



IJMIRD 2014; 1(2): 113-118
www.allsubjectjournal.com
Received: 21-06-2014
Accepted: 30-06-2014
e-ISSN: 2349-4182
p-ISSN: 2349-5979

Abash Parida

*Post graduate department of
Sociology, Utkal University,
vani vihar, Bhubaneswar,
Odisha-751007, India.*

Framework for quantifying social and economic benefits from rural road development; an insight into pmgsy scheme.

A case study of Puri district

Abash Parida

Abstract

Rural roads & its related program have suffered greatly due to lack of systematic planning. While rural road development plans provided for a network structure and target lengths of different types of roads, specific connectivity requirements of individual settlements (villages/habitation) and issues of regional imbalances, its impact on Rural folks life & its assessment were not adequately addressed. This led to more than one connection for the same village resulting in redundancy and development of a large unmanageable network & improper impact analysis. While constructing rural roads, adequate care was not taken in adopting need based designs, parameters for pavement construction, quality assurance, and quality control and its real time impact on people affected or connected by PMGSY in short-range or long-run. Multiplicity of organizations involved in the rural roads development led to uncoordinated efforts, adhoc decisions, and a lopsided network structure.

Keywords: PMGSY (Pradhan Mantri Gram Sadak Yojana), PEO (Program Evaluation Organization) Rural Road, Planning

1. Introduction

India has a rural road network of about 2.7 million km developed with an investment of almost Rs 35,000 crore, estimated to have a replacement value of about Rs 180,000 crore. This constitutes over 80 per cent of the total road network, however, about a million km length of the road does not meet the technical standards required. According to government statistics, by year 2000, India had connectivity to almost all villages with populations of over 1500, 86 per cent with 1000 to 1500 inhabitants, and 43 per cent of villages with less than 1000 population.

Successive plans particularly PMGSY aimed at achieving higher road densities and managed to over achieve it. Even though, the total length of rural roads targetted at the end of the Lucknow Plan appeared to be large, it must be noted that almost 100,000 km of the roads were constructed under different employment generation schemes and poverty alleviation programmes such as Food for Work, National Rural Employment Programme and Jawahar Rojgar Yojana. The roads were of indifferent quality constructed by unskilled labour. The objective of these programmes was provision of sustenance support to the rural people

2. PEO & PMGSY (Pradhan Mantri Gram Sadak Yojana)

PEO study concluded that PMGSY has succeeded in providing connectivity to some of the most deserving habitations although the pace of implementation in most of the selected states is rather slow. Selection of these road works seems to be justified, unless one gives a high weightage to the opportunity cost in terms of road works forgone in other districts/other States. All the implementing states have designated an implementing agency as the nodal agency. All the selected implementing states have more or less adhered to the PMGSY guidelines as far as selection of habitations, project proposals and clearance are concerned. Quality of PMGSY roads has been found to be generally good. PMGSY roads provide connectivity to important places such as school/college, market centre, and block office etc. It has improved the accessibility of beneficiary villagers and resulted in higher income in the form of better price for agricultural produce, new employment avenues etc. The cost of providing connectivity for some of the habitations in states like Himachal Pradesh is very high due to difficult terrain. Under PMGSY, no road would have been taken up in these sparsely populated habitations, however, what is important is that not only both the phases of

Correspondence:

Abash Parida

*Post graduate department of
Sociology, Utkal University,
Vani vihar, Bhubaneswar,
Odisha-751007, India.*

PMGSY are efficiently completed within prescribed time targets by overcoming the problems/constraints faced from time to time but the learning experiences of the past are also always kept in view. Further, it is hoped that by the end of Tenth Five Year Plan, all unconnected villages/habitations will be actually connected through the construction of all-weather surfaced roads so that vast chunk of India's population living in rural areas also enjoys the fruits of development.

