

The Marginalization of Geospatial Technologies in the Global South: A Critical Analysis (With Special Reference to India and Sri Lanka)

¹T. Vasantha Kumaran, ²S. Muthunagai, ³R. Joseph, ⁴N. Anbazhahan

¹Retired Professor of Geography, University of Madras

²Associate Professor, Queen Mary's College, Chennai

³Retired Deputy Registrar General of Census of India

⁴Associate Professor, Presidency College, Chennai

Correspondence: thangavelukumaran@gmail.com

Abstract

This paper critically examines the marginalization of geospatial technologies (GSTs) in the Global South, with a special focus on India and Sri Lanka. While GSTs have revolutionized planning, resource management, and development in the Global North, their adoption in the Global South is hindered by persistent digital divides, high costs, limited technical expertise, and infrastructural deficits. Rural areas, in particular, face challenges in internet connectivity and access to essential hardware and software, exacerbating inequities in development opportunities. A key issue discussed is data sovereignty: geospatial data ownership and control are often concentrated in developed nations and multinational corporations, resulting in a form of data colonialism that restricts the Global South's ability to tailor GSTs to local needs. Institutional and policy barriers—such as inadequate regulatory frameworks, insufficient funding, and lack of robust infrastructure—further impede the effective use of GSTs. The shortage of education and capacity-building programs limits the development of local expertise, perpetuating reliance on external actors. The consequences of this marginalization are profound: ineffective resource management, limited disaster preparedness, inequitable development planning, and reduced global competitiveness. To address these challenges, the paper advocates a multipronged approach: investing in digital infrastructure, promoting local data ownership, strengthening institutional frameworks, building local capacity, and encouraging international collaboration. The study highlights successful initiatives such as India's BharatNet and Digital India programs, Sri Lanka's National Broadband Network, and community-based GIS projects that empower local communities. It also underscores the importance of integrating traditional knowledge with modern geospatial technologies, ensuring ethical use, and protecting data sovereignty. The proposed policy framework combines regulatory reforms, infrastructure development, capacity building, and inclusive implementation, drawing on best practices from both India and Sri Lanka. In conclusion,

bridging the digital divide and empowering the Global South to harness GSTs is essential for sustainable development, equitable growth, and the preservation of local agency in the digital era.

Keywords: marginalization, geospatial technologies, digital divide, data sovereignty, capacity building, policy framework