

MEMBER REPORT

DPR of Korea

ESCAP/WMO Typhoon Committee

7th Integrated Workshop

Nanjing, China

26-30 November,2012

CONTENTS

- I. Overview of tropical cyclone which have affected /impacted DPRK's area since the last typhoon committee session**

- II. Summary of progress in Key Result Area**
 - 1. Reduced Loss of Life from Typhoon-related Disasters.
 - 2. Minimized Typhoon-related Social and Economic Impacts.
 - 3. Enhanced beneficial typhoon-related effects for the betterment of quality of life.
 - 4. Improved Typhoon-related Disaster Risk Management in Various sectors.
 - 5. Strengthened Resilience of Communities to typhoon-related disasters.
 - 6. Improved capacity to Generate and Provide Accurate, Timely, and understandable Information on Typhoon-related Threats.
 - 7. Enhanced typhoon committee's effectiveness, Efficiency and international collaboration.

- III. Resource Mobilization Activities**

- IV. Update of DPRK's Working Groups representatives**

I. Overview of tropical cyclone which have affected /impacted DPRK's area since the last typhoon committee session

1. Meteorological Assessment

DPRK is located in seasonal wind zone of East Asia, and is often affected by natural disasters due to climate change and the frequency is more increasing.

Typhoon 7(KHANUN; 19th July), Typhoon 14(TEMBIN; 20th August), Typhoon 15(BOLAVEN; 28th August) and Typhoon 16(SANBA; 18th September) are Typhoons which affected in our country this year.

Only this year, four Typhoons passed through our country, and it is the maximum record since 1985 according to the statistical analysis of last thirty years data.

It is very important that TY14 (TEMBIN) and TY15 (BOLAVEN) affected to our country successively.

Especially, by dint of TY 15 (BOLAVEN) it was blown a gale more than 10 meters per second in most areas of northern Korean peninsula, and maximum wind speed was 36 meters per second.

And, there was a heavy rainfall with more than 50 millimeters per 3hours in 13 regions on 28th and 29th, and a heavy rainfall with 100 millimeters in 23 regions.

Also, there was a moderate gale with 22 meters per second and storm surge with from 100 to 150 centimeters in east and west coastal zone of our country.

SHMA issued and informed typhoon warning to local authorities and residents through several Medias including TV and Radio a week ago.

2. Hydrological Assessment

By dint of TY 15(BOLAVEN), it was heavy rainfall in the most areas of DPRK, and the amount of heavy rainfall is 295 millimeters in HoChon and 189 millimeters in SuDong Gu, and it was a maximum record in observation history.

So, there occurred flood and landslide in northern part of our country, and then several reservoirs and river embankments were broken, and it was negatively affected to the drinking and industrial water supply.

The effective warning system to prevent flood disaster due to typhoon is as follows.

The amount of rainfall, water level, the amount of flow and the amount of water and discharge data of main sluice gate and reservoirs observed at the meteorological and

hydrological observatory throughout the country are received on a real time basis by computer network and telephone network to be analyzed and loaded in the data file, and then the necessary data for forecasting is calculated.

The data of given these intervals are shown according to its elements and the chart of rainfall distribution is drawn on hour, unit and numerical basis, so that the spot of the flood forecasting could be chosen.

In the flood forecasting processing system, the forecasting for the area endangered with flood is divided into direction, real time and revision forecasting.

The current flood forecasting models are model unit hydrograph, dynamic wave model and ANN method.

The correctness of flood forecasting by these models is 90%.

3. Socio-Economic Assessment

The floods, heavy rainfall and landslides caused by typhoons that passed through our country during the rainy season, destroyed many houses and public buildings in several regions.

Many medium and small reservoirs and river embankments were burst causing cultivating lands to be submerged, buried and lost. And railways, roads and bridges were also destroyed.

The damages were enormous.

Especially the Komdok region was greatly destroyed by TY15 (BOLAVEN), which swept over most parts of our country.

According to the initial data, about 2000 houses were totally collapsed, and about 170 public buildings were either destroyed or swept away, there were even reports of casualties.

Donsan pit and Youth pit at Ryongyang mine was completely submerged and the production was ceased. At Taehung Youth Hero mine, a branch factory was disappeared.

About 1800 equipments including excavators and large ventilators and several kinds of tubes were lost, buried and totally destroyed at this mine.

And about 1320,000 m² roads in 870 places were disappeared or destroyed, rail ways and rail bridges were submerged and buried and many bridges were swept away.

