iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 9 **Issue:** VI **Month of publication:** June 2021

DOI: https://doi.org/10.22214/ijraset.2021.35639

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.429
Volume 9 Issue VI Jun 2021- Available at www.ijraset.com

Review on Repercussions of Covid-19 Pandemic on Construction Sector

Samiksha P. Sonak[1], Prof. Ashish B. Ugale[2]
[1]*Post Graduate student, Construction & Management, Dept. of Civil Engineering, Prof. Ram Meghe College of Engineering and Management, Badnera, Maharashtra, India*
[2]*Assistant Professor of Civil Engineering, Prof. Ram Meghe College of Engineering and Management, Badnera, Maharashtra, India*

Abstract: ***The Covid-19 pandemic has disrupted almost everything related to economic and livelihood activities. This review paper however aims at showing and assessing the negative impacts of Covid-19 over construction sector in India particularly. The construction sector in India being second highest employee intensive sector after agriculture. It had come to an abrupt halt in first quarter of FY2020-21 and this resulted in stopping of supply chain management, major infrastructural projects of government and private entities, different cement, steel and other construction material manufacturing units. Further it resulted in sudden unemployment over millions of Indian employees and workers, in both organized and unorganized sectors related to construction businesses. The lockdown gave rise to many unfair practices in the business of supply chain, one of which is the stockpiling of cement and steel in the initial period of strict lockdown, hence the prices soared up in short time. That's why estimates of major projects also rose up. On the other hand, the rates of real estates have gone down invariably due to cash crunch in the economy. All these effects and causes are dealt with in this research paper using authentic data in the public domain***

Keywords: Covid-19 pandemic, repercussions, unemployment, economy, construction sector, infrastructure.

I. INTRODUCTION

In December 2019, a completely unique coronavirus (SARS-CoV-2) that causes COVID-19 was first identified in Wuhan, Hubei Province, China. The virus quickly spread through various states in China and caused major travel disruptions during the Spring Festival celebrations in late January and early February. By late February, there have been COVID-19 outbreaks in multiple countries, and therefore the World Health Organization (WHO) declared COVID-19 a worldwide pandemic in mid-March 2020. The COVID-19 pandemic has devastated the planet of labor. Its impact, which varies across sectors, has been significant within the construction sector. As construction is sensitive to economic cycles, construction enterprises and workers are particularly susceptible to the drastic decline in economic activity resulting from the pandemic. Increased health risks related to COVID-19 have exacerbated decent work deficits within the sector.

Before the pandemic, the construction sector accounted for around 7.7 per cent of global employment, with projections for 2020 indicating that it would contribute to 13.4 per cent of global GDP. In the context of the current crisis, however, falling revenue and increasing project delivery challenges have led to the sector's contraction in most markets, with a corresponding negative impact on the labor force.

In this challenging times, effects of pandemic had been felt in every part of the world, the construction sector is widely affected globally. After agriculture, the construction infrastructure and real estate segments are the second largest employment providers in India. The infrastructure and construction sectors are majorly responsible for inducing India's growth and with proper focus by government for starting policies that would confirm in-time making of world class infrastructure in India. Ongoing covid-19 pandemic had been devastated almost every activity in economy of India. Specifically, construction industry stands second after the services sector in terms of FDI inflow. The lockdown resulted in various infrastructure project sites started at closure as it is mainly due to an effect on the labor movement due to the lockdown and also due to supply chain disruptions that contracted further as more states enforced COVID-19 lockdown. The construction industry offers employment to 35 million people in India and the overall estimate touches to 8% of India's GDP according to International Labor Organization (ILO) [2]. Pandemic has directly affected workforce involved in organized and unorganized sectors related to construction sector. Issues like delay in supply of materials, laborers shortage, financial problems, unemployment occurred predominantly in economy.

