GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION NO. 1247
TO BE ANSWERED ON WEDNESDAY, 14TH DECEMBER, 2022

EFFECTS OF SITRANG CYCLONE

1247. SHRI VINOD KUMAR SONKAR:
SHRI RAJA AMARESHWARA NAIK:
SHRI BHOLA SINGH:
DR. SUKANTA MAJUMDAR:
SHRI RAJVEER SINGH (RAJU BHAIYA):

Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether the cyclone Sitrang has recently ripped through Northeast India and snapped telecommunication networks and damaged standing crops;
(b) if so, the reaction of the Government thereto;
(c) whether the cyclone had weakened into a low-pressure area over Northeast India and West Bengal and the road links to the entire northeast got affected in many places;
(d) if so, the remedial action taken thereon;
(e) the total loss reported due to the cyclone Sitrang in the country; and
(f) the other precautionary measures taken by the Government to minimize the damages due to the cyclone Sitrang in the Country?

ANSWER
THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR
MINISTRY OF SCIENCE AND TECHNOLOGY
AND EARTH SCIENCES
(DR. JITENDRA SINGH)

(a)-(b) Cyclone 'SITRANG' has not affected Northeast India directly. However, its remnants have caused fairly widespread to widespread rainfall/thunderstorm activity over Northeast India on two to three days along with intense rainfall reported on one or two days. India Meteorological Department (IMD) has issued impact based forecasts, wherein the possible damages the winds and rain could cause during the movement of the cyclone is mentioned.

(c)-(d) The life-history of Cyclonic Storm **Sitrang** over Bay of Bengal during 22nd -25th October, 2022 is as follows :

- A low pressure area formed over North Andaman Sea and adjoining areas of south Andaman Sea & Southeast Bay of Bengal (BoB) in the early morning (0530 hrs IST) of 20th October, 2022. Under favourable environmental conditions, it concentrated into a depression and moved northwestwards and intensified into a deep depression over west central BoB in the early morning (0530 hrs IST) of 23rd October.

- Thereafter, it moved nearly northwards and intensified into the cyclonic storm (CS) "SITRANG" in the evening (1730 hrs IST) of 23rd October. It then gradually recurved north-northeastwards and crossed Bangladesh coast between Tinkona and Sandwip close to Barisal (near 22.15^0N/90.35^0E) in the night of 24th October during 2130 to 2330 hours ISt of 24th October as a Cyclonic Storm with maximum sustained wind speed of 80-90 kmph gusting to 100 kmph.
- Continuing to move north-northeastwards, it weakened into a deep depression over northeast Bangladesh in the early hours (0230 hours IST of 25th), into a depression over interior Bangladesh in the early morning (0530 hours IST) of 25th October and into a well marked low pressure area over northeast Bangladesh & adjoining Meghalaya in the forenoon (0830 hours IST) of 25th October, 2022. It further weakened into a low pressure area over south Assam and adjoining areas of northeast Bangladesh and east Meghalaya in the evening of the same day before getting less marked in the early morning hours of 26th November 2022. Thus, the cyclone has weakened into a low pressure over NE India.
- The observed track of the system is presented in **Fig. 1**.

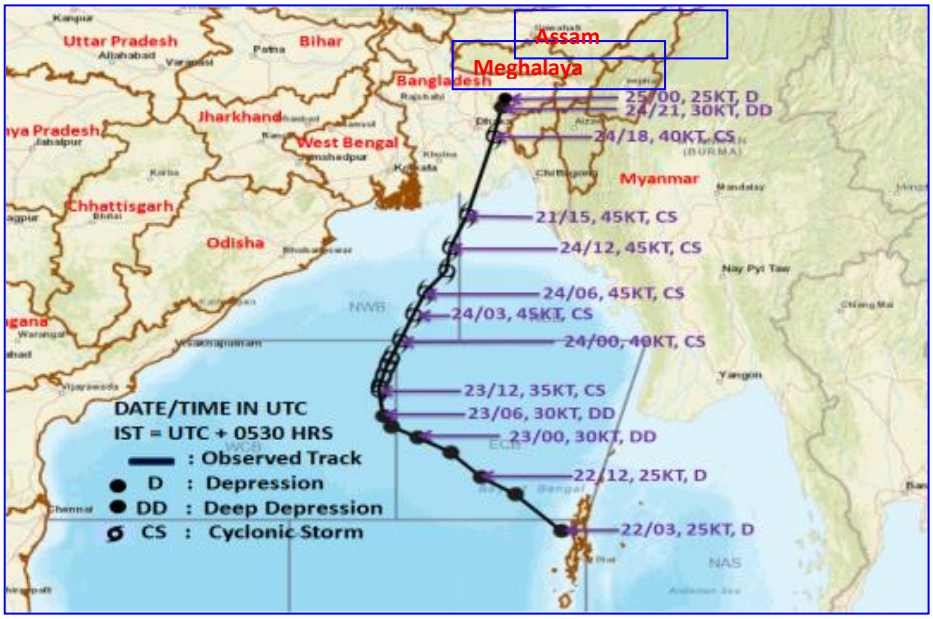

Fig.1: Observed track of cyclonic storm 'SITRANG" over the BoB during 22nd- 25th October, 2022

Monitoring and issuing early warnings for Cyclonic Storm, SITRANG to minimize the expected damages had been done successfully by IMD. IMD maintained round the clock watch over the North Indian Ocean and the cyclone was monitored since 6th October, 14 days prior to formation of low pressure area over North Andaman Sea on 20th October and 16 days prior to actual genesis (formation of depression) on 22nd October.

