

## **APPENDIX X**

### **THE REPORT OF WGDPP PARALLEL SESSION**

During the 42<sup>nd</sup> Typhoon Committee Session held in Singapore from 25 to 29 January, 2010, Work Group on Disaster Prevention and Preparedness (WGDPP) had one day parallel sessions on 25 January.

#### **1. WGDPP Parallel Sessions**

There are 26 from 9 Members (i.e. China; Hong Kong, China; Japan; Macao, China; Republic of Korea; Singapore; Thailand; USA and Viet Nam) and TCS, UNESCAP, ADRC attending the WGDPP Parallel Sessions.

The WGDPP Parallel Sessions exchanged the information on priorities and key areas; reviewed the progress in the implementation of the AOP for 2010; discussed how to consolidate the achievements of priority projects; identified the priority and strategic needs of the TC Members; and proposed the budget for WGDPP in 2010.

#### **1.1 Modification of WGDPP AOPs**

Currently, WGDPP has eight on-going projects:

AOP1: Promote value of WEB GIS based TCDIS (WGTCDIS) to TC Members, led by NEMA, Republic of Korea, will be continued in 2010. TC Members such as Philippines; Lao, PDR and Thailand will provide GIS, metrological and disaster information for the WGTCDIS by middle of 2010 and NIDP will offer the expert mission to set up WGTCDIS for TC Members and improve usage of the WGTCDIS. TCTF provided US 1,000 dollars to support each TC Member for collecting input data of WGTCDIS and NIDP will guideline for report to submit TCS.

AOP2: Enhance WGTCDIS and establish methodology to assess the socio-economic impacts of disasters, led by NEMA, Republic of Korea, will be continued in 2010. NIDP will develop the disaster information map (DiMap) to enhance information shearing method and conduct the 5<sup>th</sup> WGDPP meeting to discuss on method for assessment of the social and economic impacts of natural disasters. TC Members such as Philippines; Lao, PDR; Malaysia; Hong Kong, China; Macao, China; Cambodia; USA; Viet Nam; Republic of Korea; and Thailand will be prepare typhoon related disaster information of one or two typhoon hit on their countries. NIDP will collect that information and make a brochures and report by 5<sup>th</sup> WGDPP meeting. The 5<sup>th</sup> WGDPP annual meeting will be held on one day before of Integrated Workshop. For the brochure, 7 Members will be prepare typhoon related information as follows: Republic of Korea : Rusa (2002), Maemi (2003), Awinia (2006), Nari (2007), Bonghwa (2008); Macao,

China : Hagupit (2008) and Koppu (2009); USA : Bongsunhwa (2002); Viet Nam : Katsana (2009); China : typhoons damaged on 2006 and 2009; Japan : typhoons damaged on 2009; and Hong Kong, China : Hagupit (2008) and Koppu (2009).

AOP3: Maintain Hardware, Software of WGTCDIS and modification of database to upgrade disaster information and other content, led by NEMA, Republic of Korea, will be continued in 2010. NIDP will establish database and collect necessary data from Members and support establishment database and the WGTCDIS if TC Members want to establishment their own system as a early warning system to find similar typhoon trajectory and estimate damages related typhoon. All expenses for establishment of system are funded by Member's Government.

AOP4: Review progress of WGTCDIS project and enhance the Typhoon Committee's effectiveness and efficiency in meeting its purpose stated in the Statute of the Typhoon Committee will be continued in 2010. WGDPP will participate in a focused, integrated WGM, WGH, WGDPP, TRCG, and AWG Workshop with specific deliverables defined and to review progress of WGTCDIS project and future activities of WGDPP.

AOP5: Maintain and enhance WGTCDIS, led by NEMA, Republic of Korea, will be continued in 2010. NIDP will make update WGTCDIS to add disaster information map and enhance tool for uploading and downloading information. NIDP will collect typhoon related damages information from TC Members and make brochures for them and upload them into the WGTCDIS. NIDP will make presentation on activities regarding on WGTCDIS in 2010

AOP6: Develop a conceptual framework consistent with Typhoon-related Hazard Early Warning Systems in conjunction with other WGs to make a link with the WGTCDIS led by NEMA, Republic of Korea, will be launched in 2010. NIDP will prepare concept report or paper and proposal on program of action by end of this year.

