

## CHAPTER 7.7

# CONSTRUCTION

7.7.1 Construction activity is an integral part of a country's infrastructure and industrial development. It includes hospitals, schools, townships, offices, houses and other buildings; urban infrastructure (including water supply, sewerage, drainage); highways, roads, ports, railways, airports; power systems; irrigation and agriculture systems; telecommunications etc. Covering as it does such a wide spectrum, construction becomes the basic input for socio-economic development. Besides, the construction industry generates substantial employment and provides a growth impetus to other sectors through backward and forward linkages. It is, essential therefore, that, this vital activity is nurtured for the healthy growth of the economy.

7.7.2 With the present emphasis on creating physical infrastructure, massive investment is planned during the Tenth Plan. The construction industry would play a crucial role in this regard and

has to gear itself to meet the challenges. In order to meet the intended investment targets in time, the current capacity of the domestic construction industry would need considerable strengthening.

7.7.3 The construction sector has major linkages with the building material industry since construction material accounts for sizeable share of the construction costs (Table 7.7.1). These include cement, steel, bricks/tiles, sand/aggregates, fixtures/fittings, paints and chemicals, construction equipment, petro-products, timber, mineral products, aluminum, glass and plastics.

7.7.4 The construction sector is one of the largest employers in the country. In 1999-2000, it employed 17.62 million workers, a rise of 6 million over 1993-94. The sector also recorded the highest growth rate in generation of jobs in the last two decades, doubling its share in total employment.

**Table 7.7.1**  
**Break-up of Construction Costs**

	Materials %	Construction Equipment %	Labour %	Finance %	Enabling Expenses%	Admin. Expenses %	Surplus %
Building	58-60	4.5	11-13	7-8	5.5-6.5	3.5-4.5	5-6
Roads	42-45	21-23	10-12	7-8	5.5-6.5	3.5-4.5	5-6
Bridges	46-48	16-18	11-13	7-8	5.5-6.5	3.5-4.5	5-6
Dams, etc	42-46	21-23	10-12	7-8	5.5-6.5	3.5-4.5	5-6
Power	41-43	21-24	10-12	7-8	5.5-6.5	3.5-4.5	5-6
Railway	51-53	6-8	16-18	7-8	5.5-6.5	3.5-4.5	5-6
Mineral Plant	41-44	20-22	12-14	7-8	5.5-6.5	3.5-4.5	5-6
Medium Industry	50-52	7-9	16-18	7-8	5.5-6.5	3.5-4.5	5-6
Transmission	49-51	5-7	19-21	7-8	5.5-6.5	3.5-4.5	5-6

**Source :** Construction Industry Development Council Survey

7.7.5 The main advantage of the construction sector in employment generation lies in the fact that it (i) absorbs rural labour and unskilled workers (in addition to semi-skilled and some skilled); (ii) provides opportunity for seasonal employment thereby supplementing workers' income from farming; and (iii) permits large-scale participation of women workers.

### Share of Construction Sector in Gross Domestic Product (GDP) and Gross Capital Formation (GCF)

7.7.6 The share of construction sector in gross domestic product (GDP), which was 5.4 per cent in 1970-71, came down to 4.4 per cent in 1990-91. Subsequently it picked up and stood at 5.1 per cent in 1999-2000

7.7.7 The share of the construction sector in total gross fixed capital formation (GCF) came down from 60 per cent in 1970-71 to 34 per cent in 1990-91. Thereafter, it increased to 48 per cent in 1993-94 and stood at 44 per cent in 1999-2000.

7.7.8 Clearly, there has been a decline in the share of construction sector in the GDP and capital formation. The main reason for this was reduced Government spending on physical infrastructure in the last decade due to fiscal constraints. Though there has now been an increasing emphasis on involving the private sector in infrastructure development through public-private partnerships and mechanisms as Build-Own-Operate (BOT), private sector investment has not reached the expected levels. The Government is now providing substantial fiscal stimuli by way of programmes like the National Highways Development Project (NHDP), Pradhan Mantri Gram Sadak Yojana (PMGSY), power projects etc. which would provide necessary impetus to the construction sector.

