

## **An Analysis Of Industrial Geography Research In India**

**Kuldeep Kumar, Assistant Professor**

**Department Of Geography, Guru Nanak Khalsa College, Karnal**

### **Abstract**

*Although industries are crucial to a country's progress, there have been surprisingly few studies on industrial phenomena, particularly in the field of geography. That has never been a topic of discussion among Indian geographers. While there are a few studies that do draw industrial geographers in, there is a dearth of research that focuses only on the evolution of industries. Indian geographers have done little work in the field prior to independence, but what little there is pertains to a variety of topics such as industrial finance, industrial linkages, location and distribution patterns of industries, resource bases for industries, impacts of industries on urbanisation, the environment, socioeconomics, and finance. On top of that, there are research focused on policy, de-industrialization, the effects of globalisation on industrial development, and the management of industrial diseases. had the fewest studies conducted on them. Outlining an overview of research in industrial geography done by Indian geographers is the major goal of the current work.*

**Keywords :** *industrial complex, industrial geography, globalisation, industrial development, distribution pattern, industrial policy, industrial connections, and rural industrialization.*

### **Introduction**

Among the several subfields that make up economic geography, industrial geography is crucial. Industrialization began in the majority of the world's emerging nations after WWII, and industrial geographers began studying industrial phenomena. Industrial economic-geography was defined by Massey and Meegen (1986) and Clarck (1987) as a subfield of regional economic geography. With the gradual demise of traditional and local industries and the emergence of several new kinds of businesses, industrial geography has seen a remarkable transformation in the last fifteen years. Not to mention the massive growth of small-scale enterprises. The industrial structure has grown and diversified as a result of these developments. Consequently, the majority of geographers are drawn to research on urbanisation and industrialization. Studies of industrial resource bases, inter-industry connections, industrialization, and regional development were geographers' primary concerns in subsequent decades. The purpose of this article is to provide a synopsis of the work of Indian geographers who have studied industrial geography.

### **Objectives and Methodology**

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The primary goal of this article is to provide a comprehensive review of the research that Indian geographers, in particular, have done in the field of industrial geography. Books, theses, journals, and relevant online information form the backbone of this literature review. An effort was made to conduct a thematic literature review by grouping the words into seven categories: industrial complexes, small scale industry, cottage industry and rural industrialization, industrial policy, industrial distribution, location of industry, industrial growth, industry and environment, and miscellaneous research.

### **Location of Industry**

The study of Loknathan (1931) was the first to carefully examine studies of industrial landscape characteristics, geographical variables acting at their locations, and the spatial distribution of enterprises. Seasonal movement from the upland regions mostly occurred to the irrigated deltaic tracts of the Krishna, Godavari, and Kavery rivers, as well as to the tea, coffee, and rubber plantations in the Nilgiri, Mysore, and Kerla rivers, according to his study of labour migration difficulties in southern India. The distribution of industry in India was critiqued by Loknathan (1932), who followed crucial locational elements in the formation of cotton and jute textile, sugar, iron and steel, paper, cement, and heavy chemical industries. The function of geographical elements in the distribution of shipbuilding industries was attempted to be comprehended by PrakashRao (1941). Industrial landscape spatial distribution and geographical characteristics were the focus of these studies. Nonetheless, PrakashRao made the first significant effort to comprehend the significance of geographical elements in the siting of industrial units (1942). Because of their concentration in a small number of areas, including Bombay and Bengal, Ghosh (1946) argued that regional growth would benefit from the decentralisation of industry. Kuriyan (1962) highlighted the obvious regional economic disparities generated by the country's unequal distribution of industrial activity. An expert in numerous fields, he studied the current state of the cotton, jute, textile, and iron sectors and proposed reforms to boost their growth. Chaudhuri (1962) focused on the evaluation, use, and conservation of West Bengal's natural resources and researched the placement and expansion of important Indian enterprises. Several facets of Poona's industrial sector's location and growth were investigated by Jai Nathan and Bhanumati (1963). The localization of India's iron and steel sector was investigated by Dayal (1964) in relation to geographical considerations. In 1967, Tiwari surveyed the state of small-scale manufacturing in eastern Uttar Pradesh. He proposed setting up a

