Capital and Labour Standards in the Organised Construction Industry in India

A Study Based on Fieldwork in the National Capital Region of Delhi

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The study of the construction industry in India was coordinated and carried out by Ravi Srivastava (JNU). The overall study design was jointly prepared by colleagues in the China team, Dr. Jens Lerche, and the India team involved with the study. The research team directly involved with the India study comprised (besides Ravi Srivastava) Simantini Mohapotra, Rohit Sharma and Ajit Jha. Ajit Jha is also the co-author of this report. The study received extensive feedback from participants in various workshops, including those held in Beijing, London, and Delhi. I am grateful to participants of these workshops for providing their feedback. The draft report was reviewed and edited by Dr. Jens Lerche, the Principal Investigator of the overall study, who also provided comments and suggestions at various stages of the study.

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Front page: Workers shed at a Delhi construction site. Fieldwork Photo

Table of Content

List of Tables, Figures and Flow Charts

List of Tables

List of Figures

Flow Charts

List of Acronyms and Glossary

Acronyms

CIDC	Construction Industy Development Council
CLRAA	Contract Labour (Regulation and Abolition) Act
CSO	Central Statistical Organisation
IFTU	Indian Federation of Trade Unions
MG(NREGA)	Mahatma Gandhi National Rural Employment Guarantee Act
NABARD	National Bank for Rural Development
NCEUS	National Commission for Enterprises in the Unorganised Sector
NCR	National Capital Region
NCT	National Capital Territory
NOIDA	New Okhla Industrial Development Agency
NSDC	National Skill Development Corporation
NSSO	National Sample Survey Organisation
OBC	Other Backward Classes
Rs / INR	Indian Rupee
SC	Scheduled Caste
SEWA	Self Employed Women's Association
ST	Scheduled Tribe
WIEGO	Women in Informal Employment: Globalising and Organising

Glossary

Adivasis	Indigenous peoples (ST)
Anganwadi	Government run kindergartens
Bidi	Rolled tobacco leaves
Crore	Ten million
Dalit	Former untouchable castes (SC)
Jhuggi - jhopri	Hutments
Kachcha	Unbricked / uncemented
Labor Naka - hauraha	Daily labour market at a crossroad
Lakh	One hundred thousand
Mistry / Maistry	Skilled Workmen (usually mason)
Mukaddam / Sardar	Sub-contractor (literally, team leader)
Munshi	Supervisor (literally, accountant)
Naka / Chauraha	Cross-road
Other Backward Classes	Caste groups identified as socially and economically backward and entitled to positive discrimination
Scheduled Caste	Former untouchable castes listed in the Constitution Schedule and entitled to positive discrimination
Scheduled Tribe	Tribal groups listed in the Constitution Schedule and entitled to positive discrimination
Thikedar	Contractor

1. Introduction & Background

This report is part of a study of labour regimes and labour conditions in two major industries: garments and construction, in India and China. Both these industries are major employers in the two countries, with distinct characteristics. Garments are traded goods and the garment industry is situated in national and global value chains. The location of garment production in global production networks and the nature of global competition are major factors influencing labour standards in different segments of the garment value chain. In comparison, construction is a non-traded good, and is subject to a different logic of production and competition. Both production and labour in both industries are subject to substantial sub-contracting, but in the case of construction, most of this sub-contracting is on-site.

This study focuses on labour regimes and labour standards in the construction industry in India and is based on based on fieldwork in the Delhi National Capital Region (NCR). The construction industry in India employs the largest number of workers outside agriculture, most of whom are paid workers. In 2011-12, the industry employed 49.9 million workers of whom 44.5 million (89.2 %) were paid workers. By contrast, in the same year, in the garment industry, 71.7 percent of its 9.4 million workers were self-employed in an independent capacity or home workers. Construction takes place as small-scale activity as well as large-scale activity undertaken by organised sector firms in the private or public sector. This study focuses on labour standards and capital-labour relations in large-scale construction activity carried out by first tier organised sector firms, and lower tier sub-contracted formal and informal firms.

This report is structured as follows: The changing contours of the construction industry is described in Sections 2 to 4. Sections 5 and 6 describe the fieldwork areas and the survey methodology. The field results are discussed in Section 7 onwards of the report.

Migrant workers' children at a construction site. Fieldwork Photo

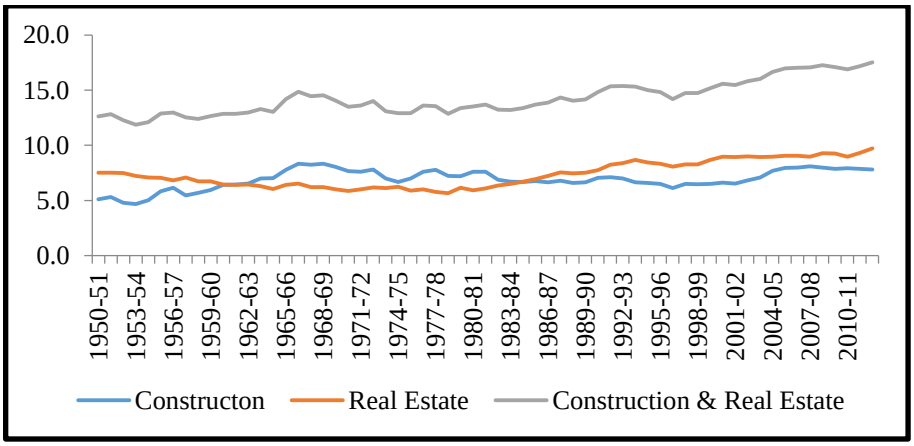
2. The Construction Industry in India

Construction is the biggest non-agricultural industry in the capitalist world (Chang, 2008). It is generally defined as the activity which creates all types of new buildings and civil engineering projects as well as maintenance and repair and existing facilities (World Bank, 1984; CSO, 2007). It has strong backward and forward linkages with numerous sub-sectors of the economy such as cement, iron and steel, bricks, service sector etc. which form the inputs of the sector or become the output for other sectors.

The spatial dispersion of construction sites and the relatively temporary project-wise nature of the work mark out construction as potentially distinct from other industries in terms of labour requirement practices and use of capital (Shivakumar et al 1991, Brensen, 1986). Both capital and labour are generally mobile in this sector. With each new project, capital has to restart the production process from scratch, as it were, having no fixed work premises and shifting the tools and machinery from one site to another (Brensen,1986, van der Loop, 1996). Within the lifespan of a project, the workforce and its composition also varies at its different stages.

There are unresolved issues in the estimation of the contribution of the construction and real estate sectors to the overall GDP. However, existing estimates show that the construction sector in India grew at an average rate of 10.6 per cent a year between 2000-01 to 2011-12, and it was the third fastest growing industry after trade, hotel, transport and communications" and "finance, insurance, real estate and business" (Soundararajan 2013). Estimates provided by the Central Statistical Organisation show that the contribution of both the sectors to India's GDP has increased. The share of construction in GDP rose from a little over 5 per cent in the early 1950s to about 8 per cent of GDP in the year 2011-12. The real estate sector's contribution to GDP was about 8 per cent in the early 1950s and increased to about 9 per cent in 2011-12. The increase maintained a rapid momentum in India's high growth period in the last decade (2002-03 to 2007-08) (figure 2.1).

Figure 2.1
Percentage Share of Construction and Real Estate in GDP at Factor Cost

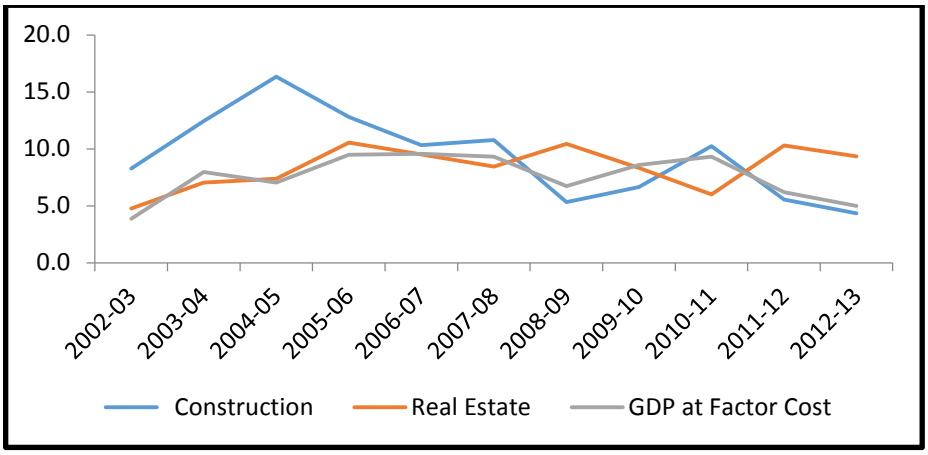


Source: Computed from National Account Statistics, CSO

The construction sector registered double digit growth during 2002-03 to 2007-08 and growth revived for one year (2010-11) due to the fiscal stimulus (figure 2.2).

Figure 2.2

Annual Growth Rate of Construction, Real Estate and GDP at Factor Cost

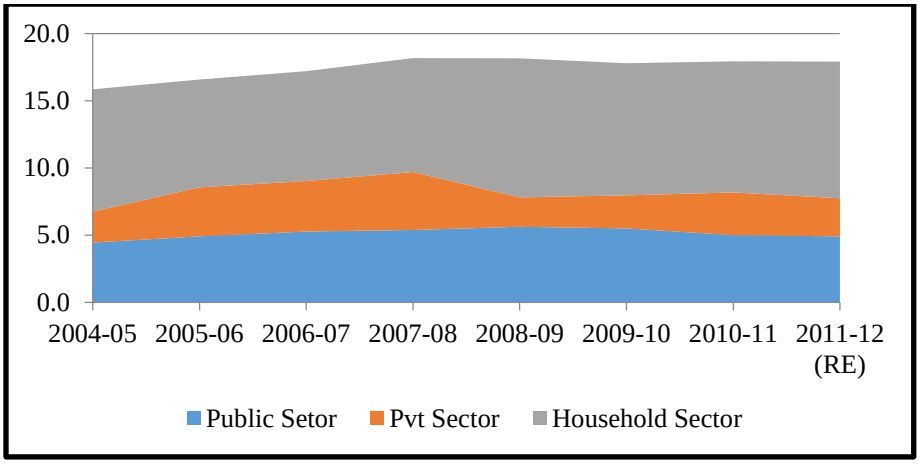


Source: Computed from *Statistics Relating to the Indian Economy* (RBI 2014)

But growth has been lower for most years following the crisis, and closely follows the general trend in GDP growth. On the other hand, the real estate sector has continued to do well except for one year, when its growth rate dipped below that of GDP. Other features of construction growth before and after the economic crisis are discussed below.

Figure 2.3

Percentage Share of Fixed Capital Formation in Construction by Sector to GDP



Source: Computed from *Statistics Relating to the Indian Economy* (RBI 2014)

The period of high growth in India saw a brisk growth in investment in plant and machinery (see Srivastava 2013). As a result, the share of construction in fixed capital formation was about 55% between 2004-05 and 20007-08. But during, and after, the crisis, the share of construction in

capital formation has steadily risen and stood at 58% in 2012-13. Moreover the share of the private sector in fixed capital formation, which had increased from 14.5% in 2004-05 to 23.7% in 2007-08, fell to 12% in 2008-09 and stood at 15.8% in 2012-13, while the share of the household sector which stood at 46.7% in 2007-08, has increased to 56.8% in 2012-13 (figure 2.3).

Impact of Crisis and Future Prospects

The rapid growth of the construction sector till 2007-08 and consequent slow down, following the 2007-08 crisis has been outlined above. Table 2.1 shows rising profitability of public limited construction firms till the onset of the economic crisis in 2008-09. Gross profit to sales ratio shows an increase from 8-10% at the turn of the century to around 80% in 2007-08.
However, since 2008-09, while growth has moderated (see Table 2.2), risks remain large, and segments of the industry are reeling under high debt, growth in incomes and profits in the sector which were high and improving till 2007-08 show some slowdown and fluctuation.

Table 2.2 shows the performance of public limited companies in the construction industry and compares these to all firms' performance. While sales growth has remained positive, growth in EBITDA (Earnings before Interest, Taxes, Depreciation and Amortization) turned negative in 2008-09 and 2011-12 and EIBTDA to Sales ratio has declined.

Table 2.1
Financial Ratios of Selected Public Limited Companies

Construction		**Profitability and profit allocation ratios**						
Year	**Sampled Companies**	Gross profits to total net assets	Gross profits to sales	Profits after tax to net worth	Tax provision to profits before tax	Profits retained to profits after tax	Dividends to net worth	Ordinary dividends to ordinary paid-up capital
1999-00	**34**	7.00	10.00	7.70	31.70	79.60	1.60	8.60
2000-01	**34**	7.20	10.60	9.60	22.00	90.90	0.90	5.20
2001-02	**42**	6.00	9.50	9.10	30.40	83.70	1.50	10.20
2002-03	**42**	6.10	9.70	8.10	35.90	81.00	1.50	10.70
2003-04	**68**	6.70	8.80	12.80	27.80	84.20	2.00	12.90
2004-05	**93**	7.20	10.90	20.90	23.90	77.60	4.90	52.40
2005-06	**95**	*	*	*	*	*	7.40	10.90
2006-07	**95**	12.60	45.70	87.40	25.00	30.00	9.70	16.50
2007-08	**95**	12.50	39.90	79.80	23.10	42.00	9.40	16.80

Source: RBI Bulletin, Various Issues

Table 2.2
Income and Expenditure Growth Rates and Ratios of Selected parameters of Public Limited Companies

Construction Companies	Years	No of Sample Companies	Construction	All Companies
Growth In Sales	2007-08	3114	47.7	18.6
	2008-09	3192	29.2	14.6
	2009-10	3352	17	12.3
	2010-11	3485	12.3	20.6
	2011-12	3041	19	18.2
Growth In EBITDA	2007-08	3114	41.1	15.8
	2008-09	3192	-19.2	-8.6
	2009-10	3352	-353.8	32.4
	2010-11	3485	5.6	13.8
	2011-12	3041	-8	-7.1
EBITDA to sales	2007-08	3114	10.5	14.6
	2008-09	3192	6.2	12.2
	2009-10	3352	1.1	13.6
	2010-11	3485	13.9	13
	2011-12	3041	7.7	9.2
Net Worth	2007-08	3114	63.3	31.9
	2008-09	3192	11.6	20.5
	2009-10	3352	26.8	19.8
	2010-11	3485	10.8	17.1
	2011-12	3041	9.1	9.3

Source: RBI Bulletin, Various Issues

Industry analysts note that in the last couple of years, the construction industry had witnessed a declining trend in profitability margins. The slowdown in the revenue growth coupled with the increased raw material cost, subcontracting and employee cost had kept the margins under pressure in FY13. The raw material cost and sub-contracting cost which together accounted for 65% of the total cost of the construction industry grew by 2% on a YoY basis each in FY12 and FY13. The employee cost which accounted for 8% of the total cost grew by 11% on a YoY basis. In FY13, the PBDIT margin of the industry stood at 14.4%. With the revenue of the industry growing at snail pace coupled with the rising cost pressure, the PBDIT margin of the industry expected to remain under pressure (Care Research, 2013).

