

The Impact of Skilled and Unskilled Labour in Construction Industry in India

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Abstract - The construction industry is a significant contributor to the Indian economy, providing employment opportunities to millions of people. Skilled and unskilled labour plays a crucial role in the construction industry, contributing to its success and growth. This journal study aims to examine the impact of skilled and unskilled labour in the Indian construction industry through case studies and data analysis.

Key Words: Labour, workers, Skilled, unskilled, Construction, PPE, OHS, Safety.

1. INTRODUCTION

The impact of skilled and unskilled labor in the construction industry is significant, as each type of labor contributes differently to the project's success and completion. Here are some key points to consider:

Skilled Labor: Skilled labor refers to workers who possess specialized skills, education, or training in a specific field. In the construction industry, skilled labor includes carpenters, electricians, plumbers, masons, welders, and other tradespeople. The impact of skilled labor on the construction industry is significant as these workers possess a higher level of expertise and can perform specialized tasks with greater accuracy and efficiency. Skilled labor also tends to be more productive, have a lower rate of errors, and require less supervision, which ultimately leads to cost savings for the project.

Unskilled Labor: Unskilled labor, on the other hand, refers to workers who do not have specialized skills, education, or training in a particular field. In the construction industry, unskilled labor includes general laborers who perform tasks such as moving materials, cleaning job sites, and assisting skilled workers. The impact of unskilled labor on the construction industry is significant as these workers are essential to the success of the project, and their work is critical to keeping the project moving forward. However, unskilled labor tends to be less efficient and requires more supervision, which can lead to delays and increased costs.

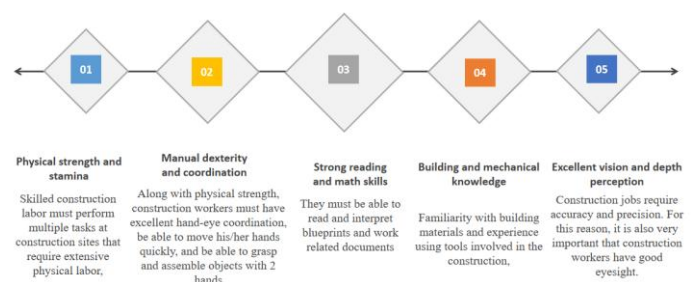
2. METHODOLOGY

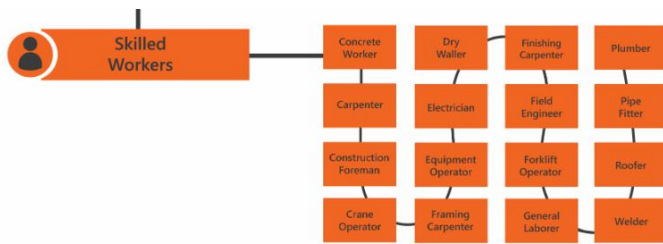
- Literature study about self-climbing formwork
- Safety management in construction
- Strategies of labour productivity
- characteristic of labour
- Case studies
- Comparative analysis
- Solutions for the Issue faced in construction
- Findings
- Conclusion

This complete study was done with a qualitative research approach using a case study. The case studies were conducted in two construction sites in India, one employing skilled labour and the other employing unskilled labour. The complete data was collected through personal interviews, Observations and documentation. A comparative analysis was conducted to identify the differences in productivity, quality of work, project cost, and schedule between the two sites.

Skilled, unskilled, and semi-skilled labor are the three main categories of workers employed in the construction industry in India. These categories are defined based on the level of skill and expertise required to perform the job.

3. CHARACTERISTIC OF SKILLED LABOUR

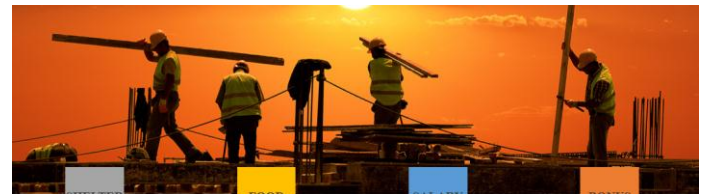




Construction companies in India are required to comply with safety regulations and standards set by the government and other regulatory bodies such as the Occupational Safety and Health Administration (OSHA). The safety standards include providing personal protective equipment (PPE) to workers, ensuring proper safety measures while handling heavy machinery, providing safety training to workers, and conducting regular safety audits.

