

*This Situation Update is provided by the AHA Centre for use by the ASEAN Member States and relevant stakeholders. The information presented is collected from various sources, including but not limited to, ASEAN Member States' government agencies, UN, IFRC, NGOs and news agencies.*



## IMPACTS OF TYPHOON MANGKHUT 'OMPONG' IN PHILIPPINES



Estimated cost of  
damages to  
infrastructure

**₱21 Billion [USD 387 Million]**



Estimated cost of  
damages to  
Agriculture

**₱14 Billion [USD 258 Million]**

Typhoon Mangkhut 'Ompong' is the 3<sup>rd</sup> tropical cyclone for the month of September 2018. The typhoon developed from an area of low pressure situated over the Marshall Islands in 7 September 2018. The typhoon made landfall over the remote portion of Baggao, Cagayan at 1:40 AM on September 15, 2018. This natural phenomena has caused secondary incidents such as landslide, flooding, road slip, land subsidence, and vehicular accident. The impacts are on human casualties and infrastructures.



Partially Damaged  
houses

**130,024**



Totally Damaged  
houses

**10,862**



Affected  
barangays

**5,032**



Affected  
roads

**325**



Affected  
bridges

**8**



Affected  
persons

**2,398,630**



Affected  
families

**561,255**



Injured

**134**



Death

**23**



Missing

**2**

Update 26-Sep-18 [6 AM]

Source: [www.ndrrmc.gov.ph](http://www.ndrrmc.gov.ph)

## 1. HIGHLIGHTS

- a. Based on Situation Report Number 42 from the National Disaster Risk Reduction and Management Council ([NDRRMC](#)) of the Philippines, a total of **561,255 families / 2,398,630 people** were affected in 5,032 barangays, 481 cities/municipalities, and 31 provinces in in Regions I, II, III, Cordillera Administrative Region (CAR), National Capital Region (NCR), CALABARZON, and MIMAROPA. The number of temporarily displaced people further decreased to around 23,269 people / 5,610 families inside and outside evacuation centres.
- b. An updated estimation suggests the total cost damages and losses in Regions I, II, III, CALABARZON, V, and CAR is around PHP 21.26 billion (USD 403 million) ([NDRRMC](#)). This accounted for around PHP 14.33 billion (USD 265 million) in loss of agriculture sector (no update) and PHP 6.92 billion (USD 131 million) damages to infrastructure.
- c. ASEAN-ERAT regional specialists are providing information management support for the Emergency Operations Centre of the NDRRMC (infographic on Page 1). Locally procured ASEAN relief items are being delivered to the affected areas, starting from 24 September 2018. Current status of AHA Centre's assistance is as follows:

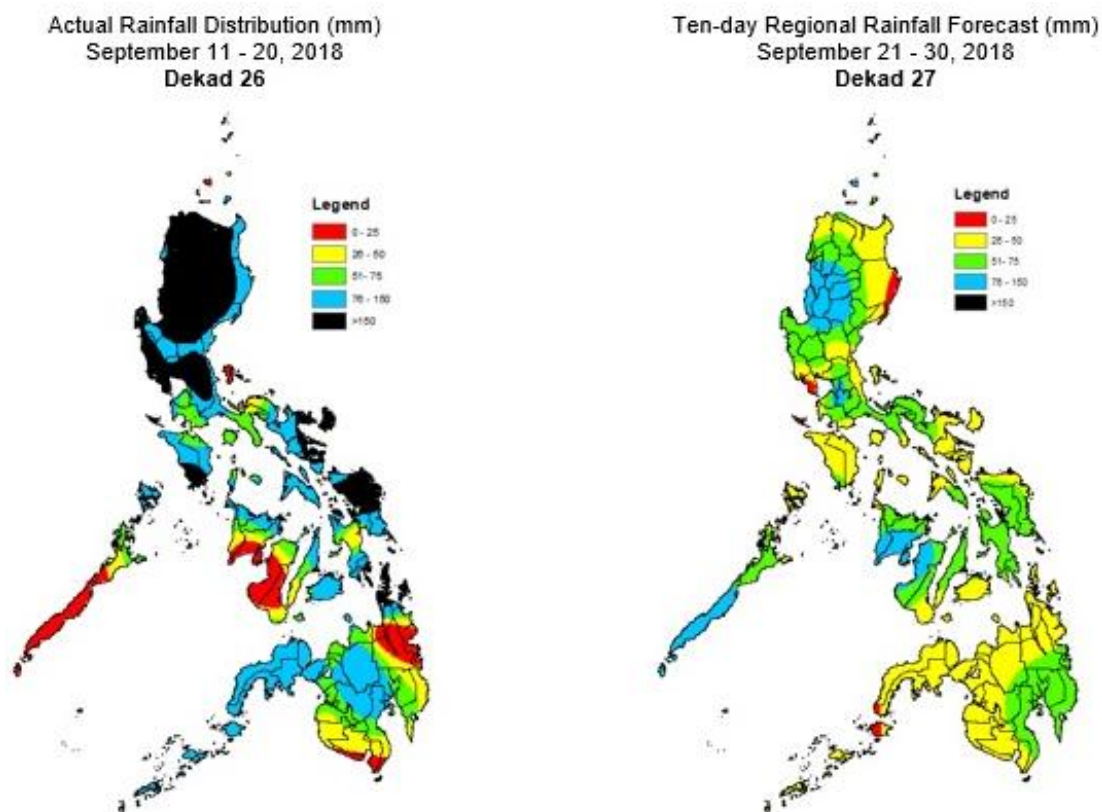
	Received			Remaining		
	Generator Set	Rice (sacks)	Tarpaulin (rolls)	Generator Set	Rice (sacks)	Tarpaulin (rolls)
Region I	1	-	-	-	-	-
Region II	1	-	-	-	300	-
Region III	1	-	-	-	-	1,000
CAR	1	284	20	-	16	920

