

IMPACT ASSESSMENT OF PRADHAN MANTRI GRAM SADAK YOJANA (PMGSY)

In the States of
Assam, Himachal Pradesh,
Madhya Pradesh, Mizoram, Orissa,
Rajasthan, Uttar Pradesh,
Tamil Nadu & West Bengal

Government of India
Ministry of Rural Development
(Monitoring Division)
New Delhi

BACKGROUND

Rural road connectivity is a key component of rural development, since it promotes access to economic and social services thereby generating increased agricultural income and productive employment opportunities in rural India.

As a part of its poverty reduction strategy and to bring about rapid sustainable development and socio-economic transformation in rural India, and to synergise the various schemes being implemented across the districts of the country, Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched by the Government of India to provide rural road connectivity to hitherto unconnected rural habitations.

PMGSY – MAIN FEATURES

The Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched on 25th December, 2000 and has now been under implementation for over two years. It is a hundred percent Centrally funded Scheme, which primarily aims to provide all weather road connectivity to over 1.60 lakh eligible unconnected habitations at an estimated investment of about Rs. 60,000 crore. The works are executed by the State Governments and monitored by the Ministry of Rural Development through the National Rural Roads Development Agency (NRRDA), set up for this purpose.

The salient features of the PMGSY are:-

Planning based on Core Network:

Every District has prepared a Core Network of Roads for planning purposes. All roads under PMGSY are to be prioritized out of the Core Network. The district Panchayat is fully involved in selecting road works under the programme as per the Guidelines.

Roads specifications: Roads are to be built as per the specifications given in Rural Roads Manual published by the Indian Roads Congress (IRC: SP20:2002). Roads are to be properly designed based on climatic and traffic conditions. Provision has to be made for proper roadway width, shoulders and side and cross drains. Detailed Project Reports (DPR) have to be prepared in all cases.

Scrutiny, Approval and Clearance:

The detailed Project Reports are scrutinized by the State Technical Agencies (STAs) nominated by the NRRDA. The STAs have been selected from among the Indian Institutes of Technology, Regional Engineering Colleges and Government Engineering Colleges of repute. Proposals are to be sent to NRRDA for clearance based on the scrutiny completed by STAs.

Programme Management in States:

Each State has designated a State level Autonomous Agency to maintain and operate Bank account to receive the project funds from the

Ministry of Rural Development. The agency has appointed a State Quality Coordinator, Financial Controller and IT Nodal Officer to ensure management of various aspects of the programme at state level. The District Programme Implementation Units (DPIUs) headed by Superintending and Executive Engineers execute the road works in accordance with the programme guidelines.

Tendering: The works are tendered as per the State's Standard Bidding Document approved by NRRDA. Projects will be completed within 9 months except in case of Hilly States where the duration of the project will be for 18 months. Cost escalation, if any, due to overruns or tender premium will be borne by the State Governments.

Quality: PMGSY roads are expected to be of the highest quality. A 3-tier quality control system has been envisaged. The Contractor is expected to set up a field laboratory at the work site and the DPIU functions as the first tier of the quality control. The State Quality Monitor coordinates a second, independent, tier of quality control and the NRRDA enforces a 3rd tier of quality control through National Quality Monitors who are informed senior engineers.

Online Monitoring: Online monitoring of the programme is done using an internet based software

(called OMMS), outputs of which are available on a website (www.pmgsy.org).

Maintenance: Roads constructed under PMGSY are required to be maintained by the State Governments. The Scheme envisages Performance Guarantee for five years by the Contractor backed by a 5 year maintenance contract.

PMGSY ASSESSMENT STUDY

The Ministry of Rural Development commissioned a quick independent assessment of the socio-economic impact of the Pradhan Mantri Gram Sadak Yojana (PMGSY) on the lives of rural people in the States of Assam, Himachal Pradesh, Madhya Pradesh, Mizoram, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal based on a common methodology.

Objectives of the assessment study

- To assess the overall socio-economic impact on the lives of the rural people as a result of enhanced rural connectivity provided through the PMGSY, and
- Documenting the improvement or the changes brought about by PMGSY roads in the lives of the rural poor at the household level and village level.

The specific focus of the study was on the following sectors:

- Agriculture & allied sector
- Employment
- Health
- Social aspects
- Urbanization
- Poverty Alleviation.
- Industry
- Education
- Transport

The study was conducted in the month of January to February 2004.

Selection of Roads and Sampling Design

The selected roads had to be either newly constructed or upgraded as on March 2003, under PMGSY.