2.1. Summary of A Quick Concurrent Evaluation of PMGSY by PEO

PMGSY has succeeded in providing connectivity to some of the most deserving habitations although the pace of implementation in most of the selected States is rather slow. Selection of these road works seem to be justified, unless one gives a high weightage to the opportunity cost in terms of road works forgone in other Districts/other States. All the implementing States have designated an implementing agency as the nodal agency. All the selected implementing States have more or less adhered to the PMGSY guidelines as far as selection of habitations, project proposals and clearance are concerned. Quality of PMGSY roads has been found to be generally good. PMGSY roads provide connectivity to important places such as School/College, Market Centre, and Block Office etc. It has improved the accessibility of beneficiary villagers and resulted in higher income in the form of better price for agricultural produce, new employment avenues etc. The cost of providing connectivity for some of the habitations in States like Himachal Pradesh is very high due to difficult terrain. But for PMGSY, no road would have been taken up in these sparsely populated habitations. However, what is important is that not only both the phases of PMGSY are efficiently completed within prescribed time targets by overcoming the problems/constraints faced from time to time but the learning experiences of the past are also always kept in view. Further, it is hoped that by the end of Tenth Five Year Plan, all unconnected villages/habitations will be actually connected through the construction of all-weather surfaced roads so that vast chunk of India's population living in rural areas also enjoys the fruits of development.

2.2. Gaps in the Planning Process

The planning of the network structure was not taken seriously. The structure of the network was not subjected to evaluation through the assessment of indices concerning accessibility, connectivity, circuitry and so on. Though the conceptual plans and targets had been worked out, the absence of detailed work plans resulted in a non-integrated network, with several missing links and critical bridges. This invariably resulted in the loss of mobility due to discontinuities in the network and forced circuitous journeys. During the development of the roads interfaces among the hierarchical roads were not properly addressed, resulting in deficiency in the functionality and efficiency of the total network.

3. Need for Integrated Network Development

Conceptually, traffic flows from the lower order settlements to the higher ones in pursuit of opportunities. If planning fails to capture this phenomenon with appropriate integration of roads, the total system suffers often resulting

in undesirable rural-urban migration. Investments are concentrated only in the higher order roads for construction and maintenance with rural roads receiving less priority than they deserve. Rural households are deprived of their legitimate right to basic access. This calls for policies and programmes that aim at developing an integrated network with due priorities and necessary interfaces.

In the context of rural roads, a higher degree of care is required at the planning stage to integrate connectivity needs of scattered settlements. The construction of a road connecting a habitation must be augmented by means of transportation, enhanced by appropriate facility creation in health, education and so on. The utility of the network can be best appreciated with such integration of accessibility with social infrastructure. Keeping this in mind, the central government constituted the National Rural Roads Development Committee (NRRDC) in January 2000. The report of NRRDC 2000 resulted in the formulation of the Pradhan Mantri Gram Sadak Yojana (PMGSY) with an aim to provide all-weather roads to almost all rural habitations in the country (MoRD 2000)

In The Hindu (2012) Pradhan Mantri Gram Sadak Yojana (PMGSY) is failing to fulfil its aim due to immense delay in completion of projects. According to a study made in underdeveloped Maoist-affected Gajapati district, 106 rural roads taken up under 76 PMGSY packages have not got constructed within their stipulated time span. This study was made by Youth for Social Development (YSD) with the support from the Affiliated Network for Social Accountability- South Asia Region. Greatest irony is that as per this study the construction of three rural roads in the district has not ended even after 12 years, said Bibhu Prasad Sahu of YSD. It may be noted that the Central government had launched PMGSY in the year 2000 to connect the rural areas with population of more than 250 with all weather roads. According to the guidelines of the PMGSY these roads are supposed to complete within nine to 12 months. But the study revealed that several roads that were sanctioned between 2006 and 2009 are yet to be completed. The study also put questions on the quality of PMGSY roads being constructed in the district. Tender process monitoring of PMGSY was carried out by the researchers of YSD and experts like retired engineers with a set of indicators like process followed, norms and standard, publicity, clarity, eligibility of bidders, tender evaluation and grading, rejection grounds, timeliness, documentary compliance and general observation. Citizen-monitoring of 20 ongoing roads was carried out by using a field monitoring inventory consisting of a set of observations interspersed with tests using monitoring equipment.

3.1. Guidelines

The study revealed that contractors were handed over tenders of PMGSY roads violating several guidelines related to this major rural development project.

Quality of construction work was not of high standard.

