

# Important Events of the Twenty Second Indian Antarctic Expedition

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## **BRIEFING AND FORMALITIES AT GOA**

All the members of XXII Indian Antarctic Expedition reached Goa on 1 January 2003. The stay for members was arranged in Tourist Hostel at Vasco-da-Gama. On the morning of 2 January a welcome function was arranged. Members were given the briefing about the programme that is going to follow till the departure of the team to Capetown. Followed by this other formalities like submission of Biodata, Insurance, Foreign exchange etc. were completed. NCAOR logistic and Finance section coordinated all formalities. On 3rd all members were taken to Fire Services Department at Panji for classroom lectures and practical training on Fire Fighting aspects. 4th was dedicated for briefing lectures. Maj. Atul Apte (Army in charge of 20th Expedition) briefed on logistic aspects, Dr. Prakash Kotwal and Dr. S.C. Tiwari of AUMS briefed on Medical aspects, Shri. Rasik Ravindra briefed on Environment aspects and Dr. R.C. Pandey, Director NCAOR on Administrative aspects.

## **EXPEDITION LAUNCHING AND JOURNEY**

XXIII AIE launching function was held on 4th morning. The expedition formally launched at NCAOR by Dr. Zakharius, Vice Chancellor of Goa University. Evening Dinner was hosted by the Director NCAOR for the members of Expedition. 5th afternoon team left Goa for Bombay to take flight to Capetown via Johannesburg. 7th afternoon the team reached Capetown. The ship was undergoing some major repair, that gave an opportunity for the team members to enjoy cynic beauty of Capetown. Visit to "Cape of Good hope", "Table Mountain" etc. was arranged by the office of the Indian High Commission at Capetown. Meanwhile Secretary DOD Dr. Harsh Gupta visited the ship and addressed the members and

wished for safe return of the team. Ship "Magdalena Olendorf" had series of problems, she was undergoing repair on engine and fuel leaking problem. Finally ship sailed off Capetown on one engine and with lot of problems unsolved, with 48 members team consisting of 28 scientists drawn from 13 scientific institutes, two Doctors from Central Government Health Scheme (CGHS), 13 member logistic team from Indian Army, 2 cooks from Indo-Tibet Border Police and 3 members communication team from Defense Electronics Application Laboratory(DEAL) on 14th. Ship crossed 40° S on 16th. On the same day clothing items were distributed. On 20<sup>th</sup> the first iceberg was sighted at 0020 Hrs. Crossed 60° S(Antarctic circle) on 21". Arrived to Fast-ice at 1930 UT(69.8° S, 12.3° E). Soon the weather packed up and continued to be bad. On 26 January Republic day was celebrated on board Magdalena Oldendorff by hoisting Hag. Evening ship crew was invited for dinner.

## **AT ANTARCTICA**

On 27<sup>th</sup> weather improved. Confirming the good weather at Maitri, the zero (courtesy) sortie was planned at 1330 hrs. Reached Maitri with fresh vegetables, fruits, eggs and a pack containing letters from near and dears of 21 wintering members. There was a celebration atmosphere to receive the new team at Maitri. Weather God was kind enough to continue good for next 4 days. The summer camp was established on 27\ All summer members with their scientific equipment were shifted to Maitri. Mr G.S.Shrinivas from NGRI was nominated as the summer camp in-charge. Followed by summer members Army and winter members also shifted to Maitri, to learn the task and take charge from their counter parts. By 30<sup>th</sup> All summer and winter members shifted to Maitri. Till summer camp established I stayed in Maitri. I returned to ship to care of unloading of fuel and Material.

## **AIR RECCEE AND GROUND INSPECTION OF NEW ALTERNATIVE SITE TO INDIA BAY**

"India-Bay" has been served as the unloading site for all the previous expeditions, but now there was growing concern about unloading fuel and material at India Bay as it was progressively developing huge crack, that showed in satellite picture. Initiative was made during previous expedition to shift the unloading site from India bay to new suitable site. Alternative site was also selected. There was growing pressure from Army contingent to shift the fuel and cargo unloading to new site as crack was developing very fast. On 30<sup>th</sup> air reccee and ground inspection was earned out on new site.

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Also root reccee was earned out for Dakshin Gangotri (DG) and Maitri. Finally it was decided to carry out unloading at new site.

