

Traditional Building Material and its Non-polluting Aspects

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Abstract :- In recent years, India is facing an explosive growth in vehicle ownership and utilization, which has led to traffic congestion and pollution. However, Indians prefer to use private vehicles because of many reasons due to lack of cleanliness, lack of technology, smart solutions, their implementations and bad services. This can be addressed by making smart assistance, using GPS, giving real time updates, updating regular stop and time table, making application which shows availability of public buses and various advanced technologies. In this regard, public transport operators are forced to lay emphasis on the monitoring and improvements of the services provided. This research paper focuses on traveler's satisfaction and preference towards public transport with service quality attributes. The aim is to evaluate the parameters in passenger preference and satisfaction on public transportation network with respect to facilities, comforts and quality of services. The application of this study suggests that the public transport operation especially, buses must improve the quality of their services for the prospective passengers.

Keywords: - Traffic congestion, public buses, advanced technologies, smart solutions

I. INTRODUCTION

The shelter is one of the primary needs of human beings with food since the beginning. In the primitive era, the human was prop of natural shelters like chasms, cavities, trunks of old trees etc. When they adopted agriculture system they had needed to discover formalized artificial shelters so that they made up their huts by branches and leaves of the trees and use for living near the slots of cultivated land. From this stage, development in the shelter has been growing hasty. As per the need and environment, man built up their shelters and made useful changes in it generation to generation.

The people of Maharashtra had got successes in the making of very useful houses as the shelter with the employ of natural things from the medieval era. They developed science, technology and engineering from natural resources. Cutting of stone, making of white soil, use of cane and bamboo, use of limestone, use of wood, use of leaves and brushwood of same trees etc. were the adopted techniques. The folk improves this day to day life and generation to generation. Up to 1960, people of Maharashtra got expertise in the use of better building material, but after the impact of globalization, the above-mentioned building material is known as a traditional building material due to the use of a large scale of cement, iron and other modern building material. The modernity accepted new technology and engineering with the

modern building material. In fact as compare to traditional building material, the modern building material is so costly and polluting. Due to this, the concepts like 'Green Building'; is come into existing.

II. HYPOTHESIS

In the last half century, the large scale of building construction had been made by use of cement, steel and other modern building material. Before this, people had been using the houses, which was made by nonpolluting materials. So, the hypothesis of the paper is as follow-

1. Traditional building material had some nonpolluting aspects.
2. Traditional building material was eco-friendly material.
3. Traditional building material was very low-cost material.
4. Traditional building material has been supporting to sustainable development.

III. METHODOLOGY

The terms 'Traditional Building Material' and 'Polluting Aspects' are related to the interdisciplinary research methodology. Because tradition covered all kinds of discipline like Social Sciences, Arts, Humanities, Commerce, Management, Technologies, Sciences, Religious studies and so on. Apart from this pollution is also related to many of the things of varies

disciplines like all kinds of sciences and humanities. So, the interdisciplinary research methodology is applied for the researching of the problem mention in this paper.

Collection of Samples and Study

There are many remains of traditional buildings which were constructed all over India with its splendor of the past. I have just collected some of them from Marathwada region of Maharashtra for this study. Basically, I want to find out the material which was used in the building and nonpolluting aspects of the materials.



Image 1.1



Image 1.2

The building shown above is made up of stone and joints of the stone are filled by the paste of limestone. There was a particular procedure for making the paste of limestone and also one proper method adopted by the *patharwat*, the stone maker for the forging of the stone.



Image 2



Image 3

Traditional Brick, Limestone Paste, Wood, Tiled and White Soil are the material used in the buildings shown above. There was a particular procedure for making the paste of limestone as well as the brick and tiled also. The material used in the building is totally traditional building material. The flooring of the building is made up of the white soil and it has been daubing with liquid dung and white soil. The wall plaster is made up of the paste of limestone and red ochre or yellow soil. All material collected by the natural resources.²



Image 4

The building shown above is made up of brick and joints of the bricks fill up by the paste of limestone. Wood is used for the upper side ventilation windows frame. Windows are not seen up to lentil level.



Image 5

Traditional Brick, Limestone Paste, Wood, and steel are the material used in the semi-modern above building images. The material used in the building is totally semi-traditional and semi-modern.



Image 6

The wall shown above is made up of stone and the joints are filling up by the paste of limestone.



Image 7



Image 8

The multistory building shown above is made up of stones and brick with wooden door. Joints of the wall fill up by the paste of limestone. Image 8 is known as a *Buruj* in Marathi language. *Buruj* is the important part of the Wada Culture of the Maharashtra. The *Buruj* is made up of white soil. The strength of the white soil has been more than the cement.

IV. FINDINGS

Apart from the technology and engineering of the buildings, I just search about the types and kinds of the building material and its nonpolluting aspects. I had some interview with old civiler, villagers, building workers, and interdisciplinary researcher for this paper. After the studies and interaction with the all above-mentioned personalities, I conclude the problem and findings are as-

1. The building with traditional walls are totally safe from the cold and hot atmosphere, inside the building the temperature is maintain between 20 to 28 0 C. due to the material like white soil, bricks, stone, and limestone³.
2. The inner side of the building is totally non-volatile organic compounds (VOCs free), due to the building material. Therefore, prevention of diseases like *Asthma* is possible. VOCs can be emitted into the indoor air from a variety of sources, such as building materials; flooring etc.⁴ The prevention of pollution by VOCs is possible by the daubing floor with liquid dung and white soil.

3. Limestone pasted walls are able to prevent the air and water pollution.
4. Walls of unbaked white soil bricks and daubing floor with liquid dung and white soil also create an air pollution free atmosphere in the inner side of buildings.
5. The traditional building material is very low-cost in compare of modern building material and it is available everywhere.
6. Traditional building material like traditional brick, limestone paste, wood, tiled and white soil are eco-friendly material.
7. Remains of the traditional building material are useful for recycling of the material, so, it supports to sustainable development.

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