7.7.9 Considering the significance of the construction sector, it is necessary to identify the major issues affecting the efficiency of the sector and take corrective action.

### Improvement in productivity

7.7.10 There is a need to enhance productivity through appropriate mechanisation to meet the physical targets set in the Plans. There is a clear case for encouraging mechanisation to build up the sector's capacity to deliver the critical infrastructure needed for economic development.

7.7.11 The poor state of technology adopted by the construction sector adversely affects its performance. Upgrading of technology is required both in the manufacturing of construction material and in construction activities. As a large number of construction materials are manufactured in the unorganised sector, effective monitoring and regulation of the production of these materials to ensure proper quality becomes difficult.

7.7.12 Use of low-grade technology in the construction sector leads to low value addition and low productivity, apart from poor or sub-standard quality of construction and time overruns in projects. The non-availability of quality construction tools is the main reason for this. Besides, the construction sector also lacks information about new technology.

7.7.13 Introduction of new technology in the construction sector is entirely owner-driven. It is only when they demand quality and are prepared to pay the price that the contractors would have the incentive to adopt better technology. It may, therefore, be necessary to introduce higher specification

#### Box 7.7.1 Incorporating Technology in Contract Conditions – MSRDC's Way

In an effort to improve the traffic and transport infrastructure of Mumbai, the Maharashtra State Road Development Corporation (MSRDC) built many flyovers in the city. In its bid document, the MSRDC laid out specific technical conditions that the bidding contractors were required to meet. Some of these included hi-tech construction equipment and techniques. Such steps taken by project owners would go a long way in modernising the construction activity in India.

and technical conditions in the bid documents in order to encourage adoption of superior technology.

### **Labour and Human Resource Development**

7.7.14 The construction industry is characterised by the predominance of migratory and unskilled labour. Therefore, there is need to expand the training and skill certification programmes, both in terms of content as well as geographical reach. To encourage such training, incentives may be provided to contractors for funding the skill upgradation of construction workers. However, there is no institutional framework to impart training at the worker's level, barring a few initiatives taken by the Construction Industry Development Council (CIDC) and some companies. There is need to involve the Industrial Training Institutes (ITIs) in a big way with training for the construction sector to bridge the demand-supply gap for skilled labour force.

7.7.15 In addition, schemes for registering construction labour and providing them with a permanent registration number could be considered. This would help in maintaining a databank on them. Besides, contract conditions could carry a stipulation that a minimum percentage of trained/certified workers would need to be employed. The stipulations made by the National Highway Authority of India about employing at least 5 per cent trained and certified workers as a pre-qualification condition needs to be replicated. The percentage of such workers should progressively be enhanced to 10 per cent by the end of the Tenth Plan, and effort must be made to raise the share to 25 per cent by the end of Eleventh Plan.

### **Need to Reduce Cost of Construction**

7.7.16 The high cost of operation has been identified as one of the major problems that not only affects the construction industry directly but also the overall economy indirectly, as high input and process costs are reflected in high cost of infrastructure, which, in turn, translates into higher user charges. This also reduces the surplus that can be ploughed back into construction technology upgradation and labour welfare. Steps to do this

would include improving the procurement and dispute resolution mechanism and measures for instituting more competition and transparency among contractors. As part of the process of standardisation and improving efficiency in the construction sector, harmonised bidding conditions and standard bidding documents for domestic construction contracts have been developed and circulated to all Government agencies and public sector organisations as guidelines.

7.7.17 There is need for an appropriate dispute resolution mechanism in the construction sector. A substantial amount of money is locked up due to disputes between contractors and clients, leading to cost and time overruns. Any comprehensive dispute resolution mechanism needs to address all these issues. At present, the Arbitration and Conciliation Act, 1996 is the basis for all dispute resolutions. In sectors like National Highways, provisions are made in the contract document for a Dispute Review Expert (DRE) and Dispute Review Boards (DRBs). It is necessary to review the functioning of DREs and DRBs.

