

Impact of Unskilled and Skill Workforce and COVID -19 Impacts on Construction Sector

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Abstract:- At destination, construction workers have an extremely poor standard of living. The daily consumption of skilled and unskilled migrant workers is 38 and 55 rupees, respectively. This puts them slightly beyond the Planning Commission's official urban poverty level of 32 rupees per day, which was established in 2009-2010. This poverty limit, however, has been criticized for being too low (The Economic Times, 2011), hence a new committee has been formed to investigate how poverty is measured. This offers a rough picture of the standard of living of migrant workers in the construction business, particularly unskilled employees, who make up the bulk of such workers. Despite the fact that skilled and unskilled employees send varying quantities of remittances, both groups spend and invest their remittances in the same way. Both groups of employees prioritize buying durable things, improving their house, and eating more during the lean season. This demonstrates that their material circumstances in their own nation is improving.

I. INTRODUCTION

As the construction sector continues to expand at a fast pace, there is a strong need for a variety of resources due to increased investment and a desire for physical exercise. Manpower is one resource (both qualified and untrained) that is required in various construction activities – whether it is the development of real estate or infrastructure – and the need for it is only growing. Strangely enough, the unskilled labour force does the vast bulk of the work (measured in absolute numbers), which is required in almost every area of the construction industry. Although the actual need for employees in this industry may be higher, the supply of workers cannot keep up with the demand due to a shortage of professional and other training institutions.

Various types of people are required for the construction industry in order to complete the projects. Because of this, a diverse group of skilled and unqualified workers is required for building projects. There should be no misunderstanding that the unqualified labour in the construction business is just a group of employers who are willing to work in the industry (functionally equipped to perform their job). This essentially means that these workers must be well trained in order to make the services offered to the building activity advantageous. Qualification training is a critical component of increasing staff productivity and should be included in all employee development plans. It is possible that capacity

development / training will play a significant role in the transformation of individuals and communities by enabling them to make the necessary contributions to employability and capacity-building (lifetime).

II. CONSTRUCTION SECTOR – SIZE AND MANPOWER

Construction drives emerging economies such as India, which lacks a wide network of infrastructure and real estate holdings. The construction industry was estimated to be valued Rs. 2.1 trillion in 2008. After agriculture, the construction sector is India's second largest economic activity, employing over 33 million people. The construction business in India has developed at a compound annual growth rate (CAGR) of roughly 11.1 percent during the previous eight years. This is owing to massive infrastructural investments and a substantial increase in housing demand. Foreign Direct Investment (FDI) of around Rs. 240 billion is estimated to enter the sector in 2007-08. Ports, power plants, and roads are estimated to cost more than Rs. 2.5 trillion each year over the next six years, requiring 92 million man years of labor.

Construction investments account for approximately 52.4 percent of India's Gross Fixed Capital Formation. Investing in construction has a good impact on the industries that provide it, allowing the supplier to develop significantly. There are strong links between the construction sector and other industries such as cement, steel, chemicals, paints, tiles, fixtures, and fittings. It helps to raise demand in the near term, but it also helps to strengthen infrastructure in the long term (NSIC 2012). Figure 1 depicts the size and growth of India's GDP in the construction sector.

III. SKILL AND UNSKILLED LABOR AND TYPES

The work environment has altered dramatically for both skilled and unskilled laborers. Skills, particularly specialized skills, are in high demand. As a result, there is a greater demand for education in the United States.

Unskilled labor is defined as any work that requires only a high school diploma or may be performed by a high school dropout with the necessary skills. For skilled labor, you must study or develop additional skills or information. Unskilled labor demand has decreased, but so has the number of persons searching for labor. Unskilled laborers are either quitting the

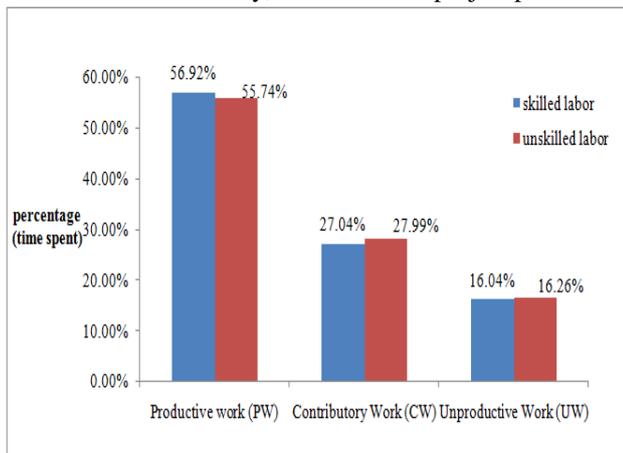
labor force or increasing their skills.