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plethora of small-scale companies in the area after researching potential future developments in light of the accessible raw materials and an eager consumer. Patni (1969) reviewed the elements that affected the placement of several Indian industries from 1950 to 1965 and investigated the factors that affected the location of these industries overall. Recent industrial growth in the Chhotanagpur area was examined in detail by Mukherjee (1970). For the sake of industrial growth, he also evaluated the deposits of coal and iron ore. Many parts of the distribution and growth patterns of Indian businesses were detailed by Chaudhuri (1970), who also brought attention to the ways in which economic and geographical variables impacted the decision-making process. The north Bihar industrial areas were the primary focus of Mandal (1971). In 1972, Sinha investigated the industrial topography of the Chhotanagpur plateau. Upadhyay (1972) focused on the Gangapar area, particularly the Mirzapur district in Uttar Pradesh, to assess resources and foster industrial growth. Concerning India's industrial growth, Shirokov (1973) zeroed focused on both the challenges and opportunities. According to Sharma (1973 a), the distribution and placement of industries in the Chhattisgarh area of Madhya Pradesh was the subject of extensive research. According to Singh (1975, 1978), the electrification of the Rihand Grid Area had an effect on the growth of agriculture and industry. The impact of electric facilities on the evolution of grid-based agriculture and industry was his area of research. Using a spatio-temporal approach, Singh (1979, 1983) classified districts in eastern Uttar Pradesh as either highly industrialised, moderately industrialised, or poorly industrialised. The spatial distribution of Uttar Pradesh's industrial sector was reviewed geographically by Kayastha and Singh (1979a). In the Indian context, Gopi (1980) examined and found a link between the expansion of cities and the placement of industries. Andhra Pradesh's industrial growth was elucidated by Sharma (1980) in terms of the state's industrial resource base and geographical characteristics. The changing industrial environment and its impact on Eastern Uttar Pradesh were the subjects of Singh's (1980 a) research. In 1981, Sita assessed how transit influenced industrialization in South Konkan cities. In 1981, Tripathi looked at key aspects of where and how big businesses were located in Orissa. The Konkan (not including Bombay City) industrial geography was covered in detail by Gatade (1982). The growth and concentration of large-scale enterprises in the Chhotanagpur plateau were documented by Pandey (1983). In the Gorakhpur division of Uttar Pradesh, Mishra (1984) examined the patterns of industrial growth and their placement. Singh examined the role of

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geography and regional traits on India's industrial growth (1985, 1985a). The efficiency of Indian industry and its progress in many respects were detailed by Surendra (1986). Sharma (1987) looked at the key aspects of Madhya Pradesh's patterns of industrial growth. Singh (1989) examined the distribution of India's industrial sectors geographically. The cities of MaunathBhajan and Mubarakpur in the Azamgarh district of Uttar Pradesh were the focus of Singh's (1989 a) efforts to promote industrialization. The cotton, spinning, agro-based, forest-based, chemical, and handloom industries, as well as related topics, were the primary emphasis of this dissertation. The geographical study of industrial growth in Uttar Pradesh was carried out by Pandey (1991). The Gorakhpur district in Uttar Pradesh was the subject of an in-depth study and subsequent industrial development plan by Tiwari and Tripathi (1991). Research in this area has mostly concentrated on agro-based industries' capital, raw material, and illness issues. The handloom sector in eastern Uttar Pradesh was studied by Nasir (1991) to determine its challenges and opportunities. The effects of industrialization on the unequal distribution of wealth in rural Uttar Pradesh were examined by Singh (1992). The industrial growth of the Lucknow-Kanpur corridor was examined by Nasreen (1993). "Perspectives on industrial development in India" was the title of an edited collection of essays by several geographers that Sinha and Singh (1993) released. The department of geography at Banaras Hindu University put together an international seminar, and this book is essentially the proceedings of that event. The industrialization of Karnataka was studied by Rao (1995). Singh (1996) highlighted key features of Lucknow city's industrial structure, expansion, and distribution. Lucknow City's (Uttar Pradesh) industrial growth pattern was the subject of Singh's (1997 d) thesis. Using a district framework, Singh (1997 a) sought to provide a picture of the organisation of various industries and their growth. Research conducted by Singh (1997 b) in the Champaran district of Bihar examined the impact of easily accessible transport and communication infrastructure on industrialization and regional development. Connections between various sectors and their respective resources were the focus of Singh and Singh's (1998) analysis. Also, with an eye on the city of Lucknow's industrial establishment, he studied capitalist behaviour. In his 2001 study, Sharma sought to evaluate and analyse the roles played by raw resources, infrastructure, and the geographical distribution of people in the growth of various businesses. Additionally, he determined Madhya Pradesh's industrial potential. The report recommended a course of action for the underdeveloped nation's

