

REPORT on Activities of Working Group on Disaster Risk Reduction (WGDRR) of TC in 2018

(Item X of Provisional Agenda)
(Submitted by WGDRR)

ACTION REQUIRED:

The Committee is invited to:

- a. Review the activities of TC WGDRR conducted in 2018
- b. Approve the recommendations and AOPs of WGDRR in 2019

APPENDIX:

- I. Draft text for inclusion at session report**
- II. Report on activities of Working Group on WGDRR in 2018**

APPENDIX I
DRAFT TEXT FOR INCLUSION AT SESSION REPORT

Disaster Risk Reduction Component

- The Committee reviewed the activities of WGDRR in implementing the TC Strategic Plan and its Annual Operating Plans (AOPs) in relation to DRR component during the past year. Details of which are presented in Appendix II.
- The Committee was informed that 13^h WGDRR Annual Workshop was successfully held in Ulsan, Republic of Korea from 29 to 31 May 2018 with the theme of “Public Understanding of Science on Disaster Risk Reduction from Desk to Field”, which was hosted and funded by National Disaster Management Research Institute (NDMI). ESCAP, WMO and AWG Members were also invited to join the meeting, beside WGDRR Members.
- The Committee expressed its appreciation to National Disaster Management Research Institute (NDMI) for their kind contribution and continued support on WGDRR activities.
- The Committee expressed its appreciation to the Working Group Chair, Dr. Jaehyun Shim from the Republic of Korea for his remarkable contribution as the Chair of WGDRR in the past years.
- The Committee expressed its appreciation to the Working Group Vice Chairs, Ms. Genevieve Miller from USA and Dr. Yuntae Kim for their contribution and effort in the past years.
- The Committee was informed that the projects (AOPs) for 2019 recommended by WGDRR as follow:
 - i. AOP1: Expert Mission- the project aims to exchange information and experience sharing related to DRR such as policies and technologies among the Members in order to improve the capacities on DRR. It was planned to continue conducting the Expert Mission in the interested Member state in 2019.
 - ii. AOP2: Setting up early warning and alert systems – The project is fund by NDMI. With installation of the EW and Alert Systems developed by NDMI, it improves the capacities of resilience for typhoon related disaster for participating members. NDMI has planned to continue carrying out the project in Laos and Vietnam in 2019.
 - iii. AOP3: WGDRR Annual Meeting- NDMI will continue organizing and funding the WGDRR annual workshop in order to facilitate follow-up of the WGDRR activities and information sharing related to DRR, as well as the communication among the Members.
 - iv. AOP4: Promote TC-PTC Cooperation: NDMI will invite PTC Member to join the 14th WGDRR annual workshop for information exchange and experience sharing related to disaster management, as well as discussion about the cooperation between TC and PTC on DRR activities.
 - v. AOP5: Participation in the BOSAI Forum - the Forum will be held in Sendai, Japan in November 2019. WGDRR planned to take part in the Forum in order to improve the

capacities of disaster risk reduction among TC Members by exchanging DRR information and expertise with Forum's participants, as well as introduce TC. WGDRR suggested other WGs to join the BOSAI forum for composing the TC session. For the cooperation between TC and PTC, WGDRR also suggested PTC members to join the forum.

- vi. AOP6: Benefit evaluation of typhoon disaster prevention and preparedness project- this project is led by Shanghai Typhoon Institute (STI), China that functions to establish a set evaluation index and provide an evaluation report that assists in decision-making basis for the optimization of typhoon disaster behavior. STI, China will provide a fellowship program to the interested Members for the project research in 2019. Miss Zhou Xiao and Chen Peiyan from STI, China will be the coordinators of the project.
- vii. AOP7: Supporting SSOP II Project- The SSOP Project Phase II that is aimed at implementing the Synergized Standard Operating Procedures (SSOP) for Coastal Multi-Hazards Early Warning System. The project originally will be terminated in November 2018. But the project has been extended to 2019 by ESCAP's approval. WGDRR will continue supporting the implementation of the Project.
- viii. AOP8: Sharing information related to disaster risk management- In order to improve the capacities of Members' Disaster Management, WGDRR will continue sharing information related to DRR through the established forum on TC website.
- ix. AOP9: Making education videos related to DRR- WGDRR will continue producing DRR education videos especially related to typhoon for sharing with TC Members in order to raise the public awareness on typhoon disaster.

