

An Impact of Pradhan Mantri Gram Sadak Yojana (PMGSY) on Non-Agricultural Labourers: an Empirical Study in Sagar District

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ABSTRACT: Poverty in India is a serious problem for which many poverty eradication programs have been run by the government time to time. Pradhan Mantri Gram Sadak Yojana (PMGSY) is one of them which are defined in term of 'road connectivity' for rural poor remedies by policy makers. A successful effort has been made to reduce poverty by connecting the rural area through this program PMGSY. Therefore, to understand the realism of this program, this study is designed. Under this study, an attempt has been made to see how much this program has been helpful in increasing the income and employment opportunities for non-agricultural labourers. In order to fulfill the objective of the study, primary data has been collected from 50 non-agricultural workers from 5 different villages of Sagar district. These villages are connected by the PMGSY. The regression analysis has been used to measure the impact of PMGSY on employment and income of non-agricultural labourers through SPSS version 16. The result of this study shows that PMGSY have a significant impact on increasing the employment and income opportunities of the people. This study will contribute the role of the road in the study of rural employment and income opportunities.

KEYWORDS: PMGSY, non-agricultural Labour, Rural Connectivity, Employment and Income.

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I. INTRODUCTION

Poverty in India is a serious problem, for which many poverty eradication programs have been run by the government. However it has been observed that such schemes cannot be permanent solutions to the employment problem because of the very high cost and less productivity nature of the type of works taken up under such programmes. The ultimate solution for the employment problems in rural areas lies in creating infrastructure, better connectivity and increased employment opportunities by connecting such areas to the markets and to places of employment in abundance. The availability of roads will facilitate more business in the villages thereby increasing the employment opportunities as well as helping people to travel outside for jobs. It has been observed that better connectivity can also result in increase in production capacities of the existing enterprises in the villages as well as creation of new opportunities in the villages, both will result in more people getting jobs in these enterprises.

Rural roads play an important role in creating employment for unskilled workers and social awareness. Effective transport system is essential for sustainable economic development and modernization; there is no doubt that transport has an important role in the overall development of the country's economy. This is not only the main infrastructure for the development process, but also plays an important role in maintaining national integration. High rate of growth will definitely indicate high transport demand. It is believed that the growth of GDP and transport sector is a positive relationship. Policy maker have been given great importance to road connectivity for rural poor remedies. Efforts have been made to reduce poverty by connecting the rural area with road connectivity through the launch of Pradhan Mantri Gram Sadak Yojana (PMGSY) in 2000.

Pradhan Mantri Gram Sadak Yojana (PMGSY)

Pradhan Mantri Gram Sadak Yojana is 100 percent centrally sponsored scheme. For this program, 50 percent cess has been levied on high-speed diesel and PMGSY is one of the largest infrastructure development initiatives in the country for the development of rural roads, with the establishment of National Rural Road Development Agency (NRRDA) to support the programme through advice on technical specifications, project appraisal, and the appointment of part-time Quality Control Monitors, Management of Monitoring Systems and submission of Periodic Reports to the Ministry of Rural Development. This agency is considered as a compact, professional and multi-disciplinary body Objectives of Pradhan Mantri Gram Sadak Yojana are

A. Most important objective of the PMGSY is to provide Connectivity, by All-weather Road, to the eligible unconnected habitations in the rural areas.

B. the PMGSY will permit the Upgradation of the existing roads in those Districts where all the eligible Habitations of the designated population size have been provided all-weather road connectivity.

II. RESEARCH METHODOLOGY

This study is based on primary data. The data are collected from field survey. In this study, only those villages of Sagar district which are connected by Pradhan Mantri Gram Sadak Yojana are considered for study purpose. From these villages, 50 non-agricultural labours have been taken as respondents. Selected villages are Pamakhedi, Narwani, Guda, Biharikheda and Lidhora Hat. In this study non agriculture labours means non-agricultural unskilled wage earners, live stock, poultry, mining and quarrying, construction labour, trading/shop keeping, driver/service in transport sector, traditional artisans, private service.

The data analysis is based on the mean, percentage, bar diagram and regression analysis SPSS version 16. The following key parameters to produce outcomes are:

1) Change in principal occupation, 2) Increase in days of employed, 3) Changes in place of employment, 4) Change in Annual Income, 5) Change in means of travel to reach the workplace, 6) Reduction in travel time, 7) Increasing in women's employment, 8) Helps in up-down for works.

