

GOVERNMENT OF INDIA
MINISTRY OF DEFENCE
DEPARTMENT RESEARCH & DEVELOPMENT ORGANISATION
RAJYA SABHA
UNSTARRED QUESTION NO. 926
TO BE ANSWERED ON 28th July, 2025

IMPACT OF GLOBAL WARMING ON MILITARY AND DEFENCE SYSTEMS

926 DR. AJEET MADHAVRAO GOPCHADE:

Will the Minister of Defence be pleased to state:

- (a) whether, based on scientific studies, Government has taken any steps to assess the impact of global warming and climate change on military personnel and defence systems, the details thereof;
- (b) whether Government is aware that the USA, Canada, UK, and Australia have conducted a study along with an action plan that addresses the effects of climate change on their defence/military systems; and
- (c) if so, whether Government has studied these reports for insights that could be utilised for implementation in country's defence/military systems, the details thereof?

A N S W E R

MINISTER OF STATE
IN THE MINISTRY OF DEFENCE

(SHRI SANJAY SETH)

- (a) to (c) Yes, Sir. The analysis of meteorological, hydrological and oceanographic conditions prevalent in our area of operations, form an essential part of every mission planning, at strategic, operational and tactical levels. The climate change does pose challenges to platforms and personnel operating in rough/ hostile weather conditions at sea. Accordingly, during the mission planning stage, a detailed analysis of weather conditions likely to be encountered, is undertaken to deduce its effect on ships, aircraft, submarines and personnel exposed to the weather conditions. The following are additionally relevant:-
- (i) The planned induction of platforms takes into account the necessity for the platforms and its weapons, sensors, equipment and systems, to perform at the desired operational efficiency, during adverse weather conditions. Moreover, the men are imparted adequate training and suitably equipped to operate in all weather conditions.

- (ii) The effect of climate change has also led to increased occurrence of natural calamities and disasters. Towards undertaking Humanitarian Assistance and Disaster Relief (HADR) missions, the Indian Navy (IN) is progressively inducting suitable platforms, which can be utilized for HADR roles viz Hospital Ship, Landing Platform Docks, Long Range Maritime Reconnaissance aircraft and Unmanned Aerial Systems for surveillance and helicopters for Search and Rescue operations etc. Towards optimum resource allocation, all HADR missions are well coordinated with all relevant national agencies and stakeholders, in order to be the 'First Responder' in India and Indian Ocean Region, including rendering assistance to friendly foreign countries.
- (iii) IN's Maritime Capability Perspective Plan for development of force levels is tailored to meet emerging challenges including climate change.
- (iv) Additionally, naval infrastructure and personnel welfare with respect to climate change is also addressed by IN. A Coordination and Monitoring Committee on Climate Change meets periodically to discuss/ monitor/ oversee the issues related to climate change and global warming in the IN's context. The implications of Global Mean Sea Level Rise on the Indian Ocean Region nations and IN's operational domain form the primary focus of discussions.
- (v) Vulnerability of Naval Infrastructure especially at Andaman and Nicobar Islands. As most of the places at Andaman and Nicobar Islands are less than 5m above mean sea level, comprehensive data on frequency of cyclonic storms, impact and travel times of tsunami waves at various ports have been built up by IN Meteorology and Oceanography (METOC) organization. Further, alternatives such as land reclamation and creation of artificial islands with higher elevation over long term specifically for naval use are also proposed.
- (vi) Focused Approach by IN towards restoration of Mangroves. Mangroves cover is identified in the vicinity of naval areas viz. INS Venduruthy, INS Kadamba, INS Valsura, INS Sardar Patel, INS Zamorin, INS Hamla, INS Abhimanyu, INS Tunir and FOB Tuticorn. Mangrove plantation drives were carried out by IN personnel.
- (vii) Coastal Afforestation Drives. In Naval areas with seashore, where mangroves cannot sustain, thrust was given to coastal afforestation/ tree plantation drives, replantation of uprooted trees, resuscitation of coastal green cover etc. to prevent coastal/ beach sand erosion.
