



# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

## RURAL ROAD DEVELOPMENT

<sup>1</sup>Pranav Maheshwari, <sup>2</sup>Hitesh Goyal, <sup>3</sup>Yashwant Rathore, <sup>4</sup>Satyam Jha, <sup>5</sup>Hetram Sharma, <sup>6</sup>Pradeep Kr. Jain, <sup>7</sup>Brijlata Sharma

<sup>1-4</sup>U.G Scholar, <sup>5-7</sup>Assistant Professor, Department of Civil Engineering

Jaipur Engineering College and Research Centre, Jaipur, Rajasthan

**Abstract** : While the total length of the rural road was only 3,54,530 kilometers in 1970-71, recently it has increased to 24,50,559 kilometers. These statistics confirm the importance attached to rural road development as part of the overall development of the country. In addition, studies show that public investment in infrastructure, especially in the rehabilitation of rural roads, improves the local community and market development. Studies on rural road development in several countries have shown growth male wages in agriculture and cumulative crop indices (Bangladesh), increased availability food, primary school graduation rates and farm workers' wages (Vietnam), etc. However, studies of Indian rural roads are practically absent.

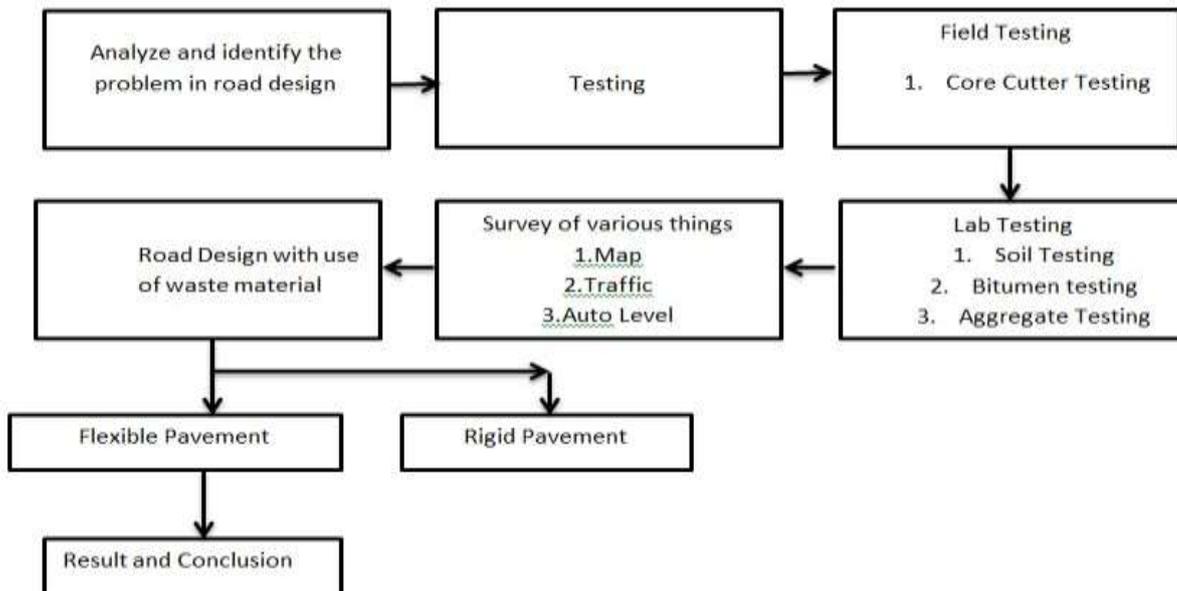
**Keyword** :- crop indices, development, roads, studies

### I. INTRODUCTION

Rural roads are the tertiary road system in the main road network, providing Convenient for rural residents to access markets and other facility centers. in India,Rural roads have been planned for the past fifty years.Background to overall rural development and to try to provide all weather links.Achieved long-term road development plan.The country provides policy guidance and priorities for rural roads while funding.The five-year plan allocated country roads. Recently, over the past five years, the Indian government Dedicated program called "Pradhan Mantra Gram Sadak Yojana" (PMGSY) "to provide rural connectivity to all settlements under the village rural development. Recently, a time-limited business plan Bharat Nirman By providing rural infrastructure in 2005-09,As one of the components, it is integrated with the PMGSY program. It is targeted Provides connectivity to all residences with a population of more than 1,000 (Reach over 500 in hills, deserts and tribal areas), and also aims to Upgrade existing rural roads for overall network development objective method.To achieve the goals of Bharat Nirman, the length of rural roads is 1.46.185 km.It is proposed to build in the interests of 66802 unconnected eligible dwellings in it is also proposed to update almost 1.94 thousand km existing rural roads, which are defined as end-to-end routes of the core network. The total investment in rural communication in Bharat Nirman was It is estimated at 48,000 crore during 2005-2009. From the 11th five-year period 2011) goes beyond the target period of Bharat Nirman, physical assessment targets and modernization requirements were evaluated based on PMGSY experience.

