

## **STATEMENT TO BE MADE AT THE 12<sup>TH</sup> PLENARY OF GROUP ON EARTH OBSERVATION (GEO) DURING NOVEMBER 11-12, 2015 IN MEXICO CITY**

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Mr Chairman, GEO Co-chairs, Heads of Delegations and Distinguished participants of the GEO 12<sup>th</sup> Plenary,

1. I, on behalf of Government of India, and specifically representing Chairman, Indian Space Research Organisation and the Indian Earth Observation user community, convey our warm greetings to each one of you. Allow me to express the gratitude of the Indian Government, to the Government of Mexico for hosting this Plenary in Mexico City.
2. India has been an active member of GEO since its inception in 2003. India has built, over the years, a strong Earth Observation programme, comprising space-borne, airborne and in-situ observation infrastructure. We have an operational Remote Sensing Programme built over the past 26 years. Currently, seven remote sensing satellites are operational in low Earth orbit and three INSAT series of meteorological satellites are operational in Geostationary orbit. Various instruments onboard these satellites provide data in varied spatial, spectral and temporal resolutions to cater to different user requirements in the country. The INSAT series of satellites, provide data for generating various parameters namely, cloud motion vectors, cloud top temperature, water vapour content, vertical profiles of temperature and humidity, facilitating weather forecasting, genesis of cyclones and their track prediction, etc.
3. With these in-orbit, satellites and the planned ones, the Indian EO system will continue to provide high quality data products and services, enabling a host of applications relevant to national development and global requirements. India's future Earth Observation Programme will ensure the continuity of the thematic series of satellites, viz., Resourcesat, Cartosat and RISAT for land and water resources and mapping applications; Oceansat for study of ocean resources; INSAT for meteorology and atmosphere with specific improvements in payloads.

4. The country has established a unique mechanism of institutionalization known as National Natural Resources Management System (NNRMS) in 1985, for enabling the integration of space technology, contemporary technologies into conventional practices. At present, there are nine theme oriented Standing Committees which are similar to GEOSS nine Societal Benefit Areas..
5. India would like to emphasize the fact, that taking the benefits of space technology to the mankind and society has been the driving force of Indian Space Programme since inception. Towards this, the space based virtual constellation would bridge the data gap and avoid redundancy of the missions. The globally acquired EO data will meet the societal needs of the global community, and, India is actively supporting this initiative of GEO.
6. Besides the various contributions from ISRO in many global earth observations missions, in the recent past, India has focused on certain key areas in realizing unique missions towards ocean, atmosphere, meteorology, and weather related studies. Ocean wind vector and Ocean colour products, derived from Oceansat-2 data are made available, free of cost to global community which is a big success in the global arena. The joint realization of Megha-Tropiques and SARAL with French Space Agency has contributed significantly to the global user community. The data from three payloads (SAPHIR, SCARAB & ROSA) of the Megha-Tropiques satellite are open to global users across the globe. Everyday data is being processed and uploaded to NRSC website in near real time.
7. ISRO's portals (Bhuvan, NNRMS Data Base and MOSDAC) are being used to provide the satellite data, geophysical and biophysical products as well as thematic information derived using EO data. Bhuvan Geoportal has entered its sixth year of operations which provides selected satellite data sets, geophysical products, and thematic layers for consumption at user end through either as Web Services or as free download. As of today, there are more than 280 thousand downloads through this portal.

8. I must also mention that IRS data is being received throughout the world, through network of international ground stations. The data provided by Indian satellites have been of immense help to the stakeholders in disaster preparedness, damage assessment, rehabilitation and mitigation.
9. India is working with other space faring nations like USA, France, Germany and Canada in building satellite with advanced Earth Observation payloads for improved estimation of vegetation, forest biomass, forest fire, soil moisture, oil slicks, surface deformation, ice-sheet dynamics, ocean surface wind vector, energy and water budget etc.
10. ISRO has augmented Cuiaba ground station in Brazil for Resourcesat-2 data reception and processing. Brazil is receiving Resourcesat-2 data since October 2014 which enhanced the monitoring of the degradation of the Amazon forest. Similarly, ISRO provided Landsat archived data of 1984-2001 of Indian region to USGS for supporting Landsat Global Archive Consolidation (LGAC) initiative.
11. India has taken up a project with the Association of South East Asian Nations (ASEAN) comprising Brunei, Cambodia, Indonesia, Laos PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Viet Nam; to establish a ground station in Viet Nam to receive, process and use data from Indian satellites for variety of applications including disaster management. IRS data would be provided to the ASEAN member countries - free of access fee with assured continuity of data from Resourcesat & Oceansat series in addition to training on space technology applications.
12. Under Regional Cooperative Mechanism of UNESCAP, India has provided technical support to Sri Lanka on agricultural drought monitoring. Similar support is being extended to Nepal, Myanmar and Cambodia through UNESCAP from India.

13. Towards improving capacity of other countries in the region, to cope with disaster mitigation, India actively supports the global disaster management efforts through International Charter and Sentinel Asia. India is also providing the required assistance to establish a network of weather stations in SAARC countries to support severe thunderstorm predictions.
14. Indian delegation is happy to inform that in view of its contribution with its satellite programmes to the WMO Global Observing System, Indian Space Research Organisation (ISRO) has been included as a new member of Coordination Group on Meteorological Satellites (CGMS).
15. Role of GEO in promoting the use of EO data for sustainable development would be incomplete without the capacity building for its use. In this domain, ISRO continues to share its facilities, expertise in the application of space science and technology through the United Nations (UN) affiliated Centre for Space Science and Technology Education in Asia and the Pacific (CSSTEAP) at Dehra Dun. As of now, CSSTEAP has benefitted more than 1500 officials from 52 countries. In addition to the regular courses, the centre has organized four special courses on disaster risk reduction and emergency management for the Asia Pacific region jointly with UNESCAP, UNSPIDER and SAARC Disaster Management Centre.
16. India actively participates in developing a Global Earth Observation System of Systems (GEOSS) and pursued its 10-year implementation (2005-2015) plan. India is shouldering the responsibilities such as supporting the G20 initiative of GEO, including Global Agricultural Monitoring initiative (GEO-GLAM), Joint Experiments on Crop Assessment and Monitoring (JECAM) initiative, Global Forest Observation Initiative and GEOSS Data CORE (Collection of Open Resources for Everyone).
17. India will strive to actively engage and contribute in various activities of GEO, including further strengthening of GEOSS and in achieving its objectives in the coming 10 year period.

Thank You,