- d. Compilation of Situation Updates, Flash Updates, and other information products of the AHA Centre is accessible through the following link:  
<https://ahacentre.org/typhoon-mangkhut-ompong-updates/>

## 2. SUMMARY OF EVENTS, FORECAST AND ANTICIPATED RISK

- a. Accumulated report until 26 September 2018 indicates that a total of 402 areas were flooded in Region I, III, CALABARZON, and MIMAROPA. Recent progress suggests flood water already subsided in 190 areas (47.2%) within Bautista, Pangasinan Province (Region I), Butaan Province (Region III) and Occidental Mindoro Province (MIMAROPA) ([NDRRMC](#)).
- b. Based on the 10 day agri-weather forecast, normal for most parts of the country with isolated rainshowers for certain parts of the country (Figure 1). El Niño–Southern Oscillation (ENSO) conditions is currently neutral in the tropical Pacific





**Figure 1: 10 day agri-weather forecast**

- c. Specific farm advisories have been issued for farmers especially for those affected by Typhoon Mangkhut “Ompong”:
  - Remove the impediments on canals or ditches that retards the flow of water;
  - Repair canal embankments or levees destroyed by the heavy rains or floods;
  - Renovate farm houses destroyed by the strong winds and heavy rains;
  - Drain the flooded areas;
  - Harvest matured crops lodged by the strong winds;
  - Land preparation on non-flooded areas;
  - Remove the branches of trees that fall over the rice fields and canals; and
  - Drying of wet grains by using mechanical dryers or sundry to avoid deterioration and germination of grains.
- d. Storm surges of up to 9 meters may occur for the Northern islands of the Philippines as Typhoon Trami “Paeng” passes through heading northwest towards Taiwan (See Figure 2). PAGASA is continuously monitoring the typhoon track as it progresses within the Philippines Area of Responsibility (PAR). [PAGASA](#) is closely monitoring the typhoon and it is expected to exit the PAR by 29 September.
- e. [PAGASA](#) has forecasted that the typhoon will bring light to moderate rain over Northern Luzon on 28 September. As it is approaching the Eastern seaboard, light to moderate rain is expected over Zamboanga Peninsula, Western Visayas, Palawan, and Occidental Mindoro on 26 September.

