

How to save on Labour Costs in Multi Storeyed Building Construction

S Radhakrishnan,

PhD Research Scholar, PRIST University, Thanjavur

Dr K G Selvan,

Associate Dean, PRIST School of Business, PRIST University, Thanjavur

Dr S Senthil Kumar,

Asst. Professor, Faculty of Management, SRM University, Kattankolathur, Kancheepuram

Abstract: It is quite heartening to note that remarkable developments are taking place in our economy, particularly, in the construction industry. The contribution of this to the national income is also quite appreciable, in the recent years.

Government is paying great attention in the infrastructural development of the nation. The overall boom in the economy is also giving a fillip to the construction industry. It is a fact that the widespread employment opportunities and the increased disposable income of people enable them to possess and own a living space for themselves. This, consequently, gives rise to construction of a number of buildings by various people across the county.

From big companies to individuals, the construction sector is actually regaining its shape, which was shaken in the demonetization.

Key Words: Construction Industry, Unorganised Labour, Construction Contract Agreement, Change Order, Material Planning, Labour Motivation etc.,

Scope of Research

Visit to Six Construction Sites in Chennai City and the outskirts of same.

Discussion

Personal findings and availability of secondary data.

Site information

Details	Description
No. of sites visited	Six
Medium Sites (upto 4 floors)	4
Large Sites (Beyond 4 floors)	2
Lifts availability	All the sites
Covered Car Park	All the sites
Community Hall, Swimming Pool etc.,	1 site
Tiles flooring	5 sites
Marble flooring	1 site

Contours of Construction Industry

The GDP from Construction in India increased to 2184.66 IND Billion in the fourth quarter of 2016 from 2094.34 IND Billion in the third quarter of 2016.

GDP from construction in India averaged 2042.04 IND Billion from 2011 until 2016, reaching an all time high of 2201.95 IND Billion in the second quarter of 2016.

[1]. Growing Importance for Construction Labour

The Indian Construction Industry registered an average annual growth rate of 3.5% during 2012 – 2016. The Industry is expected to continue to expand over the forecast period 2017 – 2021 driven by investments in residential, infrastructure and energy projects under flagship programmes such as the 100 Smart

Cities Mission, Housing for All 2022, the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) etc.,

To meet the rising housing demand from Lower and Middle income groups, the Government plans to develop affordable housing projects across the country under the social housing program. Accordingly, it plans to build 20 million low cost affordable houses in urban and semi urban areas to ensure housing for all residents by 2022.

[2]

The demand for construction labour is on the increase year after year. The supply side of it is always lagging. One of the important reasons is that the construction labour is a rigorous one and is found to be a last chance to grab, for survival. Construction Labour is still considered to be Unorganised. This is unlike factory work which is organized and has statutory cover.

The construction labour has a peculiar name which is the last resort for uneducated people. In other words, educated people prefer and try factory work etc. and construction sector is the only place which offers tremendous employment opportunities to people, particularly, the uneducated masses.

Given the high degree of literacy and the people's preference for other jobs and also the availability of same, the supply of labour to construction sector is limited. Agriculture labour has become very costly due to paucity of workers and the same way, construction labour is also becoming very much dearer.

With the increased demand for housing and the more number of construction activities taking place across the country, the supply side of the construction labour is felt more acutely now.

How to make best use of Labour

The demand being far more than the supply, construction labour is always a much needed one. Moreover, Indian Construction Industry is still a labour intensive one only. While the machines are used in large number, the dependence on labour cannot be undermined.

All the Builders have contract labour only. They enter into labour contract with established agencies who supply any number of people, with different skills required.

The Builders are free from the task of running around for labour and they are assured of their requirement with proper advance information to the agency. The duration and requirement of labour are discussed and fixed in advance before commencement of the project.

Once the project takes off, work goes on smoothly. Yet, problems also erupt.

The Builders, in their own interest, must enter into a Contract Agreement for uninterrupted supply of labour. Any delays, whether it is due to labour or material or otherwise, will only have a telling impact on the builders, who pump in money, basically from private borrowing.

What is a Construction Contract Agreement?

A Contract Agreement is one that is executed between the Owner of the Project (Builder) and the Supplier (Labour Contractor) providing the requested services and contains several sections of clauses defining the scope, terms and conditions of such agreement.

Why is it necessary?

A Contract Agreement always defines the scope of work and responsibility of both the parties. It clearly chalks out the conditions and responsibilities of both the parties (Builder and the Contractor) so that the whole project goes off hassle free.

