

# Equipment Management in Construction Industry

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**Abstract**— In this paper, we discuss about the recently collected data of site plan at locations of ambad in nashik district and its practical analysis on site for equipment management. Further, we analyze the effective use of equipment on site and to saving the time and cost and increase the speed of construction. Further find out the results and conclusion of the project.

**Key words:** Equipment Selection, Equipment Management, Maintenance, Timely Project Completion, List of Equipment, Activity of Building Construction

## I. INTRODUCTION

The construction industry is the massive industry throughout many countries in the world. Since the beginning of the new century there has been an exponential growth pattern in most of the economically strong nations in the world. Germany is an example of a country that has experienced extremely high infrastructure growth rates in the last 10 or 15 years. Effective management of equipment is crucial for the success of construction firms. The cost of equipment in a project varies from 10-30% of the total cost of project, depending upon the extent of mechanization.

### A. Objective of the study:

- Site visit to major construction project site.
- Collect data from site and study the requirement of equipment and management process.
- Analysis data obtained from site.
- The main objective of the analysis is the by using equipment the cost of construction and time is saving.
- To increases the speed of construction.

## II. LITERATURE REVIEW

Theophiolus Yisa et.al (2014) studied the appraised this objective through the use of Investigatory Survey Research Approach (ISRA) method. The study revealed that 51.5% of the construction companies assessed do not attach high priority to equipment maintenance and this contributed greatly to construction project cost overrun resulting from equipment breakdown. It is recommended that construction practitioners afford the opportunity of equipment maintenance strategy as part of construction project management.<sup>1</sup>

Nilesh D. Chichore et.al (2014) stated derive full benefits from the equipment, there should be proper selection and good planning of its operations. This paper deals with the planning and selection procedure for equipment adopted by a company to achieve its objective of timely project completion.<sup>2</sup>

Balmurugan et.al (2014) studied the objective of this study is to identify the factors that influence the effective usage of equipment which can be achieved through

attaining proper knowledge and sensibly implementing them to develop a more effective technique. The characteristics of equipment in Construction Projects differ with different regions. In addition, it is difficult for a new comer to identify selection of equipment based on environmental conditions.<sup>3</sup>

## III. METHODOLOGY

### A. Planning of equipment.

### B. Selection of equipment.

### C. Source of equipment.<sup>3</sup>

### D. Factors affecting the selection of equipment.

- 1) Type of Construction
- 2) Activity time constraints
- 3) Availability of equipment
- 4) Cost of transportation of equipment
- 5) Type of excavation
- 6) Soil characteristics
- 7) Geometric characteristics of elements to be excavated
- 8) Space constraints
- 9) Characteristics of haul units
- 10) Location of dumping areas

Sr. No	Equipment Name
1	JCB
2	Auto level
3	Bar Cutting machine
4	Bar Bending machine
5	Concrete pump
6	Crane
7	Dumper
8	Earth compactor
9	Passenger Lift
10	Needle vibrator
11	Transit mixer
12	Total station