## Track of Typhoon "PAENG" {TRAMI}

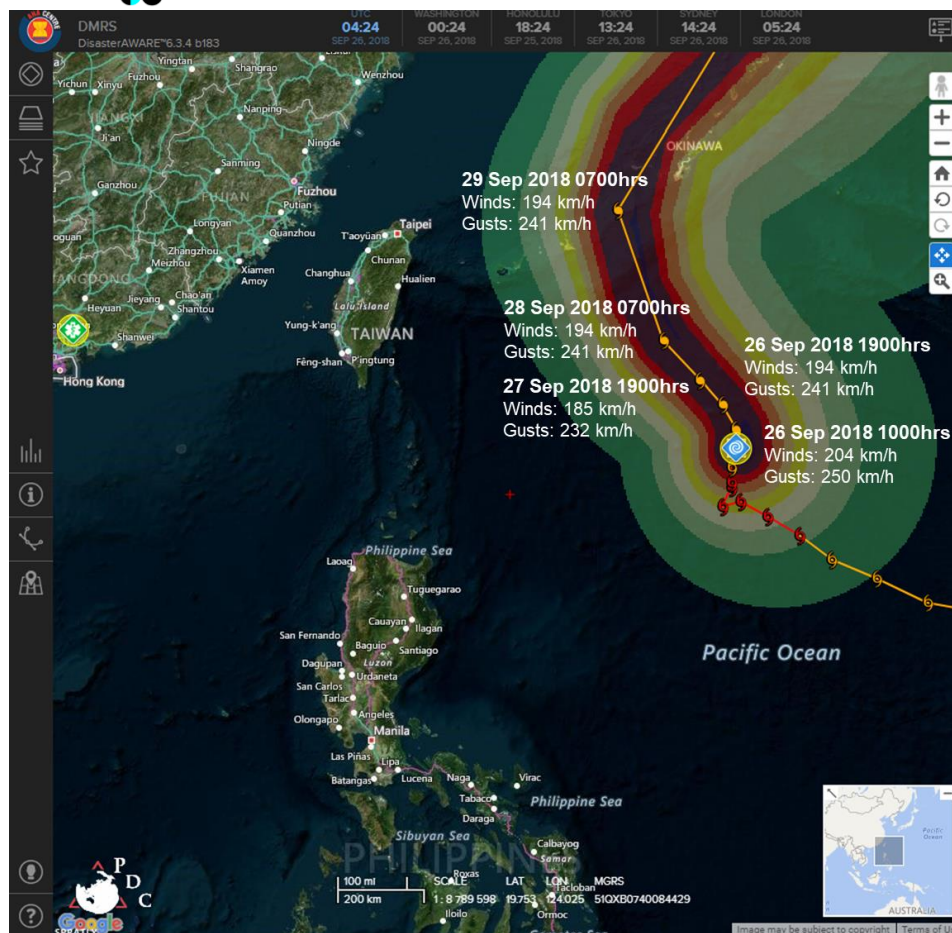
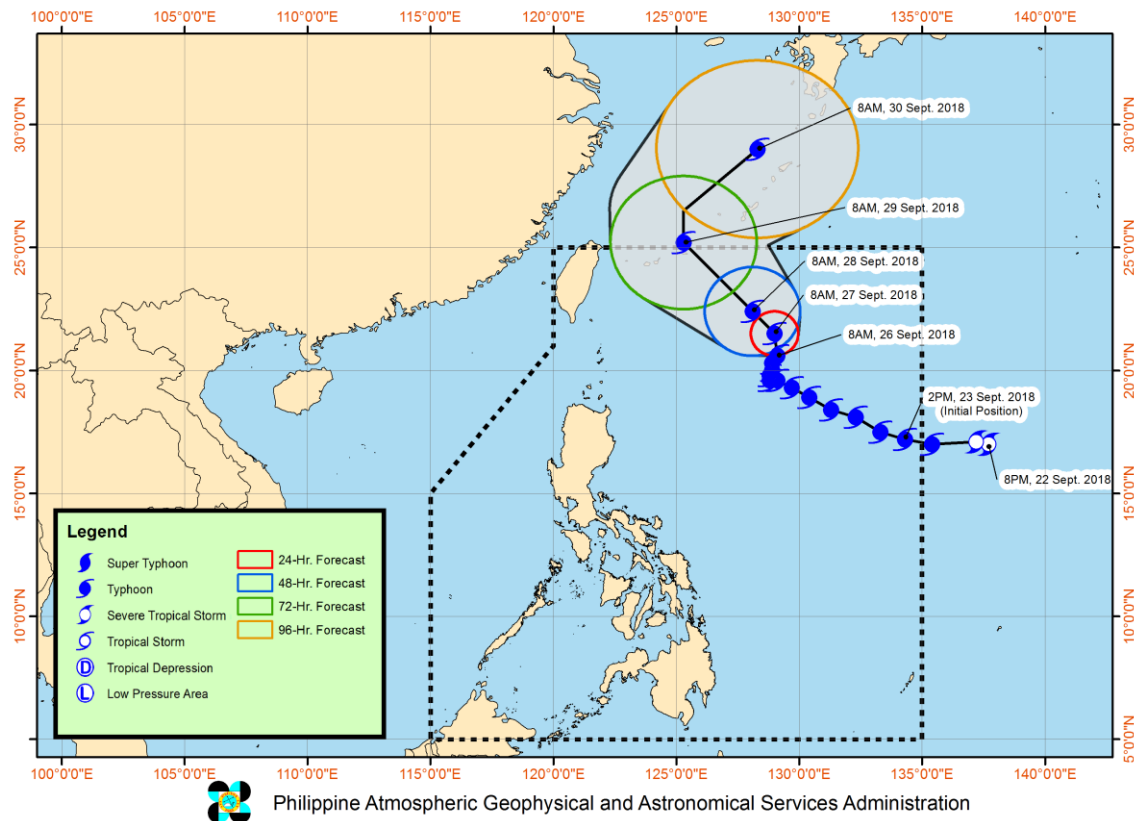
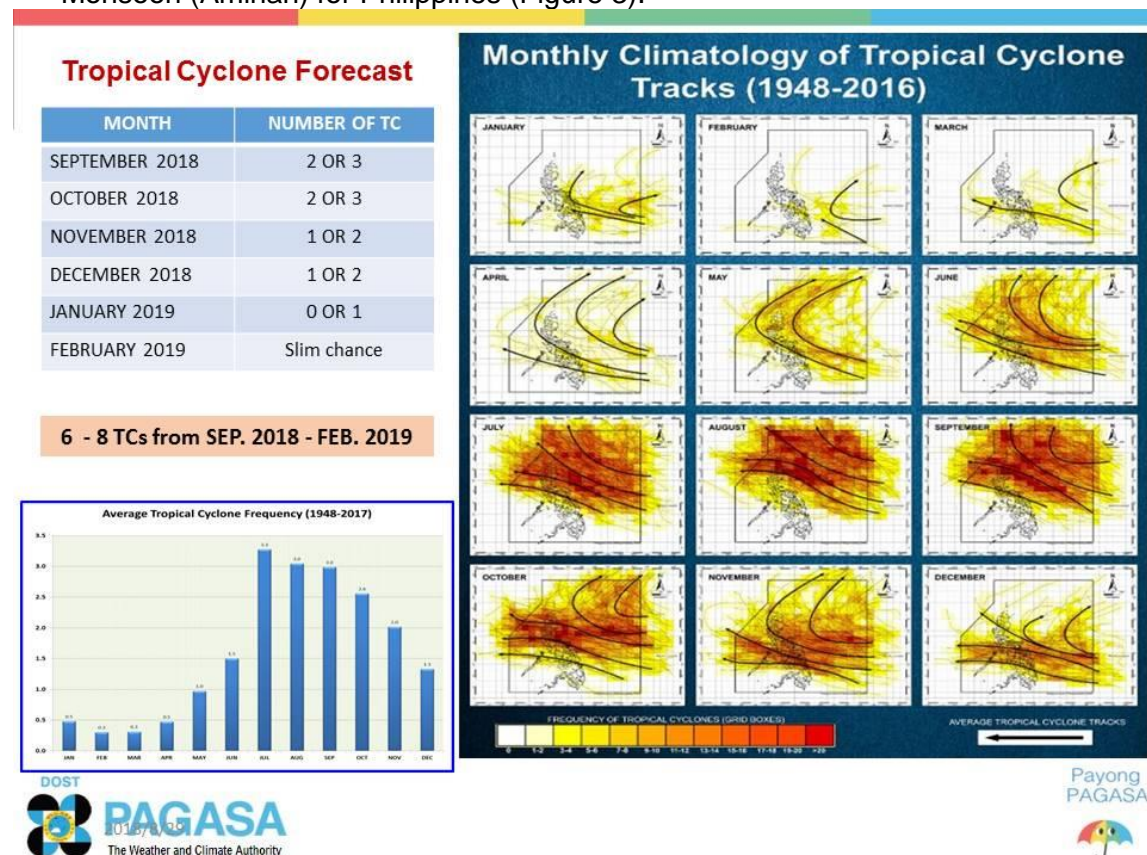


Figure 2: Forecasted track of Typhoon Trami "Paeng"





- f. Based on PAGASA's climatology and forecast, there is still likelihood of experiencing up to 3 typhoons up till October. The likelihood and occurrence of typhoon will decrease as it approaches February. It is interesting to note that according to historical data, the typhoon tracks are likely to move southwards as it approaches Northeast Monsoon (Amihan) for Philippines (Figure 3).



