

WASTE IN INDIAN BUILDING CONSTRUCTION PROJECTS

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ABSTRACT

The Indian construction industry is characterised by challenges such as low productivity, lack of skilled labour, time and cost overruns etc. These are associated with considerable waste present in the construction sites. An important step towards elimination of waste, is to understand and measure the amount of waste actually present in Indian construction sites. Currently there is very little documentation in literature on this issue in the Indian construction industry context.

This paper aims to investigate waste in Indian construction industry, focusing mainly on building projects. Six ongoing projects were taken up for the study and the wastes identified were quantified in terms of project cost by collecting data through direct observations, records and using tools such as work sampling. The results showed that waste due to non value added activities by labour and equipment was much higher compared to material waste generated in the sites. The total cost of waste calculated as percentage of project cost, for the items studied, varied from 5.38% to 14.70% among the projects studied. However, this did not include the cost of quality deviations as this data was not documented in the sites studied.

KEY WORDS

Lean construction, indian construction, productivity, waste, work sampling.

INTRODUCTION

Construction is the second largest economic activity after agriculture in India. It accounts for 11% of India's GDP and has generated employment for about 33 million people in the country. The large infrastructure development initiatives undertaken during the last two decades have provided an opportunity for the construction industry to undertake a number of large projects. In its path of advancement, the industry is also faced with chronic problems such as time and cost overruns, low productivity, poor safety, inferior working conditions, insufficient quality, lack of skilled manpower etc. These are associated with considerable waste present in the construction sites. While a few large construction companies have started to look into waste reduction and process improvement issues through concepts like lean construction, most organisations are yet to address this issue. Towards implementing lean principles, in which a major focus is on elimination of waste, it is important to

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