

Impressive Disaster Preparedness Efforts to manage 'Phailin'

Cyclonic storm, Phailin, which swept coastal areas of Odisha and Andhra Pradesh on 12th October 2013 has caused extensive damage to property, crops and livestock in Odisha, Andhra Pradesh as well as other areas. However, the loss of human lives has been contained due to mass evacuation of people undertaken in coastal areas of Odisha and parts of Andhra Pradesh. The Prime Minister complimented the efforts of the state authorities, district and police administration in all the affected districts, relief workers and the officers and staff of the National Disaster Management Authority, the National Disaster Relief Force and the Indian Meteorological Department, for the preventive measures undertaken by them. The Prime Minister has announced Rs. 2 lakh as ex-gratia assistance to the kin of each of those killed in Cyclone Phailin and Rs. 50,000 for those seriously injured from the Prime Minister's National Relief Fund.

India's high level of preparedness as well as the efforts of the state authorities and central government agencies for the preventive measures they took, resulted in containing human casualties from cyclone, Phailin. Right after IMD made the forecast of cyclone Phailin, expected to sweep the coastline of Andhra Pradesh and Odisha October 12, 2013 State and Central government had deployed disaster response teams to deal with the situation and undertake the relief and rescue operations.

Prior to October 12, 2013, Prime Minister himself reviewed the situation and directed that all possible assistance to be extended to the State Governments concerned in ensuring the safety and security of the people and in relief and rescue operations. Various Ministries of Government of India had geared up to tackle the effects of Phailin in their respective contexts. Indian Railways, National Highways Authority of India (NHAI), Ministry of Power were in state of readiness for quick response of the situation and had teams for deployment in the event of damage. The Defence Crisis Management Group (DCMG) continues to coordinate the employment of resources of the three Services and Coast Guard along with the representatives of Ministry of Defence, Governments of Andhra Pradesh and Odisha, NDMA and NDRF.

In Odisha, the Collectors of all 7 districts namely Ganjam, Gajapati, Puri, Jagatsingpur, Kendrapara, Nayagarh and Khurda were directed to start evacuation and ensure 100% evacuation of people to cyclone, flood shelters and safe places by 11th of October 2013. Similar instructions were issued for district of Bhadrak and

Balasore. Essential utilities like food, drinking water, medicines were kept in reserve in time of need. Similarly, in Andhra Pradesh rescue and evacuation, equipments were positioned and approximately 65 thousand people from low-lying areas in North coastal AP were evacuated.

Post cyclone, the relief and rescue work by **Indian Air Force (IAF)** through four Mi-17 V5 helicopters from Barrackpore continues. Nearly 15,000 food packets provided by the State administration were dropped in these areas. Indian Navy divers were also additionally flown by the Mi-17 V5 helicopters for rescue efforts in areas badly inundated by water. The navy divers were airlifted to some of the worst affected areas north of Balasore and Chandipur. The army has also mobilised a column at Balasore for similar efforts. Another army engineering task force operating from Gopalpur also proceeded towards Pithal village in Chattrapur, in the early hours on Monday, about 100 kms west of Ganjam, for relief work.

Food Corporation of India (FCI) and Central Ware Housing (CWC) teams have visited the cyclone affected districts of Odisha in view of the reported damage of food grain stocks in some of the FCI and CWC godowns there. The availability of foodgrains in the godowns of coastal areas is being reviewed by the officials of **Ministry of Food and Consumer Affairs** and teams have been sent to Odisha to consult the State Government about their foodgrains requirement and issue foodgrains immediately for distribution under PDS.

Heavy rainfall due to cyclone has resulted in flooding in many parts of Odisha as well as neighbouring states. Extensive damage has been caused to crops, property and infrastructure in the State. Restoration of water supply, restoration of power supply, assessment of damages, public health and sanitation in affected areas is underway.

It has been observed by Indian Meteorological Department that the average annual frequency of tropical cyclones in the north Indian Ocean (Bay of Bengal and Arabian Sea) is about 5 (about 5-6 % of the Global annual average) and about 80 cyclones form around the globe in a year. The frequency is more in the Bay of Bengal than in the Arabian Sea, the ratio being 4:1. The monthly frequency of tropical cyclones in the north Indian Ocean display a bi-modal characteristic with a primary peak in November and secondary peak in May. The months of May-June and October-November are known to produce cyclones of severe intensity. Tropical cyclones developing during the monsoon months (July to September) are

generally not so intense.

Orissa super cyclone, 1999 which crossed Orissa coast near Paradip on 29th October, 1999 was the most intense cyclonic storm over north Indian Ocean in the recorded history of the region. The estimated maximum sustained wind speed estimated on the basis of satellite imageries, was about 260 kmph. In Andhra Pradesh Phailin' was the 74th Cyclone in the recorded history of Cyclones in Andhra Pradesh Coastal line. From 1891 to 2012, Andhra Pradesh was affected by 73 cyclones.

A few cyclones that have originated over the Bay of Bengal have reached the intensity of Super Cyclones and have caused great devastations to life and property. The estimates of maximum sustained winds of these systems are estimated from satellite imageries. The list of very intense Cyclones in the Bay of Bengal since 1990 is given below:

| Place of landfall | Date of landfall | Maximum sustained winds (kmph) - estimated on the basis of satellite imageries |
|-------------------------|-------------------|--|
| Chittagong | 13 November, 1970 | 224 |
| Chirala, Andhra Pradesh | 19 November, 1977 | 260 |
| Rameshwaram | 24 November 1978 | 204 |
| Sriharikota | 14 November, 1984 | 213 |
| Bangla Desh | 30 November, 1988 | 213 |
| Kavali, Andhra Pradesh | 9 November, 1989 | 235 |
| Machlipatnam, AP | 9 May ,1990 | 235 |
| Chittagong | 29 April, 1991 | 235 |

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|---------------------------------|-------------------|-----|
| Teknaf (Myanmar) | 2 May, 1994 | 204 |
| Teknaf | 19 May, 1997 | 235 |
| Paradip, Orissa | 29 October, 1999 | 260 |
| 89.8 ⁰ E, Bangladesh | 15 November, 2007 | 220 |
| 16.0 ⁰ N, Myanmar | 02 May, 2008 | 200 |
