Land Use - Land Cover Study in River Basins of India: Human Dimensions of Climate Change –
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He pointed out that the river basins are natural landscapes supporting large human dimensions in the country and as such sustainable utilization of resources (land, soil, water, forests) are required for conservation for future generation. Climate change and increasing human dimension may advance greater impact on the resources and lead to increased adversaries. In the context of Indian Agriculture, Roy highlighted the role played by Land Reforms in 1948 and Green Revolution. He pointed out that there has been considerable change in land utilization under irrigation, per capita availability of land resources and water etc and highlighted the interplay between LULC dynamics, climate and terrestrial environmental processes. The role of “Drivers of LULC Change” viz. Biophysical drivers – elevation, slope, soil, climate etc) and socio-economic drivers (e.g. demography, technological, political etc) are very vital in this context. An important step in understanding LULC change is creation of a National Database on Natural Environment which is a multi-institutional initiative coordinated by ISRO. Various components of this database are: land use/land cover, land degradation, snow and glaciers, soil, geomorphology, vegetation type, wetland, biodiversity, groundwater, wasteland, irrigation infrastructure and water resources. During the Pilot phase, focus of study in LULC, was in the Indian River Basins viz., Satluj, Pennar, Upper Ganga, Narmada and Godavari. Remaining 10 basins are being taken up for the Final phase. Land use-land cover dynamics in Upper Ganga Basin indicate that during 10 years period cultivated land increased by about 3 percent, wasteland reduced by about 3 percent and other land use area has considerably increased. In the context of LULC changes on hydrological regime of Indian River Basins, it was demonstrated that there has been decrease in forest area and increase in urban growth. Dr Roy concluded by highlighting “Space Applications for Climate Change: National Agenda”. The focus of this national agenda is on Sustainable Habitat, Water Mission, Himalayan Ecosystem, Green India, Sustainable Agriculture and Strategic Knowledge.