



**UNISPACE III – ISPRS/NASA Seminar on  
Environment and Remote Sensing for Sustainable Development”**

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**PERSPECTIVES OF INDIAN REMOTE SENSING PROGRAMME TOWARDS SUSTAINABLE DEVELOPMENT**

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**ABSTRACT**

The fundamental aspect of sustainable development lies in the paradigm of scientific innovation and economic determinism within the physical limits imposed by ecological systems on economic activity. At the root of this concept is the fact that the environment does pose a limit for development and economic activity and a balance must be struck between environmental constraints and developmental activity. The economics of development must expand within ecosystems that have limited regenerative capacities. The need is for a full integration of environmental, developmental - economic, social and fiscal management and policies.

The advent of space technology over the years has changed the scope of development - whether as an end-implementation or as a technology support. Benefits from space technology today cover global and remote area communications, TV broadcast, education, weather forecasting, management of land and water-resources, preservation of forest wealth, exploitation of new mineral resources, protection of environment and management of drought and flood disasters - thus addressing almost every aspect of human need. These achievements, over the past 30 years, have firmly established the capability of Space technology for bringing put a socioeconomic revolution because of its immense potential to transform even stagnant societies in a most cost effective and timely manner. In particular, Earth Observation (EO) satellites provide the vantage point and coverage necessary to study our planet as an integrated, interactive physical and biological -system. EO data are of immense use and can directly play a role in the sustainable development strategies - both at the global level and local level.

The paper addresses the strategies towards sustainable development - particularly in the context of the Indian Remote Sensing programme and outlines the technology and applications programme that India has visualised to cater to its national developmental needs. The paper also addresses Indian EO data applications - encompassing management of renewable and non-renewable resources, theme-oriented mapping and creation of a Geographical Information Systems (GIS) based decision support system and infrastructure for developmental planning, geo-positioning applications and also for Global environment change monitoring. The institutional mechanisms, amongst the triad of government, Non-Governmental Organisations and the private sector, set up in India as part of the programme are illustrated to highlight the inter-agency networking, an essential feature for application of Remote Sensing for sustainable development.