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Infrastructure Adequacy Assessment of Msme Industrial Estates: A Planning Perspective from Talanagri, Aligarh

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ABSTRACT

Micro, Small and Medium Enterprises (MSMEs) play a vital role in India's economic growth, employment generation, and regional development. The performance of industrial clusters largely depends on the adequacy of supporting infrastructure, which influences industrial productivity, logistics efficiency, and environmental sustainability. This study assesses the infrastructure adequacy of the Talanagri Industrial Estate in Aligarh, Uttar Pradesh, through a mixed-method approach incorporating enterprise surveys, worker perception surveys, freight and logistics assessments, field observations, and spatial analysis. An Infrastructure Adequacy Index (IAI) was developed to evaluate key infrastructure components against planning standards and operational requirements. The assessment identifies significant deficiencies in drainage systems, solid waste management, street lighting, freight parking facilities, logistics infrastructure, and worker amenities, which collectively constrain industrial operations and competitiveness. The findings indicate that the estate is functioning below desirable planning standards, highlighting the need for targeted infrastructure interventions. Based on the analysis, the study proposes strategies for infrastructure upgradation, improved freight and logistics management, environmental improvement, and institutional coordination to enhance the efficiency and long-term sustainability of the industrial estate. The study demonstrates the importance of periodic infrastructure assessment as a planning tool for improving the performance and competitiveness of MSME industrial clusters in rapidly urbanizing regions.

Keywords: MSME Cluster, Industrial Estate Planning, Infrastructure Adequacy Index, Freight Logistics, Industrial Infrastructure, Regional Development

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