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industrialization. The effects of liberalisation measures on India's economic growth were examined by Das (2001). emphasis his 2001 study, Singh zeroed emphasis on the trends in Lucknow's industrialization. The Faridabad–Sonipat–Bhiwani triangle in Haryana was studied by Singh (2001 a) for its notable characteristics and the multiplier impacts of industrial growth. Kumar (2002) investigated how Haryana's political climate affected the state's economic environment. Sharma (2002) examined the several facets of Madhya Pradesh's industrialization. Industries in Madhya Pradesh were chorologically analysed by Sharma (2002 a) to show how they evolved and developed. Using unit, investment, and employment data, Sharma (2004 a) assessed Madhya Pradesh's industrial development level. Industrialization in Uttar Pradesh was the subject of Singh's (2008) analysis of the role of roads, particularly national highways. Industrial activities have an effect on the water quality of GovindBallabh Pant Sagar, which Singh (2009) examined. Chhattisgarh state's industrial progress and potentials were examined in depth by Mishra (2010). An evaluation of the region's resource base for industrial growth was also included in his presentation. The purpose of the study by Tiwari and Sharma (2011) was to try to assess the extent to which eastern Uttar Pradesh's economy has grown around agriculture. Industrial development levels in eastern Uttar Pradesh districts were determined using units, investment, and employment.

### **Industrial Growth**

A large number of geographers have analysed the development of various Indian businesses. The concentration of industry in the Hoogly area of West Bengal has proven detrimental to Bihar and Orissa, although Sengupta (1958) investigated the complex processes contributing to this rise. Gupta (1967) attributed Faridabad's impressive industrial progress in the first decade following independence to the government's helpful disposition. A steady rise has been hindered by several obstacles, he said, including a lack of manpower, electricity, and transportation. Sinha (1968) examined the development of Bihar's industries, which account for a pitiful 7% of the state's GDP. In order to provide a rational explanation of the origins and effects of India's degree of industrial growth, Prasad (1980) conducted research on the subject. Chaudhuri (1981) has detailed the successes and failures of India's public sector enterprises. Singh (1983 a) provided a thorough analysis of the patterns and processes that shape Madhya Pradesh's industrial landscape. Thiagarajan (2010) made educated guesses about the potential and threats to the

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expansion of the air conditioning sector in India based on the current state of the market.

### **Business Strategy**

Singh (1969) sought to emphasise the functional linkages between industries and the process of economic growth by classifying them according to export. An analysis of the policies and issues surrounding India's industrial growth was provided by Vakil (1973). Both the Indian government's policies and the country's industrial economy after independence were examined by Kalipada (1987). The effect of official initiatives on economic growth in Eastern Uttar Pradesh was evaluated by Indrajeet (1987). Sharma and Sharma (1991) covered a lot of ground in their discussion of Madhya Pradesh's industrial structure and policy execution. To address the industrial imbalances in Uttar Pradesh, Singh (1993) proposed a number of methods and policies for industrial growth. The effects of liberalisation on the growth of micro, small, and medium-sized businesses in India were investigated by Singh (1997a). In an effort to understand why India's industrial progress and economic liberalisation have been so unequal, Singh (1997b) looked for possible connections. The influence of various state policies on the growth and dispersion of Maharashtra's industrial landscapes was examined by Khan (1997). Several industrial centres in Uttar Pradesh, including NOIDA (New Okhla Industrial Development Authority), Greater NOIDA (Greater New Okhla Industrial Development Authority), GIDA (Gorakhpur Industrial Development Authority), and SIDA (Satharia Industrial Development Authority, Jaunpur), were shaped by economic liberalisation and regional licencing policies, according to Kumar's (2001) analysis. The effect of liberalisation policies on industrial growth in Uttar Pradesh's Rohilkhand plain was investigated by Maurya (2001). Among the many factors affecting manufacturing productivity in India, Taneja et al. (2007) zeroed down on industrial policy and reform. The regulatory and market consequences for India's small-scale industrial sector were examined by Shivramkrishanan (2007).

