



LOW COST HOUSING

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ABSTRACT

The majority of rural population migrates to the urban areas seeking a job and higher income for their survival. This creates a huge demand for housing and infrastructure in the urban areas. This is a phase where low cost housing comes into action. There is an urgent need to access to alternative building materials and techniques that are both affordable and sustainable. A literature review method was adopted in this article to investigate the economic benefit of low cost housing compared to conventional brick and concrete construction.

INTRODUCTION

Low cost housing is regarded as affordable for low and middle income earners. It can be achieved by higher efficiencies of workers and by minimizing the cost aesthetic of the building.

Time and cost are two main concerns with increase importance of cost reduction techniques. There is a myth in minds of many people, they think that whenever construction is done with low cost the materials used will always be a low-grade quality. Low cost construction has much to do with proper budgeting and look for reducing construction cost through proper management, right use of local materials, skills and technology without surrendering the strength and life of the structure

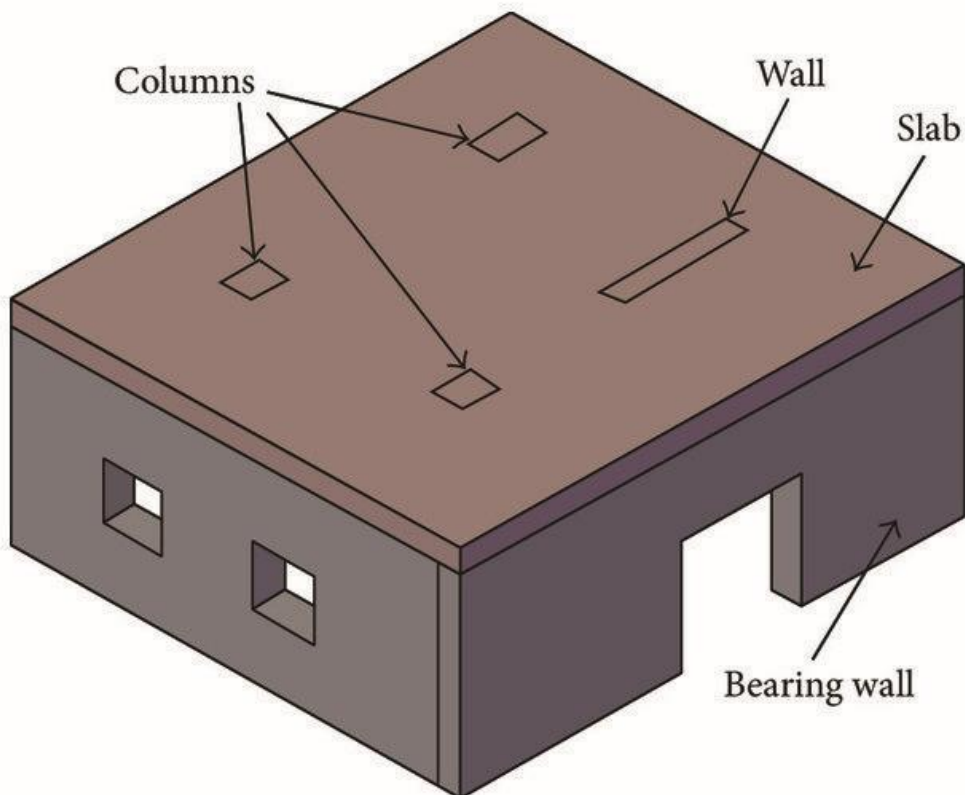
OBJECTIVES:

- Reduction of construction cost
- Make suitable plans and estimations to identify the best
- Make a residential drawing plan
- Take the estimate for ordinary and cost efficient housing and compare both

TECHNIQUES

1)LOAD BEARING STRUCTURE : Load bearing structure is one in which a brick masonry wall is the major structural element in the foundation as well as in the building framework. All the above load is carried by a wall and also transfer to the ground through the foundation which is also made up of brick masonry . There is no framework of column, beam and foundation which is made from concrete.