AOP7: Develop a feasibility study on the real-time transmission of severe weather warning and carry out trials, led by Hong Kong, China, will be launched in 2010. Hong Kong, China has obtained agreement of the WMO PWS Expert team for the use of the SWIC and Macao, China; Philippines; and USA have agreed to participate in the trial study. Hong Kong, China will modify the SWIC to support the "Weather Wizard" function.

AOP8: Implement of a pilot project of community weather stations in TC Members for raising public awareness on climate change, led by Hong Kong, China, will be launched in 2010. Hong Kong, China offers an expert to visit interested members to install the weather stations and to

provide technical documentation on installation, maintenance and data processing and display. TCTF provided US 2,000 dollars to support expert mission to visit interested members. Kong, China presented for progress report on projects of warning dissemination using an existing platform and community weather stations and community weather station network (Co-WIN) in Hong Kong, China. The Members and TCS agreed to present results of the project at Scientific Lectures on Thursday (28 January).

## **1.2 Main Discussion of WGDPP**

During parallel Sessions, NIDP reported the activities of TC and WGDPP, WGTCDIS, DiMap and results of WGDPP annual meeting and expert mission for Viet Nam and the participants of WGDPP mainly discussed: i) AOPs for 2010 and beyond–potential new projects proposal aiming to enhance the cooperation with other WGs in next year; ii) how to involve in the implementation of WGDPP projects (leading Members and participating Members) to enhance the cooperation of WGDPP among TC Members and leadership of WGDPP; and iii) how to enhance the communication among WGDPP members (network of focal points, project leaders or contact persons); iv) how to extend WGTCDIS to TC Members; v) how to involve in the collecting of disaster information to shear disaster management information and damages information related typhoon and enhance the WGTCDIS and DiMap. Based on the discussion, WGDPP suggested:

i) To enhance the cooperation among TC Members, the project leaders should make brochure and report progress regularly through the WGTCDIS and participating members collect one or two typhoon disaster information every year.

ii) To extend WGTCDIS to TC Members, participating members collect GIS, metrological and typhoon related disaster information by end of 2010 and NIDP will offer the expert mission to set up WGTCDIS for TC Members.

iii) To promote the communication among TC Members, NIDP might held WGDPP annual meeting on one day before Integrated Workshop and issue more news and typhoon related information frequently in the WGTCDIS. WGTCDIS web page may be linked to the TC web pages, and the focal points and project leaders may set up backup.

iv) To enhance the cooperation among UN organizations specially WMO and reduce confusion by using different name, Working Group on Disaster Risk Reduction (WGDRR) is suggested to change Working Group on Disaster Prevention and Preparedness (WGDPP) and WGDPP agreed to change group name to Working Group on Disaster Risk Reduction (WGDRR).

### **1.3 Confirmed Budget Proposal for WGDPP in 2010**

WGDPP proposed the requests of US\$ 18,000 allocated TCTF in 2010 to support WGDPP activities including:

i) to allocate US\$ 8,000 budget of TCTF in 2010 for supporting WGDPP participating in next TC Integrated Workshop.

ii) to allocate US\$ 2,000 budget of TCTF in 2010 for supporting community based weather station pilot project offering expert to visit interested members to install the weather stations and to provide technical documentation on installation, maintenance and data processing and display.

iii) to allocate US\$ 3,000 budget of TCTF in 2010 for supporting three TC Members (Lao PDR, Philippines and Thailand) for collecting typhoon disaster information to extend the WGTCDIS.

iv) to allocate US\$ 3,000 budget of TCTF in 2010 for supporting WGDPP participating on 5<sup>th</sup> WGDPP annual meeting held on one day before of Integrated Workshop.

iv) to allocate US\$ 2,000 budget of TCTF in 2010 for supporting TCS, UNESCAP and WMO participating on WGDPP Expert Mission.

