

(b) whether it is also a fact that the said vessel will boost India's scientific expeditions in the polar region and if so, the details thereof?

THE MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES (SHRI Y.S. CHOWDARY): (a) Yes, Sir. The Cabinet Committee on Economic Affairs (CCEA) in its meeting held on 29th October, 2014 approved the Revised Cost Estimates (RCE) for acquisition of a Polar Research Vessel (PRV) at an estimated expenditure of ₹ 1051.13 crore. An administrative order in favour of the implementing agency National Centre for Antarctic and Ocean Research (NCAOR), Goa for acquisition of PRV has been issued on 14th November, 2014.

(b) Yes, Sir. The vessel is expected to contribute to India's scientific expeditions towards sustaining two Indian research bases in Antarctica (Maitri and Bharti); dovetail research initiatives in the Southern Ocean domain with those in the proximal regions of the Antarctic continent; widen the thrust on Arctic research disciplines, undertaken through Indian Station Himadri, in addition to providing a suitable research platform for other ocean research programmes.

CAIPEEX programme

6. SHRI AAYANUR MANJUNATHA: Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether the Cloud Aerosol Interaction and Precipitation Enhancement Experiment (CAIPEEX) programme is functioning in the country;

(b) if so, the details of the locations where it has been started and whether its second phase has also started; and

(c) the achievements made under the said programme?

THE MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES (SHRI Y.S. CHOWDARY): (a) and (b) Yes, Sir. Phase I of the Cloud Aerosol Interaction and Precipitation Enhancement Experiment (CAIPEEX) consisted of cloud aerosol observations using instrumented aircraft over different parts of the country during the period 24 May–30 September, 2009 from the air-bases of Pathankot, Bareilly, Guwahati, Hyderabad, Pune, and Bangalore. The aircraft observations covered almost all the Indian region and some coastal Arabian Sea and Bay of Bengal sea region up to 20 km. from the coast.

Phase II of the CAIPEEX consisted of cloud aerosol observations using instrumented aircraft flights were conducted from Hyderabad base for the randomized cloud seeding experiment. C-Band Doppler Weather Radar (DWR) was operated from Sholapur in the monsoon season 2010 and from Mahabubnagar in

the monsoon season 2011. The area encompassed by the 200 km. radius from the DWR location has been the target area for the seeding operations. The aircraft flights were organized for research and seeding purposes using two aircrafts. On the whole, 28 randomized seeding experiments were carried out both by flares and fine grained salt powder following WMO Weather Modification Expert Committee recommendations.

CAIPEX was carried out over Ganges valley during monsoon-2014, with specific focus on the monsoon clouds formation and their propagation over land with augmented ground based observations so as to investigate the effect of aerosol-clouds and monsoon rainfall. Such observations near Mahabaleshwar are scheduled during the 2015 monsoon season.

(c) CAIPEX has contributed to total of 745 hours of intense observations based on aircraft, radars and other surface based instruments. These observations have helped in better understanding of characteristics of monsoon clouds and interactions of clouds and aerosols. Specifically, the findings suggest the key role of dust aerosol (pollutant) on cloud and rain processes over the Indian monsoon region. These observations are being used to improve the representation and characterization of clouds in the weather and climate models.

Increased area of Shoolpaneshwar Sanctuary

7. SHRI MANSUKH L. MANDAVIYA: Will the Minister of ENVIRONMENT, FORESTS AND CLIMATE CHANGE be pleased to state:

(a) whether it is a fact that the area of Shoolpaneshwar Sanctuary, earlier known as Dhumkhal Sloth Bear Sanctuary, was increased to 607.7 sq. km. from 158.8 sq.km. as a part of environment safeguard measures;

(b) whether State Government of Gujarat has submitted a proposal to the Ministry for declaring eco-sensitive zone for Shoolpaneshwar Sanctuary; and

(c) if so, by when the notification is likely to be issued so that Statue of Unity site would no longer require recommendations from National Board for Wild Life under the Protection Act?

THE MINISTER OF STATE OF THE MINISTRY OF ENVIRONMENT, FORESTS AND CLIMATE CHANGE (SHRI PRAKASH JAVADEKAR): (a) As per the information available with the Ministry, an area of 150.87 sq. kms. was declared as Dumkhal sloth bear Sanctuary in 1982 and *vide* two further successive notifications, the area of the Sanctuary was increased to 607.708 sq.kms. In 1987, the sanctuary was renamed as Shoolpaneshwar Wildlife Sanctuary.