### **Distribution of Industries**

This field of study mostly focused on the agro-based sector. Research by Sharma (1997) on the Bhilai Industrial Complex and its relationship to regional development focuses on cotton. He said that the Bhilai industrial complex was instrumental in the growth of the neighbourhoods around it. Industrial complexes and their function in the development of local economies were discussed in a theoretical assessment by Sharma (2004).

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## **Business and Ecology**

Although Indian geographers have made some commendable contributions to this discipline, their output is limited. The environmental factors affecting West Bengal's cotton textile sector were reviewed by Chakravarty (1974). The environmental effects of industrialization in the Chhattisgarh area of Madhya Pradesh were examined by Lahiry (1996). An evaluation of the effects of industry on the Sonbhadra district's ecosystem was given by Singh (2000). There is no one component of mining that may reduce environmental consequences; rather, Ghose and Kumar (2004) listed a number of different processes and strategies that miners might use to lessen their influence on the environment. Environmental contamination and its control in India's sugar sector were the subjects of Solomon's (2005) research. Innovative methods for reusing separated wastewater and a suitable approach to decrease distilleries' water use were found by Saha, Balakrishnan, and Batra (2005). The effects of agricultural production on the local ecosystem in the Gorakhpur division were studied by Sharma and Manvi (2009). Researchers Tiwari and Sharma (2010) looked at how the sugar business in E. Uttar Pradesh affected the local ecosystem. Researchers Khan and Vyas (2008) looked at how the brick business in Ujjain affected people's health and the environment.

## **Miscellaneous Researches**

Another area of study within industrial geography is that of tourism, forests, entrepreneurs, environmental issues, etc. The potential of the tourism industries in three Indian towns in the Himalayan Beas basin—Kangra, Kulu, and Mandi—were investigated by Kayastha (1956). Singh (1965) looked at Punjab's industrial economy and proposed ways to grow forest-based businesses there. The effects of industrialization on Indian society, both in the cities and the countryside, were examined by Chaudhuri (1966). An overview of geographical study of manufacturing sector employment and human resource utilisation in eastern Uttar Pradesh was given by Singh (1978). 'Industrial Geography of Kanpur city' was the subject of Singh's PhD thesis (1979 b). Singh (1981 a) devoted a great deal of his research to Uttar Pradesh's tourism and related sectors. The effects of the Ramnagar industrial region on the surrounding area were examined in a survey-based research by Sir 1.0 (1984). Industrial geography literature was reviewed by Pathak (1984). Western Uttar Pradesh's industrialization was studied by Singh (1985). Singh (1988) investigated how industrialization contributed to city-planning. Singh (1989 a) used the state of Kerala as a case study to investigate the importance of industrial growth in regional development strategies. Various

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aspects of this field's evolution were examined by Sinha and Singh (1989). The role that entrepreneurs played in the decline of India's manufacturing sector was examined by Mishra (1991). In her 1995 study, ShilaKumari looked at how Chhotanagpur's industrialization and eco-development were related. An attempt at a correlation between Madhya Pradesh's industrialization, progress, and quality of life was made by Sharma (1998). With a focus on the Indian automotive industry and its ever-changing policy landscape, Narayanan (2004) found a correlation between technology acquisition and business development. Mathur and Kalia (2005) spoke at length on the basic ideas related to businesses. The effects of industrialization on living standards in the Gorakhpur area were brought to light by Khatun (2005). S. An accounting assessment of the development and productivity of India's automotive sector was given by Sharma (2006). The new Indian economy's development and industrial efficiency were described by Sengupta and Neogi (2009). Gupte (2011) has zeroed focused on the IT industry's growth and future prospects in India.