Despite current challenges, industry and policy analysts are quit upbeat about the future prospects of the construction industry. It is believed that the fast growing domestic construction market, massive infrastructure investment, growing rate of population, increasing level of urbanization and levels of economic activity will continue to be major driving factors of the construction sector.

In the 12th Five Year Plan (2012-17), it is expected that construction industry will grow more than 10 per cent annually as against the 9 per cent targeted overall GDP growth rate. According to another global estimate, the construction industry in India will register the third highest rate of growth among major countries and will rapidly increase its importance from being 9th largest construction market in 2009 to the 3rd largest construction market in 2020 by surpassing Japan (Global Construction Perspectives and Oxford Economics, 2009, see Tables 2.3 and 2.

Table 2.3
Forecast Highest Growth Market in 2009E-2020E

%pa Compound annual growth rate	
Country	**2009E-2020E**
Nigeria	9.4
India	**9.2**
China	**8**
Vietnam	7.5
Russia	7.3
Turkey	7.3
Indonesia	7.2
Romania	6.7
Poland	6.7
Morocco	6.4
Egypt	6.3

Source: Global Construction Perspective and Oxford Economics (2009)

Table 2.4: Largest Construction Market in 2009 E and 2020E

	2009E			2020E		
Rank	**Country**	**$ billion**	**%**		**$ billion**	**%**
1	US	1312.6	17.4	**China**	**2424.1**	**19.1**
2	**China**	**1034.7**	**13.7**	US	2148.9	16.9
3	Japan	592.3	7.9	**India**	**649.5**	**5.1**
4	Germany	303.1	4	Japan	648.7	5.1
5	Spain	292	3.9	South	406.9	3.2
6	France	270.5	3.6	Germany	370.9	2.9
7	Italy	262.2	3.5	Spain	336.7	2.6
8	South	247.9	3.3	Russia	335.2	2.6
9	**India**	**246.5**	**3.3**	UK	329.8	2.6
10	UK	242.8	3.2	Canada	315.6	2.5
11	Canada	217.5	2.9	France	307.4	2.4
12	Brazil	173	2.3	Italy	301.3	2.4
13	Australia	156.8	2.1	Indonesia	294.8	2.3
14	Russia	154	2	Brazil	289.2	2.3
15	Indonesia	137.5	1.8	Australia	248.1	2
16	Others	1898.8	25.2	Others	5721.6	45
	Total	7542	100	Total	12705	100

Source: Global Construction Perspective and Oxford Economics (2009)

3. Capital and its Organisation in the Construction Industry

The construction sector is broadly divided into "Civil Engineering" or "Engineering and Infrastructure" construction, and "Construction of Buildings" or "Construction and Real Estate". Capital in construction can be in any one of these segments. In the National Income Accounts as well industrial classification system, "construction" and "real estate" are treated separately. The former constitutes an important part of aggregate investment activity.

'Building Construction' is associated with both residential (housing) and non-residential (office, hospitals, school etc.); while Civil Engineering Construction' is involved in utilities (power road, water supply, telecommunication etc.); urban infrastructure; and transportation (railways, roads, civil aviation etc.) (World Bank, 1984 & NSDC, 2009). Generally building construction tends to account for around 70 per cent of the construction market in both developing and developed countries, whereas civil work takes up the rest (The World Bank, 1984). The Global Construction Report of 2008 (Oxford Economics, 2009) also estimates that the residential and non-residential sectors put together contributes nearly 71 per cent in construction output globally.

A report published by National Skill Development Corporation (n.d.) in India states that that the real estate segment contributes only around 24 per cent to the construction GDP while Infrastructure segment of Indian construction industry contributes around 76 per cent. According to this report the real estate sector is estimated at around Rs. 504 billion in terms of its contribution to GDP in 2007-08. The market size of the Indian construction sector is estimated to be Rs. 2,100 billion in 2007-08.

Large-scale construction activity in India, especially in the infrastructure is carried out by government departments and public sector units, as well as private sector units. Over time, there has been corporatisation of the public sector units, and hiving off of construction departments of public sector units into specialised construction and/or infrastructure construction units. Presently some of the largest corporate companies in construction are former public sector entities. Further, Indian public sector engineering companies as well as some private sector firms have a long history of operating abroad.

The private sector in construction represents a complex structure. At the base, there are a very large number of informal entities. These are skilled craftsmen or small works contractors who undertake construction work independently in small-scale construction activities, or on behalf of larger entities. Above them are larger entities, both in construction and real estate, some of whom are functionally specialised. These are also mostly informal entities. The larger construction, engineering or real estate companies operate either regionally or even nationally. While most of these are private limited companies, some are listed on stock exchanges and have transformed into public limited companies.

The NSDC study (NSDC u.d.) cited earlier finds that the Construction industry is highly fragmented, with low entry barriers due to small fixed capital requirements. The housing sector is more fragmented than the industrial/infrastructure segment, as the unorganised sector accounts for 75% of the former. This is principally because the industrial/infrastructure sector requires far more technical expertise. According to the report, around 96% of construction companies are classified as small and medium enterprises.

At the apex of the industry there were about 200 firms in the corporate sector. These include companies such as L&T, Unitech, GMR Infrastructure, HCC, Gammon, Jaypee group, Jaiprakash associates, BL Kashyap etc. which principally undertake large infrastructure projects. Companies such as IVRCL, Nagarjuna, L&T, DLF, Omaxe etc. are involved in the construction of flyovers, pipelines, as well as apartments and housing/office spaces. Finally, companies such as DLF, Purvankara, Raheja and others are engaged in the construction of residential and office space. (ibid.)

The enormous growth of the construction industry has resulted in a tremendous growth of all segments of capital in the construction industry, from the base to the top along with a significant restructuring of capital.

At the international level the ILO (2001) suggests that:

> *There has been a dramatic change in the structure of the construction industry in the past three decades involving a process of concentration at the top and fragmentation at the bottom (ibid: 23).*

While fragmentation at the bottom was always a feature of the Indian construction industry, there is certainly a trend towards increased concentration at the top and the data on growth and capital formation discussed earlier suggests that the growth of formal industries and large capital in the construction and real estate sector has been phenomenal in recent years, particularly in the high growth phase of the Indian economy.

Till recently, capital in construction in India has been largely domestic. But changes have made it possible for foreign firms to operate in the country. Post 2000 till 2011-12, the industry has attracted 10,867 US $ million worth of FDI or 6.8 per cent of total FDI (Table 3.1). During 2012-13, while total FDI inflow was estimated at 2.6 billion $, outflow was 1.1 billon (RBI Bulletin, RBI).

Table 3.1
Sectors Attracting FDI Inflows (in US $ Million)

Sectors	2009-10		2010-11		2011-12		Cumulative Inflows (April 00 to Jan 12)	
Service Sector	4,176	18.2	3,296	19.3	4,836	18.5	31,971	20.0
Telecommunications	2,539	11.1	1,665	9.7	1,992	7.6	12,547	7.8
Computer Software & Hardware	872	3.8	780	4.6	698	2.7	11,107	6.9
Housing & Real Estate	2,935	12.8	1,227	7.2	591	2.3	10,973	6.9
Construction Activities	2,852	12.4	1,103	6.5	2,230	8.5	10,867	6.8
Drug & Pharmaceuticals	213	0.9	209	1.2	3,208	12.2	9,170	5.7
Power	1,272	5.5	1,272	7.4	1,569	6.0	7,215	4.5
Automobile Industry	1,236	5.4	1,299	7.6	635	2.4	6,470	4.0
Metallurgical Industries	420	1.8	1,098	6.4	1,655	6.3	5,909	3.7
Petroleum & Natural Gas	266	1.2	556	3.3	202	0.8	3,339	2.1
Grand Total	**22,963**	**100.0**	**17,081**	**100.0**	**26,192**	**100.0**	**1,59,973**	**100.0**

Source: Department of Industrial Policy & Promotion, Ministry of Commerce, Govt. Of India

Irrespective of the size and concentration of capital, as well as its ownership structure, the construction sector is globally characterised by a dense network of sub-contracting relationships. The relationship between the principal contractor and the various types of sub-contracting firms in India constitutes what van der Loop (1996) describes as a "production system".

Various kinds of construction tasks are divided functionally, and within functions, and sub-contracted to various sub-contracting parties, with sub-contracts usually forming a multi-layered hierarchical sub-contracting structure in large firms (Vaidya 1999). Each task lasts only a limited period of time. These contracts, as we shall see later, incorporate labour hiring systems.[1] Based on their review and other studies (Harris 1982, Nagaraj 1984, Wells, 2007, Suresh, 2010), Shivakumar et al (1991) note that:

> *"(1) contractual production is increasing steadily even in the most organised sectors and in public sector construction projects;*
>
> *(2) parallel to putting out systems, inside contracting or engaging contract labour and private supervision within the sites is developing at a fast rate." (ibid. p. M-30).*

The NSDC (ibid.) assesses that, in 2004, there were over 3 million construction entities (including housing contractors) in India, of which only around 28,000 were registered. The size distribution of the registered contractors given in Table 2.2 shows that 96 per cent of these contractors employed, on average, less than 200 workers, whereas, at the other end, 220 contractors (0.79 per cent of the total) employed more than 500 workers each:

Table 3.2
Size Distribution of Registered Contractors

	Enterprise	
	Number	**% age**
1-200 persons	26700	96.15
200-500 persons	850	3.06
500 > persons	220	0.79
Total	**27770**	**100.00**

Source: Working Group on Construction Industry, Eleventh Five Year Plan

[1] Globally there is some variation. A study of social housing construction in Germany and England shows that in Germany, task-specialised subcontracting companies provide both capital and labour, while in England, recruitment of skilled and unskilled manual workers is further subcontracted to sub-sub-contractors and to labour contractors (Clarke and Herrman 2004). In the UK more than in other west European countries studied, the labour relation may even be disguised, as a high proportion of labour may formally be self-employed (Harvey and Behling 2008). The labour contractor system is common in many parts of the developing world, including in Asia (see Chang (2008) for South East Asia and Ngai and Huilin (2010) for China).

In addition to these firms, there are about 1, 20,000 class-A contractors registered with various government construction bodies. Moreover, there are thousands of small contractors, which compete for small jobs or work as sub-contractors of prime or other contractors (table 3.2).

While, on the one hand, the growth of capital in construction and real estate has been extraordinarily high, there are some other features that mark the growth of capital in this sector. First, increasing urbanisation has resulted in sharp secular increases in the price of housing and real estate, which have been fuelled further by speculation and black money. Second increasing land availability required for further urbanisation often requires land acquisition, changes in land use policy and FSI, and other permissions, which has led to a well know nexus in India between politicians, bureaucrats, builders and the mafia.[2]

The overall growth of construction activities is led by increasing demand for housing in both rural and urban areas, urbanisation, increasing agglomeration of economic activities in and around existing centres of urban agglomeration, and public works determined by government-led investment. Spatially, these activities could fall in the urban as well as in rural areas and more work is needed to determine the spatial trends; but while the scale of such investment has increased in all states and regions, they are clearly biased towards the more developed states and regions.

[2] http://m.firstpost.com/economy/how-the-politician-builder-nexus-really-works-490938.html; http://kafila.org/2013/04/30/ground-report-on-the-real-estate-mafias-reign-of-terror-in-noida-bigul-mazdoor-dasta/

4. Capital and Labour

As has already been noted, the construction sector, globally as well as in India, is characterised by a disjuncture between capital and the site of production, the temporariness in the locations of production, the stationary nature of the output, and the functional division of labour which is also determined sequentially over different phases in building and engineering construction. The control over the production process at site can be with first level contractors (who can themselves be large entities) and sub-processes are controlled by sub-contractors, who at the bottom of the chain may themselves be skilled workers. The scale of production is usually the single best determinant of the hierarchical organisation of the production system with crucial differences between large and small projects.[3]

Table 4.1

Component-wise Cost of Construction (%)

Type of Construction Activity	Material	Equipment Cost	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: CIDC (cited in Tenth Plan).

In India, employees and workers enter this chain at various levels. Recruitment of skilled and unskilled manual workers is usually managed by sub-contractors and labour contractors. But the system of contracting and sub-contracting and its relationship to labour contracting has been in vogue for a long time. This is how the Report of the Study Group on the Construction Industry for the National Commission of Labour (1968) described the situation prevailing almost half a century ago:

> *The main contractors usually maintain a small nucleus of skilled workers necessary for their operation and out of this pool, the requisite number of skilled workers is deployed by the contractor. The main requirement of labour is that of unskilled workers and these are usually recruited locally near about the place of*

[3] In smaller projects, such as small residential projects, the hierarchies may be limited to owners or small entrepreneurs dealing with mistries and other sub-contractors and thus there are only one or two layers of intermediaries between the owner's capital and labour, which may drawn from the town or neighbouring villages and recruited at the *nakas* or road crossings (labour chaurahas) which function as labour markets. This is the kind of structure observed by Van der Loop (1996) in his study of construction sites in two medium sized towns in Tamil Nadu and has also been observed in other cities.

work. For this purpose the contractor usually sends out a Mukaddam or Mistry to scout for available labour. This Mukaddam goes around the villages recruiting workers and generally also fixes the rates of wages. Alternatively, the main contractor breaks up his work into small parcels and gives out these small parcels to sub-contractors. The sub-contractors then recruit labour for their own requirements. In some cases, there are also labour contractors who do the work merely of finding the necessary number of workers and bringing them to the work-site. (p. 8)

For higher levels of capital, labour costs are only notional in some sense, since sub-contracting divides work both into out-sourced and piece-rated activity, and sourced-in labour. Nevertheless, one estimate of labour costs in construction has been compiled by CIDC and reproduced in the Tenth Plan (2002-07).

According to this estimate, labour costs vary from 10 to 21 per cent of project costs, but are mostly in the range of 10-12 per cent. According to one estimate (CIDC, cited in the Planning Commission Working Group for the 11th Plan), of the total industry workforce, employees (engineers, technical staff, foremen, supervisors, clerks etc.) constitute 7 per cent, skilled labourers 10.5 per cent and unskilled labourers 82.5 per cent of the workforce (table 4.1).

In line with what has happened in other industries, employment in the construction sector in India, already largely informal to begin with, has also been further informalised over the years. While manual workers employed by private firms were always informal, informalisation has also occurred, over a period of years, among higher level employees in both the public and private sector, and departmental labour in the public sector and government departments. Our estimates based on computations from the NSS 68th Round for 2011-12 show that 96.8 per cent of all paid employees/workers in the sector did not have any written contract and 97.8 per cent of all such workers did not have any kind of social security.

