

## The National Geospatial Policy (NGP) 2022, India: An Analysis of its Impacts on Innovation and Local Development

<sup>1</sup>T. Vasantha Kumaran & <sup>2</sup>S. Muthunagai

<sup>1</sup>Retired Professor of Geography, University of Madras

<sup>2</sup>Assistant Professor, Queen Mary's College, Chennai

Correspondence: thangavelukumaran@gmail.com

### Abstract

The National Geospatial Policy (NGP) 2022 marks a transformative milestone in India's geospatial sector, driving innovation, entrepreneurship, and local development across multiple industries. By liberalizing access to geospatial data and streamlining regulatory processes—most notably replacing prior approvals with self-certification—NGP 2022 has democratized data access, enabling startups and enterprises to build innovative, location-based solutions without bureaucratic barriers. The establishment of over 1,000 Continuously Operating Reference Stations (CORS) and open-data portals has empowered sectors such as logistics, agriculture, and urban planning to optimize operations and reduce costs. The policy's emphasis on indigenous innovation has spurred the growth of domestic geospatial enterprises, raising their contribution to 75% of the national market and fostering a vibrant startup ecosystem aligned with initiatives like "Startup India." Sector-specific advancements include precision agriculture, digital twins for smart cities, optimized logistics, renewable energy siting, and disaster management using real-time geospatial analytics. The policy also provides regulatory protections for local firms and has boosted geospatial exports by 18%. Despite these advances, challenges remain, particularly in bridging the rural-urban divide and addressing skill shortages, as only 15% of rural MSMEs currently utilize geospatial tools and 40% of firms report difficulties hiring GIS professionals. The NGP 2022 addresses these gaps through capacity-building initiatives, transparent regulatory frameworks, and support for venture capital funding. Integration with broader digital transformation efforts and alignment with the Global Innovation Index have further solidified India's position as a leader in geospatial innovation. In conclusion, while the NGP 2022 has catalysed significant economic and technological progress, sustained focus on equitable access, skill development, and local empowerment is essential to fully realize its transformative potential for India's innovation ecosystem and global competitiveness.

**Keywords:** national geospatial policy, geospatial data, innovation, startups, digital transformation, India