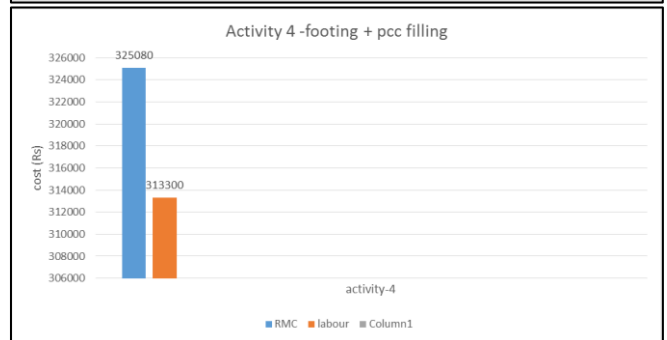
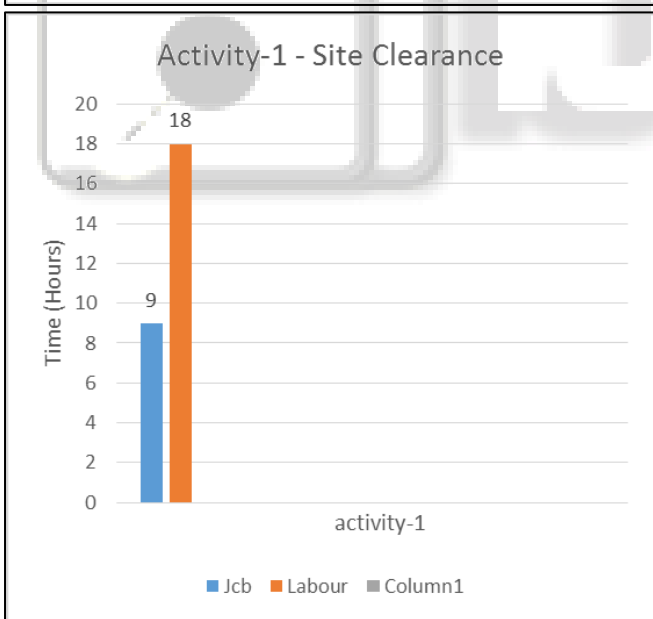
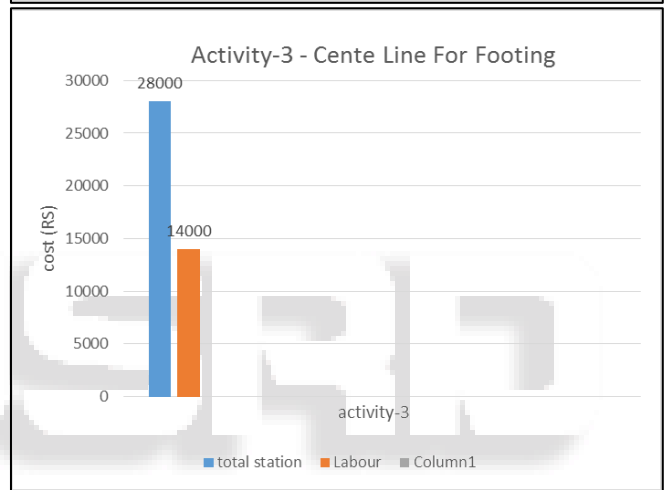
