

INDIA

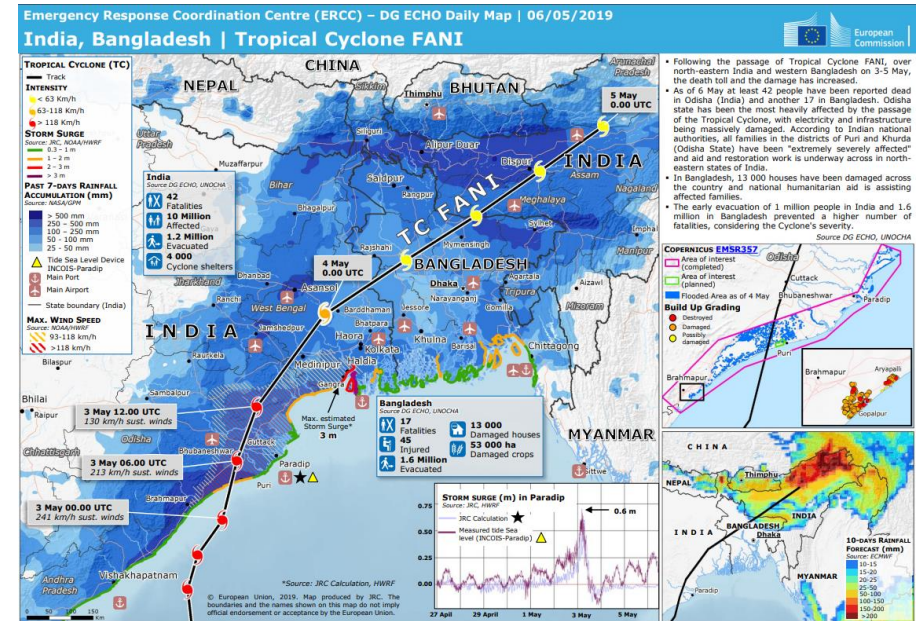
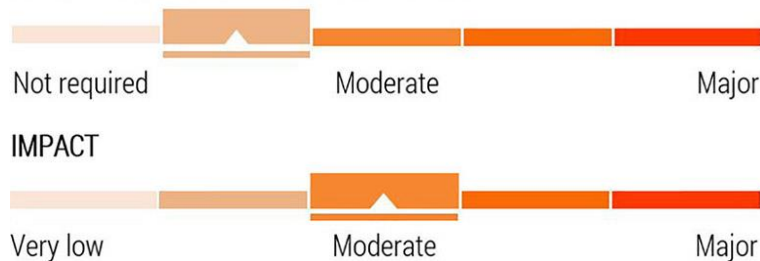
Cyclone Fani Category: 4



Briefing note – 07 May 2019

On 3 May, Cyclone Fani made landfall near Puri District, bringing heavy rain to Odisha and neighbouring states, winds reaching a maximum sustained wind speed of approximately 240 km/h, and a powerful storm surge in coastal areas. Despite a large-scale evacuation effort carried out by the Indian government, at least 42 fatalities and 160 injuries have been attributed to the cyclone. Extensive damage has been reported to houses and farmland, as well as to transportation, communication, water, and electricity infrastructure, particularly in Odisha. Shelter, food, livelihoods, WASH, and health needs are present in many affected areas and may persist despite active response efforts carried out by Indian authorities.

NEED FOR INTERNATIONAL ASSISTANCE



Source: ECHO 06/05/2019

Anticipated scope and scale

Preliminary estimates suggest that up to 10,000,000 people may be affected across more than 14,000 villages and 46 towns. Though Odisha, Andhra Pradesh, and West Bengal have all been affected, the **most severe damage is concentrated in Odisha**, particularly the districts of Puri, Khurda, Cuttack, Kendrapara, and Jagatsinghpur. Thousands of houses and large tracts of farmland have been destroyed, causing **acute needs for food, livelihood, and shelter assistance**, among others, that may persist in the coming weeks and months.

