Briefing Note – 09 November 2017

VIETNAM:
Tropical Storm Damrey

	Not required	Low	Moderate	Significant	Major
Need for international assistance			X		

	Very low	Low	Moderate	Significant	Major
Expected impact			X		

Crisis overview

Tropical Storm (Category 4) Damrey made landfall in Vietnam on the morning of 4 November along the south-central coastal region, particularly affecting Khanh Hoa province. 48 deaths have been reported, with an additional 11 people missing. Over 1,300 homes have been destroyed and over 122,000 partially damaged. An estimated 500,000 people have been affected in these provinces and 24,000 remain displaced in evacuation centres. Over 12,000 hectares of agricultural land have been flooded and extensive damage to marine based livelihoods has also been reported. All five south-central provinces are reporting flooded roads and as a result limited access to some areas. One of the five provinces (Phu Yen) has had power restored while the other provinces are still partially without power. Three reservoirs have reported to be operating flood discharge due to high water levels.

Note: At the request of the Start Network, this Briefing Note focuses only on the south-central coastal region. However a significant area of Vietnam has been impacted by Tropical Storm Damrey. Outside the five provinces discussed in this note, nine other provinces were impacted to varying degrees. Particularly the shelter and NFI impacts in Da Nang, Thia Thein, and Bak Lak were comparable to those reported above. Thia Thien was significantly impacted regarding shelter with over 70,000 shelters partially damaged. Given the widespread impacts across Vietnam, national response resources will be stretched. *(AHA, 08/11/2017; VDMA, 07/11/2017).*

Key findings

Anticipated scope and scale

The current impact across the south-central provinces has yet to be fully assessed. Shelter damage is the most reported impact and will likely increase through further assessment. However, NFIs, food, health, and WASH needs will likely become more prominent in the coming days. In addition, the ongoing rain, which is forecast to continue for the coming days will only exacerbate the damage to shelters and road networks. There is also a possibility of more flooding and landslides. It is important to note that the scale of the situation expands beyond the scope of this report with significant impacts in the central-north as well. This may strain national capacities in the coming days.

Key priorities

Shelter and NFIs: Over 1,300 homes have been destroyed and over 122,000 have been partially damaged in the south-central provinces. Khanh Hoa province has reported the highest number of damaged shelters. Information on NFI needs is limited, but with a large number of damaged properties, high needs are expected.

Food and livelihoods: Agricultural land and marine livelihoods have been significantly impacted across the affected provinces. Over 12,000 hectares of agricultural land have been damaged. Local government bodies have indicated an urgent need for basic food supplies.

Health: Although there are currently no health needs identified, request for basic medicine and vaccinations indicates a potential need for those affected. In addition, the situation could aggravate an already nationally high level of dengue fever.

Humanitarian constraints

Access has been impacted across all affected provinces as roads remain blocked by falling trees, power lines, and flood water. In addition, rail networks in Phu Yen remained closed.

Limitations:

At the request of the Start Network, the geographic coverage of this report is limited to the south-central coastal region.

There is a need for field assessment of the affected districts to identify the sectoral impacts, with a particular focus on shelter, WASH, health, and food.

Information on the current national and international response is limited in terms of actions taken and in which districts.

Crisis impact

Tropical storm (Category 4) Damrey made landfall on the morning of 4 November, with winds of up to 135km/h (IFRC, 08/11/2017) and widespread impacts (See Map 1 on page 5 for spatial distribution of impacts). In the south-central provinces, 48 deaths have been reported with an additional 11 people missing. Over 1,300 homes have been destroyed and over 122,000 partially damaged (predominantly damage to roofs). An estimated 500,000 people have been affected in these provinces and 24,000 remain displaced in evacuation centres. Over 12,000 hectares of agricultural land have been flooded and extensive damage to marine based livelihoods has also been reported. A large number of provinces are reporting flooded roads and as a result limited access to some areas. One out of the five provinces has had power fully restored (Phu Yen) with the other provinces still partially without power. Three reservoirs are reported to be operating flood discharge due to high water levels, which will continue to exacerbate downstream water levels. (AHA, 08/11/2017; VDMA, 07/11/2017).

Shelter and NFIs: Shelter impacts are currently the most reported across the affected provinces. Over 1,300 homes have been destroyed and over 122,000 partially damaged. Khanh Hoa has the highest reported shelter damage: over 97,000 homes partially damaged and just under 1,000 destroyed. This is followed by Phu Yen with over 18,500 homes with partial damage and just under 177 destroyed. The damage to the other three provinces is as follows; Quang Nam, 4,800 partially damaged and three destroyed; Binh Dinh, 770 partially damaged and 144 destroyed; Quang Ngai, 229 partially damaged and 15 destroyed (see table 2 below). The majority of those reported as partially damaged have damage to roofs. (AHA, 08/11/2017; VDMA, 07/11/2017; IFRC, 08/11/2017).

