

India's Infrastructure Development and Korea-India Cooperation

Jeong Gon Kim Research Fellow, Sustainable Development Research Team, Center for International Development Research (jgkim@kiep.go.kr)

I. Introduction

Infrastructure is an important area when it comes to expanding cooperation between Korea and India. With the Indian government continuing to expand its investment in infrastructure, India's market potential is high. The projected scale of infrastructure investment in India between 2024 and 2040 is estimated at approximately \$2.94 trillion. The actual investment requirement for the same period is forecast at \$3.35 trillion, indicating an anticipated investment gap of around \$404.5 billion. Converted to an annual basis, India's infrastructure market will average approximately \$173.1 to \$224.9 billion per year from 2024 to 2040, making it the second largest in Asia after China.¹ Infrastructure development is also an important factor in supporting Korean companies as a partner to foster India's manufacturing industries, which is what India needs

most at the moment. For instance, infrastructure development such as ports centered around manufacturing bases is an important consideration that must be taken into account alongside Korean companies' entry into the Indian market. Moreover, the participation of Korea in infrastructure projects is an effective way to enhance its national image in India.

However, cooperation between Korea and India in the infrastructure sector remains minimal. Korea's infrastructure contracts in India peaked at approximately \$900 million in 2018, subsequently falling below \$500 million annually from 2019 to 2023. In 2023, it stood at approximately \$487 million, accounting for merely 1.5% of the total Asian contracts secured that year (approx. \$6.79 billion).²

Korea's ODA to India is also in its initial stages. In accordance with India's decision to

Service.

¹ Global Infrastructure Hub.

² Korea Overseas Construction Integrated Information

accept ODA from non-G7 countries to expand infrastructure investment, South Korea formalized its ODA to India in 2017. South Korea's ODA to India amounted to approximately \$1.6 million in 2021. As of 2024, the South Korean government is currently implementing six grant and loan assistance projects in India. The cumulative ODA scale to India over the five years of 2018–2022 stands at approximately \$29.3 billion. Of this, Japan contributed around \$17.4 billion, Germany approximately \$7.4 billion, and the EU and France each around \$1.4 billion.³ It can thus be assessed that Korea's share has been minimal so far.

Against this background, this report aims to contribute to expanding Korea-India infrastructure cooperation, especially with a focus on development cooperation.

II. India's Infrastructure Development Plan

The Indian government recognizes infrastructure as a key driver of economic growth and is promoting a comprehensive infrastructure policy centered on the National Industrial Corridor Development Programme. Infrastructure development in India is important for promoting the growth of manufacturing, securing national connectivity, stabilizing water resources, and diversifying energy sources, ultimately

leading to an improvement in national income and a reduction in income inequality.

The third Modi administration maintains policy continuity by allocating 11 trillion rupees, equivalent to 3.4% of GDP, to the infrastructure sector in the 2024/25 budget.⁴ The Indian government is actively promoting private and foreign investment through a trinity structure consisting of PM Gati Shakti, the National Infrastructure Pipeline (NIP), and the National Monetisation Plan (NMP). This is evident in the state-level infrastructure development plans, with roads, railways, ports, energy transition, power supply, and water resources/management at the core of their development plans.

India's economy is driven primarily by the service sector and agriculture, with manufacturing still accounting for a relatively low proportion. The current Indian government is pursuing a manufacturing-led growth policy spearheaded by “Make in India,” and the growth of manufacturing is expected to be a significant factor influencing the sustained growth of the Indian economy going forward. As illustrated below, India's per capita income by state exhibits a negative correlation with the share of primary industry and shows little correlation with the share of tertiary industry. However, it demonstrates a positive correlation with the share of secondary industry. This suggests that manufacturing growth is likely to be significantly linked to increases in India's

³ OECD. Official development assistance (ODA).