Key priorities



10,000,000
people affected



+2,000
homes destroyed



Farmland
flooded and damaged

Humanitarian constraints



The cyclone's winds and flooding have caused significant damage to transportation infrastructure. Though the Indian government is working to fix the damage, it will likely be days to weeks before access is completely restored.

Limitations

Needs assessments are ongoing, and specific sectoral needs are still largely unclear. There is particularly limited information about populations that have been affected by the cyclone but have not moved to relief camps.

Crisis impact

Cyclone Fani made landfall in Puri district, Odisha, on 3 May as a Category 4 cyclone with wind speeds exceeding 240 km/h – the most intense cyclone to strike India’s east coast in more than 20 years (ECHO 03/05/2019). Since making landfall, Cyclone Fani has moved north through a large geographic area that encompasses parts of Odisha, Andhra Pradesh, and West Bengal. The large majority of the impact from the cyclone has been concentrated in Odisha, particularly the districts of Puri, Khurda, Cuttack, Kendrapara, and Jagatsinghpur which are located on or near the the Bay of Bengal (Times of India 05/05/2019). As of 6 May, more than 42 fatalities and at least 160 injuries have been recorded, though these figures could likely rise as more information becomes available (ECHO 06/05/2019; Business Standard 06/05/2019). Preliminary estimates suggest that up to 10,000,000 people may be affected across more than 14,000 villages and 46 towns (OCHA 06/05/2019).

Before the initial impact of the cyclone, the Government of India evacuated more than 1 million people from at-risk areas, which likely minimised the number of fatalities and injuries compared to similar disasters that struck Odisha in the past (Washington Post 03/05/2019). Despite these efforts, severe damage has been reported throughout Odisha, with thousands of houses and large tracts of farmland destroyed. Shelter, food and livelihoods, WASH, and health needs have been reported. Significant damage has been sustained to transportation, electricity, telecommunications, and water infrastructure, and government-led rehabilitation efforts are currently underway.

Shelter: Many houses have been destroyed and shelter is likely to be one of the most significant areas of need. The cyclone destroyed almost all of the thatched-roof and mud houses in some low-lying coastal areas of Odisha (AP 03/05/2019). The largest concentration of shelter damage is in Puri district, where Cyclone Fani first made landfall (ABC 05/04/2019). Some preliminary reports have suggested that 2,000 houses have been destroyed in Odisha, though this figure is very likely to increase as more information becomes available. Relatively little information is available from some of the most-affected districts, such as Puri, because telecommunications and internet networks are damaged (AP 04/05/2019).

Approximately 1.1 million people are currently housed in more than 6,500 emergency shelters in Odisha and surrounding states (GoI 03/05/2019; ECHO 03/05/2019). The general condition of the emergency shelters is not known. Local authorities have reported that some evacuated people have started to return to their place of origin (BBC 04/05/2019). There is a risk that this process might be slowed down by damaged roads and railways. Families whose houses have been destroyed may face more prolonged displacement and will have elevated shelter needs.

Food Security/Livelihoods: Storm surges and flooding from Cyclone Fani have reportedly led to the destruction of large amounts of farmland in affected areas (Oxfam 04/05/2019). The full extent of the damage is being evaluated; however, food security of subsistence farmers will likely be negatively impacted in the short and medium term. In Srikakulam district, Andhra Pradesh, 958 acres of crops were destroyed and approximately 10,000 coconut trees were uprooted (Devdiscourse 04/05/2019). Even more extensive damage to crops and farmland can likely be expected in coastal districts of Odisha that were more heavily impacted.

Given that nearly 75% of the total workforce in Odisha is engaged in agriculture as their main source of income, the destruction of farmland will likely have a significant negative impact on livelihoods. Cyclone Fani has also reportedly caused extensive damage to fishing boats which can be expected to harm non-agrarian livelihoods as well.