It was found that there was no strict enforcement of quality control measures by the government officials monitoring the PMGSY road projects.

3.2. Violation of rules

"There are differences in the quantity and quality agreed by the contractors in the bill and real construction work which

clearly reflects the violation of PMGSY guidelines. It hints at possible corruption and lack of accountability of the officials," as reported.

The government officials monitoring the PMGSY projects, contractors and construction companies involved in their construction is mostly responsible for the immense delay in completion of these rural roads.

According to the report no major action has been initiated by the government against the erring officials and construction companies. The study further alleged that there is a nexus between the contractors and officials and the sufferers are the rural poor who live in remote villages like Madha, Burusunda and Sindling of Kainpur Panchayat in Rayagada block of Gajapati district. These villages are yet to have all weather roads to their villages Due to it they are still miles away from proper health care, higher education, and proper implementation of Public Distribution System (PDS).

4. Evaluation of PMGSY under Health, Land Price & Industry & Commerce. How Far it has succeeded to provide services?

4.1. Health Facilities:

There has been an overall improvement in access to health facilities like PHCs, 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 on accessibility to preventive and curative health care facilities; better management of infectious diseases, and attending to emergencies and increase in frequency of visits by health workers.

Improvement in antenatal and post-natal care was observed by beneficiaries, thereby decreasing obstetrics emergencies, in the states of Mizoram, Madhya Pradesh, Orissa, Tamil Nadu, Uttar Pradesh, and West Bengal. Road connectivity and an improved transport system enabled families to opt for institutional deliveries in hospitals outside the village. Decrease in infant and child mortality especially in the states of Orissa, Madhya Pradesh, Himachal Pradesh, Tamil Nadu, Uttar Pradesh, and West Bengal was reported.

In rural areas, many a times people are debarred from access to improved health care facilities due to poor road condition and lack of communication facilities, especially during emergencies. Both preventive and curative health care facilities developed by welfare Government fail to reach rural masses in inaccessible areas due to lack of efficient communication facilities. Health workers usually hesitate to visit inaccessible areas to extend preventive health care services and also people during emergencies fail to provide medical facilities to serious patients. Development of road and communication facilities facilitate easy access to improved health care services and ultimately help in attaining improved quality of life of rural population. Keeping this in view, an attempt was made to assess the impact of PMGSY on health condition of people in the sample villages under study. Some of the important findings as revealed from the study in respect of the above indicator are indicated below:

It was revealed from the finding of the study that there has been no increase in the PHCs, Dispensaries & Homeopathic Hospitals in any of the villages or districts covered under the study. However, there has been increase in number of private clinics in the study villages after the

improvement in the connectivity (construction of the roads). While there has been no increase of private clinics in Angul district, there has been 100% & 66.67% increase in the number of dispensaries in Puri & Sambalpur districts respectively. It was also gratifying to note that there has been an appreciable increase in the number of delivery cases in hospitals. The table indicates that while in Angul 32% increase has been recorded, in Puri & Sambalpur, 21.05% & 146.66% increase respectively have been recorded in the percentage of delivery case in hospitals in the post road construction period.

The FGDs revealed that prior to the construction of the road, very few people suffering from diseases were visiting hospitals, but after the construction of the road, there has been appreciable increase in percentage of persons visiting hospitals suffering from diseases. The statistical analysis of data presented in table number 3.4 reveals that in Angul, Puri & Sambalpur districts, the increase has been to the tune of 36.73%, 20.97% & 60.20% respectively.

In the study villages, incidence of malaria also has declined considerably. The finding reveals that in Angul 13.33%, in Puri 21.43% & in Sambalpur 12.50% decline of malaria patients have been marked after the construction of the road in the study villages.

One of the interesting findings revealed from the study is that, incidence of immunization in case of the children also has increased in the post road construction period in the villages covered under the study. Analysis of data indicate that 9.41%, 11.54% & 6.17% increase have been recorded in the incidence of immunization of children in the study villages of Angul, Puri & Sambalpur districts respectively. Infant mortality incidences also have been reported to be low in the study villages after the construction of the roads. The analysis table reveals that while in Angul & Puri, the incidence has reduced by 50%, in case of Sambalpur district it has reduced to the tune of 16.66%.

