

Construction of Toilets in Rural Areas

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Abstract— The abstract of this paper is to deliver clean and hygiene toilets at a cost of Rs. 12000 or less. All the public toilets should be neat, clean and hygiene. In our country, our government has introduced the scheme called “Swachh Bharat” (Clean India). So keeping the toilets uncontaminated is the one of the objective of Clean India scheme. This paper can be helpful to encourage the clean India project. In future, it can show the major part in clean India scheme. In an Existing system, they are focused only on identifying the dirt in the toilets. In our proposed system, we have determined on keeping clean toilets, observing the sweeper’s working activities. It may create the consciousness amongst people about the toilet management. The improvement in sanitation should be one of the goal among Millennium Development Goals, awareness of sanitary toilet and lack of the same is still a major public problem in rural areas. Concrete and steel are the basic construction materials, which are used for different concepts of construction such as Ferro cement. Ferro cement is an innovative technology which has several advantages. This paper is to promote extensive use of Ferro cement components as an alternative to conventional concrete components for application in low rise housing by doing a comparative study of cost analysis of Ferro cement and RCC.

Key words: Toilets, Rural Areas

I. INTRODUCTION

As of 2012 there are more than 700 million Indians without access to toilets. Open defecation is common practice in areas without adequate safe sanitation individuals either doesn’t wash following defecation or bring a small amount of water with them to wash. Openly defecating near water sources puts community members at a high risk for contracting waterborne diseases. Public toilets should be seen as a core component of environmental design, adding to a city’s quality and viability. Public toilet provision generally overlooks the needs and even the existence of women, children, disabled people, and the elderly. It should be ensured that public toilet provision is available to everyone and can be considered essential in removing a serious barrier to wider participation in public life. Many people, such as the elderly and disabled, travel seldom, rarely go outside and avoid long journeys because of the lack of and/or inaccessible design of public toilets. Finally, at maximum the toilet should require annual maintenance. The toilet design will decrease exposure to harmful pathogens, thus benefiting the lives of many Indians currently living in unsanitary conditions. Ferrocement is a form of reinforced concrete that consists of closely spaced, multiple layers of mesh or fine rods completely embedded in cement mortar. It is a composite material that can be formed into thin panels, less than 1 in 25 m thick, with only a thin mortar covered over the outermost layers of the reinforcement.

II. LITERATURE SURVEY

A. *Yasemin Afacan, Meltem O Gurel, (Dec 2013)*

In addition to the factors in this study, architects, planners, policy makers, governments, municipalities, and all related bodies should consider sensory experiences, sociocultural appropriateness, and psychological and behavioral issues. When public toilets are well designed, managed, and maintained, they can yield healthful and accessible environments for all people and embody a vision of positive and equal human participation in urban spaces. This study has some limitations, such as the sample size and the Turkish context.

B. *J W Bester, L M Austin, (Jan 1999)*

The research report includes a brief introduction to personal hygiene, which highlights the health dangers inherent in human faces and the importance of using toilets and of washing hands. The disease-carrying role of flies is also pointed out. It is further emphasized that three integral factors, which must coexist, are of importance in promoting community health, namely safe water supplies, adequate sanitation facilities, correct disposal of refuse.

C. *Alok Srivastava, Dr Amit Rahul. (Aug 2017)*

In this study, hygienic practices prevalent in any society are closely linked with the values placed by the members of that society on cleanliness. The prevalent value systems to a large extent influence the degree in which people keep themselves and their surroundings clean. Majority of the writings on sanitation and hygiene practices in Indian society does not fail to mention the poor sanitary habits of its people and how the practice of open-defecation is a well-established traditional practice ingrained from the very childhood and across generations.

D. *Laxmi Salgia, Aparna Panganti (Jan 2018)*

Ferrocement is a good material. Further modification in ferrocement can make it best materials in structure as compared to RCC or other type of material and also ferrocement is economical in nature and having a good performance against lateral load. It had been concluded from this study how ferrocement is better than conventional types RCC, PCC and perform good against lateral displacement, fire resistant etc economically without required any skilled worker. On other hand ferrocement is a good alternate material depends upon location of application. This study also shows that the load taken by ferrocement depends upon opening size and the no. of reinforcing mesh layer used in ferrocement.

III. CONCLUSION

Sanitation is a critical issue as it is linked to both human health and basic dignity of life, especially for women and

young girls. Poor sanitation directly results in not only decline in the quality of life, but also quantity of available water resources and the problem is now fully being treated with greater degree of seriousness than ever before. Ferrocement is a good material. Ferrocement performs well against lateral displacement, fire resistant etc. economically. Ferrocement indeed increases the capacity of all existing element, with no regards on the grade of concrete. The construction of ferrocement is an exciting alternative to the conventional wooden and masonry methods. In the context of sustainable housing, aspects such as strength, durability, occupant comfort, and energy efficiency align well with ferrocement's qualities.

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