Works of a skilled labour

- Carpenters
- Ironworkers
- Welders
- Plumbers
- electricians
- Crane Operators
- Masons
- HVAC technicians
- Concrete finishers
- Painters



<p>SHELTER</p> <p>Shelter, food and clothing are primary needs for human beings</p>	<p>FOOD</p> <p>Proper food should be provided on the site to labours which can help us to manage the time and also increases work capacity</p>	<p>SALARY</p> <p>Wages should be timely handed over to the labours on hours or day basis according to their skill</p>	<p>BONUS</p> <p>Bonus and increments should be given timely to encourage labours and improve outputs</p>
 <p>SLIP AND TRIP</p>	 <p>WIRES</p>	 <p>SHARP EDGES</p>	 <p>FALLS/DROPS</p>

4. SAFETY MANAGEMENT IN CONSTRUCTION PROJECTS

Safety management in construction projects in India refers to the process of identifying, evaluating, and controlling potential hazards and risks associated with construction activities to prevent accidents, injuries, and fatalities among workers, visitors, and the general public.

The primary goal of safety management in construction projects is to ensure that the construction site is safe and secure for workers, equipment, and the environment. This involves the implementation of various safety measures, such as training programs for workers, the use of personal protective equipment (PPE), regular safety inspections, and the development of emergency response plans.

In India, safety management in construction projects is governed by various laws and regulations, such as the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996, and the Occupational Safety, Health, and Working Conditions Code, 2020. Construction companies are required to comply with these regulations and implement adequate safety measures to prevent accidents and promote the well-being of workers and the public.

5. STRATEGIES TO MOTIVATE CONSTRUCTION WORKERS

a. Get Rid of Success Barriers and Obstacles

Simply put, a construction worker wants to arrive at the job site and begin working. When a worker arrives at the job site, they do not want to be forced to wait about or deal with paperwork before they can begin.

b. Promote a Safe Working Environment

Workers will be motivated and excited to work in an environment where they do not feel unsafe. The most basic way to ensure safe work is to ensure that safety certifications, licenses and qualifications are up to date. It may be true that construction workers often underestimate safety, but that's because of misplaced expectations on the job site. If the site and project owners do not make safety a priority, neither will the workers on the site.

c. Make sure the employee is aware of the project's requirements.

You MUST make sure a worker understands fundamental expectations and requirements if you don't want them to make mistakes, raise the likelihood of mishaps, or ignore basic rules. The General Contractor (GC) has the chance to involve the Subcontractor (sub) and its staff from the outset of the project to ensure alignment.

All personnel on the jobsite should have clear expectations defined by project teams. Setting expectations and confirming a worker's comprehension of the project standards can be accomplished successfully through site-specific orientations.

d. Assign Administrative Staff to a Project to Assist with Workforce

Onboarding Administrative staff are useful for onboarding workers and maintaining worker documentation in order. Not all construction workers have a reputation for being well-organized, but their abilities in the field are what distinguish them as talented workers. Information sharing is made easier if both the General Contractor and the Subcontractor have administrative staff to assist with managing worker files and information.

e. Provide Workers with Non-Disruptive Technology

Instead of worrying about the different technologies being piloted, tested, integrated, or launched on a site, workers need to concentrate on their mission. Before implementing new technology at work, consider how it will affect the employees. A good use of technology should, in theory, facilitate and not obstruct a worker's capacity for safety and efficiency; rather, it should make the task simpler and safer. When it comes to the adoption of technology, experienced workers may not be the ones making the decisions, but their advice can be helpful on projects.

f. Feedback & Recognition to Promote Growth

Construction firms that view workers as assets or numbers are not the firms that will survive the new age of construction culture.