The enormous growth in the construction sector, with its regional dimensions, has led to an increasing demand of labour, both skilled and unskilled. Simultaneously, there is substantial evidence of the drying up of employment opportunities and livelihoods based on agriculture and forests. These cannot be adequately compensated by the MGNREGA,[4] which apart from implementation issues in poorer regions, provides only a hundred days of unskilled employment a year for a single household. Labour is, thus, moving out of agriculture and forest based livelihoods, and finding avenues of employment in other sectors, mainly construction and services, and to a lesser extent, manufacturing.

Construction sector employment in India has been virtually doubling every decade since 1983. Total employment in the industry was only 6.8 million in 1983. It rose to 12.1 million in 1993-94 and to 26 million in 2004-05. The most recent estimates put employment in the industry at 49.9 million in 2011-12. The share of construction has increased rapidly from 2.3 per cent of total employment in 1983 to 5.7 per cent in 2009-10 and stands of 9.6 per cent in 2011-12. The figures are far more impressive when employment in construction is seen as percentage of *non-*

[4] The National Rural Employment Guarantee Programme, is designed to provide 100 days of constitutionally guaranteed unskilled employment in public works to rural households demanding such work.

agricultural employment. This rose from 7.2 per cent in 1983 to 20.3 per cent in 2011-12. *Every one in five worker in India outside agriculture now works in the construction sector.*

The labour contracting system and the sub-contracting system is crucial to the large scale mobilisation of labour to meet the requirement of the industry and hence also to the dynamics of capital-labour relations in the rapidly expanding construction industry in India. There are few systematic studies of the entire gamut of employment relationships in the construction sector, especially in the light of the rapid changes that are currently occurring.

We know that labour recruiters and contractors have a long history in India and played an important role in mobilising labour for the growing needs of the colonial plantation, mining and industrial economies as well as the needs for indentured labour that arose after the abolition of slavery. In more recent contexts, Breman has subjected emerging employment relationships in the Gujarat economy to intense analysis over a number of years and has characterised these as the employment of labour in circulation in an informal setting. Labour circulates between rural and urban areas, and between sectors (formal and informal) and industries in urban areas. Thereby, capital subjects labour to a generalised informal regime. Breman's characterisation is not specific to the construction sector and his analysis also does not focus on the recruitment system.[5]

While the sub-contracting system is more generic to the construction sector, and its scope has also increased in all sorts of countries, the labour contracting system appears to be more generic to those developing countries where there is significant unevenness in the pattern of construction activity, and there is a spatial separation between the pool of labourers and construction activity (ILO, 2001; Wells, 2006).

However, it would be simplistic to imagine that the labour contracting system exists only because it reduces search costs and transaction costs for potential employers and labourers. The labour contracting system sources cheap labour for the industry from all corners of the country and converts it into a highly flexible, docile, and disciplined workforce by processes of fragmentation and segmentation which are maintained at worksites. More important, it separates capital from the functions of management of labour and dilutes the focus of labour regulation.

Although organized recruitment performs multiple functions, it also has a strong relationship to the conditions of work of migrant labourers, and in general, to the other conditions of social reproduction of the workers. Workers live in socially isolated settings. The system lends itself to various abuses - working hours are not fixed and workers have to work on all days in a week under extremely harsh conditions (http://www.labourfile.org/cec1/cec), Rani and Shylendra 2001).In large scale projects, the percentage of workers recruited from (distant) rural areas tends to be quite high. The dominant features of the recruitment system are, therefore, governed by recruitment system through which such rural workers are mobilised for employment. The main characteristic of the organised recruitment system which prevails in such cases is as follows: First, the recruitment of workers through contractors binds them into clientelist ties or neo-bondage relations with the recruiting contractor, with whom, quite often, they have social ties as well (Picherit 2009). These ties are further reinforced by the advances taken by the workers at the

[5] Other case studies of construction work, include case studies from Karnataka (Pattenden 2012), Gujarat (Mosse, Gupta and Shah 2005), Andhra Pradesh (Picherit 2009), and Chhattishgarh (Parry 2014) with diverse foci, including on circular migration and conditions in the home villages, the contracting system and day labour markets, and gender and sexual relations as part of the labour relation.

time of recruitment, which are adjusted at destination against due wages only when the period of contract comes to an end. In the worksites, workers coming from distant provinces are socially and linguistically isolated, and the workforce is segmented and fragmented into sub-contracted groups. Workers generally work under the dual supervision of the sub-contractor as well as the firm supervisor. The environment on the sites, which usually also house the immigrant workers resembles a fenced security camp. Sites are fenced and workers ingress and egress from the construction sites is monitored by the contractor and the firm's security guards who also monitor the movement of strangers (Shivakumar et al 1991). Penal provisions are also enforced if the workers refuse to obey the orders of the contractor or maistry (ibid.)

But at the same time, we also note that conditions of recruitment of workers vary and studies show that organised recruitment of long-distance migrant labour is not always generic to the construction industry, even in the urban setting, more so in unorganised construction (Parry 2014; Picherit 2009; Shivakumar et al 1991; van der Loop 1996; Subramanian et. al, 1982). These studies have shown that workers in small-medium towns and smaller projects are often recruited through local networks and skilled workers/foremen or from day labour markets located at road crossings (called *labour chaurahas*) or the like. Case studies also show that migrant based day labour markets exist also in the big towns (Picherit 2009; Mosse, Gupta and Shah 2005). In a recent study (Srivastava 2014b) of construction labour on large and well as small sites in the Delhi National Capital Region (NCR), it has been noted that workers employed on the smaller sites were hired either through personal contacts of the skilled workmen/mistries, or from day labour markets.

By and large, studies of the construction sector in India have focused on the role of labour market intermediaries and on labour in the construction sites. Few studies focus on the entire structure and how it operates. The enormous increase in construction capital including its scale and concentration, and its demands on large scale labour mobilisation have created corresponding changes in the scale and structure of intermediary institutions and capital and it remains to be seen how this has influenced labour recruitment and conditions. It is also not known how much variation there is between different types of capital, regarding labour recruitment and labour conditions within large scale construction industry. In this study, we throw some light on these aspects.

5. Situating the Field Study - the Construction Industry in the Delhi National Capital Region

The rapid expansion (both horizontal and vertical) of the construction industry has been described in the preceding sections. This expansion has been even more pronounced in the post-reform period, although the industry has been impacted by the global crisis of 2008-09. Moreover, this expansion, and the changes described, have been more focused in the large urban agglomerations, among which the Delhi NCR has seen the most rapid growth in recent decades.

The National Capital Region (hereafter referred to as NCR) of Delhi comprises Delhi state and eleven districts in the three states of Haryana, Uttar Pradesh, and Rajasthan. The total area of the region is 33,578 sq km with a total population of 22.157 million in 2011.The Delhi NCR is the world's largest agglomeration in terms of area and the second largest in terms of population. This study covers three state jurisdictions (Delhi, Haryana and, Uttar Pradesh) which have different regulatory regimes and policies.

The NCR is possibly the largest agglomeration within India of the construction industry. Exact estimates of the numbers of workers involved are not available because of the informal and migratory nature of the workforce. The NSS estimates that the construction sector employs about 164,000 workers in Delhi, 74,000 in Gurgaon, 78,000 in Faridabad, and 84,000 in NOIDA or about 400,000 workers in all. These areas have a total estimated workforce of 7 million. However, since the construction sector employs about 6 % of the total workforce, and since the NCR is a major area of agglomeration, the total workforce in the study areas is more likely to be higher than 600,000.

The present study undertakes an analysis of the sector in Delhi, Gurgaon and Noida the national capital region, which, as mentioned earlier fall in the state jurisdictions of Delhi, Haryana and Uttar Pradesh. The rapid change and expansion of the industry in recent years raises important issues regarding the changes in the organisation of production, recruitment of labour and conditions of work including subcontracting, and labour standards with specific focus on conditions of work, occupational safety and health, level of skill and skill requirement, and freedom of association of workers, in the face of these changes. The study also provides an opportunity to analyse the impact of different regulatory mechanisms related to the industry and workers across the three study states.

6. Methodology of Fieldwork

The study has been carried out by selecting a sample of first tier firms which are in the organised segment of the construction industry. However, sub-contracting units in the second tier, and labour contracting entities / firms which are in the informal sector have also been included in the survey.

The approach of the study was to identify ten construction sites in which different types of construction activity (construction of residential housing; non-residential structures such as hospitals, institutions, and commercial complexes, and infrastructure) was being undertaken by large or medium organised sector firms. The sites were spread over Gurgaon, NOIDA and Delhi.. In these sites, interviews were carried out with owners or managers of the first tier firms, the principal sub-contracting firms in the second tier, selected work contractors (firms in the third tier) and labour contractors. Usually, firms in the third tier and labour contracting firms/entities were informal. In some cases, firm owners and managers were not available for interviews and profile of these firms was built through secondary sources and material obtained through applications under the Right to Information Act.

Table 6.1
Firms and Contractors Interviewed in Different Construction Type

	Firm		Contractors		Total
	Main Firm (First Tier)	**Subcontracting Firm (Second tier)**	**Labour Contractor**	**Work Contractors (Third tier)**	
Residential	5	6	12	0	23
Non-residential	4	6	5	6	21
Infrastructure	1	0	0	0	1
Total	10	**12**	**17**	**6**	45

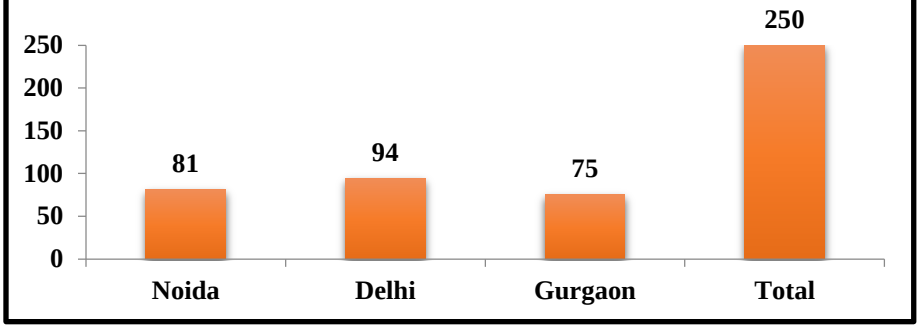
Source: Primary Survey, 2012-13

Overall 45 firms engaged in different types of production activities were selected for the survey. Among them, ten were large-medium firms in the first tier (mainly big developers), and twelve medium and small construction firms in the second tier (see table 6.1).[6] Six work contractors and 17 labour contractors have also been interviewed in both the building and infrastructure segments.

Generally, it was found that difficulties regarding access to the sites create major constraints for the proper selection of worksites in the construction industry. A detailed mapping exercise was carried out in the National Capital Region to identify different types of construction sites and also to check when and how workers in these sites would be accessible to the researchers.

[6] The size categories of firms have been defined in terms of number of workers employed at a site. Large size firms are defined as those which employed more than 500 hundred workers at a worksite, whereas medium firms are defined as employing 100 to 500 workers at a worksite. Small firms employ up to 100 workers at a work site.

Figure 6.1
Number of Workers Interviewed in Construction Industry



(Source: Based on Primary Survey, 2012-13)

Within each site, it was decided to take a sample of 20 to 25 workers (both male and female), broadly representative of the composition of the workforce. During the initial mapping, it was observed that the number of workers and the proportion of skilled to unskilled workforce vary during different stages of production and the nature of construction activity. Preliminary interviews with workers were used to assess the gender, skill, and migrant composition of the workforce in each site. Careful snow-balling techniques were used to select the sample of workers. Finally, 250 workers' interviews have been conducted across the three regions.

Figure 6.1 shows that out of the 250 workers conducted in the survey, 81 have been interviewed in Noida, 94 in Delhi and the remaining 75 interviews were conducted in Gurgaon. Out of the total respondents, 51.6 per cent were working in the residential segment and 38.4 per cent were involved in the non-residential segment of building construction in all the three regions. Around 10 per cent workers were engaged in the infrastructure segment (figure 6.2).

Figure 6.2
Respondent Working in Different Construction Activities
(Source: Same as in fig 6.1)

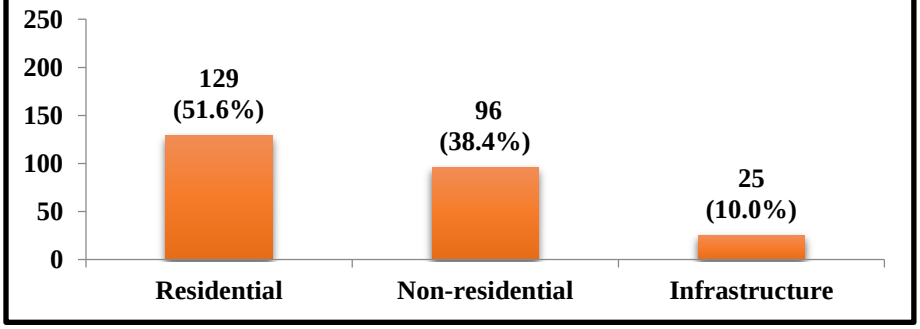


Table 6.2 gives the composition of the sample by location and type of construction activity.

Table 6.2
Types of Construction by Location

Location	Residential	Non-residential	Infrastructure
Noida	81	-	-
Delhi	-	69	25
Gurgaon	50	25	-
Total	131	94	25

Source: Primary Survey, 2012-13

7. Organisation of Capital and Labour in the Production System

Based on the primary survey, we find that production tasks in construction sector are largely organised in different phases and through sub-contracting processes. In some cases, however, developers or principal construction firms in the first tier were also directly engaged in some of the construction activities.

