

# Impact of Supervision on Rework in Construction Industry

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**Abstract**— The role of supervision plays a vital role in the construction projects. Supervision due to unskilled labours is believed to be one of the major causes of rework. Therefore, skilled supervisors along with experience play an important role in reducing the amount of rework due to construction defects. This paper shows the quality of site supervision in India as it is related to the levels of experience and skill of a supervisor. Hence, the paper gives the fair idea about the relationship between the quality of site supervision and rework in construction industry. Based on site data collection considering five building construction sites in India, this paper suggests that the principal cause of rework during construction is due to the unskilled supervision without experience which leads to the defects in construction industry.

**Keywords**—Unskilled supervision, Rework, Training.a

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## I. INTRODUCTION

The importance of construction industry is approved in all communities. As technologies are improved nowadays, construction industry is getting automated and prefabrication is become of major importance. Although the role of human is decreased, still human has a major role so mistakes still exist. The Indian construction industry is facing lot of problems due to unskilled labours. Young people don't show interest to join the construction industry. Even when they join, they do not have proper knowledge and do not receive proper training before joining the construction industry. This leads to poor workmanship and cause rework which effects the productivity, cost, time, and quality of the project.

## II. WHAT IS REWORK ?

Rework is defined as the unnecessary effort of redoing the activity that implemented incorrectly for the first time or Rework may also be defined as activity which is to be done more than once is called rework. Lack of design coordination and integration on the part of design deficiencies and leads to the causes of rework. In the construction industry, rework is widely regarded as an obvious factor that prevents improvement in productivity, although the hours and cost for rework represent only a small portion of the fieldwork as a whole, if fieldwork is considered to consist of the time and cost associated with direct work, support, rework and delays. Many existing studies have quantified the brunt of rework on a project chiefly in terms of cost and have also alert on identifying

and measuring the causes of rework.. However, a common belief is that reduction in rework is a cost-effective

approach to improving yield because most rework could be minimized by civilizing the management of the process and employing skilled labours neither of which is as costly as adopting technical modernization in order to improve productivity

## III. SUPERVISION IN INDIA

India is leading emergent country in the world and numbers of people are betrothed in construction projects. However, most of the workers are unprofessional and unqualified. The triumph of completing any construction project depends deeply on the superiority of supervision. Naturally, the quality of supervision is dependent upon the supervisor's ability. A supervisor is usually given right and accountability for planning and execution of the work. Supervisors are managers, whose major activities hub on leading, coordinating and directing the work of others in order to realize cluster goals.

In India, construction site supervision is a essential constituent. In addition, there are difference of opinion that a successful supervisor has to deal with several skills such as management skills, human relation skills and skills in control, motivation, communication and union behavior. The inability of many supervisors to plan work, communicate with workers, and direct activities adequately is basically linked to increasing quantity and cost of rework. These abilities can be enhanced by providing different trainings to the supervisors.

Most of project managers agree that official training can look up the supervisor's skills. But most of the supervisors study the job by trial and error method.

#### IV. RESEARCH METHODOLOGY

The first stage of this research was to conduct study of various projects of construction activities of the sites nearby pune. The questionnaire survey is to be done in which interviews were taken of the supervisors and contractors. The purpose behind this is to get the information from the contractors and the supervisors regarding the causes of rework.

#### V. RESPONSIBILITIES OF SUPERVISOR

The respondent agrees that following are the role and responsibilities of a supervisor on site-

- Proper planning of the activities should be done.
- Maintain proper relation between the persons included in the project.
- Understand quality specifications;
- He should be able to understand the drawings & design properly.
- Help the labours and give them proper solutions regarding their problems.

Therefore, the supervisor must be familiar with the activities performed on site. Supervisors must be able to plan, organize, and control. They also must have basic knowledge of the site

#### VI. OUTCOMES OF SURVEY

Out Comes of the survey are as follows-

- The training programs should be organised by well known Institutes.
- Training should be practical as well as theoretical
- Training gives more effective result on a particular activity.
- Many companies have their own training centers.

#### VII. QUALITY SUPERVISION

Quality supervision is defined as how well a person utilizes available resources effectively and efficiently. The

effectiveness of supervisor's efforts is judged by how properly they can manage various activities during the construction phase.

The success of supervision does not depend on the number of supervisors involved in a project, but on how properly the supervisor inspects all the various activities. Supervisor has to keep a close eye on all the activities. The rework can take place at any stage of activity. Hence supervisors need to be more active to find the causes of rework.

#### VIII. QUALITY SUPERVISION AND TRAINING

Training is essential for improvement of supervisors and to increase the efficiency of the project. Training is one of the best tool used for improving supervisors' skills. Training programmes are needed for

- To improve work efficiency;
- To Encourage continuous development
- To develop motivational & leadership skills;
- To Improve operational efficiency; and
- Encouraging continuous development.

#### IX. TRAINING

Training has to be given to all supervisors. The subject of the training should be specific and as per the requirement of the site. Training should be advantageous for the project as well as the individual involved in it and, the training should be based on the following points stated as below

- Planning
- Labour & Material management
- Quality control

#### X. CONCLUSION

This paper conclude that the supervisors play a vital role in reducing the amount of rework in the Indian construction industry. They need to be properly trained. The success of supervision is more likely to depend on the experience of the supervisors rather than increasing the number of supervisors involved in a particular project. This paper suggests that the quality of site

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supervision and the supervisor's level of experience helps to minimize the rework cost.

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