The alternate site and conceptual design for new Maitri Station

The Indian research station Maitri, located in an ice free Schirmacher Oasis and built with indigenous material and expertise during 1987-91, has since lived its stipulated life. An expert team comprising structural and environmental engineers that inspected the station pointed out cracks in several telescopic columns supporting the station, sagging of cap plates and problems of leakages etc. The international teams from many Antarctic State Parties, that inspected the facilities at Maitri under laws of Antarctic Treaty, have also pointed out certain corrective measures in line with protocol on protection of Antarctic environment and associated ecosystem that are needed to be taken. India has more than once made its intentions of building a replacement of Maitri Station known to Treaty nations in ATCMs to justify not investing heavily in modernizing a four decade old station.

Among the many sites investigated by author and veteran Antarcticans between 1996 and 2011, it was found that the area north of Priyadarshini Lake, is most suitable in view of following points:

a. the existing facilities need not be demolished and removed from Antarctic (a condition imposed by Antarctic laws) as these can be earmarked for the emergent back- ups, thus saving huge costs,

b. the existing scientific infrastructure such as that of IIG, IMD, SASE and logistic facilities, such as vehicle parking, repairs, fuel storage, summer camps etc, can be continued to be used

c. the potable water can be pumped from Priyadarshini lake located up stream (against the existing scenario) and liquid waste can be discharged downstream towards shelf, after treatment.

d. the existing track to Ice margin and India Bay for convoys can continued to be used with a minimum of road building skirting the western margin of Lake.

e. the flat valley west of 125m hill offers a suitable location for helipads additional to those existing.

The site identified exhibits three monds disposed in a pattern that resemble the English letter “Y”, with the two hills on the eastern side having an elevation of 119 m above m.s.l. while the third hill at 125 m elevation is located towards west. The near E-W alignment of the proposed station design goes well with the prevailing wind direction.