

# Indirect Problems Inherent in Construction Projects

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*Abstract*—The main objective of presenting this research article is that some types of indirect problems which arise in various construction projects, during execution. These may seem to be small, but their impact on work is big in the sense, due to which the undergoing construction work gets affected. Finally, the construction work is left behind its proposed time of completion and exceeds its estimated cost. Through the article presented, an attempt has been made to simplify that, if these problems are predicted while making any project proposal and solutions are to be implemented then the project can be completed in time and at economical cost. However, for keeping the project cost economical there are other controlling factors also, and these problems are taken into consideration, but the important thing is that these things are often kept aside by assuming small problems. Sometimes, that seems small, is actually the big impacting factor. Hence, this study may strike one's mind for sincerely considering such small situations, which may convert into indirect problems.

*Keywords*—Construction Projects, Indirect Problems, Project Proposal, Economical Cost.

## I. INTRODUCTION

Civil engineering is that branch of engineering, which directly and indirectly fulfills the basic needs of man. Almost 60 to 70 percent Civil Engineering projects are engaged in the construction work of different types of buildings and their structures, etc. And about 30 to 40 percent of the construction works are engaged in infrastructure development. At the time of planning a project work, detailed reports are prepared, for execution of the construction activities at site. On the basis of that reports, the construction works are kept scheduled to get done within estimated time phase. For proposed work execution, a detailed report of construction work is presented by the team of designers, architects, engineers, etc. This working plan is prepared and presented on the basis of theoretical concepts, practical applications, and years of experience in the relevant construction work, and then it is executed as per the planning.

During the execution of the work various types of indirect problems are encountered, which affect the project work in delaying beyond its estimated completion time and cost too.

## II. OBJECTIVES OF THE STUDY

The following are the objectives to present the article which actually focuses on indirect problems arising during the execution of the construction work as mentioned below:

- i) Identifying the possible problems
- ii) Suggestions for solving the problems

## III. POSSIBLE PROBLEMS ARISING DURING THE CONSTRUCTION WORK

While planning a construction project, all the things are included in the detailed report in a planned way, but still there are some things which are often considered to be of less importance and are not taken into account. Due to these reasons, the construction works are often unable to get completed within the scheduled time phase. These problems generally occur at construction site are following—

- Faulty workmanship
- Improper quality control
- Lack of safety provisions
- Improper accounting for incurred unforeseen expenses
- Lacking in taking group or general insurance of the employees by the concerned company
- No estimation is made for any mis-happening that may occur in future
- No permission is taken from the local bodies or authorities for the proposed construction work

### A. Faulty Workmanship

In most of the construction works, it is found that sometimes the work executed there is not being done according to plan and design. The main reason

for this is the lack of any kind of certified technical qualification in workers and laborers. They perform their work on the basis of work experience, but mostly due to lack of technical knowledge, there exists some deficiency in the construction work that reflects functionality and serviceability deficiencies. Finally, the structure prepared by making with such practices does not become durable. As a result, the company/firm lag behind in making its goodwill and market value.

#### *B. Improper Quality Control*

Although testing labs are made to control the quality of construction work at the project site. But during the work, those testing laboratories are neglected in conducting necessary tests of construction materials. Necessary tests are carried out after the commencement of work, but during the work, the testing of every lot of each material is ignored. This happens because in most situations, we assume that the raw material that came in the initial lot or batch is fine, and the one that is coming is also fine. This negligence spoils the quality of construction work. For this, every lot is required to be tested in the testing laboratories located on the site.

#### *C. Lack of Safety Provisions*

The most important thing at the site is to make provisions for the safety of employees. Every project proposal has the provision to ensure safety at the working site. But due to the non-observance of complete safety during the construction work, many accidents occur, in which often the workers suffer a lot and the company also has a financial loss. Therefore, along with the provision of safety at the workplace, it should also be implemented seriously.

#### *D. Improper Accounting for incurred unforeseen Expenses*

It is often seen that there are some unforeseen expenses during the construction work, which increase the original cost of that construction work. In the project proposal report, about 3% to 5% of the total estimated cost is added for considering the incidental expenses, but many times it becomes more expensive. These expenses cannot be estimated merely based on theoretical aspect, but

they should be considered on actual condition basis. Because sometimes happens major accident at site, then in such condition, company has its liability to compensate their affected employees. Thus, the original cost of construction gets increased in case of disbursement of any compensation.