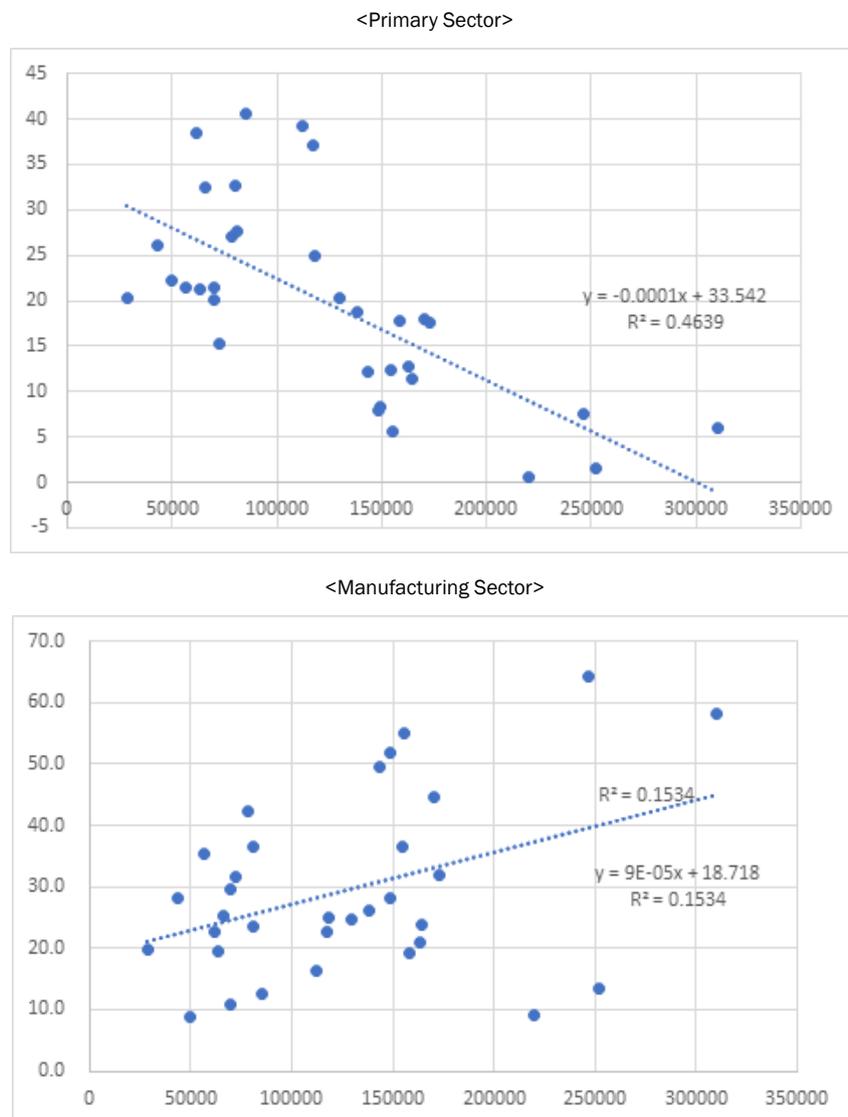
⁴ Ministry of Finance (2024.7.23.) “SUMMARY OF THE

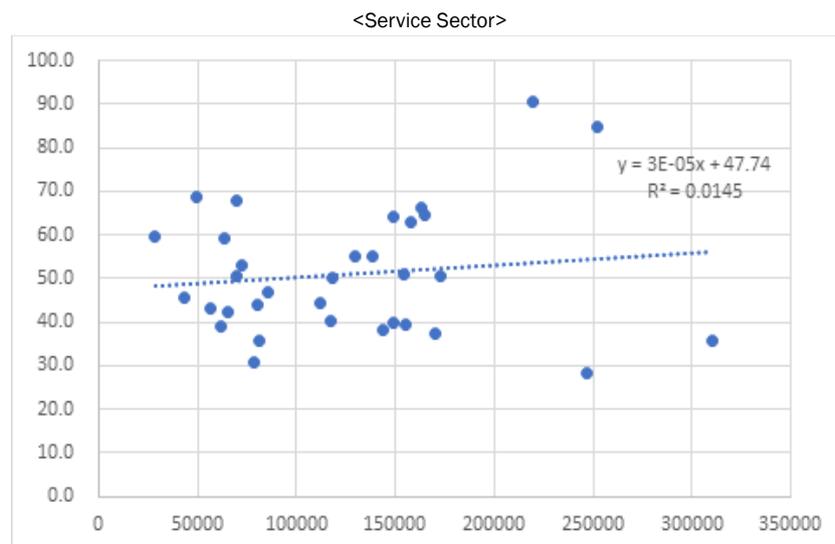
UNION BUDGET 2024-2025”

