Space Programs of India

India is the seventh largest country in terms of areas in he world and the second largest in terms of population. Since Independence in 1947 India has won an impressive array of achievement in the scientific and technological fields. Special mention in this respect must be made of the arena of space. In spite of being a developing economy with its attendant problems India has developed space technology and applied it for various beneficial purposes.

The foundation of space research in India was laid with the establishment of the Indian Space Research in India space research Organization in 1969. Space research activities were provided additional fillip with the formation of the space commission and the Department of space by the Government of India. Space programmers' are today used in the areas of communication broadcasting, meteorology disaster management and resources. ISRO maiden attempt at developing a satellite launch vehicle was a failure in 1979. However success followed with the development flight of SLV in 1983 and its achievement in sending back more than2000 pictures..

The years 1987 and 1988 proved disappointing in space programmers because the launch of Augmented Satellite Launch Vehicle in theses two years came to a premature end. However, in May 1992 ISRO launched the ASLV-3 and its successor in may 1994. India successfully launched PSLV-C1 in 1997. After that PALV-C2, GSLV-D1, PSLV-C5 , GSLV-D2 , GSLV-FOI , PSLV-C7 , PSLV-C9 , PSLV-C10 were also launched by ISRO successfully. On October 22, 2008 India successfully launched PSLV-C11 Chandrayaan. The mission moon market a new chapter in the history of Indian space program me. After that India successfully launched PSLV-C12 and PSLV-C14.

The Indian National Satellite system is one of the largest domestic communication satellite system in the Asia Pacific region. The satellites of the INST system which are in services today are INSAT-2E, INSAT-3A, INSAT-3B, INSAT-3C , INSAT-3E, KALLPANA-1 , GSAT-2 , EDUSAT, INSAT-4A , INSAT-4B and INSAT-4CR.

The INSAT system serves many important sectors of the Indian economy like telecommunication sector mobile satellite services, Television Broadcasting and Redistribution, Telem medicine, Meteorological Services Cyclone Monitoring etc.

Today Indian has the largest constellation of Remote Sensing Satellites which provide services both at the national and global levels. From the Indian Remote Sensing satellites data is a available in a variety of spatial resolutions.

An elaborate launch infrastructure exists at Sriharikata Island on the East coast of India which is 100km from Chennai. Full fledged facilities of satellite integration. Assembly and launch exist there. Sriharikota also houses a Telemetry and tracking and command network for tracking satellites and monitoring them.

India has a vibrant space science program me covering astronomy astrophysics planetary and space science earth science and theoretical physics. The Indian space program me since it inception has been cooper active with Indian industries.

ISRO has an active program me to interact with academic an research institutions all over the country for the benefit of our space program me. in this regard the sponsored research program me is an important component of DOS. Under RESPOND, DOS supports research and educational activities in Universities College the Indian institutes of technology and other research institutions.

Form the very beginning ISRO has had a very good record of international cooperation. It has a memorandum of understand with 25 countries space agencies. A unsponsored centre for space an technology education was set up in India. It has trained more than 400 personnel of the Asia pacific region. ISRO also provides training in space applications to personnel of developing countries through its sharing of experience in space program me.

In 1984 India became the fourteenth nation to send a man to space. Squadron leader Rakesh Sharma along with two Russian cosmonauts. Visited space.in1997 Dr. Kalpana Chawala became the first Indian American woman to visit space. According to the NASA Kalpana was one among the more than 2000 applicants for a civilian scientist position. Her academic accomplishment physical fitness and experience as a pilot made her a natural choice.

In 2000 Chawla was selected for her second flight to space. Her second flight was a moment of joy for all Indians. Her return was eagerly awaited. On February 1,2003 unfortunately when the space was just 16 minutes away from earth it exploded. This explosion killed all the crew members including Chawla. Sunita Williams an Indian American astronaut of the NASA became the first woman to stay for a record 195 days in space.

In addition to developing spacecraft and launch vehicle technological indigenously India has also been successful in the application of satellite technology to benefit its national economy. At the same time India has also been sharing space based information with the international community and providing commercial space services globally.