(e) IMD has an effective forecast and dissemination mechanism through which necessary warnings and advisories are issued for various extreme weather events throughout the country well in advance for preparedness. However, estimation of total loss is the mandate under the respective State/UT Governments.

(f) Monitoring and issuing early warnings for Cyclonic Storm, SITRANG to minimize the expected damages had been done successfully by IMD. IMD maintained round the clock watch over the North Indian Ocean and the cyclone was monitored since 6th October, 14 days prior to formation of low pressure area over North Andaman Sea on 20th October and 16 days prior to actual genesis (formation of depression) on 22nd October. The information about the system was first released in the weekly extended range outlook issued by IMD on 6th October. The cyclone was monitored with the help of available satellite observations from INSAT 3D and 3DR, polar orbiting satellites and available ships & buoy observations in the region. On the day of landfall observations from Bangladesh Meteorological Department were utilised for monitoring the system. Various global models and dynamical-statistical models run by Ministry of Earth Sciences (MoES) institutions including IMD, NCMRWF, IITM and INCOIS were utilized to predict the genesis, track, landfall and intensity of the cyclone as well as associated severe weather. A digitized forecasting system of IMD was utilized for analysis and comparison of various numerical weather prediction model guidance, decision making process and warning products generation.

Considering the development of cyclonic storm over westcentral Bay of Bengal (BoB), IMD issued first Special Message and Press Release at 1400 hours IST of 20th October on formation of low pressure area over North Andaman Sea and neighbourhood. It was also indicated that the system would intensify into a depression and cyclonic storm by 22nd and 24th October respectively. The movement of the system towards West Bengal-Bangladesh coasts was also predicted.

Special Message and Press Release were further updated on 21st October along with the forecast track, intensity and wind distribution around the system centre upto next 5 days. It was also indicated that the system would cross Bangladesh coast and Bangladesh & adjoining West Bengal coasts would be worst impacted by the storm. Thus, the landfall of the cyclone with a wind speed of 90-100 kmph gusting to 110 kmph was predicted by IMD when the system was a low pressure area over Andaman Sea and three and a half days in advance of landfall time of the cyclone.

Pre cyclone watch for West Bengal coast was issued at 1300 hours IST of 22nd October with the formation of depression over southeast & adjoining east central BoB (about 60 hours prior to landfall of Sitrang over Bangladesh coast).

Cyclone Alert for West Bengal coast was issued with intensification of depression into deep depression over east central BoB at 0900 hrs IST of 23rd (about 40 hours prior to landfall of Sitrang). It was upgraded as **Cyclone Warning** for West Bengal coast and was issued at 0230 hours IST of 24th October (about 20 hours prior to landfall of Sitrang).

A total of 23 National bulletins including 2 special messages for national and state level disaster managers, 6 press releases for print & electronic media, 3 Special Messages from Director General of IMD for high level disaster management officers, 23 tropical cyclone advisories & special tropical weather outlook for WMO/ESCAP Panel member countries including Bangladesh & Myanmar, 9 tropical cyclone advisories for International Civil Aviation, 11 advisories for sea area under Global Maritime Distress Safety System, 17 customised location specific bulletins for offshore/onshore operators, daily video updates, regular updates on social media (Facebook, WhatsApp, Twitter), SMS to disaster managers, general public, fishermen and farmers were issued by IMD Headquarter along with similar action by state level offices at Andhra Pradesh, Odisha, West Bengal and Andaman & Nicobar Islands and INCOIS for fishermen. Regular messages were also sent to Bangladesh & Myanmar through WhatsApp in association with this system. DG, IMD had regular conversation with DG, BMD during the system.

In addition to this, the details of warning issued by Regional Meteorological Centre (RMC), Guwahati, Meteorological Centre (M.C.) Agrartala and M.C. Shillong are given in **Annexure**.

ANNEXURE

I. Warnings and Bulletins issued by RMC Guwahati from 21-25 Oct 2022

Bulletins/Warnings	Numbers Issued
Impact Based Forecast (IBF)	14
Special Weather Bulletin	19
Press Release	5
Message through Common Alert Protocol (CAP)	Issued for the forecasted districts of Nagaland, Manipur and Mizoram on 24th Oct 2022.
Social Media Platform	Facebook 40, Twitter 40, WhatsApp 77, Youtube 2
Nowcast	352
Flash Flood Guidance	2
IBF for Agriculture	12

II. Warnings and Bulletins issued by MC Agartala from 21-24 Oct 2022

SN	Description	Details
1	Special Bulletins issued	4 Nos.
2	Press Release	3 Nos.
3	Impact Based Forecast(IBF) for Agriculture	3 nos.
4.	National Bulletins for Sitrang	23 Nos
5.	Common Alert Protocol (CAP) Messages	Total - 3,15,28,794 (Y-2,62,57,660 +R-52,71,134
6.	Social Media Platform(Facebook, WhatsApp and Twitter)	670
7.	Meeting with stakeholders	23
8.	Media Briefings	17

III. Warnings and Bulletins issued by MC Shillong from 21-24 Oct 2022:

1. Special Weather Bulletins were issued along with District Level warning.
2. District Level Impact Forecast was issued.
3. City IBF for Shillong was issued.
4. 24 Hour CAP was issued. Based on IMD warning and CAP alert generated, aprox 37 Lakh SMS were issued via CAP Platform by SDMA
5. Press Release was issued.
6. State Government officers were regularly informed over phone and whatsapp.
7. Regular Social Media Updates were issued.

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