO was recommended to make efforts regarding Cambodia so that the communication between the PR with WMO and the Department of Meteorology can be facilitated.

It was also focused that the representatives from Lao PDR and DPR Korea have also difficulties in participating in some TC meetings. In this regard it was recommended a visit of representatives of ESCAP, WMO and TC to Cambodia, DPR Korea and Lao PDR to meet the respective authorities who deal with matters related to the three components of TC, Permanent Representatives with WMO and other entities.

**2. Follow-up Actions List of the Recommendations of AWG**

The Secretary of TC presented the status of implementation of the AWG recommendations made at the Ad-hoc meeting of Seoul, on 28-29 May 2012.

**3. Governance. Statute and Terms of Reference of the Committee and its Working Groups**

The AWG continued the discussions, which took place on 28-29 May in Seoul, on the basic documents of TC and drafted the final versions to be submitted to the 45<sup>th</sup> TC Session for endorsement (Please see the working document WRD/TC.45/10 – Revision of the Basic Documents of Typhoon Committee – Rules of Procedure and Terms of Reference):

Annex 1 -Statute of the Typhoon Committee (changes were considered not necessary)

Annex 2- Rules of Procedure of the Typhoon Committee

Annex 3- Proposed Terms of Reference of the Typhoon Committee

Annex 4- Proposed Terms of Reference of the Chairperson of Typhoon Committee

Annex 5- Terms of Reference of the Vice-Chairperson of the Typhoon Committee

Annex 6- Proposed Terms of Reference of the Secretariat of the TC

Annex 7- Proposed Terms of Reference of the Secretary of the TC

Annex 8- Proposed Terms of Reference of the Working Group on Meteorology

Annex 9- Proposed Terms of Reference of the Working Group on Hydrology

Annex 10-Proposed Terms of Reference of the Working Group on Disaster Risk Reduction

Annex 11- Proposed Terms of Reference of the Training and Research Coordinating Group

Annex 12- Proposed Terms of Reference of the Advisory Working Group

Annex 13- Proposed Terms of Reference of Chairpersons of the Three Components Working Groups and the Training and Research Coordinating Group

Given that the changes identified were relatively minor and non-essential, AWG agreed that there was no need to expend effort to pursue amendments to the Statute of TC at this stage. It was agreed that for enhancing TC governance, improving the Rules of Procedures of TC and the Terms of Reference would serve the purpose just as well.

Regarding the Rule 2A<sup>1</sup> of the Rules of Procedure of the Typhoon Committee, referred to the necessity of credentials for the head of the delegations, it was recognized that there are some difficulties in some countries. This issue has been recommended to be addressed in the 45<sup>th</sup> TC Session.

The TC Secretariat was recommended remind the Members on the necessity to report the head of delegations for the next Session to TCS.

#### **4. 8<sup>th</sup> IWS/TRCG Forum – Theme and Sub-themes**

The Chair of the TRCG proposed the realization of the 8<sup>th</sup> IWS together with the Forum of TRCG. He recalled that the previous forum was held in 2009 and that this type of event is supposed to be held

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<sup>1</sup> Rule 2A

"In response to the invitation letters to attend the session, the Governments of Members shall be requested and required to: (a) nominate the head of the delegation, and (b) provide credential letters for delegates attending the session who are authorized to vote on behalf of the Members."

every four years. He requested the WGs to suggest themes and subthemes for this Forum. (Please see WRD/TC.45/14.4/1 – Organization of the TRCG Forum).

## 5. Organization of the Annual Sessions

**Following recommendation of the AWG the duration of the annual sessions will be reduced for a 3 or 4-day event and the Members' Reports will be presented in the TC integrated workshops.** By proceeding in this manner and by separating the technical matters from the session it is expected more involvement of high-level officials in the session. Thus, in the wake of this opinion the next session is going to last 4 days instead of six as previously.

**Also an Executive Summary of Members' Reports will be drafted by the AWG to be endorsed by the Session so that can be distributed to Governments** (Please see WRD/TC.45/5). This way of proceeding is expected to draw Permanent Representatives of the Members with WMO or more senior officials to attend. Opportunity should also be taken to make a conscious and strategic effort to **invite international observers and funding agencies to attend the sessions for resource mobilization purposes.**

It was suggested to invite well known scientists related to WMO PTC to address a keynote lecture so that there is greater participation of high-level officials. It was also raised the possibility of presenting a lecture on SOP for EWS.

## 6. Small AWG meeting

It was suggested **to hold a small AWG meeting in Bangkok during the SSOP workshop** (Activity 1.1 - Conducting a Workshop for collecting and exchanging the performance status of coastal multi-hazard EWS in the Members of TC and PTC at high risk), tentatively on 18 and 19 March 2013, in Bangkok.

## 7. SSOP Project

The AWG discussed the Terms of Reference (ToR) of the Steering Committee, ToR of Task Force and ToR of Project Manager for the SSOP project and recommended an Implementation Plan. These documents were recommended to be endorsed by the Committee at the 45<sup>th</sup> TC Session (Please consult WRD/TC.45/7.2)

**The AWG recommended the representative of WMO to report the status of the SSOP project to the PTC, at the session of this regional body, which will take place in Colombo, Sri Lanka from 25 February to 1 March 2013.**

**Participants:**

Mr. Koji KUROIWA-Chief, Tropical Cyclone Programme Division of WMO

Ms. Genevieve Miller, Vice-Chair of AWG

Lei Xiaotu, Chair of WGM

Mr. Minoru KAMOTO, Chair of WGH

Mr. Chihun Lee and Mr. SHIM Jae Hyun (in representation of the Chair of WGDRR)

Mr. Edwin Lai (Chair of TRCG)

Mr. Masashi KUNITSUGU, Head of RSMC Tokyo

Mr. CHAN Ki-Ho and Mr. KIM Jiyoung (representing Mr. CHO SeokJoon, Chair of AWG)

Mr. Yu Jun (representing the Chair of TC)

TCS staff:Mr. Olavo Rasquinho, Secretary; Mr. Leong Kai Hong, Meteorologist; Mr. Jinping Liu, Hydrologist; Ms. Denise Lau Senior Administrative Secretary; Ms. Lisa Kou, Senior Accounting Officer