



## **Infrastructure Challenges in Rural India: Issues and its Solutions**

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DOI: <https://doi.org/10.55248/gengpi.234.4.37457>

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### **ABSTRACT**

Sound physical and social Infrastructure facilities are some of the deciding factors for economic growth and human development in a country. Thus, this study draws an analogy between the development of Infrastructure in remote, rural villages and Tier-III cities in high income states with those in other major Tier-I and Tier-II cities in the State and rest of India.

This study aims to find the shortcomings in physical Infrastructure in the cities of various states with a traceable physical and social Infrastructure Index and to notice the trend in State and Central Government spending in improving the living standards of the public in the State. The study also analyses whether the percentage of expenditure made of the total GDP makes any mark on the Fiscal Policy of the Nation.

Infrastructure may not be the sole indicator for economic growth, but it makes considerable impact on the long-term development of a nation. The said statement, thus, highlights the importance of a world-class Infrastructure for rapid growth and how it is indispensable to invest more for Infrastructure development.

**Keywords:** Tier-I, Tier-II, Tier-III cities, Physical Infrastructure, Social Infrastructure Index, GDP, Fiscal Policy, Government Expenditure, Economic Growth, World-Class Infrastructure.

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### **Introduction and Review of Literature**

In India, alleviation of poverty and provision of basic civic amenities to its population, especially those living in rural areas, have remained one of the most emphatic goals. Even the documents of the National Planning Committee, People's Plan and Bombay Plan prepared during the period prior to Independence, emphasizes the above objectives. The approach and agency for accelerating rural development, however, have varied across Plans. Despite their large scale of operations, the fact remained that state interventions never aimed at any basic structural changes in the agrarian society. The most important structural issue of land reforms, as it gradually vanished into thin air, remained the major hiatus in all the rural/ agrarian development efforts that the state attempted to achieve in so many different ways.

The regional concentration of poverty largely reflected the ownership of land. It is easy to assume that regions with people in poverty are also poor in ownership. Putting it differently, the problem therefore may not be so much of the rural-non rural divide as much as that of rich-poor. A lot of schemes that included massive interventions such as Integrated Rural Development Programme (IRDP), Minimum Needs Programme (MNP) and Public Distribution System (PDS), have generally failed.

Such failures have been contributed to serious defects in design, access and targeting. The scapegoat has been identified as 'poor implementation' -- a catch-all expression for corruption, leakages, bias, vested interests and power politics. Evaluations of schemes are carried out by the government; but beyond getting regular studies conducted through external agencies, little or no corrective measures, based on their recommendations have been pursued with immediate effect.

The importance of infrastructure in economic growth and development has attracted considerable attention in the literature. The importance of social overhead capital in economic development in general and agricultural development in particular has long been recognised (see, for example, Hirschman, 1958; Mellor, 1976; Rosenstein-Rodan, 1943; Rostow, 1960; Wharton, 1967). 258 Margin—The Journal of Applied Economic Research 11 : 3 (2017): 256–289 Infrastructure accelerates economic growth by raising productivity and lowering production costs. Criticising the existing growth theories for not explicitly considering infrastructure as an input in production function, and exploring the mechanisms through which infrastructure can influence economic growth, Carlsson, Otto and Hall (2013) demonstrate the importance of transport and digital communications infrastructure in economic growth by reducing the cost of trade, facilitating economies of scale and accumulation of knowledge.

The role of infrastructure in overall economic growth and development in India has been extensively examined in the literature. States with better infrastructure facilities are more attractive for domestic and foreign private investment, and perform better in terms of economic growth. Disparities in per capita income across states have been attributed to inter-state disparities in physical, social and financial infrastructures (see, for example, Ghosh,

2012; Ghosh & De, 1998, 2004; Lall, 1999). Sahoo and Dash (2009, 2012) and Dash and Sahoo (2010) report that physical and social infrastructures have played an important role in economic growth in India and some other South Asian countries, such as Bangladesh, Pakistan and Sri Lanka.