III. OBJECTIVE OF THE STUDY

The main objective of this study is to assess the impacts of Pradhan Mantri Gram Sadak Yojana on the employment and income of non-agricultural labourers who are beneficiaries. While considered beneficiaries are as a result of enhanced rural connectivity provided through PMGSY in Sagar district.

Hypothesis

H1: There is a significant impact of PMGSY on income of non-agriculture labours.

H2: There is a significant impact of PMGSY on increasing employment opportunities for non-agriculture labours.

IV. LITERATURE REVIEW

The number of literature available on the issue under consideration is very limited for the study area. However, very few similar studies are available. A small review of the available literature is presented below.

Ministry of Rural Development, "Impact Assessment Study of Improved Rural Road Maintenance System under PMGSY (October 2015)" findings of the study are "Significant improvements were found in increased employment and income amongst households engaged in other occupation than their own farms. In the habitations where roads have not been maintained a marginal decrease in the gains achieved due to better connectivity was noticed. The savings in travel time to the place of employment was found higher in case of sample habitations where the roads are maintained as compared to control habitations. Better availability of transport facility had an impact and poor maintenance of roads has adversely impacted them".

Jain, Preeti with titled "Pradhan Mantri Gram Sadak Yojana: A path to Inclusive Growth of MP, (2014)" mention under impacts of PMGSY "After the construction of PMGSY roads, an improvement in the employment situation in terms of more job opportunities was observed. A lot of housewives were mentioned that they have started small scale industries like making, pickle, papad, bidi, sivai, jhadu etc. And after that also mentioned that rural roads have reduced the rapid growth rate of poverty and have increased the participation of people in the state's development process,

Ghosh, Madhusudan "Infrastructure and Development in Rural India (2017)" concluded in his article "Among various infrastructure indicators, electricity, irrigation and roads have been most important for agricultural productivity and output growth, poverty reduction and human development in terms of improvements in health and education. Access to the quality of roads in bringing socio-economic changes in rural areas is more important than the quality of roads."

Biswas, Rentu and A K M Anwaruzzaman "Impact of PMGSY on Socio-Economic Development: A Case Study of Chandpur- Kushabaria Road, Murshidabad District, West Bengal(2018)" According to the researcher "There is a positive impact on employment generation by the PMGSY road as 78% respondents affirmed responded and about 22% respondents say that it has no impact. None of the respondent identified any negative impact of the road regarding employment generation.

V. DATA ANALYSIS AND RESULTS

Distribution of respondents

The demographic character of the respondents i.e. non-agriculture villagers are describe in table 1. Total 50 labours are taking from five villages of Sagar district. Respondent's profile is presented in frequency and percentage.

Table 1: Distribution of respondents

Principal Occupation	Frequency	Percent
Non-agricultural Unskilled Wage Earners	18	36
Live stock, Poultry etc.,	2	4
Driver/service in transport sector	4	8
Trading/shop keeping	5	10
Construction labour	6	12
Mining and quarrying	6	12
Pvt. Service	8	16
Traditional artisans	1	2
Total	50	100

From the above table we can understand that among the 50 respondents, highest percent covered by non-agriculture unskilled wage earners and after this private service labour is covered. Villages which are selected for the study have availability of mining, quarrying and cursing of stones.

Table 2: Impacts of the PMGSY road on income and employment

Impact on	'Yes' Response		'No' Response	
	No. of Respondent	% of Respondent	No. of Respondent	% of Respondent
Change in principal occupation	24	48	26	52
Increase in numbers of days employed	33	66	17	34
Changes in place of work	28	56	22	44
Change in Annual Income	36	72	14	28
Change in means of travel to reach the workplace	41	82	9	18
Reduction in travel time	43	86	7	14
Increasing in women's employment	36	72	14	28
Easy up-down for works	45	90	5	10

The data of the table number 02 are display in figure 1 and its descriptions are listed below:

Change in principal occupation: Construction of roads comes with new opportunities for occupation. In an attempt to assess whether construction of PMGSY also impacts on any changes in occupation of non-agriculture labours in Sagar district. The findings are represented by the table no.2 and also in figure no. 1. From the table and figure, it is known that connectivity provided by the PMGSY helps 24 (48%) respondents to change their principal occupation, where 26 (52%) have an answer that PMGSY is not helping to change in their principal occupation.

