CHAPTER IV

AN OVER VIEW OF CONSTRUCTION INDUSTRY

4.1 Introduction

India’s construction industry globalises and gets ‘in sync’ with international trends and technology, the challenges that Indian construction faces are simple: how to ensure construction happens with speed, strength and savings. As Indian infrastructure and construction work on contracts overseas, they have been using newer technology to provide their global clients with the world class construction. How do we ensure the same norms, the same technology get adopted in India too? Considering the current situation, says Sunil Mantri, President, Maharashtra Chamber of Housing Industry (MCHI), traditional construction meant that we used to take everything in stride. These were Wastage of time, money and material, and issues with skilled labour was also there besides poor material management. “One needs to actually save money and time while getting world class quality” informs Mantri. “The use of the latest technology and equipments coupled with new construction materials helps to reduce the construction time and wastage of materials is also controlled, this helps in the completion of the projects on time,” says Ashok Chajjer, Chairman, Arihant Superstructures Ltd. Adoption of new construction technology results in faster and better quality of construction, cost reduction, low maintenance and cleaner buildings. “Construction using the latest construction technology results in faster completion of the project and also brings down the cost of construction,” he says, adding that the Government should incentivise developers who buy these hi-tech equipments so that they can finish a project faster. This
year’s budget has given impetus on green technologies, which may help to achieve this goal, says Ashok Kumar, Country Head of Global Property Consultants Cressa Partners. ‘‘Effectively integrating low-cost technologies within the construction framework to maximize returns, and updating advancements in technologies to upgrade the existing systems for higher output, that’s ideal for Indian Construction to be in sync with global trends,’’ he suggests. We need to look at China, to understand how new technology helps, says Sangeet H Kumar, CEO of 1stMumbaiProperties. He feels that ideally, construction in India should follow the example of China, where technology has played an important part in building affordable homes. From theory to actual implementation, and validation of the concept that global technology and new materials actually help to build faster, better and safer comes from Aasif Khan, MD of Fabtech Sterling. “There are some issues that are a problem for the construction industry in India, these include buildings that collapse, buildings that develop cracks or suffer from leakage or seepage or have paint peeling off. This happens at times because of shoddy, corner cutting methods of construction.’’ Khan’s company has brought into the Indian construction space Plaswall Building System of Construction, which he describes as an innovative building option. It enables quick installation, effectively reducing construction time by almost one-third as compared to traditional methods. Khan says Plaswall provides perfect resistance against heat and water, and structures made from Plaswall are far stronger and durable than traditional brick-n-mortar construction. “It is totally crack and leak-proof and requires no maintenance even after several years. Efficient to install and construct, it effectively increases site production by as much as 300 percent,’’ he adds. Will adoption of new construction technology actually bring in speed, strength and savings? Aasif Khan says
the answer is a resounding ‘yes’. “When new construction technologies such as these are adopted by Indian construction, these aspects will become reality.” Pasted from RGS Construction Technologies has developed "Reinforcement Steel Saving Solutions" which has all the 3S i.e. Speed, Strength and Saving much needed for the construction Industry.

Construction Industry Trends all over the world show a rise in its rate of growth. This industry is composed of many components including construction of heavy and civil engineering (highways, bridges, railway tracks, airports, etc.), real estate (both residential as well as commercial) development, and specialized construction products (such as architectural products, electrical connections, decorative items, etc.). All these segments cannot be expected to show similar trends and in fact are showing differential growth pattern all over the world.

4.2 Facts about Construction Industry Trends

The construction industry contributes a huge chunk to the world GDP amounting to 1/10th of the same.

- This industry has immense potential in generating huge amount of employment. It has been found out that the construction industry offers employment to around 7% of the total employed work force around the globe.
- The construction Industry is the largest sector in respect of consumption of energy. It consumes around 2/5th of the total consumed energy through out the world.
- Resource utilization in case of the construction industry amounts to half of the total resource used all over the world.
The most significant aspect associated with the construction industry trends is increased use of the latest IT technologies for pacing up the work. Construction Industry Trends show that the utilization of information technology has helped the industry to save a lot of fund which could be channelized in more fruitful directions.