They observe a unidirectional causality running from infrastructure development to output growth. Chatterjee (2005), Demurger (2001), Sahoo, Dash and Nataraj (2010) and Stephane, Vellutin and Warlters (2007) explain China's high economic growth and regional disparities in terms of infrastructure. Like general infrastructure, rural infrastructure also contributes to rural economic growth and poverty alleviation by enhancing agricultural productivity, increasing rural farm and non-farm employment and improving living standard of the rural population. It is argued that 'Roads, electricity supplies, telecommunications, and other infrastructure services are limited in all rural areas, although they are of key importance to stimulate agricultural investment and growth' (FAO, 1996, Chapter 10, p. 15). It is also argued that human well-being in terms of education and health depends crucially on infrastructure services, such as safe drinking water and sanitation to prevent disease, electricity to serve schools and health centres and roads to access basic necessities for human life (Datt&Ravallion, 1998).

The lack of infrastructure is considered a major barrier to sustainable human development. An excellent and comprehensive overview of the various aspects of rural infrastructure in India is available in Satish (2007). Several studies (for example, Antle, 1984; Binswanger, Khandker& Rosenzweig, 1993; Fan & Hazell, 2000; Fan, Hazell & Haque, 1998, 2000; Mellor, 1976; World Bank, 1994) demonstrate the importance of infrastructure in agricultural and rural development. Infrastructure contributes to agricultural Margin—The Journal of Applied Economic Research 11 : 3 (2017): 256–289 Madhusudan Ghosh Infrastructure and Development in Rural India 259 growth by raising productivity, increasing farmers' access to input and output markets, increasing consumer demand in rural areas, stimulating rural farm and non-farm economy, accelerating the process of commercialisation in agriculture and the rural sector and in facilitating the integration of rural economies with the rest of the economy.

The importance of rural infrastructure in agricultural growth, rural development and poverty alleviation in India and China has been extensively examined by Fan and Hazell (1999), Fan et al.(1998, 2000), Fan, Hazell and Thorat (2000a, 2000b), Fan, Zhang and Zhang (2002) and Zhang and Fan (2000). The positive effects of rural infrastructure on rural development and poverty alleviation through expansion of markets, economies of scale, improvement in factor market operations and commercialisation in agriculture and rural sector have been reported in several studies (see, for example, Binswanger et al., 1993; Howe & Richards, 1984; Jacoby, 1998; Jahan & McCleery, 2005; Lebo& Schelling, 2001). A number of studies (for example, Ellis & Nyasulu, 2003; Jayaraman & Lanjouw, 1998; Lanjouw, Quizon& Sparrow, 2001; Reardon, Berdegue& Escobar, 2001; Zimmerman & Carter, 2003) investigate how a greater investment in infrastructure enhances agricultural productivity and improves the living standard of rural households through diversification of activities in rural areas. Bhatia (1999) has reported a strong positive relationship between the rural infrastructure index (including rural electrification, roads, transport, health, irrigation, farm credit, fertiliser, agricultural marketing, research and extension) and food grain productivity per hectare in India.

Higher agricultural production and productivity reduce rural poverty through trickledown effects. Rural households gain better access to health care, education and credit facilities through improved road and transport facilities. Better road connectivity invariably improves rural–urban linkages, and strengthens backward and forward linkages in the farm sector. This also opens up avenues for employment outside the village, improving the living conditions of the poor. Empirical evidences from other countries also demonstrate the importance of infrastructure in rural development (see, for example, Estache&Wodon, 2014; Fan & Zhang, 2004; Li & Liu, 2009; Yamauchi, 2016).

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### **Objective of the study**

A recent study by NABARD found that in six states, Punjab, Madhya Pradesh, Gujarat, Uttar Pradesh, Bihar, and Odisha, 3 factors explained most of the economic growth, (i) access to infrastructure including irrigation, roads, and uninterrupted electricity (ii) diversification to high value agricultural activities like Horticulture and Dairy (iii) price incentives or favourable terms of trade. This study advocates the need to bring sound infrastructure facilities to rural India so as to enable economic development in poor rural regions.