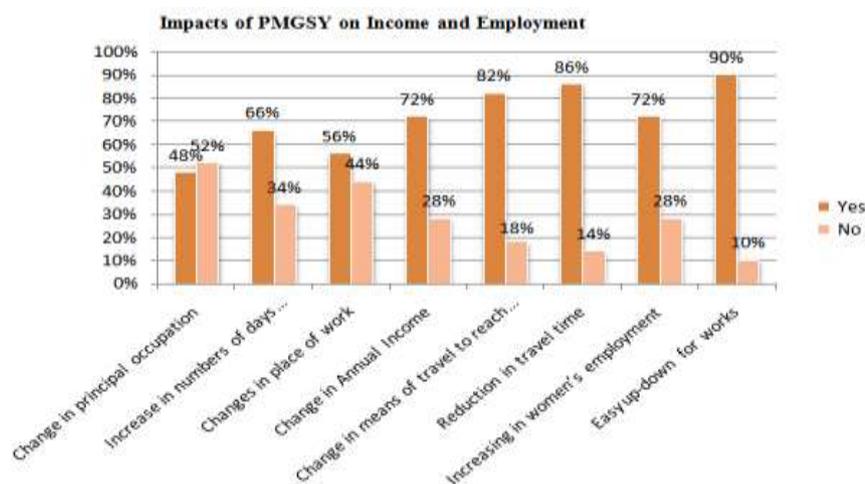


Figure 1: Impacts of PMGSY on Income and Employment

Increase in numbers of days employed: Information was collected on connectivity provided by PMGSY whether helping or not for increasing in employed days of the non-agriculture labours. After the study of table no.2 and also in figure no. 1, we found that 33 (66%) have reported that PMGSY helping to get more employed days within a year. And 17 (34%) said that the construction of road does not help to get more employed days. The most benefited groups by PMGSY are non-agriculture unskilled wage earners, construction labour and labourers engaged in the transport sector.

Changes in place of work: Table no. 2 and figure no.1 depicts that 28 (56%) respondents have shifted their place of employment from within the habitation to outside the habitation. Due to better and quicker access to the place of employment provided by PMGSY and 22 (44%) said that road did not help to change in their place of work.

Change in Annual Income: Better connectivity creates new opportunities for direct and indirect employment adding to the income of the non-agriculture labours. Information of impact on annual income was collected through schedule from the study area. It is observed from table no.2 and figure no.1, 36 (72%) respondent report that construction of PMGSY is helping to increase their annual income and 14 (38%) reported no impact on annual income.

Change in means of travel to reach the workplace: Improved all season connectivity in the rural areas is resulted in increasing usage of motorized vehicles. Table no.2 and figure no.1 represented that 41 (82%) respondent reported that construction of PMGSY helps to increase means of transport to reach workplace and 9 (18%) respond no impact on change in means of transport, because some labours already have motorcycle and some do not go too far from village so they prefer walking to workplace.

Reduction in travel time: Data collected whether the road has made an impact on the reduction in travel time has been analyzed and presented in table no.2 and figure no.1. Through the study of table and figure, we found that 43 (86%) people reported that construction of road gave quicker access to the workplace and helped to reduce travelling time. 7 (14%) respondent reported no impact of PMGSY on travel time.

Increasing in women's employment: Table no.2 and figure no.1 shows that construction of PMGSY increases the means of transport and employment opportunities these helped women to go outside for work. Among all respondent 36 (72%) reported a positive impact on increasing women's employment and 14 (28%) respondent no impacts on women's employment.

Easy up-down for works: Increasing all-weather road connectivity is helped to up-down for non-agriculture labours those who go outside for works. Collected data for up-down for work is analyzed and represented in table no.2 and also figure no.1. The table and figure depict that 36 (72%) respondent favour the positive impacts on up-down for work. Only 5 (10%) peoples said that they do not think the road has helped to make up-down easy.