The findings of interviews conducted with health workers revealed that prior to PMGSY road, the health workers were facing lot of difficulties in commuting to the study villages due to lack of communication facilities, and after the road construction, frequent communication facilities has helped the health workers in visiting villages very often. The study indicated that there has been tremendous increase in the frequency of visit of the Health Workers & ANMs to the villages after the construction of the road. While there has been 50.00% increase in the visit of the Health Workers & ANMs in Angul district, the increase recorded for Puri & Sambalpur districts has been nil & 200% respectively.

The above analysis of data in respect of the health status of the people in the study villages indicate that the development of road under PMGSY has a positive impact in extending preventive and curative health care services in the study villages. Further, increased number of visits made by Health worker and easy access to hospitals during emergencies has a positive bearing in reducing neo natal deaths and increasing percentage of immunized children in the study villages. Thus, the overall impact of the roads constructed under PMGSY reveal very positive impacts on the health condition & facilities for the villagers in the study villages.

4.2. Land Price

According to the imputed value concept, land prices are the gauge to measure the economic activity or economic resources of a locality. The villages which were newly connected with PMGSY roads experienced without any exception, a good hike in the prices of land. Two types of land was taken into study. First the prime land of the village (Tier I land), which was by our definition, land closer to the new road and/ or the well- irrigated patches of land, was taken for study. Then, the remaining land which

was un-irrigated or away from the road (Tier II land) was taken for study. As you can observe below, there was a steep increase in the prices of lands in Puri Sadar. This was largely attributed due to the increased demand for the land in this Puri Brahmagiri belt, in which the villages became closer to the commercial centers. Pipili block too have a significant increase due to the availability of good irrigated and arable land with increased access to markets.

Table 1

Indicators	Puri
Availability of Health care facilities in study villages (% increase in no of villages reporting availability of Govt Hospitals/Dispensaries & Pvt Clinics)	100.00
Percentage increase in number of delivery cases in hospital	21.05
Percentage increase in number of persons visiting hospital in case of suffering from diseases	20.97
Percentage decline in number of malaria cases reported in the village	21.43
Percentage increase in immunization of children	11.54
Percentage decline in neo natal deaths	50.00
Visit of Health Workers/ANM to the study village (% increase in average no of visits/month/village)	0.00

Table 2: Category of the actual deaths which happened in the habitations in the year before road construction as a result of late medical attention due to the lack of road Connectivity.

Category of Deaths due to lack of Road Connectivity	Nos
Maternal Mortality	4
Infant Mortality	12
Any other	22
Fire/ Accident	3

Table 3: Shows the No. of mortality cases reported in the year before road construction as a result of late medical attention due to the lack of road connectivity- Block wise

Block	Total
Astaranga	10
Brahmagiri	4
Delanga	2
Gop	5
Kakatpur	5
Kanas	3
Krushnaprasad	5
Nimapada	2
Pipili	3
Puri	1
Styabadi	1

Table 4: % increase in Tier 1 Land Prices

Block	Total
Astaranga	106%
Brahmagiri	245%
Delanga	137%
Gop	136%
Kakatpur	111%
Kanas	121%
Krushnaprasad	92%
Nimapada	100%
Pipili	129%
Puri	325%
Styabadi	111%

4.3. Industry & Commerce

Industry has not entered any of these villages even in its Small Scale or Cottage form after the road construction. The benefit for the industries near the PMGSY road sites of the study was that there was more labour force coming from the villages, who can return daily to their home, unlike the migrant labourers. This phenomenon was strong in Puri, Satyabadi, Brahmigiri.

The impact of roads on commerce is twofold and counter-acting

1. An increase in the number of shops especially provision shops in the habitations and also cycle repair shops, fertilizer-pesticides shops and stationery items. A total of 76 provisions shops were started in the 36 habitations after the road construction. To add to that there was enlarging and modernizing of shops in most of the villages, abandoning of PCOs due to mobile revolution.
2. Now people buy from town markets once in a week or even on a daily basis and they do not buy from the local shops. On this direction, many local shopkeepers are facing stiff competition and has to lower their “monopoly” prices

There is also an increase in quality of goods consumed and luxury of choice for the rural consumers as they have started buying from bigger town markets.