Conclusions of WGDRR

On the basis of the information provided by the Members, the reports presented by project coordinator/leader and findings of the parallel session on WGDRR, the following conclusions were reached:

- a) Members have made important progress in the implementation of the TC SP during 2018
- b) The 13th WGDRR annual workshop was successfully conducted in Ulsan, Republic of Korea from 29 May to 31 May 2018 with the theme of "Public Understanding of Science on Disaster Risk Reduction from Desk to Field". During the workshop, Working Group on DRR followed up on projects and shared information related to DRR among members. AWG Members and outside TC DRR experts were also invited to attend the workshop, besides the DRR Members. NDMI, Republic of Korea showed that they will continue organizing the 14th WGDRR annual meeting in 2019.
- c) WGDRR will continue conducting the projects which can improve the capacities of disaster risk reduction for TC Members through the exchange of information such as expert mission and information sharing or participation in important conferences or meeting, etc.
- d) WGDRR will continue planning the projects related to public education on DRR in the coming future which can facilitate raising public awareness on typhoon related disasters such as setting up of community weather stations and producing educational videos, etc.

- e) To continue seeking the cooperation among the members and another regional body such as PTC on DRR activities.
- f) Compared with the projects last year, WGDRR suggested removing 2 projects namely TC Report about Big Data and Social Media use for DRR and iCoWin project. In 2019, total 9 projects will be executed based on the discussion at the meeting.
- g) For implementation of the proposed projects in 2019, WGDRR proposed the request of USD **21,500** to be allocated TCTF for the following items:
 - i) To allocate USD **6,000** budget of TCTF in 2019 for supporting the Expert Mission.
 - ii) To allocate USD **8,000** budget of TCTF in 2019 for supporting the participation in World Bosai Forum in Sendai, Japan.
 - iii) To allocate USD **6,000** budget of TCTF in 2019 for supporting the research fellowship, which will be held in STI, CHINA, related to benefit evaluation of Typhoon disaster prevention and preparedness.
 - iv) To allocate USD **1,500** budget of TCTF in 2019 to support producing an educational video provided by HKO related to DRR

Recommendation of WGDRR

On the basis of the conclusion of discussion and deliberations, the WGDRR made the following recommendations:

- a) To reappoint Mr. Kim, Seok-Hyeon as the Working Group Chair, Dr. Yuntae Kim and Miss. Genevieve Miller as the Vice Chairs.
- b) To request NDMI to organize the Expert Mission that aims to improve the capacities of disaster management through knowledge exchange and experience sharing among TC Members.
- c) To encourage the benefited members to actively participate in the final training workshop of the SSOP Project II and DRR members to support the Project 's implementation.
- d) To request NDMI to organize the participation for TC and PTC Members in Bosai Forum in Sendai, Japan.
- e) To request NDMI to invite Oman, PTC Member attending 14th WGDRR Annual Meeting in the Republic of Korea in order to discuss the cooperation and exchange DRR information.
- f) To request STI, China to continue conducting the research fellowship for the project of benefited evaluation of typhoon disaster prevention and preparedness to the interested TC Members.
- g) To request Hong Kong to translate an existing video related to storm surge into English with subtitles for Member to use on public education on DRR.

- h) To request NDMI, Republic of Korea to continue supporting and conducting the 14th WGDRR Annual Workshop in 2019.
- i) To request NDMI to continue supporting and implementing the establishment of the early warning and alert systems in Lao PDR and Vietnam and encourage the other Members to join the project in the future.
- j) To encourage the Members to share information related to DRR on the forum of TC Website.
- k) To request the committee to approve the proposed projects and related budget in 2019.

