

**GOVERNMENT OF INDIA
EARTH SCIENCES
LOK SABHA**

UNSTARRED QUESTION NO:2614

ANSWERED ON:16.03.2007

GLOBAL WARMING ON ANTARCTICA

Gaikwad Shri Eknath Mahadeo;Mane Smt. Nivedita;Singh Shri Kirti Vardhan

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether lakes of water has been found beneath the 2300 feet of compressed snow in Antarctica ;
- (b) if so, the details thereof;
- (c) whether the Government has made any study in regard to global warming on the Antarctica and its impact on world at large ;
- (d) if so, the details thereof; and
- (e) the steps taken by the Government in this regard ?

Answer

MINISTER OF SCIENCE AND TECHNOLOGY AND MINISTER OF EARTH SCIENCES (SHRI KAPIL SIBAL)

(a)&b) Yes Sir.Till date more than 145 sub glacial lakes have been identified beneath the Antarctic ice sheet by scientists of various countries working in Antarctica.Most of these lakes lie below 3000-4000 meter thick ice sheet.The largest sub glacial Lake Vostok occupies an area of about 14,000 km², lying below about 4000 meter thick ice sheet.

(c)&d) Global warming and climate change forms an important component of the scientific studies being carried out by Indian scientists in Antarctica under the broad category of Atmospheric Sciences. Considering the importance of green house gases in global warming, scientists from the National Physical Laboratory (NPL), Delhi have been monitoring levels of Carbon Dioxide, Methane, Carbon Monoxide and Water vapour in Antarctica at the Indian research base Maitri, since 2001. While studies on Ozone layer have also been carried out since mid 1990. Scientists of Geological Survey of India (GSI) have been monitoring continental ice margin in Western Schirmacher range near Maitri since 1983. Studies indicate that in last two decades ice has receded at a rate of about 7 m per decade. Recently National Centre for Antarctic and Ocean Research

(NCAOR), Goa has established an ice core research laboratory to carry out research on past climate change using shallow ice cores obtained from Antarctica.These studies along with other deep ice core studies carried by other countries in Antarctica, are helping scientists to understand the past climatic changes on earth and data obtained is being used for future climatic projections.

(e) The long term research on atmospheric sciences including those related to climate change in Antarctica will be continued by the Indian scientists.We are also planning to initiate research in Arctic region along with other countries to complement research being carried out in Antarctica. India is also participating in International Polar Year(IPY) 2007-08, which is a large scale global scientific collaborative effort, addressing various critical issues, including climate change. During IPY mass awareness programme are also planned to highlight relevance of polar science and issues related to global climate change.