Province	Destroyed	Partial Damage	Total
Khanh Hoa	993	97 930	98 923
Phu Yen	177	18 516	18 693
Quang Nam	3	4 814	4 817
Binh Dinh	144	770	914

Table 1: Damage to shelters by provinces

Although there is limited information on current NFI needs, with flooded homes and damage to roofs during heavy rain it can be expected that a high number of essential NFIs are lost or damaged. A large number of power lines were knocked down during the storm, and as of 7 November reports indicate that power has only been fully restored to Phu Yen province but only partially restored across, Khanh Hoa, Binh Dinh, Quang Ngai and Quang Nam. (VDMA, 07/11/2017; Aljazeera, 05/11/2017)

Food and livelihoods: Numbers on those in need of food assistance are not available but information indicates that local governments from affected provinces have requested urgent food assistance (Binh Dinh: 1,000 metric tons, Phu Yen: 300 metric tons, Khanh Hoa: 25,000 metric tons) (VDMA, 07/11/2017). Agricultural impacts are widespread with over 12,000 hectares of agricultural land damaged. Khanh Hoa province, again has reported the highest impacts, with over 5,400 hectares damaged, followed by Quang Ngai 2,036; hectares; Phu Yen, 1,951 hectares; Binh Dinh, 1,892 hectares; and Quang nam, 720 hectares. Extensive damage to marine based livelihoods has also been reported. (AHA, 08/11/2017; VDMA, 07/11/2017; IFRC, 08/11/2017; Europa, 05/11/2017). The main planting season in southern Vietnam starts in December, therefore the main crop has not been damaged although seasonal planting may be delayed into December - January.

Health: Numbers on health needs are not available but reports indicate that local governments have requested basic health and vaccination supplies (VDMA, 07/11/2017). Stagnant floodwater will create new breeding grounds for mosquitoes and likely exacerbate the spread of disease. Dengue, malaria, and Japanese encephalitis are all active diseases in Vietnam. Dengue is of particular concern: the number of cases this year has increased by 40% compared to 2016. Dengue cases are mostly restricted to the central and southern provinces. (Lonely Planet 2017; Healthmap.org 08/11/2017; outbreak News Today, 25/09/2017).

WASH: Local governments from the affected provinces have requested water purification resources as an urgent need (VDMA, 07/11/2017).

Displacement: There are no reports of displacement beyond the government-led early evacuation of populations most at risk. As of 8 November, over 24,000 people remain in evacuation centres across two provinces (Khanh Hoa, 18,761; and Phu Yen, 6,222). Information on the needs of those evacuated is not available but the evacuation centres have requested support with basic food, safe drinking water, family kits, and hygiene kits. (AHA, 08/11/2017).

Impact on critical infrastructure

Power infrastructure: Across Khanh Hoa, Binh Dinh, Quang Ngai and Quang Nam power is only partially restored. Of note several power substations in Khanh Hoa have yet to be repaired. Three hydropower reservoirs as of 7 November are operating flood discharge procedures as the water storage levels have exceeded the emergency levels. (VDMA, 07/11/2017).

Humanitarian and operational constraints

Road and rail network: The road networks across all five provinces have reported access constraints from flooding or fallen trees and power lines. Landslides have reportedly affected a number of roads across Phu Yen, limiting access. Railway lines in Phu Yen province remain closed as repairs are ongoing. However reports indicate that these repairs will be completed by 9 November. (AHA, 08/11/2017; VDMA, 07/11/2017; Vietnam News, 07/11/2017).

Aggravating factors

National Impacts:

A significant area of Vietnam has been impacted by Tropical Storm Damrey. Outside the five provinces discussed above nine other provinces were impacted to varying degrees. Of note the shelter and NFI impacts in Da Nang, Thia Thein, and Bak Lak were comparable to those reported above. Thia Thien was significantly impacted regarding shelter with over 70,000 shelters partially damaged. Given the widespread impacts across Vietnam, national response resources will be stretched. (AHA, 08/11/2017; VDMA, 07/11/2017).

Weather/altitude

Weather forecasts are reporting heavy downpours to continue in the affected region for several days. With already saturated groundwater levels, further rainfall will have a fast and direct impact on water levels across the affected districts bringing risks of more flash floods and landslides (IFRC, 08/11/2017).

Population density

Vietnam has one of the highest population densities in the world. Population density for the affected provinces in the central south is estimated to be 177 people per km^2. However, it is estimated to be slightly higher in Khanh Hoa (the worst affected province), at 183 people per km^2, with the highest population destiny in Binh Dinh at over 220 people per km^2 (Population densities: Phu Yen, 142; Quang Ngai, 207; and Quang Nam, 136 people per km^2) (Population Explorer, 2017).

