

# PMGSY Scheme on The Impact of Rural Road Connectivity on Health Care Access: A Case Study of Rural Areas of Kullu

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*Abstract— Purpose: For the rural health care system to expand and flourish, road connectivity is one of the most crucial elements. There exists a correlation between the appropriate road connectivity and regional health metrics. Many rural residents find it easier to obtain health, education, and other economic and social services when there is sufficient road connectivity in the countryside. To create jobs, generate money, and boost productivity in the agricultural and industrial sectors, improved road connectivity is essential in rural areas. Let's sum up by saying that improved health care and access to all economic sectors are made possible by rural communities having better road connectivity. Primary data, which were gathered using the random purposive sampling technique, served as the basis for all of the research. There were 150 households in all that were surveyed for the study. The study concluded that PMGSY significantly affects the sample district's health indices and health care services; delivery woman when they got labor pain and faced so many other factors. In rural areas, better health care systems are positively correlated with increased road connection and vice versa.*

*Conclusion: Improved connectedness has been shown to have positive effects on health-related factors in earlier research as well. Since the availability of healthcare facilities and other socioeconomic factors influence a society's health indices, the advantages could not be dispersed fairly. As previously mentioned, the study's sample of habitations has a homogeneous population, making it possible to compare them and evaluate the benefits and changes that the rural roads have brought about. These roads can be safely blamed for any appreciable alteration in the accessibility or usage patterns of these facilities. Variations from control habitations also demonstrated how easier it is to access these facilities on a better-maintained route.*

*Index Terms- PMGSY, RURAL, UNDP, NITI, SDG, GDP*

## I. INTRODUCTION

The region's growth and development are mostly dependent on the availability of developed infrastructure, such as improved industrial and agricultural infrastructures, communication facilities, road transportation networks, and facilities for education and healthcare. The Human Development Index, UNDP, and the SDG India Index 2020–21 is established in partnership with the United Nations in India and NITI Aayog. One of the key components of the index includes health indicators. The SDG Index has acknowledged that the third crucial component for evaluating the Index across different states is good health and well-being. Researchers and academics with doubts expressed that better road connection contributed either directly or indirectly to the expansion and advancement of the medical care system. Education and health are two crucial social facets of any household. These two are directly related to the income of the family. In every civilization, it is a general observation that household spending on health and education rises in direct proportion to domestic income.

The primary objective of this study was to evaluate the sustainability of these consequences. However, it has also revealed that certain deviations from customary agriculture and marketing methods may result in more significant adverse effects if they are not maintained because of road deterioration. It was discovered that farming patterns could alter as a result of improved connectivity, and that the removal of conventional marketing intermediaries could result in significant losses if the new facilities caused even a brief monopoly on improved connectivity.

Rygh EM, Hjortdahl P (2007), This article looked at potential strategies for enhancing rural healthcare delivery. Only a small portion of the wealth of literature on improving the integration, transdisciplinary, and management of healthcare programs to lessen fragmentation and enhance continuity and coordination of care is relevant to difficulties in rural areas. Developing an evidence-based understanding of rural health care and generalizing from one location to another are hampered by the absence of an internationally recognized definition of rurality. After a review of the literature, it was discovered that the creation of new modes of communication, like multidisciplinary, team-based work with flexible roles and responsibilities, task delegation, and cultural adaptations, is especially important in rural areas. Initiatives like outreach campaigns, shared care, integrated and managed care pathways, and telemedicine were also pertinent.

Tracey-White (2015), Mentioned that poor roads and a lack of transit options could make it more difficult to move around in rural locations. He highlights the need of researching how transportation networks impact marketing channels and, in turn, agricultural productivity over the long run. He pointed out that the type of transportation used, the distance traveled, the time spent traveling, and the cost of transportation all have an impact on the marketing system's effectiveness and, consequently, farm productivity.

According to Ajiboye (2014), Because improved accessibility fosters economic growth, the provision of transportation infrastructure is a crucial investment aspect. Paul et al. (2009) noted that three factors make the effects of road infrastructure on agricultural productivity and output particularly significant in sub-Saharan Africa. Firstly, the agricultural sector contributes significantly to the GDP of the majority of sub-Saharan nations.

Enhanced accessibility to medical facilities

The sample roads alone allowed all of the habitations to have year-round access to the closest medical facilities, public hospitals, and private nursing homes. Prior to the construction of the road, none of these habitations had a pucca road to access these facilities. In a similar vein, practically every control dwelling

relied on these roads to get to the closest medical center. The time saved traveling to a place and getting to medical facilities can save lives in addition to saving money and time. This is made possible by the upgrades to the roads.

