

## **REPORT ON INDIA'S GEODESY AND GEOGRAPHIC INFORMATION ACTIVITIES IN ANTARCTICA BETWEEN 1998 AND 2000**

Survey of India has been participating in Indian Scientific Expedition to Antarctica since 1990-1991. In the course of these expeditions, Survey of India has been collecting various types of Geodetic and Geophysical data in the region which is being used by other scientific departments as well. Mapping of Indian station 'Maitri' and its surrounding area on 1:5,000 scale with contour interval of 5 meter has been already completed. From XIII Expedition onwards, mapping of Maitri and Environs on 1:1 000 scale with contour interval of 1m is in progress. A brief report of activities of Survey of India in Antarctica during the years 1998-2000 is given below:

### **WORK DONE BY SURVEY OF INDIA DURING 1998-1999:**

Two member Survey of India team participated in XVIII Antarctica expedition during 1998-99. The main objective of the visit was to extend and densify the existing ground control points in order to carry out the detail Survey on 1: 1000 scale with 1m contour interval for an area of dimensions 500m x 400 m lying NW of 'Maitri' and to Study the Glacial dynamics of D.G. Snout. To accomplish the above task, ground control points were provided through EDM traverse. Six traverse stations and 32 offsets were established in the region. These ground control points were plotted on a Plane Table section with a grid mesh of 2 cm x 2 cm. Detail Survey and contouring was done using normal Plane Tabling method to prepare map of the proposed area on 1:1 000 scale with contour interval of 1m. Besides, Survey of India team also provided technical support to the following departments:

1. Geological Survey of India: Survey of India team provided 21 offset points in D.G.Snout area for Glacial dynamics studies of D.G. Snout.
2. Botanical Survey of India: The Co-ordinates of lakes in Schirmacher Oasis were provided for botanical studies in the region.
3. Republic of Iran: Coordinates of some lakes in Schirmacher Oasis were provided to Scientists from Iran for their requirement.

### **WORK DONE BY SURVEY OF INDIA DURING 1999- 2000:**

Two member Survey of India team participated in XIX th Indian Scientific expedition to Antarctica during 1999-2000 with the objective of densifying the network of control points in an area of 0.2 sq km west of the area already surveyed during XVIII expedition and to carry out detail Survey of an area of dimension 500 m X 400 m, NW of Maitri on scale of 1:1 000 with contour interval of 1m.

EDM traverse emanated from the known control point Maitri 'S' and six traverse stations and 32 offsets were provided in the area for densification and further mapping activities. With the help of the above control points, detail Survey was done using normal Plane Tabling method and a map on 1:1 000 scale with contour interval of 1m was prepared for the region .