per capita national income. That is, it suggests that manufacturing growth is highly likely to create quality jobs with relatively high wage levels. Furthermore, it is reasonable to conclude that per capita income across India's regions will vary according to industrial structure. It can also be surmised that enhancing productivity in the primary sector (agriculture and fisheries) represents a crucial challenge

for India's economic growth. In short, infrastructure development holds significant importance for ultimately enhancing national income and mitigating inter-regional income disparities by promoting manufacturing growth, securing connectivity for rural and fishing village infrastructure, stabilizing water resources, and diversifying energy sources.

Figure 1. The correlation between per capita income (2023) and industrial share by Indian state





Source: Reserve Bank of India. HANDBOOK OF STATISTICS ON INDIAN STATES (real GDP per capita), Ministry of Statistics and Programme Implementation. GSVa/NSVA by economic activities (share of Industry)

Against this backdrop, India's industrialization demands, centered on manufacturing, are likely to constitute a major part of Korea's infrastructure cooperation with India. South Korea should consider prioritizing its ODA funds for India towards projects that align with mutual interests, particularly those centered on manufacturing growth. Furthermore, as India's infrastructure development significantly involves mitigating regional economic disparities through urban development and enhancing connectivity between urban and rural/fishing communities, both the South Korean government and businesses need to pay attention to this aspect.

III. India's Infrastructure Investment

To meet the rapidly expanding demand for infrastructure investment year on year, it is essential to mobilize private capital or ODA funds.

Until recently, the Indian federal government and state governments have respectively provided 49% and 29% of infrastructure investment funding (based on fiscal years 2018/19 to 2022/23). To address the growing infrastructure demand, the Indian federal government operates the “India Investment Grid” (IIG). This platform provides real-time investment opportunities in India to potential global investors, aiming to enhance the Ease of Doing Business domestically and secure infrastructure investment funding. We analyze India's infrastructure investment landscape and assess investment demand by utilizing information on infrastructure investment projects registered on this platform as of July 2024.

As of July 2024, a total of 14,923 investment projects are underway, with 10,357 projects in major infrastructure sectors such as transportation, telecommunications, electricity, industrial

complex public infrastructure, and water resources. By sector, the largest number of projects, 5,560, are concentrated in the transportation sector, followed by 3,110 in the water sector, 1,117 in the power sector, and 531 projects in industrial complexes.

In India, there are currently about 1,000 major infrastructure projects in the planning stage. Uttar Pradesh has many projects in the railway sector, while Maharashtra is planning projects centered in railway and logistics infrastructure, and water and environmental management. Gujarat is now focusing on water and environmental management. In West Bengal, 149 projects are in the planning stage for the road sector

alone, and there are many plans in the railway, urban public transport, power generation, industrial complex, and water and environmental management sectors. Rajasthan is focusing on railway and power projects, and Haryana has many railway projects. In Tamil Nadu, there are projects planned, especially in the aviation, urban public transport, power generation, industrial complex, and water management sectors. In Andhra Pradesh, many projects are planned in the sectors of roads, railways, urban public transport, industrial complexes, and water resources. Karnataka has major projects in the sectors of roads and water resources management.

