Executive Summary

Rural roads provide basic inputs for all-round socio-economic development of the rural areas. The construction of roads brings various socio-economic benefits to the rural areas and result in forming a strong backbone for the agro-based economy. The Pradhan Mantri Gram Sadak Yojana (PMGSY) is designed to support Government of India’s agenda to promote poverty alleviation in rural areas by promoting economic development and providing access to basic services that can improve the quality of life of the rural poor. It is believed that eliminating the isolation of populated areas with previously limited accessibility can provide the population greater access to critical goods, as well as essential social services. It also creates the opportunity for development of these services in their localities. Improved access to jobs provides opportunities for the poor to more fully participate in the economy and thus gain from the benefits of growth.

The empirical evidence at the macroeconomic level of the positive correlation between road improvements and GDP per capita growth is extensive. Yet, the distributional impact of road projects, especially the impact on the poor, is also needed to be assessed. In the absence of baseline data it is very difficult to disentangle the effects from the road improvements from those of other interventions and overall development of the economy. A well planned assessment of the impacts of the programme was therefore felt necessary.

The Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched on 25th December, 2000 and has now been under implementation for over nine years. It is a hundred percent Centrally Sponsored Scheme, which primarily aims to provide all weather road connectivity to over 1.60 lakh eligible unconnected habitations. 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. Objectives of the impact assessment study are to assess the impact of PMGSY roads on the local areas and on economic sectors in general and in particular on:
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- Agricultural Growth, particularly, in increasing market access for agricultural products;
- Income and employment generation (both direct and indirect, in short-run and in long-run);
- Access to healthcare, education and other facilities and the resultant outcomes;
- Gender empowerment and up-liftment of socially and economically disadvantaged sections;
- Poverty reduction.

A total of 17 States, 50 districts and 748 sample habitations were covered under the study. 18655 households were interviewed from these habitations in order to assess the impact of PMGSY. As per the design of the study, 5 habitations from each of the selected district were to be covered as control unit.

In order to determine whether the results are of specifically the PMGSY roads on the set of key indicators, a comparison by assessing the impact on the same set of key indicators in the control habitations was planned. A total of 250 control habitations and 6241 households in these habitations were also covered during the study for the purpose.

Profile of Habitations and Households Covered

Basic information on profile of the sample habitations was collected from the respondents of Focused Group Discussion (FGD) held at the habitation level and the officials of implementing agencies in the respective districts. In all, 18655 households have been interviewed under the study in order to assess the impact of the programme and to obtain their views on various implementation processes. Basic information on profile of household was collected at the time of household survey. This analysis provides for the necessary context for understanding and interpreting the findings and for explaining the trends and correlations between certain findings and the profile of habitations and respondents.

- Out of the 748 habitations covered under the study 546 habitations were connected by new constructions and 202 habitations were connected by upgraded roads.
- Majority of the habitations covered in the states of Arunachal Pradesh (93.33%), Gujarat (51.11%), Sikkim (70.00%), and Tripura (55.17%) had more than 50% of the households belonging to SC/ST category.
- Out of the total 18655 households interviewed, 32.21% of them were APL
families and 67.79% were reported to be BPL.

- Only 21.85% of the households interviewed were from SC, 24.33% were from ST category and 53.82% of the respondent households were from other castes.

- Out of the 18655 households, 15830 (84.86%) households had family size up to 5 members, 2824 (15.14%) households had more than 5 members.

**Connectivity Provided by PMGSY**

In order to assess the success of the scheme, information on type of road access before PMGSY, changes in all season motorized access after the construction of the road and resultant improvements in public transport facilities in these habitations were collected and analyzed.

- PMGSY has benefitted mostly those habitations, which were acutely deprived of all weather road connectivity. Before the PMGSY road was constructed, 37% habitations were connected by only earth work roads, 29% of the habitations were connected by earth work roads though motor-able and 12% of the habitations had gravel/water bound macadam layer road access to the habitations. 22% of the habitations had all weather road connectivity even before PMGSY road was constructed for them.