In the event of any disputes arising during the execution, the same will be settled only as per the agreement clauses in relation to the actual occurrence. [3]

Kinds of Delays

It is worth knowing about delays as these are the causes for disputes and affecting the productivity. The delay may be on the part of the Owner or on the part of the Contractor or on both. When both the parties view it in right perspective, there is no problem at all. It is an issue only when misunderstanding takes place.

In construction projects, 'concurrent delays' is a common thing. However planned the activities are, definitely, beyond the precise planning, some delays inevitably do take place. It may be by the owner or by the contractor or by both.

In a simplified manner, a concurrent delay is one that a decision either by the contractor or owner which will affect the critical path of a construction schedule as such.

The work would have suffered by the delayed availability of labour. The delayed availability of labour could have been due to delayed settlement of payment. No contractor is obliged to supply labour when payment

is delayed. The delay in execution has occurred. But, Who is the root cause for the delay? That is the question. Ascribing the reasons for delay is contentious. This is the crux of the issue. [4]

What is labour productivity?

Whatever be the quality of materials, it is the workmanship that matters a lot and does contribute substantially to the quality of the materials. Hence, what matters most is the skill of labour. Availability of skilled labour, especially, in construction sector is really a challenging one. It is quite true that a builder blessed with a dedicated skilled labour force will do wonders. The productivity of labour is pretty important for the success of construction. The simple calculation for labour productivity is : Output/Labour cost. The output will be magnificent for a skilled labour and the same will be far from satisfactory for less skilled labour, given the materials and other things.

Factors determining labour productivity

There are so many things that will have a direct bearing on labour productivity. A few important ones are detailed below.

Design Changes: The first and foremost in construction is a clearly chalked out design. A well designed plan means easy execution of the project. There are cases, where design changes take place during construction. This, besides causing waste of time and materials, will only lead to confusion and fatigue in labour force. It is a fact that labourers are prepared to work without looking at the clock. Their direction of work should be clear and their work schedule also be clearly advised to them. Any change in this will only lead to exasperation in their outlook and consequently they become peevish in their work style. This directly dampens their productivity. Many workers will get into quarrel if they are asked to do the same job again or advised to do a work which was not informed to them earlier. For workers, their mental makeup is a primary thing determining their performance.

Change in work processes: This again is a cause for contention for workers. The builder may have some super ideas in mind which may necessitate up gradation of work process. If it was already thought out before starting the work, suitable workforce could be diverted to the site. On the other hand, if it is a midway job, it will not only lead to relocation of workers but also dissatisfaction in the existing working group, which could even be a cause for break away. Hence, it is always advisable to be clear and thorough before start of the work. [5]

There are also a few more important things, particularly from the Builder's side to be adhered to. Selective ones are detailed below.

Timely availability of Materials and work schedule: The most important thing, from the builder's point of view is this. Labourers are clear that irrespective of the fact whether the materials came in time or not, they are to be paid wages for the day. If they are to remain idle due to non receipt of materials, they should not be penalized for no work, as it is not their fault. In fact, at one site, it was noticed that the builder had to pay wages for no work done by them. The reason was delayed delivery of marbles. This is definitely due to poor planning on the part of the builder. This is the example for proper scheduling of work.

Site Condition: This does not mean merely the physical condition of the site. The constituents of the site also matter a lot. Apart from the condition of the site which is also very important, the condition of the Site In Charge is also very important. If the Site In Charge is a quarrelsome person, no other cause is needed for poor labour productivity. Constant bickering will become inevitable. Working atmosphere will become very unpleasant to carry on. The author himself witnessed a situation in one site that the Site in Charge never got along well with the workers. His impudence reflected in his behavior led to halt of work on and off. A group of workers refused to continue further and were heading to go away from the site. Finally, the builder did the patch up. The important point to be noted here is that the misbehavior of one person (site in charge) has led to gross poor performance of the batch of workers. Their productivity was literally wasted.

Builder must have frequent meetings with the Contractor: The above incident amply justifies the need for the builder to have frequent meetings with the contractor. Normally, the builders will call for the contractors only when there is a problem in work force.

On the other hand, it is wise to have at least a fortnightly meeting with the labour contractors. This would instill a sort of discipline in the minds of workers. In fact, small irritants can be easily ironed out.

The issues that are considered “negligible” by the builders are “magnificent” to workers. One outstanding example is “Motivation”.

For the same wages, the motivated labour force contributes remarkable productivity. The work goes on smoothly, fast and precision is reflected in execution. A positive minded Site In charge instills confidence in workforce and gets their best in work. Goes without saying, it would also go the other way with negative mind.

