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DEVELOPMENT OF RURAL ROAD IN INDIA : REVIEW

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Abstract

As per the 2011 census, 69 percent of India's total population is from rural areas. Therefore, improving connectivity and accessibility to rural areas will provide a vital impetus to the country's economic growth. Development of rural infrastructure in general and rural transport system in particular is very crucial in India. Rural road connectivity ensures access to critical services and more opportunities, and fosters sustainable poverty reduction programmes as well as employment generation through industrialization in rural areas. It is estimated that 20-30 percent of the agricultural, forest and horticultural produce gets wasted because of inadequate or improper rural road network or due to poor condition of roads, which creates impedance for transporting such commodities for the need users. 60 percent of the total road length in India is covered by rural areas. The rural road length increased to about 24,50,559 kilometers in recent times while the total rural road length was only 3,54,530 kilometers in 1970-71. Well planned rural road connectivity is a vital component for the socio-economic development of rural people by providing access to amenities such as education, health, marketing etc. It has been seen that investments in rural roads lifts rural people above the poverty line. The evidence also indicates that as the proper rural connectivity improves the economy and rural roads always leads to increase in agricultural production and productivity by bringing in new land into cultivation the rural poverty levels come down. Hence this paper reviewed some earlier works and Govt. polices about the rural road network plan and makes some concluding remarks for the development of rural road network planning.

Index Terms: *Rural Road Infrastructure, PMGSY, RIDF, Bharat Nirman.*

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1. INTRODUCTION

Road transport is faster, more convenient and more flexible. It is particularly good for short distance traveling for movement of goods. Motor vehicles can easily pick up the passengers and goods from anywhere and take them to wherever they want to be dropped. In the case of road transport door-to-door collection and delivery are possible. Rural connectivity turn a censorious composing in the sociology-saving elaboration of rural nation by afford accessibility to creature comforts like education, health, supplies, etc.

Availability of adequate infrastructure in rural as well as urban areas is the *sine* for economic development of a nation. Access to rural infrastructure has a strong positive association with rural economic development and strong negative association with incidence of poverty. It is necessary to accelerate investment in rural infrastructure to generate additional employment, create new economic opportunities, ensure delivery of related services and enhance credit absorption. All these ultimately lead to improvement in quality of life and reduce the vulnerability of rural poor.

Rural Connectivity is a key component of rural development and contributes significantly in the socio-economic development of rural people by providing access to amenities like education, health, marketing etc. It has been estimated that investments in rural roads lifts rural people above the poverty line. The evidence also shows that as the rural connectivity improves, the rural poverty levels come down. Improved roads can create opportunities for economic growth and poverty reduction through a range of mechanisms. Roads reduce transportation costs and production of goods and services. With easier access to markets and technology, improved roads expand farm and non-farm production through increased availability of relevant inputs and lower input costs.

It is observed that 15 percent of crop produce is lost between the farm gate and the consumer because of poor roads and inappropriate storage facilities, adversely influencing the income of farmers. Construction of rural roads inevitably leads to increase in agricultural production and productivity of crops by bringing in new land into cultivation.

2. LITERATURE REVIEW

Numerous studies have established the positive relationship between rural connectivity and development; rural roads provide vital links that foster effective access to and utilization of a host of important social and physical infrastructure. A multitude of benefits are attributed to rural road development, including increased agricultural production, better farm prices, growth of dairying, rural industrialization, better educational standards, and higher life expectancy resulting in balanced and faster development of rural areas.

The study of the effects of rural roads improvement in the Philippines revealed improvement in economic, social and human services indicators, as a result of improvement in rural roads. Due to cheaper and more reliable transport, cheaper farm inputs, higher farm gate prices and large share of major crops sold directly in markets the gross household income increased by 28 percent primarily. There was increased non-farm employment, better access to education, health and farm management services, improvement recreation facilities and information flows. Access to better health and education usually improves more rapidly along roads than any other. A study in Thailand revealed that impact of roads was more on isolated areas that were brought into the mainstream. Wherever access to market is improved the area under cultivation and the intensity of land use increased significantly.