WASH: Access to safe drinking water is restricted in many cyclone-affected areas and WASH needs are present. In Bhubaneswar, water is currently being supplied to city residents by water tanker, though in some parts of the city – especially slum areas – supply is not enough to meet demand. Residents of both Bhubaneswar and Puri have reported being forced to purchase bottled water from merchants, often for several times the normal price (Hindustan Times 04/05/2019; New Indian Express 05/05/2019). Little information is available about the availability of drinking water in rural areas – it is likely to be an issue, as many residents use tube wells that rely on electricity or diesel fuel.

Although information about the impact on sanitation services is minimal, access to sanitation will likely represent an important area of need. Prior to the cyclone, access to improved sanitation in Odisha was relatively low, at approximately 43% of households (New Indian Express 04/11/2017). In a context of widespread flooding in cyclone affected areas, latrines have likely been damaged or flooded, which would decrease access to improved sanitation and possibly increase the risk of and outbreak of waterborne disease.

Health: In the immediate aftermath of Cyclone Fani, one of the largest hospitals in Bhubaneswar was reported to be extensively damaged by the storm surge, which tore off the roof of the building and damaged several nearby water tanks (Orissa Diary 03/05/2019). It is unclear whether the hospital’s operational capacity was affected, or if the damage has been repaired.

Out of the more than 1 million people who were moved to emergency shelters, at least 1,000 were pregnant women (The Guardian 03/05/2019). Pregnant women, along with other vulnerable groups such as the elderly and children will likely face elevated health needs.

Impact on critical infrastructure

The cyclone has damaged electricity infrastructure in many affected districts. Across Odisha, approximately 45,000 people are without power, a situation that is expected to persist for several days while repairs are being completed (Odisha TV 05/05/2019). Internet and cellular services have also been down for several days, limiting the ability of people in affected areas to communicate (NY Times 02/05/2019; News 18 05/05/2019). Severed communications links have so far limited the amount of information emerging from cyclone-affected areas (AccuWeather 05/05/2019).

Several of the most affected areas including Puri and Bhubaneswar have sustained significant damage to water distribution networks. In Puri, residents have reported having no running water as a result of WASH infrastructure being rendered non-operational (Hindustan Times 04/05/2019). In Bhubaneswar, two pumping stations that normally provide approximately 40% of the city's water supply have been disabled (Odisha Sun Times 05/05/2019). It is not clear when water access will be fully restored.

Humanitarian and operational constraints

Humanitarian response efforts may be hampered by damage to transportation infrastructure. Many roads across Odisha have reportedly been blocked by fallen trees and electrical poles (ECHO 04/05/2019). In Bhubaneswar alone, 10,000 electrical poles are thought to have fallen from strong winds (India Today 04/05/2019). Air and rail traffic were initially suspended because of infrastructure damage, but are now mostly restored (NDTV 04/05/2019). Train services to Puri are expected to be suspended through at least 10 May (Times of India 04/05/2019).

Many people in cyclone affected areas live in remote rural regions that are likely hard for humanitarian actors to reach, even before the impact of damaged infrastructure is taken into account. At the state level, more than 80% of Odisha's population lives in rural areas (Gol 2011). Flooding has made some rural areas inaccessible by road and assistance can only be provided by airdrop (Odisha Sun Times 05/05/2019).

Vulnerable groups affected

Odisha has one of the largest scheduled tribe (ST) and scheduled caste (SC) populations in India, who together make up approximately 40% of the state's total population (Gol 01/09/2018). STs and SCs suffer from socioeconomic discrimination and are at risk of being overlooked in the response efforts.

Nearly 20% of households in Odisha live in slums – the second highest proportion in India (India Spend 26/10/2017). Compared to other groups, households residing in slums have less

access to adequate shelter, and are therefore more vulnerable from the effects of cyclones and other natural disasters.