One of the latest technologies used in the construction industry is Building Information Model (BIM). This technology helps all the factors of a project to work in a collaborative and concerted manner solely based on the platform of Information Technology. BIM helps the different members of a project to communicate information among themselves which consequently leverages the productivity and at the same time minimizes the error along with cost.

Construction Industry Trends can be stratified in accordance with the different segments and countries.

- In USA, heavy engineering construction sector has increased at the rate of 5.2% in the financial year 2005. The residential and commercial residential real estate sector have respectively grown at the rate of 15% and 7.5%. But this upbeat mood lost its shine in the fiscals 2006 and 2007 especially in the residential real estate one. A glut can be evidenced in this segment because of the fall in the sales of the homes which is expected to continue till the 3rd quarter of 2007.

- India is sees a boom in the construction sector mainly due to the government initiative in the expansion of the developmental facilities. Economic upsurge has also generated enhanced generation of demand in the real estate sector (both residential as well as
commercial). The construction Industry in India is rising at a phenomenal rate of 7 to 8% p.a.

4.3 Booming construction industry and changing trends in architecture

Rapid industrialization and infrastructural development are the key factors that drove the exponential growth of the construction industry in recent years. A healthy GDP, growth in housing, financial growth and the retail boom have also contributed to the historically unmatched demand at a large scale.

4.4 Construction Industry Arbitration Council (CIAC)

CIAC, a registered society with its headquarters in New Delhi, is dedicated to promote the practice of institutional arbitration in the Indian construction industry. CIAC is working under the aegis of Construction Industry Development Council (CIDC), an apex body for the Construction Industry established by the Planning Commission and construction industry.

It is believed that substantial sums amounting to several crores of rupees are locked up in many contractual disputes in the Construction Sector alone in India. The Construction Industry therefore felt the need to introduce new measures so that disputes are resolved in a fair, speedy and cost efficient manner.

With a view to provide an institutional mechanism for the resolution of construction and infrastructure related disputes, the Construction Industry Development Council, India (CIDC) in co-operation with the Singapore International Arbitration Centre (SIAC) has set up an Arbitration Centre in India called the Construction Industry
Arbitration Council (CIAC). The increased level of globalization brings in new trends in the field of Architecture and Construction.

**Goods and services.** Houses, apartments, factories, offices, schools, roads, and bridges are only some of the products of the construction industry. This industry's activities include the building of new structures, including site preparation, as well as additions and modifications of existing ones. The industry also includes maintenance, repair, and improvements on these structures.

**Industry organization.** The construction industry is divided into three major segments. The construction of buildings segment includes contractors, usually called general contractors, who build residential, industrial, commercial, and other buildings. Heavy and civil engineering construction contractors build sewers, roads, highways, bridges, tunnels, and the other projects related to our Nation’s infrastructure. Specialty trade contractors perform specialized activities related to all types of construction such as carpentry, painting, plumbing, and electrical work.

Construction usually is done or coordinated by the general contractors, who specialize in one type of construction such as residential or commercial building. They take full responsibility for the complete job, except for specified portions of the work that may be omitted from the general contract. Although the general contractors may do a portion of the work with their own crews, they often sub-contract most of the work to heavy construction or specialty trade contractors.

Specialty trade contractors usually do the work of only one trade, such as painting, carpentry, or electrical work, or of two or more closely related trades, such as plumbing
and heating. Beyond fitting their work to that of the other trades, specialty trade contractors have no responsibility for the structure as a whole. They obtain orders for their work from the general contractors, the architects, or the property owners. Repair work is almost always done on direct order from the owners, occupants, architects, or rental agents.