**REPORT OF THE 4<sup>TH</sup> MEETING OF WORKING GROUP ON DISASTER  
PREVENTION AND PREPAREDNESS**

**Seoul, Korea  
28-29 April 2009**

**Opening Ceremony**

***1. Opening Address-Waon Ho Yi, Chairman of Working Group on Disaster Prevention and Preparedness***

***2. Welcome Address-Jeong Sam Kim, President of National Disaster Management Institute***

***3. Encouragement Address-Seong Ryong Choi, Administrator of National Emergency Management Agency***

***4. Congratulatory Address-Yoon Hong, Vice-administrator of Korea Meteorological Agency***

**Background and Goals for the 4<sup>th</sup> WGDPP Meeting**

***4<sup>th</sup> Annual Meeting of Working Group on DPP – Waon Ho Yi KSIC***

Activities of the WGDPP on 2008 are reported in which results of followings are included: i) 3<sup>rd</sup> WGDPP annual Meeting, ii) Expert Mission results on 2008, iii) improved Web GIS based TCDIS (WGTCDIS), iv) four WMO reports, v) Integrated Workshop on 2008, vi) the 41<sup>th</sup> TC Session, and vii) 4<sup>th</sup> WGDPP Expert Mission for Viet Nam and future works need to discuss on the meeting are introduced as follows: i) method for extending WGTCDIS, ii) preparing for Integrated Workshop on Philippines and 42<sup>th</sup> TC Session, and iii) developing of DiMap and new projects.

**Keynotes**

***1. Status and Outlook for Drought and Multipurpose Dam Operation – Ki Uk Cha, Water resources Operation Center, KWater***

Historical serious drought situation and management of Korea are presented. Dam operation for reducing drought related damages are presented and short plan and long term plan as a plan for overcoming drought are also introduced.

***2. Comprehensive Report on Flood Hazard Mapping System in Japan and Flood Hazard Mapping Project in WGH – Toshio Okazuimi, Chairman of WGH***

Development history of Flood Hazard Maps (FHM) in Japan, recent activities related dissemination of FHM, new projects for FHM, and results of FHM publication are presented. FHM activities in member countries are also presented.

***3. Disaster Information System of Viet Nam – Nguyen Viet Tien, Central Committee for Flood and Storm Control***

Results on the Expert Mission held on Ha Noi, Da Nang, Hochi Minh in Viet Nam are presented. Method for usage of WGTCDIS and for collaboration to modify the WGTCDIS of Viet Nam are also presented.

**First Session: Upgrade of TCDIS (13:30 – 15:30)**

***Presentations:***

***1. Calibration and validation of module estimating typhoon trajectory and typhoon related damage – Eun Mi CHANG, KSIC***

Introduce the Web GIS based TCDIS and how to improve this system. For the future enhanced Web GIS based TCDIS, effect of antecedent rainfall, enhances similarity analysis for typhoon with sea surface temperature, disaster-wise search, LBS for damage info, damage search for similar typhoon were going to be upgraded.

Dr. Ono concerned about considering these projections as accurate measurements of what typhoons will cause. Dr. Chang understands that this system is not to predict the trajectory but to provide some estimation of past typhoons that were similar. Dr. Ono also concerned about conflicts between different typhoon prediction agencies but Dr. Chang explained that each country has the capability to

run their own simulations.

## ***2. Disaster Information Map (DiMAP) based on Web GIS and Extension of the Web GIS based TCDIS – Tae Sung CHEONG, NIDP***

Originally it is developed to present photos on the GIS. The motivation of DiMAP includes i) Integrated management of historical disaster instances, ii) Boosting users accessibility and iii) usability and Intelligent retrieval and interactive visualization. It is a very interactive system with capability to demonstrate/display before and after photos. While the Web GIS has made progress in the past year, this topic needs further discussion in the group regarding the information sharing.

## ***3. ADRC Contribution to Upgrade of TCDIS – Noburu Uchiyama, ADRC***

The relationship between disaster database and GLIDE is introduced. It is not meant to duplicate each other but to assist. Therefore, it is important to continue the use of the same identifier between both databases.

### ***Discussions:***

Dr. Ono suggests an agreement among the Members on ADRC suggestion. Dr. Olavo will support what the Members agree upon. Mr. Clovis asks whether other databases use GLIDE which was confirmed by ADRC.

Dr. Cheong asks what data is requested from the Members for the GLIDE. Uchiyama explains how GLIDE number is determined and recommends Members view their web site. Regarding TCDIS, ADRC would like the list/data sent to them or to TCS to which a GLIDE number may be assigned.

