

Pradhan Mantri Gram Sadak Yojana (PMGSY) – Connecting Rural India.

Dr. Rashmi Akhtar
Assistant Professor
Faculty Of Commerce
Karim City College

India is traditionally an agricultural economy. Nearly 69 per cent of its population still resides in the villages. The penetration level of new technologies and IT platforms is continuously increasing in rural areas, thus enhancing rural connectivity. Access to digital as well as physical infrastructure like roads, railways, airports, hospitals, etc., can be transformative, helping citizens to improve their livelihoods and enabling businesses to flourish.

The government is taking numerous steps to connect the rural areas with the rest of the country to achieve the vision of Aatma Nirbhar Bharat. A good road infrastructure connects the rural areas with the nearby urban or semi-urban areas and ensures a quick flow of services and goods to meet emerging demands. It ensures a competitive advantage and helps improve inventory, storage, supply chain, and operations management.

The present article attempts to study the rural infrastructure development for agricultural growth. The pace of construction of rural roads under PMGSY has seen massive growth over the years. PMGSY roads have to a large extent, assisted in contributing towards the achievement of India's targets for the Millennium Development Goals relating to poverty reduction. The issues relating to social, educational and health development have also been addressed by the roads constructed under PMGSY by way of achieving universal primary education and improving maternal health.

The PMGSY roads are known for their construction quality and durability. To ensure quality in the construction of rural roads, vigorous quality control measures are followed, backed by independent quality checks and measurements. The inbuilt clause of five years of maintenance within the construction contract also helped in the maintenance of the newly created assets

Rural connectivity programme requires a robust service enterprise framework with public and private stakeholders at the very core. There is a need to create a vibrant 4P model ,i.e. Public-Private-Panchayat Partnerships ,for inclusive and sustainable rural development through rural connectivity.

Based on the above, it may be said that the PMGSY roads have brought about overall improvement in rural connectivity, as it is not an end in itself. It is a means. And as expected, the connectivity has been improving indicators of education, health and rural incomes .

Keywords: Agrarian economy, road infrastructure, rural connectivity programme, PMGSY

Pradhan Mantri Gram Sadak Yojana (PMGSY) – Connecting Rural India.

*Dr Rashmi Akhtar
Assistant Professor
Faculty Of Commerce
Karim City College*

69 per cent (89 crores) of India's population, who reside in more than 6.5 lakh villages, are rural. There are 14.5 crore farmer households in the country's 650 or more rural regions. Cultivation, agricultural labour, rural artisanship, retail business/small services, etc., are the main vocations of the rural population. Rural infrastructure needs to be improved overall due to the size and proportion of the rural population, the current socioeconomic conditions, and the desired levels of quality of life. The key to achieving the goals of inclusive and equitable growth with social justice is improved infrastructure. The nation has developed and implemented several strategic methods for economic growth throughout the past seven decades of planning and coordination. Economists, planners, and decision-makers in the nation have always visualised.

Through lowering production and logistics costs, improving economies of scale, increasing productivity, creating more jobs, and improving public and private investments in rural farm and non-farm industries, a robust rural road infrastructure supports economic development. It has its systemic connection effects and offers better marketing channels for farm and non-farm goods and services in a rural setting. With the economy, system, a thriving demography, and demand, the infrastructure is regarded as one of the five fundamental pillars of the Aatma Nirbhar Bharat.

Need of Rural Connectivity

Connectivity has a good relationship with market accessibility and business sustainability. The modernization of rural areas is largely fueled by advancements in market linkages and rural-urban mobility. Only with all-weather rural connectivity will rural vocations become practical, lucrative, and acceptable. For smooth and timely transactions of goods and services, improved transportation networks connect marketplaces. Access to the market for marketable goods and services is restricted by poor road connection, which therefore weakens

competitive advantages. A lack of appropriate market linkages frequently results in the gains of increased agricultural output being lost.

The efficient supply of natural resources, the major reduction of harmful elements, the development of diverse and sector-specific jobs, the improvement of community health and education standards, and the quality of life are all ways to assess competitive advantage.

Development of rural roads

The second-largest road network in the world is in this nation. Connecting rural areas is a sustained effort to provide them with essential services and markets. The road network has assisted sustaining their livelihood as well as placing and transporting goods and services to the appropriate location at the appropriate time. With improvements in investments in projects connecting the villages with cities and towns, rural road traffic has increasingly increased over time. Table 1 displays that the growth of rural roads have expanded over the years.