IV. SKILL LABOR TYPE

It is necessary for people to have certain talents that are used in an industry. We locate jobs for engineers, welders, electricians, water supply specialists, and a work of other professionals with highly specialized training and expertise. It goes above and beyond the call of duty. They may sometimes help individuals reconsider how they work and adopt new approaches and technology when it makes sense. These laborers are, of course, paid well. They lend their expertise, creativity, and skill to enterprises. If a company recruits the right people for the right jobs, it may gain a significant competitive advantage.

V. UNSKILLED LABOR AND ITS PERFORMANCE PARAMETER

The construction industry is concerned about the poor productivity of unskilled labor due to social, economic, and physical issues that impact worker performance (Naoum, 2016). One of the most serious issues in the construction industry is a lack of trained personnel. Skilled labor is critical to the success of a construction project. Unskilled labor, on the other hand, is one of the least productive forms of labor in the construction industry, which reduces project performance.



Long-term economic growth and project performance are being hurt by a lack of skilled workers and a shortage of workers. When there is a shortage of skilled workers, projects usually have a short project of time to finish. Low labor productivity is one of the main problems in the Palestinian construction industry that affects how well projects work. When it comes to building projects, not managing resources well can have a big effect on time, cost, quality, and safety. So, construction managers, contractors, and service providers need to know the methods and processes used to measure how productive workers are in different skills (Shehata& El-Gohary, 2012). Time delays, cost overruns, and problems with the quality of the performance are common in construction projects. Inexperienced labor is one of the major reasons why a construction project doesn't go as planned. People making mistakes and a lack of skilled workers in the industry have been named as the main reasons why projects don't go as planned.

VI. LITERATURE REVIEW

Because of the pandemic, both supply and demand in the building sector are expected to fall simultaneously. Because infrastructure projects are a large component of the sector, the current degree of uncertainty, negative company and consumer attitudes, revenue loss, and the fact that government funds are being used to handle COVID-19 are all expected to have a significant impact. In general, a lack of activity in other sectors of the economy would have an impact on the building industry via economic ties. A decline in building production would also have a backward linkage effect, causing the economy to contract even further. To keep the economy moving after a crisis, the construction sector will need to come up with swift solutions to keep a large number of people employed, enhance quality of life, and, most crucially, satisfy project deadlines and budgets.

In 2017 (Mahmood, Ahmed, panthi, &Kureshi, 2017) It is stated in this document that the 'cost of poor quality has been determined, as well as their impact on productivity and rentability,' and the results show that after a 60-day study and the implementation of techniques to improve construction quality the cost is reduced by 24 percent, while labour productivity and profit are reduced by 24 percent.

In 2016 (Dozzi, Eng., &Abourizk, 2016) Finalize the National Research Council of Canada's book, "Productivity in Construction," and explain in the conclusion why increasing construction productivity is the only way to remain competitive in the market and retain your specialization in the building industry.

“Some of the factors that affect construction productivity include climate fluctuation, material scarcity, the absence of an experienced outline and venture proficient group, plan changes, insufficient correspondence, insufficient arranging and booking, and the absence of supervision. Researchers have developed techniques to measure and improve construction productivity, which is defined as factors that affect productivity. Field rating, work sample, five-minute rating, field survey, the method productivity delay model, crew balance charts, simulation modelling and analysis, and other techniques are used to evaluate and improve productivity”.