### II. RESEARCH METHODOLOGY

The methodology adopted would be studying and identifying with the existing conditions. We had studied map, auto level survey and traffic survey then we have done the soil test in lab as well as on field then we have design the road flexible pavement.



## 2.1 Surveying

Surveys are carried out before starting the project such as Map study, Reconnaissance survey, Preliminary survey, Final location. Map study is to have a rough idea of the field. Reconnaissance survey is to visit the site and scrutinize the main features of the area but not in detail. The data derived from the reconnaissance surveys are normally utilized for planning and programming the detailed surveys and investigations and few possible alignments can be chosen for any alteration or changes. In Preliminary surveys, survey specialists and party perform field surveying duties using a total station and collect all data which are necessary like latitude, longitude, elevation and other required measurements and data in the alternate alignments proposed. At last, final locating the center line of the ground

## 2.2 Soil testing

Aim: - To find out the amount of capillary action in soil.

Apparatus and Materials: - Glass box, Glass tube, Plastic Box, Scale(mm), Soil, Gravels, Membrane, Steel net etc.

Theory: - Soil is the natural medium that is composed of weathered mineral materials, organic material, air, and water. Soil is combination of solid and water and air. Soil are classification on the basis of particle size. Clay is type of soil and clay particle's size is less than 2 microns. Clay is used because it has less amount of Capillary action.

Procedure: -

- Firstly, collect soil sample and then sieve it.
- Take glass box of height 50 cm with a hole for drainage at the bottom.
- Put the stands in the glass box for support. And place the glass box on a table.
- Place the steel cage or membrane on the top of stands.
- Place the gravels in a layer of 10-12 cm.
- Fill the sand above the gravels up to height of 5 cm and level it.
- Fill the clayey soil up to height of 10 cm.
- Attach the tank with glass box through the pipe. Fill the water in the tank.
- Note down the reading of gauge after 1 day, 3 days, 5 days and 7 days.

## 2.3 Bitumen testing

Aim: - To determine the Specific gravity of given Bituminous material.

Apparatus and Materials: There are two methods. 1) Pycnometer Method, 2) Balance Method. Pycnometer Method: Specific gravity Bottle, Balance and Distilled water.

Procedure: -

- The clean, dried specific gravity bottle is weighed let that be  $W_1$  gm.
- Then it is filled with fresh distilled water and then kept in water bath for at least half an hour at temperature  $27^\circ\text{C} \pm 0.1^\circ\text{C}$ .
- The bottle is then removed and cleaned from outside. The specific gravity bottle containing distilled water is now weighed. Let this be  $W_2$  gm.
- Then the specific gravity bottle is emptied and cleaned. The bituminous material is heated to a pouring temperature and the material is poured half the bottle, by taking care to prevent entry of air bubbles. Then it is weighed. Let this be  $W_3$  gm.
- The remaining space in specific gravity bottle is filled with distilled water at  $27^\circ\text{C}$  and is weighed. Let this be  $W_4$  gm. Then specific gravity of bituminous material is given by formula.

### III. RESULTS AND DISCUSSION

Table 1 rise of water in soil

S. No.	No. of Days	Height of Water (mm)
1	1	2.1
2	3	3.8
3	5	6.2
4	7	8.4

### IV. CONCLUSION

Rural roads are the wealth of the nation, an instrument of social inclusion, economic development and environmental protection sustainability. Rural roads connect communities and their agricultural fields to the main transport system and markets. Improving rural roads reduces transport costs and stimulates marketing. This leads to increased production and productivity, crop diversification and increase profitability. The main bottleneck for local economic development is often a limited and low-quality rural road network. From the documents of the Plan it is quite obvious that private sector participation in the road sector is limited development, maintenance and operation of the specified motorways (national and state), expressways, bridges and shunts. Rural roads, especially those that need to be connected remote, hilly and backward settlements are hardly profitable private operator. Therefore, without any serious rural development renewal policy infrastructure, it is very difficult to expect the private sector participation in this area and until that time public investment must come on a large scale and without further delay. This critical component of rural infrastructure, neglected for a decade of reform should be state funded on time to prevent growth rural inequality in growth and development.

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