### **RECOVERY OF ICE-CORE SAMPLES FROM DAKSHIN GANGOTRI HANGER**

Efforts were on to locate buried DG hanger as ice core samples were left in the hanger in previous expeditions. It was successfully located by Mr. Sinharay of CPWS using shallow sounding method and ice-core samples were recovered on 30<sup>th</sup>. After root reccee it was decided to unload fuel and cargo at new site. But new site area was not yet free from fast ice. On 4<sup>th</sup> Army team took over the complete charge of Maitri systems and started working independently. Helicopters operation also shifted to Maitri, so as summer tasks should not suffer because of want of helicopters. Because of continuous good weather all summer tasks were going as per schedule.

### **TAKING OVER MAITRI**

After consulting army in-charge Maj. Kumar Parakram and other members of the team, after every one assured every one can handle their work independently, On 25<sup>th</sup> February I took over the charge of Maitri from the previous leader Mr.R.P.Lai. All members rejoiced the taking over of Maitri. After supervising the activities, leaving instructions to Maj.Parakram and to other members I came back to ship to take care of unloading of cargo.

### **FIRST JOINT CONVOY**

First joint convoy left Maitri on 28th February and reached I DG next day without any problem.

### **MEDICAL HELP TO RUSSIAN MEMBERS ONBOARD ACADEMIC FEDEROV**

Some accident occurred on the vessel Academic Fedrerov on 25<sup>th</sup> February during Russian helicopter operation. Three members suffered serious injuries, they wanted to perform operation on two persons. Request came from Academic Federov for some intravenous fluid and plasma expanders. On 27<sup>th</sup> New chief of Novolazarevskaya and the doctor had come to Maitri to collect the medicine. We also offered them our doctors help if required. Next I along with Dr.Malhotra, Sh.Arun Chaturvedi and Sh.Ajay Dhar visited Novolazarevskaya station and assured them any help any time within our capacity.

## **CARGO OPERATION**

Weather was continuously good but then there was no sign of fast-ice breaking near new site. Myself and ship captain were worried about the cargo and fuel unloading. Mean while the fast-ice near India bay broken it was free from fast ice. So it was decided to unload cargo and fuel at India bay and carry them to Dakshin Gangotri. Finally the cargo operation was carried out on 15th and 16th March. Cargo operation completed on 16th at 0330 GMT. All containers, bulk fuel and all fuel drums were offloaded and shifted to DG. Nothing was left on India bay self. 6 back loading containers were loaded on the ship. With some cargo and fuel first convoy of 22nd expedition left DG on 16th night and reached Maitri safely on 17th afternoon. On 15th March we closed the summer camp and all the summer members were back on ship and all the 21st wintering members also on ship. On 18th March I finally shifted to Maitri and on the same day evening Ship sailed back with old wintering and 22nd Expdn. summer members.

## **INJURY TO A FINGER OF ARMY PERSONAL**

Hav. Venugopalan of Indian Army engineers has got injured on 15 April morning in the right hand thumb finger. While he was trying to open the generator container door, because of heavy winds door pushed in and tip side thumb of Venugopalan came in between the container and door. Injury was treated by doctors. Before seeing the last sun on 21 May Army team could finish four convoys to make storage of essentials and fuel for the long winter.

## **MID-WINTER DAY CELEBRATION**

Mid-Winter day was celebrated with grate enthusiasm and fun. On the occasion competition of indoor games like TT, carom, chess, cards etc were organized. Members took part with grate interest. We invited Russian members from Novolazrevskya. Twelve Russian members including chief of 48<sup>th</sup> Russian Antractic Expdn. for NOVO Mr. Sazikov Vladimir attended the celebration at Maitri. POLAR MAN certificates were given to all Indian and Russian members. They enjoyed the day. We have received Mid-Winter greetings from Honorable Prime Minister of India Shri. Atal Bihari Vajpayee Ji, Honorable Minister of Science and Technology & Ocean Development Shri. Murli Manohar Joshi ji, Secretary DOD Dr. H.K.Gupta and many

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exmaitrians. Also we have received greetings from many Antarctic stations and bases. We have sent greetings to most of Antarctic stations, and have received few acknowledgements.