Despite the fact that labour has grown more flexible, the labour of huge numbers of "footloose" workers into the construction sector is highly structured and compartmentalized. As a result, wages are frequently set lower at the source than they are at the destination. This allows for some types of growth and accumulation, but it is a difficult or low route to capitalism. Surprisingly, wages in the official sector are lower than those in the informal sector due to how they are employed. This is due to the fact that they are employed through intermediaries. In terms of how it impacts the source area, migrant workers can acquire more employment at the destination, but there are no obvious evidence of a general tightening of the job market in the source area. Women are undertaking a lot of labour in the local sector market in the source area, indicating a feminization of the construction field. However, it appears

that the government is unwilling or unable to develop and execute decent labour and social policies for migrant workers. On all construction sites, there is a distinct shortage of people who belong to labor unions or other groups that take collective action. Construction workers have little, if any, input in shaping rules that benefit them because they are migrants.

VII. SKILLED LABOR AND ITS PERFORMANCE PARAMETER

The success of projects in the construction industry is dependent on skills, whether they are mental, technical, or physical (Slattery & Sumner, 2011). It is critical for the contractor or service provider to understand the fundamental criteria for selecting skilled laborers that are both knowledgeable and professional. This can assist in increasing the efficiency and performance of construction projects. It is underlined that improving productivity is possible when construction employees with better and more appropriate skills, knowledge, and mental and physical strength reach a milestone in a timely and effective manner. Better productivity skills make projects more productive and improve project performance.

Laborers with high productivity and skills will be more productive and in better physical and mental health, allowing them to do their duties more efficiently and effectively (Bong, 2009). M. J. Wong (2006) discussed the importance of labor force forecasting as a strategic management tool in the construction sector. HRM is viewed as a significant component of increasing construction performance from this perspective. According to Jarkas (2017), skilled labor forces are one of the most productive human resources in the construction business, and how effectively they execute their tasks has a significant impact on how well the construction sector performs. The efficiency of skilled employees is one of the most essential factors of labor productivity that requires greater attention for a project to be completed successfully. Skilled labor has long been regarded as critical to the success of a project. Skilled labor is critical to the performance of a construction project.

VIII. COVID-19 IMPACT ON CONSTRUCTION SECTOR

Infrastructure and construction are the key drivers of India's prosperity, but they are already being harmed by the COVID-19 pandemic and cannot be expected to be immune. This effect is likely to be exacerbated by the fact that the construction sector is poorly managed and comprised of several enterprises. Capital project investments fuel the demand side of the construction industry. As a result, the COVID-19 pandemic might have a significant effect on GDP and employment in the short to medium term.

There is already reduced demand for construction projects due to poor company sentiment, decreased operational surpluses and revenue, the usage of cash for COVID-19 management, and credit and liquidity issues. Through forward linkages, low economic activity in other sectors will have an

impact on construction services. A decrease in construction production will also have a multiplier effect due to the sector's backward connections, resulting in a vicious cycle in total economic activity.

This article attempts to calculate how much the COVID-19 epidemic would harm construction employment's gross impact added (GVA) and jobs in various investment and economic scenarios. The strategy employs income and employment multipliers based on an input-output analysis. Based on a study conducted by KPMG in India, we evaluated the impacts on GVA and employment of several scenarios. The COVID-19 epidemic is expected to reduce investment in construction projects by 13-30%, having a significant impact on GVA and employment in this sector. GVA and construction jobs are predicted to fall by 15-34 percent and 11-25 percent, respectively, compared to what was planned before the crisis for FY21.

To update the findings, we will incorporate supply-side effects and simulate labor and investment demand shocks within the context of a computational general equilibrium model in a subsequent version of this research.

In India, KPMG conducted a study to determine how much the current COVID-19 outbreak will cost construction projects. The assessment examined crucial aspects such as people, equipment and machinery, and materials, as well as their net influence on overall construction costs. According to poll data, the cost of employing skilled workers is expected to rise by 20-25 percent, while the cost of hiring semi-skilled and unskilled workers is expected to rise by 10-15 percent. The cost of implementing linear projects such as irrigation canals, pipelines, transmission lines, highways, and so on may not vary significantly, while the cost of non-linear projects may increase by 2-5 percent. Projects in the works are expected to suffer significant setbacks and be delayed for at least two to three months, depending on their location and how the pandemic impacts them and the impact surrounding them. The impact on India as a whole, including the construction industry, is expected to be INR 300 billion per day as a result of the shutdown.