### **Conclusion**

Both the identification of large industrial zones throughout the nation and the analysis of the many facets of the distribution of industries on a regional basis have been prominent research themes in industrial geography. State governments in Bihar, West Bengal, Orissa, Eastern Uttar Pradesh, Madhya Pradesh, and Maharashtra have all paid close attention to this area from an academic perspective. Geographers in India spent a lot of time studying the states of Madhya Pradesh, Punjab, and Andhra Pradesh to learn about their industrial structures, issues, and potential for growth and development. Geographers have paid more attention to the iron and steel sector than any other metallurgical business. Industrialization and its subsequent placement were the primary foci of these research. Public sector iron and steel industry was concentrated in West Bengal, Bihar, Orissa, and Madhya Pradesh, whereas cotton textile industry has been extensively researched on both a national and regional scale. The textile industries, including jute, wool, and others, have not been able to captivate geographers so far. Researchers in the field of geography have taken an interest in the distribution patterns and issues faced by the tea, coffee, rubber, and processing sectors. A small number of geographers have focused on the challenges and opportunities facing the sugar industry on a national and regional scale. Although geographers have examined forest-based industries in depth, a study of their work shows that few have been able to resist the pull of economic theories

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of industrial site over the actual geographical considerations. Nevertheless, the meticulous regional planning of industrial site relies heavily on the work of a few of Indian geographers. As a result of globalisation, businesses are shifting their focus to meet consumer demand throughout the world and broadening their product offerings to meet different market needs. In terms of material and technical flow, the pros and cons of loose eco-friendly and interregional links have already begun to impact the world scene. The next generation of geography scholars should give careful thought to these factors. The field of industrial geography is severely lacking in important areas that need quick investigation. To bring attention to the role of geographers in India's industrial planning, a massive research initiative based on innovative methods is required.

## **References**

- Ahmed, E. (1956): Industrial Zones and Centres of India, Proceedings of the International Geographical Union Congress, Aligarh.
- Arya, R.K. (1999): Agriculture Based Industries and Rural Development in Malwa Plateau (MP.), (Ph. D. thesis) D.D.U. Gorakhpur University, Gorakhpur.
- Basu, J. (1972): Development of the Integrated Iron and Steel Industry of India: A Geoeconomic Analysis of Present Position and Prospects, (Ph. D. thesis, Calcutta University).
- Basu, M. (1961): Recent Problems Facing the Jute Industry in West Bengal, Observer, Vol. 7.
- Bhattacharya, S.N. (1980): Rural Industrialization in India its Nature and Problems, B.R. Publishing Corporation, Delhi.
- Bisht, A.S. (2010): Its problem of plenty for U.P. Sugar Industries, The Times of India, P. 4.
- Chakrabarti, K. (1974 ): A Study of the Cotton Textile Industry in West Bengal in Indian Content, Geographical Review of India, Vol. 26, No. 4: 333-342.
- Chaubey, H.K. (1975): Bhilai Steel Project and Its impact on the Towns of Chhattisgarh, Social Science research Publication, Series I.
- Chaudhuri, M.R. (1962): Indian Industries-Development and Location: An Economic and Geographical Appraisal, Calcutta.
- Chaudhuri, M.R. (1966): Impact of Industrialization on Rural and Urban Life in India, Geographical Review of India, vol. 28: 32-38.
- Chaudhuri, M.R. (1970): Indian Industries-Development and Location: An Economic-Geographical Analysis, Oxford and IBH publishing Company, Calcutta.
- Chaudhuri, M.R. (1972): Industrial Complexes-A Trend Report, in (A Survey of Research in Geography), ICSSR, New Delhi: 80-83.
- Chaudhuri, M.R. (1982): Performance and Problems of Indian Industries under Public Sector, Industrial Situation in India, Voll 2(1).
- Clarck, G.L. (1987): Book Review on 'Politics and Method- Contrasting Studies in Industrial Geography'(Doren Massey and Richard Meegen, Eds., Methuen, New York, 1986), Annals of the Association of American Geographers, Vol. 77, No. 2: 297-99.

## **An Analysis Of Industrial Geography Research In India**

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- Damodaran, Harish and Singh, Harvir (2007): Sugar Industry in Uttar Pradesh: Rise, Decline and Revival, Economic and Political Weekly, Vol.42 (9): 3952-3957.
- Das, H.C.L. (2001): Impact of Liberalization on Industrial Development in India, in Industrialization: New Challenges (ed. Batra, G.S. and Dangwal, R.C.), Deep and Deep Publications Pvt. Ltd., New Delhi.
- Dayal, P. (1958): The Location and Development of the Aluminium Industry in India, NGSI, Vol. 4(2): 67-78.