**Figure 3:** Tropical cyclone forecast and Monthly Climatology of tropical cyclones  
(Source: [PAGASA Tropical Cyclone information](#))

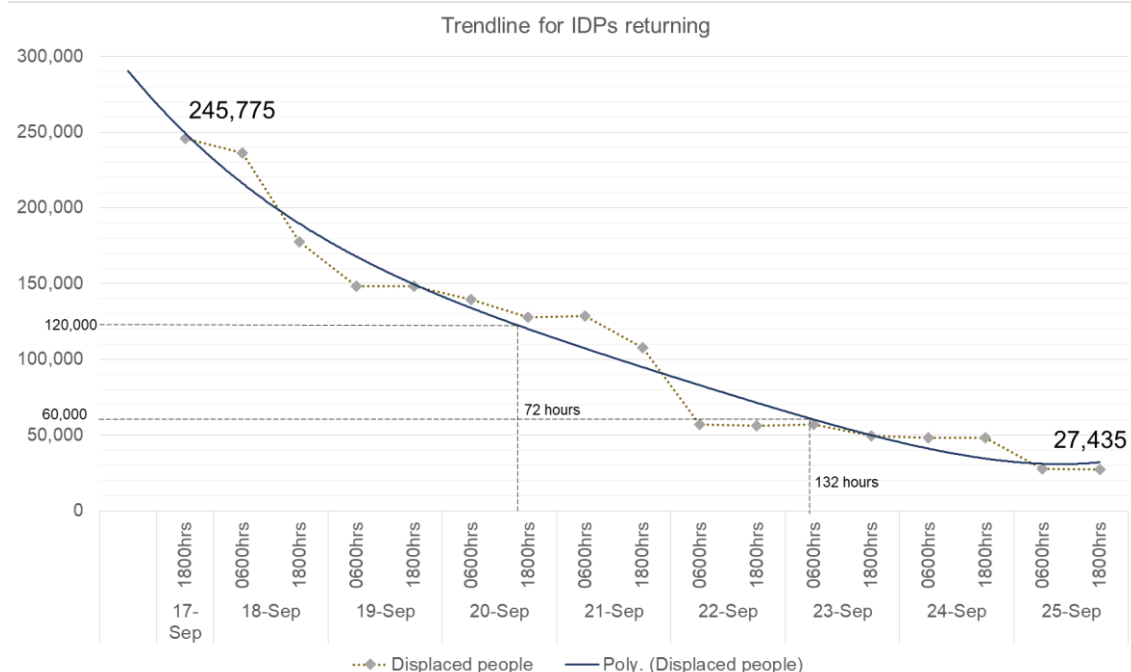
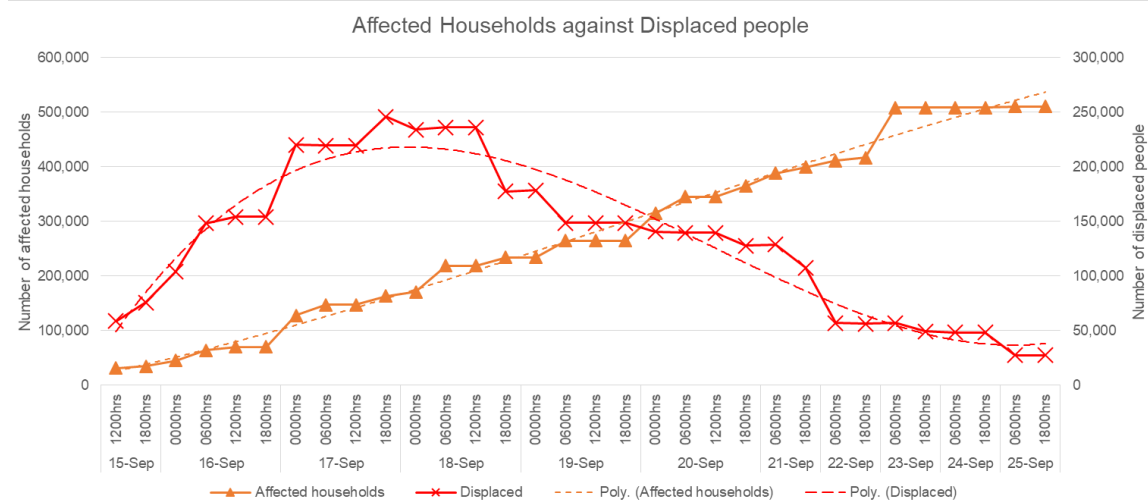
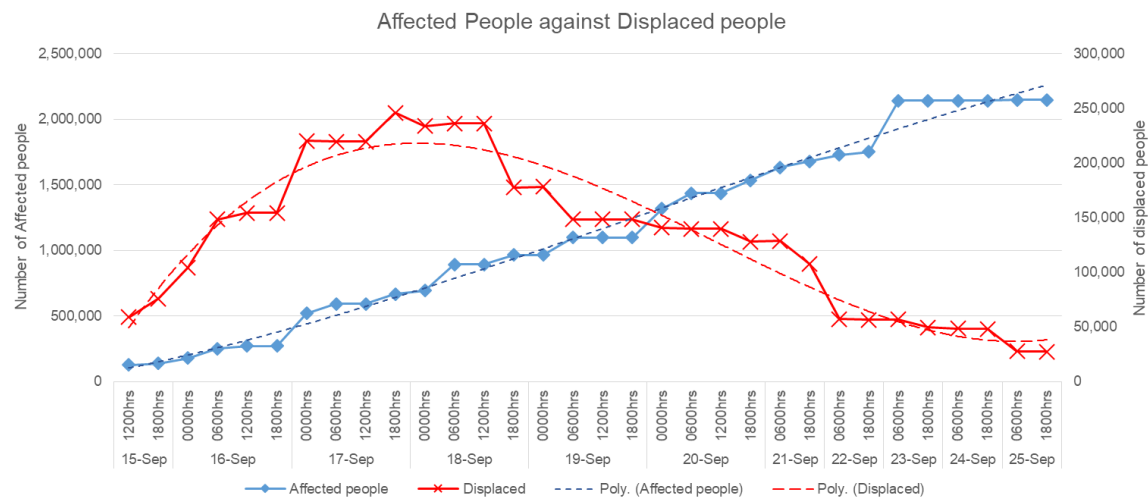
- g. Since Super Typhoon Mangkhut “Ompong” has made landfall, the number of affected individuals and household was found to be increasing at an average rate of 18.4% over a 12 hour period (Figure 3) as reported by NDRRMC situation reports (Sitrep 10 to 40). Displaced figures started to peak by 17 September (within 72 hours post landfall). The displaced individuals seemed to have gradually returned to their dwellings over the course of 48 hours following the peak as displayed in the red dashed trend line (Table 2 and Figure 4).
- h. The largest change reported was on 22 September 2018 (Table 2), a week after the disaster event. This might indicate that there may be a need for food stockpiles to be available for up to a week to ensure that the IDPs have sufficient food in the evacuation centres. However, it would be beneficial to compare figures and greater understanding of social practices/behavior of the community across similar emergencies such as Typhoon Haima to better validate this conjecture. To analyse it on a granular level down to cities or barangay might provide local authorities better understanding and customise interventions prior to disaster event.