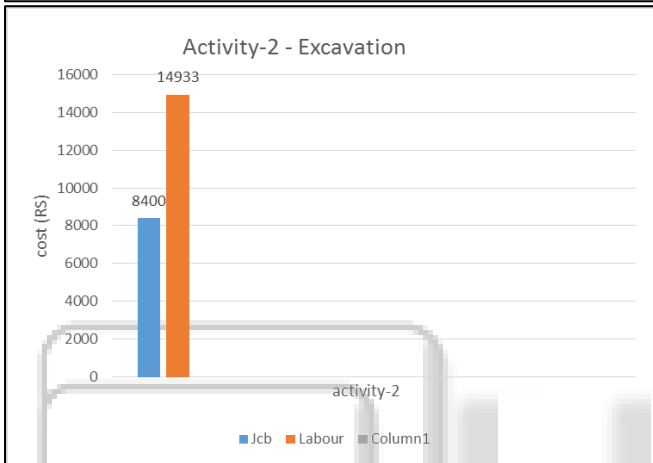
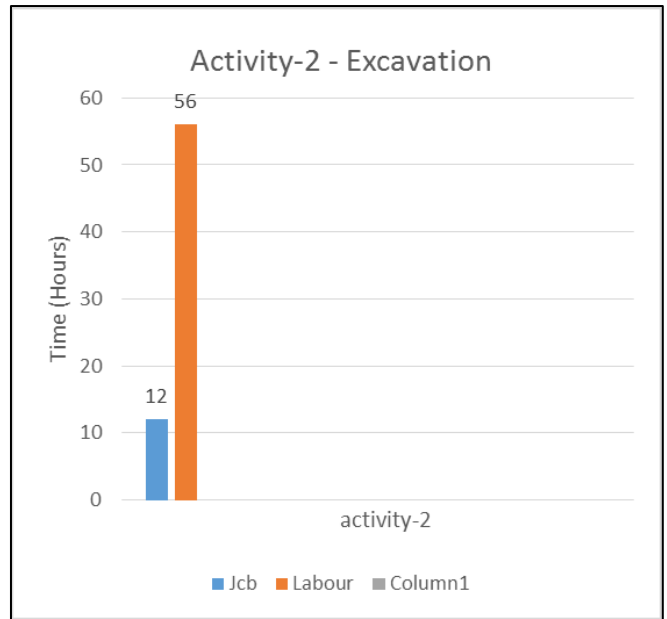
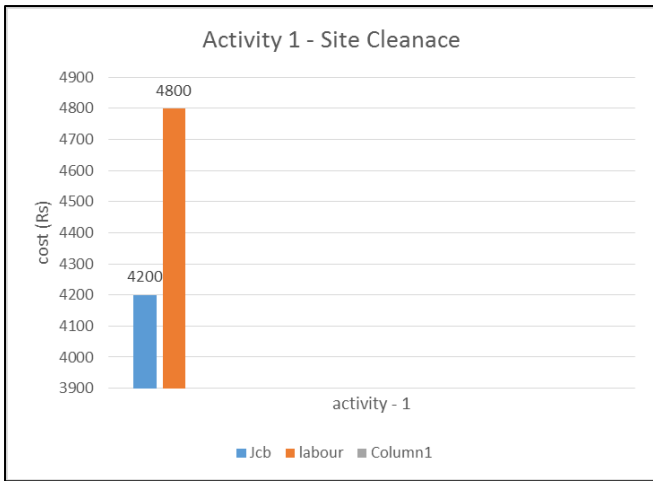
Table 1: Name of equipment