A commendable study has been made by Prachi R Ghate, PG Scholar, Department of Civil Engineering and Prof Pravin R Minde, Department of Civil Engineering, PVPIT, Maharashtra, India in their article “Importance of Measurement of Labour productivity in construction” (working paper July 2016). [6]

Age of workers and Attitude of Builder do matter: Construction work is laborious and would need people of brown. Young aged workers show remarkable productivity.

A kind hearted builder outweighs the Contractor by treating the workers, as if they are his own. The author has seen, at one site, a sort of ‘bonded commitment’ of workers to the builder. Their work was in a military discipline and was thorough without any break or whiling away the time. The builder took care of them by giving them tea with snacks twice in the morning and twice in the evening.

The expenses, perhaps, were affordable only but the output it delivered from the workers was quite remarkable. An outstanding example of ‘management technique’ exhibited by the builder.

If workers are treated with dignity and compassion, they will even shake the whole earth. It is not a mere saying, but a practically shown example. Construction workers are no exception.

It was also seen that aged workers, though agile in work, tended to be taking break nicely and unnoticeably. Though it could be viewed a good trick, definitely, it curtails the productivity. Hence, young workers would perform well for the laborious construction activities.

Co-ordination determines productivity

This is quite true. The Builder’s representatives, be they Site Engineer or Site In Charge, must have co-ordination skills between the workers and the suppliers.

It was observed in all the sites that the labourers turn for work at scheduled time. Late coming was not there at all. Delay was seen only in delivery of materials. While Cement and other items are not having any problem in supply, the irritants are bricks and sand.

Their supply is almost, always, delayed and irregular. The waiting time of workers results only in lower productivity, though they are to be paid full wages for the day. Going by simple calculation, a delay of half a day for a work group of 100 people, means 50 days wages wastefully paid.

In addition to the cost penalty to the builder and reduced productivity, the delay is reflecting severely on project completion.

Committed Site In charge is a Commander

The author had the opportunity of witnessing two distinctively different scenes at the two different sites.

In one site, where the Builder would visit twice or thrice a week, the Site In Charge showed scant attention in everything. Right from co-ordination with suppliers and organizing materials and tools, his behaviour with workers was also lacking commitment.

Not only did he treat them despicably incurring severe displeasure from the majority of workers, but also mingled with a group of people in a manner not expected of his post. He was whiling away time with them by grapevine and other wasteful actions.

The situation was a mess. No decorum was seen at the site. Though the workers are highly capable of committed performance, the attitude of the Site In Charge played a havoc. It could be anyone’s guess that the sufferer, ultimately, was the builder.

The productivity of labour was consciously destroyed by a cranky supervisor| The blame should be on the site in charge only and not on the workers at all.

Here, a broad mention is to be made. In the Article, “Towards Improving Construction Labour Productivity and Projects Performance” by Mostafa E Shehata and Khaled M. El Gohary, appeared in Alexandria Engineering Journal, Volume 50, Issue 4, December 2011, pages 321 – 330, a meticulous mention of how waiting for material and waiting for tools etc., affect labour productivity has been explained in tables.

[7]

Another seen was also witnessed by the author. The Supervisor, a middle aged person, knew the pulse of the workers. He always excelled them in guidance, timely supply of materials and tools and with excellent style of manpower handling.

A kind guy and ready to go to the workers always, he was a source of inspiration to the workers. Voluntary involvement was visibly seen. He paid individual attention to all the workers and their reasonable demands were compassionately met by the builder, through him. A person bestowed with human resources skill.

He is an asset to both the builder and also the workforce. A positive and committed Site In Charge instills commitment in the workforce and thereby significantly contributing to their productivity.

Builder should be a beckon light

It is quite essential that the builder should be possessing the requisite knowledge of not only the construction but also the HR activities.

In the present day scenario, labour is no longer as what they were before. They may not be well educated but they are aware of their own rights and the basic requirements which are expected to be provided to them at the work site.

Any riffraff with them by the Site Engineer or In charge will only be counterproductive. The loss of productivity and the monetary loss will only be to the builder. As such, the builder should be 'benevolent dictator'. He should be tough in getting the work done but through voluntary involvement of the workforce.

He must also use some Human Resources Techniques in handling the labour. In one site, the marbles arrived only late in the day. The Builder, who was at the site, was quick to take stock of the situation and informed the workers that considering the urgency, they have to stay back and fix the marbles immediately.

Just by seeing the facial reaction of the workers, he said that they would be paid double overtime, besides the wages for the day. He also assured them of a sumptuous dinner. It did the miracle. The whole group of workers sprang into action. This should have definitely yielded higher productivity. The basic thing to be learnt from this is that communication, especially, the tone of communication, is pretty important, especially in handling workers.