APPENDIX II
REPORT ON ACTIVITIES OF WORKING GROUP ON DISASTER RISK REDUCTION
OF TC IN 2018

1. Introduction

In 2018, Working Group on Disaster Risk Reduction (WGDRR) implemented a series of projects and conducted the DRR annual meeting to share the information related to DRR according to the plan derived from 50th TC Session. This report was drafted based on the outcome of WGDRR parallel meeting at 13th IWS, which was held on 05-09 November in Chiang Mai, Thailand.

The report will show the main progress and achievement on DRR component due to the great cooperation and effort from the Members in the past year. It will also cover the status of implementation of the projects 2018 and the plan of 2019 for WGDRR including the AOPs and budget allocation for TCTF.

2. Member (Focalpoints)

<i>Chair</i>	Mr. Kim, Seok Hyeon (Republic of Korea)
<i>Vice Chairs</i>	Ms. Genevieve Miller (USA) Mr. Yuntae Kim (Republic of Korea)
<i>Members</i>	No name provided by (Cambodia) Mr. Wang Yawei (China) Mr. Kim Choi (DPR Korea) Ms. Sandy M.K. Song (Hong Kong) Ms. Setsuko Saya Ms. Yuka BABA and Mr. Takaaki MUKAIDO (Japan) Mr. Bounteum Sysopanthavong (Lao PDR) Mr. Ho Su Hon (Macao) Ms. H.E. Dato'Dr Ahmad jailani bin Muhamed Yunus (Malaysia) Ms. Lenie D. alegre (Philippines) Mr. Chihun Lee (Republic of Korea) Mr. Cheong Wee Kiong (Singapore) Mr. Saharat Wongsakulwiwat (Thailand) Mrs. Dam Thi Hoa (Vietnam)

3. The major progresses of activities on DRR component of Members in 2018

With the support from all TC Members and coordination by TCS, WGDRR successfully implemented the action plan in 2018, which was endorsed at 50th TC Session. The status of the progress of the project and activities of WGDRR as follows;

3.1 AOP1: Expert Mission

The project is aimed at improving the member's capacities of disaster risk reduction, especially typhoon related disaster through exchange of information, such as policies, technologies, experiences, etc. among the members.

The Expert Mission was planned to be held in Macau in 2018. After 50th TC Session, TCS had kept contact with Macau's focal point for conducting the planned Mission and sent the information including the proposed theme and schedule to Macau. However, Macau finally replied that they could not conduct the Expert Mission. Therefore, the project had no implementation in 2018

3.2 AOP2: Installation of early warning and alert systems related to typhoon disaster

The project was funded by NDMI that aims to improve the capacities of resilience for typhoon related disaster among the members through installation of the EW and Alert Systems. NDMI decided to continue carrying out the project in Laos and Vietnam in 2019 and invited other interested members to join the project.

3.3 AOP3: iCoWin Project (Setting up of community weather stations)

The project is led by HKO that aims to raise public awareness on climate change and extreme weather by promoting the setup of community weather stations among TC Members. For implementing the project, HKO conducted a training workshop and provided sets of equipment to the participating Members. In 2018, two Members successfully attended the training workshop from 05 to 07 November including the Republic of Korea and Thailand.

3.4 AOP3: WGDRR Annual Meeting

The 13th WGDRR Annual Meeting has been successfully held in Ulsan, Republic of Korea with the theme of “Public Understanding of Science on Disaster Risk Reduction from Desk to Field” from 29 to 31 May 2018 that was fully supported and funded by NDMI, Republic of Korea. In the meeting, Members and the invited experts shared and exchanged their views and information related to DRR, as well as followed up on the WGDRR Projects 2018. AWG Member also took this opportunity to discuss TC issues. For the participants, more than forty attended the meeting including DRR and AWG Members, representative from WMO, ESCAP and TCS Members as well as experts from NDMI and outside TC.

3.5 AOP5: Promote TC and PTC Cooperation

In order to promote TC and PTC Cooperation, WGDRR had planned to invite PTC Member (Oman) to join the 13th WGDRR annual meeting. By approaching to PTC, it was hoped that an exchange of information and experience related to DRR, as well as discussions of future cooperation TC and PTC. However, there was no response from Oman for the NDMI's invitation. NDMI will invite PTC member in WGDRR annual meeting in 2019 through TCS.