The organisation of production and subcontracting practices in building construction, based on field survey, has been presented in the following chart (see flow chart 7.1). It shows that in the organised building construction activity the organisation of production is generally divided into three stages of production on the basis of labour and capital use. The first stage of production involves excavation, earth moving and preparation of structural work. The second stage of the work involves the finishing (plaster, POP etc.), whereas the third stage is termed as services (fitting of false ceiling, electrical and other fittings etc. in the case of building construction). This is the standard approach across the subsectors and across the different types of capital studied

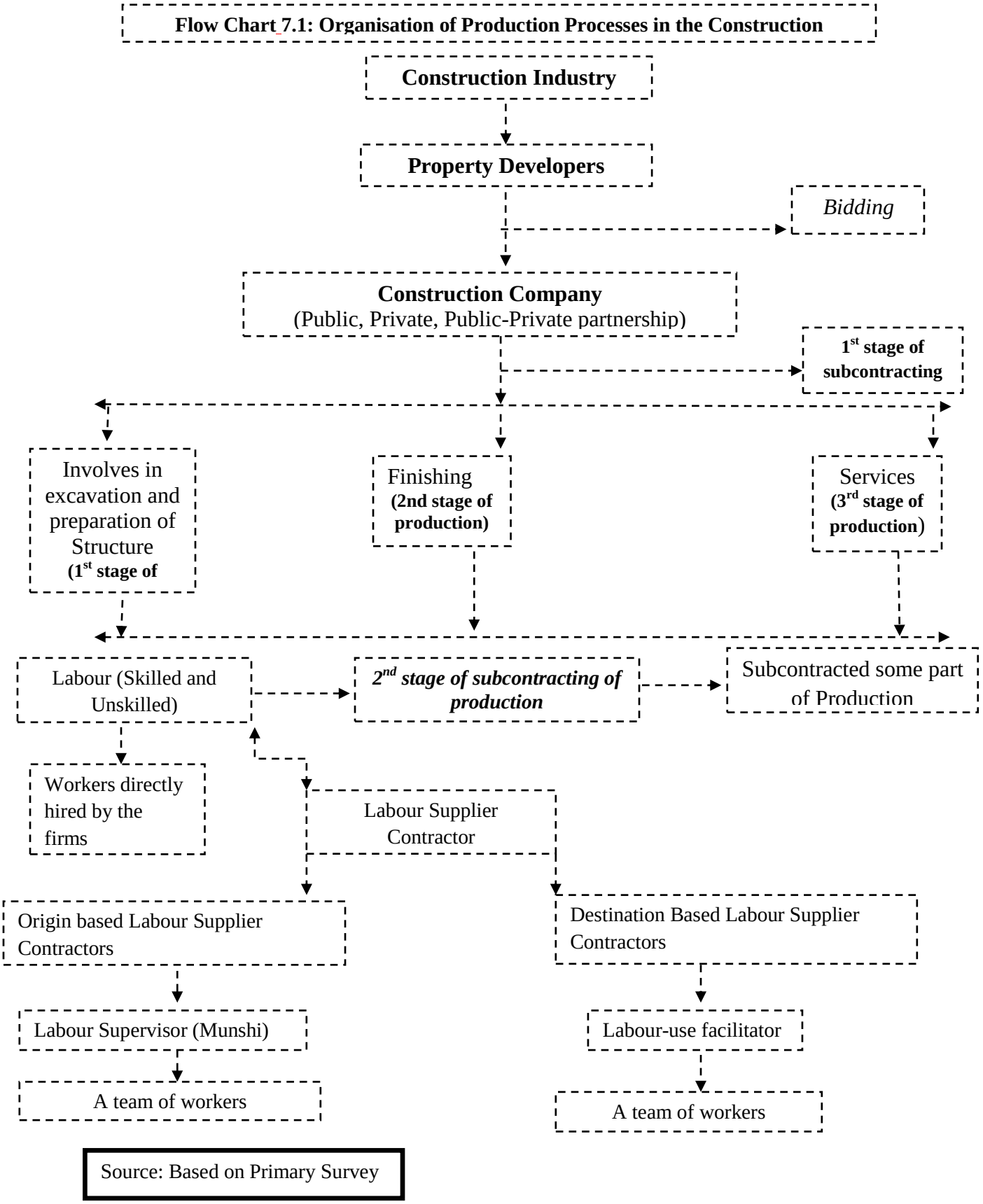
A close observation of the worksite and the firm level interviews with firm managers/engineers shows that the ratio of skilled to unskilled workers varies between the different stages of the production activity, and between different types of construction activity.

Generally, it is recognised that in the initial stages of excavation more than 60 to 70 per cent of the workers are low skilled. In the preparation of the structure of the site, there are usually three to four unskilled workers for one skilled worker (mason). Sometimes this ratio may be as high as 1:6, depending on the distance from which the raw materials need to be carried to the worksite. During the second and third stages of construction, the ratio of skilled to unskilled workers changes to 1:2 or even 1:1, that is, for one skilled worker it requires two unskilled workers in the second stage of production which may go down to one unskilled worker in the third stage of production.

The process of subcontracting plays a major role in the entire production organisation in construction activity. Our survey suggests that there are generally at least three layers of the subcontracting process (which may extend sometimes to further layers). In the first stage of subcontracting, the main construction firm subcontracts the major part of the production activities to many other firms involved in different stages of production (from excavation to services). Sometimes the whole process is subcontracted to another firm which further subcontracts to many small firms. The process of subcontracting of different tasks at this lower stage is better known as ‘work subcontracting’. Labour sub-contracting usually occurs below the first or second stage, wherein both skilled and unskilled workers are subcontracted by the first or second tier firm through the labour contractors (popularly known as Thikedar or Jamadar).

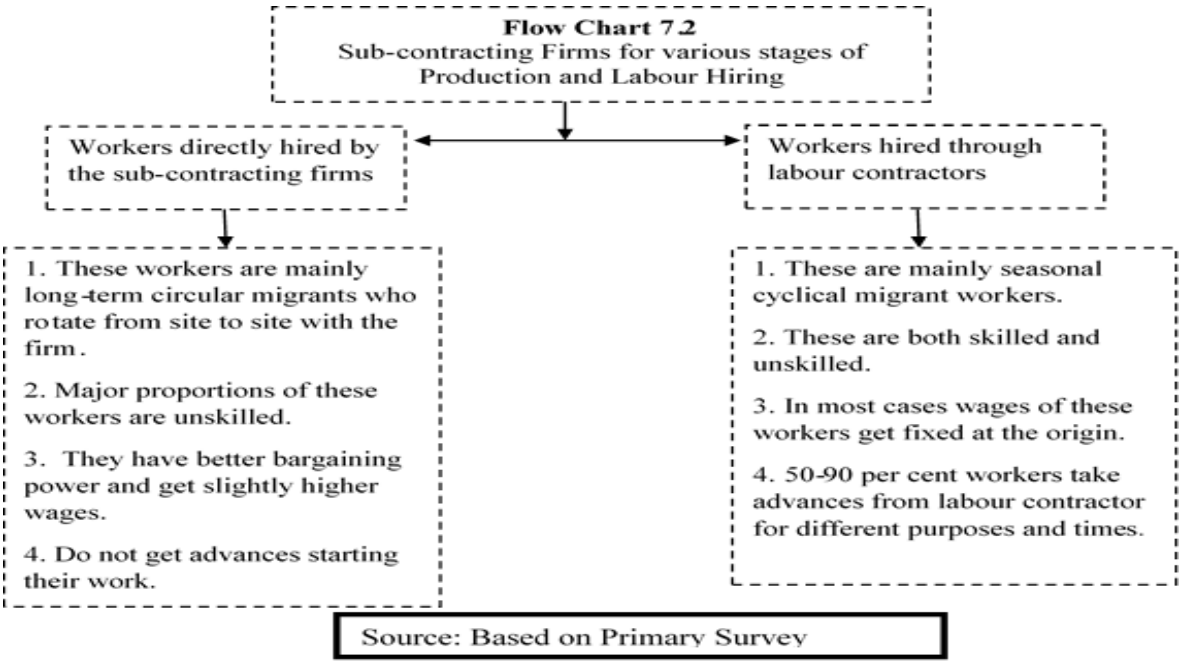
Property developers play a major role in land acquisition, lay out, and architectural design of the project in large building construction. Once the area has been developed, it is given to the construction firms through a bidding process. In the case of private construction, the construction firm involved may be solely a domestic construction firm or a joint venture with the multinational company. This construction firm subcontracts either the entire or major part of works to different construction firms specialising in the different types/stages of the work. At this

Flow Chart 7.1: Organisation of Production Processes in the Construction



Source: Based on Primary Survey

stage of production, the size of the sub-contracting firm is medium or large. The second layer of subcontracting of production can involve both the direct use of labour and/or further subcontracting of work either to the work contractors or to the petty contractors (see chart 7.1).



As against the hiring of workers in day markets (at the labour *chowk*) or through personal contact in the unorganised segment of construction, in organised construction activity, workers are mostly hired through labour contractors (chart 7.2). Again, this is the case across the construction subsectors in the organised sector and irrespective of type of capital.

A large proportion of skilled and unskilled workers in the sites are hired through labour subcontractors, although in some cases, a small proportion of low skilled workers may be directly hired by the construction firms. We exclude from discussion the highly skilled workers (overseers, engineers, accountants, project managers etc.) who are also on the direct payroll of the firms.

The labour contractors interviewed in the sites were informal entities and of two main types. The first type are origin based labour contractors, while the second type are destination based labour contractors. The origin based labour contractors supply large numbers of workers, whose supervision, attendance and accounts are the responsibility of a labour supervisor (Munshi) appointed for the work site. The destination based labour contractors generally assign supervision responsibilities to team leaders of the workers as their agent and regularly monitor the work processes at the site.

The origin based labour contractors procure labour in the area of origin, directly and through local agents called 'jamadar' (flow chart 7.3).They are mainly big labour contractors and supply more than 100 to 500 workers either to the same or different work sites. Workers supplied by them are mainly from their village and from the neighbouring area. The destination based labour contractor either may be a petty work contractor who also bring their work team together or a medium size labour contractor. The petty contractor has a team of 5 to 30 workers which varies according to the volume of the work. They also directly supervise the workers at the site. The medium size labour contractor supply only workers and ensure their proper attendance. The size of workers in this case varies between 30 to100 at a worksite.

Flow Chart 7.3: Characteristics of Labour Contractor

Origin based labour Contractor

1. These are mainly big contractors (100-500 workers).

2. Labour procured in area of origin through labour contractor called 'jamadar'.

3. Labour contractor supply labour to different site of the same firm or to multiple firms.

4. Workers recruited by the labour contractor are mainly from the same or neighbouring villages.

5. Labour supplied to the firms are under general supervision of 'Munshi' appointed by the contractor. The labour contractor visits the worksite once in 2 to 3 months.

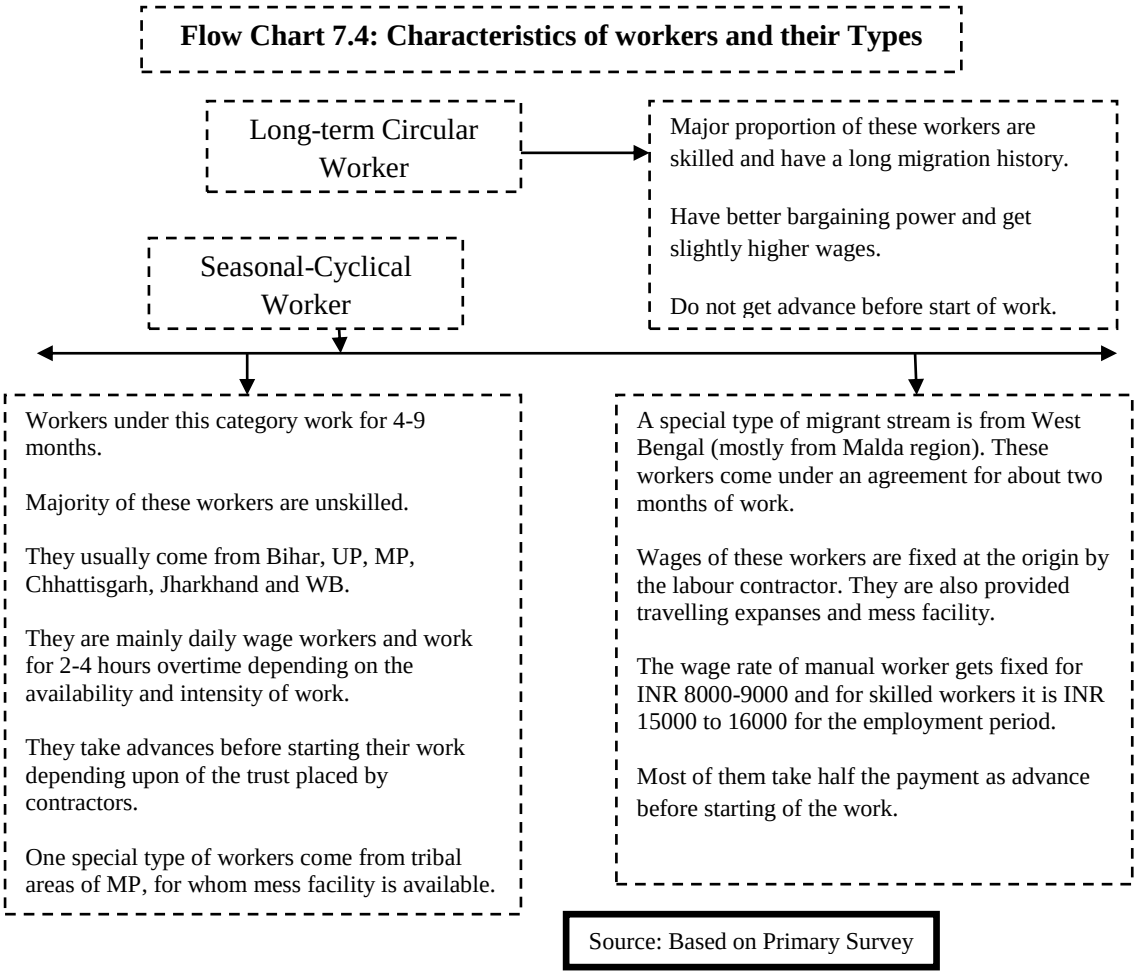
6. All bills are passed in the name of labour contractor only.

Destination based labour Contractor

1. Small and medium labour contractors who supply 30 to 100 workers and ensure their attendance.
2. Petty work contactors who also bring their work team (5-30 workers).
3. The contractor supervises his own workers.

Source: Based on Primary Survey

The workers hired directly by the firm or through labour contractors are either long-term circular migrants or seasonal migrants. The long term circular workers directly recruited by the firm are mostly skilled and rotate from one site to another with the firm. The seasonal worker (cyclical worker) is generally recruited through the labour contractor. Although this workforce is both skilled and unskilled, a major proportion of these workers are unskilled in nature and have low bargaining power as compared to long term skilled circular workers, in terms of fixation of wages (chart 7.4).



In our sample, these seasonal/circular migrant workers also fall into two categories. One type of seasonal migrants recruited by contractors are mostly unskilled and work for 4-9 months in a year. They usually come from the states of Bihar, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Jharkhand and West Bengal. They are daily wage workers and also take advances from contractors. A second category of migrant workers form a rather special type of worker. These come from West Bengal (mainly from Malda district and adjoining regions). They migrate for a fixed pre-determined period, usually 50 to 60 days. Wages of these types of workers are fixed at the origin in a lump sum contract which also includes other contractual conditions, such as payment of advance, transportation, provision of a cook and meals with each team. The wage rate of manual workers varies between INR 8000-9000 thousand for the entire period, while a skilled workers gets INR 15000 to 16000. The labour contractors bear the cost of food and travel of these workers.