2.1. History of Rural Road Development in India

Since 1940's the Government of India and the State Government had drawn several policies, programmes and conceived various schemes for the development of rural roads in India. The policies framed and targets were set under the long-term road development plans and accordingly funds were allocated in various rural development programmes/schemes under the Five Year Plans Development laid down during these plans are presented in Table no. 2 (Source: Rural Road Development Vision 2025 (Draft) 2021 has been brought out to guide the Central and State Governments in developing the road infrastructure of adequate standards in the country. The strategy proposed in the vision document for planning rural roads emphasized the need for preparation of master plans for rural road network in each district. The planning of network for the district may cover all habitations with minimum population of 100 and above to be served by all-weather roads. Following Table presents the prioritized targets for the provision of all-weather roads. Currently, the Road Development Plan Vision is as follows

Table-1: Progress of Road Network after Independence

	1950-51	1960-61	1970-71	1980-81	1990-91	2000-01	2005-06
Major District Roads and Rural Roads	333	429	821	1358	2166	2994	3117
Percentage of villages with population above 1000 connected with all-weather roads	32%	36%	40%	46%	73%	90%	92%
Overall village accessibility	20%	22%	25%	28%	44%	54%	60%

Table-2: Target for Connectivity of Villages

Villages (population category) to be connected by all-weather roads	Target Year
Villages with population above 1000	2003
Villages with population 500-1000	2007

2.2. Rural Roads Infrastructure in India

The necessity of a proper road network for the development of rural India and consequently the whole country was understood quite early in India. looking at the road needs of the country on a long-term basis, the first road development plan of 1943-61, popularly known as Nagpur Plan, and for the first time classified the road system into a functional hierarchy comprising National Highways (NH), State Highways (SH), Major district roads (MDR), Other District roads (ODR) and Village roads (VR). The rural road system in the country is formed by last two classes of roads. The third road development plan known as Lucknow Plan (1981-2001), observed rural road requirement for the country and had spelt out various measures to develop rural roads. For rural road development this plan suggested several approaches. These development approaches include preparation of long-term master plan for rural roads; stage construction in view of the low level of traffic in the initial stage of development of a rural road.

The rural roads have received significant attention and emphasis during all the road development plans. Numbers of programmes was launched under several employment generation and poverty alleviation programmes of the Central and State Governments to achieve the goal of rural connectivity such as the Minimum Needs Programme (MNP), National Rural Employment Programme (NREP), Rural Landless Employment Guarantee Programme (RLEGP),

Jawahar Rozgar Yojana (JRY) etc.; but these programmes failed to achieve their desired goals. A complete analysis of the past schemes reveals many deficiencies in the whole process from planning to implementation and monitoring to evaluation. There was largely a misconception that rural roads being the lowest category of roads need no proper design and engineering. The Ninth Five Year Plan acknowledges that several thousand kilometers of such roads were constructed in the past without proper design and engineering and hardly in proportion with the resources that were allocated to the effort. As a result, rural roads had poor geometrics, inadequate compaction of embankment and inadequate drainage, so the roads that were built were hardly all-weather roads and did not last long.

2.3. Pradhan Mantri Gram Sadak Yojana (PMGSY)

Government of India launched the Pradhan Mantri Gram Sadak Yojana (PMGSY) on 25th December, 2000 as a Centrally Sponsored Scheme to assist the States, in order to create durable and permanent assets, an adequate provision for drainage and protection works as well as quality control during construction and maintenance of assets. To provide connectivity by way of an All-Weather road (with necessary culverts and cross-drainage structures, which is operable throughout the year) is the primary objective of PMGSY, to the eligible unconnected habitations as per Core- Network with a tax on High Speed Diesel (Rs. 0.75/litre), budgetary support, ADB funding, World Bank funding and NABARD loan. Under this programme including funding from World Bank and Asian Development Bank total amount of Rs. 1,11,368 have already been spent .