Need to clarify relationship between TCDIS and GLIDE. Dr. Flores explains function of GLIDE as method of relating a single typhoon than may affect more than one country. Mr. Singhavichai suggests that if ADRC wants to get the information, it may be a decision of the Typhoon Committee and not WGDPP.

Discussion is moved toward the contents of the TCDIS. Any comments/suggestions

from the group on collecting data for the TCDIS are requested.

Thailand has difficulty acquiring the disaster data but does have a good record for the past six years. Different agencies dealing with typhoons and damage data have to be retrieved from each agency. Thailand will give a presentation on the typhoons affecting them. Lao PDR also encounters challenges in acquiring data but is determined to continue to work with other agencies to get the full picture of the typhoon's effects.

Dr. Ono mentioned that it is important to have access to the Disaster Management officials if the Member is not from that agency. Thailand notes problem with acquiring data for Dr. Chang's excel spreadsheet was the format of the information. Example would be the units used. Dr. Chang recognizes this but any information will be valuable and point of TCDIS is to reflect the damage according to the Country. If a new standard is needed, it can be done.

## **Second Session: Case Study (16:00 – 17:30)**

### ***Presentations:***

#### ***1. Case Study of flash flood in 1991, Philippines – Yuichi ONO, UN/ISDR***

Where to focus on our efforts – for the second stage of the TC/DPP activities? Issues to be tackled are i) Lack of typhoon-related disaster statistics and database in the region; ii) Not focusing on spots with highest risk and vulnerable persons; iii) Weak linkage with general public. Philippine Case study (Leyte November 1991) is also introduced.

#### ***2. Implementation of a pilot project of community weather station to raise public awareness of climate change – Hilda LAM, HKO***

Proposal for phase one is to adopt SWIC as the platform, designate HKO as the coordinator of the feasibility study and identify two TC Members to try out the transmission of weather warnings. Phase two liaise with WMO PWS programme for the use of the SWIC for this study and modify the SWIC to support the "Weather Wizard" function (Hong Kong, China). Phase three is for dissemination of weather warnings from participating Members.



To raise public awareness of weather hazards and climate change, community weather station project is suggested which will be developed through the implementation of community weather stations in the developing and least developed countries in the region. Identify two participating Members to joining pilot project which is proposed.

### ***3. Flash Flood Warning System in Korea – Jae Hyun SHIM, NIDP***

FFPS target to reduce the flood risk, reduce flood damage and reduce flood vulnerability. System will be finalized in 2009. Will develop flash flood index. A Decision Support System will be developed next year. FFPS is classified into two categories including forecasting model and hydrological model.

#### ***Discussions:***

Dr. Ono has facilitating this discussion. Acknowledge the dependence on the Government of Korea in the TCDIS. Now in the second stage, other Members need to step in. A second point to note was having joint activities between DPP and WGH that was agreed upon on last session. Tomorrow's session will talk more on funding.

Regarding proposal on Transmission of severe warnings, Ms. Lam specified what will be needed from DPP Members. Really targeting users such as media, other weather services, tourists.

Regarding weather station, funds requested can cover only two Members. Start up a network in developing countries. Requesting funding from Members for installing stations. May need to seek further funding from external sources. Thailand has their own system but is curious about using this proposal and will it be functional in using their own system for transmission.

Okazumi comments on second project that WGH has a similar community base project done by Philippines. Question to Dr. Shim, Flood forecasting similar to their field and discussion on technique of warning system. Wouldn't it be easier to give forecast based on rainfall amount and not water level.

Malaysia asks what is the input to the FFPS. Dr. Cheong note it is difficult to get rainfall info especially when it is so localized and that models such as GFS can be

used.

Dr. Ono looks for other comments or proposals to share with the group. Dr. Flores indicated that the Philippines would like to be included in the proposal of the community-based weather station by Hong Kong, China. Mr. Freire adds that HK already developed the system to transmit the warning. Only thing needed to be a pilot project is to agree to send warning information to HK. How to send it needs to be agreed upon.

Macau China would like to take opportunity to thank HKO in the establishment of severe weather information system in Macau in March 2009.