Clearly, no single method will work for everyone. COVID-19 is a one-of-a-kind occurrence that has halted not just construction but also all of the major corporations involved in the project's "value chain." It is expected that the construction sector will need a long time to adjust to the new normal and fully recover from this recovery. To get the economy back on track, it will be critical for employment to return to the industry and projects to be completed on time and on budget. It will primarily rely on whether short-term steps are made to correct situations and what medium- to long-term initiatives are implemented by various organizations. The government, developers, and contractors must all work together to get the construction industry back on track.

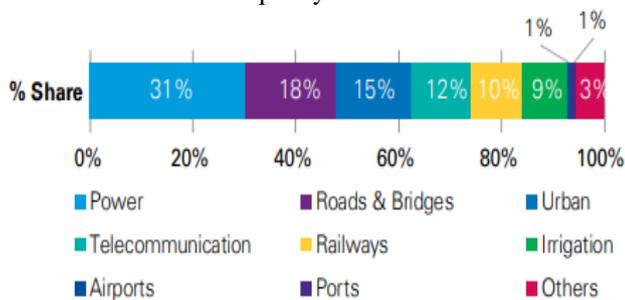
Many of these types of short-, medium-, and long-term measures are included in this paper's suggestions. These stages demonstrate how critical it is to enhance systems and procedures in order to adapt effectively to changing environments and cope with similar difficulties in the future.

IX. CONSTRUCTION SECTOR LANDSCAPE

“Construction in all sectors contributes to around 60 per cent of the total investments that take place in India. An investment of INR 100,000 in the sector contributes INR 150,000 for the GDP, generates INR 320,000 as total revenues and creates an employment for 0.68 5 person years”

Roads and bridges, urban infrastructure, digital infrastructure, trains, and irrigation received more than 94 percent of the INR 82.5 trillion spent between 2008 and 2017.

Despite the large investment, the infrastructure's quality needed to be improved. The second pillar of the global competitiveness index demonstrated this. On the global competitive index, India ranked 70th out of 140 nations in terms of infrastructure quality.



Source: National Infrastructure pipeline

Exhibit-1: Sector wise share of Infrastructure investments of INR 80 Lakh Crore during FY 08 to FY 19

In December 2019, the Ministry of Statistics and Program Implementation (MoSPI) reported a report on the status of 1701 central sector infrastructure projects. According to the report, 355 projects were completed on time, 583 were behind schedule, 401 had cost overruns, and 205 had both time and expense overruns. The total amount of time and money spent on these projects is indicated below:

The entire cost of starting the 1701 projects was INR 20.65 trillion, and they are expected to cost INR 24.71 trillion to complete. Out of 583 postponed projects, 183 (31.39 percent) have a delay of one to 12 months, 129 (22.13 percent) have a delay of 13 to 24 months, 146 (25.04 percent) have a delay of 25 to 60 months, and 125 (21.95 percent) have a delay of 61 months or more.

The National Infrastructure Pipeline (NIP) contains almost INR 111 trillion in projects, the majority of which are in highways, gas, rural housing, renewable energy, and so on. Approximately 40% of these projects are currently in the planning or development stages. Some of these projects, including as basic and secondary healthcare centers, improved air cargo capabilities, and the construction of medical and pharmaceutical parks, are likely to be reprioritized in order to strengthen the country's social infrastructure.

The COVID-19 situation is anticipated to have the greatest impact on workers with a high labor force. Migrant workers account for a sizable part of the workforce in the construction industry alone. They frequently remain at construction sites in areas known as "labor colonies." According to CREDAI,

there were around 20,000 projects underway across the nation prior to the lockout. Work was being done at up to 18,000 sites, and more than 30% of workers avoided the sites for fear of becoming infected with coronavirus.

Year	Investment in Construction Projects(INR trillion)	GVA for construction sector(INR trillion)	Employment in the Construction sector(Million person year)
FY 2019-20	29.41	10.51	95
Baseline scenario for FY 2020-21	32.24	11.02	102

These initiatives need the participation of 8.5 million individuals. People fled cities and returned to their villages as a result of the 40-day lockdown that began on March 25, 2020, was extended to May 3, 2020, and then again to May 17, 2020. According to the Centre's response to Supreme Court petitions, around 6 lakh workers trekked to villages and approximately 10 lakh workers are in relief camps. These folks operate in a variety of disciplines.

