

# **Capacity Building in Space Science and Geospatial Technologies in rural villages through IIRS ISRO Outreach Program, Institutional Innovation Council and ISRS Mumbai Chapter**

**– A Design Thinking Approach Case Study considering NEP 2020**

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## **Abstract:**

After the launch of Chandrayaan and Mangalyaan by Indian Space Research Organization, the importance of space science and its applications across various domains have attracted many young minds across schools, colleges, institutions and university across India. From 2017, Pillai HOC College of Engineering and Technology, Rasayani, Maharashtra has played a vital role in the field of capacity building in remote sensing, GIS and geospatial technologies through IIRS ISRO Outreach Network Institute. Till date, our Outreach institute has completed **90 courses and around 12000** plus students, teachers, research scholars, technicians etc. have participated. In the past 7 years it has been observed by our institute that many students at a young age from school develops a keen interest in space science but due to lack of knowledge transfer or expects in this domain during their learning age creates a gap in those young minds. And as compared to urban cities the space science related courses and activities diminishes or narrows down extremely in rural villages in India. The objective is to bridge this huge gap and here Pillai ISRO Outreach Network Institute plays a vital role by penetrating deep inside rural villages. Along with the vision on NEP 2020 it helps the students to impart geospatial knowledge and collaborate in space science activities conducted under IIRS ISRO, Institution of Innovation Council and ISRS Mumbai Chapter. The methodology undertaken is to teach and make the rural students understand the fundamental concepts of space science, remote sensing, GIS etc. with design thinking approach. In this process the students inculcate a high regard for ISRO and dream about becoming a part of this organization in future and hence start studying well and try to crack the code to reach their future destinations of becoming sound technicians, engineers and scientists. It has been observed that though impactful design thinking lectures and videos shown to rural students through scientific demonstrations of various fundamental concepts of physics and mathematics their inclinations towards IIRS ISRO Outreach Courses increases. And once they join these courses through mini project, seminars and workshops they are in direct connection with real time projects involved in space and geospatial domain like remote sensing and GIS. This paper signifies the capacity building penetration done by Pillai ISRO Outreach Network Institute in rural villages and showcases the importance of grass root penetration in the field of geospatial technologies with sound results.

**Key Words:** Capacity building, IIRS ISRO Outreach Program, Institutional Innovation Council, Indian Society of Remote Sensing, rural education, space science.