GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION NO. 3089
ANSWERED ON 19/03/2026

STRENGTHENING POLAR AND OCEAN RESEARCH

3089. # SMT. SEEMA DWIVEDI:
DR. PARMAR JASHVANTSINH SALAMSINH:
SHRI NARAYANA KORAGAPPA:
SHRI JAGGESH:
SHRI ASHOKRAO SHANKARRAO CHAVAN:

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

(a) whether the construction of new Polar Bhavan and Sagar Bhavan facilities has strengthened India's research capabilities in the Arctic and Antarctic regions;
(b) if so, the details thereof;
(c) how Government proposes to integrate these facilities with India's long-term Polar Research Programme and global climate commitments;
(d) whether Government plans to launch additional domestically built research vessels under the Make in India initiative to strengthen polar and ocean research; and
(e) if so, the details thereof, including proposed timelines, financial outlays, and the scientific objectives envisaged under such initiatives?

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

(a) Yes Sir.

(b) The newly constructed Polar Bhavan and Sagar Bhavan facilities significantly strengthen India's research capabilities in the Polar regions. Different types of samples collected during the annual scientific expeditions to the Arctic, Antarctic, Southern Ocean and Himalayas are being processed at the advanced laboratories and analytical instruments housed at the Polar Bhavan enabling cutting-edge studies in polar geosciences, deep-ocean mineral exploration, and climate dynamics. The '*Science on a Sphere'* facility and upcoming Polar and Ocean Museum promote scientific outreach and global collaboration. Sagar Bhavan's ultra-low temperature ice-core labs, cold storage, and metal-free clean rooms support critical climate and cryosphere research, enabling precise geochemical and isotope analyses. Collectively, these facilities strengthen India's institutional capacity to conduct advanced scientific research, preserve valuable cryospheric samples, and promote knowledge dissemination in the field of polar and ocean studies.

(c) The Polar and Sagar Bhavan facilities shall support India' long-term Polar Research Programme and global climate commitments by:

- providing support for integrated scientific investigations across the Antarctic and Arctic regions, while also complementing research efforts in the Himalayan cryosphere and surrounding oceans.
- providing advanced laboratory capabilities, infrastructure will enable interdisciplinary studies in glaciology, climate science, polar biology, atmospheric sciences, and oceanography, thereby reinforcing India's capacity to generate high-quality scientific knowledge on polar and cryospheric processes.
- systematically managing cryospheric sample repository that will ensure the secure preservation of valuable samples collected from polar and high-altitude environments. This strengthened repository will facilitate long-term monitoring, comparative analyses, and future research, thereby expanding opportunities for collaborative scientific investigations at national and international levels.

Collectively, these facilities will play a pivotal role in advancing India's long-term Polar Research Programme, supporting evidence-based understanding of climate variability and cryosphere dynamics. The strengthened research capacity will also contribute meaningfully to India's global climate commitments, including improved climate observations, data sharing, and international scientific cooperation in addressing the challenges posed by climate change.

(d) Yes Sir.

(e) India is significantly advancing its polar and ocean research through the 'Make in India' initiative. Currently, the Ministry of Earth Sciences (MoES) is building a new Oceanographic Research Vessel (ORV) at the M/s Garden Reach Shipbuilders and Engineers (GRSE), Kolkata, with financial outlay of Rs 900 Crores and tentatively scheduled for commissioning in early 2028. The vessel is designed to bolster marine mineral exploration in the Indian Ocean region.

Additionally, the Ministry has received an in-principle approval to build a Polar Research Vessel (PRV), an Oceanographic Research Vessel (ORV), and a Fishery Oceanographic Research Vessel (FORV) with a financial outlay of Rs 4319.40 Crores. As proposed, the vessels are planned to be inducted stage wise beginning in the year 2030. The PRV is envisioned to undertake multidisciplinary Annual Indian Scientific Expeditions to Antarctic and Indian scientific endeavours in the polar and ocean realm throughout the year, the ORV shall facilitate the oceanographic research operations, throughout the year in Indian Ocean region and beyond, as replacement for the ageing (40+ year old) vessel ORV Sagar Kanya and the FORV shall augment fishery research operations, throughout the year in Indian Ocean region and beyond, as replacement for the ageing (40+ year old) vessel FORV Sagar Sampada.

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