X. SCOPE OF THE RESEARCH

Construction is the process of erecting, maintaining, and repairing buildings and other permanent structures, as well as erecting roadways and service facilities that are essential components of structures and are required for them to function. Construction encompasses the entire process of constructing buildings, infrastructure, and industrial facilities, as well as the operations that accompany them. A comprehensive analysis of the Indian Construction Market includes an economy of the economy and how different sectors contribute to it, a market overview, an estimate of the market size for key segments, and a look at emerging trends in the market segments included in the report. The report illuminates market trends in this area, such as growth factors, growth hurdles, and opportunities. The profiles of active key companies depict the Indian Construction Market's competitive landscape. The report also discusses how COVID-19 will impact the market and what the future holds.

XI. LIMITATION

The major limitations faced during the study is time constraint. Construction projects have a vast timeline, completion of projects like Sanskruti, from inception to completion takes several months. This prevented us from monitoring the entire project during our study and limited our focus to the activities that were carried out at the site in that period. The conclusions arrived in this study are majorly based on the tracking of brickwork in the project, along with few activities that were executed in parallel.

XII. CONCLUSION

Skill development is critical for achieving faster, more stable, and comprehensive growth, as well as developing good business possibilities to the rising youthful populace. India's statistical window of chance would make it the world's talent

capital. India would be able to fulfill the need for skilled people not just in its own economy, which is still developing, but also in the economies of the rest of the globe, which are strengthening. The Hon'ble Prime Minister has demonstrated that a youthful populace may be beneficial if it is educated, trained, and employed in a chance-taking business. If this occurs, our long-held optimism that India will expand at a rate of 10% or higher each year will become a reality.

REFERENCES

1. Deshingkar, P., & Sandi, M. (2011, December 6–7). Migration and human development in India—New challenges and opportunities. National Workshop on Internal Migration and Human Development in India, Indian Council of Social Science Research (ICSSR), New Delhi, India.
2. Deshingkar, P., & Shaheen, A. (2009). Migration and human development in India: Human development, New York: United Nations Development Programme.
3. Rogaly, B., Coppard, D., Rafique, A., Rana, K., Sengupta, A. & Biswas, J. (2002). Seasonal migration and welfare/illfare in eastern India: A social analysis. *Journal of Development Studies*, Special issue on Labour Mobility and Rural Society, 38(5), 89–114
4. Mahamid, I, “Contractors prospective toward factors affecting labour productivity in building construction”. *Emerald Insight*, Vol. 8, Issue 3, pp 446-460, 2013.
5. Mahmood, S., Ahmed, S. M., Panthi, K., and Kureshi, N. I., “Determining the cost of poor quality and its impact over productivity and profitability”, *Emerald Insight*, Vol. 13, Issue 3, pp 296- 311, 2014.
6. Doloi, H., Sawhney, A., Iyer, K. C., & Rentala, S. “Analysing Factors affecting delays in Indian Construction projects” *International Journal of Project Management*, Vol. 30, Issue 4, pp 479-489, 2012.
7. Dozzi, S. P., Eng, P., & Abourizk, S., “Construction Productivity. Ottawa” *Natioanl Research Council Canada*, pp 12-56, 2016.
8. Homyunjang, K. K., “Labour productivity model for reinforced concrete construction projects” *Emerald Insight*, Vol. 6, Issue 2, pp 92-113, 2011.
9. Iyer, K. C. and Jha, K. N. “Factors affecting cost performance: Evidence from Indian Construction Projects”, *International Journal of Project Management*, Vol. 23, Issue 1, 283-295, 2005.
10. Khan, O. M., “Significance ranking of parameters impacting construction labour productivity”, *Emerald insight*, Vol. 7, Issue 3, pp 272-296, 2012.
11. Moselhi, O., and Khan, z., “Analysis of labour productivity of formwork operations in building construction”, *Emerald insight*, Vol. 5, Issue 2. pp 286-303, 2010.