### **Summary and Decision from Sessions 1-2**

While supporting the upgrading of the TC/DIS activities, the following points were identified by the Members as additional WGDPP activities.

In general

- Agreed on a more focused approach to reduce typhoon-related disaster risk based on sound disaster statistics in the region
- Agreed to make efforts to identify joint activities with other TC WGs
- Agreed to identify activities related with urban disaster risk reduction and early warning
- Proposed the TCS to consider conducting a public event on the occasion of the annual TC session

In specific

1. Due to its highest typhoon-related disaster risk, it was agreed to specifically focus our activities on the Philippines, in particular in the area of urban flash flooding, landslides, and marine accidents. A few other countries could be considered based on further analysis.

**[Action] The first step is to conduct typhoon-related risk assessment study based on official damage information in the region. The focused countries including the Philippines should be considered for any project opportunity, including the Global Facility for Disaster Reduction and Recovery.**

2. The interested members were encouraged to join the feasibility study on the real-time transmission of severe weather warning serviced by the Severe Weather Information Centre (SWIC), Hong Kong, China. This bridges efforts between WG Meteorology and WG DPP.

**[Action] Identify interested members. Hong Kong, China to provide more information, including direction of the study.**

3. The members agreed that Hong Kong, China will lead the pilot project of community weather stations to raise public awareness. Educational facilities in developing countries could be the venue to host this initiative.

**[Action] The Philippines and Thailand showed interest. Decision needs to be taken and Hong Kong, China will assist the process and report the progress.**

4. It was proposed that TCS considers conducting a public event on the occasion of the annual TC session.

**[Action] TCS helps to consider this proposal. Could be further discussed at the joint workshop in the Philippines, 14-18 September 2009?**

5. A few joint activities with the WG of Hydrology were envisaged. They include community-based evacuation map with using the method of Town-Watch.

**[Action] Chairs of WGs DPP and Hydrology further communicate to identify joint activities and inform the members for approval.**

6. It was proposed that Uchiyama committed that ADRC will provide GLIDE numbers to all the tropical cyclones in the region.

**[Action] Chairs of WGs DPP and TCS help to gather typhoon and tropical cyclones and send it to ADRC to provide GLIDE numbers.**

**Third Session: Collaboration with UN Organizations and Working Groups  
(09:00 – 10:00)**

***Presentations:***

***Cooperation under the Global Facility for Disaster Reduction and Recovery (GFDRR)-Clovis FREIRE, UN/ESCAP***

Mechanism for funding disaster risk initiatives. Summarizes ESCAP and WMO relationship. Both continue to support TC through funding assistance. From last session, was needed to strengthen Resource mobilization which needs better conduction. ESCAP does not fund but will seek the funds for this initiative. One mechanism is GFDRR. Mr. Freire suggests that this meeting we brainstorm for ideas and look for focal points. Idea is to have this FP write the first draft of the stage one application and each member fill out questionnaire. Try to finalize application in June. ESCAP has been in contact with those working in GFDRR and know that they are committed to improve the partnerships.

***Discussions:***

Question: Can there be other support from institute? FP may be overwhelmed.  
Freire: Idea of FP is so that World Bank has only one contact and not need to discuss with all partners. This is easier for the administration of projects. For the project, FP is not meant to be the one doing all the work just the responsible reporting contact to the World Bank. Under proposals, can include these other resources needed to complete this partnership.

Ono: Depending of proposed activities, what kind of things can be acquired (equipment and such) and what other groups of TC can benefit from this?  
Freire: Major components are technical and consulting services, dissemination costs (editing, public), logistics (trainings, workshops, etc.), pilot works (can include equipment), study tools, management course, and other. Agree with suggestion to include all working group. Already discussed with WGH on project of flood system in Philippines and Vietnam. Can also go with a programmatic approach or identify one project that all work groups can do together.

TCS: Already contacted Dr. Nilo and Pagasa and have confirmed that they were willing to be partners in this venture. We are trying to contact to Vietnam but have no response. Freire: May want to delay the decision to determine an individual project or go for a more programmatic approach until all has the opportunity to

think further.

