Geophysical Research Abstracts
Vol. 19, EGU2017-19665, 2017
EGU General Assembly 2017

Indian Earth Observation Programme towards Societal Benefits

Imtiaz Ali Khan
Counsellor Space & ISRO Technical Liaison Officer, Embassy of India, 15 Rue Alfred Dehodencq, 75016 Paris, France

Indian Earth Observation (EO) programme, since its inception has been applications driven and national development and societal benefits have been its main motivation. The Indian Earth Observation system has evolved over the years to its present state comprising of 14 Satellites in both Low Earth and Geostationary Orbits. It is complemented by Communication and Navigational Systems to develop products, services and application programmes to support national development. The Space Technology applications contribute towards national development in key areas such as Socio-Economic Security, Sustainable Development, Disaster Risk Reduction and Governance. The stake holders for these applications are Government, Academia, Industry, Non-Governmental Organizations and the Public.

Under the Earth Observation Programme, periodic inventory of country's natural resources are generated at multiple scales. These provide vital information for managing the natural resources for food, water and energy security. Forecasting of agricultural output using Space and Land based observations, Potential Fishing Zone advisories to fishermen, assessment of irrigation potential utilization, groundwater and mineral prospecting and renewable energy potential assessment are a few examples to mention. Earth Observation data is also being used for urban planning, ICT-enabled smart city development and infrastructure planning. Geospatial gateways like BHUVAN and MOSDAC ensure delivery of Earth Observation products and services to the users. Indian Regional Navigation System - NavIC and Satellite Based Augmentation System (GAGAN) also assist in location based services to be integrated with Earth Observation applications. In order to build an information base for climate change impact assessment and mitigation, a National Information System for Climate Change and Environment Studies has been established.

The Disaster Management Support programme provides 24X7 decision support for various natural disasters like Floods, Cyclone, Landslide, Earthquake, Drought and Forest Fire. Early warning for floods, cyclones and rainfall induced landslides have been developed as part of this programme. Near-real time satellite data based forest fire alerts are being provided (four times daily) to the Forest Management officials. During the destructive cyclones, space-assisted prediction of track and landfall helped to ensure that no lives are lost, through early evacuation. Under the umbrella of the Earth Observation programme, the National Database has been provided for Emergency Management for Disaster situations. The data from meteorological satellites are consumed nationally and globally for weather forecasting.

The future Earth Observation systems aim for near real time observations of natural resources and infrastructure, improved atmospheric observations for better weather services and disaster early warning. Collaborative research and cooperation amongst various international space agencies for data sharing, algorithms; products and services generation are needed for making use of the full potential of Earth Observation systems available globally, towards a better world for human kind.