In other words, site managers need to ensure that workers are given proper credit for a job well done. Give your employees a voice during events and help them understand the importance of their input and feedback. Where possible, coordinate 1:1 interviews and performance reviews to show that you care about your employees' personal/professional development.

g. Implement an Effective Site Orientation

One of the easiest ways to ensure construction crews are aware of details, expectations, guidelines, and other important project information is through site-specific briefings. Orientation determines the employee's mood regarding involvement in the project. Poor direction creates misleading or false expectations, while strong direction fosters a motivated workforce that works alongside project goals and security requirements.

h. Reduce Stress & Promote Wellness

Employees are active when they feel good. Stress can be a serious obstacle for workers, and mental disruption can lead to poor job quality and accidents on the job site. More and more contractors are implementing wellness programs and

mental health support for their employees. Help your project team identify signs and symptoms of poor mental health and educate everyone on the importance of mental health.

i. Celebrate Wins Together

Building new infrastructure and building the world around us is no easy task. Both construction workers and project teams should take pride in their construction work and celebrate milestones along the way. This keeps the team actively involved in the project. One of the most important celebrations in the construction industry is the "raising ceremony," when the project team and other project stakeholders gather to celebrate the installation of the final structural beams. Such ceremonies and gatherings help develop a close-knit team and boost project morale throughout the project lifecycle.

6. CHARACTERISTIC OF SKILLED LABOUR

Quality of work – The quality of work done or performed.

Workload – The amount of work that is acceptable.

Job Knowledge - Demonstrated knowledge of the requirements, methods, techniques and skills necessary to perform a job and their application to improve productivity.

Relevant work knowledge - Knowledge of the impact of work on other areas and knowledge of related areas that affect the work assigned.

Judgment – correctness of conclusions, decisions, actions.

Spontaneity - The ability to take effective action without being told.

Resource Utilization - Ability to articulate project requirements, find and plan all available resources, and effectively utilize them.

Reliability – Reliability in keeping and fulfilling promises and obligations.

Analytical Ability - Effectiveness in pondering problems and reaching well-informed conclusions.

Communication Skills - Effectiveness of oral and written communication and ability to provide appropriate information to subordinates, colleagues, superiors, etc.

Interpersonal Skills - Effectiveness in interacting appropriately and productively with others. Ability to work under pressure - Ability to meet tight deadlines and adapt to change.

Security Sensitivity - the ability to handle confidential information appropriately and to pay attention to the protection of confidential information.

Security Awareness - Have knowledge of good security practices and demonstrate awareness of their own safety and that of others.

Profit and Cost Sensitivity - Ability to find, generate and execute profitable ideas.

Planning Effectiveness - The ability to anticipate needs, anticipate situations, set goals and standards, plan and schedule work, and measure results.

Leadership - The ability to develop in others the motivation and desire to work towards a common goal. Delegation - Effectiveness in properly delegating work.

7. CASE STUDIES

Case Study 1: Skilled Labour Site The first case study was conducted at a construction site in Mumbai, India, where skilled labour was employed. The site was an Airport building project, and the workforce consisted of masons, carpenters, electricians, and plumbers. The workers had received formal training and had experience working on similar projects.

One successful construction project that utilized skilled laborers is the Terminal 2 of the Chhatrapati Shivaji International Airport in Mumbai, India. This project was completed in 2014, and it involved the construction of a new terminal building spanning over 4.4 million square feet.

The project was completed on time and within budget, and it was praised for its innovative design and state-of-the-art facilities. The success of the project was largely due to the expertise and skills of the skilled laborers involved in the construction process.

Skilled laborers played a crucial role in various aspects of the project, such as:

Civil and structural engineering: The project involved complex civil and structural engineering work, including the construction of a 9-story terminal building and two multilevel parking garages. Skilled laborers were responsible for tasks such as concrete pouring, formwork, and rebar installation, which required a high level of precision and expertise.