Table 1: Growth of Rural Roads

Category	Rural Road Length (Km)	Total Road Length (Km)	Percent Share of Rural Roads to total
1950-51	2,06,408	3,99,942	51.5
1960-61	1,97,194	5,24,478	37.6
1970-71	3,54,530	9,14,979	38.7
1980-81	6,28,865	14,85,421	42.3
1990-91	12,60,430	23,27,362	54.2
2000-01	19,72,016	33,73,520	58.5
2010-11	27,49,804	46,76,838	58.8
2014-15	33,37,255	54,72,144	61
2015-16	39,35,337	56,03,293	70.2
2016-17	41,66,576	58,97,671	70.6
2017-18	44,09,582	62,15,797	70.9
2018-19	45,41,631	63,71,847	71.2

Source: Annual Report 2021-22, Ministry of Road Transport and Highways

Roads in the rural sector are the core of rural development, and they are built through various programs/interventions of numerous institutions including Panchayati Ra) Institutions, (Zila Parishad, panchayat Samiti, Gram Panchayat), Pradhan Mantri Gram Sadak Yojana (PMGSY), and State Public Works Departments. In order to boost agricultural productivity, non-agricultural employment, and non-agricultural productivity, roads have assisted in encouraging access to economic and social services. This has expanded rural growth opportunities and placed real income in the hands of the people.

The Annual Report 2021–22 presents data from the Ministry of Road Transport and Highways' Basic Road Statistics, which includes information on the country's overall road length and its categorizations. With a compound annual growth rate of 4.2 percent, the nation's total road length has significantly expanded from 3.99 lakh km in 1951 to 63.71 lakh km in 2019. In 2019, 64.65 percent of the total road's length was paved. As of 31.03.2019, the country's total road length was 63,71,847 km, of which 45,41,631 km were rural roads. Rural roads made up the largest portion of the network (71.27%), followed by district roads (9.94%), urban roads (8.5%), and state highways (8.5%). (2.82 percent)

Scope of the study

The present study covers the scheme of government: Pradhan Mantri Gram Sadak Yojana (PMGSY) operating through the length and breadth of our nation connecting the unconnected habitations.

Limitations of the study

The present study is based on secondary data. A study on this scheme involved data collected by institutions and individuals appointed by government. Limited access to government data is a limitation to this study.

PMGSY and All-Weather Rural Connectivity.

On December 25, 2000, the Pradhan Mantri Gram Sadak Yojana (PMGSY), a component of the Indian government's effort to combat poverty, went into effect. This was intended to be a one-time special intervention to offer road connection to qualifying unconnected habitations as per core-network with a population size of 500+ in plain areas by way of a single all-weather road. The goal is to connect eligible individuals in Special category States, such as Arunachal Pradesh, Assam, Himachal Pradesh, Jammu and Kashmir, Manipur, Meghalaya, Misram, Nagaland, Sikkim, Tripura, and Uttarakhand, as well as areas under the Desert Development

Programme, Schedule V tribal areas, and selected tribal and backward districts as identified by the Ministry of Home Affairs.

All-Weather Rural Connectivity and PMGSY

The Ministry of Home Affairs recognised the most intense integrated action plan (IAP) blocks, and the unconnected habitations with a population of 100 or more have been included under

PMGSY. In districts where all qualifying habitations of the designated population size have been given all-weather road connectivity, the scheme permits upgrading of the existing roads.

A total of 1,78,184 habitations with populations of 250 or more and 500 or more have been designated by the Indian government as eligible for coverage under the PMGSY. While States have invested their own funds to connect 16,086 of these habitations, 4,722 habitations were either removed from the initial target list or were deemed to be unworkable for implementation. The PMGSY has so far covered 1,57,376 habitations, and it is anticipated that the remaining ones would be finished by September 2022. Table 2 displays the PMGSY's implementation status from its creation.