### **APPENDICITIS OPERATION AT MAITRI**

First time in the history of Indian expeditions a Major surgery was performed on 5th July 2003. On 3<sup>rd</sup> July Capt. K.S.R.Reddy of Army engineers complained of severe stomach ache. Soon it was diagnosed as appendicitis. Immediately he was put on antibiotics. That arrested the further spreading of infection. Though he looked better on 4<sup>th</sup> evening, doctors opinioned that he has to be operated upon before things go bad. Immediately Director, NCAOR was informed about this. First we contacted Sanai station, to check if they can help in any way. They were ready to help if the patient could be transported to their station; they expressed their inability to provide transportation because of distance and weather conditions. Finally we decided to approach NOVO station for the help. On 5<sup>th</sup> morning I along with two doctors and Maj.Parakram went to NOVO and requested for the help. Spontaneously the leader of NOVO station Mr.Sazikov Vladimir agreed to give all possible help. Two doctors at NOVO Dr.Om Sergie and Dr.Ivanov Nikoli a surgeon and an anesthetist agreed to give technical help in performing the operation. Operation Theater at Maitri is in very bad condition. Thanks to Dr.Malhotra and Dr.Agrawal quickly made available all required medicines, chemicals surgical equipment with the help of all members. Very soon OT was made ready. Operation began at 5.30 pm GMT last for about two hours. NOVO doctors together with our doctors successfully completed operation. It was very tough because of bad OT conditions. Lighting and heating conditions were bad. It was possible because of the effort and determination of all members of XX WOT. Capt.Reddy recovered very fast and within one month of operation he started performing his duties His parents were informed before operation. His wellbeing was also informed after the operation.

### **CARBON MONOXIDE POISONING**

On 22 July 2003, while cleaning water tanks in the boiler room four members from army group (2 from army engineers and 2 from army EME) suffered from mild carbon monoxide poisoning. A pump was being run inside the boiler room. There was no provision for exhaust for toxic fumes. They suffered from headache, nausea. As soon as they realized that they have

inhaled fumes they came out of boiler room and went out in open air. They had symptoms of headache and nausea for about seven to eight hours. Later they recovered slowly.

## **TOTAL SOLAR ECLIPSE**

First ever Total Solar Eclipse (TSE) was observed by mankind on Antarctica on 23-24 October 2003. The 22nd expedition wintering members are few of the lucky to observe this at Maitri. About 120 people from different part of the world gathered to witness the very rare event on Antarctic land in killing temperature of  $-25^{\circ}\text{C}$ . Antarctic Logistics Centre International (ALCI) had arranged special flight for amateur tourists. Full fledged arrangements were made for their living and eating. Tents with heating arrangements were laid with restorment. This event was broadcasted live by a Japanese television company. A standby small plane was also kept ready in case weather goes bad. ALCI had requested NCAOR to get the help to transport these tourists to eclipse observation site from the airport. On the request from NCAOR the logistic team of 22<sup>nd</sup> IAE under the leadership of Maj. Parakram rendered complete help to transport the tourists. Also they helped 5 member Indian scientists team to transport eclipse observation equipments to the site in chilling cold and blowing wind. Total Solar Eclipse observed in Maitri and around on 23-24 November, was unique in many ways. The observation site was 25 Kms. To the south of Maitri on High Polar Plateau. It was observed by large numbers of scientific teams and amateur tourists. Along with five member Indian Scientific team specially arrived to carry out different experiments, 18 members of 22<sup>nd</sup> Indian Antarctic Expedition observed the event. The eclipse produced a splendid and spectacular display of some Bailey's Beads, crimson and beautiful Diamond Rings and a Corona in its full golden glory extended streamers. In addition, it resulted in generation of extensive shadow-bands which are easily the rarest and of longest durations running into minutes. These were captured by a high resolution digital video camera. The experiments conducted by the visiting Scientific team were highly successful. The eclipse effect is very clearly seen in Geo-magnetic and RIO meter records. IMD members sent Ozone and Radiometric Sonde ascents. NPL member took measurements of water vapor, aerosol optical depth and UB-V.

Digital photography of the entire eclipse was carried out by the TEC and 22nd IAE members to capture various phases of the eclipse. The weather, which was extremely cloudy and windy for the previous few days, dramatically improved to a clear blue sky on the eclipse day. The 22nd IAE

members with TSE team swiftly moved to the chosen site and set up all the equipments in time to carry out the observations. All the members of 22nd IAE rendered all the help and service required to the TSE team. With that a very prestigious Indian Scientific project is accomplished successfully.

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*Fire Fighting Training at Goa*



*Expedition Launching Function at NCAOR, Goa*





*Secretary DOD Dr. H.K. Gupta Addressed the Team at Capetown*



*Towards Antarctica from Capetown*



*First Iceberg*



*Ship "Magdalena Olendorf" in Packice*



*Penguins Linedup to Receive the Team*



*Taking-over Maitri Charge*



*Decanting Fuel to Tankers*



*Shifting Container to Trailer*



## CELEBRATIONS



*Holi*



*Independence Day*



*Diwali*



*EME Day*



*Mahatma Gandhi Jayanti*



*Republic Day*