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Utilization of solar eclipse for S & T popularization : NCSTC's efforts and future programs

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Abstract. Built around the event of the Total Solar Eclipse of October 24, 1995, NCSTC and Vigyan Prasar jointly undertook a countrywide programme on popularization of Astronomy in particular and S&T in general, addressing at the same time superstitions and unscientific beliefs associated with this natural phenomenon. A number of activities for school children and the general public were organized in different States with active participation of State S&T Councils/Departments; and were co-ordinated by NCSTC and Vigyan Prasar. A variety of software was produced and disseminated. Described in this paper briefly are NCSTC's efforts and the future programmes on Astronomy popularization in particular and S&T in general.

National Council for Science & Technology Communication (NCSTC) is the nodal agency of the Government of India for Communication and Popularization of Science & Technology (S&T) in the country. Built around the event of the Total Solar Eclipse of October 24, 1995, NCSTC and Vigyan Prasar (an autonomous organization under DST established to take on large scale programmes on S&T communication) jointly undertook a countrywide programme on S&T communication. The main objective of the program was to popularize Astronomy in particular and S&T in general addressing at the same time superstitions and unscientific beliefs associated with this natural phenomenon.

A spate of activities involved students/teachers/general public alongwith active association / collaboration of Government and non-Government agencies/organizations. The activities were aimed at school students, general public and specialized groups.

The activities for the school students included lectures / demonstrations, quiz / essay / elocution competitions at district / state levels, and a few simple projects. The first three winners at the state levels won a trip to the belt of totality at Alwar, Rajasthan, to watch the eclipse as a prize. Thematic charts, posters, activity packages, booklets, and audio/video programs on different aspects of eclipse were especially produced for the purpose. Six regional workshops-cum-training programs on telescope making were organized, each region representing 3-4 states. In each

workshop, 20-25 telescopes were fabricated by as many teams, a team comprising of one teacher and two teams from the same school. The telescopes fabricated were utilized during the Total Solar Eclipse event and to initiate astronomy activities in the respective schools.

At public level, the activities included lectures/demonstrations, exhibitions, and preparation/ dissemination of posters and booklets on various topics. A number of articles in newspapers and magazines, booklets on specific topics, production of radio/television programs and their broadcast / telecast were a significant feature of the campaign.

NCSTC organized a training programme for Master Resource Persons drawn from various States at Shimla in July 1995. The master resource persons thus trained, organized similar training programs in their respective States which involved eclipse related activities for children with emphasis on safe viewing of the eclipse. NCSTC supported training programs for resource persons and children's competitions in 19 States.

History was made when Indian Air Force planes chased the umbral shadow on October 24, 1995, carrying on board several scientific experiments. This was a result of the initiative and co-ordination of the efforts by NCSTC and Vigyan Prasar with IAF and various R & D institutions. In an experiment of Udaipur Solar Observatory, the Hasselblad cameras on board MiG 25 and Canberra aircraft took pictures of the solar corona upto a distance of 13 solar radii. The umbral shadow from another MiG 25, however, failed to show up. Indian Institute of Astrophysics, Bangalore, videotaped the event on board AN-32 aircraft. The Doordarshan and Vigyan Prasar teams with video cameras on board AN-32 aircraft were successful in capturing a few interesting moments. In a collaborative effort with the Physical Research Laboratory, Ahmedabad, the solar corona was photographed in polarized white light from Nim-Ka-Thana with a newly acquired QUESTAR 3.5" by Vigyan Prasar. The results are being analyzed at PRL.

Vigyan Prasar produced five video programs, viz., Indiase Khagras Dekho, Din Mein Tare, Poorna Suryagrahan Kaise Dekhe, Eclipse Myths and a simulation of Total Solar Eclipse along wtih six spots of one minute each. These programs were shown on Doordarshan and other channels. A large number of radio programs were produced based on the resource material of NCSTC and Vigyan Prasar. The literature brought included six resource articles, five books at popular level and a wall chart. The activity package and the safe solar filters disseminated by Vigyan Prasar were appreciated utilized all over the country.

To build upon the momentum generated as a result of the countrywide campaign utilizing TSE-1995, NCSTC has initiated a new program on S&T communication in general and Astronomy in particular built around the visit of comet Hale-Bopp which is expected to be a bright naked eye object in early 1997. The pattern and methodology to be followed would be similar to that of ECLIPSE-1995. NCSTC and Vigyan Prasar have already initiated efforts to prepare for the last total solar eclipse of the century on August 11, 1999.