Harvesting is impossible in 700 ha of cultivating land in the whole of Tanchon city.

4. Regional Cooperation Assessment

Typhoon information issued in typhoon warning centre and numerical weather prediction products of ECMWF have been received via GTS and CMACAST from Beijing, China, and then

they are used in typhoon forecasting.

Also, observation data of neighboring countries are received every 3 hours and it is used for effective warning.

At present, raising the correctness of typhoon information issued in typhoon warning centre is essential.

II. Summary of progress in Key Result Area

1. Reduced Loss of Life from Typhoon-related Disasters

In the past, DPRK had been severely damaged by typhoon several times.

The government of DPRK has been paid a great attention to the prevention of typhoon damage, and as a result, the capacity of DPRK has been remarkably strengthened.

The loss of life by typhoon had been remarkably reduced in recent years, but the loss of life occurred a few this year.

In the future, the effort to prevent the loss of life in DPRK will be continued.

2. Minimized Typhoon-related Social and Economic Impacts

Typhoon disaster is severely affected to society and economy development. The government of DPRK is taking all measures from effective warning to effective response to minimize typhoon-related social and economic impacts.

Also, the government accelerates public awareness through mass Medias, and is taking measures for disaster prevention by regional unit.

3. Enhanced Beneficial typhoon-related effects for the betterment of quality of life

The Government of DPRK is focusing on the beneficial typhoon-related effects for the betterment of quality of life.

This year, a lot of reservoirs in whole country were full of water due to the positive effect of typhoon in rainy season.

Especially, Su Pung reservoir which has maximum volume of water kept in store in our country was full of water to normal water level after 2005 year, and 17 reservoirs stored water more 17 % than last year.

4. Improved Typhoon-related Disaster Risk Management in Various sectors

In order to improve typhoon-related disaster risk Management in various sectors, National Anti Flood Management Committee, non permanent organization, is organized with various sectors including agriculture, land and environment, water resource, electric power industry and human health every rainy season, and it has them to do their responsibility and role in flood management.

Also, land management campaign is organized every spring and autumn, and necessary measures including tree-planting and river-management are taken at national level.

5. Strengthened Resilience of Communities to typhoon-related disasters.

Resilience Capacity of Local communities has been remarkably strengthened through hazard mapping, evacuation drills and public awareness.

As a result, number of household to be placed in danger was reduced more than 50 percents over the previous year all over the country.

6. Improved capacity to Generate and Provide Accurate, Timely, and understandable Information on Typhoon-related Threats

It is very important that we must improve the capacity to provide accurate and timely information on typhoon-related threats.

Early warning system on heavy rain and flood was already established, and it was continued to improve.

This year, TY15 (BOLAVEN)-related disasters were informed with local governments and residents via TV, radio and computer network before 5 days.

SHMA will continue the improvement of capacity of effective warning on typhoon-related disasters.

7. Enhanced typhoon committee's effectiveness, Efficiency and international collaboration.

Activity of Typhoon committee is very important in preventing typhoon-related disasters. Thanks to the efforts of Typhoon committee, capacity of DPRK was strengthened, and DPRK highly appreciate the successes of typhoon committee.

Theme of typhoon committee is very important for each government of countries to prevent typhoon disasters.

DPRK expects positive activity of typhoon committee in the future.

III. Resource Mobilization Activities

The government of DPRK is regarding the improvement of people's living standard as the highest aim, and is mobilizing all resources to prevent typhoon-related disasters.

First of all, government established regular university education system and college training system, and trained many experts every year.

Also the Cabinet provides experts with all conditions necessary.

In rainy season, national anti flood management committee is monitoring and controlling activities on preventing typhoon-related disasters, and is taking measures necessary.

SHMA plays an important role in preventing typhoon-related disasters at national level.

IV. Update of DPRK's Working Groups representatives

1. Working Group on Meteorology

- Leader: Choe Kwang Kuk, Director General, Meteorological Forecasting Centre, SHMA

2. Working Group on Hydrology

- Leader: Choe Hung Sik, Director General, Hydrological Institute, SHMA

3. Working Group on Disaster Risk Reduction

- Leader: Jang Hyon Chol, Director, International Organization Division, International Cooperation Department, SHMA

4. Training and Research Coordinating Group

- Leader: Pang Sun Nyo, Director General, Meteorological Forecasting Department, SHMA