Given that both the sample and control groups have access to roads, an effort was made to determine the amount of time that users save when traveling to medical facilities in comparison to the pre-construction period. Three categories have been established to address people's needs for getting to various medical institutions in the event of a medical emergency, major accident or injury, or pregnancy emergency. The habitations' group talks came to the conclusion that roads have saved a significant amount of time.

Lack of road in Rural Areas

People living in remote areas of Kullu district of Himachal say that due to lack of road facilities, they are forced to travel miles carrying the patient on a chair. In one such case, the health of 62-year-old village elder Maniram suddenly deteriorated.



Source: A report of Amar Ujala Himachal, 15 November 2022 Shimla, p.8

The family members first tried to cure the pain with home remedies, but as the problem increased, the family members had to carry the patient on a chair through slippery paths in the rain, due to the absence of roads even in the 21st century. Fell. People say that every time the villagers here have to face this kind of problem. (Banaungi) village has not been connected by road till date. People are forced to carry patients on cots on their backs to the road. Due to lack of roads, people have to face a lot of problems. Verification of this incident is given in the photograph below.

Due to another issues in Himachal Pradesh After being carried 8 kilometers in a palanquin from a roadless village (Mail), a pregnant woman gave birth to a child on the way. This incident took place in (Gadaparli) Panchayat of Kullu district of Himachal Pradesh.

A picture of rural village (Photos -2)



Source: A report of Amar Ujala Himachal, 14 September 2021 Shimla, p.1

The country is celebrating the Amrit Mahotsav of Independence, but the villagers of Sainj Valley of Kullu district have not yet received even basic facilities. Not a single village of Gadaparli Panchayat of the valley has been connected by road till date. In this incident, Mathura Devi, a pregnant woman from Mel village, had to tie a chair on poles and walk on a palanquin to reach Niharni road, 8 kilometers away, amidst the pain of delivery. It took 6 hours to transport the women through the narrow path in the rainy season; due to severe labor pain, the delivery had to be done on the road itself. The Gram Panchayat Samiti has also been demanding the construction of the road from the administration and the government, but the situation remains the same. In the last two and a half weeks, three women have had to be taken kilometers away for treatment.

**Upgrades to medical facilities**

Information was gathered through meetings with opinion leaders and health professionals at the habitation level in order to evaluate how roads have helped the establishment and availability of health facilities within the habitations. Investments in public health and welfare could be enhanced by all-weather connectivity, but the sustainability and efficacy of

these initiatives depend on the connectivity's persistence. The impact of such investments may be limited and disrupted by poorly maintained roads. In this section, we have attempted to evaluate the changes in infrastructure and investments made possible by road building, as well as whether or not these changes have persisted in the sample and control habitations. India, in the last few years has developed enormous amount of rural health infrastructure and it is visible across the country.

**Study Area**

This study is to be done in Sirmour districts of Himachal Pradesh. The present study is an attempt to look at the performance of PMGSY. However, in 2020 and 2021, 10,508 roads have been connected to the village in Himachal.

Table No.1.

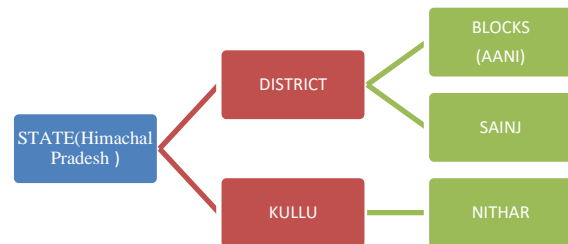
Villages Connected with Road in Himachal Pradesh

Villages Connected with Road	2019-20	2020-21 (up to Nov. 2021)
Populations more then 1500	217	217
1000-1499	295	295
500-999	1306	1310
499-250	3624	3634
Below 250	5032	5052
Total	10474	10508

Source: Economic Survey of Himachal Pradesh 2020-2021.