3.6 AOP6: PRiMO Conference

The PRiMO DRR Conference was held in Honolulu in August 2018. WGDRR had planned to participate in the conference by holding a forum in order to improve the TC Member's capacities related DRR, as well as promoting TC. As a result, there were 10 experts to take part in the conference sharing and exchanging expertise and experience on disaster risk reduction with the participants mainly related to typhoon at the forum in the conference. Meanwhile, TCS introduced TC to the participants.

3.7 AOP7: Benefit Evaluation of Typhoon Disaster Project

This project is led by Shanghai Typhoon Institute (STI), China that functions to establish a set evaluation index and provide an evaluation report that assists in decision-making basis for the optimization of typhoon disaster behavior.

Improvements: (1) ** (2) KC Chang from Malaysia Meteorological Department participated in the research fellowship at STI, China on 2 May to 1 June. Mr. Chang co-studied the economic benefit of improving track and intensity forecasts of land falling tropical cyclones with the storm surges impact. (3) The project has conducted a questionnaire on benefit evaluation of typhoon forecast and service among TC Members and plans to submit a final report.

3.8 AOP8: SSOP Project Phrase II

The project Phrase II of SSOP is aimed to promote the capacity on the establishment of appropriate SOP at national level to coastal multi-hazards through extending the achievement of SSOPI in PTC and TC region by conducting training courses and workshops on mechanics of preparing and implementing SSOP for coastal multi-hazards early warning in beneficiary countries.

The project phrase II is composed of three activities. The activity1 (Workshop) was successfully held on 24-26 October 2017 in WMO Regional Training Center (RTC) Nanjing, China. The activity2 was also successfully conducted in RSMC, Tokyo and New Delhi. Only activity3 has not been implemented due to the difficulty to hold the training in conjunction with RIMEs monsoon forum. Finally, by the Project Manager's effort and NECAP's kind coordination, the final training should be conducted in Thailand and Myanmar after IWS if ESCAP approved the extension of timeline of the project.

3.9 AOP9: Sharing information related to DRR

The project's idea is to improve the capacities of disaster risk reduction among TC Members by collecting and exchanging information related to DRR from Members.

TCS developed a forum on TC website in order to achieve the implementation of information collection. In order to maintain integrity of security of information, during the meeting, TCS reported that it has set up a password for each member to access to the forum. During the Parallel Meeting, it encouraged Members to actively share their information related to DRR on the TC website forum.

3.10 AOP10: TC Report about Big Data and Social Media use for DRR

The project coordinated by STI, China that aims to collect information from Members about big data and about media use on disaster management then elaborate a publication for sharing with Members in order to improve the capacities of DRR among Member. However, until the IWS meeting, STI, China only received the information from Hong Kong. In this regard, WGD RR has decided to not elaborate the publication.

3.11 AOP11: Making Educational Video Related to DRR

The project aims to raise the public awareness related to typhoon disaster among the Members through producing a DRR video to share with Members.

NDMI has produced the video according to the plan and showed it to Members during the meeting. The video will be posted on TC website afterwards and welcome Members to use it on DRR education to public.

4. Review of budget for the projects of WGD RR in 2018

Project Number	<i>Name of Project</i>	Proposed Budget
AOP1	<i>Expert Mission (The budget was planned to support interested member and TCS's participation in the Mission)</i>	USD 6,000
AOP2	<i>Installation of warning system related to typhoon disaster</i>	Funded by NDMI
AOP3	<i>iCoWin project To cover the members' participation in the training workshop to be held in HKO</i>	USD 5,000.00
AOP4	<i>WGDRR Annual Meeting To conduct the 13th WGDRR annual meeting in Ulsan, Republic of Korea</i>	Funded by NDMI
AOP5	<i>Promote TC and PTC Cooperation Invite PTC Member to attend WGDRR Annual Meeting to discuss cooperation between TC and PTC</i>	NDMI support
AOP6	<i>PRIOMO Conference To support TC Members attending the Conference</i>	USD 8,000.00
AOP7	<i>Benefit Evaluation of Typhoon Project To support interested member to participate in the research fellowship conducted by STI, China</i>	USD 6,000.00
AOP8	SSOP II	ESCAP
AOP9	Sharing information related to DRR	No need
AOP10	TC Report about Big Data and SM use for DRR To produce a publication if collected information related to big data and SM is available	USD 4,000.00
AOP11	Making video related to DRR To produce a video related to typhoon disaster prevention sharing with the Members for public education	USD 3,000.00
	Totally Proposed Budget	USD 32,000.00