Other factors of vulnerability

The world risk index identifies that over 50% of the Vietnamese population is vulnerable to natural hazards, such as tropical storms. The INFORM country risk profiles ranked Vietnam's vulnerability as 143 out of 193 and the population's lack of coping capacity is ranked as 106 out of 193. This indicates that the impacts of natural hazards such as tropical storms may be greater and harder to recover from. (INFORM, 2017; World Risk Index, 2016)

Key characteristics

Demographic profile: Vietnam has a total population of over 96 million, of which 35% live in urban environments. The gender ratio is 1:1, the dominant age group is 25-54, representing 46% of the population. There is little dependency of those over 65, as they only represent 6% of the population; however 23% of the population is under 14. (CIA, 2017)

Nutrition: Stunting is prominent across the population, affecting 22.7% of those under 5, indicating a high chronic malnutrition concern. (UNICEF, 2017)

Health: Under five mortality is 21.8 per 1,000 live births. (GSO, 2016)

Cooking Source: 51% of the population are using solid fuels for cooking. Wood is the predominant source (57%) with 32% using gas as a cooking sources. Rural Communities

have a high percentage using solid fuels (72%) with a lower percentage in urban centres (20%) (GACC, 2017).

WASH: The majority (99.1%) of those living in urban areas have access to improved water sources, as do those in rural areas (96.9%). Access to improved sanitation facilities is lower, with the majority (94.5%) having access in urban areas, whereas in rural areas just over two thirds (69.7%) have access. (CIA, 2017)

Literacy: A high percentage of the population is literate: 96.3% of males and 92.8% of females. (CIA, 2017)

Response capacity

Local and national response capacity

Local authorities are responding across affected provinces but due to response gaps have requested assistance from national government for water purification and food assistance. The National Disaster Management Agency is responding to the crises nationwide and the Permanent Secretariat of the central steering committee is overseeing national response coordination at a strategic level. (Vietnam News, 06/11/2017; VDMA, 07/11/2017)

International response capacity

The Russian Federation has provided USD 5 million to support the response to Tropical Storm Damrey. In addition, the Russian Federation has aircraft loaded and ready to be deployed with 40 metric tons of cargo including shelter and NFI supplies. The Japanese government has provided 105 water filtering systems. Vietnam Red Cross Society (VNRC) released emergency aid, including cash assistance (USD 34,000) and essential goods such as tarpaulins, shelter tool kits, and water purification tablets to affected provinces (IFRC, 08/11/2017; GoRF, 07/11/2017; Viet nam News, 08/11/2017). NGOs in the area have scaled up their operations to support the response, namely Save the Children and World Vison. No international assistance has been formally requested (OCHA, 08/11/2017).

Information gaps and needs

- There is a lack of information regarding specific sectoral needs, particularly shelter, NFIs, and WASH.
- The extent of the damage to homes in unclear.

Lessons learned

- Monitoring and reporting on impacts and response needs to be done on short, medium, and long-term recommendations made in the Disaster Needs Assessment (GFDRR 2016).
- Access to finance mechanisms for implementing recommendations should be identified, considering economic challenges facing the country (GFDRR 2016).
- Floods are often followed by epidemics. An increased amount of stagnant water increases the risk of mosquito and waterborne diseases. In 2008, a dengue fever outbreak occurred in Nghi Xuan district of Ha Tinh province. The main cause of the epidemic was the stagnant waters left over from the recent floods. Cloramine B and sprays are most effective in repelling and killing mosquitoes that serve as vectors for the dengue virus (Government 2008).
- The boom in the construction of hydro power plants is a significant problem because it causes widespread deforestation and exacerbates the effects of flooding. The improper construction of dams surrounding the power plants makes matters worse. These two issues in combination cause water levels to rise dramatically within just a few hours during above-average rains. In 2013, 15 hydropower reservoirs in the central region discharged their waters after heavy rainfall, killing 46 people and flooding the houses of 425,000 affected people (Vietnam News 20/10/2016).
- Indirect losses, such as livelihood impact, are often much higher than direct damage (ECLAC 2003).
- Assessment techniques
    - Consult with other sectors and national authorities on the questions vital to assessment quality.
    - Including return areas in assessments improves understanding of current and future needs, both during displacement and after return.
- Communication with affected populations
    - A dialogue-based approach is more effective than a one-way information campaign.
- Coordination between responders

