

MEMBER REPORT

**ESCAP/WMO Typhoon Committee
7th Integrated Workshop**

**Lao's People Democratic
Republic (LAO PDR)**

Nanjing, China
26 – 30 November 2012

CONTENTS

- I. Overview of tropical cyclones which have affected/impacted Member's area since the last Typhoon Committee Session
- II. Summary of progress in Key Result Areas
 1. Progress on Key Result Area 1
 2. Progress on Key Result Area 2
 3. Progress on Key Result Area 3
 4. Progress on Key Result Area 4
 5. Progress on Key Result Area 5
 6. Progress on Key Result Area 6
 7. Progress on Key Result Area 7
- III. Resource Mobilization Activities
- IV. Update of Members' Working Groups representatives

I. Overview of tropical cyclones which have affected/impacted Member's area in 2012

1.1. Meteorological Assessment (Highlighting forecasting issues/impacts)

Lao PDR is a landlocked country and located in the center of Indochina Peninsular, the climate characteristic is dominated by tropical monsoon climate. Lao's people have frequently suffered from a number of natural disasters particularly due to severe weather including floods, flash floods, heavy rain, local storm, landslides, droughts, etc. The monsoon rain associated with direct and/or indirect tropical cyclone over Western North Pacific region caused by flash flood, floods, landslides which bring harmful effects, loss of human life and destruction of properties and adverse socio-economic impacts every year in Lao PDR.

In the year of 2012, there were 3 tropical cyclones moved across the South China Sea then made landfall over Vietnam's territory and downgraded in to low pressure system then extended to some areas of Lao PDR, namely: tropical cyclone "Kai-Tak" (2013), "Gaemi" (1220) and "Son-Tinh" (1223). These 3 tropical cyclones exert some indirect influence on weather in Lao PDR.

In August 2012, the southwest monsoon was very active over the Lao PDR and associated with tropical cyclone "Kai-Tak" landfall in Vietnam, resulted unstable weather over the Northern and Central parts of Lao PDR which brought moderate rain in these areas. Similarly, at the end of September and early October 2012, tropical cyclone "Gaemi" also resulted light to moderate rain with strong wind in some areas of Southern part. As well as the late October 2012, tropical cyclone "Son-Tinh" made landfall in Vietnam coast then moved northwesterly which resulted moderate rain with strong wind in some areas of Central and Northern parts of Lao PDR.

1.2. Hydrological Assessment (highlighting water-related issued/impact)

There were heavy rainfall in some areas of Northern and Central parts in August and September, resulted the water level went up more than 10 meters for one day which had flash flood with landslides in Luangprabang, Xayabouly and Vientiane Provinces, during this year, the flood occurred only in northern part and lasted less than one week.

1.3. Socio-Economic Assessment (highlighting socio-economic and DPP issues/impact)

Due to heavy rainfall, heavy hail associated with strong wind and local storm during the monsoon season and associated with tropical cyclone activities over the Western North Pacific region, resulting flash flood, flood, landslides which affected to human life and properties, public transportation, socio-economic, etc.

1.4. Regional Cooperation Assessment (highlighting regional cooperation successes and challenges)

Participation and partnership with WMO members among the regions, Typhoon Committee members and other International Organization, especially good cooperation and sharing information with Severe Weather Forecast Demonstration Project (SWFDP).

II. Summary of progress in Key Result Areas (For achievements/results which apply to more than one Key Result Area, please describe them under the most applicable Key Result Area. Then, at the end of the description, place in the parentheses () the other applicable Key Result Areas)

2.1. Progress on Key Result Area 1: Reduced Loss of Life from Typhoon-related Disaster. (List progress on the Strategic Goals and Associated Activities in the Strategic Plan and progress on the 20—Typhoon Committee Annual Operating Plan goals)

a. Meteorological Achievements/Results

Due to the climate change and natural disasters impacts to the country, the government of Lao PDR has been seriously paid attention about the climate, especially weather forecast and early warning system for prevention, mitigation and reduction the damages from severe weather. Hence, the Department of Meteorology and Hydrology (DMH) has been improved the facilities, forecasting techniques and early warning system, as well as strengthened the capacity building. As a result, the forecast accuracy has been improved; early warning dissemination was more timely and reachable to the risk areas. It was illustrated in Prime ministerial decree number 288/PM on implementing NESPP VII (2011-2015) and Decree number 398 that was prioritized a key target area to be achieved.