Aggravating factors

Location and type of housing/infrastructure

Many buildings and houses in cyclone-affected areas are built from non-durable materials, which increases the risk that they will be damaged or destroyed by flooding. Across Odisha, an estimated 25% the rural population lives in "Katcha" housing (i.e., with thatched roofing and/or walls made of mud). In cities such as Bhubaneswar and Puri, more than 30% of the population lives in urban slums, where the prevalence of vulnerable housing is likely to be similar or higher.

Population Density

The area impacted by Cyclone Fani contains hundreds of low-lying and densely populated communities, and is one of the most flood-prone regions of the world (The Guardian 03/05/2019). Cities such as Puri and Bhubaneswar, which are among the most severely affected areas, are particularly densely populated.

Upcoming monsoon season

Cyclone Fani struck Odisha and surrounding states only a few weeks before the onset of the annual monsoon season, which typically arrives in the region around early June. The summer monsoon is frequently associated with flooding in Odisha and nearby states, which may exacerbate the vulnerability of cyclone-affected communities (Unicef 03/05/2019).

Continuing Cyclone Season

Cyclone season in Odisha and other Indian states along the Bay of Bengal usually runs from April through December. During this time, the region faces elevated risk of exposure to tropical storms and cyclones, particularly during the period immediately before and immediately after the summer monsoon season (Weather Channel 01/05/2019). As the cyclone season continues, there is a risk that another cyclone might occur in the coming months.

Key characteristics

- **Demographic profile:** Population in Odisha: 41,974,218; 50.5% male and 49.5% female; 16.7% living in urban areas and 83.3% in rural areas. 35.7% of Odisha's population lives below the poverty line. (Government of India, 2013)
- **Food security figures.** At the national level, more than 190 million people are food insecure across India (WFP, June 2018).
- **Nutrition levels.** The prevalence of stunting and wasting among under-5 children in Odisha is 34.1% and 20.4%, respectively. Approximately 8% of under-5 children in the state suffer from severe acute malnutrition (SAM) (Nutrition Coalition 2017).
- **Health statistics:** The overall average life expectancy in Odisha is 64.8 years – 65.9 years for women, and 63.8 years for men (Odisha Sun Times 23/04/2016). The under-5 mortality rate is 72 per 1,000 births, which is significantly above the national average (Government of India 2011).
- **WASH statistics:** 1.78 million households in Odisha have access to an improved source of drinking water. The major source of drinking water in rural India, as well as rural Odisha, are tube wells/boreholes (Government of India 2012).
- **Literacy levels:** The overall literacy rate for Odisha is 72.9% -- approximately 80% for males and approximately 65% for females (Government of India 2011)
- **Population density:** Odisha has an area of 155,707 km² and a population density of 270 people per square kilometre. (Census 2011).

Response capacity

Local and national response capacity

A number of government actors have mobilised to provide assistance to cyclone-affected populations, including personnel from the National Disaster Response Force (NDRF), army, navy, health ministry, and ministry of drinking water (GoI 03/05/2019). Food, NFIs, medical supplies, drinking water, and cash are currently being provided, though it is not known whether the amount of assistance is sufficient to meet the entirety of humanitarian needs (GoI 05/05/2019). This is particularly the case for people who have been affected by the cyclone but are not residing in government-run emergency shelters. Given the focus on short term needs, there is a risk that other important areas of need such as reconstruction of livelihoods and shelters may be overlooked.

International response capacity

Little information is available about the current international response effort to Cyclone Fani. As of yet, the Indian government has not explicitly asked for international assistance. UN agencies, including UNICEF, and a number of INGOs maintain an operational presence in Odisha and other affected states (UNICEF 02/05/2019).

Information gaps and needs

Initial needs assessments are still being conducted and information from some of the most severely affected districts is lacking as a result of severed electricity and communications links. Broadly speaking, there is a lack of information concerning:

The number of people in need of humanitarian assistance and the relative severity of needs.