The study was to be conducted in two to three habitations along each selected road. Among them, one of the habitations should have at least 1000 population in case the road lies in the plain area, 500 population and above in case of hilly areas and at least 250 population in case of desert areas.

In each selected district of the state, three roads with new connectivity or upgraded roads (up to March 31, 2003) were chosen. In each selected road, two habitations with population of 1000 and above were chosen for the study. In case of less densely populated states of Assam, Mizoram and Himachal Pradesh, the selection criteria gave the provision of selecting habitations with population of at least 500 and in case of desert state of

Rajasthan, habitations with population of at least 250. However, wherever possible, habitations with at least 1000 population were chosen in the selected states mentioned above.

Sources of data collection

- **Primary sources:** The perception and responses of the community on selected indicators were utilized to draw inferences and conclusions regarding benefits accrued for the rural community due to upgradation / construction of roads.
- **Secondary sources:** Data on lengths of the roads, their connectivity, dates of starting and completing the construction and other details were collected from the secondary sources.

Limitations of the study

- The finding of the study is based on a very small sample. Care has to be taken while generalizing the results for the whole state.
- The impact mentioned in the study is *solely* the perception of the respondents. The percentages indicate the number of respondents who reported that there has been a change i.e. increase or decrease in the parameter.
- The study was conducted in extreme conditions of cold weather and excessive rains in the Kangra

valley (H.P). The scattered spread of the villages in hilly region made it very difficult to collect people for group discussions at a suitable location.

- The survey team had to walk for long distances due to lack of vehicles in the hilly terrain.
- In case of the districts where the total number of completed roads was low, the roads chosen for the assessment study were based on purposive sampling and were fairly not representative of the roads envisaged under the program.
- In districts like Puri in Orissa, habitations close to the road had population less than 1000. So the criteria for selection of at least one (of the two habitations) habitation/ village of more than 1000 population could not be adhered to.

KEY FINDINGS OF THE ASSESSMENT

Impact on Agriculture

- The construction of the PMGSY roads has greatly benefited the farmers. Prior to the construction of the PMGSY roads, farmers found it difficult to sell agricultural goods in the bigger markets that are located at a distance from their villages. Due to lack of transport, the farmers had to often physically carry the baskets of agricultural goods on their heads and could thus transport only a small amount of agricultural produce to the market. Also, a lot of travel time was lost. Thus, the whole process was not profitable. However, the construction of the PMGSY roads has resulted in increased and easier movement of farmers and their produce and has thus increased agricultural profit.
- PMGSY road connectivity has led to a better transport system during all seasons. Farmers mentioned that the problem of not being able to access the markets during monsoon has been solved by the construction of the roads. This impact has been greatly felt in the states of West Bengal, Himachal Pradesh, Mizoram, Assam etc.
- The PMGSY roads had a positive impact on the agricultural infrastructure as habitations are now using motorized equipments such as tractors, threshing machines for cultivation leading to a more efficient, time saving and profitable process of cultivation.
- The PMGSY roads have made it easier to transport chemical fertilizers, seeds and pesticides. Increased use of these items was observed in Uttar Pradesh, Himachal Pradesh and West Bengal.
- Considerable change in cropping pattern was observed in the States

of Himachal Pradesh, Mizoram and Tamil Nadu, with a switch from food crops to cash crops (such as ginger, jute, sugarcane, sunflower).

- Change in cropping intensity as a result of increased agricultural trade was observed in case of crops like tomato, cauliflower, *amla*, *harre*, *behar* etc. in the post PMGSY road phase.
- An increase in the number of families rearing goats/sheep for commercial purposes was mentioned by beneficiaries in states of Rajasthan, Himachal Pradesh and Uttar Pradesh. Many families had bought cycles after the construction of the road to be able to carry dairy products for sale in nearby towns.

Impact on Employment Generation

- After the construction of PMGSY roads, an improvement in the employment situation in terms of more job opportunities, more avenues for self-employment, etc. were observed. A lot of housewives mentioned that they have started small scale industries like making pickles, *papads*, *boris* (lentil cakes) *murir moa* (puffed rice balls) etc.
- On-farm employment opportunities have increased due to shift from grains to cash crops and also multiple cropping, particularly in

the states of Tamil Nadu, Madhya Pradesh and Mizoram.