©IJRASET: All Rights are Reserved

The problem for the development and engineering sector in India is aggravated and difficult to deal with as there's no standard form or format for contracts followed by the industry. There might be innumerable variations in as many General and Special Conditions of a Construction and Engineering Contract. Although, standard kinds of construction and engineering contracts by International Federation of Consulting Engineers("FIDIC"), Institution of Civil Engineers ("ICE") or Indian Institute of Architects ("IIA") are widely adopted, but, at times they're zealously negotiated and hence modified so on, lose its uniformity. Additionally, there are separate standard sorts of contracts adopted by the National Highway Authority of India ("NHAI"), National Building Construction Corporation ("NBCC"), structure Department ("PWD"), Central structure Department (CPWD"), Delhi Metro Rail Corporation ("DMRC"), Model Engineering Procurement and Construction ("EPC") Contract for construction works by NITI Aayog. The Ministry of Finance has issued various standard contracts for procurement of works like item rate contracts and lumpsum contracts, Model EPC Agreement by Indian Railways, etc., making it impossible to exhaustively affect issues that would arise on account of Covid-19 and their solutions.

II. OBJECTIVE

The objectives of this research paper study are as follows:

A. To assess the impact of pandemic on supply chain management related to infrastructure development.
B. To evaluate issues faced by migrant workers during lockdown period.
C. To study immediate financial crisis which severely hit construction projects across the India.

III.METHODOLOGY

This review aims to explore the immediate downside of the covid 19 pandemic in construction industry. This was achieved with the desk study review of limited literature. In this review paper the methods used for collecting data are primarily based on Quantitative (Actual monetary figures from nationally and globally published reports) and Qualitative surveys (reviews from different professionals in infrastructure sector as well as construction sector tycoons and government as well) done by some other researchers, government and private organization reports published in wake of pandemic. The survey conducted are normally contain data collected from large number of individual employees across different states of India.

Another method involved was 'Real Time Reporting' through leading print as well as electronic media. Their investigation about the impacts or consequences of the coronavirus on the construction sector based on the currently available expert opinions presented in well-established and highly regarded resources. Examples of the considered resources include, but were not limited to (1) THE HINDU, which is an English-language daily newspaper owned by The Hindu Group that offers news, analysis, data, and experts' [5]. (2) References by Deloitte, which provides multinational professional and consulting services, and is one of the Big Four accounting organizations as well as the largest professional services network in the world by number of professionals and revenues; (3) Business Wire is a trusted source for news organizations, journalists, investment professionals and regulatory authorities, delivering news directly into editorial systems and leading online news sources; (4) Moneycontrol which is an Indian online business news website owned by E-EIGHTEEN Dot Com (P) Ltd.; (5) Business today, *which* is an Indian fortnightly business magazine published by Living Media India Limited (6) The International Labor Organization (ILO), which is a United Nations agency whose mandate is to advance social and economic justice through setting international labor standards [10]. All the above resources included articles written by experts with extensive and substantial experience in the construction industry, including directors, counsels, partners, vice presidents, litigators, attorneys, and consultants, among others.

IV.DATA ANALYSIS

Due to the restrictions put in place by the Government, all the construction activities and most of the industrial activities across the country had halted. There were multiple consequences of the lockdown directly or indirectly on the affected areas like reverse migration, disruption of supply chains and some other components of construction sectors.

In first quarters of FY 2020-2021 strict lockdown and complete shutdown of economic activities in India disrupted the following

A. Disruption of supply chain of building materials

During the early months of the pandemic, many contractors were unable to source basic materials such as sand, cement, and bricks etc. The supply chain for steel, cement and other items have been broken. [3]. The suppliers for steel, cement and other items had to shut down their enterprises. There were issues related to inter-state transportation of trucks loading all the raw materials as well as these finished construction items.

