**APPENDIX XII**

Progress Report on activities of

Working Group on WGDRR in 2021

1. Introduction

The Working Group of Disaster Risk and Reduction (WGDRR) continued to implement a series of projects according to the plan outline from the 53th TC Session. However, most of the face to face programs or projects are hindered by the COVID travel restrictions and was replaced by virtual meetings.

1. Components of the WGDRR

WGDRR Member (Focal points)

|  |  |
| --- | --- |
| *Chair* | Dr. Sang Kwon Lee (Republic of Korea) until 2 Dec , 2021  Dr. Jongseol Lee (Repulic of Korea) from 3 Dec, 2021 |
| *Vice Chairs* | Mr. Marcus Aydlett (USA)  Dr. Yuntae Kim (Republic of Korea)until 14 Jan, 2022  Dr. Woojung Choi (Republic of Korea ) from 15 Jan, 2022 |
| *Focal Points* | National Committee for Disaster Management (Cambodia)  Mr. Wang Yawei (China)  Mr. Kim Chol (DPR Korea)  Mr. W Kong (Hong Kong, China)  Mr. Soshi Murakawa (Japan)  Mr. Norio Egawa (Japan)  Ms. Shoko Kabuto (Japan)  Mr. Shuhei Yasumatsu (Japan)  Ms. Akhom Thammalangsy (Lao PDR)  Mr. Ho Su Hon (Macao, China)  Ms. Che Siti Noor bint koh Poh Lee (Malaysia)  Mr. Bernardo Rafael R Alejandro IV, CESO IV (Philippines)  Dr. Chihun Lee (Republic of Korea)  Mr. Cheong Wee Kiong (Singapore)  Mr. Saharat Wongsakulwiwat (Thailand)  Mrs. Nguyen Thi Xuan Hong (Vietnam) |

1. Organization of the 16th Working Group Disaster Risk and Reduction Virtual Meeting in Nov 2021

A video conference for the 16th Working Group meeting of ESCAP/WMO Typhoon Committee (TC) Working Group on Disaster risk and reduction (WGDRR) was organized by the National Disaster Management Institute (NDMI)on November 5, 2021 to discuss on the implementation status of the Annual Operation Plan in DRR aspects.

The meeting was convened by Dr Yuntae Kim, Vice Chair of WGDRR, with around 30 members and representatives from ESCAP, WMO, ADRC, Thailand, Malaysia, Lao PDR, Vietnam, USA, China (Shanghai, Hong Kong and Macau) and TCS participating. Dr Chihun LEE from NDMI was the moderator of the meeting.

During the meeting, the 2021 AOP implementation status was reviewed as follow

1. AOP1. Capacity Building / Knowledge Sharing (NDMI)
   1. Initially a seminar regarding capacity building was proposed to be held in Palau in August 2021. Due to the outbreak of COVID-19 around the world, NDMI decided to postpone the seminar to 2022.
2. AOP2. Setting up Early Warning and Alert System (NDMI)
   1. Since 2013 NDMI has launched the project for strengthening capabilities of disaster risk reduction with various countries. Similar project in Lao PDR was implemented in 2021. Feasibility studies such as site visit, land survey and meetings with local office was conducted and it was planned to install early warning and alert systems in Houaphanh and Xaisomboun Province in 2022.
3. AOP3. WGDRR Annual Meeting
   1. Owing to the COVID situation, WGDRR annual meeting has been using online mode since 2020. If the situation in 2022 permits, it will get back to face to face meeting in Korea. If not, it will still be online meeting.
4. AOP4. Benefit Evaluation of Typhoon DRR (STI)
   1. Dr. Shengming Tang from Shanghai Typhoon Institute (STI), China Meteorological Administration presented the progress of the benefit Evaluation of Typhoon DRR.
   2. The project named “Benefit evaluation of typhoon disaster prevention and preparedness” aims to promote the research relating to this topic. Recent work focused on development and improvement of more specific level in a region on risk assessment technique and the potential risk assessment model’s resolution.
   3. STI will continue to work on the verification of the empirical rainfall estimation model for Tropical Cyclones over Western North Pacific for the needs of assessing the long-term risk (STIRM) as well as multi-scale modelling and validation of Tropical Cyclone rainstorm waterlogging using multi-source precipitations. Furthermore, a novel wind field dynamical downscaling method (STIDM, Shanghai Typhoon Institute Downscaling Model) based on aerodynamical parameters (wind speed-up ratio) of the two-dimensional terrain was proposed.
5. AOP5. Sharing Information related to DRR (NDMI)
   1. WGDRR will continue to exchange information and experience related to DRR through the forum on the TC website. Members are welcome to upload all kinds of DRR information such as data, video clips to the TC website.

