

INDIA'S PHYSICAL INFRASTRUCTURE: OVERVIEW

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ABSTRACT

India is one of the fastest growing economies in the world and has become one of the most attractive investment destinations in the world. Infrastructure plays important role in the country's growth and development. It is key stone for healthy economy. In India, it contributes as the 2nd largest economic activity after agriculture. Indian infrastructure sector mainly includes roads, railways, airports, water connectivity, waste management, ports, irrigation, urban infrastructure etc. Roads and power tops the list. According to study conducted by Infrastructure Development Finance Corporation infrastructure contributes about eight percentage of Gross Domestic Product. The percentage are going to touch ten in the upcoming years. A report by consulting company McKinsey in 2013 said the infrastructure investment up to one percentage of Gross Domestic Product could create additional 3.4 million direct, indirect jobs in India. In this paper we are trying to put an overview of infrastructure in India. This brief study will guide new construction professional who are willing to come in this industry.

Keywords: Infrastructure, Construction, Gross Domestic Product.

I. INTRODUCTION

Construction industry is the largest sector in India after agriculture. It is one of the largest contributors to the economic growth of India. Employing 40 million plus people, moreover it is the second-largest employer in the country. In addition to that, the Union Budget 2020, has put the focus on infrastructure for economic development. Additionally, the growth of the industry count on some factors such as an increasing population, rapid urbanisation, and a rise of disposable income. This have put construction sector in a beneficial position up till now and in the incoming decades. Also, the demand for housing, development projects, etc. is just going on increasing. It is also forecasted that India will become the third largest construction market up to the year 2025. Similarly, it is expected that in 2022, the construction industry will reach the Compound Annual Growth Rate of 15.7 %. The undergoing project to develop smart cities have also pushed magnitude of this sector. In current situation, the construction sector contributes 8 % to India's Gross Domestic Product.

The Indian Government encouraged to launch a national infrastructure pipeline for 2020-2025 to promote global infrastructure projects. The first of this first initiative will increase the economy and create employment opportunities and requires the competitiveness of the Indian economy. Supports funds jointly by the central government, state and private sectors. In 2020-2025, it was published as an investment in the infrastructure in the 111 lakh Cr. (\$ 1.5 billion). The same fields such as energy, roads, urban infrastructures and railways are key actions of the national infrastructure pipeline.

In India, private investment in infrastructure is mainly in the form of public-private partnerships (PPPs). PPP helps to close the infrastructure gap and improve the efficiency of infrastructure service delivery.

The Indian Government has established a Public-Private Partnership Review Committee (PPPRC) responsible for evaluating PPP projects in the central sector. In fiscal year 20, PPPRC proposed 5 projects with a total project cost of 4,321 crore. Of these 5 projects, there are 4 projects in the railway sector (passenger ship project) and 1 project in the port sector. In FY21, PPPRC proposed 7 projects with a total project cost of 66,600.59 crore. Out of these 7 projects, 1 project is in the telecommunications sector, 3 projects are in the railway sector (2 projects for redevelopment of the railway station), 2 are MHA sector projects (Eco-tourism projects) and 1 is port sector project. [2]

1. Definition of Infrastructure: In India, there is no uniform definition of the term because different organizations are used in "infrastructure" to include different sectors or industries or fields. To achieve a unified definition, the Infrastructure Cabinet Committee approved the framework on March 1, 2012 to use a unified master list of infrastructure sub-sectors. For research purposes, we will roughly divide this sector, as shown in Figure 1 below.[1]



Figure1: Broad sub structure of infrastructure in India

Roads and Highways

“India drives on roads, be it passenger or freight transport, road transport is the main mode of transportation in the country. The transportation sector represented approximately 4.6% of the total value added in fiscal year 2019, of which road transportation represented approximately 67%. The road network is the backbone of India's transportation system, it is well integrated with the multimodal transportation system, and provides important links to airports, railway stations, ports, and other logistics hubs. India has 63.86 lakh kilometers of urban and rural roads and national highways, second only to the United States of America, which has 66.45 lakh kilometers of road network. With the active political initiatives of the department, the country's road network has continued to expand. During the six-year period from fiscal 2015 to fiscal 2020, total investment in the highway and highway sector more than tripled, also leading to an increase in interstate road density”[2]