When we layout our plans for construction we should always concentrate primarily on the structure we are going to use . It should preferably be load bearing structure instead of using frame structure



2) MATERIAL MANAGEMENT : To manage productivity and cost efficiency material management is essential. It contributes the major portion of expenses in construction

Study of low cost construction materials from projects under construction and recently completed

Finding new construction techniques to implement them in construction of building

3)FLY ASH HOLLOW BRICKS : The chemical reaction due to aluminium paste provides AAC(Autoclaved aerated concrete) its distinct porous structure , lightness and insulation properties

-The finished product is lighter block-less than 40% the weight of conventional bricks

-The specific gravity stays under 0.6 to 0.65

-By these blocks in structural building, the builder saves around 30-35% of structural steel and concrete , as these blocks reduce the dead load on the building

- Due to high strength, practically no breakage during transport and use



4) STAIRCASE FOR LOW COST HOUSING : We have been using the cast-in-situ construction. But it is more expensive. Alternatively we can use an effective and efficient method which is called Precast staircase system

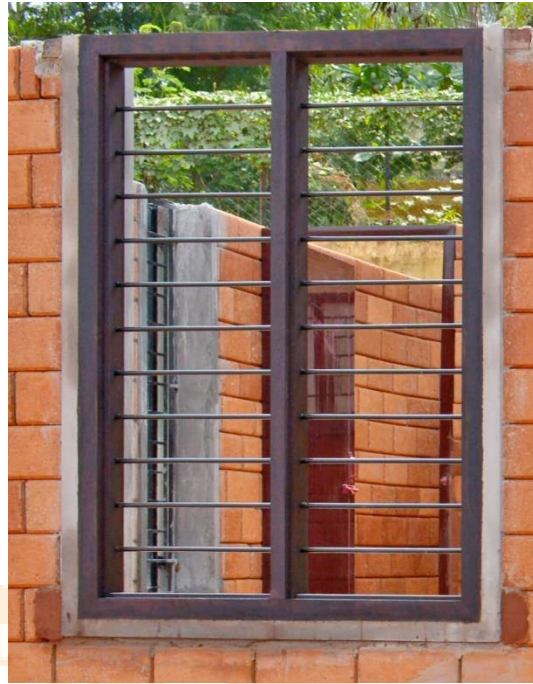
-Its construction is cheap and quick

-It can be simply supported and can be supported with a cantilever



5) DOORS AND WINDOWS : We can make sure that we do not spend so much on the doors and windows and just look for the maximum durability of a design which is provided to you

at less cost. instead of following the conventional carpentering procedures we should always go by the frames for doors. These save cost up to 30% and saves time



6) RCC FILLER SLAB : It is basically a normal RCC slab where concrete in the tension zone i.e the bottom of the slab ,is replaced by light weighed filler materials such as bricks and tiles . These filler materials do not compromise with the strength of the structure

- Consumes less steel and concrete due to reduced weight of the slab achieved by replacing the portion of concrete by light weight materials
- Reduces the entry of heat into the building through the roof due to heat resistant properties of the filler materials
- Cost saving of about 23% in comparison with normal RCC slab





ADVANTAGES • Less use of cement and steel for any given section compared with rcc with a corresponding reduction in self weight.

- A major cutting in cost expenses in cost expenses compared to rcc.
- An easy manufacturing process requiring only semi skilled labour
- The technique & cheaper installation practice compared to rcc.
- The technique requires neither scaffolding, a shuttering, a concrete mixer nor a vibrator.
- They have a high degree of permeability& resistance to cracking.
- They require minimal maintenance.
- They are economical compared to components built with steel, concrete, or brick walls.

DISADVANTAGES • The need of a casting & working area to prefabricated the element & cure them. This may be hard or expensive especially in an urban setting.

- The need for a control for ensuring quality products.
- The need for a proper applied curing method usually overlooked in any building construction activities.
- If the element are not manufactured on the site they will have to be carried which may add to the cost. Care should be taken not to damage the elements during transportation.

CONCLUSION

Adoption of any alternative technology on large scale needs a guaranteed market to function and this cannot be established unless a product is effective and economical

The key lies in the systematic approach in building technology or methodology and not necessarily particular construction type or design

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