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### **Methodology**

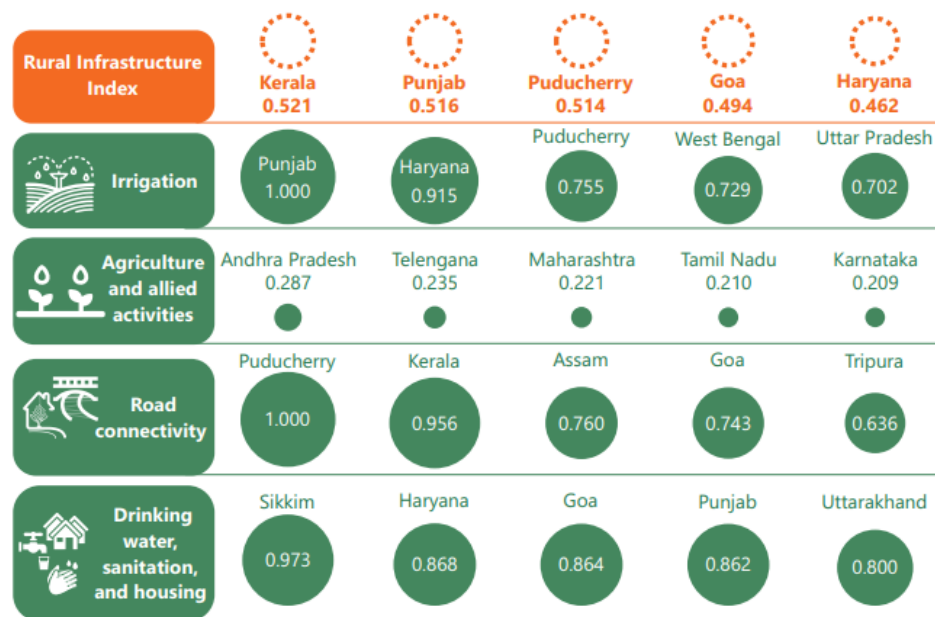
This research article was written by referring various research journals published by eminent economists and researchers, news articles and reports published by the Government of India, NABARD and Reserve Bank of India.

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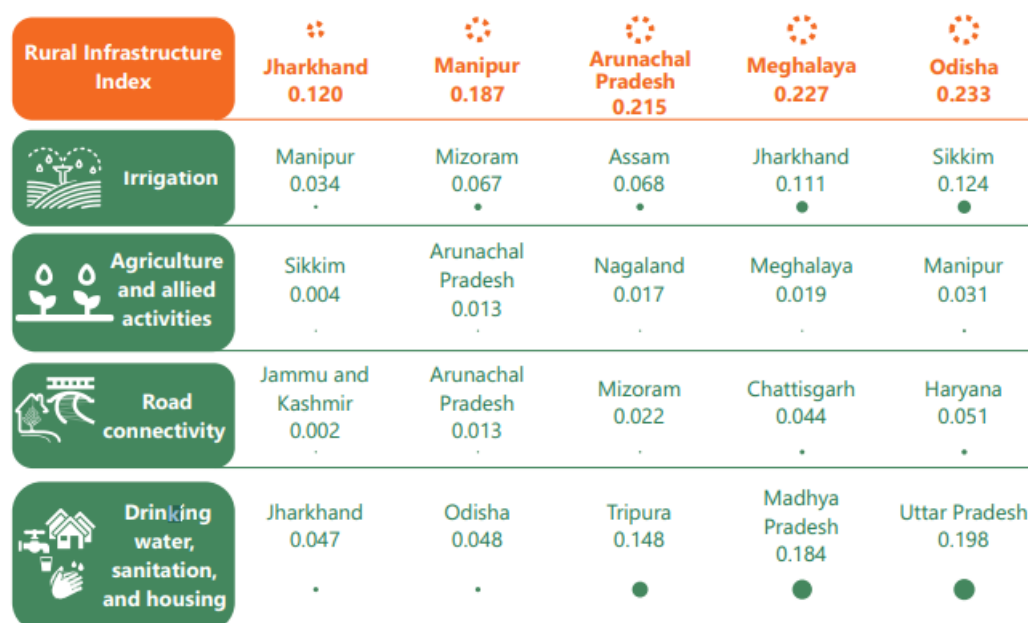
### **Analysis**

A state-wise Rural Infrastructure Index (RII) constructed by the Economic and Political Weekly Research Foundation shows Jharkhand, Manipur, Arunachal Pradesh, Meghalaya, Odisha, Chhattisgarh, Madhya Pradesh, Bihar and Uttar Pradesh as states with low RII. It is, therefore, imperative to accord high priority to these states in terms of access to financial resources for creation of rural infrastructure.

