

HIGH RISE BUILDINGS AND THE ROLE OF CONSTRUCTION MANAGEMENT

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ABSTRACT

The construction sector of India contributes to the great extend in the economical growth. The Construction projects completed in India have faced several problems to deliver the project during the specified time. The Indian projects those have been completed are rarely studied for understanding of the project from the perspective of construction management. Authors have tried here to present the problems related to the high rise building projects and the remedial actions to be considered for future betterment of the projects. The planning in the construction was found to be failed due to several reasons and it causes the huge loss in terms of financial losses for the construction industry.

KEYWORDS: construction management, high- rise building, construction project.

1. INTRODUCTION

Indian population is increasing with rapid growth every year. The population when increases will cause the cities planned well for the survival of human beings safely. The increased number of families has given the opportunity to the construction engineers to develop the tallest structures moreover the vertical cities or villages. The vertical development of the building is the only choice the engineer has to deal with as the land is limited and cannot be produced. The project when completed is studied very fewer times in under developed countries because once the structure is developed there is very small scope for its modification and it is not economically suited to the industries also.

The development of the materials used for the construction has made it possible to design, construct and deliver the high rise structure. The development of such high rise structures began in USA. The changes in the construction projects were found positive and have been accepted all over the world in last century. The construction of the building with best possible structure, facilities is always considered as a pride of any construction industry and the cluster of such structures will be the symbol of development for any country. In the metro cities of India it is very common to have 10-20-30 to 60 stories buildings.



Fig.1: High rise construction projects in India

The planner of the high rise projects have to exactly think of the kind of resources and the technology required for the project and how to make everything available in time to minimise the cost of the project with the timely delivery of the project. The construction technologies available in India are well developed to fulfill the present demand.

2. PROBLEMS IN EXECUTING HIGH-RISE BUILDING PROJECTS

The mega buildings developed have been studied by the researchers and following problems have been identified to be addressed:

Sr. No.	Problems	Details
1	Management of the project	The management of the building projects is the key behind the success or failure of any project. To plan, execute, correct, re-plan and execute will be the basic way for the management team to deliver the project in the specified limits of the time and money.
2	Design	To make the proper design available for implementation. The designer of the projects tries to deliver the best possible design for the optimum utilization of the resources.
3	Construction technology	The technology to be utilized for the construction projects involves the extra cost to be paid by the industry and that's the only limitation on the other hand it reduces the time required for the project.
4	Risk Management	While planning for the risk one must consider the root cause of the problem that can arrive. One must take all the possible precautions.
5	Time Management	The time required for completion of any project has several factors associated with it. Few of them are labor, cash, material, manpower, planning, disposal of wasted material etc.

3. PROBLEMS DERIVED FROM PROJECT CASES

The construction project right from the planning stage goes through various stages and the problems associated with each stage of the project. One has to overcome all the problems stated below:

- 1) Failure of the implementation of the design affects the performance of the building.
- 2) Delay of decision causes the losses in terms of money and time.
- 3) Limit in the role and the work scope of project consultants in the planning stage.
- 4) Decision making processes do not seem to be managed in the right time.
- 5) An insufficient design and delivery strategy shows up the lack of the coordination within each field of the project.
- 6) There is often a design change on core elements such as that of the structural system after the design development is almost finished.
- 7) The difference between the reality and the plan breeds the secession of the schedule cycle.

Especially, a strategic approach from the long-term viewpoint is required to ensure a core design technology and key construction technologies. The industry, academics and researchers should unite to establish a master plan for the development of related technologies and each party should have clear roles. This approach should contain six steps: (1) the selection of key construction technologies to be developed for high-rise building projects (2) the case study and assessment of Indian or foreign projects (3) the search and the investigation of best practices (4) the examination of related regulations in India and other countries High-rise building projects concurrently involve a lot of consultants for each trade as well as owner, contractors, designers and supervisors.

CONSTRUCTION MANAGEMENT

The main aim of the construction management team for the high rise buildings is to plan, execute the plan and overcome all the problems associated with the project. Mainly in the developing countries like India the high rise construction projects evolves the money from several people and hence everyone is dependent on

the success of the project. Delay in the project causes the increases in the cost of the project and hence it is necessary to implement the proper management in the construction projects.

5. CONCLUSION

This study covers the problems in executing high-rise building projects and presents solutions for each core item. India lacks the technologies for high-rise building projects because of a short of construction history of such projects, and insufficient related data and research. Therefore, key construction technologies should be developed covering design, structural engineering, mechanics and electronics and applied in actual work sites for the upcoming high-rise buildings era.

6. REFERENCES

- I. Beedle, L.S. (1988) Second century of the skyscraper. Van Nostrand Reinhold Company
- II. Beedle, L.S. (1996) Tall building structures – a world review. Council on tall buildings and urban habitat
- III. Beedle, L.S. and Rice, D.B. (1995) Architecture of tall buildings. McGraw-Hill Inc
- IV. K. Al-Kodmany and M. Ali “Skyscrapers and place making supporting local culture and identity,” Archnet IJAR International Journal of Architectural Research, vol. 16, issue 2 , July 2012
- V. K. Rangawala “Contextual tall buildings in India,” CTBUH 2010 World Conference – India, Remaking Sustainable cities in the vertical age, Feb. 3rd-5th 2010.
- VI. V. Chandwani, V. Agrawal, and N. K. Gupta, “Role of Conceptual Design in High Rise Buildings,” International Journal of Engineering, vol. 2, issue 4, pp. 556-560, July-August 2012.