



PMGSY, RURAL ROADS PROJECT IN INDIA

The Pradhan Mantri Gram Sadak Yojana (PMGSY) programme contributed to India's efforts to achieve the United Nations' Sustainable Development Goals (SDGs). The economic and social impacts of PMGSY have been significant and substantial for enabling the stakeholders in terms of better opportunities and sustainable development in India.

A World Bank study on the socio-economic impacts of PMGSY (2021) has documented the following (i) PMGSY improved accessibility, particularly in hilly areas, as a result of which people in hilly areas made more trips to work per week; (ii) PMGSY enhanced the access to economic opportunities which triggered a shift in the structure of employment in rural India from farm to non-farm employment, particularly non-farm employment outside the habitation; (iii) PMGSY improved farm-to-farm connectivity, with PMGSY roads yielding an eight percent increment in the share of crops transported to markets for sale, a tripling over levels was observed before the PMGSY roads were built and (iv) PMGSY roads had a significant positive impact on human capital formation in rural India, with equal benefits to the boys and girls.

Relevance of the Project

The World Bank's Systematic Country Diagnostic (SCD) for India 2018 had identified improving connectivity as a priority area which considered improving rural connectivity to be a very important aspect for giving the people better opportunities and sustainable development. It was believed that adequate all-weather rural connectivity could lead to improvement in educational and health outcomes, more occupational choices, foster female entrepreneurship, higher incomes, and also lead to improved connectivity of villages to markets, schools, and hospitals. To realise these objectives, it was imperative to work with states so as to build robust maintenance policies and dedicated funds for maintenance. The 2018-22 vision laid out by NITI Aayog, the policy think-tank of the Government of India ("Strategy for New India@75", November 2018) has recognized the PMGSY Program's efforts at accelerating the pace of connecting habitations and stressed the importance of transforming the economy in rural areas which is integrated through the creation of modern rural infrastructure and resilient value chain system.

Achievement of the Objectives / Outcomes

A World Bank study as well as several research studies undertaken on the socio-economic impacts of PMGSY have documented the following:

Efficacy: The strengthening of the systems and processes of the program for the expansion and maintenance of all - season rural access roads, resulted in enhanced road connectivity, and improvement in economic opportunities and social services sector for the beneficiaries in the participating states.

Enhancement of Road Connectivity: The Project increased the proportion of the rural population with better connectivity to all-season roads.

Strengthening of systems and processes of the program for the expansion and maintenance of all-season rural access roads: The project supported the national and state- level systems of PMGSY. This led to the expansion and maintenance of all-season rural road access through the strengthening of institutions, which targeted the improvement of the program's policies, institutions, systems, and implementation mechanisms.

Prioritising the use of green designs which are climate resilient along with new technologies: Green and climate resilient designs" were achieved by constructing / rehabilitating roads using "Environmentally- optimized Design Guidelines. (Adopted by The National Rural Roads Development Agency, NRRDA),

Improved asset management: Technical assistance under the project helped 19 states in India to establish road maintenance policies, and to prepare a generic framework for developing similar Asset Management Plans (AMPs).

Effectiveness of Public Expenditure: The project supported the overall governance for rural roads delivery by: i) establishing an inventory database; ii) operationalizing & capacitating Geographic Information System (GIS) Cells in States; iii) improving road safety management; iv) improving project management.

Improved Institutional Effectiveness: The project supported the training of Government officials, by enhancing gender-based capacities, and the development of an effective citizen feedback mechanism.

Road Safety Management: The project incorporated road safety engineering measures in the designs of rural roads. A road safety manual was issued for the use of rural road engineers.



Environmental and Social Aspects: The Environmental and Social Management Framework (ESMF) and the Environmental Codes of Practice (ECOPs) developed under the Project have been mainstreamed in the design and construction of both project roads and other PMGSY roads.

Strengthening Programme Management: Key and central program documents and tools were developed / improved, including the Detailed Project Report (DPR) Manual; the Online Management, Monitoring and Accounting System (OMMAS); the e-procurement system; and Procurement & Contract Management Manual. These helped in mainstreaming the overall operations, technical design, quality control and accounting, and safeguard provisions in PMGSY.

Improved economic Opportunities and Social Services for Beneficiary Communities: Over the medium to long-term, improved rural connectivity led to improvement in economic opportunities and social services for beneficiary communities in the participating states. Multiple studies have shown that rural roads, in particular those under PMGSY, have had positive impacts not only on poverty alleviation, but also on many other socio-economic and human development indicators, and on almost all of the Sustainable Development Goals (SDGs). These studies observed growth in small industries and businesses, and even an incremental shift out of agriculture and into the non-farm labor sector. Some of the studies observed a trend towards urbanization in the immediate area where rural road connectivity improved.