**Selection of the block process:**

Chart No-1



The distribution of sample units under the study is divided into three blocks rural roads which are connected to PMGSY scheme in good operational conditions and rural roads which are not connected in good condition. Further within these groups equal

proportion of roads selected were PMGSY funded roads and roads funded under other schemes. The sample units are distributed as under:

Table No. 2  
Category of Habitations covered

Sr.no	Category	Type of scheme	Status	Habitations Covered
1.	Sample habitations (Aani)	PMGSY	Not Connected	500
2.	Sample habitations (Sainj)	PMGSY	Connected habitations	500
3.	Sample habitations (Nithar)	PMGSY	Connected habitations	500
Total				1500

## II. IMPORTANCE OF THE STUDY

The vast majority of people in our nation live in villages. Villages that are affluent and happy are the backbone of the country's progress. Numerous initiatives are put in place to raise the living standards of rural residents. Nonetheless, the Government of India and the State Government may find some use for the ideas and recommendations that will be obtained based on empirical research. Additionally, the study would help the Ministry of Rural Development plan village roads and motivate panchayats to view issues from a different perspective. Additionally, this work is included in the pertinent body of literature that already exists, which will undoubtedly be useful in pointing the way forward and offering assistance to researchers.

### Objectives

- To study the impact of PMGSY on pregnant woman in the sample districts.
- To examine the impact of PMGSY on rural health in the study area.

### Hypotheses:

- There is no significant impact of PMGSY on pregnant woman and rural health aspects in the study area.

## III. RESEARCH METHODOLOGY

Out of five blocks of district Kullu of Himachal Pradesh, Aani, Sainj and Nithar were selected as sample blocks for the present study on basis of consideration that Aani, Sainj, Nithar has highest population of rural habitation (as given in table 1.2) and highest number of rural villages that connected and non-connected rural roads. The methodology adopted in present study keeping in view the research problem and research objective were empirical and used primary and secondary data. The primary data was collected through schedules & informal and informal interview. Schedules were administered to 75 respondent who had not connected to rural road and 75 who had connected to rural road. In addition to the above the secondary source were also used for pursuing research. The books, daily govt newspaper, article, journal websites were consulted to the secondary data. The data collected from different source have been analyzed & tabulated.

## IV. RESEARCH SAMPLING DESIGN

Multilevel sampling is to be used for the selection of districts and blocks. In this sampling, roads and panchayat beneficiaries will be selected. In the first phase, Shimla district of the state has been selected as the study area. At the second stage, total three blocks are randomly selected, where PMGSY scheme is implemented; and where there is pmgsy scheme is not implemented at third stage, total 6 villages (two villages from each block) are again selected randomly from the selected blocks. Finally, 40 per cent of households from the selected villages are surveyed randomly. Thus, a total of 150 households from selected 6 villages have been chosen for collecting primary data in this study. An attempt in the study is also made for proper assessment of the health care system in rural areas under influence of PMGSY scheme in the study area.

Therefore, 3 village level respondents such as one village Head, one Teacher/Educationist/Health worker and one Panchayat Member are purposively selected

from each selected village. Thus, in total 24 respondents other than 150 selected households are chosen for gathering village level information. The household information is collected from 150 sample families with the help of well-designed questionnaires. On the other hand, the village level schedule is designed keeping in view of impact of PMGSY on health, supply of drugs & medicines, PDS, administration, impact on electricity, awareness, transportation etc. Most importantly, the Focus Group Discussions technique is used for collecting the information from key stakeholders during the survey.

Table 3.

There is no reduction in travel time to reach the nearest health facility in case of maternity emergencies

SI. No	Response	Number of Respondent	Percentage
1.	To Large extent	120	85.3
2.	To some Extent	25	23.7
3.	Not to any extent	5	2.0
	Total	150	100.0

Sources: primary Probe

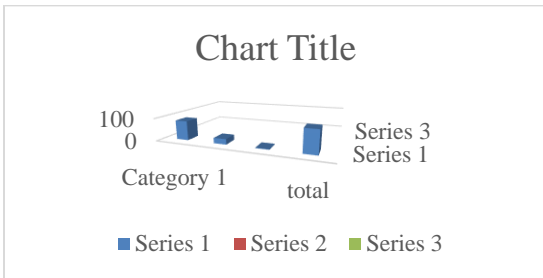


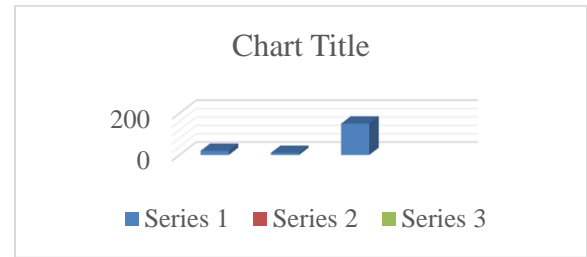
Table 3 indicated that 85.3 percent respondent had opinion that there is no reduction of travel time to reach the nearest health facility in case of woman maternity emergency in rural areas and They agreed this statement, only 23.7 respondent had opinion There is reduction in travel time to reach the nearest health facility in case of maternity emergencies. And 2 percent respondent had in moderate opinion. Majority of beneficiaries said that during emergency times when a woman is suffering from labor pain, there has never been any reduction in her traveling time to reach

the hospital on time. Without roads, they have to be carried on foot on shoulders till Milo, in which statistics it has been found that many children are given birth on the way in labor pain.