Table 2: Performance of PMGSY since inception

Performance of PMSGY I since inception

S no:	Indicator	PMGSY I	PMGSY II	PMGSY III	Total
1.	Number of Road Works Sanctioned	1,64,804	6,700	9,972	1,81,476
2	Road Length Sanctioned (Km)	6,45,599.2	49,884.9	77,128.69	7,72,612.79
3	Number of Bridge works Sanctioned	7,520	765	708	8,993
4.	Number of road works completed	1,59,473	5,629	1,491	1,66,593
5.	Number of Bridge Works Completed	5,724	535	56	6,315
6.	Road length Completed (Km)	6,11,302.7	46,022.6	23,840	6,81,165.3

Source: 22nd Report of the Standing Committee on Rural Development & Panchayati Raj, Demand for Grants (2022-23), Ministry of Rural Development

According to Table 2, out of the 1.81 lakh road projects authorised under the PMGSY, 1.66 lakh (91.7%) have been finished. 6.81 lakh kilometres, or 88.2 percent, of the 7.72 lakh kilometres in total sanctioned road length, have been finished. Similar to this, 6,315 out of 8,993 bridge projects approved under PMGSY were completed, or 70.2 percent of them. The construction of a Road Connectivity Project on Left-Wing Extremism Areas (RCPLWEA) as a separate vertical had received approval from the Union Cabinet in December 2016. This plan aimed to speed up development in underdeveloped regions of the country by connecting aspirational districts.

Table 3: Progress of RCPLWEA

S no:	Indicator	
1.	Number of Road Works Sanctioned	1,030
2	Road Length Sanctioned (Km)	10,231.3
3	Number of Bridge works sanctioned	463
4.	Number of road works completed	317
5.	Number of Bridge Works completed	129
6.	Road length Completed (Km)	4,910.8

Source: 22nd Report of the Standing Committee on Rural Development & Panchayati Raj, Demand for Grants (2022-23), Ministry of Rural Development

Table 3 shows that so far, 1,030 road works have been authorised under the RCPLWEA, of which 317 (30.7 percent) have been completed. 4,910 km, or 47.9%, of the 10,231 km total sanctioned length of the route, have been finished. Similar to this, out of 463 bridge projects authorised under the RCPLWEA, 12.8% (129) were completed.

Use of Green technology

PMGSY encourages the construction of rural roads using cutting-edge, environmentally friendly technology. To encourage affordable and quick construction, locally accessible resources are employed in road construction activities. In accordance with PMGSY-III, the States and Union Territories (UTs) are required to build at least 15% of all new-technology-compliant roadways out of waste plastic. The main goals of using modern technology in rural road building include, but are not limited to, ensuring a safe environment, lowering total costs without sacrificing quality, extending the lifespan of roads, and ensuring road safety. The following are some of the methodologies and tools employed by PMGSY.

- To ensure flexible concrete and a surface free of cracks, use cell-filled concrete.
- Paneled cement concrete is used to ensure durability.
- Roller-compacted concrete pavement is used to provide easy, quick, and affordable construction with a longer lifespan.

- Usage of cement stabilisation to increase the stability, strength, and reduction of soil. Cost of maintenance.
- Reduce construction expenses while improving the overall quality of road constructions by using Terrazyme; it is simple to use, safe for the environment and its users, and it ensures a better, longer-lasting road.
- Cold mix technique uses cold mix binders (where bitumen heating is not necessary), leading in fuel and environmental savings.
- Using "Green Technology" and unconventional materials on rural roads to ensure trash is reused, such as waste plastic, cold mix, geo-textiles, fly ash, iron copper slag, etc.

E- Maintenance Effort

An enterprise e-governance system for road maintenance is Electronic Maintenance of Rural Roads (eMARG) by PMGSY. This system, which went live with effect from 1 February 2019, provides a blueprint for how issues and complaints regarding infrastructure maintenance can be efficiently addressed across government departments with the help of smart information technology and contract management. eMARG, an enterprise e-Governance solution based on Geographical Information Systems (GIS), prioritises the safe and long-lasting maintenance of PMGSY roads in all types of conditions. It also involves performance-based evaluation of roads for provisioning and ensuring appropriate maintenance-related payments.

Challenges and Problems

Rural connectivity has continued to be a key factor in rural residents' efforts to enhance their socioeconomic lives. Access to facilities like education, healthcare, marketing, etc. is ensured by connectivity. The country's rural road network has underdeveloped and been developed in an uneven manner. While some States offered 100 percent connectivity, others had the financial resources and connectivity remained at low levels as a result. Inadequate funding for the upkeep, improvement, and repair of existing rural roads was another issue. There was hardly any network approach or guarantee of accessibility with ongoing maintenance. Insufficient funding from the States is one of the main obstacles and bottlenecks in delivering connectivity in rural areas.