1. AOP6. Making Education Videos related to DRR (HKO)
   1. A video about “Fujiwhara Effect” was translated into English with voiceover and subtitles as the coming education video related to DRR. Hong Kong Observatory shared the video during the meeting and no further comment was received from the members. The video was uploaded to the Typhoon Committee website for members to use on public education on DRR.

1. AOP7. Seminar for TC Crowd-sourcing high density non-conventional weather data (HKO)
   1. Referring to the last WGDRR annual meeting, it was originally planned to conduct a face-to-face seminar (around 3 days) in the 4th Quarter of 2021 for experience sharing on concept and methodology of Tropical Cyclone crowd-sourcing high density non-conventional data. However, as the COVID-19 pandemic remained, it was considered still not suitable to host such face-to-face meeting due to safety and travelling considerations. While it was uncertain how long the pandemic would last for, instead of further postponement, HKO proposed to arrange online seminar in replace of the face-to-face seminar. The online seminar will compose of two sessions on sharing the concept and experience of developing "My Weather Observation" and "Micro-climate Weather Station" by HKO. The members agreed with HKO’s proposal.

During the meeting, the 2021 WGDRR 2021 Budget Status was reviewed as follow

|  |  |  |  |
| --- | --- | --- | --- |
| Project No | Name of Project | Proposed Budget USD | Expenditure USD |
| AOP1 | Capacity Building/Knowledge Sharing in DRR | $10,000 | -- |
| AOP2 | Installation of Early Warning System related to typhoon disasters | Funded by NDMI | -- |
| AOP3 | WGDRR Annual Meeting | Funded by NDMI | -- |
| AOP4 | Benefit Evaluation of Typhoon Project | 6,000 | $0 |
| AOP5 | Sharing Information related to DRR | No need | -- |
| AOP6 | Making video related to DRR | 2,000 | 1,735 |
| AOP7 | Seminar for TC Crowd-sourcing high density non-conventional weather data | 12,000 | 0 |
|  | Total | 30,000 | 1,735 |
|  | Balance USD | 28,265 |  |

The only expenditure for 2021 DRR was the expected production fee USD1,735 of the educational video by Hong Kong Observatory. AOP6

The participants expressed their appreciation to National Disaster Management Institute (NDMI) for their kind contribution and continued support on WGDRR activities and Hong Kong Observatory for making educational videos for the past years.

The participants extended their further appreciation to the Working Group Chairs, Dr. Yuntae Kim and Mr. Marcus Aydlett for their contribution and effort in the past years.

1. WGDRR AOP 2022 and Budget

|  |  |  |  |
| --- | --- | --- | --- |
| Project No | Name of Project | Working Plan 2022 | Proposed Budget USD |
| AOP1 | Capacity Building/Knowledge Sharing | Knowledge Sharing meeting will continue in Palau if situation permits. | 10,000 |
| AOP2 | Installation of Early Warning System related to typhoon disasters | Will implement a new project in Toledo City and Municipality of Dumanjug in Philippines | Funded by NDMI |
| AOP3 | WGDRR Annual Meeting | Face to face meeting in Korea if situation permits. | Funded by NDMI |
| AOP4 | Benefit Evaluation of Typhoon Project | Fellowship research if situation permits. Research on Benefit Evauluation of Typhoon projects will be continued. | Funded by STI |
| AOP5 | Sharing Information related to DRR | Sharing information in TC website forum. | No need |
| AOP6 | Making video related to DRR | Making more educational videos by HKO. | 2,000 |
| AOP7 | Seminar for TC Crowd-sourcing high density non-conventional weather data | Hosting an online seminar by HKO, after the 54th TC Session in 2022. | No need |
| TOTAL | | | USD12,000 |

