

GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION NO. 3120
TO BE ANSWERED ON 17th DECEMBER, 2009

CLIMATE CHANGE IN ANTARCTICA

3120. SHRI SHREEGOPAL VYAS:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether fresh efforts are being made to conduct research on climate change in Antarctica;
- (b) the number of stations which are operational there;
- (c) whether there are scientific evidence to prove that once some parts of Antarctica were connected with India;
- (d) the benefits to be accrued from the programmes being run and to be run there; and
- (e) the amount that is spent on these projects and the details thereof?

ANSWER

THE MINISTER OF STATE (INDEPENDENT CHARGE)
MINISTRY OF SCIENCE AND TECHNOLOGY, MINISTRY OF EARTH SCIENCES,
MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE, MINISTER OF
STATE IN THE MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES & PENSIONS
AND MINISTER OF STATE IN THE MINISTRY OF PARLIAMENTARY AFFAIRS
(SHRI PRITHVIRAJ CHAVAN)

- (a) Yes Sir.
- (b) There are 64 operational stations including seasonal and year-round stations. India has one operational station (Maitri) at present in Antarctica.
- (c) Yes Sir. Studies of the rocks reveal connection between India and Antarctica in geological past.
- (d) The Antarctic research being carried out by Indian scientists would help us in understanding the icy continent in a better way. Benefits of the various programmes undertaken are as below:
 - i) Generation and publication of geological maps of an area of about 20,000 sq km in Central Dronning Maud land of east Antarctica.
 - ii) Monitoring of fluctuations of polar continental ice margin, ablation and accumulation pattern of the ice shelf on a long term basis would help us to understand the ice dynamics and mass balance.
 - iii) Raising of ice cores by drilling on ice shelf and continental ice for contribution to the data on Palaeoclimatic of Holocene. The Antarctica preserves history of the earth's climate for 3 to 4 million years in its ice cover which is crucial for understanding of climate change.
 - iv) Utilization of the Polar Remote Sensing techniques for extraction of sea ice surface characteristics from the observed electromagnetic signatures sensed by the Space Borne Sensors and publishing an atlas on the Antarctic Sea Ice status.
 - v) Continuous observation of meteorological, seismic, environmental and other parameters that contribute data to the international network on continuous basis for understanding and drawing meaningful inferences for various disciplines of science.
 - vi) Sustained studies on bio-diversity of fauna and flora, microbial studies towards discovery of new species for understanding the biological processes and phenomenon of extremely cold climate.
- (e) Anticipated expenditure on Scientific Expedition and researches in Antarctica during 2009-10 is Rs. 52 crore. Expenditure during first two years (2007-08 and 2008-09) of XI plan was Rs. 72.98 crore.