b. Hydrological Achievements/Results

During the rainy season (from June to October), for monitoring and forecast of flash flood over the Lao PDR, DMH uses the Mekong River Commission Flash Flood Guidance (MRCFFG), issues the flash flood early warning.

c. Disaster Risk Reduction Achievements/Results

Nil

d. Research, Training, and other Achievements/Results

DMH's staff has been very keen in participation the Typhoon Committee Seminar, Workshop, training and research activities, such as:

- One DMH's staff attended the Typhoon Committee Research Fellowship for 2012 host by Korea Meteorological Administration (KMA) from 1 May to 30 June 2012, on subject "Typhoon Analysis and Prediction System (TAPS), genesis and dissipation of tropical cyclones, and change of typhoon characteristics due to climate change".
- 14 DMH's staff members attended the training workshop on Satellite Animation and Interactive Diagnosis (SATAID) which was held in DMH, Lao PDR from 20 – 23 March 2012.
- 12 DMH's staff members including forecasters and climatologists attended the training workshop ITACS which was held in DMH Lao PDR, from 25 – 28 March 2012.
- One DMH's staff attended the 3th Leadership development Forum on Mainstreaming Disaster Risk Reduction and Climate Resilience into Development (MarDrid), from 4 – 9 November 2012, Incheon, Republic of Korea.

e. Regional Cooperation Achievements/Results

Bilateral Cooperation Frame Work on Meteorology was agreed:

- (1) with Department of Hydrology and Meteorology of Vietnam;
- (2) Meeting with Representative of Thai Meteorological Department about the technical cooperation.

f. Identified Opportunities/Challenges for Future Achievements/Results

Nil

2.2. Progress on Key Result Area 2: Minimized Typhoon-related Social and Economic Impacts. (List progress on the Strategic Goals and Associated Activities in the Strategic Plan and progress on the 2008 Typhoon Committee Annual Operating Plan Goals)

a. Meteorological Achievements/Results

After attending the training and workshop which were organized by Typhoon Committee and WMO, the trainees transferred the knowledge gotten from those training events to other staff, especially on weather monitoring, forecasting and warning. Due to the improvement of the facilities, forecasting techniques, tropical cyclone forecast have been improved and more accurate, resulted warning information becomes more understandable, more specific and timely, this information help the public make arrangement in advance for their planning, hence to minimize the typhoon-related socio and economic impacts.

b. Hydrological Achievements/Results

During flood season, DMH assigns the flood monitoring and forecast team, this team is responsible not only flood forecast but also works closely with Natural Disaster Management Committee, especially to manage the water over the hydropower dams.

c. Disaster Risk Reduction Achievements/Results

Nil

d. Research, Training, and other Achievements/Results

Nil

e. Regional Cooperation Achievements/Results

Nil

f. Identified Opportunities/Challenges for Future Achievements/Results

Nil

2.3. Progress on Key Result Area 3: Enhanced Beneficial Typhoon-related Effects for the Betterment of Quality of life. (List progress on the Strategic Goals and Associated Activities in the Strategic Plan and progress on the 2012 Typhoon Committee Annual Operating Plan Goals)

a. Meteorological Achievements/Results

By using TAPS tool, SATAID and RSMC Tokyo for improving wind and rainfall forecast accuracy.

b. Hydrological Achievements/Results

Nil

- c. **Disaster Risk Reduction Achievements/Results**
Nil
- d. **Research, Training, and other Achievements/Results**
Nil
- e. **Regional Cooperation Achievements/Results**
- f. Nil
- g. **Identified Opportunities/Challenges for Future Achievements/Results**
Nil

2.4. Progress on Key Result Area 4: Improved Typhoon-related Disaster Risk Management in Various Sectors. (List progress on the Strategic Goals and Associated Activities in the Strategic Plan and progress on the 2012 Typhoon Committee Annual Operating Plan Goals).