Recent developments. The construction industry has been strongly affected by the credit crisis and recession that began in December 2007. Housing prices fell and foreclosures of homes rose sharply, particularly in the overbuilt areas of the country. New housing construction, while still ongoing, has dropped significantly. The recession is expected to impact the other types of construction as well. Retailers are refraining from building new stores and State and local governments have reduced spending. However, as energy costs have risen, some companies find it necessary to build or renovate buildings that are not energy efficient. "Green construction" is an area that is increasingly popular and it involves making buildings as environmentally friendly and energy efficient as possible by using more recyclable and earth-friendly products.

4.5 Working Conditions in the construction industry

Hours: Most employees in the construction industry work full time, and many work over 40 hours a week. In 2008, about 18 percent of the construction workers worked 45 hours or more a week. The Construction workers may sometimes work in evenings, at the weekends, and on holidays to finish a job or take care of an emergency. Rain, snow, or
wind may halt the construction work. The workers in this industry usually do not get paid if they can not work due to inclement of weather.

**Work environment:** The workers in this industry need physical stamina because the work frequently requires prolonged standing, bending, stooping, and working in cramped quarters. They may be required to lift and carry heavy objects. Exposure to the weather is common because much of the work is done outside or in partially enclosed structures. The construction workers often work with potentially dangerous tools and equipment amidst a clutter of building materials; some work on temporary scaffolding or at great heights. Consequently, they are more prone to injuries than workers in the other jobs. To avoid injury, employees wear safety clothing, such as gloves, hardhats, and devices to protect their eyes, mouth, or hearing, as needed. Construction offers a great variety of career opportunities. People with many different talents and educational backgrounds—managers, clerical workers, accountants, engineers, truck drivers, trades workers, and construction helpers—find job opportunities in the construction industry.

Population growth, deteriorating infrastructure, and aging buildings will generate employment growth in the construction industry. Job opportunities are expected to be good for the most experienced and skillful construction workers.

**Employment change** The number of wage and salary jobs in the construction industry is expected to grow 19 percent through the year 2018, compared with the 11 percent projected for all the industries combined. Employment in this industry depends primarily
on the level of new construction as well as renovation activity on the older buildings, which is expected to increase modestly over the coming decade.

Residential construction is expected to grow moderately over the decade to meet the needs of the growing population. Employment is expected to grow in the non-residential construction sector over the decade as well. Replacement of many industrial plants has been delayed for years, and a large number of structures will have to be replaced or remodeled. Construction of schools will continue to be needed.

Employment in heavy and civil engineering construction is projected to increase due to the growth in new highway, bridge, and street construction, as well as in the maintenance and repairs to prevent further deterioration of the Nation's existing highways and bridges. The largest numbers of new jobs are expected to be created in specialty trades contracting because it is the largest segment of the industry and because it is expected to grow as fast as the rest of the construction industry. The number of jobs will grow as demand increases for subcontractors in the new building and heavy construction, and as more workers are needed to repair and remodel existing homes, which specialty trade contractors are more likely to perform.

Employment of the construction managers is expected to grow as a result of the increasing complexity of construction work that needs to be managed, including the need to deal with the proliferation of laws dealing with the building construction, workers’ safety, and environmental issues.
Industry earnings

Earnings in construction are higher than the average of all the industries. In 2008, production or non-supervisory workers in construction averaged $21.87 an hour, or about $842 a week. In general, the construction trades workers who have more education and training, such as electricians and plumbers, get paid more than the construction trade workers requiring less education and training, like the laborers and helpers.