The number of people affected by the disaster who have not been moved to emergency shelters.

The number of buildings and amount of farmland damaged or destroyed by the cyclone.

Comprehensive information about which districts face the most severe access constraints.

A timeline for how long it will take to rehabilitate damaged infrastructure.

Lessons learned

Water, sanitation, and health are major issues in the aftermath of cyclones and floods, and a speedy response is crucial to prevent the spread of diseases: floods are often followed by epidemics. An increased amount of stagnant water increases the risk of mosquito- and waterborne diseases (ACAPS 07/2011).

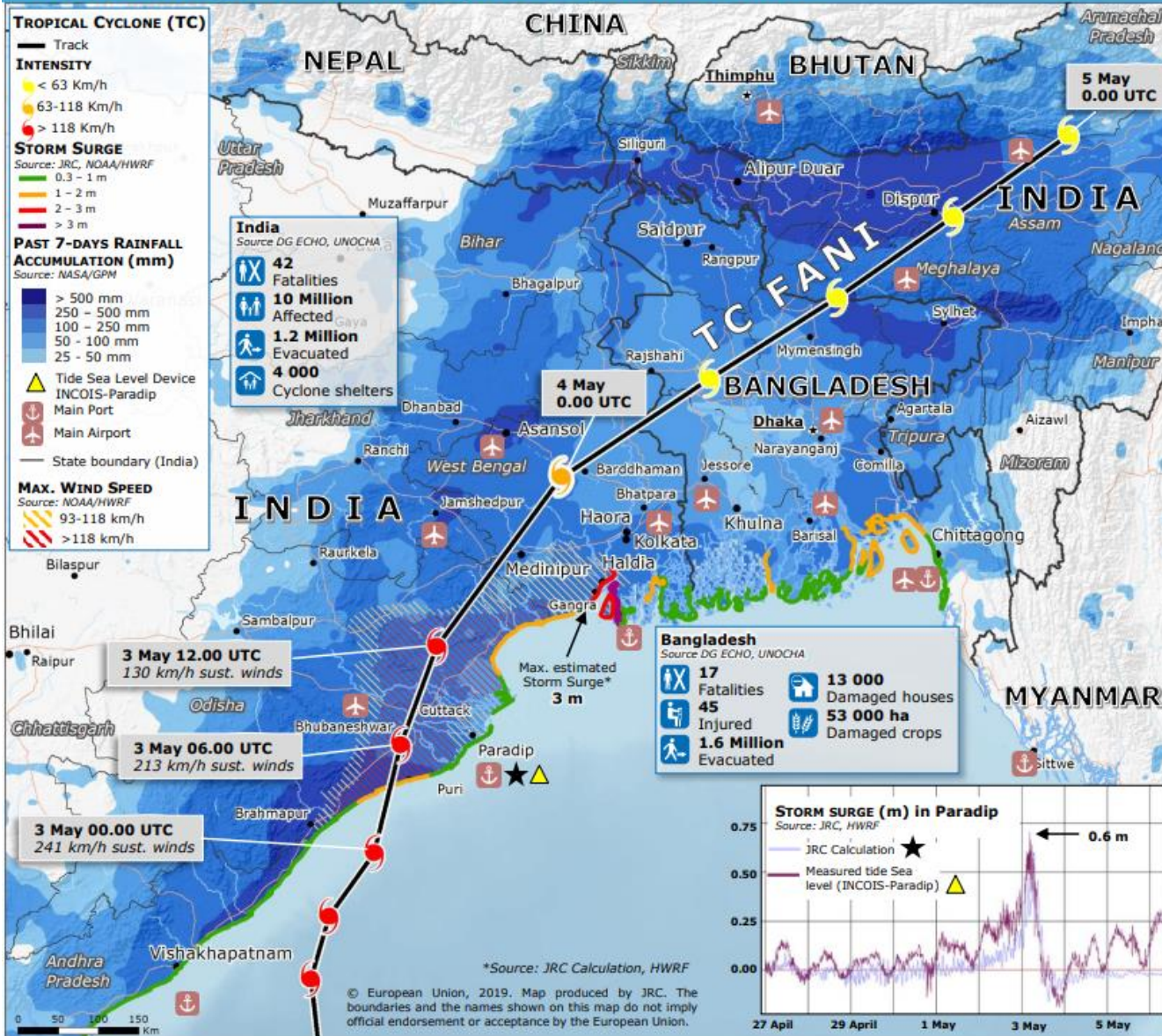
Indirect losses, such as impact on livelihoods, are often much higher than direct damage (ECLAC 2003). In the case of Cyclone Fani, long term damage to livelihoods may prove to be severe, even if the total loss of life has been minimised relatively successfully.