Date	Time	Rate of Change (%) over 12 hour period		
		Affected people	Affected households	Displaced people
15-Sep	1800hrs	-	-	-
16-Sep	0600hrs	81.3%	83.2%	95.6%
	1800hrs	8.1%	10.1%	4.0%
17-Sep	0600hrs	118.9%	110.2%	42.4%
	1800hrs	12.5%	10.8%	12.0%
18-Sep	0600hrs	34.2%	33.7%	-4.0%
	1800hrs	7.8%	7.0%	-24.8%
19-Sep	0600hrs	13.8%	13.1%	-16.4%
	1800hrs	0.0%	0.0%	0.0%
20-Sep	0600hrs	31.0%	30.6%	-6.0%
	1800hrs	6.7%	5.7%	-8.4%
21-Sep	0600hrs	6.6%	6.4%	0.7%
	1800hrs	2.8%	2.8%	-16.4%
22-Sep	0600hrs	2.9%	3.0%	-46.9%
	1800hrs	1.4%	1.4%	-1.3%
23-Sep	0600hrs	22.2%	21.9%	1.0%
	1800hrs	0.0%	0.0%	-13.2%
24-Sep	0600hrs	0.0%	0.0%	-2.2%
	1800hrs	0.0%	0.0%	-0.1%
25-Sep	0600hrs	0.3%	0.4%	-42.9%
	1800hrs	0.0%	0.0%	-0.4%

**Table 2:** Affected individuals and affected households against displaced individuals

- i. Noteworthy was the ability of the NDRRMC to consolidate the data promptly within a six hourly cycle between 16 Sep and 20 Sep before stepping down to a twelve hour cycle. In order to show consistency in the rate of change, data from the twelve hour cycle reports were selected. It would be interesting to investigate further on the reasons for the stagnation of data between 19 September and 20 September. This could be achieved with granular data.
- j. Figure 4 also depicts that roughly 50% of IDP return within 3 days (72 hours) after the peak and another wave after 2.5 days (60 hours) and the third wave after 2 days. The number of IDPs currently staying outside of the evacuation centres stand at 18,314 which might be due to their dwelling being destroyed, this figure stands at 10,862 totally damaged dwellings.





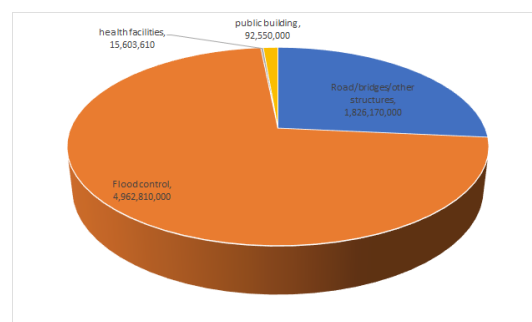
**Figure 4: Affected individuals and affected households against displaced individuals**

*\*The affected individuals and households are accumulative figures since the start of the response which follows a linear fashion as depicted by the blue and green trend lines.*