See how prices of ordinary items bought in the village fell after the road came.

Table 5: Influence of road connectivity on prices of some products sold in the village Shops

Habitation	Item	Price Earlier	Price Now
Manijipur	Cold Drinks	17	12
Dakapara	Stationary	15	11
Nuapada	Rice	16	14

It was interesting to hear from the villagers of Pipili and Gop, that once there were two “Supermarkets” in the village with everything from shoes, clothes to groceries. as it was difficult for villagers to buy these things from nearby markets . Now these two shops have disappeared as people

feel no such need for a shop as they can commute to towns any time. Now people from towns and within the village set up more number of seasonal shops during the time period after the ground nut harvest to utilize the consumer

tendencies of the temporarily rich farmers, as villagers of Beraboi stated. Notice the significant increase in number of shops in the survey villages.

Table 6: Shows the increase in the number of provisional shops in the selected Habitations or Villages.

Block Name	Habitations	Increase in the Number of Provision Shops
Delanga	Manijipur	2
	Dakapara	2
	Delangakothabar	3
	Ramachandrapur	3
	Beraboi	5
Astaranga	Dihanata	3
	Nagar	3
	Petapada	2
Brahmagiri	Narasinghpurpattna	2
	Narasinghpattana	3
	Sipasurubili	1
Gop	Kusupur	1
	Bisarpur	3
	Jirikana	2
Kakatpur	Othaka	3
	Patapur	2
	Sadenga	3
Kanas	Nuapada	4
	Manapur	2
	Gaupada	2
Krushnaprasad	Bankijala	3
	Satapada	8
	Alupatna	4
Nimapada	Kanapur	3
	Bhuan	4
	Garapada	1
Pipili	Maliapa	3
	Kalyanapur	5
	Haripur	2
Puri- Sadar	Maltipatpur	3
	Jagannathballava	7
	Purusottamballav	2
Satyabadi	Chalisabatia	1
	Basantapur	3
	Dasabidyadharpur	4

The other types of shops were of the following categories

Table 7: Types of service offered by the new shops started after the road construction

Types of Service	No. of Increase
Cycle Repair/Bike Repair	5
PCO	10
Stationary	7
Construction Materials	4
Dhaba / Mini Restaurant	10

5. Conclusion & Findings

- Lack of adequate water seems to be the major hindrance in effecting a change in cropping pattern. The road by itself cannot be expected to influence cropping unless other essential inputs like water and seeds for the crops are made available.
- However, in the blocks of Gop, Kakatpur & Brahmairi which are relatively backward, there has been a perceptible shifting cultivation from traditional crops to vegetables and other cash crops.

- Further, individual milk producers have found increased access to shops and dairies in the vicinity because of the PMGSY roads and they have apparently profited from the road.
- More people are now going to nearby towns and other villages for odd jobs as well as selling woods, vegetables, and locally made items.
- A few relatively better off villagers have started repair shops, small grocery shops etc. and in the process additional employment opportunities have come up.
- It is somewhat early to expect growth of industries in villages/ habitations covered by PMGSY roads.
- However, the roads have facilitated the induction of buses and vehicles which in turn has encouraged the setting up of small shops / establishments by relatively better off villagers who are located near the road.
- Improvement in connectivity has facilitated a great hospitals.
- Perceptible increase in the number of boys and girls going to middle and high school education due to improved transport facilities due to the PMGSY road

the greater access to PHCs.

