

**GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION No. 2710
TO BE ANSWERED ON WEDNESDAY, JANUARY 03, 2018**

CYCLONE FORECAST

**2710. SHRI K.C. VENUGOPAL:
SHRI KONDA VISHWESHWAR REDDY:
SHRI B. SRIRAMULU:
SHRI TEJ PRATAP SINGH YADAV:
SHRIMATI ANJU BALA:**

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether the cyclone Ockhi has wrecked havoc across southern States resulting in loss of lives and properties and if so, the details thereof;**
- (b) whether the precautionary communications to various State Governments including Kerala were issued on possible cyclone in Indian ocean and if so, the details thereof;**
- (c) whether early warning system for sending cyclone alert has failed to reduce devastation caused by Ockhi cyclone and if so, the details thereof;**
- (d) whether the Government has taken any new initiatives to bring in technological advancement in cyclone forecasting system and sending early warning to the affected States and communities including fishermen, if so, the details thereof including the international cooperation/agreement made/signed in this regard; and**
- (e) the steps taken by the Government to develop state-of-the-art cyclone forecasting and management system in the country?**

**ANSWER
MINISTER OF STATE FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND
MINISTRY OF EARTH SCIENCES
(SHRI Y. S. CHOWDARY)**

- (a) Damage as on 27-12-2017 due to cyclone Ockhi is attached in Annexure-I.**
- (b-c) Yes Madam.**

The cyclone Ockhi had rapid intensification during its genesis stage. The system emerged into the Comorin Area during night of 29th and intensified into Deep Depression in the early hrs of 30th and into Cyclonic Storm in the forenoon of 30th Nov. 2017.

Regular warnings were issued for fishermen along and off Tamilnadu, Kerala, Lakshadweep Islands, Goa, Maharashtra, Karnataka & Gujarat, Dadra Nagar Haveli, Daman and Diu coasts. Three hourly Tropical Cyclone Advisories were issued to central & state level disaster managers, media, general public from 29th November forenoon onwards.

- **The first information regarding formation of depression over Bay Of Bengal (BOB) during next 48-72 hours (i.e. 30th onwards) was issued on 28th November in the Tropical Weather Outlook issued at 1200 hrs IST and depression formed over southeast BOB in the morning of 28th.**
- **In its first bulletin based on 0830 IST of 29th November 2017, Regional Specialized Meteorological Centre New Delhi indicated the west-northwestward movement of system and its emergence into Comorin area by 30th. It was also mentioned that the system would intensify further.**
- **Cyclone Warning for Lakshadweep, south Kerala and south Tamil Nadu was given in the bulletin issued at 1155 hrs IST of 30th Nov.**
- **First warning of storm surge of height about 1.0 m above astronomical tides likely to inundate low lying areas of Lakshadweep Islands and 0.5 m above astronomical tides likely to inundate low lying areas of south Kerala, south Karnataka coasts was issued on 1700 hrs IST of 30th.**

The interaction of the India Meteorological Department (IMD) with Disaster Management agencies were as under;

The common advisory bulletin was issued by IMD to all state Governments (Tamil Nadu, Kerala and UT of Lakshadweep) for taking appropriate precautionary actions based on the likely adverse conditions both over the land and adjoining Sea areas as mentioned in all the bulletins of IMD commencing from Bulletin No. 1 issued in the forenoon of 29th Nov. 2017. Same contents of the bulletin were also resent by NDMA through WhatsApp group to relevant state Govt. authorities periodically starting from 29th Nov.

- **First bulletin was issued at 1155 IST of 29th Nov to Tamil Nadu, Kerala, Lakshadweep Islands,**
- **Total number of 54 bulletins was issued by IMD to disaster management agencies.**

- **All the above bulletins were sent to disaster management authorities through e-mail and fax. Also SMSs were sent at least once a day.**
- **In addition, IMD officers at Meteorological Centre, Thiruvananthapuram and Chennai regularly interacted with the state Govt officials since 29th afternoon through phone and personal meetings.**
- **It is to mention that all above communications are directed jointly by IMD and NDMA to Kerala, Tamil Nadu and Lakshadweep to consider taking all necessary response actions at their respective ends.**

(d)-(e)IMD has one of the best forecasting mechanisms for predicting tropical cyclones using high resolution advanced mathematical models and a suite of quality observations from Satellites and Radars. IMD also has rich experience of more than 100 years in tropical cyclone prediction and has many trained and experienced scientists specialized in forecasting. In the recent past, IMD accurately predicted cyclones like Phailin, HudHud and Vardah and helped to save thousands of lives.

The improvement in the monitoring and forecasting of such tropical cyclones is a continuous process.

Annexure-I

Damage as on 27-12-2017 due to cyclone Ockhi

S. No	Items	Tamil Nadu	Kerala	Lakshadweep
1	No. of districts affected	01 (Kanya Kumari)	10	10 Inhabited Island
2	No. of village effected	Entire District	-	
3	Population affected	Entire District	33,012	
4	Human lives lost (district wise)	Total – 24 (kanyaKumari-22, Nagapattinam-1, Thoothukudi-1)	75	Nil
5	No. of missing	237	208*	nil
6	No. of Injured	28	234	Nil
7	Houses damaged	Hut damaged-7098 (fully-1108, Partly-5990)	Fully-221, Partially-3379	Fully damaged 87 Partially Damaged-935
8	Animal deaths	7654	-	1691
9	Total crop area affected (in hectares)	5135 hectares	7817.43 hectares	-
10	Infrastructure eDamage	<ul style="list-style-type: none">• EB Poles 15,858 (LT Pole – 10623+HT Pole – 5235)• Transformers-95• Tree Fallen-25,526• 38 Breaches in Tanks and 31 Breaches in channels/canals• 103 Government building got damaged. Damaged to 75.046 Km State Highways, 98.93 Km National Highways, 417.18 Km Rural/Urban Roads has also reported.	<ul style="list-style-type: none">• Boats Fully damaged /lost-384• Loss of Road-41 Km• Damage Pumps-180• Damage of Supply Tanks-430	<ul style="list-style-type: none">• Boats-Fully damaged/lost 12 Boats Partially damaged-25• Houses Fully damaged-87 Partially damaged-935• Coconut trees-32747• Other trees-5514• Government building-340

• Source: Ministry of Home Affairs (Disaster Management Division)