RAVINDRA KUMAR
CSIR-CRRI New Delhi,
India

Navigating green routes: transforming meghalaya's agriculture through integrated transport infrastructure planning

Abstract:

This research examines the crucial role of road and transport infrastructure in advancing green, sustainable agriculture in Meghalaya, India, specifically through the lens of the Integrated Transport Network Development Plan (ITNDP). Emphasizing the profound significance of this integrated approach for both the region's economic progress and environmental well-being, the study navigates the challenges posed by Meghalaya's intricate geographic terrain, agricultural community isolation, limited extension services for agriculture clusters, and ecological concerns.

The demanding hilly terrain necessitates urgent infrastructure solutions that minimize environmental impact. Poor road connectivity to remote agricultural communities restricts market access and economic opportunities. At the same time, inadequate transport infrastructure acts as a bottleneck in the efficient delivery of agricultural goods, contributing to deforestation.

Despite these challenges, the research identifies opportunities for sustainable development, including improved market access, agro-tourism facilitation, enhanced supply chain efficiency, and the integration of eco-friendly transport options like ropeways and roads. Maintaining well-maintained roads emerges as a key solution to enhance market access, reduce post-harvest losses, and stimulate economic growth. Furthermore, the study explores how green transportation infrastructure, particularly ropeways, can catalyze agro-tourism, benefiting local economies and environmental preservation.

The ITNDP examined as a compelling case study, sheds light on an integrated approach encompassing multimodal transport hubs, sustainable road construction, public-private partnerships, community involvement, policy support, capacity building, and the development of agriculture clusters within a 5 to 10 km radius. The research underscores the pivotal role of these components in facilitating the seamless movement of agricultural products, reducing environmental impact, and fostering community development.

The study concludes with recommendations, advocating for stakeholder engagement in sustainable transport solutions, community involvement in decision-making, and the establishment of policies supporting environmentally friendly transportation and new road construction. Additionally, the research underscores the significance of training programs for farmers and transport stakeholders in sustainable practices.

The research asserts that Meghalaya can achieve a harmonious synergy between road and transport infrastructure development and green, sustainable agriculture by addressing challenges and capitalizing on opportunities. This integrated approach is poised to significantly contribute to the region's overall well-being, driving economic growth while safeguarding the environment and supporting local communities.

Biography

Dr. Ravindra Kumar completed his Ph.D. from Edinburgh Napier University UK and postdoctoral studies at Transport Research Institute UK. He is the Chief Scientist and the Head of Information Liason and Training at a premier road research organization, CSIR-Central Road Research Institute New Delhi. He has published more than 100 papers in reputable journals and conferences and has been serving as an editorial board member of repute. He has guided this and Ph.D. students. He has also conducted research on road transport, environment, and agriculture-based planning