Railways

Indian Railways (IR) has more than 67,580 km of lines and is the third largest network in the world managed by a single unit. In fiscal year 2020, IR carried 1.2 billion tonnes of cargo and 8.1 billion passengers, making it the world's largest passenger airline and the fourth-largest cargo airline in the world. IR strives to provide a safe, efficient and competitive mode of transport by applying technological changes, including the development of specific local signaling systems to avoid ship collisions and enable real-time ship management. Maintain standards of cleanliness with the Atamnirbhar Bharat mission and under the leadership of Swachh Bharat Abhiyan. IR's freight revenue (excluding Kangkang Rail Transport) in FY20 was 12.084 billion tonnes, down 1.1% from 2019. Passenger traffic in fiscal year 2020 was 80.857 billion tonnes, an increase of (-) 4.2% compared to fiscal year 2019. IR prioritizes safety and continues to take several measures to prevent accidents and improve safety. So, although rail traffic in India has increased significantly over the same period, the number of train accidents has decreased from 104 in 2017 to 55 in 2020.[2]

Ports

Ports and the maritime sector are the backbone of international freight and services. This not only facilitates international trade, but also reduces international shipping costs and port waiting times. In India, about 95% (68%) of the total volume (value) of international trade is transported by sea. India is blessed with a rich coastline approximately 7,500 km long and strategically located on major international maritime trade routes. To harness and harness the potential benefits of maritime waterways, Indian Government embarked on the ambitious Sagarmala program to accelerate port-led development in the country and reduce logistics costs for trade. The Sagarmala Program has identified 500 projects under four pillars - 211 port modernization projects, 200 port connectivity projects, 32 port-driven industrialization projects, and 62 openable coastal community development projects. port development opportunities and is expected to mobilize more than 3.59 lakh crores of infrastructure investment. From July 2019 to October 2020, 37 Sagarmala projects worth 8,461 crores were completed, including 17 port modernization projects worth 2,721 crore, 14 port connectivity projects worth 5,372 crore and 6 368 crore coastal community development project.[2]

Airports

The Indian aviation market is one of the most dynamic in the world. India's domestic traffic has more than doubled from around 61 million people in FY14 to around 137 million in FY20, a growth of over 14% per year. From the third largest domestic aviation market, it is expected to become the third largest aviation market (including domestic and international traffic) by fiscal year 25. Despite the serious challenges posed by Covid-19, the Indian aviation industry has persevered through the crisis and has demonstrated long term resilience and a commitment to full service. The Vande Bharat mission was launched on May 7, 2020 to evacuate stranded Indians across the world. As a result, it reported more than 30,00,000 passenger arrivals on December 13, 2020, including more than 27,00,000 facilitated by charter flights and the Air India group, making it the largest evacuation mission in the United States. history of mankind. Airlines have taken the lead in transporting essential life supplies to the most remote areas of India as part of the Lifeline Udan initiative and also in the ongoing management of the import of essential medical supplies. Figures shows that air freight is starting to recover and returns to normal with the resumption of economic activity.[2]

Telecommunication

“Telecommunications sector plays an important role in the implementation of social sector programs based on JAM-trinity (Jandhan Aadhar Mobile) and other initiatives for the development of Indian Government. The sector is recognized worldwide as a powerful tool for development and poverty alleviation. Indian Government has focused on broadband for all as part of its Digital India campaign. Efforts are being made to bridge the digital divide by expanding inclusive internet access to all Indian citizens. The details of the user and its distribution are summarized. Cordless telephones represent 98.3% of total subscriptions while the market share of fixed telephones currently represents only 1.7%. The overall telework rate in India was 86.6% at the end of November 2020, while the telecommunication frequency in rural and urban areas was 59.1% and 139.0% respectively. Internet and broadband have entered urban and rural areas at a rapid rate. The number of Internet subscribers (both broadband and low speed combined) reached 776.45 million at the end of September 2020, up from 636.73 million in March 2019. Wireless data usage has increased exponentially, multiplied in calendar year 2019 and reached 76.47 Exabytes. From January to September 2020, it reached 75.21 Exabytes. Average wireless data usage per subscriber per month increased from 9.1 GB in March 2019 to 12.2 GB in June 2020. Reduced data costs can enable fast Internet access. As of June 2020, wireless data costs `` 10.55 per GB”[2]