The builder, who is basically a construction engineer, also knows the knack of handling site personnel. Motivation of labour, especially in construction, pays double dividend.

Well planned is half finished

While labourers are what they are, the builder should be thoughtful in planning and delivering things as per the requirements.

The main hitch is brick and sand. The supply being limited and is from farfetched places, delays are bound to occur. The Builder or his representatives should ensure mainly these two items trouble free. Materials of other nature have no problem and are easily available anywhere and everywhere.

Artificial Sand and Fly Ash Bricks

The use of artificial sand and fly ash bricks would greatly do a lot. It is also recommended by experts, considering the scarce availability of river sand and clay bricks. Further, technically also, these have better characteristics over the other ones.

Supply of these is also hassle free. Larger use of these would be more beneficial to the builders. Wasteful expenses for labour on account of non delivery or delayed delivery of natural sand and bricks can be considerably overcome. Labour productivity can be better used to the full extent.

Excellent co-ordination with suppliers is a must

With the latest developments in IT, communication is not a barrier at all now. Up to date information can be exchanged with all concerned.

Everyone in the loop should be advised of the developments and action as appropriate can be taken without any delay. This would ensure proper planning and delivery of things at both supplier end as also with the site personnel.

The site should be always fully equipped with for doing the job straightaway. Materials, Tools and other paraphernalia must be at the site as planned. Since these have a direct bearing on labour productivity, the builder should ensure this.

Suppliers should always be insisted upon for delivery of excellent quality materials. Sub standard items are not only risky for the long run, but also would lead to frequent problems in the course of work. A work done more than once is a penalty and would erode labour productivity. Hence, cost is only secondary and quality should always be primary.

Conclusion

Construction Industry, particularly in India, is still a labour intensive one only. Labourers are no doubt, a treasure to the builder.

If they are encouraged, they would do wonderful job without looking at the clock. On the other hand, if they are rubbed unnecessarily, it will reflect poorly on their performance.

Labourers are so sensitive that if they are annoyed unreasonably, they would not mind leaving the site and going elsewhere. The reason is that they are always in high demand in the field.

A committed Site In Charge is an asset to the builder. Conversely, a person with poor or no commitment is a pain to the builder and only leads to mounting expenses and avoidable delays.

The psychology of workers is that they will do brilliantly well, if they are appreciated and guided by a committed site in charge.

They would also equally show poor performance and get into indulgence merrily whiling away the time, showing no productivity at all, if the site in charge is a 'no commitment guy'.

Labourers are provided with both the qualities and they are also smart in exhibiting these. How they are used and motivated only matters. As such, the onus rests with management representative only, ie, builder's representative – Site In Charge/Site Engineer.

The general behavior of workers is that, if they are not properly supervised, they will go scot-free. A kind of go slow will take place in the work which will be seen only at sun set, when they call it off a day.

At one site, a kind of 'uneasiness' was shown by workers. The reason is language problem. The migrated workers were gripped with an 'inexplicable fear' about their safety at the site. It is the responsibility of the Builder to banish such fears and ensure safety feeling in them.

Recommendations

In the own interest, the builder must make physical presence at the site, daily. His very presence will instill a commitment level to workers as also the site in charge.

Material planning is a basic thing in construction. Labourers are to be paid for the day, even if there is no work to them, due to non availability of materials. Delays arising out of this compound consequential delays leading to extending the completion period.

Capital is mostly from private sources at a prohibitive rate of interest. As such, even minor delays badly affect the builder.

As far as workers are concerned, they are assured of their wages regardless of arrival of materials. Hence, a conscious site in charge should always act ahead in ensuring timely and fully equipped materials and tools at the site.

Wastage, at all costs, should be avoided. It only adds burden to the builder with cost penalty.

Never do repeat work. It wastefully consumes the labour time affecting their productivity and also erodes the profitability of the builder.

After proceeding with construction, any plan change or structural design change is dangerous and should not be entertained. The Multi Storeyed Building being with several floors, a change in one place may have consequential effects elsewhere. Besides affecting the very structure, it adds to cost and affects the productivity as well.

Labour contract should be clearly entered into in unequivocal terms. Clarity of expression and cautious execution should be the very essence of contract.

Labour force should be dealt with very cautiously. A motivated labour group will show wonderful performance. Extra attention and compassion are required with migrated workers, who, naturally have a sort of peculiar fears and a feeling of insecurity.

The site in charge should be a person of honesty, integrity and with talents in handling human resources, aptly.

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