### 3. ASSESSMENT OF DAMAGE, IMPACT, AND HUMANITARIAN NEEDS

- a. As of 26 September 2018, the NDRRMC has confirmed and verified 23 fatalities, 134 injuries and 2 missing persons in Region I, III, CAR, and NCR ([NDRRMC](#)). The related authorities are still in the process of validation of missing and dead in these affected areas.
- b. Based on Situation Report Number 42 from the National Disaster Risk Reduction and Management Council ([NDRRMC](#)) of the Philippines, a total of **561,255 families / 2,398,630 people** were affected in 5,032 barangays, 481 cities/municipalities, and 31 provinces in in Regions I, II, III, CAR, NCR, CALABARZON, and MIMAROPA. The accumulation of affected people was due to suspension of classes in 948 cities and 228 work activities in government offices. As of 25 September, 876 cities/municipalities (92.4%) of affected areas have resumed their activities, indicating a resume to normalcy.
- c. A total of 23,269 people / 5,610 families are seeking refuge inside and outside evacuation centres across the affected regions ([NDRRMC](#)). There are currently 86 evacuation centres still open, sheltering 4,955 people / 1,389 families (around 42.62 % from the total IDPs). It is a further decrease from the record in the previous report, with the distribution of IDPs remains concentrated in Region I, II, III, and CAR.
- d. The confirmed number of damaged houses (total and partial damages) in Region I, II, III, and CAR has further increased to 140,886 houses ([NDRRMC](#)). This includes 10,862 totally damaged houses and 130,024 partially damaged houses. The distribution of the updated housing damages information can be found in **Figure 6**. As can be seen in Figure 6, Cagayan Province is the worst hit area, with 7,788 houses totally damaged and 63,523 houses partially damaged. This province is potentially exposed to strong winds, storm surges and heavy rainfall threatened by Typhoon Trami “Paeng”, thus potentially the number damaged houses may increase in the following week.
- e. Until 26 September 2018, 134 areas have their electricity supplied (around 67%) from the total 198 areas experiencing power interruption in Region I, CALABARZON, V, VIII, IX, X, CAR, and NCR experienced power interruption ([NDRRMC](#)).
- f. As of 26 September 2018, 296 road sections have been cleared from rubbles and are passable. This is around 94.4% of the road sections affected following the typhoon landfall (initially 308 road sections closed down). In addition, 6 out of 8 affected bridges are now passable ([NDRRMC](#)).
- g. An updated estimation of damage and losses in Regions I, II, III, CALABARZON, V, and CAR suggests in total around PHP 21,262,410,929 (USD 403 million). This accounted for around PHP 14,339,237,631 (USD 265 million) in loss of agriculture sector no update) and PHP 6,923,173,298 (USD 131 million) damages to infrastructure. **Figure 5** on the right describe the proportion of damages to infrastructure in Region I, II, III, V, CALABARZON, and CAR. Detailed assessment for further detailing the breakdown is still ongoing. The

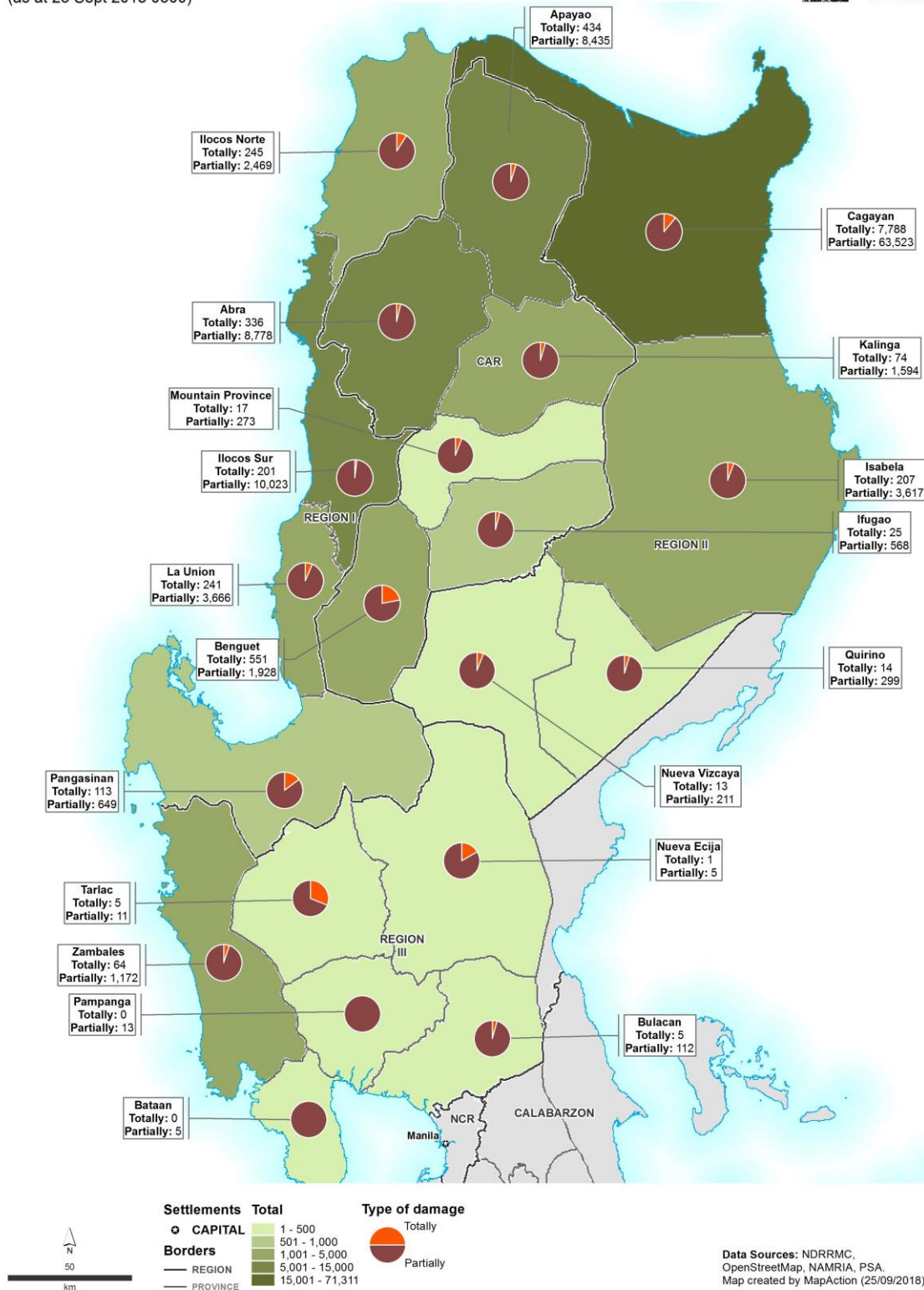


**Figure 5** Cost of damages by sector (as of 25 September 2018, data source: [NDRRMC](#))



damage cost to the health facilities has been calculated, i.e. around PHP 15.6 million (USD 296,468). Most of the damages observed from Region I, II, and CAR.