©IJRASET: All Rights are Reserved

Critical input materials used in construction were also disrupted with varying restrictions across inter-city and inter-state travel. Sighting a decreased production, prices of many commodity also increased by some amount, led to increase in financial burden on contractors and builders. In tier 2 and tier 3 cities the availability of the construction material was worst hit due to interstate and inter-district movement restrictions. Finishing materials like paints, sanitary ware, floor materials, fixtures and plumbing were also affected. As the all the local markets in the country were continuously closed for 2-3 moths initially.

B. Shortage of labors

The World Bank said that lockdown has affected about 40 million migrants in India. But as the lockdown imposed in India initially for 21 days by government, this created panic among the labors in the major metropolitan cities such as Mumbai, Delhi, Hyderabad, Chennai, Ahmedabad, Bangalore and distancing resulted in a chaos and difficulties of returning to native places for internal migrants in India.[8] About 50,000 to 60,000 labors moved from urban Centre to their rural areas in Bihar, Jharkhand, Madhya Pradesh, Uttar Pradesh in the span of a few days, the World bank reported. [3] 'COVID-19 Crisis Through a Migration Lens', this report said that magnitude of internal migration is about two-and-a-half times that of international migration. Most migrants have been stranded due to the suspension of railway and roadways services.

C. Losses in Construction

The effect of the Corona virus on India's construction sector was costing an estimated Rs 30,000 crore every day. The pandemic had reduced investment in construction industry by 13 to 30 percent, which had probably affected Gross national product and employment [4].

The construction industry also faced costly pressures and productivity had declined due to lack of labour and hence further cost required for automation also increased.

D. Financial Problem

Finance minister Nirmala Sitharaman announced that the state governments were directed to use welfare funds for infrastructures and construction laborers, which was around Rs. 31,000 crores, to help who lost their means of earning [7]. The bailout packages for housing loans interests and provident fund assistance also provided by central government. Even after the crisis had contained and work resumed, it would take another 12-15 months for things to return to normal, according to major construction companies in India.

E. Contractual Implication Issue

According to NCLAT, number of cases related to contractual paperwork increased by 15%. As projects got delayed the suppliers got stranded due to unpaid bills by the companies and contractors in case of government projects. A clause known as ‘Force majeure’. There are some rules mentioned in this clause, ‘Large Scale Epidemic’ is one of it [6]. COVID-19 pandemic rests in this category. Contractors put their tools in different location for use in different machinery construction sector but due to result of this lockdown, all those equipment had been lying there for a long time [9].

F. Material Cost and Availability

As the strict lockdown got imposed, all the cement and steel manufacturing plants were stopped working and hence the available stock was sold in black market at higher rates, also some of the suppliers started stockpiling and hence the prices soared up and affected funding of constructions. During April-May some of the plants started their operations at less than half of their capacity [6], which resulted decreased production, commodity prices also increased to some extent. The supply of critical input materials used in construction were also affected with varying bans across inter-city and inter-state travel [7].

G. Issues in Real Estate, Infrastructure

The pandemic had much larger impact on the Indian housing market. Residential projects market had seen 42% drop in first quarter of 2020, against the earlier year. In the first quarter of 2020, residential project sales of the top 7 cities were at 45,200 units, against 78,510 units in 2019. On a quarter basis, housing sales fell 24% [5]. Potential homebuyers dropped the plan of purchasing properties in the 2020 due to cash crunch and lack of job security. This further aggravated in the slowdown of already purchased properties’ possessions. The rental properties were also vacated due to reverse migration and hence owners forced to decrease the rentals of flats, houses, offices etc. According housing sales to report.

Along with above problems, one of the major issues related to ordinary home buyers in India was, the delayed or due payments of monthly housing loan installments, the reasons behind it were job loss, cuts in payment.

©IJRASET: All Rights are Reserved

H. Unemployment

The number of unemployed in India has risen to 27.11% due to Corona virus (COVID-19) in the first week of May 2020. Globally millions of people lost their jobs to the pandemic.