- More people are going to nearby towns and villages for odd jobs like selling wood, vegetables, dairy products and locally made items like pickles, *papad* etc.
- Non-farm opportunities like opening of shops, small business, cottage industries has increased in the States of Himachal Pradesh, Madhya Pradesh, Mizoram, Tamil Nadu and Uttar Pradesh.
- Besides, road connectivity has led to expansion of local industries, which in turn has generated employment opportunities.

Impact on Industry

- There has not been much impact in the industrial sector in terms of new small industries as it is too early to measure change. However, an impact on the existing small industries was observed in terms of easier access to raw materials, availability of commercial vehicles to transport bulk product to the markets etc. This has led to economies of scale, particularly in the state of Assam and Mizoram.
- Beneficiaries reported that the pottery and brick making industry of Orissa has benefited from the PMGSY roads.

- Perceived benefit of PMGSY roads was also reported in the cottage industries of Tamil Nadu, Handloom industry of West Bengal and Agro industry in Assam.

Impact on Health

- There has been an overall improvement in access to the health facilities like PHC's, sub-centres and district hospitals in the States of West Bengal, Uttar Pradesh, Orissa, Tamil Nadu, Himachal Pradesh and Madhya Pradesh.
- Positive impact was observed with regard to increase in accessibility to preventive and curative health care facilities; better management of infectious diseases and attending to emergencies due to faster access to health facilities and increase in frequency of visits by health workers.
- Improvement in ante-natal and post-natal care thereby decreasing obstetrics emergencies was observed by beneficiaries in the States of Mizoram, Madhya Pradesh, Orissa, Tamil Nadu, Uttar Pradesh and West Bengal.
- Beneficiaries of the above-mentioned states also mentioned that road connectivity and an improved transport system had enabled families to opt for institutional deliveries in hospitals outside the village.
- Beneficiaries reported decrease in infant and child mortality especially in the States of Orissa, Madhya Pradesh, Himachal Pradesh, Tamil Nadu, Uttar Pradesh and West Bengal. This has been possible due to easier and faster availability of health care facilities in the post PMGSY road phase.

Impact on Education Sector

- With the construction of PMGSY roads, there has been an improvement in the accessibility to education facilities. This has resulted in increased school enrolment and school attendance in all the States.
- Beneficiaries reported that the PMGSY road connectivity had led to an increase in the number of girls going to schools in the States of Assam, Madhya Pradesh, Orissa, Tamil Nadu and West Bengal. Most parents mentioned that they were now more confident about sending their daughters to schools unescorted.
- Another noteworthy impact has been in terms of regular attendance of the teachers throughout the year and greater inclination of parents to send boys and girls for higher studies and college education.

Impact on Social Aspects

- The construction of the PMGSY road has led to an increase in frequency

of visits by Government officials. This is likely to result in better implementation of various Government schemes and programs.

- There has been an increase in the visits of grassroot level functionaries like health workers/ Auxilliary Nurse and Midwives (ANMs), Village Level Workers (VLWs) and Village Anganwadi Worker (VAWs) in the states of Orissa, Himachal Pradesh, Madhya Pradesh and West Bengal.
- Beneficiaries also mentioned that with better road connectivity there has been an improvement of the Post and Telegraph facilities in all the States.
- Road connectivity has also enabled a quicker access to police services. This has ensured an improved law and order situation in some areas.
- A notable change as observed was that social network of villagers has widened in all the States. Marriage alliance radius has increased substantially.
- The road connectivity has increased the mobility of women as they can now travel alone in buses and cycles. Many women mentioned that they have taken up small jobs (such as an anganwadi worker, daily wage laborer etc) in the post road phase.

Impact on Transport Facilities

- The benefits of rural connectivity have been felt most in Mizoram and Rajasthan where PMGSY roads have made it easier for the beneficiaries to cope with the difficult terrain.
- Beneficiaries in all the States mentioned that there has been an increase in ownership of bicycles and two wheelers, especially in the States of Assam, Rajasthan, West Bengal and Tamil Nadu.
- Beneficiaries also mentioned that there has been an improvement in the public as well as the private transport system in all the States under study.

Impact on Urbanization

- Trend towards urbanization of an area as an immediate and direct impact of providing rural road connectivity was observed in course of the study. The study areas have seen some rapid changes from traditional to modern ways of life. For instance, the phenomenon of neon light attraction has drawn the villagers to the town entertainments; there has been increased use and ownership of television and other electrical gadgets.
- The states of Mizoram, Tamil Nadu, West Bengal reported conversion of kuchcha houses to *pucca* houses.