Electrical and mechanical engineering: The project also involved extensive electrical and mechanical engineering work, including the installation of HVAC systems, elevators, escalators, and other mechanical systems. Skilled laborers with expertise in electrical and mechanical engineering were responsible for the installation, testing, and commissioning of these systems.

Finishing work: The project involved extensive finishing work, including the installation of flooring, wall cladding, and other decorative elements. Skilled laborers with expertise in finishing work were responsible for ensuring that the finished product was of high quality and met the design specifications.

To ensure the success of the project, the construction company hired skilled laborers with experience and expertise in the specific trades required for the project. The workers were provided with the necessary training and equipment to carry out their tasks safely and efficiently.

The project was completed on time and within budget, and it was praised for its innovative design and state-of-the-art facilities. The successful completion of the project is a testament to the importance of skilled labor in the construction industry and the crucial role they play in delivering high-quality projects.

Case Study 2: Unskilled Labour Site The second case study was conducted at a construction site in Kolkata, India, where unskilled labour was employed. The site was a Flyover project, and the workforce consisted of daily wage labourers who had no formal training or experience in construction.

One example of a construction project that failed due to the use of unskilled laborers is the collapsed flyover in Kolkata, India, in 2016. The project involved the construction of a flyover to ease traffic congestion in the city, but the structure collapsed during its construction, killing 27 people and injuring many others.

The failure of the project was attributed to various factors, including the use of unskilled laborers who lacked the necessary expertise and experience to carry out the construction work safely and efficiently. The laborers were hired without proper background checks, and many of them did not have the required certifications or training.

Some of the specific factors that contributed to the project failure are:

Poor workmanship: The unskilled laborers involved in the project lacked the necessary training and expertise to carry out the construction work effectively. As a result, the workmanship was poor, and the structure was not built to the required standards.

Lack of supervision: The laborers were not adequately supervised, and there was a lack of oversight throughout the construction process. This resulted in workers cutting corners, ignoring safety protocols, and taking shortcuts, which compromised the integrity of the structure.

Poor quality materials: The materials used in the construction of the flyover were of poor quality, and many of them did not meet the required standards. This was due to a

lack of oversight and quality control, as well as corruption and malpractice in the supply chain.

The failure of the project resulted in a significant loss of life and highlighted the importance of hiring skilled and experienced laborers for construction projects. It also underscored the need for proper oversight, quality control, and adherence to safety standards to prevent such incidents from occurring in the future.

8. COMPARATIVE ANALYSIS

The comparative analysis revealed that skilled labour was more productive and produced a higher quality of work compared to unskilled labour. Skilled workers completed their tasks faster, with fewer errors and rework, and had a higher rate of output. On the other hand, unskilled workers took longer to complete tasks and required more supervision and guidance. The quality of work was also lower, with a higher incidence of defects and errors.

The analysis also revealed that project cost and schedule were impacted by the skill level of the labour force. Skilled labour resulted in lower project costs and shorter schedules due to the higher productivity and quality of work. Unskilled labour, on the other hand, resulted in higher project costs and longer schedules due to the lower productivity and quality of work.

9. FINDINGS

The findings of the study reveals that the Labours in a construction project is one of the important things to complete the project in a successful way and to complete the project on time. It also shows about the drawbacks caused in the construction industry through unskilled labours.

11. CONCLUSION

From the study it is clear from the study concludes that skilled labour is essential for the construction industry to meet project requirements for quality, cost, and schedule. The study recommends that the government and industry stakeholders invest in training and development opportunities for unskilled labour to improve their skills and productivity. It is also recommended that the construction industry develop a skilled workforce pipeline to address the shortage of skilled workers in the industry.

12. RECOMMENDATIONS

The construction hierarchy brings together a wide variety of people with different backgrounds, skills, and talents. Interactions between these different cross-functional groups should be such as to strengthen the connections between her three main levels of hierarchy. Usage of skilled labour in a project must be high so that the project can become an successful on. The world's best construction company has

found a way to create synergy between its office and its employees. Just implementing any of the above tips will not create a culture of engagement. Rather, the hints work together to create one. We encourage the construction industry to utilize and implement these proposals.

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