Investing in early warning systems and response planning can help limit the loss of life and extent of material damage caused by tropical cyclones (ISCG 2018).

Map

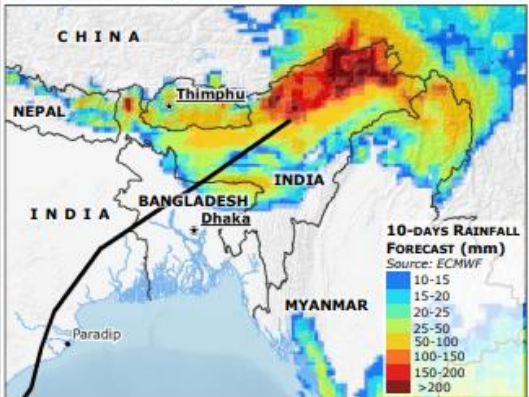
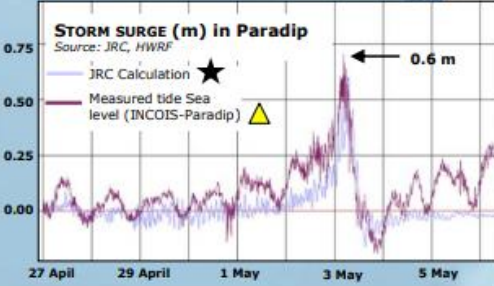
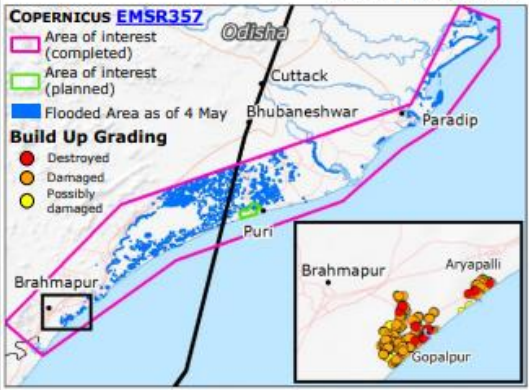
Emergency Response Coordination Centre (ERCC) – DG ECHO Daily Map | 06/05/2019

India, Bangladesh | Tropical Cyclone FANI



- Following the passage of Tropical Cyclone FANI, over north-eastern India and western Bangladesh on 3-5 May, the death toll and the damage has increased.
- As of 6 May at least 42 people have been reported dead in Odisha (India) and another 17 in Bangladesh. Odisha state has been the most heavily affected by the passage of the Tropical Cyclone, with electricity and infrastructure being massively damaged. According to Indian national authorities, all families in the districts of Puri and Khurda (Odisha State) have been "extremely severely affected" and aid and restoration work is underway across in north-eastern states of India.
- In Bangladesh, 13 000 houses have been damaged across the country and national humanitarian aid is assisting affected families.
- The early evacuation of 1 million people in India and 1.6 million in Bangladesh prevented a higher number of fatalities, considering the Cyclone's severity.

Source: DG ECHO, UNOCHA



Source: ECHO 06/05/2019