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Logistics Sprawl in Timber Markets and its Impact on Freight Distribution Patterns in Metropolitan City of Delhi, India

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Abstract

Logistics sprawl is resulting in logistics and transport companies moving towards the periphery of the cities. This outward movement of logistics facility has brought about a change in the supply chains, patterns of distribution modes and freight distribution mileages which have resulted in an increased environmental impact. The present city Master Planning practices for planning freight facilities in metropolitan cities like Delhi in particular are insensitive to the changing trends of logistics sprawl and its impact on freight environment. The present paper is an attempt to study the phenomena of logistics sprawl in city of Delhi taking the case study of timber industry and assess its consequent impact.

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1. Introduction

“Logistics sprawl” is a key trend and the term used to describe the spread of goods transport facilities in metropolitan areas. Severe land shortages in large cities, the large urban renewal projects and the skyrocketing land prices within the city have been the main forces behind development of logistics sprawl. Due to the vast amounts of land required and the need for access to highways, logistics and transport companies are closing urban distribution centres in inner-city areas and opening new ones in the periphery (UNHABITAT, 2013). This movement of logistics

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facility has brought out a change in the supply chains; the distribution modes have changed, the mileage has increased with the increase in distance from the markets which has resulted in an environmental and CO₂ emission impact. Though it can easily be termed as a negative impact but it is important to study the actual impacts of this logistic sprawl.

India is one of the largest economies in the world and a major emerging market that has a young population, rising investment rates, large domestic demand and globally competitive firm. According to IBEF (2013) report the Indian logistics industry was valued at an estimated US\$ 130 billion in 2012-13. It has grown at a CAGR of over 16 per cent over the last five years. The key growth drivers of logistics industry growth in India are: rapid growth in industries such as automobile, pharmaceuticals, fast-moving consumer goods (FMCG) and retail; increase in trade because of integration of India's economy with world; government initiatives such as FDI regulations, private sector participation and development of logistics infrastructure and increasing trend of outsourcing logistics to third party service providers. The contribution from the movement of goods including freight transportation and storage is about 90 per cent. Aggregate freight traffic is estimated at about 2-2.3 trillion tonne kilometres. Road dominates the mode of freight transport mix and constitutes about 60 per cent of the total freight traffic. Rail and coastal shipping account for about 32 per cent and 7 per cent, respectively, while the share of inland waterways transportation and air is less than 1 per cent each. In context of warehousing which comprises industrial and agricultural storage of the total warehousing space of about 1,800 million sq ft, the industrial and agricultural segments constitute about 86 per cent and 14 per cent, respectively. Government organisations including Food Corporation of India, Central Warehousing Corporation and the state warehousing corporations account for about two-thirds of the agricultural warehousing segment. At present, India has an estimated cold chain capacity of around 9 million tonnes. The demand for additional cold storage capacity is expected to be about 15 million tonnes by the end of 12th Five-Year Plan period.

The Indian logistics sector is slowly witnessing a transformation from small storage go-downs to large format multi-purpose logistics centers. At present the organized sector has a minor share in the total logistics industry and the market is dominated by small unorganized player but is now rapidly changing towards more organized players entering in logistics market. It is observed that while in 2007 the unorganized market share was almost 93% of the entire logistics sector, it is rapidly reducing with market becoming more organized with an estimated share of 15% share in 2013. This transformation has also been due to several policies aiming at encouraging investment in the sector, including free trade warehousing zones and logistics parks.

While there have been some research reported in this very vital field of logistics sprawl in developed countries there has not been any significant attempt to research into logistics sprawl in developing environment and more particularly in India. Also, the current Master Planning practices for freight facilities in Indian cities are insensitive to the dynamics and impacts of logistics sprawl. The present paper is an attempt to highlight the trends of logistics sprawl in context of timber wholesale markets, the freight supply chain and movement pattern and assess the likely impact on the environment as result of alternate timber freight distribution strategies.

2. Literature review

Very limited research work has been reported in the area of logistics sprawl particularly from the developing world. Dablanc (2012) in her paper examined the spatial patterns of freight and logistics activities and the planning and policy issues associated with them using Atlanta and the Piedmont Atlantic Mega region as a case study. The focus of the paper on one side was on the phenomena of 'logistics sprawl' expressed in terms of the spatial deconcentration of logistics facilities and distribution centers in the Atlanta metropolitan area while on the other side on the polarization of logistics activities reflected in terms of the concentration of logistics activities in the urban areas of Piedmont Atlantic. The research showed that local governments give explicit consideration to logistics activities, either for the jobs and tax revenues they can generate, or their adverse impacts on communities. It was observed from the paper that there was a lack of collaboration and agreement between cities and counties regarding zoning and the location of industrial and logistics hubs, and an absence of a regional approach. The author proposed for a mega region concept which is particularly well-suited to the analysis of freight transport systems since freight transport's market areas, driven by global supply chains, are largely disconnected from a single city and spatially organized on a regional and multicity basis. It also highlighted the need of planning for a more efficient locational pattern of freight facilities

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