



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A REVIEW OF RURAL ROADS AND AGRICULTURE.

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Abstract: Rural roads are significantly important in developing countries where majority population still resides in rural areas. It affects the lives of rural population in several ways. The accessibility of roads in rural areas opens up better opportunities for rural people like ease to market centres, incentives from agricultural goods, increase in marketing of dairy products and other basic facilities. The following works gives a comprehensive review of the work being done on the impact of rural roads in various developing countries of the world.

Index Terms – Rural road, developing countries, agriculture, marketing.

I. INTRODUCTION

A well-planned transportation system provides an equally fair spatial distribution and mobility of both human and material resources thereby triggering the development of an area. It is a better road transport system which is one of the most essential ingredients to supply the necessities of life, plays the vital role in the development of a state. Queiroz and Gautam is of the view that road transport is the foremost condition for the developing countries. It's value can be estimated by the fact that nearly 80-90% of transport is done in the form of total inland and border crossing (Queiroz & Gautam, 1992).

Transportation possesses the potential of transforming the economy of a region by providing goods and services of lower end values to high-end values. By uplifting every sector of the economy in a region importantly in rural areas, it has improved their economy. By taking the example of developed countries, one can guess that a better and developed infrastructure and transport can change the face of India, both rural and urban. One can reach at this view by establishing positive link between rural and urban infrastructure which can improve livelihood, health and productivity as well as it can reduce poverty and unemployment. Among the most important infrastructural facility in rural areas which provides the bases to other infrastructural facilities to develop is – **Road**. Road are basically a way on land with a right of way for the public (Ministry of Road Transport and Highways, GoI, 2013).

Roads are arteries through which the benefits of development flow from one place to another. Rural road connectivity is very important for the progress of an undeveloped country like India, a country where 70% of its population, as per the Census of India, 2011 lives in villages (Office of the Registrar General & Census Commissioner, India, 2011). Reaping benefits from any development program in India is possible only when its villages are well connected providing greater accessibility and easy flow of goods and services. Keeping the above point in the view, the Government of India launched the most promising scheme famous with the acronym PMGSY, **Pradhan Mantri Gram Sadak Yojana**. The said scheme came into existence from 25th December 2000 with the aim to provide all- weather connectivity.

Present work put forth the review of the work done by the researchers to examine the impact of rural roads mainly in agriculture sector.

REVIEW OF LITERATURE

Rural roads are the foundational infrastructure requirement on which socio-economic upliftment of rural communities depends. They are the gateway to opportunities providing access to goods and services in nearby villages, major towns market centres. The provision of rural roads increase the mobility of men and materials thus facilitating economic growth. poverty and lead to overall social development.

have established that there is a strong relationship rural roads and socio-economic development.

- **P. Maheshwari & S.L. Tandon (1959)** “**Agriculture and Economic Development in India**” highlighted the role of agriculture in the Indian economy by stating that the agriculture sector still holds an important place in the Indian economy and emphasized on improved agricultural production for both food and raw material for industries. It will help in boosting the economy and for that effective agricultural marketing is needed.
- **Hine (1982)** reviewed several impact studies conducted in about countries. Most of these studies are optimistic about the relationship between road investment and agricultural development.
- **Howe and Richards, (1984)** in their book ‘**Rural Roads and Poverty Alleviation**’ considered transport as an important component of all facets of social and economic development. Rural roads are defined primarily as those which link villages and open up more opportunities for villagers to travel, and for their products to reach the market.
- **Central Road Research Institute (1987)** conducted a study under the aegis of the Indian Road Congress to examine the socio-economic impact of rural roads in nine districts. The finding showed a positive result on agriculture production, fertilizer consumption, an increase in non-agriculture activities, and better utilization of existing infrastructure.
- On the same lines, another survey was conducted by **Central Road Research Institute (1989)** in remote areas of India showed that villages located on the main road are comparatively well developed than those away from the road.
- **Cesar Queiroz and Surhid Gautam (1992)**, in their policy working research paper in World Bank, establish a correlation with country’s national income with selected Their study pointed out that the average density of paved roads is 59 times that in the low-income group.
- **Binswanger, Khandker, & Rosenzweig (1993)**, in their journal article, “**How Infrastructure and Financial institutions affect Agriculture output and Investment in India**”, hold the view that agriculture input and an output price in India is affected by infrastructure decisions of the government.
- **Cervero, and Leinbach (1995)**, in their journal “**Transportation and research part A: Policy and Practice**” recognized transport and particularly land transport acts as catalysts to economic development in most third world countries thereby holding a major share in budget allocation.
- **SD Ellis (1995-1996)** in his thesis “**The Economics of the provision of Rural Transport Services in Developing Countries**” reflected that countries such as Thailand, Sri Lanka, and Pakistan which have a high density of rural population have better access to motorized vehicles. Better transport vehicles lead to better speed and load carrying capacity, it also reduces the unit cost of transport. As a , they improve marketing efficiency opportunities raises incentives to increase agricultural production.
- **Fan, Hazell, Thorat (2000)** in their work “**Government Spending, Growth and Poverty in Rural India**” formulated a model to measure the impact of government expenditures on growth and poverty in rural areas. They prioritized different items of expenditures and considered investments in rural roads at utmost significance which can greatly affect the poverty reduction and growth in agriculture.
- **India Infrastructure Report (2007) published by Oxford University Press** stated that PMGSY roads have made a positive impact on agriculture in terms of marketing, buying, and selling of agricultural goods. There has been a change in cropping patterns from food crops to cash crops, boosting animal husbandry which leads to a rise in the marketing of dairy products, especially in Rajasthan.
- **Khandker, Bakt, and Koolwal (2009)**, in their **World Bank Policy Research, working paper**; examine the impacts of rural road projects in reducing poverty of developing countries in Bangladesh.
- **Tim Lomax and David Schrank (2010)** in “**Developing a Total Travel Time Performance Measure: A Concept Paper**” related changes in the distributional pattern in a land with mobility in urban areas. Through its performance measure indices, they studied that both speed and travel time is less in closely spaced location.