Table No. 4.1 The following table shows the earnings of the workers in the construction industry

<table>
<thead>
<tr>
<th>Industry</th>
<th>Hourly</th>
<th>Weekly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total, private industry</td>
<td>$18.08</td>
<td>$608</td>
</tr>
<tr>
<td>Construction</td>
<td>21.87</td>
<td>842</td>
</tr>
<tr>
<td>Construction of buildings</td>
<td>21.39</td>
<td>813</td>
</tr>
</tbody>
</table>
## Table 4.1 Average earnings of nonsupervisory workers in construction, 2008

<table>
<thead>
<tr>
<th>Industry</th>
<th>Hourly</th>
<th>Weekly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonresidential building</td>
<td>23.10</td>
<td>914</td>
</tr>
<tr>
<td>Residential building</td>
<td>19.47</td>
<td>707</td>
</tr>
<tr>
<td>Heavy and civil engineering construction</td>
<td>22.00</td>
<td>924</td>
</tr>
<tr>
<td>Utility system construction</td>
<td>22.31</td>
<td>941</td>
</tr>
<tr>
<td>Highway, street, and bridge construction</td>
<td>22.11</td>
<td>931</td>
</tr>
<tr>
<td>Other heavy construction</td>
<td>21.78</td>
<td>947</td>
</tr>
<tr>
<td>Land subdivision</td>
<td>18.73</td>
<td>702</td>
</tr>
<tr>
<td>Specialty trade contractors</td>
<td>21.99</td>
<td>835</td>
</tr>
<tr>
<td>Building equipment contractors</td>
<td>23.56</td>
<td>918</td>
</tr>
<tr>
<td>Building finishing contractors</td>
<td>20.87</td>
<td>783</td>
</tr>
</tbody>
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Table 4.1 Average earnings of nonsupervisory workers in construction, 2008

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<tr>
<th>Industry</th>
<th>Hourly</th>
<th>Weekly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other specialty trade contractors</td>
<td>20.86</td>
<td>795</td>
</tr>
<tr>
<td>Building foundation and exterior contractors</td>
<td>20.54</td>
<td>747</td>
</tr>
</tbody>
</table>


Earnings also vary by the worker's education and experience, type of work, complexity of the construction project, and geographic location. The wages of construction workers often are often affected when poor weather prevents them from working. Traditionally, winter is the slack period for the construction activity, especially in colder parts of the country, but there is a trend toward more year-round construction, even in the colder areas. Construction trades are dependent on one another to complete specific parts of a project—especially on large projects—so work delays affecting one trade can delay or stop the work of another trade.

4.7 Construction industry developmental council

The Planning Commission, Government of India jointly with the Indian construction industry has set up Construction Industry Development Council (CIDC) to take up activities for the development of the Indian construction industry.

The Council, for the first time in the country, provides the impetus and the organisational infrastructure to raise quality levels across the industry. This helps to
secure wider appreciation of the interests of the construction business by the
government, industry and peer groups in the society.

CIDC is a change agent to accelerate a process of self-reform that should enable
the industry to answer the challenges of the future. Clarity of purpose and intent forms
CIDC’s mandate. Since its inception in 1996, the Council has taken several initiatives
for the development of the industry. A few of them are given below:

- Advice the Government on policy formulation related to construction industry.
- Standardization of construction contracts and procedures.
- Training manpower at skilled worker level and construction management level.
- Grading of construction entities
- Devise mechanisms for workers' welfare.
- Create an environment that ensures equality of opportunity for all the Indian
  contractors.
- Helps to evolve policies for financing.
- Helps the industry move from the current state of rule-bound, lowest-price-based
  contracting to a more quality-conscious, time-bound and technology-driven one.
- Dispute Resolution in Construction Contracts.
- Establishing construction equipment bank.
- Interaction and networking with international organizations to promote emerging
  technologies and best practices.

**Workers’ Welfare**
CIDC has been working to redress the problems faced by the construction workers and develop mechanisms for their security and welfare. Women and child labour are also the issues of the concern.

4.8 CONCLUSION

The Indian Building contractors are facing intense competition catering to the global needs. In this highly competitive scenario, the Indian Building contractors have realized the fact that customer-centric attitude is prerogative to stay ahead. In this chapter the origin and development of the civil industry, major players prevailing, and reasons for the increasing trend in the construction industry, the existing scenario, the challenges, and the future of construction industry has been discussed. The discussion reveals that the construction industry has developed tremendously and that the building contractors have a bright future.