Inadequate maintenance of rural roads by many States due to a lack of funding, inadequate maintenance of Major District Roads (DRs) placing pressure on rural roads, a lack of strict adherence to standards for quality and specifications, layers of informal subcontracting at the expense of quality, some roads built without bridges, etc.

With financial commission support offered to them through the Finance Commission prizes, Panchayats are building rural roads in the villages. Many development initiatives, including the PMGSY and the Mahatma Gandhi National Rural Employment Act (MGNREGA), promote ethical investment in rural road infrastructure. The benchmarking, monitoring, and maintenance processes and procedures used by PMGSY were standardised and rigorous.

Problem roads are with the proper emphasis on the superiority of construction, our quality-benchmarked rural roads initiative has successfully increased connectivity in a methodical manner, revitalising the rural economy and enhancing the quality of rural life. The following factors affect how well rural roads operate.

- Inconsistencies in District Rural Roads Plans (DRRPs) need to be eliminated, and a GIS-enabled database containing scientifically gathered data on the population of habitations, connection status, road inventory, and maps is required. Such a state-specific data store on rural roads would aid in the coverage of disconnected but qualified habitations under the PMGSY, which is being built by Panchayats in the villages.

Suggestions

It is recommended to follow established protocols while creating detailed project reports. The necessary number of bridges and cross drainage structures must be built as part of the road construction. The creation of an active monitoring and accountability system is important in order to detect instances of unfair advantage given to road contractors and stop poorly executed construction projects. The States must ensure enough fund provisions, that their share is released in accordance with the timelines, and that it is not diverted to other schemes in order to maintain proper fund management within a road project. The project must adhere to the standards for quality.

Moreover, a clause requiring the States to maintain the road asset for an additional five years following the completion of the project should be included.

It might be important to integrate the Finance Commission grant-in-aid with PMGSY work execution and maintenance, keeping in mind the fund requirements and fund position for maintenance.

A tried-and-true quality control, monitoring, and assessment process is in place at PMGSY. The government should map the shortcomings in accordance with the quality benchmarks in order to assign blame and accountability to the organisations in charge of quality control at the municipal, state, and federal levels.

The foundation for a nation's economic and social development is provided by its infrastructure. The government's plans to develop rural infrastructure and the associated centrally supported programmes aim to improve the socioeconomic standing of rural residents. A sizeable portion of the overall budget for such a programme is categorised as capital or development spending. The National Bank for Agriculture and Rural Development (NABARD), the leading financial institution for agriculture and rural infrastructure, is also the conduit for a number of initiatives aimed at improving rural infrastructure, such as rural road and bridge construction projects.

A strengthened rural infrastructure will enable India to realise its goal of creating a thriving Aatma Nirbhar Bharat. Improved rural infrastructure, whether it be in the form of surface, air, or sea transportation, telecommunications, rural marketing, warehouses, water supply, and power, can open up new opportunities for rural growth and pay farmers, manufacturers, and service providers fairly for their work.

Conclusion

Rural roads are acknowledged as a key factor in poverty alleviation efforts and as a stimulus for rural development. The current administration has continued to place focus on the construction of rural road infrastructure through development plans and other subject-specific schematic initiatives, taking into account the significance of infrastructure in sustaining rural economic growth. The durability and high quality of the PMGSY roads' construction are well known. Strong quality control procedures are implemented, supported by independent quality inspections and measurements, to assure quality in the construction

of rural roads. The construction contract's built-in maintenance provision of five years contributed to the maintenance of the newly developed assets.

It is now necessary to strengthen and broaden its scope to include important link routes that connect habitations to agricultural and rural markets, higher secondary schools, and hospitals/health centres since all the eligible rural habitations have been connected. Moreover, a strong maintenance framework will be in place for the existing roads built throughout the three PMGSY phases, with active involvement from the corresponding State/UT Governments.

As a follow-up to the rural infrastructure building initiatives, a coordinated approach is needed to establish proper convergence with various other development-oriented programmes already in operation, such as those being implemented by the Ministries/Departments of Panchayati Raj, Rural Development, Drinking Water, and Education for reducing poverty, creating gainful employment, guaranteeing social security, and improving standards of health, hygiene, sanitation, and education. The way India's road infrastructure is developed, made easier to use, maintained, and made ecologically responsible will have a significant impact on the future prosperity of rural India.