- **Guajiro & Lukoma (2011)** opines that infrastructure mainly roads are a contributor to farm productivity transaction costs input and output markets.
- **Okoko, E (2011)** in his paper “**Rural Transportation and Rural Development: The instance of Akwapin South district in Ghana**” put forth his notion of the invaluable role of transport in the development of any geopolitically organized area. In his study of Akwapin district, he underlines the role of feeder roads in the development of agriculture extension services.
- **Clive Bell (2012)** in his policy research working paper, “**Estimating the Social Profitability of India’s Rural Roads program. A bumpy ride**” undertook the study of PMGSY and its impact on different sectors of society. He evaluates the social profitability of the project in both qualitative and quantitative terms. He evaluated the social viability, externalities, spillovers effect of constructing these roads in terms of cost, and benefits analysis.
- **India Rural Development Report (2012-2013)**, by **IDFC Rural Development Network**, incorporated the studies conducted by different groups on the socio-economic benefits of PMGSY. It highlighted the fact that the program has successfully established village to market linkages resulting in more favorable input and output prices of agricultural products.
- **Dominic Bonsu (2014)**, in his dissertation about the implication of road access for sustainable agriculture in the Northern Ghana region of Africa, observed that with access to road transport there was farm expansion, reduce damage to the crop, better time management, ease access to factors of production.
- **World Bank (2014)** report “**Rural road Development in India: An assessment of the distribution of PMGSY project benefits in three states by gender and ascribed social groups**” conducted village survey in three states of Jharkhand, Rajasthan and Himachal Pradesh. The study found new employment and economic opportunities were opened by PMGSY connectivity due to direct movement. PMGSY roads influenced the cropping patterns to shift towards commercial crops.
- **Chandran (2017)** “**Transportation Inclusion and Community Wellbeing: Exploring Public Transit Accessibility of Winnipeg’s North End Neighborhoods**” discussed both qualitatively and quantitatively public transit accessibility for the well-being of marginalized communities. Well-being indicators include income, employment, and social capital.

There is a link established between transport and sustainable development. Investment in rural roads especially in developing countries like India where the majority of its population still lives in rural areas and mainly engaged in agriculture and allied activities can lead to overall socio-economic development.

For the successful execution of any national program and to reach its fruits to the grass-root level, both urban and rural areas have to be weaved together by a well-connected network of roads. The quality of rural roads is an indicator of the quality of rural life connecting therein.

The Ministry of Rural Development a quick independent assessment the socio-economic impact of the Pradhan Mantri Gram Sadak Yojana. the lives of the rural people various states Assam Himachal Pradesh, Madhya Pradesh Mizoram, Orissa Rajasthan, Tamil Nadu Uttar Pradesh and West Bengal based on a common methodology. The study was conducted from January to February 2004, the agriculture and allied sector were one of the specific focus of the study. The key finding of the assessment report on the agriculture sector was that, there was a change in cropping pattern from food crop to cash crops, change in cropping intensity, and increase in the sale of dairy products in the states of Rajasthan, Himachal Pradesh, Uttar Pradesh (National Rural Infrastructure Development Agency, 2014).

Conclusion

Rural roads have empowered the rural dwellers to prioritised varied items of expenditures and considered investments in rural roads which had greatly affect the reduction in poverty. The roads have open up more opportunities for villagers to travel, and for their products to reach the market. Better transport vehicles lead to better speed and load carrying capacity, it also reduces the unit cost of transport which raises incentives to increase agriculture production.

There has been a change in cropping patterns from food crops to cash crop boosting animal husbandry which made a positive impact on agriculture in the marketing of dairy products buying and selling of agriculture goods. Accessibility to road transportation in developing countries has led to farm diversity and better time management which give access to new employment and economic opportunities. This has raised the living standards of the rural population by increase in households incomes and expenditure. Better connectivity has uplifted the awareness of female sector in the villages which leads to their empowerment through the facilities being provided by the government.

It is evident from the above-mentioned literature review that rural roads provides stimulus to the socio-economic activities of the villages leading to its overall development but there exists a missing gap in the studies which link the impact of the construction of rural roads on change land-use, agriculture production, cropping pattern and viability of perishable products.

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