Power

Electricity is needed to power economic activity and is also needed for recreation. The power sector has undergone a significant transformation both on the demand side (global electrification) and on the supply side (the introduction of green energy). Remarkable progress has been made in the generation and transmission of electricity in India. Total installed capacity increased from 3,56,100 MW in March 2019 to 3,70,106 MW in March 2020. In addition, generating capacity increased to 3,73,436 MW in October 2020 and included 2,31,321 MW of hydroelectricity, 6,780 MW of nuclear and 89,636 MW of renewable and other energy. The capacity increase in the electricity sector was mainly driven by the government in FY20. The lower energy deficit can be partly attributed to improved energy efficiency and improved energy intensity in India. Energy intensity is defined as the amount of energy required to produce one unit of output. So, it is better to reduce the energy intensity. India's energy intensity (in 2011-2012 prices) has increased from 65.6 to per cr. rupees in FY 2012 to 55.43 to per cr. rupees in FY19. At the same time, per capita consumption increased from 0.47 billion in FY12 to 0.58 billion in FY19.[2]

II. LEGAL FRAMEWORK

Although the importance of infrastructure for economic development has been well documented in all countries\regions, as was the case in India, the Indian government finds that there is a shortage of the availability of physical infrastructure in various sectors is significant and it hinders economic development (Government of India, 2009). Sectors such as telecommunications and airports are transforming, while areas such as road networks are modernizing and expanding. However, inefficient electricity distribution, less transparent charcoal production and slow land acquisition remain major obstacles to infrastructure benefit.[3]

The national highway is governed by the National Highways Act 1956 and the National Highways Administration Act of India, 1988. Functions related to the development, maintenance and management of the national highways are carried out by the National Highways Authority of India.

Ports are governed by the Major Ports Trust Act, 1963 and its amendments. Up to 100% foreign direct investment is allowed. Tax exemption for the first 5 years, then a 30% reduction in income for the next 5 years can be used within 12 years from the time the project is put into use.

The Government Policy on Airport Infrastructure, 1997 deals with the preparation of detailed master plans for the development and modernization of all airports selected by the operating organization in accordance with the standards and recommended practices of the International Civil Aviation Organization. Greenfield Airport projects may be licensed in the public or private sector or as a joint venture without prior government approval. However, for other airport assets operated by individuals, the approval of the Director General of the Directorate General of Civil Aviation (DGAC) must be obtained.

India has taken radical steps to restructure its power sector. The entire legal framework governing this sector has undergone changes with the passage of the Electricity Law 2003 on June 10, 2003. The new law has replaced the existing laws, namely the Indian Electricity Law, 1910, Electricity (Supply) Act of 1948 and regulation of electricity. Commission Act, 1998. The law laid the groundwork for the rapid development of the electricity industry, promoting competition, fewer regulatory approvals, unified licensing for the distribution, transmission and trading of electricity, streamlining electricity tariffs, transparent policies on subsidies and provide a legal basis for restructuring state electricity boards.

III. FUTURE PERSPECTIVE

The challenges of the infrastructure sector are not unique to India. Uncertainty, the limited funding available for investment, and competing priorities pose challenges for all governments in planning and delivering infrastructure. Sustainability requires that future generations are not compromised by the investment decisions of current generations. The sustainable management of infrastructure through an appropriate pricing, financing and prioritization framework is crucial to ensure maximum benefits from the substantial investments India makes in important social and economic infrastructure. Global climate change creates even more challenges. New infrastructure must not only support economic and social objectives, but it must also operate within acceptable environmental parameters.

The government should focus on the availability of infrastructure in the economy both in quantity and quality. We must also popularize this sector in the economy. Significant public investment is needed to rejuvenate the infrastructure sector. Greater private sector involvement in infrastructure development is essential not only due to government constraints, but also to improve the quality of services and service delivery systems. Structural reforms in the infrastructure sector are needed to promote greater efficiency and sustainability by freeing them from bureaucratic control and excessive political speculation. Allows for policy changes related to withholding tax, streamlining retail tax, and tax treatment for investments in mega-power plants and unlisted stocks Integrate the infrastructure sector with other sectors of the economy. Attracting foreign investment in infrastructure and necessary steps to utilize foreign exchange reserves to accelerate capacity expansion of infrastructure projects in India.[4]

IV. CONCLUSION

1. Current pandemic situation has impacted infrastructure sector all over the world also India is not escape from that condition but now conditions are coming under control and India is trying to rejuvenate itself.
2. It is very important to countries like India to formulate national guidelines to regulate the infrastructure sector.
3. Comprehensive national policy plays main role in revival of infrastructure sector and it is such that its objectives, implementing procedure and scope should clearly defined.
4. It is today's need to liberalise bureaucratic and political interference in the infrastructure sector because all other sectors of economy is directly or indirectly depend on this sector.

V. REFERENCES

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