- More than 90% of the sample habitations covered in the states of Bihar, Chhattisgarh, Jharkhand and Uttar Pradesh have reported improvement in terms of all season motorized access after PMGSY road was constructed. In Jharkhand, where none of the habitations had motorized access during all season, now all the habitations are having all season motorized access.

- Improvements have also happened in terms of public transport facilities to these habitations. In 31% habitations where prior to the construction of PMGSY road no bus transport was available, have at least one bus plying in a week after the PMGSY road was constructed. Similarly 48% habitations have jeeps/cars coming there after the PMGSY road was constructed. In almost 40% habitations light trucks have started plying after the PMGSY road was constructed.

**Impact on Agriculture**

It is believed that better connectivity resulting in easier access to markets and improved flow of information can attribute to many improvements in agricultural production and incomes of the farmers in the area.
✓ Improved connectivity can result in changes in cropping patterns followed by the farmers in the area. The data reflects that there has been a reduction in % cropped area after PMGSY under cereals by (-) 0.32%. Similarly, the %cropped area under pulses has also reduced by (-) 1.15% and there has been an increase of 1.23% in the % cropped area under vegetables, fruits and other cash crops after the PMGSY road was constructed.

✓ 5% of the households growing cereals in their land have also reported increased use of fertilizers after the PMGSY road was constructed. 7% of the households growing cereals also reported increased use of improved seeds post PMGSY. 18% of the households have reported increase in quantity of production post PMGSY.

✓ The road connectivity under PMGSY also has an impact on the marketing related factors; roads have brought markets to the villages and facilitated farmers accessing the markets easily. 0.51% farmers growing cereals have shifted from selling their produce to on-farm gate local traders to outside traders after PMGSY road was constructed, whereas this change was reported by only 0.08% farmers in the control habitations.

✓ It was found that 11% households growing cereals have reported an increase in quantities sold as compared to the period before PMGSY.

✓ 35% households growing cereals have reported increase in the average realized price post PMGSY. Majority of the households growing cereals in Gujarat (73%), Karnataka (56%), Madhya Pradesh (79%) and Rajasthan (53%) have reported increase in average realized price.

✓ 58% households growing pulses have reported increase in the average realized price post PMGSY.

✓ Improved agricultural incomes and prosperity in the areas are also reflected by the fact that in the connected habitations now 45% of the households have acquired a Tractor after the construction of PMGSY road in their habitation, 41% have acquired a Power Tiller, 22% a Thrasher, 22% Water lifting pump set and 45% have acquired other farm machinery.

Impact on Employment Generation

The ultimate solution for the employment problems in rural areas lies in creating infrastructure, better connectivity and increased employment opportunities by
Impact Assessment of Pradhan Mantri Gram Sadak Yojana (PMGSY)

connecting such areas to the markets and to places of employment in abundance.

- 35% households reported increase in number of days of employment in the principal occupation of their earning members post PMGSY.
- Out of the 37% households who have reported increase in total days employed of all earning members of their family, 2% reported the increase of up to 50 days in a year as compared to the pre-PMGSY period. 31% reported increase of 51-100 days, 2% reported an increase of 101-150 days, 1% reported increase of 151-200 days and 0.74% reported increase of more than 200 days.
- 56% of the persons who reported their principal occupation as construction labour have reported increase in number of days of employment.
- 6% of the households have reported that at least one of their earning members has shifted their place of employment from within the habitation to outside the habitation.
- Only 3% of them reported change in their principal occupation after the road was constructed.

Impact on Income & Poverty Alleviation

In the absence of roads the rural populace is deprived of reaching to opportunities and opportunities reaching them. The aim behind providing all season connectivity under PMGSY has been to link these areas to the markets and other facilities so as to counter their deprivation and help them improve their incomes and alleviate themselves from the burden of poverty.

- 6324 households were found owning agriculture land and engaged in agricultural activities. Out of them 37% households reported increase in the gross value realized of the total production as compared to the gross value realized before construction of the PMGSY road.
- 63% of the households reported an increase in the average annual income in their principal occupations.
- Some states like Chhattisgarh (46%), Maharashtra (32%), Sikkim (28%) and Tamil Nadu (42%) have reported comparatively less number of households reporting an increase in average annual income in all occupations as compared to their average annual income during the year before the construction of the PMGSY road.
IMPACT ASSESSMENT OF PRADHAN MANTRI GRAM SADAK YOJANA (PMGSY)

✓ In 91% habitations the respondents have reported that there has been an overall increase in the income levels of the people in the habitations as a result of the PMGSY road.

