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A Review on Descriptive & Inferential Statistics Analysis of Material Wastage & Quality Management in Construction Project

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ABSTRACT: The construction industry is one of the industries through which physical development of nation is achieved, and it is truly the locomotive of the national economy. The more resources, engineering, labor, materials, equipment, capital, and market exchange are provided though this industry to the national economy. The increasing complexity of infrastructure projects and the environment within which they are constructed place greater demand on construction managers to deliver projects on time, within the planned budget and with high quality. The successful execution of construction projects and keeping them within estimated cost and prescribed schedules depend on a methodology that requires sound engineering judgment. To the dislike of owners, contractors and consultants, however, many projects experience extensive delays and thereby exceed initial time and cost estimates. This problem is more evident in the traditional or adversarial type of contracts in which the contract is awarded to the lowest bidder- the awarding strategy of the majority of public projects in developing countries including Western Maharashtra Strip.

KEYWORDS: Wastage, ISO 9001

I. INTRODUCTION

One of the main objectives and policies of any public or private sectors dealing with the execution of projects is to upgrade projects performance, through reduction of costs, completion of projects within their assigned budget and time constraints, and improve quality. Construction industry in Western Maharashtra Strip is suffering from many problems which affect time, cost and quality, these factors related to political situation and techniques used in. Western Maharashtra Strip, these problems are summarized as following. [4]

- Large number of workers in comparison to the number of projects (the large number of unemployed labour in Western Maharashtra Strip)
- Shortage of materials in markets;
- Continued increase in material prices;
- Dependency on donor countries to get the fund of implemented projects in Western Maharashtra Strip

These factors above and others contributed to large proportion in making many problems in construction industry, which usually related to time and material wastages. Delay of project and material wastages in Western Maharashtra Strip is one of most important problems at construction management field. In addition, research and studies in this field in India are few compared to worthy expected results. Despite the importance and the significance of the construction sector in India, it is noted that the parties of project (owner, consultant, and contractor) don't give the time and material wastages the importance at the evaluation at the end of project [7]

A. Scope

The scope of this study is to understand concept of time overruns and material wastage. Scope also concern study about factors influence on time overruns & material wastage Study also conduct recycle and reuse construction & demolition waste.

B. ISO 9001

ISO 9001 is an International Standard that gives requirements for an organization's quality management system (QMS). It is part of a family of standards published by the International Organization for Standardization (ISO) and often referred

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to collectively as the " ISO 9000 series " or " ISO 9000 family ". For this reason, you may sometimes hear your suppliers refer to being "ISO 9000 certified", or having an "ISO 9000-compliant QMS ".

II. LIETRATURE REVIEW

Topic	Key Points	Key Authors/Studies
Time Overruns	- Time overruns refer to project completion beyond planned dates.- Caused by internal (contractor, design) and external (weather, resources) factors.- Measured as difference in estimated vs actual completion time.	Kaming et al. (1997), Vidalis et al. (2002), Choudhry (2004), Chan (2001), Al-Gahtani & Mohan (2007)
Types of Delays	- Categorized into: Excusable, Concurrent, Compensable, and Critical delays.	Vidalis et al. (2002), Ahmed et al. (2003), Alaghbari et al. (2007), Al-Gahtani & Mohan (2007)
Excusable Delays	- Delays due to unforeseen events (e.g., natural disasters).- May be compensable (extra time + cost) or non-compensable (only time).- Known as "Force Majeure."	Alaghbari et al. (2007)
Concurrent Delays	- Multiple delay factors occurring simultaneously or overlapping.- Makes delay analysis and compensation complex.	Alaghbari et al. (2007)
Compensable Delays	- Caused by owner or agents (e.g., late decisions, poor drawings).- Contractor is entitled to time and cost compensation.	Alaghbari et al. (2007)
Critical Delays	- Delays affecting project's critical path and completion.- Non-critical delays don't impact overall schedule.	Abudul-Rahman et al. (2006)
Factors Causing Time Delays	- Key factors: design changes, poor site management, lack of experience, subcontractor issues, payment delays.- Factors grouped into client, contractor, consultant, and external causes.	Kaming et al. (1997), Sambasivan & Soon (2007), Ogunlana et al. (1996), Assaf et al. (1995), Mulla & Waghmare (2015)
Sources of Waste Generation	- Waste generated from bulk (infrastructure, real estate) and retail (small sites) sources.- Major waste contributors: road/bridge works, flyovers, and repair activities.	Classification; General global review

III. CONCLUSION

- Poor quality in design and construction affects the maintenance wastage and rework cost level of service of the project. The consultants and contractors should take some proactive measures in order to improve the quality in the design and execution phase of construction projects
- In thesis we studied two case studies Pebbles Urbenia and Pride Purple Square. From both case study only Pebbles Urbenia are follow ISO 9001,so results of wastage and rework defects in quality of work for Pebbles Urbenia are less than the Pride Purple Square.so its conclude that follow ISO 9001 is beneficial from point of view of quality and wastage management . the results for both case studies are as given

A. Questionnaire Survey

- From the above Questionnaire Survey is conclude that on the site of study area 1 Pebbles Urbenia are follow ISO 9001 so percentage other factors which can directly effect on quality , wastage and rework of construction are less, it almost 17.38%
- From the above Questionnaire Survey is conclude that on the site of study area 2 Pride Purple Square are doesn't follow ISO 9001 so percentage other factors which can directly effect on quality, wastage and rework of construction are more it almost 31.71%

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