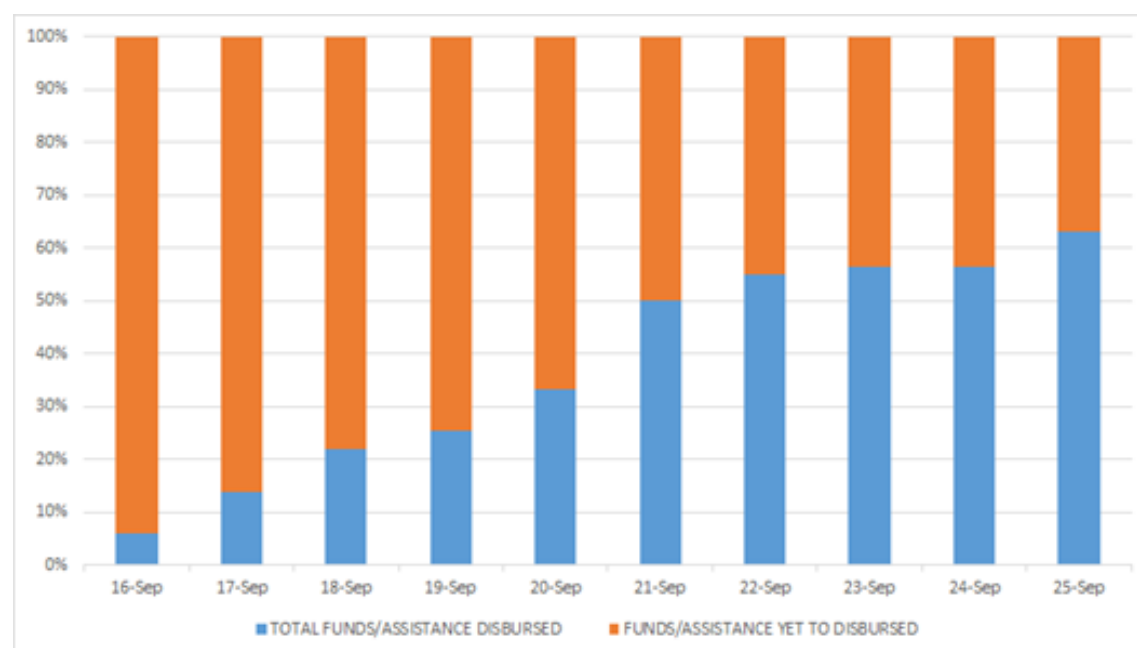
**The Philippines:** Reported number of partially and totally destroyed houses by province  
(as at 25 Sept 2018 0600)



#### 4. ACTIONS TAKEN AND RESOURCES MOBILISED

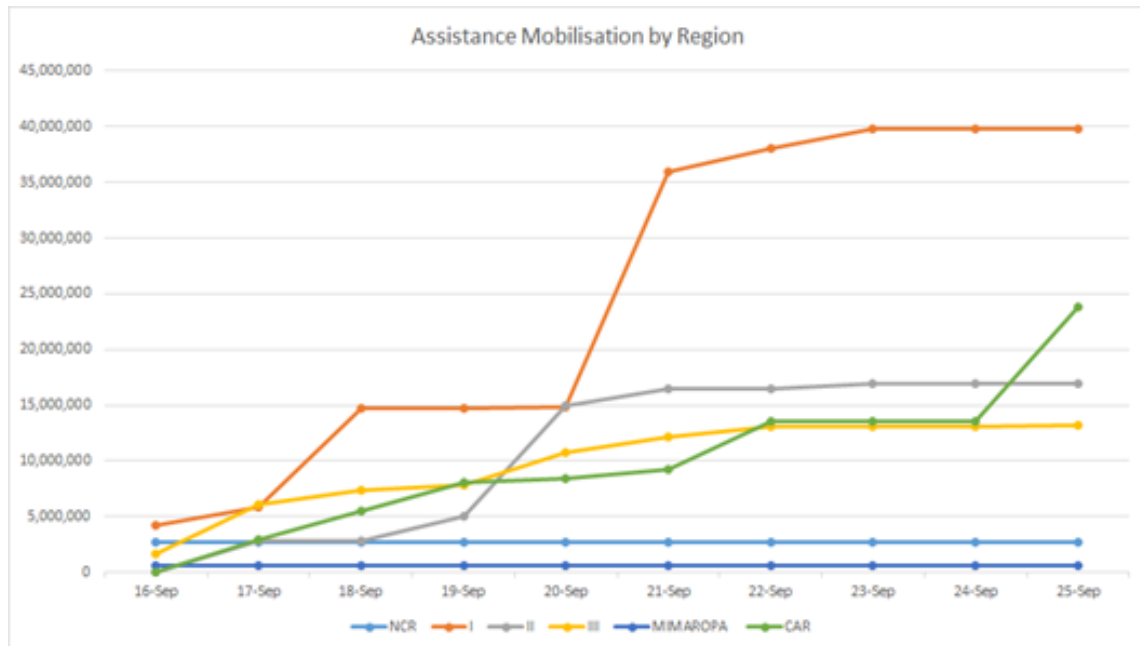
##### Response by Government of the Philippines

- a. The release of EAWM for alerting the public on Typhoon Trami is ongoing. A total of eight (8) provinces and seven (7) cities/municipalities were declared under state of calamity.
- b. A total of PHP 111,120,535 (around USD 2.11 million) worth of assistance has been provided by Office of Civil Defense, Department of Health, Department Social Welfare and Development, Local Government Units, and NGOs (NDRRMC) to Regions I, II, III, MIMAROPA, NCR, and CAR until 26 September. From the latest amount, around PHP 96.94 million worth of assistance has been channeled to be absorbed at the local level, i.e. around 63.09% of the standby assistance and stockpiles prior to the landfall (an increase of around 6.6% from report in previous day). Figure 6A below provides distribution of assistance until 26 September, in comparison with the previous day and to the stand-by funds and assistance prior to the landfall.