5. Conclusions

On the basis of the information provided by the Members, the reports presented by project coordinator/leader and findings of the WGDRR parallel session in 13th IWS, the following conclusions were reached:

- 1) Members have made important progress in the implementation of the TC SP during 2018
- 2) The 13th WGDRR annual workshop was successfully conducted in Ulsan, Republic of Korea from 29 May to 31 May 2018 with the theme of "Public Understanding of Science on

Disaster Risk Reduction from Desk to Field”. During the workshop, Working Group on DRR followed up on the projects and shared information related to DRR among members. AWG Members and outside TC DRR experts were also invited to attend the workshop, besides the DRR Members. NMDI, Republic of Korea showed that they will continue organizing the 14th WGDRR annual meeting in 2019.

- 3) WGDRR will continue conducting the projects which can improve capacities of disaster risk reduction for TC Members through the exchange of information such as Expert Mission and information sharing or participation in important conferences or meeting, etc.
- 4) WGDRR will continue planning the projects related to public education on DRR in the coming future which can facilitate raising public awareness on typhoon related disasters such as setting up of community weather stations and producing educational videos, etc.
- 5) To continue seeking the cooperation among the members and another regional body such as PTC on DRR activities.
- 6) Compared with the projects last year, WGDRR suggested removing two projects namely TC Report about Big Data and Social Media use for DRR and iCoWin project. In 2019, there will be 10 Projects in WGDRR based on the discussion at the meeting.
- 7) For implementation of the proposed projects in 2019, WGDRR proposed the request of USD **21,500** to be allocated TCTF for the following items:
 - i) To allocate USD **6,000** budget of TCTF in 2019 for supporting the Expert Mission.
 - ii) To allocate USD **8,000** budget of TCTF in 2019 for supporting the participation in World Bosai Forum in Sendai, Japan.
 - iii) To allocate USD **6,000** budget of TCTF in 2019 for supporting the research fellowship, which will be held in STI, CHINA, related to benefit evaluation of Typhoon disaster prevention and preparedness.
 - iv) To allocate USD **1,500** budget of TCTF in 2019 to support producing an educational video provided by HKO related to DRR

6. Recommendation of WGDRR

On the basis of the conclusion of discussion and deliberations, the WGDRR made the following recommendations:

- a) To reappoint Mr. Kim, Seok-Hyeon as the Working Group Chair, Dr. Yuntae Kim and Miss. Genevieve Miller as the Vice Chairs.
- b) To request NDMI to organize the Expert Mission that aims to improve the capacities of disaster risk reduction through knowledge exchange and experience sharing among TC Members.
- c) To encourage the benefited members to proactively/actively participate in the activities of the SSOP Project II.

- d) To request NDMI to organize the participation for TC and PTC Members in Bosai Forum in Sendai, Japan.
- e) To request NDMI to invite Oman, PTC Member attending 14th WGDRR Annual Meeting in the Republic of Korea in order to discuss the cooperation and exchange DRR information.
- f) To request STI, China to continue conducting the research fellowship for the project of benefited evaluation of typhoon disaster prevention and preparedness to the interested TC Members.
- g) To request Hong Kong to translate an existing video related to storm surge into English with subtitles for Member to use on public education on DRR.
- h) To request NDMI, Republic of Korea to continue supporting and conducting the 14th WGDRR Annual Workshop in 2019.
- i) To request NDMI to continue supporting and implementing the establishment of the early warning and alert systems in Lao PDR and Vietnam and encourage the other Members to join the project in the future.
- j) To encourage the Members to share information related to DRR on the forum of TC Website.
- k) To request the committee to approve the proposed projects and related budget in 2019.

