The Science of Logistics: Insight to logistical challenges faced during 37thISEA

The Scientific and the logistics activities at Polar Regions require advance planning, coordination and execution at right time, at right place. The right time in the broader context shall be referred as the weather and sea ice conditions. The sea ice thickness is a crucial parameter to consider. Too thick will restrict the passage of vessel and too thin will create danger for completion of safe cargo operation. Depending upon the quantum of load safe manoeuvring of vessel, man and machinery over sea ice may be planned after studying the available satellite imageries, geophysical surveys like GPR profiling cross checked at places with physical assessment of sea ice.

In this paper we are discussing the logistical challenges faced during the summer season of 37 Indian Scientific Expedition to Antarctica (37 ISEA) and methods and strategies sorted out to overcome the hardships and accomplish all planned tasks safely with flying colours. The major challenge of 37 ISEA was to deliver the heavy machinery and construction material for the construction of second Data Reception System (DRS) antenna of remote sensing satellite ground station of ISRO at Bharati Station. As the task was mammoth and the time was short, timely delivery of all heavy machinery and construction material over the sea ice was crucial and had to be carried out in an unflawed manner. Any setback or loss of equipment could jeopardize the whole mission and force to shift the construction activities to next season. The safety of individuals working has also to be taken care of as even a minor injury may lead to loss of good weather days in a terrain where men and material both are at minimal.