Table No.4

Reduction in travel time to reach the nearest health facility in case of serious physical injuries

SI. No	Response	Number of Respondent	Percentage
1.	To Large extent	120	80.3
2.	To some Extent	20	18.7
3.	Not to any extent	10	5.0
	Total	150	100.0



## V. DISCUSSIONS

To assess the extent to which provided rural connectivity has influenced road connectivity in this aspect, information was collected about women aged 18-45 years in respondent households who were pregnant. Due to sudden labor pain, she gave birth to a child on the way. And despite this, for the last many years, pregnant women have been carried on shoulders to the main road, the situation has become so prevalent that delivery is done on the way.

Roads have not yet been constructed in their settlements. It was reported that 78% of pregnant/giving birth women in the households surveyed in the sample settlements had received antenatal care during the period before road construction. This still requires improvement in large proportions, with 30% of such women receiving antenatal care during the post-road construction period. Improvement in these settlements is also important because there are no roads. There has been

an improvement in the number of such women from 30% after the construction of the road as 78% of the women expecting a child received antenatal care. According to data published in news magazines, many women are forced to deliver at home or on unpaved roads. 78% women have agreed that they had to risk their lives to get the delivery done at home or on unpaved roads.

On the other hand, a comparison of the data reported on antenatal care of pregnant women registered under the National Rural Health Mission (NRHM) shows that the indicators of women receiving antenatal care in connected settlements have improved. As per the data of beneficiaries reported for 3 sample blocks, only 35% women received antenatal care in hospitals during 2019-20, while this improved marginally to 55% during 2020-21. In comparison, the rural road settlements included in the study reported better coverage of women receiving antenatal care. On the other hand, in the selected panchayats in the block, it has been reported that pregnant women are receiving antenatal care to some extent in the settlements connected with well-maintained roads. In the sample survey in which roads were not maintained in the beneficiaries' settlements during the selection process, this figure was 81%. However, the efforts of the state and central governments have improved road connectivity during the last few years.

Significant improvement in coverage has been ensured. Better road connectivity is also an important factor. It was found that there has been an increase of 88% in the number of beneficiaries' settlements due to road connectivity as compared to the period before road construction. Similarly, 70% of the beneficiary patients are deprived of hospital and ambulance services

Hypothesis proved

- ❖ According to the study, the hypothesis has been proved that there has been no significant change in the method of delivery of pregnant woman in the areas which are still not connected by road. According to our study areas it has been found that our Pradhan Mantri Gram Sadak Yojana for pregnant woman had no impact in those areas which are not connected by road. The study found in such areas; woman still consider their pregnancy

period as a risk from their doorstep. Therefore, according to the data of the news agency, it was found that even today, to some extent, pregnant woman's are carried to the hospital for delivery on their shoulders.

## VI. FINDINGS AND CONCLUSIONS

- The building of rural roads to the habitations has resulted in a notable enhancement of access to health facilities. The amount of time it now takes to get to the closest medical institution in a variety of medical emergencies is far shorter than it was before these roads were constructed, and that extra time can literally save lives. Communities with poorly maintained roads have stated that during the rainy season, connectivity deteriorates and in certain cases, these communities lose all connectivity.
- such with better-maintained roads also have more frequent and regular visits from doctors and other health workers. There were also poorer levels of some important indicators related to the health of mothers and children in such communities.

## CONCLUSION

The majority of habitations now have all-weather roads instead of just earth work roads, thanks to rural roads, but in the habitations where the roads have not been maintained, the impact has been reversed and the pre-road state has returned. When it rains or floods, 12% of the habitations with poorly maintained roads become completely or partially inaccessible, thereby inconveniencing the occupants. The choice of the built roads was supported by the discovery that the majority of them offer access to vital services for the community's needs in terms of markets, healthcare, education, and other areas. The amount of suffering and loss experienced by people due to some of these routes' inadequate or nonexistent upkeep. It is easy to understand how much agony and loss the people have had due to the inadequate or nonexistent maintenance of several of these roads. The ensuing report chapters provide additional clarification and numerical data on this.

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