Table 1. Infrastructure Demand by State in India

(Unit: number)

State	Total	Transport						Telecommunications	Electricity		Industrial complexes	Water	
		Roads	Railways	Aviation	Ports	Logistics	Urban Transport		Power generation	Transmission and distribution		Water resources management	Water environment management
Uttar Pradesh	35	21	8	2	0	0	0	0	0	3	0	1	
Maharashtra	28	0	11	0	0	5	0	0	1	2	1	8	
Gujarat	24	5	2	0	1	0	1	0	0	3	0	12	
West Bengal	197	149	7	0	0	1	9	0	6	0	11	9	
Rajasthan	34	9	9	1	0	0	1	0	6	1	2	4	
Delhi	1	0	0	0	0	0	1	0	0	0	0	0	
Haryana	11	4	6	0	0	0	0	0	0	0	1	0	
Tamil Nadu	95	16	8	5	0	0	10	0	12	1	21	9	
Andhra Pradesh	119	46	10	2	0	2	10	1	1	2	28	7	
Karnataka	59	38	1	0	0	1	1	0	0	1	1	0	
Total	603	288	62	10	1	9	33	1	26	10	68	50	

Source: India Investment Grid (accessed on July 8, 2024)

IV. Policy Recommendations for Korea-India Infrastructure Cooperation

As a latecomer in development cooperation with India, Korea's ODA for India's infrastructure needs to be carried out in consideration of India's strategic importance as a market as well as production base. In particular, the EDCF should be prioritized to promote Korea's investment in India. However, rather than pursuing infrastructure projects in India from the perspective of short-term profits, Korea should make diverse project portfolios that meet the needs of India, aiming to build a relationship of trust between the two countries.

Korean companies have shown strong performance in industrial facilities such as thermal power plants, oil refineries, and chemical plants. They positively evaluate India's high growth potential and show strong potential for high-value projects such as high-speed railways, sea bridges, and port development, etc. Korean companies cited India's complex administrative procedures and strong competition as major constraints. They are keenly aware of the need to mitigate administrative risks and secure financing in India.⁵

When identifying infrastructure projects in India, it is necessary to find some states to cooperate with and to keep in close contact with them. The areas that have been prominent in India's recent infrastructure development plans

are roads, railways (including metros), ports, energy conversion and power supply, and water resources/water management; they are reflected in infrastructure projects that are underway or planned. It is necessary to proactively present to India the areas where Korea has a technological advantage, centering on the areas mentioned above.

In addition to the financial scale, the “plus” factors such as knowledge sharing and technical cooperation are important in the ODA for India. In other words, it is necessary to discover a package project that covers consulting for development, program loans for policy development, construction projects, technical cooperation, etc. To promote such comprehensive projects, the Korean government needs to combine the ODA tools of each ministry into a single project.

Korea must work to enhance India's understanding of Korea's technological competitiveness in the infrastructure sector. It is necessary to invite India's top-level decision makers such as the state prime minister and high-level officials to conduct workshops and field trips. In addition, partnerships should be promoted between the Union government or state-level institutions of India and Korean institutions in key areas, which will promote understanding of India's needs and secure local partners.

Efforts should be made to participate in projects from the planning stage. This will reduce

⁵ This is the result of a survey and interviews with 25 companies registered with the Korea Overseas Construction

Association as of March 2024, which are participating in construction projects in India.

the risk of projects and contribute to the discovery of projects in which the interests of both countries match. In addition, more sector experts should be dispatched to identify the development intentions of India's state government, and to match Korean companies that have relevant technologies. In this process, these experts can play a leading role in arranging meetings between Indian government officials and Korean institutions and companies.

The Korean government and related organizations' support for companies operating in India is another necessary element. Government-

wide cooperation is essential to discuss the demand for infrastructure cooperation between Korea and India. This is because infrastructure cooperation demand is often linked to industrial cooperation, and there are differences in the areas of authority between the two governments. Also, relevant institutions or organizations need to systematically and continuously provide companies with information on India's legal system, taxation, financing, etc. and training of local market experts. Korean companies stress the need to establish local support centers which can provide networks to help with possible administrative and legal issues. **KIEP**