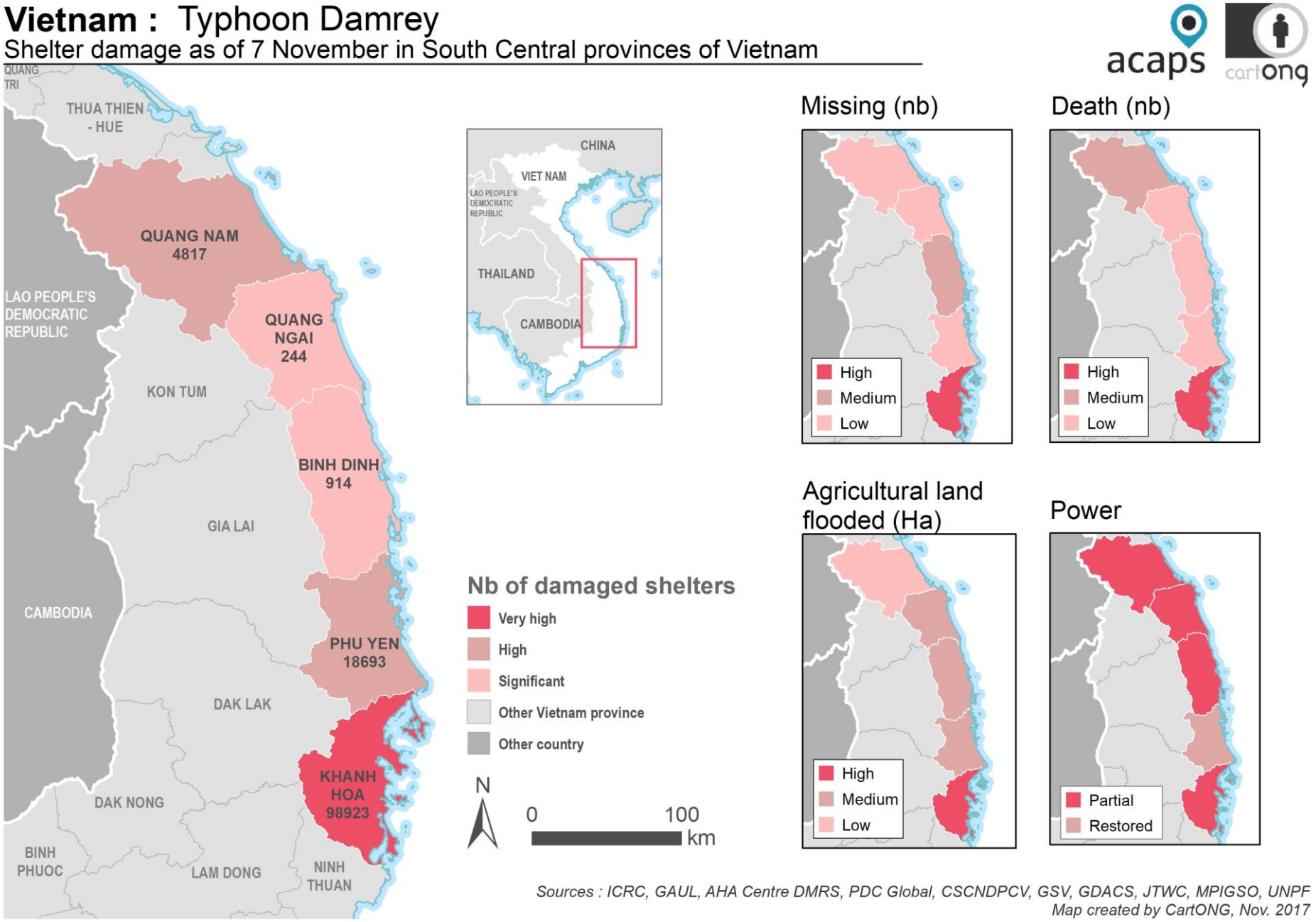
  - Communication and coordination between actors can prevent secondary impacts.

- Health
  - Delays in the treatment of injuries heighten the risk of tetanus and infection.
  - Overcrowding, due to displacement, facilitates disease transmission.
  - Waterborne diseases can break out among the affected population, as the disruption of usual water supplies and contamination by damaged sewage infrastructure can result in consumption of unsafe drinking water.
  - Mosquito-borne disease incidence may fall in the first few weeks after the storm, as high winds and flooding may destroy mosquito-breeding sites. However, approximately three weeks after the impact, when flooded waters subside and mosquitoes rebreed, transmission is likely to return to previous or higher levels.

- WASH
  - Chlorine is the most effective drinking-water disinfectant.
  - Rainwater catchment systems can make a long-term improvement to water supply.
  - Water trucking is not sustainable after the initial response.

Source: ACAPS Lessons from Tropical Storm Erika in Dominica. (24/10/2017).

Vietnam: Typhoon Damrey impacts south-central provinces



Sources : ICRC, GAUL, AHA Centre DMRS, PDC Global, CSCNDPCV, GSV, GDACS, JTWC, MPIGSO, UNPF
Map created by CartONG, Nov. 2017