Regression analysis and Hypothesis Testing

Model 1: Impact on Income of PMGSY

To assess the impact of PMGSY on income of non-agriculture labours, we assumed increase in days of employed (β) as predictors (constant) and change in annual income as dependent variable:

$$Y = \alpha + \beta x$$

Table 3: Model Summary

	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.775	.600	.592	.290

Table 4: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	6.051	1	6.051	72.104	.000
Residual	4.029	48	.084		
Total	10.080	49			

A simple linear regression was calculated to predict the impact of PMGSY on income non-agriculture labours' by helping in increasing in days of employed. A significant regression equation was found $F(1, 48) = 72.104, p < .000$, with an $r^2 = .600$. Labour's predicate change in income is equal to $.296 + .734(\text{numbers of days employed})$ rupees when employment is measured in days. Laboures average income increased .734 rupees for increasing in each day of employed. The coefficient of determination (r^2) is 0.600, consider as 60%. This indicates that about 60% of the total variation in income is explained by change in days of employed. The remaining 40% of variation in income may be attributed to other factors and stochastic error.

Table 5: Coefficients

	Standardized Coefficients	t	Sig.
	Beta		
(Constant)		2.407	.020
Increase in days of employed	0.775	8.491	.000

Model 2: Impact on Employment of PMGSY

To know the impact of PMGSY on employment change in principal occupation (β_1), Change in means of travel to reach the workplace (β_2) assumed as predictors (Constant), and Increase in days of employed as dependent variable:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2$$

Table 6: Model Summary

	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.495	.245	.213	.424

Table 7: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.752	2	1.376	7.638	.001
Residual	8.468	47	.180		
Total	11.220	49			

A multiple regression was calculated to predict increasing in employment opportunities by helping in change in principal occupation of non-agriculture labours. A significance regression equation found $F(2, 74) = 2.752$, $p < .001$ with an $r^2 = .245$. Labours predicted employment generation is equal to $.283 + .357$ (change in numbers of principal occupation) $+ .431$ (change in means of travel to reach the work place). Employment opportunities for non-agriculture increased as $.357$ days for change in a principal occupation and 0.431 for change in one means of travel to reach the workplace.

Table 8: Coefficients

	Standardized Coefficients	t	Sig.
	Beta		
(Constant)		4.065	.301
Change in principal occupation	.376	2.602	.005
Change in means of travel to reach the workplace	.350	2.753	.008

The output of the proposed hypothesis is given in table no. 9. However all hypothesis is accepted in this study.

Sr. No.	Hypothesis	Accepted/Rejected
H1	There is a significant impact of PMGSY on income of non-agriculture labours.	Accepted
H2	There is a significant impact of PMGSY on increasing employment opportunities for non-agriculture labours.	Accepted

VI. FINDINGS

The major findings of this study is given below-

- [1]. Significant impact found in increasing in employment opportunities of non-agriculture labours of Sagar District.
- [2]. In study are better and fast connectivity provided by PMGSY is a help to increase in means of transport and reduce travel time to reach the workplace.
- [3]. Due to the all-weather road connectivity provided by PMGSY principal occupation of labours has been changed.
- [4]. Due to the construction of PMGSY, employment opportunities for women are also increased.
- [5]. Helping in increasing in days of employed is leads to an increase in annual income of non-agriculture labours.

VII. CONCLUSION

The most important purpose of the government is to include the rural area in the development process by providing all-weather road connectivity with the construction of rural PMGSY. Two important dimensions of development are income and employment. In this study, the impact of Pradhan Mantri Gram Sadak Yojana on these dimensions has been studied and it has been concluded that the Prime Minister Gram Sadak Yojana has a positive impact on the employment and income opportunities for non-agricultural laborers. PMGSY help to

increases numbers of employed days, an annual income of labours, means of transport to reach the workplace, change in principal occupation, made easy up-down for the worker and last but very important, this road construction helping to increases the employment opportunities for women hence rural roads under PMGSY help to attain the overall development of the country and its citizens.

VIII. SUGGESTIONS

This study is very important for policymakers and academic researchers. The policymakers will need to pay more attention to the increase facilities by developing road connectivity and; this will help to increase more income and employment opportunities for labours. The maintenance of the road continues from time to time, so the labours require less time to reach the workplace and to be free from the fear of accidents. This plan is working very well, whose positive impact has been studied, therefore, it should be extended for a few years and connectivity should be provided to all the villages.

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