- a. **Meteorological Achievements/Results**
Tropical cyclone monitoring and forecast based on RSMC-Tokyo, NTC-KMA, ECMWF and JWTC providing the text and graphic forecast up to 5 days ahead. By comparing SYNOP data analysis, DMH issues the early warning to mass media, public, NDMC, NDMO, line agencies etc. Through the Severe Weather Forecast Demonstration Project, DMH accesses to ECMWF website to get seasonal tropical cyclone outlook.
- b. **Hydrological Achievements/Results**
Nil
- c. **Disaster Risk Reduction Achievements/Results**
Nil
- d. **Research, Training, and other Achievements/Results**
Nil
- e. **Regional Cooperation Achievements/Results**
Nil
- f. **Identified Opportunities/Challenges for Future Achievements/Results**
Nil

2.5. Progress on Key Result Area 5: Strengthened Resilience of Communities to Typhoon-related Disasters. (List progress on the Strategic Goals and Associated Activities in the Strategic Plan and progress on the 2012 Typhoon Committee Annual Operating Plan goals)

- a. **Meteorological Achievements/Results**
Long range weather forecast based on climatology and ENSO analysis and the forecast, tropical cyclone prediction based on NTC-KMA, ECMWF which is including of the entire Western North Pacific region.
- b. **Hydrological Achievements/Results**
Nil

c. Disaster Risk Reduction Achievements/Results

Nil

d. Research, Training, and other Achievements/Results

- DMH organized the training on “Short range weather forecast and Warning” for local meteorologists, more than 30 local staff provincial meteorological and hydrological stations participated
- 20 meteorologists who work for aeronautical service and other Air Traffic Control from domestic and International airports participated the training on “Aeronautical Services”.

e. Regional Cooperation Achievements/Results

Nil

f. Identified Opportunities/Challenges for Future Achievements/Results

Nil

2.6. Progress on Key Result Area 6: Improved Capacity to Generate and Provide Accurate, Timely, and understandable Information on Typhoon-related Threats. (List progress on the Strategic Goals and Associated Activities in the Strategic Plan and progress on the 2008 Typhoon Committee Annual Operating Plan goals)

a. Meteorological Achievements/Results

Weather forecast verification is important in terms of providing the users or forecast technique developers information on the accuracy or other features of weather forecast techniques, which can be of great help in their applications or making further improvements on them. Based on SYNOP observation data, DMH makes forecast verification by comparing actual rainfall and wind speed, as well as using NTC-KMA tool for tropical cyclone forecast verification.

b. Hydrological Achievements/Results

Nil

c. Disaster Risk Reduction Achievements/Results

d. Nil

e. Research, Training, and other Achievements/Results

Nil

f. Regional Cooperation Achievements/Results

g. Nil

h. Identified Opportunities/Challenges for Future Achievements/Results

Nil

2.7. Progress on Key Result Area 7: Enhanced Typhoon Committee’s Effectiveness, Efficiency and International Collaboration. (List progress on the Strategic Goals and Associated Activities in the Strategic Plan and progress on the 2012 Typhoon Committee Annual Operating Plan goals)

a. Meteorological Achievements/Results

DMH organizes a Monsoon Forum once a year, the aims of this event is to summarize of monsoon season such as pre-monsoon, during-monsoon and post-monsoon, and also to discuss some feedback from the users.

b. Hydrological Achievements/Results

Nil

c. Disaster Risk Reduction Achievements/Results

Nil

d. Research, Training, and other Achievements/Results

Nil

e. Regional Cooperation Achievements/Results

Nil

f. Identified Opportunities/Challenges for Future Achievements/Results

Nil

III. Resource Mobilization Activities

Nil

IV. Update of Members' Working Group representatives

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