✓ 65% households reported increase in average annual income in all occupations, 3% have reported increase upto 10%, 24% reported an increase of 11-35%, 8% households reported an increase of 36-50% and 30% households reported an increase in average annual income of more than 50% after the PMGSY road was constructed.

✓ In order to assess the changes and improvements in the quality of life of the households living in the habitations after the construction of PMGSY road, an assessment of their status on 13 socio-economic parameters used in the BPL Census 2002 was conducted.

✓ Out of 18655 households surveyed, 12647 households were BPL households. 66.22% BPL households have reported increase in the score on socio-economic parameters, the average increase in score was 5. 28% BPL households reported an increase upto 10% in their scores, 31% reported an increase of 11-25%, 26% BPL households reported an increase of 26-50% and 16% BPL households have reported an increase of more than 50% as compared to their score before PMGSY.

✓ 13% of the households have reported owning better dwelling unit as compared to the type of house they owned before the construction of PMGSY road.

✓ Out of the 748 sample habitations covered under the study, in 5% habitations there has been new enterprise(s)/ industry (ies) setup, feasibility of which was possible only after the new connectivity was provided.

✓ In case of 58% habitations more people have been going out for seeking employment. In case of 11% habitations, it was reported that more people have now coming in to the habitation for work after the construction of the road. 26% habitations reported that both in and out migration has increased due to the road.

Impact on Health Aspects

Better roads provide faster all season access to the health facilities and time remains very crucial in case of health emergencies.

✓ 83% habitations were such where the road has provided all weather connectivity to the nearest PHC. 83%
habitations have also been provided all weather connectivity to the nearest Government hospital now and 82% habitations have all weather connectivity to nearest private hospital/nursing home after PMGSY road was constructed. All these habitations did not have a pucca road to reach these facilities before the road was constructed.

- 87% habitations there has been a reduction in the travel time to reach the nearest health facility in case of maternity emergencies.
- In case of 88% habitations there has been a reduction in the travel time to reach the nearest health facility in case of serious physical injuries/accidents.
- 22% sample habitations also reported that there has been an increase in availability/visits of government doctors to the habitations after the road was constructed.
- In the sample habitations, 76% women of the respondent households delivered a child at home before the PMGSY road was constructed. After the improved connectivity the proportion of women having child birth at home was reduce to 57% in these habitations.

Impact on Education

The provision of an all season road in the villages facilitates creation of infrastructure, institutions, increase in manpower and other improvements in the educational aspects. In order to assess the changes in the sample habitations, details on status of education facilities before and after PMGSY road collected.

- It was found that there has been an increase in number of Anganwadi centers in 17% of the sample habitations after the construction the PMGSY road.
- 15% of the habitations provided connectivity under PMGSY have reported increase in number of schools post PMGSY.
- 19% habitations have reported that after the construction of PMGSY road, there has been a regular provision for mid-day meals for the students in their habitations.
- 62% of the male children of eligible age were enrolled in a college before PMGSY road which increased to 71% after the road was constructed. 71% female children were enrolled in a college which was reduced to 69% after the road was constructed.
- 77% habitations have also reported that the families in these habitations are willing to send more of their girls for higher schools now after the road connectivity have improved.
Impact on Other Aspects

The study was also aimed at assessing the improvements in other aspects of the lives of the deprived and disadvantaged sections of the rural areas after the construction of the road.

- 63% habitations, more number of the inhabitant families were inclined to construct pucca houses after the construction of the PMGSY road.
- 61% habitations, more families were reported to be inclined to construct sanitary latrines after the construction of the road.
- In case of 7% habitations there has been an increase in the number of PDS shops those have come up after the construction of the road.
- It was seen that in 65% habitations there has been increase in number of households having electricity connections after the road was constructed.

72% habitations have better connectivity to the Gram Panchayat office now and 52% habitations have reported reduction in travel time to reach the GP.