- Beneficiaries in all the States mentioned that the most visible change was in term of sudden escalation of prices of land adjacent to the PMGSY roads. This had led to an increase in the sale of land for commercial purposes.

Impact on Poverty Alleviation

- A spin-off benefit of PMGSY roads has been on the income level of the habitants benefiting from these roads. The roads, directly or indirectly have provided

opportunities for farm and non-farm employments as well as self-employment.

- With the improvement in farm and non-farm employment opportunities, beneficiaries in all the states reported increase in their average household income.

Full Report:

The detailed report in respect of each of the states is available at the program website www.pmgysy.nic.in.

**IMPACT OF CONSTRUCTION/UPGRADATION OF ROADS
ON DIFFERENT SECTORS
(Based on perception of respondents)**

	Assam	Himachal Pradesh	Madhya Pradesh	Mizoram	Orissa	Rajasthan	Tamil Nadu	Uttar Pradesh	West Bengal
Agriculture & allied									
Increased accessibility to markets for agricultural products	✓	✓	✓	✓	✓	✓	✓	✓	✓
Increase in motorized agricultural vehicles & equipments	✓	✓	◆	◆	◆	◆	✓	◆	✓
Increased use of chemical, fertilizers, seeds & pesticides	✓	✓	✓	✓	✓	✓	✓	◆	✓
Change in cropping pattern from food grains to cash crops	✓	❖	✓	✓	◆	❖	✓	◆	✓
Increase in dairy/ poultry production / rearing of sheep / goats for commercial purpose	✓	✓	✓	✓	✓	✓	✓	✓	✓
Employment									
Increase in on-farm employment opportunities due to increase in cropping intensity	✓	✓	✓	✓	✓	✓	✓	❖	✓

	Assam	Himachal Pradesh	Madhya Pradesh	Mizoram	Orissa	Rajasthan	Tamil Nadu	Uttar Pradesh	West Bengal
Increase in employment opportunities outside the village due to greater mobility and accessibility of nearby towns	❖	✓	✓	✓	✓	✓	✓	✓	✓
Industry									
Improvement in access to market for finished products	✓	❖	✓	❖	✓	✓	✓	◆	✓
Changes in technology and designs	◆	❖	❖	❖	❖	❖	❖	❖	❖
Changes in employment pattern	◆	❖	❖	❖	❖	❖	◆	❖	❖
Health									
Improved access to PHCs, sub centres & district hospital	✓	✓	✓	✓	✓	✓	✓	✓	✓
Increase in number of visits of health workers	✓	✓	✓	✓	✓	✓	✓	✓	✓
Greater availability of vehicles or mode of transport to hospitals	✓	✓	✓	✓	✓	◆	✓	✓	✓
Decrease in incidences of major disease/ illness like malaria, diarrhoea etc	◆	✓	✓	◆	◆	◆	✓	◆	✓

	Assam	Himachal Pradesh	Madhya Pradesh	Mizoram	Orissa	Rajasthan	Tamil Nadu	Uttar Pradesh	West Bengal
Increase in the number of institutional delivery	◆	◆	◆	◆	✓	◆	✓	✓	✓
Increase in child immunization	◆	✓	✓	◆	✓	◆	✓	✓	✓
Decrease in infant mortality	◆	✓	✓	◆	✓	◆	✓	✓	✓
Education									
Increase in the number of boys going to middle and high schools	✓	✓	✓	◆	✓	✓	✓	✓	✓
Increase in the number of girls going to school for middle & high school education	✓	✓	✓	✓	✓	❖	✓	✓	✓
Increase in the availability & number of teachers in school	◆	✓	◆	◆	◆	✓	◆	◆	✓
Social aspects									
Increased frequency of visits of Govt. functionaries	✓	✓	✓	✓	✓	✓	✓	✓	✓
Improved post & telegraph services & better accessibility to banks	✓	✓	◆	✓	✓	✓	✓	◆	✓
Improved police patrols around the village	✓	✓	✓	✓	✓	◆	✓	✓	✓
Marriage alliance with far-off habitations	◆	✓	✓	◆	◆	✓	✓	✓	✓

	Assam	Himachal Pradesh	Madhya Pradesh	Mizoram	Orissa	Rajasthan	Tamil Nadu	Uttar Pradesh	West Bengal
Transport									
Increased ownership of bicycles/ scooters etc. in the village	✓	◆	◆	◆	✓	✓	✓	✓	✓
Improvement in public transport service	✓	✓	✓	✓	✓	✓	✓	✓	✓
Increase in commercial vehicles or share jeeps	✓	✓	✓	✓	✓	✓	✓	✓	✓
Urbanization									
Increase in land prices	✓	✓	✓	✓	✓	✓	✓	✓	✓
Conversion of <i>kuchcha</i> houses to <i>pucca</i> houses	✓	✓	◆	✓	◆	✓	✓	✓	✓

