National Institute of Technology Rourkela

Defence Seminar

| | |
|---|---|
| Seminar Title | : A Framework for Understanding Population Mobility by Rural Accessibility Measurement Approach |
| Speaker | : Shivendu Shekhar Singh ( Rollno : 516ar1001) |
| Supervisor | : Prof. Basudatta Sarkar |
| Venue | : Seminar room, Department of Planning and Architecture |
| Date and Time | : 09 Dec 2024 (09:30 am) |
| Abstract | : The present research proposes a framework for understanding commuting patterns and behaviors including accessibility as a determinant in the Indian rural context. This research proposes an alternate set of rural accessibility measures with essential components and dimensions. The proposed measure has two components: proximity and the &lsquomagnitude of supply&rsquo of the distributed varied opportunities. The set of measures is supply-based measures, an alternative to existing measures, that are demand-based or less refined in terms of constituent parameters. The major challenge of this research is to measure the distributed varied opportunities within a particular range of rural inhabitants and to quantify these in spatial terms for a better understanding of accessibility as a policy instrument. This research addresses the research gaps in accessibility and mobility studies, such as measuring distributions of accessibility across the population groups, areas, settlements, and groups of settlements different accessibility levels for short-distance and active modes of transportation, particularly in rural spaces and cross-sectional analysis of population mobility with the help of a suitably constructed index. In this regard, accessibility to major development parameters, health, education and communication infrastructures are measured and analyzed with cross-sectional data. Furthermore, a linkage has been established between the measured rural accessibility and commuting length by nonmotorized and public transport modes. The measures have been applied at the district level as the independent variable to understand the determinants of commuting patterns in rural India. Multivariate regression analysis was used to investigate the determinants of the share of commuting by nonmotorized and public transport modes. The key outcomes of this research are as follows : (i) bicycle ownership appears to be the key determinant of the nonmotorized mode of transport, (ii) despite the proximity of the rural settlements to public transport and paratransit modes, commuters opting for bicycles in the study region, and (iii) transport-related variables are the critical determinants of short-distance commutes, while socioeconomic variables are crucial for long-distance commuting. This measure intends to provide a policy instrument for achieving sustainable rural mobility goals by integrating land use and transport in the region. |