8. Socio-Economic and Demographic Profile of the Workforce

The report published by the Second National Commission on Labour in 2002 states that "construction workers are dominated by young, married, illiterate and unskilled males, belonging mostly to the scheduled caste, scheduled tribes and Muslim community, with a large family dependency load. Workers in the construction industry are often rural migrants and mostly they are landless. About 90 per cent of the workers entered for the jobs in the construction sector due to the compulsion of the circumstances" (Page no-101). The demographic profile of the workers based on the field survey also depicts a similar pattern in terms of gender, age, marital status, caste, religion and attainment of formal education

Results in table 8.1 show that construction activities in both the building and infrastructure segment are male dominated. Out of the total 250 workers, 76 per cent were male and 24 per cent were female.

Table 8.1
Gender Composition of the Workers

	Male		Female		Total	
Location	Number	%	Number	%	Number	%
Noida	56	29.5	25	41.7	81	32.4
Delhi	78	41.1	16	26.7	94	37.6
Gurgaon	56	29.5	19	31.7	75	30.0
Total Sample	190 (76.0)	100.0	60 (24.0)	100.0	250 (100)	100.0

Source: Primary Survey, 2012-13

Table 8.2
Gender Composition by type of Construction Activities (in %)

Gender	Residential	Non-Residential	Building (R+NR)	Infrastructure	Total
Male	69.8	78.1	73.3	100.0	76.0
Female	30.2	21.9	26.7	0.0	24.0
Total	78.1	100.0	100.0	100.0	100.0

Source: Primary Survey, 2012-13

The infrastructure segment of the construction sector in the sample was fully male dominated and no female worker was reported (table 8.2). Compared to this, in building construction, 73.3 per cent of workers were male and rest were female. Within the building industry, the non-residential segment in the sample employed more male workers (78.1 %) compared to the residential segment (69.8 %). One of the reasons for employing more male workers in this segment and in the infrastructure segment is the use of more capital per unit of labour.

The workforce in the construction industry is extremely young. More than 70 per cent of the workers in the sample fall in the age group of 18 to 35 years. Almost 90 per cent are in the age group of 18 to 45 years (table 8.3). The tedious nature of the job and the higher mechanisation of the sector in recent years restricts the workforce to the younger age group. A comparison across sexes shows that the modal age group for men is below 25 years (41.6% of the male workforce,

compared to 28.4% of the female workforce). For female workers, the modal age group is 25 to 35 years (38.3% of female workers compared to 31.6% male workers). While 33.3 per cent of female workers were above the age of 35, 26.3 per cent male workers were in the higher age group. It appears that a fewer percentage of women in the young reproductive age group travel with their spouses and families to work in the sites compared to slightly older women.

Table 8.3
Age Group of the Workers

Years	Male		Female		Total	
	Number	%	Number	%	Number	%
Below 18 Years	4	2.1	1	1.7	5	2.0
18-25	75	39.5	16	26.7	91	36.4
25-35	60	31.6	23	38.3	83	33.2
35-45	35	18.4	14	23.3	49	19.6
45-60	15	7.9	6	10.0	21	8.4
Above 60 Years	1	0.5	0	0.0	1	0.4
Total Sample	190	100.0	60	100.0	250	100.0

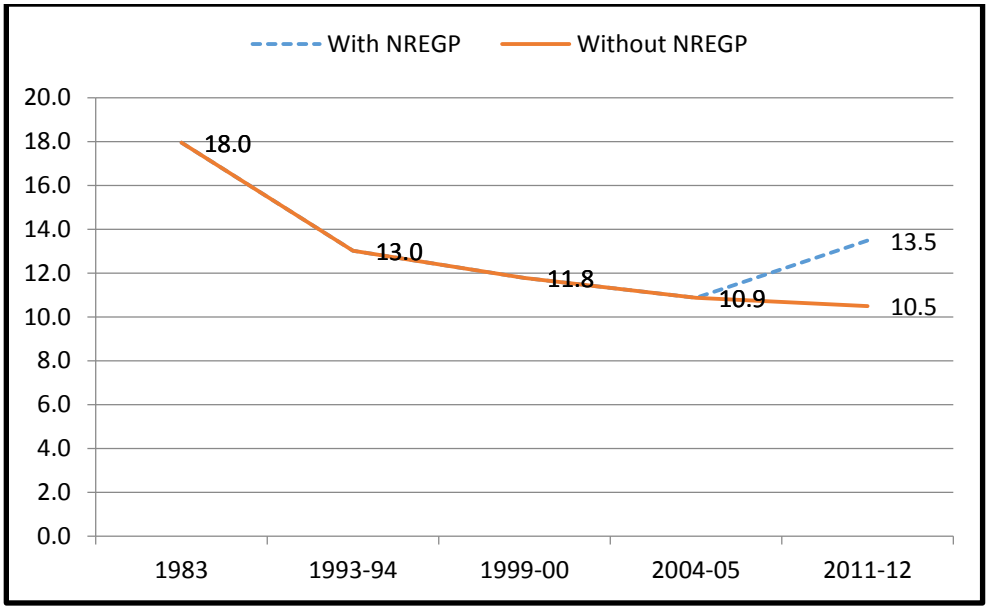
Source: Primary Survey, 2012-13

Unlike the construction industry in developed countries and in East Asia which is largely masculine, the South Asian and Indian construction industry provide evidence of the participation of both male and female labour and part of the labour mobilisation is based on family movements (parents and young children) (ILO, Suresh 2010). This study also corroborates this evidence. Moreover, it has been suggested that rising mechanisation and shift in the skill composition of the construction sector is reducing the scope of female employment in the sector, and the industry is becoming more masculinised (WIEGO, ibid.; Jhabwala and Kanbur 2002). This trend is also being experienced because large-scale construction activity involves round-the clock activity and complete control over the worker's labour time, which involves reducing the time workers can spend on personal needs and family care, including on activities such as cooking, care of children etc. Such control is more feasible with an all-male workforce in camp-like situations. Both these patterns are observable in our results.

The macro-policy significance of these results is of obvious significance. The results from the NSS employment & unemployment surveys provide an interesting insight into the macro phenomenon.

Figure 8.1

Percentage Share of Female Employment Days in the Construction Industry



Source: Computed from NSS, Employment and Unemployment Rounds, Various Rounds

Data for sex-wise distribution of construction industry employment shows that there has been a slow and steady decline in the share of female employment (in person days) in total employment. In 1983, 18 percent of total person days of employment in the industry was contributed by women (figure XX). This fell to 13 percent by 1993-94 and further to 10.9 percent on 2004-05. Following the introduction of the National Rural Employment Guarantee Programme (NREGP), the high share of female employment in the programme, which has a high proportion of construction related activity, raised the share of female employment in the industry to 13.5 percent in 2011-12. But if the public works constructed under this programme are excluded from consideration, then the share of female employment continued to decline to 10.5 percent in 2011-12. However, notwithstanding the declining share of female employment in construction, we also need to note that in absolute terms, the female workforce in construction increased from about 1 million in 1983 to 7.5 million in 2011-12.

Social Composition

As compared to the conclusions drawn in the report published by NCL (2002), the social composition of the sample workforce shows that these workers mostly belong to Other Backward Classes (OBCs), followed by the general category (Table 8.4). But 21.6 per cent workers were from SCs and 13.2 per cent were from STs – larger than their share in the total workforce. Further, while a majority of these workers were Hindus (73.2 %), Muslim workers formed a sizeable number (24.4), and only 2.4 per cent workers were Christian. This means that compared

to the general population, the lowest ranking and poorest caste groups and religious minority (SC, ST and Muslims) were overrepresented amongst construction workers.

Female workers have a larger presence in the OBC category (30.4 %), followed by STs (30.3 %) and SCs (27.8 %). Only 9.7 per cent of the general category workers were female.

Table 8.4
Workers by their Caste and Sex (row col wise %)

Caste/Sex	Male	Female	Total
ST	69.7 12.1	30.3 16.7	100.0 13.2
SC	72.2 20.5	27.8 25.0	100.0 21.6
OBC	69.6 28.9	30.4 40.0	100.0 31.6
GEN	90.3 29.5	9.7 10.0	100.0 24.8
NOT REPORTED	77.3 8.9	22.7 8.3	100.0 8.8
Total	76.0 100	24.0 100	100.0 100

Source: Primary Survey, 2012-13

Educational Levels

Table 8.5
Workers Engaged in Construction by their caste and Level of Education (%)

Caste	Below Primary	Primary	Middle	Secondary & Higher Sec	Total
ST	84.8	6.1	6.1	3.0	100.0
SC	66.7	13.0	7.4	13.0	100.0
OBC	69.6	8.9	16.5	5.1	100.0
GEN	56.5	8.1	24.2	11.3	100.0
NOT REPORTED	45.5	13.6	22.7	18.2	100.0
Total	65.6	9.6	15.6	9.2	100.0

Source: Primary Survey, 2012-13

A large proportion of the workers (65.6 %) reported either to be illiterate or had only attained below primary level education (table 8.5). Interestingly, while 9.2 per cent and 15.6 per cent workers had passed primary and middle grades respectively, around 9.2 per cent workers had studied up to secondary or higher secondary level.

In keeping with the general situation in India, the lowest educational attainment levels were among the Scheduled Tribes. Among workers belonging to the STs category, 84.8 % were either illiterate or had not achieved primary level education, as compared to 69.6 per cent OBCs and 66.7 per cent SCs.

The Pattern of Migration

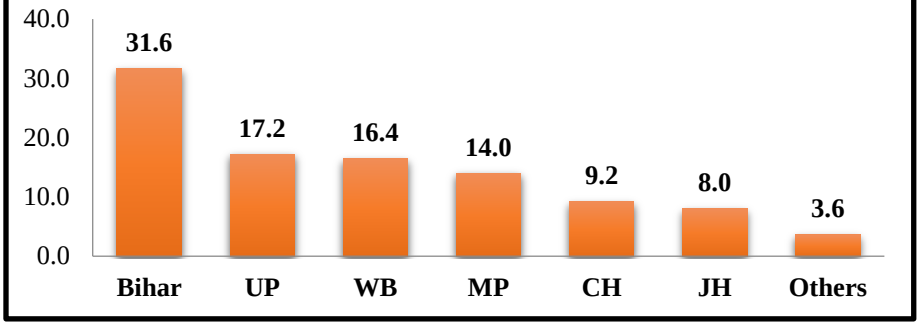
Studies of the construction sector have shown that the bulk of labourers employed in urban construction sites are migrants (for example, Vaidya 1999; Mehta 1987). Some studies have shown that 90 to 95 per cent of workers at sites are migrants (Vaijanyanta, 1998). Studies carried out at origin also show a high incidence of labour migration to the construction sector (Deshingkar et. al. (2008), Mosse et. al. (2005)).

Urban construction labour markets operate in several segments. Some proportion of labourers (either migrant or local) can be hired locally from the local labour markets which function at or near a few road crossings called labour *chowks* or *nakas*, or through informal contacts with contractors. The other segment operates through organized recruitment of seasonal migrants, We will have more to say on these segments later in this report.

We do not have clear empirical evidence of the new spatial patterns of labour mobilisation for the construction sector across India. The NSS 64th Round for 2007-08 provides some information on short duration migration (one to six months) but this is unlikely to have captured the bulk of migration flows since a high proportion of workers migrate for more than six months. There were an estimated 15.2 m short duration out migrants, of whom 12.9 m (85.1%) were male, and 13.9 m (71%) migrated from rural areas (census adjusted figures). Of the short term migrants, more than two-third migrated to urban areas. While a total of 45.1% went to other states, 36.4% of the out migrants went to urban areas in other states and 22.1% went to urban areas in other districts. But inter-state migration was more among males (47.9%) compared to females (27.5%) (Srivastava 2011c). *Construction* has emerged as the principal industry employing the short duration out migrants. 36.2% of the out migrants were employed in the construction industry, followed by agriculture (20.4%) and manufacturing (15.9). The other major industries were trade and transport (ibid.).

Some recent micro studies carried out in the Southern states indicate that labour flows to the construction sector increasingly consist of long-distance and inter-state migrants from the Central, Eastern and North-eastern regions of the country (Ajith Kumar 2011, Venkiteswaran et. al. 2013). We show later that these long-distance migration flows are not simply conditioned by earnings differentials or social networks but result from organised recruitment patterns, which appear to have been undergoing systematic changes in response to the patterns of demand. In a study of 1262 migrants across 14 districts in Kerala, Venkiteswaran et al find that 38.8 percent workers were from West Bengal, followed by Odisha (18.7%), Assam (14.9%), Uttar Pradesh (8.7%) and Bihar (5.7%). The southern states contributed less than 10 per cent of the migrant workers. This was in sharp contrast to the situation prevailing in the 1980s and 1990s. Two-third of the migrant workers in construction had worked in Kerala for less than two years. A similar percentage (of all migrants) were recruited by contractors.

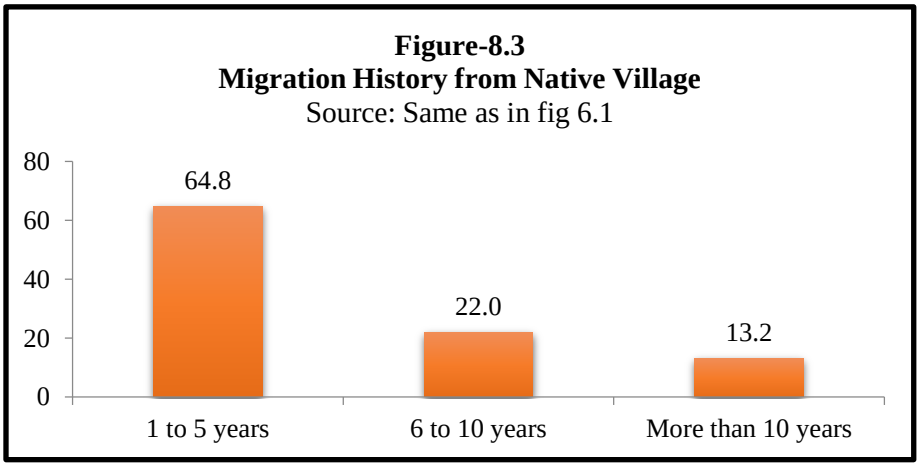
Figure-8.2
Workers By their State of Origin
Source: Same as in fig 6.1



In the sample field sites, almost all the workers (99.6 %) in the sample had migrated from other states. The information regarding the place of origin of workers shows that construction activities in Delhi, Noida and Gurgaon are highly dependent on the migrant workers from rural areas in less developed states in the Central and Eastern parts of the country.