-----Table based on perception of respondents

(✓) Perceived benefit

(◆) No change perceived

(◆) Data not available

SUCCESS STORIES

- The sale of medicines of Doniram Boro's chemist shop (Simla Bazaar, Barpeta District, **Assam**) has increased after PMGSY road construction. Villagers of Odalguri and other villagers come to purchase medicines from his shop. After the road was upgraded, he also delivers the medicines to other neighbouring villages as accessibility has increased. There has been a considerable increase in his income.
- Kalyan Chandra of Tarhed village (Panchrukhi block, Kangra District, **Himachal Pradesh**) used to sell vegetables to earn a living. After road construction under PMGSY, he started a new business of furniture making. With easy availability of wood, his business started thriving. He installed new cutting machines and kept 2-3 helpers. His income level has gone up and his life style has also changed. He is now able to send his children to a private school for better education.
- In **Madhya Pradesh** (Manawar Semalda Langoor Ajandokoti road in Dhar district) Rajinder of Neshupur Mohalla of Langoor village registered an increase in annual income from Rs. 8,000 to Rs. 15,000 due to marketing of his agricultural produce and milk outside his village. He changed his agricultural cropping pattern from food crops to cash crops and started selling in the nearby wholesale market.
- K. Thangkunga of Sihfa village (Phullen block, Aizawal district, **Mizoram**) was working as a *chaukidar* in a health sub center drawing a monthly salary of Rs. 4000 only. He bought a TATA 407 with finance from the bank and is now engaged as a wholesale transporter of ginger and agricultural products. His earning is close to Rs. 20,000 per month.
- Villagers of Badakerjang (Banarpal block, Anugul district, **Orissa**) expressed the view that prior to road construction, light commercial vehicles rarely plied from Angul to the village. Now, a minimum of 8 to 10 vehicles make 10-15 trips to the village everyday. This helps the villagers in commuting to the Coal Mines and NALCO factory where they work as daily wage earners. Connectivity and communication has improved significantly, which has resulted in creating more employment opportunities for the people in the villages located adjacent to the roads.
- Meena, an embroidery maker of Bidla village (Arain block, Ajmer district, **Rajasthan**) makes beautiful embroideries on dupattas

and charges Rs. 18 per piece. Her monthly income ranges between Rs. 800-1000. She now goes outside the village to sell her craft and can procure raw material easily from Nasirabad at reasonable rates. Her family income has gone up to Rs. 1200 and so has her social status.

- Venkatesh, a 16-year-old illiterate handicapped boy (Marungai village, Thanjavur block, **Tamil Nadu**) was not able to do anything and thus was confined to his home. New NGOs have started working in the area post PMGSY road construction and he was presented with a tricycle. He can now lead an independent life. With bank loan etc, he is trying to open a tea or a grocery shop of his own. The road has brought in a new ray of hope in his life.
- Koorameerpur village (Chajilet block, Moradabad district, **Uttar Pradesh**) established a forward and backward linkage on one hand and growth centres on the other, post PMGSY road construction. The village had a very poor connectivity but there has been change in the traffic flow of the region. The farmers deliver the raw materials directly to the factory and income levels have increased.
- Weaving *sarees* is the main occupation of Sushanto Banik

(Saguna village, Shantipur block, Nadia district, **West Bengal**). He sells *sarees* in Shantipur and Phulia markets and his wife would weave them. Many times, he complained that the *sarees* would get spoilt, especially during the rainy season. But he did not have any other option than carrying them on his bicycle. Four villagers have pooled in money and bought a small van to carry *sarees* to the market. He come home early and thus can devote more hours on weaving. Earlier much of his time was spent on travel. He makes more *sarees* and thus his household income has increased.

The agencies who conducted the study were:-

Agency	States studied
Nodal Agency:	
TNS India Pvt. Ltd.	West Bengal
CMI Social Research Centre	Assam & Mizoram
Development Research Services	Madhya Pradesh
Agricultural Finance Corporation	Orissa
Santek Pvt. Ltd.	Himachal Pradesh, Rajasthan
RITES Pvt. Ltd.	Tamil Nadu
OASES	Uttar Pradesh