Migrant labour crisis contributed to issue in a significant amount. As the labours had to use their savings which was not a big amount and after its exhaustion they had to rely on the government's monetary and food support. This was related to unorganised sector [10].

The larger corporate infrastructure companies laid off 7-12% employees in the April 2020 itself sighting lack of market recovery in near future. Most affected of them were site engineers. Site supervisors, contractors, surveyors etc, mostly related to fieldwork.

Although central government's repeated appeal to not lay off any employee due to slowdown, it didn't work on ground. Some companies opted the pay cuts instead of decreasing number of employees, though this released some pressure over employees but added a stress to their monthly expenditure balance [2].

Another important point related to unemployment was indirect that is when the construction companies recruited fresh graduates through campus placements in Jan-Feb2020. Most of them were denied a call letter in subsequent months due to lockdown and some of them had to accept delayed joining which was about Nov-Dec2020 [10].

V. CONCLUSIONS

The review indicates the severity of repercussions of Covid-19 on construction sector particularly, focusing upon the major issues arise in the initial phase of pandemic and lockdown. The reviewers used authentic data made available by various government institutions, international institutions, NGOs in public domain. As the spread of virus progressed across India, the central government imposed immediate lockdown to get prepared for necessary infrastructure and took measures to curtail disease's effect.

Lockdown resulted in shutting down of all the construction related work right away. Consequently, millions of employees, laborers lost their jobs over the span of 2-3 months. Further this review paper highlighted the issue cash crunch in the economy and related slowdown of production of construction materials and their supply throughout the country. All of this created a havoc and India witnessed migrant labor crisis. The supply chain management suffered a loss due to lockdown restrictions and led to overall increased prices of building materials and allied supplies. Real estate prices got dropped for a quarter of FY2020-21 and even further a slowdown could be seen.

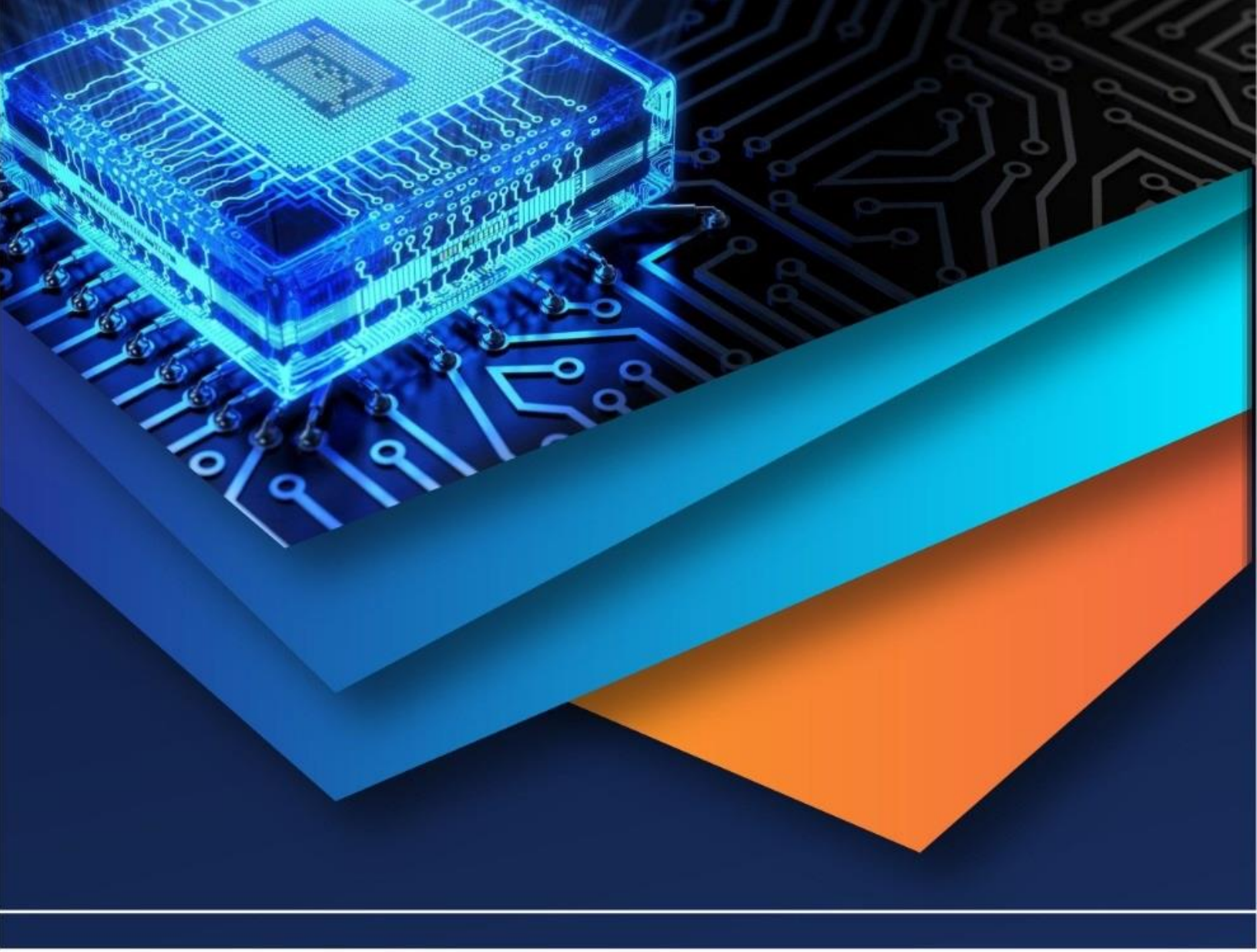
Many private sector companies had to stop their projects and laid off employees, as majority of the workforce need to work outdoors, so work from home was possible only for selected people. Cumulatively the covid-19 pandemic caused India's GDP shrunk by 23.9% in first quarter of FY2020-21.