These workers are generally migrants from Bihar, West Bengal, Uttar Pradesh, Chhattisgarh and Madhya Pradesh and, as already discussed, the majority of them were employed through labour contractors. State-wise findings reveal that 31.8 per cent workers were from Bihar, 17.2 per cent from UP, 16.4 per cent from West Bengal, 14 per cent from MP and rest from Orissa, Jharkhand and other states (Figure 8.2). Around 43.6 per cent workers reported to have migrated alone to the worksite, whereas 42.0 per cent migrated with their families. It was also found that these workers came from particular regions within the origin States. For example most of the workers from Bihar belong to its northern region from the districts of Saharsa, Madhepura, Purnea and Sitamadhi. Similarly in Uttar Pradesh, the workers came from Badaun, Jhansi, Bareli, Rampur and Gorakhpur districts in the Rohilkhand, Eastern and Bundelkhand regions of the State. In West Bengal, the migrants originated from Murshidabad and Malda districts in northern Bengal, whereas in Madhya Pradesh they belonged to districts like Chhatarpur and Mandla, in the Bundelkhand, Baghelkhand and South-western regions of the State.

Figure-8.3
Migration History from Native Village
Source: Same as in fig 6.1



In terms of duration of migration it was observed that most of the workers have a recent history of migration. Almost 64.8 per cent workers had migrated to the present destination between 1 to 5 years. 22 per cent had begun migration between 6 to 10 years ago, and only 13.2 per cent had a migration history of more than 10 years (figure 8.3).

The data on migration reveals that 96.8 percent migrants undertook migration from native places in search of work. Irrespective of the length of their migration histories, a majority of migrants migrated with family members or with kinsfolk. Around 51.9 per cent of recent migrants (migrating between 1 to 5 years ago) migrated with their family members (table 8.6). Family migration was more predominant among migrant workers from Bihar, UP, Chhattisgarh and MP.

Most migrant workers (87%) still consider their native place as their primary residence. About 13 per cent reported having migrated permanently to the current location and most of them were family migrants. A high percentage of these workers (71.7 %) said that they visited their native place at least once in a year at the end of working season or whenever out of work. Around 17 per cent reported visiting their visited native place sometimes, when unemployed, or during holidays. Nearly 12 per cent workers either did not visit their native place or made visits only on special occasions.

Table 8.6
Migration Type and Its History

Year/Type	Alone		Family Members		Others		Total	
	Number	%	Number	%	Number	%	Number	%
1 to 5 years	72	44.4	84	51.9	6	3.7	162	100.0
6 to 10 years	22	40.0	29	52.7	4	7.3	55	100.0
than 10 years	15	45.5	18	54.5	0	0.0	33	100.0
Total Sample	109	43.6	131	52.4	10	4.0	250	100.0

Source: Primary Survey, 2012-13

Economic Background

The survey shows that about half of the sample workers (104) and their family do not own land (agricultural land or kitchen garden) at the native place. This is below the national average in rural areas. The average size of operational land holding in India has reduced from 2.28 hectare in 1970-71 to 1.16 hectare in 2010-11 (NABARD Rural Plus, 2014).

Among those who had land, about 20.8 per cent of them possessed less than one acre of land. Around 23 per cent workers owned between 1 to 3 acres of land, whereas 9.6 per cent of them reported owning more than five acres of land (table 8.7). Most of the workers owning marginal or small sized land holdings belonged to MP and Chhattisgarh, and from areas with rainfed agriculture where land was single cropped and had otherwise low productivity.

Table 8.7
Land Holding at Native Place

Yes	146
No	104
Size of Holding	
≤ 1 acre	52 (20.8)
1-3 acre	57 (22.8)
3-5 acre	13 (5.2)
≥ 5 acre	24 (9.6)
Total Sample	250 (100.0)

Source: Primary Survey, 2012-13
Figures in brackets are in percentage

The primary source of livelihood of the landless workers (both without land and owning less than one acre) was casual labour. Three-quarter of the workers reported depending on casual work as the main source of livelihood in the native places (table 8.8). Again, this is well above the national average. Lack of employment opportunity throughout the year and landlessness are some of the important reasons which force the workers to migrate from native place.

Table 8.8
Main Source of Livelihood by Size of Land Holding

	Casual Work	**Farming**	**Others**	**Total**
Zero land Holding	52.4	3.9	25.0	41.6
≤ 1 acre	23.0	7.8	50.0	20.8
1-3 acre	18.8	39.2	12.5	22.8
3-5 acre	2.1	15.7	12.5	5.2
≥ 5 acre	3.7	33.3	0.0	9.6
Total	100.0	100.0	100.0	100.0

Source: Primary Survey, 2012-13

9. The Labour Process

With its evolution, it is argued that the large-scale construction industry has become fordist in character, with the control over design and planning passing into the hands of the managers and architects, and the craftsmen and skilled workers reduced to the level of implementers of a component of the manufacture (Chang 2008). They also function as gang leaders and sub-contractors responsible for extracting work from the helpers and unskilled labour force under them.

The construction industry in India continues to be dominated by manual and labour intensive methods. But substantial technological changes have occurred in both the two main segments of industry. These range from simple but widely prevalent changes involving the use of concrete mixers, earth diggers and earth moving equipment to more complex machinery. These changes should have affected the pattern of labour use in the industry in favour of new types of skills, but results continue to show stagnant labour productivity in the sector which is a paradox.

Table 9.1
Percentage Distribution of Workers by Type of Work Performed

	Number	%
Manual Labourer	170	68.0
Mason	54	21.6
Carpenter	7	2.8
Steel Bender	7	2.8
Electric Welder	6	2.4
Signalman	3	1.2
Concrete Worker	2	0.8
Scaffolder	1	0.4
Total	250	100

Source: Primary Survey, 2012-13

As noted earlier, the different stages of production in construction require different types of work/skills and, therefore, different types of workers are engaged according to their demand as well as their specialisation for a particular work. Manual workers along with skilled workers like mason, scaffolder, steel bender, plumber etc. are required at the initial stage of excavation and preparation of structure. Finishing and service firms employ more skilled workers (carpenter, electric welder, electricians, etc.). Thus various types of workers are involved in the sector. The composition of the sample workforce by types of work undertaken by the workers is shown in Table 9.1. Among the 250 workers who were interviewed, 68 per cent were low skilled manual workers. The rest were semi-skilled and skilled workers. Thus the proportion of skilled to unskilled workers was about 1:2. Of the 32 per cent workers who are skilled, 21.6 per cent were masons, followed by carpenters (2.8 %), steel binders (2.8 %), electric welders (2.4 %), signalmen (1.2 %), and scaffolder (0.4 %). The concrete workers (0.8 %) could also be treated in the category of manual workers as they do not require informal or formal training (table 9.2).

Table 9.2
Workers by their Skills and Origin

	Skilled Workers	Unskilled Workers	Total
Bihar	56.4	20.3	31.6
Uttar Pradesh	6.4	22.1	17.2
Madhya Pradesh	11.5	15.1	14.0
West Bengal	11.5	18.6	16.4
Chhattisgarh	9.0	9.3	9.2
Jharkhand	1.3	11.0	8.0
Others	3.8	3.5	3.6
Total	100.0	100.0	100.0

Source: Primary Survey, 2012-13

It was observed that that several skilled workers were long term circular migrants, who preferred to move from one site to another either with the same labour contractor and team leader, or with a new one. A majority of the skilled workers in the sample came from Bihar (56.4%), followed by those from Madhya Pradesh (11.5%), West Bengal (11.5%), Chhatisgarh (9.0%) and Uttar Pradesh (6.4%). Workers from Bihar, Madhya Pradesh and Chhattisgarh region were more likely to migrate with their family (in most cases with their spouse) and stay for longer time at destination, while workers from West Bengal and Jharkhand region were seasonal and short-term cyclical migrants, who came for a fixed time period.

Table 9.3
Social Groups and Level of Skill of Workers

Caste	Skilled	Unskilled	Total
ST	15.2	84.8	100.0
SC	27.8	72.2	100.0
OBC	26.6	73.4	100.0
GEN	43.5	56.5	100.0
Not Reported	45.5	54.5	100.0
Total	31.2	68.8	100.0

Source: Primary Survey,2012-13

The percentage of unskilled workers was highest for ST workers, followed by OBC and SC workers (73.4% and 72.2% respectively). Workers belonging to the general castes had the highest percentage of skilled workers (43.5%) (table 9.3).

Further, a classification of the construction types and skills requirement reflects that almost in the entire three type segment of sites chosen by us, the ratio of skill to unskilled workers in the sample was30:70 (table 9.4).

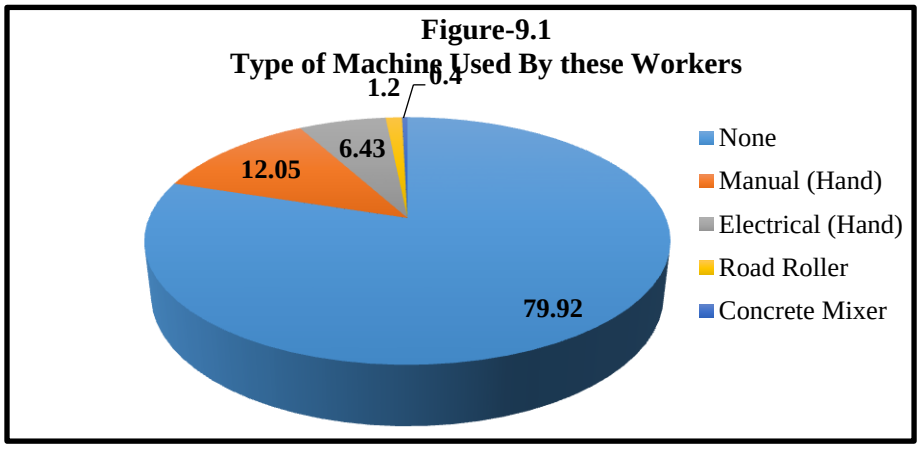
The types of machine and tools and their use reveals that most of the workers interviewed did not use any machines and tools. About 80 per cent workers in the survey did not use any machines

and tools in the construction activity while 12.05 per cent workers used hand operated manual tools and 6.4 per cent use hand operated electrical machines in their work. Only 1.2 per cent workers in the survey reported using use high technology machines such as road roller (figure 9.1)

Table 9.4
Workers by Type of Construction Types and Skill Level

Types	Skilled	Unskilled	Total
Residential	31.8	68.2	100.0
Non-residential	30.2	69.8	100.0
Infrastructure	32.0	68.0	100.0
Total	31.2	68.8	100.0

Source: Primary Survey, 2012-13



Source: Primary Survey, 2012-13

Gender based segmentation of construction has been the focus of a number of studies (Manohar et al 1981, Pandey 1998, SEWA. WIEGO, Shivakumar et al, 1991, Barnabas et. al., Kakad 2002, Parry 2014). One aspect of this segmentation appears in the form of skilled-unskilled work. Female labour is at the bottom of the work hierarchy with virtually no chances of skill acquisition and upward job mobility (WIEGO).[7]Women migrant labourers act as assistants to their spouses, and confined to unskilled jobs, principally as head loaders. The consequential segmentation is used as a justification for low payments. In this study, all women workers surveyed were unskilled workers. Later in this report, we will explore other aspects of gendered segmentation and discrimination of labour markets in the construction industry.

Recruitment processes in the organised construction industry are predominantly informal, with little difference between skilled and unskilled (manual) workers. The labour (sub-contractor) at the local level plays a major role in influencing the workers' decision to migrate. In the sample,

[7] http://wiego.org/informal-economy/occupational-groups/construction-workers.

nearly two-third of the workers (64.1% of skilled workers and 65.7% of the unskilled workers) reported that the labour contractor influenced their decision to migrate.

Table 10.1
Entry to the Job Market by Type of Skills and Gender

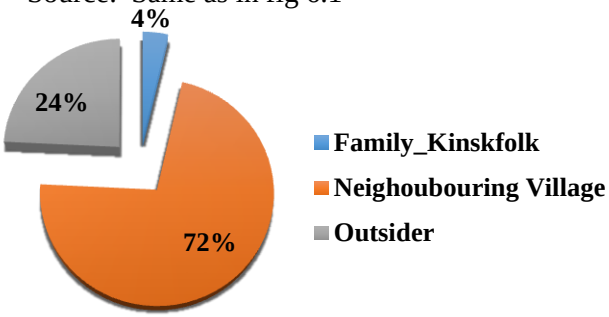
Access Employment/Gender	Skilled Workers			Unskilled Workers		
	Male	Female	Total	Male	Female	Total
Labour Contractor	64.0	66.7	64.1	67.8	61.4	65.7
Relatives/Acquaintances	30.7	0.0	29.5	21.7	26.3	23.3
Direct Approached Employer	4.0	0.0	3.8	8.7	10.5	9.3
Approached by Employer	1.3	0.0	1.3	0.9	1.8	1.2
Employment Agency	0.0	33.3	1.3	0.9	0.0	0.6
Total Sample	100.0	100.0	100.0	100.0	100.0	100.0

Source: Primary Survey, 2012-13

Around 29.5 per cent skilled workers and 23.3 per cent unskilled workers entered the job market through relatives or acquaintances. There are some workers who directly approach the final employer (firm). Results show that 3.8 per cent skilled and 9.3 per cent unskilled workers directly approached the firm, whereas 1.3 per cent skilled and 1.2 per cent unskilled workers were approached by the firm or manager (table 10.1).

Most of the labour contractors who initially approached both the skilled and unskilled workers live in the same or neighbouring villages (72%) or were family members or kinsfolk of the workers (4%) (figure 10.1). But about a quarter of workers (24%) reported being approached by outside contractors.

Figure 10.1
Relation with the Labour Contractor
Source: Same as in fig 6.1



Results show that workers from the general caste and OBC categories were more likely to approach the labour market through social networks (relatives and friends) or directly approach firms and their employees for jobs, and that for ST workers, labour contractors were the first point of contact with the labour market (Table 9.1), although the labour contractor did remain the most important point of contact across castes/ communities. Among General caste category

workers 58.4 per cent approached their jobs in the industry through contractors, 27.4 per cent through relatives and acquaintances, and 11.3 per cent approached the firms or their employees. The corresponding figures for OBC workers were quite similar - 59.5 percent, 27.8 per cent and 10.1 per cent respectively. For SC workers, these figures were 66.7, 25.9 and 7.4 respectively while for ST workers, the corresponding figures were 78.8 percent, 18.8 percent, and nil, respectively (table 10.2).

Table 10.2
Recruitment Pattern by Social Group of the Workers

Access to Employment	ST	SC	OBC	GEN	Not Reported	Total
Labour Contractor	78.8	66.7	59.5	58.1	81.8	65.2
Relatives/Acquaintances	18.2	25.9	27.8	27.4	18.2	25.2
Direct Approach to Employer	0.0	7.4	10.1	11.3	0.0	7.6
Approached by Employer	3.0	0.0	1.3	1.6	0.0	1.2
Employment Agency	0.0	0.0	1.3	1.6	0.0	0.8
Total Sample	100.0	100.0	100.0	100.0	100.0	100.0

Source: Primary Survey, 2012-13

We have noted earlier, based on our qualitative evidence, that the majority of the workers (both skilled and unskilled) in the construction sector are recruited through labour contractors (either origin based or destination based). Indeed, contractor-based recruitment plays a very large role in the construction industry, and even in cases where relatives, kinsfolk or friends provide the initial motivation and facilitate access, the actual recruitment may be done by contractors.