It is equally essential to ensure that roads already created are systematically maintained and yield services as originally envisaged before going on undertaking more such assets. PMGSY-II has been launched keeping in view the asset value of the road network. The programme was conceived on sharing basis to consolidate existing rural road network by up-gradation, renewal and maintenance of the vast network already created. It would cover up-gradation of existing selected rural roads based on a criterion to make the road-network vibrant. The selection of routes would be with the objective of identification of rural growth centers and other critical rural hubs, rural places of importance (connectivity to other growth poles, market, rural hub, tourist places etc.). Development of Rural Hubs & Growth centers is crucial to the overall strategy of facilitating poverty reduction through creating rural infrastructures. Markets, banking and other service facilities enabling and enhancing self-employment and livelihood facilities is provided by Growth centers / rural hubs. It is proposed to cover during the 12th Five Year Plan period, overall 50,000 km road length by up-gradation to consolidate the rural road Network under the PMGSY-II programme at an estimated cost of Rs. 33,030 crore (at 2012-13 prices), including administrative and management cost of Rs. 530 crore. The cost will be shared between the Centre and States/Uts on 75:25 basis for the plain areas and 90:10 basis for the special areas. The Central share would be Rs. 27,022 crore (at 2012-13 prices), including administrative and management cost of Rs.530 crore.

Table-3: Physical Progress of PMGSY up to 2014 (PMGSY- I,II and ADB/WB)

Amount Released as project cost (Crores)	1,09,589
No. of Road works completed	1,01,999
% of completed road works	71
Length of road works completed	3,99,911
% Length completed	73

Table-4: The Targets of the Programmeme and Present Progress as on 31st March, 2014

Activity	Total Eligible	Project Cleared (Sanctioned)	Achievement
PMGSY-I			
Habitations (Nos.)	1,78,184	1,44,717 (81%)	97,838 (55% of eligible)
New Connectivity (Km)	-	3,58,411	2,48,919 (70% of sanctioned)
Upgradation Length (Km)	2,24,906	1,75,326 (78%)	1,51,060 (67% of eligible UG)
PMGSY-II			
Upgradation Length (Km)	50,000	10,725 (21%)	Nil

Source: Annual Report 2013-14, Ministry of Rural Development, Govt. of India

2.4. Bharat Nirman Yojana

One of the important Programmes launched by the Government of India in December 2005 identified six core infrastructure sectors in rural areas viz. rural housing, irrigation, drinking water, rural electrification, rural roads and rural telephone connectivity. Initially, it was launched as a time bound programme of construction of rural infrastructure for implementation during the four year period 2005-09. Rural Road, one of the six components of the programme with a goal to provide with an All-weather road connectivity to all eligible unconnected habitations or areas with a population of 500 persons and above in the case of Hilly or Tribal (Schedule V) areas and 1,000 persons and above (as per 2001 census) in plain areas. The Bharat Nirman Programme envisages a massive scaling up in terms of habitation connectivity coverage, construction targets, and financial investment. A total of 51,253 habitations have been connected out of 63,940 habitations to be connected and works for connecting 62,876 habitations have been sanctioned up to March, 2014. The targets and achievements of rural road network under Bharat Nirman are given in Table 5.

Table-5: Year-wise Targets and Achievements of Rural Road Network under Bharat Nirman

Year	Target		Achievement	
	No. of Habitations to be connected	Length of Road works to be completed (Km)	No. of Habitations to be connected	Length of Road works to be completed (Km)
2005 - 06	7,895	17,454	8,202	22,891
2006 - 07	9,435	27,250	10,801	30,710
2007 - 08	12,100	39,500	11,336	41,231
2008 - 09	18,100	64,440	14,475	52,405
2009 – 10	13,000	55,000	7,877	60,117
2010 – 11	4,000	34,090	7,584	45,109
2011 – 12	4,000	30,566	6,537	30,995
2012 – 13	4,000	30,000	6,864	24,161
2013 - 14	3,500	27,000	6,560	25,316