Although despite such negative time, currently construction sector showing the signs of recovery from the past years chaos.

REFERENCES

[1] Ankan Biswas, The impact of COVID-19 in the construction sector and its remedial measures
[2] Construction placement. 3April 2020. https://www.constructionplacements.com/top-constructioncompanies-in-india-2020/
[3] Business today article. April 23, 2020 https://www.businesstoday.in/current/economy-politics/coronavirus-lockdown-in-india-has-affected-40-million-migrants-says-world-bank/story/401762.html
https://www.businesstoday.in/current/economy-politics/steel-cement-supply-disruption-affects-highways-construction-250-projects-resume-work/story/401782.html
[4] MONEY CONTROL. 8 May 2020. https://www.moneycontrol.com/news/real-estate- 2/coronavirus-construction-sector-facing-daily-loss-of-rs-30000-crore-investments-in-projects-to-fall-13-30-kpmg-5243761.html
[5] THE HINDU. March 30, 2020 https://www.thehindu.com/business/covid-19-spells-doom-for-construction-industry/article31211507.ece
[6] Real estate Article-99acres. Aug 25, 2020 https://www.99acres.com/articles/impact-of-covid-19-on-the-indian-construction-industry.html
[7] Businesswire Article April 20, 2020 https://www.businesswire.com/news/home/20200420005398/en/Evaluating-the-Impact-of-COVID-19-on-the-Demand-for-Construction-Equipment-in-India-by-2025---ResearchAndMarkets.com
[8] India: GDP from construction 2021 | Statista https://www.statista.com/.../india-gdp-contribution-by-construction
[9] The impact of COVID-19 on construction contracts in India https://www.dlapiper.com/en/australia/insights/publications/2020/06/the-impact-of-covid-19-on-construction-contracts-in-india/
[10] COVID -19 and the State of India's Labour Market by Radhicka Kapoor http://icrier.org/pdf/Policy_Series_18.pdf

©IJRASET: All Rights are Reserved



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)