Agenda Item - 11: Space and Climate Change

Mr. Chairman and distinguished delegates,

The problem of climate change poses an existential challenge for humanity. Analyzing the long-term climatic data records, it is already established that climate change is a serious global issue. India recognizes this problem can be addressed by global cooperation based on the multilateral framework of the United Nations and committed to the global responses to tackle the adverse effect of climate change.

India has committed to reduce the emission intensity and has taken pledge at the 21st session of conference of parties (COP 21) of United Nation Framework Convention on Climate Change (UNFCC) at Paris. In accordance with its commitment, India has adopted several climate change mitigation measures which reflect India's commitment towards addressing the issues of global warming.

Mr. Chairman

ISRO has designed, developed and launched the satellites with advanced payloads for monitoring the state of the atmosphere, oceans and land ocean over the globe and Indian region. INSAT-3D and INSAT-3DR satellites provide atmospheric temperature and humidity profiles, geophysical parameters like fog, fire, total ozone concentration in the atmospheric column, land surface temperature, etc., at regular intervals which go as inputs to atmospheric models.

ARGOS and ALTIKA payloads, on board SARAL satellite, provide valuable information to study ocean circulation and sea surface elevation which can be used to derive the intensity of a tropical cyclone as it moves over the ocean. Oceansat-2 with Ocean Color Monitor (OCM) sensor continues to provide the chlorophyll distribution over the ocean.

Megha-Tropiques satellite carries humidity profiler SAPHIR, which is useful to study water cycle over the tropical regions. SCARAB sensor estimates radiation budget at the top of the atmosphere which is an important diagnostic of the climate. The emphasis has also given to enhance the ground based observations network for collection of various in-situ parameters.

Mr. Chairman

ISRO is generating climate data base under National Information System for Climate and Environment Studies (NICES) programme to build comprehensive information on long term data records of various essential climate variables (ECVs) for environmental and climate studies. NICES is aimed at generating and

disseminating Climate Data Records from operational satellites. NICES is providing 67 bio/geo-physical variables, mainly derived from Indian and other EO satellites, pertaining to Ocean, Terrestrial and Atmosphere.

NICES has been conducting outreach and interactions programs for effective dissemination of ECVs to carry out climate and environment impact assessment, adaptation and mitigation studies. A total of 64000 products were generated, and 40000 products were downloaded in this year for example Soil Moisture, Planetary Boundary Layer Height, Ocean Heat Content, Chlorophyll and other variables.

Mr. Chairman

Meteorological & Oceanographic Satellite Data Archival Centre (MOSDAC) is data repository of ISRO's related satellite missions and ground based systems. The data products are disseminated through web based services for the needs of scientific and research community. The web portal also hosts weather services including cloud bursts and heavy rain alerts, genesis of tropical cyclones along with track and intensity prediction. Further, training programmes are arranged for students and researchers across the country for various applications of MOSDAC data.

Mr. Chairman

There are coordinated long-term measurement campaigns by ISRO, in collaboration with national institutes and academia, to study the effect of aerosols, carbon flux estimation in vegetative systems, oceanic cruise campaigns to study biogeochemical processes of importance in carbon fixation, and land surface energy exchanges in agro eco-systems. Space based inputs are also used to monitor water resources, marine ecosystems, agricultural productivity, snow and glaciers, forests etc., and provide inputs for climate variability studies.

Mr. Chairman

India has stabilized, protected and enhanced its forest and tree cover over the years. The carbon stock in India's forest and tree cover have increased alongside the increase in their total stock. India's forests and at present, tree cover offset about 15 per cent of the country's total carbon dioxide emissions. India's commitment to rapidly increasing her renewable energy capacity reflects its strong commitment to limiting the rise in global temperatures.

To conclude, Indian delegation affirms that India would be working continuously to its commitment in combating climate change and committed to work in a collaborative frame work to achieve cleaner and greener path in the future to come.

Thank you Mr. Chairman and distinguished delegates.