

THE IMPACT OF COVID-19 IN CONSTRUCTION FIELD

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Abstract : The World Health Organization (WHO) announced the 2019 coronavirus (COVID-19) outbreak as a pandemic, after a remarkable increase in COVID-19 cases, several countries have declared a full national lockdown. Such decisions have limited people's movement and resulted in the complete closure of many corporations across many industries. The construction industry is also facing more work and financial crisis due to this corona pandemic. Majorly affected construction sector. It would seem that hospital construction and healthcare related building construction is doing well due to the aging out of a major part of the population. Construction of large retail stores has declined as companies have been forced to downsize due to health issues and the opportunity to search for virtually any product on the internet. Construction industry members like owners, contractors, subcontractors and supply chain vendors experiencing various level of impacts due to corona virus.

Due to lack of funds many of the construction projects remained unfinished and the completed project remained unsold due to the pandemic. The increase in the price of raw materials for construction field and operating costs worsened the situation in addition to it, the decrease in the demand for residential real estate brought the sector to a grinding halt. But then the road to recovery is found by implementing safety measures and precautions to the migrant labourers and implementing skilled workers for faster completion of the projects. The major causes of lags and economic problem in the construction works during pandemic situation has been furnished in this paper. The main objective of this article is to discuss about the impact of covid-19 on construction field and how to overcome these impacts for the upcoming years.

IndexTerms - Covid-19, Construction Sector, Overcomes, Economy.

I. INTRODUCTION

The humans have faced various pandemics which resulted in disaster to the mankind. Nowadays Mankind is fighting against invisible enemy the Novel COVID-19 coronavirus out broked from Wuhan, China on 17th November 2019. WHO declared the outbreak of a public health emergency Of international concern on 30 January, and a Pandemic on 11 March, 2020. Due to this pandemic, Construction industry have faced both short term and Long term impacts. Imposition of lockdown in india majorly affected construction sector. It would seem that hospital construction and healthcare related building construction is doing well due to a substantial portion of the population is aging out. Construction of large retail stores has declined as companies have been forced to downsize due to health issues and the opportunity to search for virtually any product on the internet. Construction industry members like owners, contractors, subcontractors and supply chain vendors experiencing various level of impacts due to corona virus.

Here we are going to discuss about impacts of COVID-19. The results and discussions section highlights main findings of research also long term and short term impacts on COVID-19 in Construction field.

II. LITERATURE SURVEY

Shelly Stiles, David Golightly and Brendan Ryan [5] presented a Article on Impact of COVID-19 on safety and health in construction field. They Observe the guidance on risk management is solid, the understanding of how to effectively apply it is not yet stable. Also, it's important to make sure that enforcing guidelines doesn't compromise overall safety, which is already being hampered COVID19's increased delivery pressures. However, new knowledge of health, hygiene, and safety risks can present opportunities for safer working practices.

Mr. May Khalfan and Mona Ismail [9] proposed a paper about Building projects and crisis management and A Descriptive Study on the Impact of COVID-19 on Engineering Projects in Bahrain. They made a exploratory research was conducted to assess the effects of the pandemic and the progress of engineering projects in the region. The target population was licensed engineering offices in Bahrain, as well as governmental bodies involved in the building and engineering industries.

KPS Kohli and Manpreet Chadha [1] demonstrate a article about Impact Of Covid-19 On Engineering and construction sector in India. They discuss about the problem is exacerbated and difficult to resolve, there is no common type or format for contracts used by the construction and engineering industries in India. A Construction and Engineering Contract may have an infinite number of variations in its General and Special Conditions.