## A. Best performers



## B. Worst performers



Source: Dennis J. Rajakumar, Vijayata B. Sawant, and S.L. Shetty (2020), Construction of State-wise Rural Infrastructure Indices, Economic and Political Weekly Research Foundation, Mumbai (sponsored by NABARD).

About 49% of the net sown area in the country is irrigated at present though growth of net irrigated area is. The total length of rural roads in the country has increased more than 20 times from 0.2 million km in FY1951 to 4.2 million km in FY2017-18. Major government initiatives like the **Mahatma Gandhi National Rural Employment Guarantee Scheme**, **AatmaNirbhar Bharat**, **Pradhan Mantri Awaas Yojana– Gramin (PMAY–G)**, **Pradhan Mantri Gram Sadak Yojana (PMGSY)**, **SP Mukherjee Rurban Mission**, **Swachh Bharat Mission–Gramin (SBM–G)**, **Jal Jeevan Mission**, **Pradhan Mantri KisanSampada Yojana**, **DeenDayalUpadhyay Gram Jyoti Yojana**, and **Pradhan Mantri Sahaj Bijli Har Ghar Yojana–Saubhagya** package, all focused on infrastructure in all major economic sectors.

The report of the National Infrastructure Pipeline has identified challenges faced by major rural infrastructure development programmes in India, It has also recommended measures to address these challenges mentioned in the table.

<i>Sector</i>	<i>Challenges</i>	<i>Suggested measures</i>
Rural housing 'Housing for All by 2022'	Land scarcity; inadequate financing; and legal constraints	Efficient land usage; easy access to finance and innovative financing mechanism; and setting up an affordable housing fund in the National Housing Bank
Roads	Poor condition of rural road network	To follow Rural Roads Maintenance Policy prepared by the National Rural Infrastructure Development Agency and International Labour Organization
Water supply and sanitation	Poor delivery	Decentralised service delivery model with key role to Gram Panchayats and local communities

Poor quality of infrastructure is a major cause of economic inefficiency. Uniform regulation and performance standards and social and environmental sustainability would help strengthen infrastructure quality.

The key sources for financing India's rural infrastructure are:

Union budgetary resources: Capital expenditure exceeding 15,000 cr through prominent centrally sponsored and central sector schemes between FY2018 and FY2022 for rural infrastructure development,

Budgets of states: Nearly 5.1 lakh cr in capital expenditure on irrigation, storage, warehousing, other agriculture, and allied sector infrastructure by 18 major states between FY2017 and FY2021.

Public-private partnerships: In 24 states, warehousing facilities are being built via private participation alongside Central Warehousing Corporation and state-specific warehousing corporations.

Pension and insurance funds: These long-term, low risk-return stable funds have expressed interest in financing infrastructure projects around the world.

National Bank for Financing Infrastructure and Development (NaBFID): The NaBFID is envisioned as a DFI to support the development of long-term, non-recourse infrastructure financing in India, including the development of the prerequisite bonds and derivatives markets.

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## Findings

Investment in rural infrastructure to build rural India may include the following:

- Increasing investment in rural connectivity (including roads, bridges, and digital infrastructure) by the GOI, state governments, NABARD, and the corporate sector.
- Preparing a roadmap for investments in solar and wind energy across rural India to achieve net-zero emissions
- Ensuring climate- and disaster-resilience of new and existing infrastructure to minimise losses due to extreme events
- Developing high-quality infrastructure to boost regional economic development, reduce poverty and income inequality, and improve quality of life.

- Financing rural infrastructure through increased central and state budgetary allocations, mobilisation of extra-budgetary resources, and financing under RIDF and NIDA by NABARD, as also NaBFID, VGF, PPP, asset monetisation, take-out financing, and pension and insurance funds.

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## Conclusion

Creating new and upgrading existing rural infrastructure will be key to reviving the rural economy, creating efficiency gains, and improving competitiveness. This can help kick in a virtuous cycle of higher investments, growth, and employment generation in the economy. This could enable the achievement of a \$5 trillion economy and a \$1 trillion rural economy by FY2025 and the SDGs by 2030.

*“We consider infrastructure development as the driving force of the economy; India will achieve the target of becoming a developed nation by 2047 by following this path,”*

-Prime Minister Shri Narendra Modi

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