Construction Project Planning of High-Rise RCC Building

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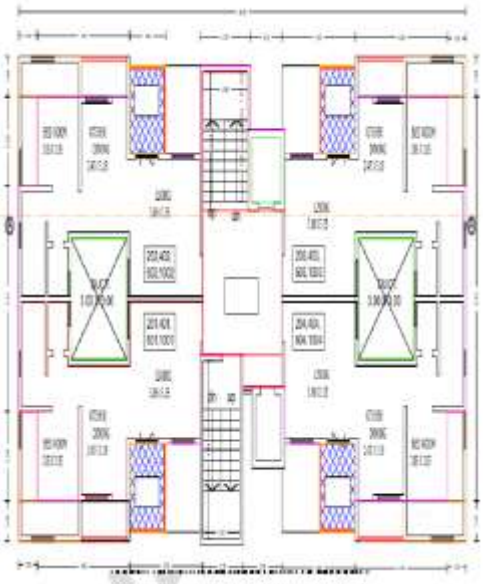
Abstract: **Any work in this world can be classified into either a project or an operation. The sector of construction is no exception. The project is defined as a temporary endeavour undertaken to create a unique product or service or result. From the software perspective the project is viewed as a list of related activities or tasks. Every task or activity has a definitive starting point of time and definitive ending point of time. The allocation of resources to these activities is done once the list of resources is prepared. These can be manpower like project managers, site engineers, workers, equipment like crane, material like cables, drums, bricks etc. The usage of these resources is to be mentioned in terms of percentage utility. Calendar is of highest importance and study of the default calendars is essential. The baseline is set and then the tracking of the project begins. Though there are many software available in the market for project planning, the most popular are Microsoft project. The version used in this project is Microsoft office project standard 2010. Planning is the first function of management. It is an intellectual process and high end thinking is required for this. All the details required for a thorough planning thus paving way to a smooth execution of construction of a project is ensured with the help of this software tool.**

I INTRODUCTION

The case study I have taken in my project is the 9 floored building Pebbles constructed in bavdhan.I have collected data regarding this from the site like data required to work out quantities of all the items from which quantities of items worked out and also collected basic labor and material rates and area details etc. then all the collected data entered in Microsoft project software step by step to generate the required output that is cash flow of the project. For that steps I have followed are given below I have entered WBS. Prepared list of activities with its durations with start date and finish dates it gives total duration of activity



II ANALYSIS AND RESULTS

1) Analysis of Quality problems For Project I:-

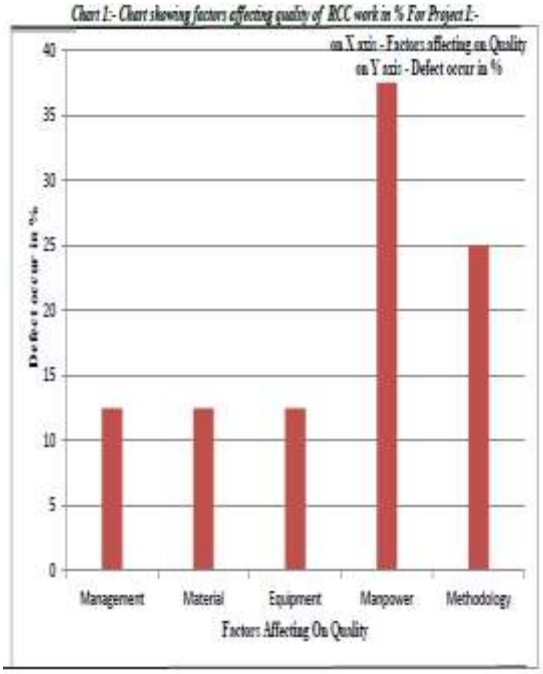
a) For RCC defects:-

Sample calculation of Contributory factors %:-

Table 1:- Contributory factor in % for RCC For Project I :-

Factors	Honeycombing 33.33%	Steel Exposure 33.33%	Expansion of Beam 33.33%	Total Defect	Defect in %
Management	0	0	1	33.33	12.5%
Material	1	0	0	33.33	12.5%
Equipment	1	0	0	33.33	12.5%
Manpower	1	1	1	99.99	37.5%
Methodology	1	1	0	66.66	25%
				266.64	100%

Chart 1:- Chart showing factors affecting quality of RCC work in % For Project I:-



DISCUSSION

1) Quality is one of the critical factors in success of the construction work for High Rise Building. Unfortunately. Many High Rise projects failed to achieve the quality as per required for various items of the work.

2) In order to achieve better Quality work, adopt some programmes such as total quality management, quality assurance, quality control and quality circle in the organization.

3) To minimize the Quality problems through implementation of project planning, designing and controlling throughout the life cycle of projects is required.

4) The project I is considered as a site of Gnesh gunjan of Nerkar properties Nashik and Project II is considered as Ganesh Astoria of Nerkar properties at Nashik.

5) For project I, there are various quality problems occur in different items of construction work such as RCC, Brickwork and Plastering work. Mainly these defect are arises due to five factors, this five factors are Management, Material, Equipment, Manpower and Methodology to affect the Quality of different items of work for High Rise Building. These five factors are taken into consideration for further analysis.

6) For project I, analysis is made on the basis of above five factors such that if any one of these factors is responsible

7) For project II, there are various quality problems occur in different items of construction work such as RCC and Brickwork. Planning, Material, Controlling, Money and Design are factors responsible to affect the Quality of different items of work for High Rise Building.

8) For project II, five factors are responsible taken into consideration. Analysis is made on the basis of five factors. From that table is prepared to show the amount of defect in% for every items of construction work. From the data in table, chart is prepared.

CONCLUSION

1) The construction process is dependent on teamwork rather than personal competitiveness which will enhance a quality building and minimal cost of maintenance in the future.

2) Quality assurance QA/QC should be implemented during the design and construction stage to avoid defects and mistake, hence quality of building should not be limited only to a particular person but the responsibilities of all parties involved in construction.

3) There should not be the Quality Control committee at the construction site of High Rise Building so that controlling should not be maintained.

4) In the construction site, finance is not available time to time so that breakable bricks are used for items of construction work.

5) In the construction site, various defects are occurring due to lack of supply of material. This problem occurs for big projects due to material are only supply by one supplier. Supplier has insufficient stock of material.

6) Various problems occur due to manpower in High Rise building. Manpower have lack of knowledge, lack of confidence and lack of motivation. They do not adopt proper methodology for some items of work for High Rise Building. To avoid these Quality problems, providing training programmes.

7) There should not be daily checking of stock of material.

8) Design of the construction work for High Rise building is not recheck by expert at the construction site.

9) Work according to two steps:-

a) Proactive steps: - These steps should be carried out before starting the construction work. This consist of strategic planning , sufficient fund available, proper design process, proper management process for materials and labors, adopt training programme and quality control committee at the high rise building site.

b) Reactive steps: - These steps should be carried out after quality problems arising on the site. This consist of

Emergency Preparedness and Response, Monitoring and Measurement, Awareness and Competence, Records Keeping and Repair the Defect.

10) Many quality problems are arises due to material in High Rise building. There should be the material management department at every high rise building site so that they keep proper checking of material required time to time.

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