III. IMPACTS OF COVID-19 ON CONSTRUCTION FIELD

The government of India has placed a lockdown to control the pandemic, though The Government limiting the movement of people and gatherings. A group of labourers are working together in the construction sector to fulfil the deadlines. However, all building activities and most business activities across the country have stopped due to the constraints placed in place by the government. There are some implications of the lockdown, which will further increase the problems for the industry, such as reverse migration, supply chain interruption, and others. Cumulatively, the above circumstances would hinder the fulfilment of the construction and engineering contract obligations and would lead to several legal difficulties for the sector following the lifting of the current restrictions. The crisis of India's construction industry is increasing as there is no specific form or format for contracts, it is difficult to solve and pursued by the industry. There may be endless gaps in as many Construction Contract's Informal and Formal Conditions. While, standard types of contracts for construction and engineering by Institution of Civil Engineers ("ICE") are widely adopted. In addition, there are different standard contract forms adopted by the National Building Construction Corporation ("NBCC"), Model Engineering Procurement and Construction ("EPC") Contracts for construction works.

Despite the fact that the Union Government declared the pandemic a Force Majeure case, the construction industry was left to deal with the double whammy of COVID on top of the already sluggish conditions. COVID's effect on the construction market, as the second largest employer, resulted in a drop in GDP not only in real estate but also in many related industries. Even the fact that the economy is improving and that progress on the production of a vaccine is being made, the revised standard operating procedure. The use of personal protective equipment (PPE), social distancing, personal grooming, and other activities are causing delays in under-development projects.

This will further push up financing cost and continue to Impact the stakeholders in the construction industry. Some of the common problems that might Occur in some form in most building contracts, however, are discussed below:

3.1 Scope of the work

A Scope of Work, often widely referred to as a Provision for Performance Duties, is intended to provide a concise overview of the work to be done for us and the builder or contractor. With this clause, the most frequent problem is that it will contain incomplete explanations. The results are generally unfinished or faulty work, issues with the arrangement of duties during the construction process, and conflicts about the quality of the work. If these problems occur during the construction of the house, they typically need litigation to address them. This need to wait for the courts to deal with the conflict would eventually prolong the construction of the building or will result in the construction never being finished in some instances. Due to covid 19 pandemic lockdown the workers who are pillars for the constuction industry where reverse migrated to their home towns due to this the balance of the work has been affected. This is the major impact of construction industry.

3.2 Project modification and change orders

The Provision of Project Modifications and Change Orders, which can be seen as two different provisions, is intended to detail how the designer or contractor can manage any changes, we or our architect make to the designs and requirements of the house. The most common problem that exists concerning this clause is that the Change Orders section of the provision will not be included in most commercial construction contracts. The consequence is that most builders or contractors would inflate their contract price to cover any potential improvements to the project that we or our architect might make before or during the building's construction. While this problem is usually overcome by the builder or contractor by inflating the contract price, if the builder or contractor underestimates the cost of future improvements to the project, it can lead to litigation. The unfortunate outcome of this is that the builder or contractor is likely to interrupt all work on. In the covid 19 outbreak many orders have be cancelled and project where stopped.

3.3 Delay

The Delays Clause is intended to detail the processes by which contractors may seek extensions of time and/or penalties for incidents for which the contractor is not responsible. This requirement usually guarantees that for compensable accidents that disrupted construction on the project, builders and contractors will be paid. Such compensable incidents are generally referred to as cases of "force majeure" and "Acts of God." The most common types of incidents for which, despite the delay of the project, a builder or contractor may obtain compensation include labour conflicts, material shortages, and actions taken by government agencies that have resulted in project delays.

3.4 Force majeure

Force Majeure applies, in a very wide sense, to extraordinary, unexpected incidents or circumstances which are beyond the fair control of a party to a contract and which preclude or hinder the fulfilment of its contractual obligations. Although no specific form or requirement for a force majeure clause is provided for in the Contract Act, the parties are free to specify the events and circumstances that may be protected by the force majeure clause. The whole contract is individually understood to establish the limits of force majeure in each agreement and to test whether or not Covid-19's travesties will be permitted. Therefore, even if not expressly specified in the contract, the influence of government, administrative and legislative acts must be considered. Even the immediate consequences of the lockdown have to be considered when, on account of Covid-19, adjudicating any default/infringement of the contract.