**Figure 6A:** Progress of Assistance Disbursement and Mobilisation by OCD, DOH, DSWD, LGUs and NGOs until 26 September 2018 (based on data from NDRRMC)

Furthermore, Figure 6B shows the progress of disbursement and mobilisation by region. The key update is an increase of around PHP 10 million worth of assistance to Region CAR, as can be seen in green line of Figure 6B. Meanwhile, total assistance delivered to Region II and III have remain stagnant.



**Figure 6B:** Progress of Assistance Disbursement and Mobilisation by OCD, DOH, DSWD, LGUs and NGOs until 26 September 2018: Value of assistance distribution (in PHP) by region (based on data from [NDRRMC](#))

### Response by the AHA Centre

- The AHA Centre's Executive Director and Director of Operations were in Region II discussing with the Municipal Mayor, Mr Washington M. Taguinod on the impact of the disaster (Figure 7).



**Figure 7:** Discussion with Region II Municipal Mayor

- Mr. Dante D. Balao, the Regional Director of Office of Civil Defense Regional Office II, in Tuguegarao, Cagayan briefed the Executive Director (Adelina Kamal) and



Operations Director (Arnel Capili) of the AHA Centre on the latest situation and the preparedness efforts that have been put in place within the communities. He also explains how radio-communication has helped him coordinate and monitor the situation isolated islands of the region.



**Figure 8:** Briefing by Regional Director of OCD RO II in Tuguegarao

- c. AHA Centre continues to facilitate the mobilisation of locally procured relief items to the four most affected regions (Figure 9 and 11):



**Figure 9:** Delivery of rice and tarpaulin in CAR





**Figure 10: Delivery of generator set to Region II**



**Figure 11: Delivery of generator set to Region II**

- d. The ASEAN relief items are being distributed by the NDRRMC in the following regions:

LOCATION	RICE	TARPAULIN	GENERATOR SET
CAR	✓	✓	✓
REGION I	TBA	TBA	✓
REGION II	TBA	TBA	✓
REGION III	TBA	✓	✓

**Response by ASEAN Dialogue Partner(s) (in alphabetical order)**

- e. The European Union is currently assessing the shelters' condition in coastal areas in Cagayan as well as the mountainous areas of CAR Region. (Source: [https://twitter.com/ECHO\\_Asia/status/1044450341217923072](https://twitter.com/ECHO_Asia/status/1044450341217923072))

**Response by Humanitarian and Other Partners**

- f. World Food Programme (WFP) provided support to the DSWD in terms of transportation of 1,000 MT of rice from the National Food Authority (NFA) warehouses in Valenzuela and Antipolo to the DSWD's warehouse. To date, out of 20,000 bags, WFP has already shunted 795 MTs with transportations still ongoing.
- g. Handicap International - Humanity and Inclusion (HI) conducted assessment in Liwan West and Pinukpuk whereas farms, rice, and maize plantations are mostly affected.
- h. World Vision had opened dedicated 'safe spaces' for children affected on 23 September 2018. Besides this, they had delivered emergency essentials like hygiene and emergency shelter kits, non-food items and mosquito nets to more than 1,800 families or 9,000 individuals. They plan to assist 10,000 families through provision of relief packs and support to early recovery.

## 5. RECOMMENDATIONS AND PLANNED ACTIONS

**Recommendations to be considered by humanitarian partners**

- a. Humanitarian partners are advised to monitor weather forecast and warnings regarding anticipated risk due to movement of Tropical Storm Trami. PAGASA is providing tracking service to movement of TS Trami and general flood and landslide advisory: <http://bagong.pagasa.dost.gov.ph/>
- b. In particular, humanitarian partners working at hilly areas within Region CAR should anticipate landslide risk due to weather disturbance brought by TS Trami, which may expose loosen soil in the area. Meanwhile, in low lying area of Region II, extended period of rain may retain inundated areas and may give impetus for health risk in mid-to-long term.
- c. The AHA Centre and Sentinel Asia's DANs are requesting for ground feedback on flooded areas. In addition, based on the recent disaster impact observation, humanitarian partners are advised to enable geotagging function during field assessment for improving understanding on the geographic of the impact.
- d. Humanitarian partners are invited to further share their assessment results, humanitarian operations information, and other insight to the ASEAN-ERAT regional



specialists and AHA Centre's EOC for shared analysis to inform collective response to situation in the Region I, II, III, and CAR.

- e. Recommended hashtags that are being used to share updates related to Typhoon Mangkhut are #OmpongPH, #walangpasok (class suspension), #laginghanda (preparedness measure), #ResponsePH, and #ReliefPH

#### **AHA Centre's plans**

- a. The AHA Centre's ICLT and ASEAN-ERAT will continue to coordinate closely with the NDRRMC on assistance to be provided by the AHA Centre and other ASEAN stakeholders, i.e. in addition to the information management support and provision of relief items.
- b. The AHA Centre will provide further updates as situation progresses and more information is available.

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#### **ABOUT THE AHA CENTRE**

The AHA Centre - ASEAN Coordinating Centre for Humanitarian Assistance on disaster management - is an inter-governmental organisation established by 10 ASEAN Member States – Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam - to facilitate the cooperation and coordination among ASEAN Member States and with the United Nations and international organisations for disaster management and emergency response in the region.

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