7.7.18 An important factor in time and cost overruns has been the lack of proper project preparation. Details are often ignored at the preparatory stage, leading to problems later on. Project planning needs to be strengthened through adequate field investigation, data collection and its analysis. The complementary facilities to be created for making the project operational also need to be identified and included in the project.

### **Flow of Institutional Credit**

7.7.19 At present, the high resource requirements of the construction industry are not matched by the availability of finance. The high cost of raising finance also translates into high costs, which again has a cascading effect on the economy. Appropriate measures and instruments should be formulated and implemented to reduce financing costs and ease the flow of funds to the industry.

7.7.20 The deployment of gross bank credit indicates that the share of construction sector in

total bank credit available to the industry sector went down from 2.13 per cent in 1990 to 1.37 per cent in 2000. In order to increase the flow of institutional credit to the construction sector, it was declared as an industrial concern under the Industrial Development Bank of India Act in March 2000. While this step was in the right direction, it is necessary now to encourage banks and lending institutions to develop lending norms and special funding instruments that could address both the requirements of the construction industry as well as the concerns of the bankers. The need for specialised financial institutions like the Karnataka Contractors' Credit Cooperative Society may also be considered.

### Box. 7.7.2

#### Karnataka Contractors' Credit Cooperative Society

The Karnataka Contractors' Credit Cooperative Society Ltd. is one of the success stories of providing institutional support to construction industry. It was established in 1984 as a society under the State Government's jurisdiction to provide credit facilities to contractors against their works. It was started with an initial share capital of Rs. 2 lakh. It improved its position from year to year and by the time it was converted into a cooperative bank in March 1997 as Karnataka Contractors' Sahakara Bank Niyamitha its paid up share capital was Rs. 256.23 lakh and it had deposits to the tune of Rs. 1,645.46 lakh. The area of operation extends to all urban and semi-urban areas in Karnataka and a 10-km periphery around them. The bank is governed by the Reserve Bank of India rules.

### Asset Management and Maintenance

7.7.21 The creation of physical assets is an important outcome of construction activity. Building Infrastructure is a continuous activity, which, apart from improving the quality of life of the citizens, also creates wealth and sustains the growth of the economy. However, it is also essential to ensure that such assets are maintained properly. Suitable policies relating to ownership, management and

maintenance of assets, therefore, need to be evolved.

### Project Export

7.7.22 The Indian construction industry has been very active in the overseas markets, especially in the Gulf during the 1970s and 1980s when Indian companies ventured there to meet the demand of construction activities generated by the oil boom. Between 1975 and 1980, Indian companies handled construction work amounting to nearly US \$5 billion. But this trend did not last and by the late 1980s, the volume of contracts secured fell sharply. In 1996-97, the value of project export was Rs. 338 crore (US\$ 95.2 million), which increased to Rs. 1,500 crore (US\$ 346.2 million) in 1999-2000.

7.7.23 Action needs to be taken to streamline the functioning of the construction sector to get a larger share of the global business. Such action would include formulation of business-friendly policies, development of insurance instruments to mitigate the business risks and adoption of aggressive marketing of the Indian construction industry abroad.

### PATH AHEAD

- Upgrade technology to improve productivity and quality as also to ensure the timely completion of projects.
- Invest in human capital to improve the quality of labour. This must be done through more training and certification institutes to augment the supply of skilled labour; associating ITIs with training of construction workers; stipulating the widespread use of trained labour as a pre-qualification condition for bidding. The percentages stipulated could be increased over time.
- Review of the procurement and dispute resolution mechanism to reduce the cost of construction so that infrastructure services could be provided at competitive costs.

- Develop lending norms and special fund-ing instruments so as to increase the flow of credit to the construction sector.
- Develop a policy framework relating to ownership, management and maintenance of assets so as to ensure the proper upkeep of the assets already created.
- Formulate a business-friendly policy, develop insurance instruments to mitigate business risks and adopt aggressive marketing of Indian construction industry so as to increase project exports.