ANNEX

1. Implementation for WGDRR AOPs in 2021 with the success indicators

| SP's KRA and SG | NO | Objective | Action | Other WGs Involved | TCS  Responsibility | Quarter Completed | Project leader/Other Organizations Involved | Success Indicators | Funding Required  USD | Funding Sources | Completed  YES/NO |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| KRA3  KRA4  KRA5 | 1 | Capacity Building /Knowledge Sharing | To organize an expert team to Palau for DRR information and capacity building exchange | Invite other WGs to join | Coordination and participation | Third | NDMI  And participating members | Conducted the Mission in the selected member state | 10,000 | NDMI and  TCTF | No |
| KRA2  KAR3  KRA4  KRA5 | 2 | Installation of warning systems related to typhoon disaster | To develop and improve the installed EW and Alert Systems in the members’ state in order to improve the capacities of resilience for typhoon related disaster |  | Coordination | Fourth | NDMI | NDMI assigned experts to Laos and Vietnam to install and maintain the systems | Unspecified | NDMI | Yes |
| KRA1  KRA4  KRA5 | 3 | Organizing the WGDRR Annual Meeting | To organize the annual meeting to follow up on the working group’s activities and information exchange | AWG Members | Coordination and participation | Second | NDMI and TC DRR Members | The meeting was held in ROK | Unspecified | NDMI | No |
| KRA1  KRA4  KRA5 | 4 | Benefit Evaluation of Typhoon Project | To promote the research concerning benefit evaluation of typhoon disaster prevention and preparedness. |  | Coordination and participation | Second/  Third | STI, China | Conducted a research fellowship for TC Member in STI, China | 6,000 | TCTF | No |
| KRA2  KRA3  KRA4  KRA5 | 5 | Sharing information related to disaster risk management | To share information such as policies or mechanism related to DRR among TC Members via the forum established on TC Website |  | Establishment of the forum on TC website for facilitating the information sharing | Fourth | NDMI and TCS | Members shared the information on the forum | No need |  | Yes |
| KRA2  KRA3  KRA4  KRA5 | 6 | Making educational video related to DRR | To produce a video related to DRR education for raising public awareness. |  | Coordination | Third/  Fourth | NDMI | Completed the video with English subtitle and voiceover and shared with TC Member | 1,735 | TCTF | Yes |
| KRA2  KRA3  KRA4  KRA5 | 7 | Seminar for TC Crowd-sourcing high density non-conventional weather data | HKO organize a Seminar and WG to coordinate the Member to take part in |  | Coordinate | Fourth | Hong Kong and participating members | The Seminar was successfully held in Hong Kong | 12,000 | TCTF | No |

* + 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.

ANNEX

1. WGDRR AOPs in 2022 with the success indicators

| SP's KRA and SG | NO | Objective | Action | Other WGs Involved | TCS Responsibility | Quarter Completed | Project leader/Other Organizations Involved | Success Indicators | Funding Required | Funding Sources | Completed  YES/NO |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| KRA3  KRA4  KRA5 | 1 | Capacity Building /Knowledge Sharing | To organize an expert team to Palau for DRR information and capacity building exchange | Invite other WGs to join | Coordination and participation | Third | NDMI  And participating members | Conducted the Mission in the selected member state | USD10,000 | NDMI and  TCTF |  |
| KRA2  KAR3  KRA4  KRA5 | 2 | Installation of warning systems related to typhoon disaster | To develop and improve the installed EW and Alert Systems in the members’ state in order to improve the capacities of resilience for typhoon related disaster |  | Coordination | Fourth | NDMI | NDMI assigned experts to Philippines to install and maintain the systems | Unspecified | NDMI |  |
| KRA1  KRA4  KRA5 | 3 | Organizing the WGDRR Annual Meeting | To organize the annual meeting to follow up on the working group’s activities and information exchange | AWG Members | Coordination and participation | Second | NDMI and TC DRR Members | The meeting was held in ROK | Unspecified | NDMI |  |
| KRA1  KRA4  KRA5 | 4 | Benefit Evaluation of Typhoon Project | To promote the research concerning benefit evaluation of typhoon disaster prevention and preparedness. |  | Coordination and participation | Second/  Third | STI, China | Conducted a research fellowship for TC Member in STI, China. /Organized online seminar |  | STI |  |
| KRA2  KRA3  KRA4  KRA5 | 5 | Sharing information related to disaster risk management | To share information such as policies or mechanism related to DRR among TC Members via the forum established on TC Website |  | Establishment of the forum on TC website for facilitating the information sharing | Fourth | NDMI and TCS | Members shared the information on the forum | No need |  |  |
| KRA2  KRA3  KRA4  KRA5 | 6 | Making educational video related to DRR | To produce a video related to DRR education for raising public awareness. |  | Coordination | Third/  Fourth | NDMI | Completed the video with English subtitle and voiceover and shared with TC Member | USD2,000 | TCTF |  |
| KRA2  KRA3  KRA4  KRA5 | 7 | Seminar for TC Crowd-sourcing high density non-conventional weather data | HKO organize an online Seminar for members to take part in |  | Coordinate | First/Second | Hong Kong and participating members | The Seminar was successfully held in Hong Kong | No need |  |  |

* + 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.