Source: Annual Report 2013-14, Ministry of Rural Development, Govt. of India

2.5. Challenges of Developing Rural Road infrastructure

India has a rural road length of about 2.7 million km which is about 80 per cent of the total road network. The serviceable condition of this is crucial to the rural / agricultural growth and affording means of access to millions of rural people to social facilities viz. medical, education as also to market. As the time for access to markets and other social infrastructure is increased Lack of maintenance affects the poor people badly. Hence, the challenge lies in both expansion of the network to provide road links to unconnected habitations and at the same time maintenance of the existing vast rural road network built at high cost to the economy over the past over fifty years. The Thirteenth Finance Commission (FC) has specifically made provision for maintenance funds for the core rural roads network including for PMGSY roads that have completed their initial five-year maintenance contracts. Among several issues to be addressed for ensuring maintenance of rural roads on sustainable basis, the most critical one are need for Government Policy, dedicated funds, maintenance backlog, linkage to initial construction, Maintenance Management System, institutional reforms, contract maintenance, Panchayati Raj Institutions, modernization, experience sharing etc.

2.6. Rural Infrastructure Development Fund (RIDF)

Conventionally, for rural infrastructure public investment is considered as the major provider. In agriculture it has enabling and encouraging effect on the private investment. Due to lack of public investment in infrastructure influences the viability and effectiveness of private investment in a negative manner. However, it has not been possible to step up public investment in a huge way. To address this concern, Government of India, introduced Rural Infrastructure Development Fund (RIDF) in 1995 in NABARD, entrusting it with the responsibility of channelising financial resources to the State Governments for rural infrastructure development. Since establishment of RIDF, around 5.37 lakh projects involving an amount of Rs. 1,84,107 crore were sanctioned under various tranches. Out of the cumulative RIDF loans sanctioned as on 31 March 2014, agriculture and related sectors accounted for 43 % (including 29 percent for irrigation), rural roads 31 percent and bridges 12 %. Under social sector projects the balance 14 percent of the loans was sanctioned. The sector-wise position is presented in Table 6. The RIDF investments have followed in multitude of benefits including, creation of additional irrigation potential of 218.4 lakh, provision of rural connectivity through 3.8 lakh km. rural road network and 8.8 lakh meters long rural bridges.

Table-1: Sector-wise Projects and Amounts Sanctioned under RIDF I to XIX
(as on 31 march 2014)

Sector	No. of Projects	Share in Total (%)	Amount Sanctioned (Rs crore)	Share in Total (%)
Rural Roads	1,03,046	19	57,606.92	31
Social Sector	1,00,372	19	26,134.23	14
Irrigation	2,73,475	51	53,613.57	29
Rural Bridge	17,446	3	22,268.95	12
Agriculture related	42,442	8	24,482.87	14
Total	**5,36,781**	**100**	**1,84,106.54**	**100**

Source: NABARD Annual Report, 2013-14

3. CONCLUSION

Rural roads are the wealth of a nation, an implementation for social inclusion, economic development and environmental sustainability. Rural roads connect communities and their agricultural fields to the main transport system and markets. Improving rural roads decrease transport cost and stimulates marketing. This results in increased production and productivity, crop diversification and increased profitability. A main tailback for local economic development is often a limited and poor quality rural road network. It is quite apparent from the Plan documents that, private sector participation in road sector has been confined to development, maintenance and operation of specified highways (national and state), expressways, bridges and bypasses. Rural roads, particularly, those needed to connect remote, hilly and backward settlements are hardly profitable to the private operator. Hence, without doing any major policy modernization on the development of rural road infrastructure, it is very difficult to expect private sector participation in this area and till that time Public investment must have to come in

a huge way and without any further delay. This pivotal component of rural infrastructure, neglected during the reforms decade, need to be state financed in a time bound manner to prevent the rise in urban rural disparities in growth and development.

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