It is important to note that the party invoking the provision is responsible for demonstrating that the contract has fundamentally changed due to the occurrence of the Force Majeure incident. The party is also obligated, whenever possible, to minimise harm in such a situation. This clause is routinely drawn up in a way that gives builders and contractors considerable flexibility to extend the timetable of a project unilaterally and also compensates for both compensable and non-compensable delays. The effect of this is that it will take longer to complete the project than what was initially planned, and you will pay more for the builder or contractor's services. The most popular solution to this problem includes bargaining between you and the builder or contractor over whether a certain incident or delay in the project was caused by a compensable event. The project can be stopped before we and the builder or contractor can resolve the problem, depending on when this contract occurs. During pandemic period, In construction site. In construction site the delay of bricks and sands due to unavailable transportation from various places. So the construction time is extended from the targeted time.

3.5 Frustration in construction contracts

Frustration arises when conditions that are not the responsibility of any party to a contract mean that the contract is difficult to continue. As a result, without any party being found to be in violation, the contract comes to an end. The parties must, however, be confident that an incident of frustration has occurred in order not to violate the contract. It is necessary to define the parties' contractual obligations at the date of the contract to be able to determine the conditions for frustration. Some of the activities that could lead to a disrupted agreement include: The government has placed unforeseen construction limits. Laws are implemented that make it unlawful to undertake what was promised under the agreement. The building where the work was to be done was demolished. An incident that was critical to the cancellation of contractual commitments.

Though there is no definition of force majeure in Indian law, Section 56 of the Contract Act provides for contractual frustration if:

- a) The fulfilment of the contractual obligations becomes unlikely or unconstitutional due to a change of circumstances beyond the control of the parties after the execution of the contract;
- b) The contractual item is lost.

IV. MEASURES TAKEN BY THE GOVERNMENT TO OVERCOME THE PANDEMIC

The union of stake holders is the foremost thing to revive the construction sector concrete measures include the safety of the migrant workers ,interest rate reduction. The usage of modern technology will definitely revitalize the construction industry in the coming days. The initiative of government of India is much appreciated. The constructive measures of the government such as the light house projects in six indian cities to showcase the art will make surely make way to accelerate the speed of construction sector. The migrants workers initiated to renovate the government schools they were residing during the covid19 lockdown period as a sign of gratitude which earned a sort of living for them. In the concern of construction workers, the Indian government took steps and made certain relaxation in the lockdown rules such as resuming the incomplete projects with minimum number of workers ensuring safety .The modern technology served as a boon which made the projects to proceed through Virtual floor plan walk- throughs and video conferencing for the discussion of punch list.

The AI enabled construction robots are enabled to rescue the construction industry thus simplifying the tedious tasks of the labourers and executing the work with absolute precision. One time financing for about-to- be completed construction structures would definitely aid the sector. To attract the future foreign investments, the central government of India has allocated an INR of 500 billion to the Ministry of Housing and Urban development in the 2021 Budget. Allocation of INR 137 Billion to the Pradhan Mantri Awas Yojana aims to provide urban housing by 2022 for all the Indian citizens. Every construction worksite had a Nodal officer who looks after the health and hygiene of the workers.

In the middle of the Coronavirus-related panic, the Finance Minister announced a Rs. 1.7 lakh crore relief package on March 26, 2020 to help the economically weaker sections. The package will primarily benefit the migrant workers and construction labourers. The Building and Other Construction Workers (BOCW) cess funds raised by labor welfare boards were used to provide immediate relief to construction workers. To overcome the problem of such situation our indian government was slowly released the lockdown for small scale workers. Transportation between states and countries has been slowly get started.

V. CONCLUSION

Based on the analysis, even through the severe effects and consequences of the covid19 pandemic, the construction industry is getting back to normal through the constructive measures and implementations of the government such as the incentives provided which were crucial for the many of the construction firms. It would be an understatement to suggest that the firms engaged in the construction sector would be affected because of the present unusual situation. Different restrictions placed in place by governments to control the effects of the virus could lead to shortages of raw materials and manpower, disruption of the supply chain, and lack of capital for construction field. The prime concern for the sector should be the contraction in demand for consumption. Some building and engineering materials are imported from countries that may be more severely affected, causing a effect for the entire industry. And finally i hope the world will recover from this covid 19 pandemic situation.

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