

## SUCCESSFUL LAUNCHING OF INSAT-ID

June 12, 1990 was a memorable day in the annals of space research in India for on that day was successfully launched Indian communication satellite INSAT ID from Cape Canaveral Centre in Florida. The satellite was built by the Ford Aerospace Communication Corporation, California to Indian design, and is stated to be one of the most advanced and complex communication satellites and is expected to confer immense benefits to the country by improving telecommunications. The success of INSAT ID which has docked into its parking slot and started functioning from 17th of July is all the more significant in the wake of the failure of two earlier attempts at launching satellites into orbit. Even the present INSAT ID had its teething troubles. It got damaged just before launching in 1989 and it looked as through all the efforts which had gone into its production would go waste. The success that has met the launching of this satellite and its becoming operational after 37 days of successful manouvering, orbiting at a height of 210 km, must infuse confidence in the hearts of the large number of young scientists connected with the launching of the satellite. The new satellite is expected to take over the functions of INSAT-1B which has rendered excellent service since 1983. The country can now look forward to a significant spurt in the development of telecommunication, T.V., radio and meteorological forecasting. There are immense possibilities for the development of earth sciences and resources evaluation with the help of the data provided by the satellite. For this to happen, the satellite photographs should become easily accessible to research workers. The present policy of restricting the availability of even topographic maps is most retrograde and requires to be revised. Map reading and interpretation should be taught from the elementary stage. It is only then, the enormous expenditure on launching of the satellite (nearly Rs. 200 crores) can be justified.

Now that the Ministry of Defence is headed for the first time by a scientist, we entertain the hope that the senseless restrictions placed on the acquisition of topographic maps aerial photographs and LANDSAT imagery for educational and research purposes will be removed and maps become freely available for study.

In a recent informative article on 'Space technology as an instrument for combating environmental problems', U. R. Rao, Head of the Department of Space, has pointed out that one of the important benefits which can accrue from space technology is the preservation of our environment by providing vital inputs for the optimal management of our renewable and non-renewable natural resources. Further, this new technology is able to provide synoptic observation over large areas, speedily and in an objective manner, irrespective of whether you are in a developing country or in a developed country. U. R. Rao, in the pamphlet referred to, has laid special emphasis on how the use of space technology is going to prove to be of immense relevance to a developing country like India in tackling some of its urgent environmental problem like desertification, deforestation, floods, droughts, land degradation etc. According to him 'Satellites are the main stay of this country. They are the most effective way of ensuring development particularly when we do not have the necessary infrastructure. We need satellite technology not because we are rich enough to afford it, but because we are poor'. These are the natural hazards about which earth scientists should get vitally interested. Their

attention should get increasingly diverted to problems connected with land use. Although not currently in fashion, these are items of relevant research of great importance to the well-being of our people.

There is also an urgent need for integrating terrestrial, aerial and space data. Such an integrated approach is sure to bring out new observations of great value in geological interpretation and resource identification. Earth scientists should not lose any more time in acquiring knowledge of this new technology which holds the key to a better understanding of earth, its processes and resources.

Department of Space should put up a note informing the various types of maps that can be made available to research workers for study.

The Indian Institute of Remote Sensing (IIRS) is understood to be imparting training in aerial photo-interpretation and satellite remote sensing. More and more earth scientists should avail of this training and develop the capability of interpreting data which will start becoming available by the newly launched satellite.

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### CALL TO TREAT EARTH AS A GLOBAL SYSTEM

In the past 20 years, three million people have died, 800 million have been affected, and losses of \$ 500 billion have been sustained as a result of earthquake, volcanic eruptions, floods, storms, landslides and other disasters. The situation will get worse with the growing concentration of population in large cities. The time has come to replace fatalism with plans to reduce disaster effects. We know enough now to use a variety of methods to reduce the toll including prediction and warning in some cases, improving land-use management and implementing building codes, public education, training and technology transfer . . . . The proposed international decade of National Disaster Reduction is an international programme to address these issues—a worthwhile project that will cost a few tens of millions a year.

Whether the issue is global environmental change or natural hazards, developing countries will suffer the most. The advanced nations have resilience and wealth to recover from most calamities . . . .

Humankind has become a more important agent of environmental change than nature. If we are to manage the global commons well, and at the same time if we are to extend the affluence enjoyed by the few to the many, then we must treat earth as a global, closed system in our use and management of resources, in our control of emission from industrial and agricultural expansion. Global economic development must go forward within this system. But it must be viewed as a positive sum game, environmentally sound with the good of enriching all nations.

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