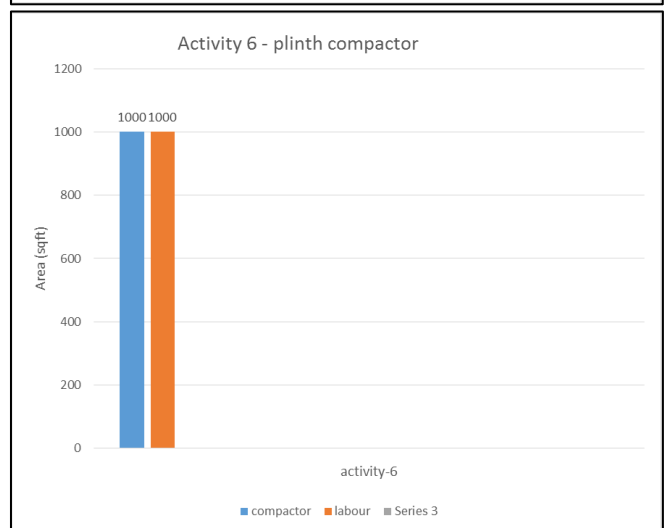
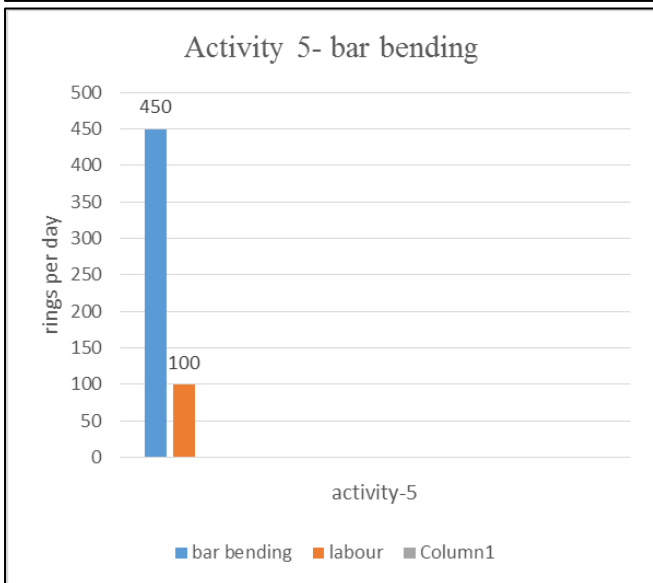
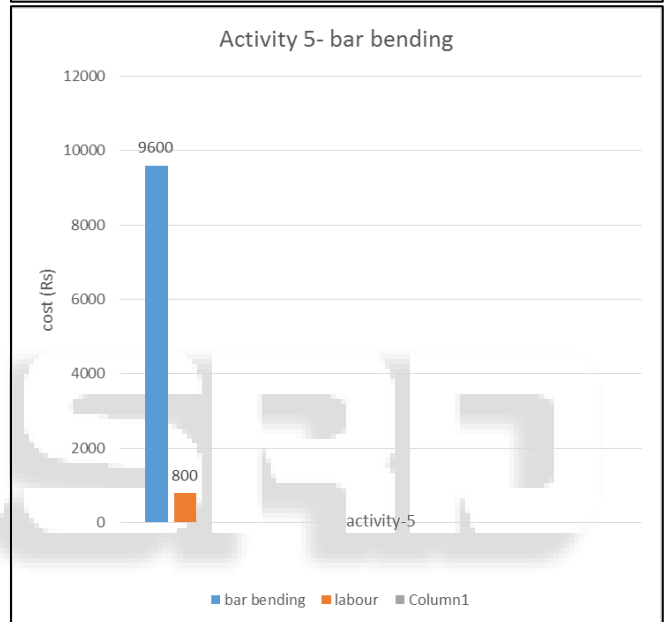
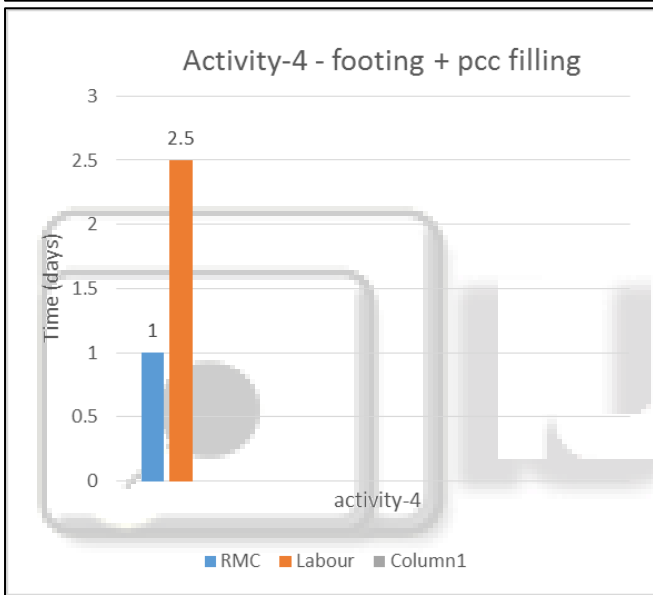
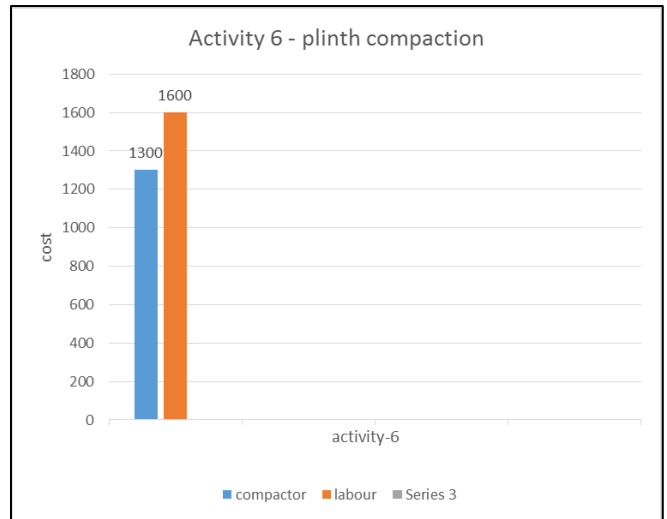
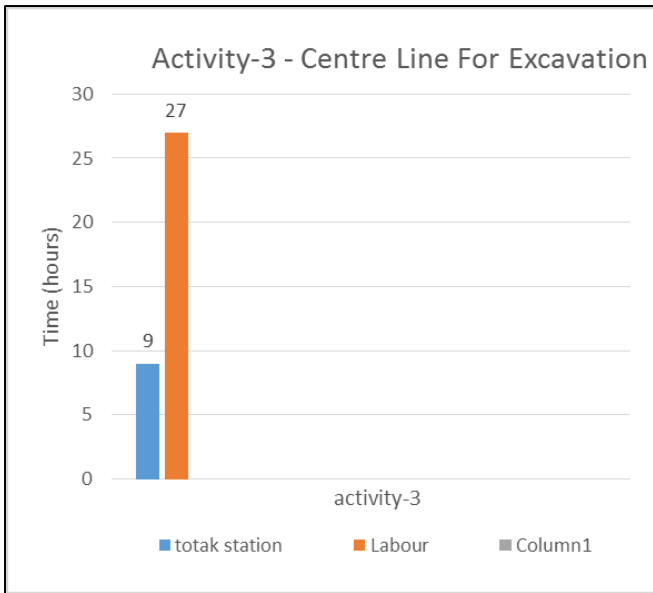
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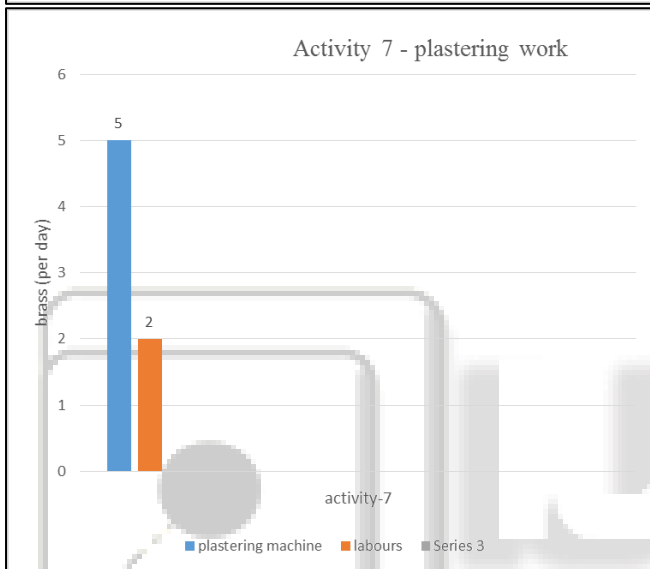
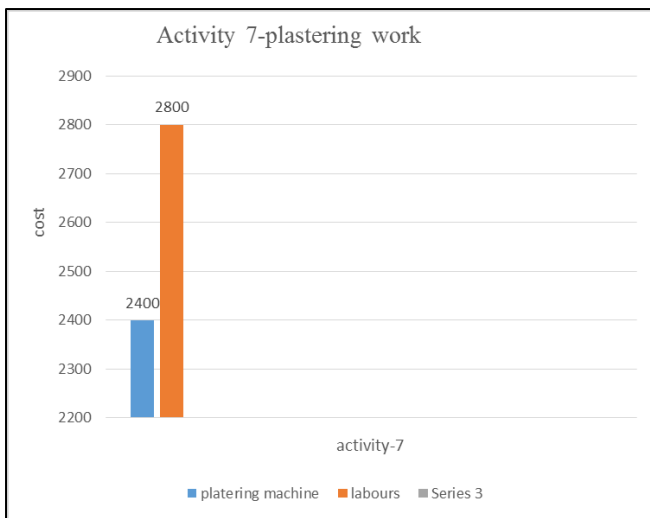
### A. Activity Details

Activity No	Activity Name
01	Activity for site clearance
02	Activity for excavation
03	Activity of centre line for footing
04	Activity of footing + pcc filling
05	Activity for bar bending
06	Activity for plinth compaction
07	Activity for plastering

Table 2: Name of equipment







## V. CONCLUSION

We are concluding that by using equipment the cost of construction and time is saving.

The study conclude that the type of machines used in construction industry have a significant influence in the construction industry.

The cost of equipment plays a major role, the construction industry based on the size of the project small, medium or large scale projects utilize the type of equipment based on their needs.

We conclude that by using equipment the speed of construction increases rapidly.

Proper selection and planning of equipment is very important for timely completion of project.

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