

GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
**RAJYA SABHA**  
**STARRED QUESTION NO. 54**  
ANSWERED ON 07/12/2023

**ATMOSPHERIC OBSERVING SYSTEMS, AGRO-METEOROLOGICAL ADVISORY  
SERVICE AND DEEP OCEAN SURVEY**

**\*54. SHRI NARESH BANSAL:**

Will the Minister of **EARTH SCIENCES** be pleased to state:

- (a) the developments made in the field of Earth Sciences, especially in Atmospheric Observing Systems, Agro-meteorological Advisory Service, etc. by the country during the last three years;
- (b) whether Government has proposed to undertake deep ocean survey for deep sea mining and to promote blue economy; and
- (c) if so, the details thereof?

**ANSWER**  
THE MINISTER OF EARTH SCIENCES  
(SHRI KIREN RIJJU)

(a) to (c): A Statement is laid on the Table of the House.

STATEMENT LAID ON THE TABLE OF THE RAJYA SABHA IN REPLY TO (a) to (c) OF  
STARRED QUESTION NO. \*54 REGARDING “ATMOSPHERIC OBSERVING SYSTEMS,  
AGRO-METEOROLOGICAL ADVISORY SERVICE AND DEEP OCEAN SURVEY”  
TO BE ANSWERED ON DECEMBER 07, 2023

- (a) Significant developments have been made to improve the monitoring and forecasting of severe weather events through augmenting the observational network in the country that include addition of 12 Doppler Weather Radars (DWRs), 145 Automatic Weather Stations (AWS) and 108 Runway Visual Ranges (RVRs) etc during the last three years.

Agrometeorological Advisory Services (AAS) have been extended to the block level from district level since 2018. At present, AAS is provided to all the agriculturally important 700 districts and around 3100 blocks in the country.

- (b) Yes Sir.

- (c) The Ministry of Earth Sciences has launched the Deep Ocean Mission in 2021 to explore deep sea resources to support the blue economy and for sustainable harnessing of ocean resources. So far, an extensive survey and exploration work has been carried out in the Central Indian Ocean Basin for polymetallic nodules (Nickel, Cobalt, Copper and Manganese, etc) and in Central and South West Indian ridges for hydrothermal sulphide (Copper, Zinc etc.). This exploration has identified few promising locations of hydrothermal activity and sulphide mineralization zones in the area.

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