Conclusion

Various studies were undertaken by eminent researchers with reference to the PMGSY. The findings of these studies are encapsulated as under:

Title of the Study	The Road to Opportunities in Rural India: The Economic and Social Impacts of PMGSY, Matias Herrera Dhape, Muneeza Mehmood Alam, and Luis Andres, Mobility and transport connectivity Series, The World Bank Group, 2021
Main Findings	<p>This report presented the results of an impact evaluation of PMGSY that uses a difference - in - difference approach and panel data from the states of Himachal Pradesh, Madhya Pradesh, and Rajasthan collected in 2009 and 2017. Key findings include:</p> <p>PMGSY improved accessibility, particularly in hilly areas. On an average, people travelled to their destinations, particularly work, in shorter time, thanks to improved connectivity, but they did not change the distance travelled. Reductions in travel time were greater in hilly areas.</p> <p>PMGSY increased access to economic opportunities, triggering a change in the structure of employment in rural India. The improved accessibility provided by PMGSY roads triggered a shift from farm to non- farm employment, particularly non-farm employment outside the habitation.</p> <p>PMGSY improved farm-to-market connectivity, but it had limited impact on farming practices. PMGSY roads yielded an eight-percent increase in the share of crops transported to markets for sale, a tripling over levels was observed before PMGSY roads were built.</p> <p>PMGSY roads had a positive impact on human capital formation in rural India, with boys and girls benefiting equally. Improved rural connectivity provided a long-term and sustained boost in the living standards of rural populations as it allowed various households to accumulate wealth and human capital. In the habitations studied, rural roads had a positive but small effect on the average wealth of households, equivalent to adding small appliances (like a pressure cooker and radio) to the household’s assets.</p>

Title of the Study	Rural Road Infrastructure & Agriculture Production: Evidence from India, Yogita Shamdasani, National University of Singapore (NUS), 2021
Main Findings	<p>This paper estimated the effects of improvements in infrastructure under a large rural road-building program on production decision in agriculture. Remote households that gain access to program roads diversify their crop portfolio, adopt modern agricultural technologies and increase hired- labor use.</p> <p>Supporting evidence suggests that program roads increased the mobility of agricultural workers by integrating village labor markets across space which in turn enabled the adoption of labor - intensive production practices, these findings highlight the importance of last- mile connectivity in remote areas across the developing world.</p> <p>This suggested that there are potential gains that can arise from coupling infrastructure projects with other commonly used policy instruments such as fertilizer and irrigation subsidies. Further, given that treatment effects are heterogeneous across space, the paper argued that spatial targeting should be made an important consideration when designing such policy interventions.</p> <p>Findings from the paper also demonstrated that gains accrued to agricultural household beyond the households targeted by the program, highlighting the importance of incorporating network effects in the design of transport policy.</p>
Title of the Study	Discussion paper on Rural Roads and the SDGs, Mr. S. Vijay Kumar, TERI, 2019
Main Findings	<p>This paper highlighted SDGs as an analytical framework to understand the role and potential of the rural road network. Rural roads and the complementary policies and strategies in fact have impacts not only on poverty, but on many other socio- economic and human development indicators, and almost all the SDGs.</p> <p>Most of the impacts are positive, and even those with negative consequences can be managed for reducing adverse impacts. The analysis in this Paper indicates that in the rural areas of India, not only those responsible for achieving each SDG leverage the potential of the road connectivity for the purpose at strategy and implementation stages, but also the authorities responsible for rural roads must make institutional, policy and management improvements to ensure that rural roads have the best potential for the purpose.</p> <p>This would require the creation of coordination mechanisms like “State Road and Transport Development Boards” and regulatory systems like a “Rural Roads Management Act”, as well as rational asset management strategies for the entire road network.</p>



Title of the Study	Market Access and Structural Transformation: Evidence from Rural Roads in India. Sam Asher, Paul Novosad, 2016.
Main Findings	<p>This paper highlighted that road construction leads to a large reallocation of labour out of agriculture and into (manual) labour markets. The results are strongest in locations close to large cities, where commuting and short-term migration are expected to be most profitable. Rather than facilitating growth of the non-farm sector in rural areas, road construction appears to facilitate the access of rural labour to external employment. These labour market outcomes are associated with a nearly ten percent increase in earnings.</p> <p>Findings of this paper suggested that the poor state of rural transportation infrastructure in developing countries must be taken seriously as a barrier to the efficient allocation of labour across space and sectors. The paper finds no such evidence of a rise in migration following road construction, lending credence to research proposing factors other than the state of rural transport infrastructure to explain India's low rates of rural-urban migration.</p> <p>This paper highlighted a growing literature on the linkages in labour markets across space and suggests that transportation infrastructure may be an important determinant of flows of capital and labour between rural and urban areas in developing countries.</p> <p>It provided evidence that workers can participate in non-agricultural labour markets without moving to cities when market access to urban areas is sufficiently high.</p>

This paper is a Review of the PMGSY in India. The contribution of the World Bank has been seminal to the project. The impacts of PMGSY are not only positive but also significant and substantial for enabling the various stakeholders in terms of better economic opportunities and social services for beneficiary communities in the participating states.

Acknowledgement

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Author



Dr. Sarita Mishra Kolhe, IRS

(The author is the Secretary, Interim Boards for Settlement, I, II & III, New Delhi. Income Tax Department, Ministry of Finance, Government of India)