Laos PDR: Lao has existing proposals with World Bank. Regarding GFDRR on tech assistance, support for strengthening capacity and can include the EWS. Another way Mekong Integrated Water Resource Management, also include the improvement of early warning for flood and drought. For the improvement of DPP, have to propose project for EW communication from city to rural area.

Thailand: Agree that DPP should have this project but should scope projects for DPP. Even with EWS, it is most important to have the awareness of the people. ISDR: Looking at hazards from Typhoons, what are the major concerns like storm surge, etc. Another topic is the evacuation. May look at why evacuation can be problematic. Public awareness is also another topic worth pursuing. Regarding FP, country must be able to extend the resources (time, energy, etc) to lead these projects.

Freire: ESCAP/TCS/WMO can support these projects. Will contact World Bank on whether TCS can be a FP. HK: GFDRR is good opportunity to develop these projects. Freire: Will make report of these discussions. Need more time to contemplate on this. Through the Chair, will contact all Members and determine which direction we should go. Philippines: Most countries have difficulties securing funding after disasters. Is it possible for TCS to look into financial schemes for the aftermath of disasters? ISDR: GFDRR more for recovery. Suggest to add an international recovery platform. Cheong: TCDIS is a tool for EWS. If other Members want to build TCDIS, they will support.

## **Forth Session: Future Works (11:00 – 12:00)**

### ***Presentations:***

1. On-going Projects -WEB GIS Based TCDIS :
2. New Project - Report on Major Typhoon Information
  - DiMap
  - GFDRR
3. Integrated Workshop
4. TC Session
5. Expert Mission

### ***Discussions:***

Laos PDR to circulate program or agenda to get idea for the meeting to get idea of WGDPP meeting and add program or agenda to the WGTCDIS for information shearing. China comment that local governments can access to WGTCDIS for the early warning of typhoon disaster.

### **Summary and Decision from Sessions 3-4**

For the future works, the following points were identified by the Members as additional WGDPP activities.

1. For extending WGTCDIS as ongoing project, validation of WGTCDIS of Viet Nam is necessary and typhoon and damage related data of new members are needed.

**[Action] Viet Nam further communicates to identify joint activities and inform the members for validation WGTCDIS of Viet Nam. Thailand, Lao PDR for 5yrs, Philippines, Hong Kong for 5yrs will prepare data for developing WGTCDIS of each Member.**

2. It was proposed that NIDP considers conducting a DiMap, brochure to shear major typhoons information hit the TC Members.

**[Action] TC Members decided to put 1-2 typhoon related information for eight years from 2000 to 2008 into DiMap of WGTCDIS. TC Members will prepare electric version by September, 2009 which members will make electric version by following Maemi and Rusa format and NIDP will make a report based on member information.**

3. It was proposed that UN/ESCAP considers conducting new projects for WGDPP. ESCAP/TCS/WMO can support these projects because GFDRR is good opportunity to develop new projects.

**[Action] TC Members decided that need more time to contemplate on this. Through the Chair, will contact all Members and determine which direction we should go. Mr. Freire will make proposal by June and deliver to discuss. TCS helps to consider this proposal. It will be further discussed at the joint**

**workshop in the Philippines, 14-18 September 2009.**

4. In the Integrated Workshop on Beijing, WGDPP decided Training Session on Urban Flood Management coping with Climate Changes for the Integrated Workshop on 2009. It is need to discuss for Training Session.

**[Action] Chairs of WGs DPP and Hydrology further communicate to identify joint activities for decision support system on urban flood management. WGDPP may attend on Expert Session for presentation of decision support system on urban flood management which UNESCAP have a plan of Expert Session on July.**

5. Dr Wong, vice-chairman of WGDPP will retire at October. WGDPP have to elect new vice-chairman of WGDPP.

**[Action] WGDPP members will nominate members for vice-chairman and elect vice-chairman on the TC Session in Singapore. For the election of vice-chairman of WGDPP, it may be discussed on Integrated Workshop in Philippines.**

6. After building WGTCDIS for four TC Members such as Thailand, Lao PDR, Philippines, and Hong Kong, it is needed to Expert Mission for the members to give information of WGTCDIS and application of system.

**[Action] Expert Team will be organized on the TC Session and go to members when member will finish establishment of the member's WGTCDIS.**