- The parents are not hesitant in sending their daughters to schools villages and towns.
- The phenomenon of neon light attraction has drawn villagers to town and entertainments.
- Parents are not apprehensive in sending their wards to schools located near the towns for higher education because of availability of transportation.
- The gap in educational level of boys and girls is narrowing.
- Remarkable improvement in maternity care due to easier access to hospitals has reduced mortality of newly born children.
- Women can travel in buses without depending upon the male comp this has given them a measure of independence.
- Those who are going for work like Aanganwadi workers can now reach on time to attend to their work and come back safely.
- Better connectivity has improved social integration through marriages and festivals.
- PMGSY roads have provided all public and private vehicles and contributed to mobility of villagers to access markets, medical facilities and other avenues of employment available in and around towns and villages.
- However, different types of rural taking place due to improved connectivity.
- Better transport and incidental communication facilities have led to market integration for village products and Small vendors from towns now find it easier to visit villages and sell their wares to villagers. Even, peddlers of locally brewed alcoholic beverages have started visiting male villagers at some discrete places for selling their products.
- PMGSY roads have facilitated mobility to markets and access to markets have opened up avenues of employment both on the respondents (250 households) show that average income has recorded increase in the past one year by 7%.
- Overall there has been at village level and creation of additional man days in farming activities due to additional crops being cultivated village.
- The Blocks of Odisha have a very rough geographical terrain. Prior to the construction of the road, even reaching the nearest health center was a massive task. After the construction of PMGSY road visiting the become easier. Thus, for a remote Blocks like Krushan prasad, even a slightest impact can be termed as impact of the highest degree.
- There has been a reduction in mortality rate.
- Medical doctors are willing to visit remote villages
- The advent of PMGSY project has opened the gateway to higher education for majority of the children.
- The access to education can be directly linked to the improved educational facilities and opening up of private schools in the villages. However the gap between male and female literacy is still very wide.
- Social interactions and PMGSY roads. Service delivery by the Government staff has also improved since now the officials from departments like Bank, health, and family planning visit more frequently.
- Parents are no longer Relatives find it easier to attend marriage ceremonies due to convenience in travel.
- Women have started coming into the private domain and actively participating in various social activities. With am various sections, social.
- The PMGSY project has given rise to a much needed transport system. The All Weather roads have offered safer, smoother and quicker mobility round the year, without any resistance.
- Improved transport facilities have reduced the travel time and the cost of travel.

6. Reference

1. Government of India, Guidelines on Member of Parliament Local Area Development Scheme, Ministry of Statistics and Programme Implementation, New Delhi, 2005; 10.
2. Government of India, Annual Report 2009-10, Ministry of Rural Development, New Delhi, 2010; 32.
3. Government of India, Pradhan Mantri Gram Sadak Yojana- Programme Guidelines, Ministry of Rural Development, 2012, 1-2.
4. Government of Punjab, Annual Plan 2010-11, Department of Planning, Chandigarh, 2010, 255-256.
5. Government of Odisha, Annual Plan 2011-12, Department of Planning 2011, 305-306.
6. <http://pmgsy.nic.in/pmg-e.doc>.
7. Kumar P. Study Report on BADP, Planning Commission, Government of India, New Delhi, 2002, 3-4.
8. Singh K, Rangnekar US. A Profile Report on Pre-Project Survey of Border Area Development Programmes in Punjab, Department of Planning, Government of Punjab, Chandigarh, 1-2.
9. Virmani A. Evaluation Report on Member of Parliament Local Area Development Scheme, Programme Evaluation Organisation, Planning Commission of India, New Delhi 2001, 1-6.
10. Bell C. The Benefits of India's Rural Roads Program in the Spheres of Goods, Education and Health: Joint Estimation and Decomposition', mimeo, University of Heidelberg, September. (To appear in the World Bank's Working Paper Series).
11. Bell C. (2011b), 'Estimating the Social Profitability of PMGSY: A Bumpy Ride', mimeo, University of Heidelberg, September. (To appear in the World Bank's Working Paper Series).
12. Binswanger H, Khandker S, Rosenzweig M. How Infrastructure and Financial Institutions Affect Agricultural Output and Investment in India. *Journal Development Economics* 1993; 41(2):337-366.
13. Deaton A. *The Analysis of Household Surveys*, Baltimore: The Johns Hopkins University Press, 1997.
14. Fan S, Hazell P, Thorat S. Government Spending, Growth and Poverty in Rural India', *American Journal of Agricultural Economics* 2010; 82(4):1038-1051.
15. Jacoby HG, Minten B. On Measuring the Benefits of Lower Transport Costs. *Journal of Development Economics* 2009; 89(1):28-38.
16. Khandker SR, Bakht Z, Koolwal GB. The Poverty Impact of Rural Roads: Evidence from Bangladesh', *Economic Development and Cultural Change* 2009; 57:685-722.