Analysis shows that 84 per cent workers consider labour contractors as their employers and the remaining 16 per cent consider themselves to be directly employed by firms or by manager/supervisors. Among skilled workers, 88.5 per cent considered contractors as their employers, while 82 per cent of unskilled workers considered them as employers (table 10.3).

Table 10.3
Current Employment of Workers by Their Skill Level and Employer

Work Nature/Employer	Owner	Manager	Contractor	Others	Total
Skilled Workers	9.0	2.6	88.5	0.0	100.0
Unskilled Workers	7.0	9.9	82.0	1.2	100.0
Total	7.60	7.60	84.00	0.80	100.0

Source: Primary Survey,2012-13

A cross tabulation of how workers initially approached the labour market and their actual employer (as perceived by them) presents an interesting picture (Table 10.4). Nearly two-thirds of the workers who initially approached the labour market through relatives and acquaintances ended up being recruited and employed by contractors.

Table 10.4
Entry to the Job Market by Type of Employer

Access Employment	Owner	Contractor	Total
Labour Contractor	4.3	95.7	100.0
Relatives/Acquaintances	34.9	65.1	100.0
Direct Approach to Employer	52.6	47.4	100.0
Approached by Employer	100.0 (3)	0.0	100.0
Employment Agency	50.0 (1)	50.0 (1)	100.0
Total Sample	16.0	84.0	100.0

Source: Primary Survey, 2012-13
Note- Figures in brackets are in absolute number.

Even among workers who approached the firms or their employees, 47.4 per cent were recruited by contractors. But more than 95 per cent of workers who entered the job market through labour contractors also got employed by them and only 4.3 per cent of them perceived having an employment relationship with the firm (table 10.4).

Advances:

The system of advances is deeply embedded in the organised recruitment system, when workers are recruited over long distances. As far as the worker is concerned it provides a financial resource which can be used to meet outstanding commitments or leave behind some money for subsistence of the family members staying back. It also provides an assurance regarding the availability of a job at destination. From the recruiter's point of view, it provides long term labour commitment.

The debt-labour tying can take different forms and has been described by us and various other authors as neo-bondage (Srivastava 2009, Breman 2009, Picherit 2009). Shivakumar et al (1991) described a situation in which maistries gives advances and consumption loans to workers (usually their kin) which are generally rolled over from one job cycle to another ensuring an enduring commitment. But contractors and maistries are careful in keeping "bad loans" under check. Labour in large public works and construction sites is often organised through middlemen and contractors, based on the established system of advances and resulting in bondage. The case of contract labour from areas around Mahboobnagar district in Andhra Pradesh (often called *Palamuuru* labour) has drawn the attention of a number of scholars. Olson and Murthy (2000) estimated in the early 1990s that nearly 150,000 labourers seasonally migrate from this district of whom nearly 50,000 were bonded. In a survey of contract labour households in 1991 and 1994, they find that these labourers, who hail from landless or small farm households in an endemically drought prone and unirrigated region, increasingly relied on advances and loans from *maistries* (contractors) who procured their labour for construction companies on public work sites. The workers worked for about 12 hours each day, and were paid a small wage which is adjusted against advances and loans at the end of the 8 to 9 month contract period. During this time, they were provided food for themselves and their dependents, a packet of *bidis* and hair oil (all

adjusted against wages). [8] Women labourers, who not only have to hand over the advances to the men folk, were also sometimes subject to sexual exploitation at the sites (Olson and Murthy ibid.). There have been sporadic reports of bonded labour in the construction industry in several other places (Srivastava, 2005a).

The present study also shows that the system of taking an initial advance from contractors still is deeply embedded in the industry. Around 61.5 per cent of the workers reported that they received advances from the labour contractor. Among ST workers, 78 per cent had taken advances. The average amount of advance taken was Rs 5,244.

A majority (59.3 %) of them took these to meet regular expenditures of their family. Another 22 per cent workers took advances from labour contractors to repay debt and rest accepted these to meet emergency expenditures. Later, in this paper, we explore other aspects of the debt relationship as well as possible restraints on workers' mobility and job choice as a result of debts.

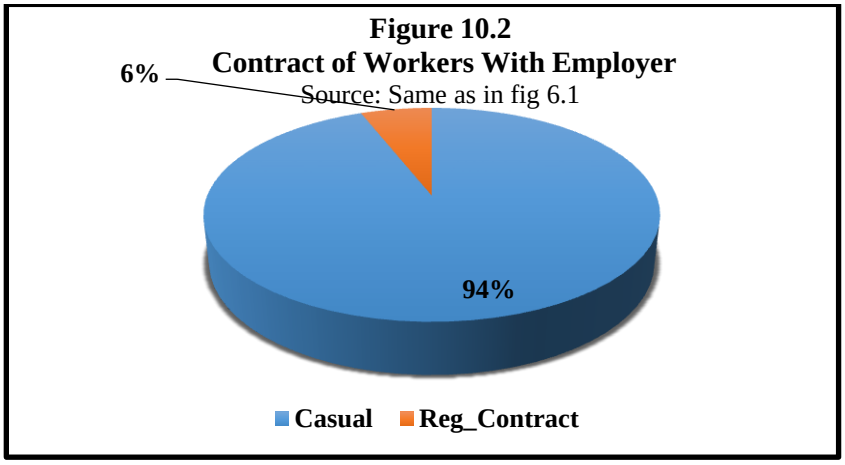
Remittance

Despite low incomes, a major proportion of the construction workers (90%) reported saving and remitting some part of their income. On average, a migrant worker saved Rs. 23,291 in the last one year.

A majority of the workers used informal channels (kinsfolk, team leader) to send their savings home. Around 34.5 per cent sent their saving through banks and only 2 per cent sent through post offices. The remaining 8.5 % workers used both formal and informal channels to send remittances.

Type of Contract

Figure 10.2
Contract of Workers With Employer
Source: Same as in fig 6.1



Workers employed in the sector, below the supervisory level, have no written contract with the firm. Results show that 94 per cent of the workers in the sector consider themselves as casual

[8] In Parry's study of the construction sector in Bhilai in Chhattisgarh, where mainly local labourers were employed, there were no advances and the tying in of labour is solely done through the withholding of their payment (Parry 2014).

workers while only 6 per cent of the workers in the sample considered themselves as regular workers, on an indefinite but oral contract with their employer (figure 10.2). The casually employed were 93.2 percent among male workers and 96.7 percent among female workers.

Firms in the non-residential and infrastructure sector showed a higher percentage of casually employed workers (96.9% and 96% respectively) as compared to firms in the residential sector (91.5 % casually employed).

Table 10.5
Workers Access to the Labour Market, by Nature of Contract by Type of Skills

Access to Employment	Casual			Regular		
	Skilled	Unskilled	Total	Skilled	Unskilled	Total
Labour Contractor	64.8	65.9	65.5	57.1	62.5	60.0
Relatives/Acquaintances	31.0	24.4	26.4	14.3	0.0	6.7
Direct Approach to Employer	2.8	7.9	6.4	14.3	37.5	26.7
Approached by Employer	0.0	1.2	0.9	14.3	0.0	6.7
Employment Agency	1.4	0.6	0.9	0.0	0.0	0.0
Total Sample	100.0	100.0	100.0	100.0	100.0	100.0

Source: Primary Survey, 2012-13

Among workers reporting themselves as casually employed, 84.7 per cent were employed by contractors and 14.5 per cent by firms whereas among workers reportedly regularly employed, 26.7 per cent were employed by firms and 73.3 per cent by contractors (table 10.6). Casual work status was found to be more endemic among ST, SC, and OBC workers than among General caste category workers. Among General caste category workers, 11.3 percent reported themselves as "regular" workers compared to 61 percent ST workers, 5.6 percent SC workers, and 2.5 percent OBC workers.

Table 10.6
Nature of Contract by Type of Employer

	Employer			
Nature of Employment	Owner/Manager	Contractor	Others	Total
Casual	14.5	84.7	0.9	100
Regular	26.7	73.3	0	100
All	15.2	84	0.8	100

Source: Primary Survey, 2012-13

However, further analysis shows that the distinction between "casual" work status and "regular" work status, as perceived by workers, is extremely blurred. For example, when asked how their payments were calculated, 96.8 percent workers reported that this was done on a daily or hourly basis, 1.2 percent workers reported that this was done on a piece-rate or similar basis and 2

percent reported that this was done on a weekly basis. No workers reported that his/her remuneration was fixed on a monthly basis.

It is unusual for workers in the construction industry to be paid on a daily basis, even when wages are calculated on the basis of daily attendance and daily work. Workers are usually paid a sum for meeting their expenditures at the end of a fixed period, and their final accounts are settled (in the case of contract labour) at the end of their contract. In our sample, only one worker (0.4 per cent of the sample) reported receiving a daily wage; 9.2 per cent said that they received wages at the end of a week or fortnight; 76 per cent said that they received wage payments at the end of a month, whereas 14.4 per cent said that their wages were paid at the end of the working season. Of those who were paid at the end of the working season, 97.2 per cent were employed with contractors.

Steady and continuous employment relationships are rare in this industry. Findings show that most workers appointed by owners or labour contractors have a relatively short employment history with their present employer. Nearly 68.4 per cent of all workers reported to be in continuous employment for less than a year, while 27.6 per cent had been in employment with their present employer for two to five years, and the remaining four per cent were associated with the present employer from more than 6 year (table 10.7).

As compared to 67.4 per cent unskilled workers, a slightly larger percentage of skilled workers (70.5 %) had been in continuous employment for less than one year. On the other hand, however, 5.1 per cent skilled workers had been in continuous employment for more than five years, compared to 4.5 per cent unskilled workers. But the differences between the two categories are not significant.

Table 10.7
Period of Continuous Employment by Nature of Work

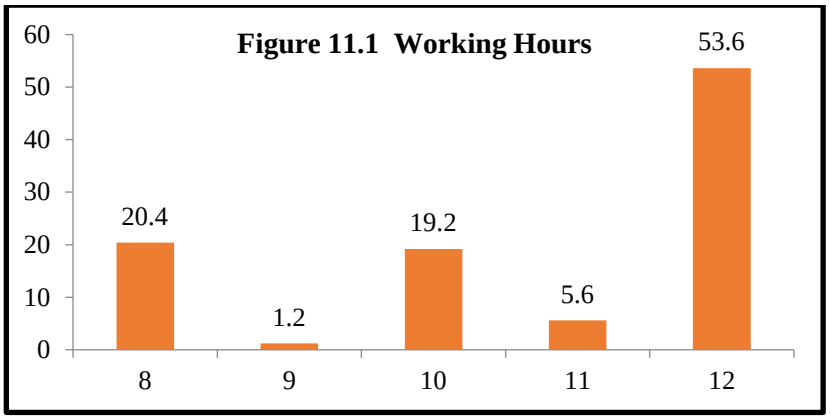
	Skilled	**Unskilled**	**Total**
Up to 1 Year	70.5	67.4	68.4
2 to 5 Years	24.4	29.1	27.6
6 to 10 Years	3.8	2.9	3.2
above 10 Years	1.3	0.6	0.8
Total	100.0	100.0	100.0

Source: Primary Survey, 2012-13

11. Working Conditions

Some of the principal aspects of the working conditions in the large construction sites in India are long working hours (usually 10 to 14 hours), non-payment of overtime and even of the legally stipulated minimum wages and poor safety conditions (Srivastava 2014b). But while non-payment of minimum wages and overtime, and poor safety conditions are widely prevalent across almost all types of sites, working hours tend to vary. Some studies have reported that the general working hours on small sites are around eight hours, except where piece rated and sub-contracted work was involved (van der Loop 1996; Srivastava 2014b). The latter study also notes that wages paid for an eight hour work day were higher in the smaller sites compared to the larger sites, where organised recruitment processes dominated.

This study confirms that working hours in the organised construction industry are typically long. Only about 20.4 percent of the workers reported to be working for eight hours a day. Almost a similar percentage worked for nine or ten hours a day, while nearly sixty percent workers worked for 11 or 12 hours a day (figure 11.1).



Source: Primary Survey, 2012-13

The extraordinary high intensity of work is also reflected in the number of days of work per week, as well as per month, put in by the workers. Almost half the workers (49.2 %) reported working for all seven days in the reference week, while 43.2 percent reported working six days a week and 7.6 percent reported working less than six days in the reference week.

As many as 27.2 percent workers reported working all thirty days in the reference month, while 26 per cent reported working 27-29 days in the month, and 36 percent worked for 25 or 26 days in the month, with 10.8 per cent workers reporting that they had worked for 24 days or less in the last month. There are some differences in the work intensities across sexes, firm types, type of employer, and skill level, which are shown in Table 11.1.

The average intensity of work is higher for male workers compared to female workers. The former work for an average of 11.1 hours per day, 6.4 days per week and 27.1 days per month. The latter work for 9.6 hours a day, 6.2 days per week, and 26.1 days per month. Intensity is also

higher for skilled workers than unskilled workers. The former work for an average of 11 hours a day, 6.3 days a week, and 27.1 days a month, while unskilled workers work for an average of 10.6 hours a day, 6.3 days per week and 16.7 days per month.

Table 11.1
Working Condition in the Industry

Average Working Period		Worked in a Week	Worked in a Month	Working Hours in a Day
Gender	Male	6.4	27.1	11.1
	Female	6.2	26.1	9.6
Skill Type	Skilled	6.4	27.1	11.0
	Unskilled	6.3	26.7	10.6
Employer	Owner	6.4	26.7	9.8
	Contractor	6.3	26.9	10.9
Construction Type	Residential	6.3	26.6	10.7
	Non-residential	6.4	26.7	10.4
	Infrastructure	6.1	29.0	12.0

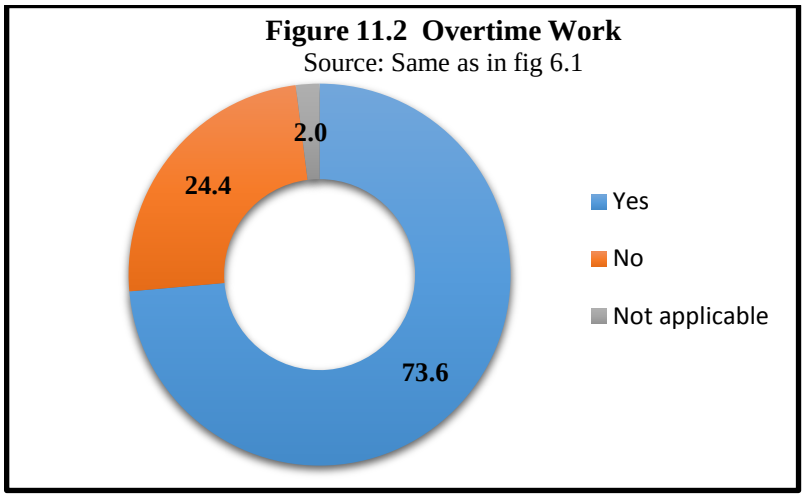
Source: Primary Survey, 2012-13

The work intensity of workers hired by contractors is significantly higher than those hired by firms in terms of working hours (10.4 and 9.8 respectively), but the number of days worked per week and per month is marginally higher for directly hired workers, reflecting greater stability in their employment.