#### *E. Lacking in taking Group or General Insurance of the Employees by the Concerned Company*

It is mandatory for every company to take group insurance coverage for the employees working there. But many times, this essential thing is ignored and especially the group insurance cover of labourers/workers category of employees is not taken. Whenever there is an accident at the workplace, then the need for group insurance is felt. Because if group insurance of employees is taken, then the Insurance Company of the accidental employee would have paid the cost of treatment under the medical claim policy. In such situations the company would have to pay less and then there is no increase in additional expenditure.

#### *F. No Estimation is made for any Mis-happening that may Occur in Future*

This is not taken seriously at the time of preparing any Project proposal because the probability of mishappening is less, but it should not happen in the future, it cannot be completely assumed. These events are in fact accidental, or sometimes it does not even happen. Since the probability of such incidents happening is low but not zero either. When these kinds of events happen, then it causes economic loss. Therefore, it is more necessary that while making the Project Proposal, it should also be considered in relation to it.

#### *G. No Permission is taken from the Local Bodies or Authorities for the Proposed Construction Work*

Whenever any construction work is proposed to be done on such a site, where the public traffic takes place, then in such a situation it becomes necessary to get permission from the local bodies or the tribunal of that place. The movement of people on such Project sites remains the whole time. If the project work starts without permission and an accident happens, the company must compensate for any loss and imposed penalties from the local body also has to be paid.

#### IV. SUGGESTIVE MEASURES

The following are some suggestive measures to overcome the indirect problems that arise at working site:

- It is necessary to have formal education and technical skills in worker or labor category employees so that they can complete their construction work based on their technical understanding and experiences. And this way faulty workmanship can be improved for far depths.
- There should be a firm system of safety in construction work at the project site. Besides it, employees should be trained through training programs for values of safety at construction site. Accidents should be minimized on the site, and in case of an accident, how to avoid fire and save others, how to give them first aid, and admit them to the hospital, etc., all information should be given to employees through formal training. To ensure safety, PPE kits should be given to workers/labourers for ensuring safety during their working and ask them to wear during construction work.
- Quality Control is essential for good construction work. For this purpose, materials should be tested in on-site testing laboratories by the way of random sampling from every batch or lot, before being used in construction work. The materials should be used in the construction work only after they fulfill the quality standards. Thus, a stable and durable building structure can be achieved through quality control.
- While preparing cost estimation for construction work, the amount to be added for unforeseen expenses, should not be done merely on basis of theoretical formulas only, but it should be added to the estimated cost by making a proper listing of contingent expenses. For the listing of unforeseen expenses, it is better to consider expenses incurred during previous works.
- Group insurance must be taken compulsorily for every employee of the company or organization. For this, employees should be

informed about the claim or compensation get from the insurance company during medical treatment. Companies can take group insurance of the employees at their own level or employees can be asked to take medical insurance policy themselves.

- Formal training regarding accidental disasters like fire, land slide, flood, storm, earthquake, etc. should be given to all the employees of a company/organization by inviting the officers of fire stations, civil defense centers, and disaster safety management departments. So, those employees can counter such disaster situations and accidents from which they can avoid themselves and save other people.
- Whenever there is construction work is proposed at any public place, where there is movement of people all the time. Then for in such situations the project company/firm has to take prior permission from government local bodies/authorities to do the construction work under said project proposal report. If possible, the administration should be informed in advance, especially on critical days of construction activities so that the public traffic should be diverted, necessary barricading should be done, and warning sign boards must be used to prevent any accident.

#### V. CONCLUSION

The essence of this study is that for any construction project's final expression or result. Its actual cost should be economical in the sense of serviceability, safety and durability. This article has shown through the study on indirect problems of project sites, which seem to be small, but are cost effective in reality. Therefore, the given suggestions must be included while preparing the project proposal to keep the work economical and it is believed that the if these suggestions followed properly while performing work at site, then the final or actual cost shall not exceed of its estimated cost. As a result, the project work can be made economical. That is, the theoretical concept of any construction work being economical is not sufficient alone, along with its small things and incidents that are also responsible for it which must necessarily be included in the proposal.

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