Annex-Implementation Status of WGDRR AOPs 2018

Annex - Implementation Status Successor Indicators of WGD RR AOPs 2018

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/NO
KEA3 KRA4 KRA5	1	Expert Mission	To conduct expert mission in order to improve the capacities of DRR among Member by exchanging information and expertise related to DRR.		Coordination and participation	Third	NDMI And participating member	Conducted the expert mission	USD\$6,000	NDMI and TCTF	No
KRA2 KRA3 KRA4 KRA5	2	Installation of warning systems related to typhoon disaster	To install the EW and Alert Systems in interested Members in order to improve the capacities of resilience for typhoon related disaster		Coordination	Fourth	NDMI	Installed the systems in Laos and Vietnam	Unkown	NDMI	Yes/on going
KRA2 KRA4 KRA5	3	iCowin project	Providing a training workshop in HKO for the project that aims to raise public awareness on climate change and extreme weather		Coordination	Third	Hong Kong Observatory	Completed the training workshop in HKO	USD\$5,000	TCTF	Yes
KRA1 KRA4 KRA5	4	Holding the 14 th WGD RR Annual Meeting	Holding the annual meeting to follow up on the working group's activities and exchange information	AWG Members	Coordination and participation	Second	NDMI and TC DRR Members	The meeting was held	Unkown	NDMI	Yes

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/NO
KRA2 KRA4 KRA5	5	Promote TC and PTC Cooperation	Invite PTC Member to join the annual meeting to discuss the cooperation between TC and PTC		Coordination	Second	PTC	PTC member has join the DRR annual meeting	Unkown	NDMI	No
KRA2 KRA3 KRA4 KRA5	6	PRIMO Conference	Taking part in the DRR Conference to improve the capacities of DRR of TC Members		Coordination and participation	Third	NOAA, USA	Members participated in the Conference	USD\$8,000	TCTF	Yes
KRA1 KRA4 KRA5	7	Benefit Evaluation of Typhoon Project	To promote the research concerning benefit evaluation of typhoon disaster prevention and preparedness.		See above	Second	STI, China	Conducted a research fellowship for TC Member in STI, China	USD\$6,000	TCTF	Yes
KRA1 KRA2 KRA3 KRA4 KRA5	8	SSOP II	To encourage DRR member to support and participate in the project's activities.	All TC Working Members	See above	Third and forth	WMO RTC, Nanjing and RSMC	DRR Member participate in the training workshops		ESCAP	Yes/in progress
KRA2 KRA3 KRA4 KRA5	9	Sharing information related to disaster risk management	To share information such as policies or mechanism related to DRR among TC Members via the TC Website		Establishment of the forum on TC website for facilitating the information sharing	Forth	NDMI	Member has shared the information on the forum	No need		Yes/on going

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/NO
KRA2 KRA3 KRA4 KRA5	10	TC Report about Big Data and SM use for DRR	Collecting the report from Members about big data and social media use on DRR then elaborate the publication sharing with Members		Coordination	Forth	STI, China	Member has shared the information	USD\$4,000	TCTF	Completed (no publication)
KRA2 KRA\$ KRA4 KRA5	11	Making educational video related to DRR	To produce a video related to DRR education for raising public awareness.		Coordination	Forth	NDMI	Completed the video	USD\$3000	TCTF	Yes

- KRA 1: Enhance capacity to monitor mortality and direct economic loss caused by typhoon-related disasters.
- KRA 2: Enhance capacity to generate and provide accurate, timely and understandable information using multi-hazard impact-based forecasts and risk-based warnings.
- KRA 3: Improve typhoon-related flood control and integrated water resource management.
- KRA 4: Strengthen typhoon-related disaster risk reduction activities in various sectors, including increased community-based resiliency with better response, communication, and information sharing capability.
- KRA 5: Enhance Typhoon Committee's Regional and International collaboration mechanism.