

## NCMC reviews rescue and relief operations

### Context

- Cabinet Secretary Sh. P. K. Sinha today reviewed rescue and relief measures in the cyclone affected areas of Odisha, West Bengal and Andhra Pradesh with the States and Central Ministries/Agencies concerned in the aftermath of cyclone FANI.

### Fani

- Extremely Severe Cyclonic Storm Fani was the strongest tropical cyclone to strike the Indian state of Odisha since Phailin in 2013.
- Fani originated from a tropical depression that formed west of Sumatra in the Indian Ocean.
- Fani originated from a tropical depression that formed west of Sumatra in the Indian Ocean on 26 April. The Joint Typhoon Warning Center (JTWC) monitored a tropical disturbance that formed in the North Indian Ocean.
- Fani slowly drifted westward, finding itself in an area conducive for strengthening.
- Fani moved northward, struggling to intensify as moderate vertical wind shear hampered its progress.
- After moving away from the wind shear, Fani began to rapidly intensify, and became an extremely severe cyclonic storm.

### How Fani gained intensity

- Usually cyclonic systems in the Bay of Bengal usually originate around latitude 10°, in line with Chennai or Thiruvananthapuram.
- Fani, on the other hand, originated quite close to the Equator, around latitude 2°, well below the Sri Lankan landmass.
- The forecast landfall on the Odisha coast is at a latitude of almost 20°. It has traversed a long way on the sea, thus gaining strength that is unusual for cyclones originating in the Bay of Bengal in this season.

- It was initially headed northwestwards, towards the Tamil Nadu coast, but changed course midway, and swerved northeast away from the coastline to reach Odisha. That has given it even more time on the sea.

### How cyclones are formed

- Cyclones are formed over slightly warm ocean waters. The temperature of the top layer of the sea, up to a depth of about 60 metres, need to be at least 28°C to support the formation of a cyclone
- This explains why the April-May and October-December periods are conducive for cyclones.
- Then, the low level of air above the waters needs to have an 'anticlockwise' rotation (in the northern hemisphere; clockwise in the southern hemisphere)
- During these periods, there is a zone in the Bay of Bengal region (called the inter-tropical convergence zone that shifts with seasons) whose southern boundary experiences winds from west to east, while the northern boundary has winds flowing east to west.
- This induces the anticlockwise rotation of air.
- Once formed, cyclones in this area usually move northwest. As it travels over the sea, the cyclone gathers more moist air from the warm sea, and adds to its heft.
- A thumb rule for cyclones (or hurricanes and typhoons as they are called in the US and Japan) is that the more time they spend over the seas, the stronger they become.
- Hurricanes around the US, which originate in the vast open Pacific Ocean, are usually much stronger than the tropical cyclones in the Bay of Bengal, a relatively narrow and enclosed region.
- The cyclones originating here, after hitting the landmass, decay rapidly due to friction and absence of moisture.

### How are cyclones named?

- The practice of naming cyclones dates back several centuries
- Presently, cyclones are named by various meteorological bodies based on the coordinates on which the storm is formed.

- The process of naming cyclones is slightly different in the Indian Ocean belt. In 2004, eight Asian countries came together and contributed a set of names to be used for naming cyclones in the future.
- Cyclone Fani, was named by Bangladesh. The next cyclone will be named Vayu, a name contributed by India.