Across types of construction activity, work intensity is higher in the infrastructure sector but differs very little between the residential and non-residential segments. Surprisingly, it is higher for skilled workers than unskilled workers. The direction in the differences in work intensity between skilled and unskilled workers, and male and female workers persist even if we exclude the infrastructure site which has only male workers and a higher proportion of skilled workers, and which also showed a the highest work intensity among the three segments.

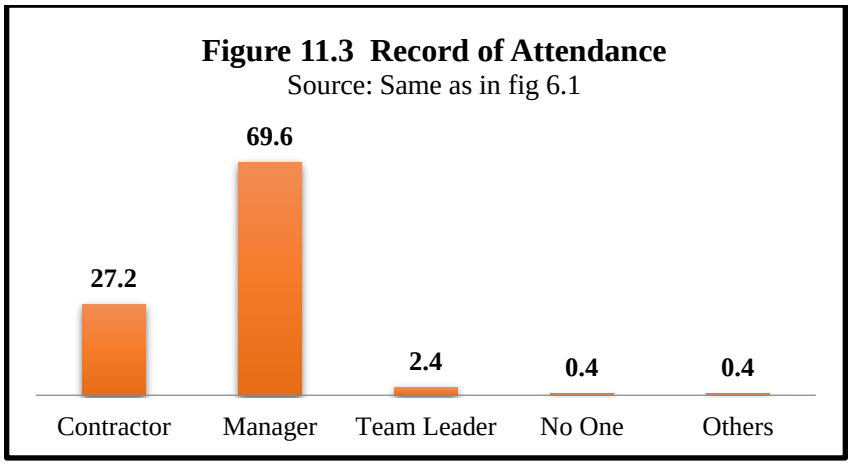
A total of 184 workers (73.6 %) reported that they work overtime, which varies between 2 to 4 hours a day depending upon the intensity of the work (Figure11.2). Twenty-four per cent do not work on overtime, and two per cent replied that the overtime work did not apply to them. It was also found that most of the women workers do not prefer to work on overtime because of their involvement in household work.

Out of the total sample of 250 workers, 199 or 79.8 per cent reported working for more than eight hours a day. Out of these workers, 21 workers were contracted to work for longer work hours on a lump sum wage contract for a fixed period and they did not consider the issue of overtime as being applicable to them. The remaining 178 workers were asked if they received any overtime rate for additional work, and if so, what was this rate.



Out of these workers, a small percentage (6.7 percent) responded that they did not receive an overtime wage. Effectively, these 12 workers were in a similar category as 21 other workers who were contracted in to work for longer hours at a fixed wage. The remaining 93.3 per cent workers reported receiving wages for overtime work. The industry norm as per our findings was clearly 100 per cent overtime rate as compared to the legal norm of 200 percent. While 99.4 per cent of the workers reported receiving a single overtime rate, only one worker (0.6 per cent of the workers working on overtime basis) reported receiving a double overtime rate, as stipulated by law. Thus the industry and contractors by-passed the legal overtime requirement rates by either making fixed period contracts with inbuilt longer working hours or paying single (100%) overtime rates.

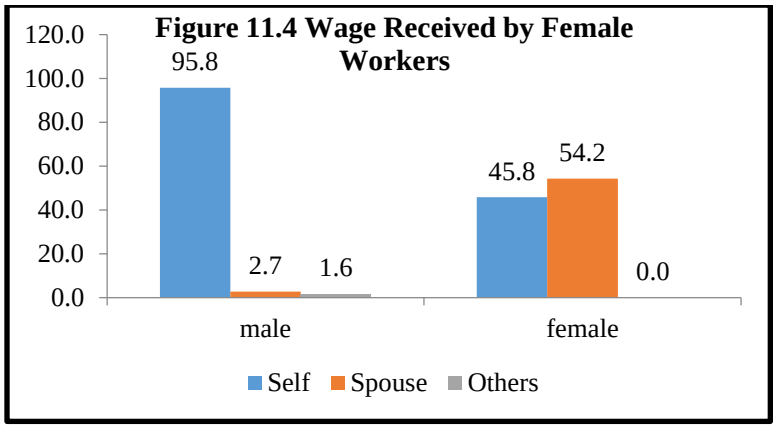
But there are several features of the process of recruitment and extraction of labour from the workers which ensures their disciplining on site and during the process of production. These features, however, could vary quite significantly, depending on the characteristics of the area where construction is carried out, the nature of the construction activity and the principal actors involved.



In the large construction sites surveyed, the record of the labourers' attendance was generally maintained by the employees/supervisors of the (tier 2 or tier 3) contracting firm, and they also supervised his/her work, whereas the labour contractor or his agent ensured that the worker was present and worked during the designated hours and maintained a shadow record of his / her attendance. More than 70 per cent workers reported that their daily work was supervised by a manager, followed by 27 per cent who reported that this was done by the contractor or his agent and rest 2.8 per cent by team leaders.

The daily records of attendance and working hours are also kept by the manager/employer or his agents. Around 70 per cent of them replied that the manager or his agents keep the daily records of the attendance (figure11.3), whereas 27.2 per cent of them said that this was done by labour contractors.

Wages were disbursed by the contractor in 84.4 per cent cases, while the firm's employees or team leader disbursed wages in 15.6 per cent cases. Interestingly, and of potential significance for gender relations between workers, in the case of female workers, their spouses received their wages on their behalf in 54.2 per cent cases (see figure 11.4).



Source: Primary Survey, 2012-13

Wage Deduction, Advances, Leaves and Holidays: It is clear from the earlier analysis that most of the workers in the construction sector are employed by labour contractors. Apart from the initial advance, workers also take ad hoc advances from time to time from their contractor. This is necessitated because workers only receive their full payments at the end of a working season or employment period, and the ad hoc advances used to meet a variety of contingency expenses. Generally workers take these ad hoc advances to meet regular expenditures or to meet unforeseen expenditures such as illness, festivals etc.

Findings show that 82.4 per cent of workers receive advances from time to time from employer or contractor. Only 17.6 per cent workers do not take advances. Out of those who take advances, 95.1 per cent received advances to meet regular consumption related expenditures. The rest 3.9

per cent took such advances to meet expenditures in emergencies and one per cent took advances for some other purposes (table11.2).

Table 11.2
Ad Hoc Advances from Employer/Contractor

Yes	206	82.4
No	44	17.6
Reasons of Wage Deduction	**Freq**	**%**
Regular Expense	196	95.1
Expenditure at Emergencies	8	3.9
Others	2	1.0
Total Sample	206	100.0

Source: Primary Survey, 2012-13

About half the workers have reported deductions from wages at the time of wage disbursement, mainly on account of repayment of initial advance or adjustment of ad hoc credit or advances.

More than 51 per cent workers reported that adjustment of ad hoc advances is the major reason for deductions in wages (Table11.3). The fieldwork did not find strong evidence of a restraint on workers' mobility on account of indebtedness. Three-quarters of the workers indicated that they could join another employer in the sector without any prior notice to the present employer. Only 19 per cent workers said that would need to give some advance notice before taking up another employment, while 4 per cent said that they would need to clear the debt and advances that they had taken from the present employer before joining to new employer (figure11.4). The classic link between indebtedness and labour bondage seemed to apply to a small percentage of workers.

Table 11.3
Deduction of Wages

Yes	127	50.8
No	123	49.2
Reasons of Wage Deduction	**Freq**	**%**
Adjustment of Initial Advance	56	44.1
Adjustment of ad hoc advances/credit	65	51.2
Poor Quality Work	6	4.7
Others	127	100.0

Source: Primary Survey, 2012-13

As shown earlier, the normal working hours in the construction industry varies from 8 to 12 hours. During this time, the workers get one break of about an hour for lunch. Breaks for tea vary. About a fifth of the workers report that they had no tea-break. Five per cent of the workers had a single tea break but most workers reported getting two to three breaks for ten to 20 minutes. Female workers get some time off to breastfeed their infants.

Figure 11.4 Requirement, if any, before taking up another job (% to total workers)
Source: Same as in fig 6.1

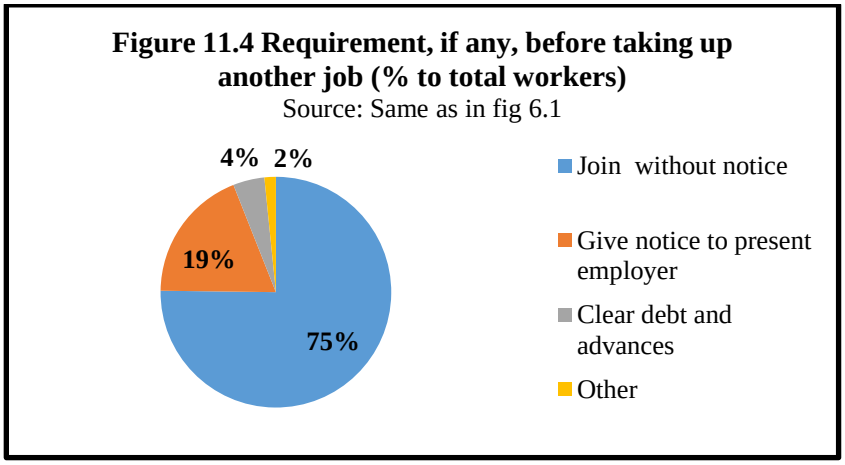


Table11.4
Weekly and Public Holidays

	Weekly Off		Public Holiday	
Yes	59	23.6	235	94.0
No	181	72.4	15	6.0
Sometimes	10	4.0		
Getting Paid	**Freq**	**%**	**Freq**	**%**
Yes	4	5.8	0	
No	65	94.2	15	100.0

Source: Primary Survey, 2012-13

While 23.6 per cent workers reported getting a day off every week, and another four per cent that they had a weekly day off sometimes, 82.4 per cent of workers did not get a weekly day off. Out of those who did get a weekly day off, either regularly or sometimes, one worker had a paid weekly holiday, the rest did not receive any wages for that day. Getting a weekly day off was more likely in the infrastructure site, followed by the non-residential sites, with the lowest percentage of workers reporting this facility in the residential site. We could find little difference across types of employers – a roughly similar percentage of workers whether employed by contractors or firms reported getting an (unpaid) weekly holiday.

Surprisingly, while 94 per cent workers responded that they got public holidays, they were unpaid in all cases (Table11.4). Workers were not entitled to any other kind of paid leave, whether casual leave, earned leave, sickness leave or maternity leave.

12. Wages and Earnings

The availability of employment and the pattern of earning in the construction industry are the major factors influencing the decision of workers to migrate from the native place to the present destinations. Lack of continuous employment and livelihood, lower wages, and the rationing of work in public employment work programmes such as the MNREGA, forces the workers to migrate for better earning prospect in this industry. Further, entry barriers to employment in construction are relatively low, as workers do not require much skill at the entry level.

Several issues such the nature of employment available in this sector, the analysis of prevalent wage payment systems in the field sites, the mode of determination of wages, overtime rates and receipt of wages, have been discussed in the earlier sections. In this section we have compiled and analysed the results of wages and earnings of workers in the industry on the basis of the field results.

Payment and Wage Structure:

Method of Payment:

Some studies (such as Kalyan, 2007) pertaining to construction industry have pointed out that in large construction sites workers generally receive wages from the labour contractor. Results based on this survey also reveal that more than 80 per cent workers received their wages from the labour contractors. However, 14.8 per cent workers received wages from the manager of the firm (table12.1).

Table 12.1
Disbursement of Payment

	Residential	Non-residential	Infrastructure	Total
Contractor	80.6	85.4	100.0	84.4
Manager	19.4	12.5	0.0	14.8
Team leader	0.0	2.1	0.0	0.8
Total	100.0	100.0	100.0	100.0

Source: Primary Survey, 2012-13

Interestingly, in the infrastructure segment almost all the workers got their wages from labour contractors. In most of the cases it was observed that the wage rate was also decided by the labour contractors.

Seventy-six per cent of workers received their wages on monthly basis. However, 14.4 per cent of workers received wages at the end of their employment period (table12.2). It was also found that a majority of the skilled workers (89.7%) got wages at the end of the month, whereas around 70 per cent unskilled workers received wages on a monthly basis and 18.6 per cent received wages at the end of the working season. Only 4 per cent of workers received wages either daily (0.4 %) or weekly (3.2 %). Almost 96 per cent of workers receive payment calculated at a daily rate (table12.3). This included around 96 per cent of skilled workers and 96.5 per cent of unskilled workers. Only 2.6 per cent skilled workers and 1.7 per cent unskilled workers reported receiving weekly wages and 1.3 per cent skilled workers reported working on piece rate basis.

Overall this reflects the contractual nature of job where workers are mostly recruited at daily basis for a certain time period with no written contract.

Table 12.2
Frequency of Payments

	Skilled		Unskilled		Total	
	Number	**%**	**Number**	**%**	**Number**	**%**
Daily	1	1.3	0	0.0	1	0.4
Weekly	3	3.8	5	2.9	8	3.2
Monthly	70	89.7	120	69.8	190	76.0
End of Season	4	5.1	32	18.6	36	14.4
Others	0	0.0	15	8.7	15	6.0
Total	78	100.0	172	100.0	250	100.0

Source: Primary Survey, 2012-13

Table 12.3
Mode of Payment by Type of Skill

	Skilled		Unskilled	
Calculation of Payment	**Number**	**%**	**Number**	**%**
Hourly	0	0.0	1	0.6
Daily	75	96.2	166	96.5
Weekly	2	2.6	3	1.7
Piece Rate	1	1.3	0	0.0
Others	0	0.0	2	1.2
Total	78	100.0	172	100.0

Source: Primary Survey, 2012-13

Wages and Remuneration

As discussed earlier, wages of manual workers in the industry (both skilled and unskilled) are fixed either for a standard work day (eight hours) or for a longer workday (10 to 12 hours). There are very few cases of piece rated wages in the sample sites and for the sample workers. We have estimated wages for a standard work day, as well as for the worker's "normal" work day, which, as we have seen, is usually more than eight hours, 10 hours on average, and also for a reference month (based on the number of days worked in the reference month, as reported by the worker).

In an earlier section, we have discussed how wages of workers are determined in the construction industry. The vast majority of these workers are recruited through contractors and their agents and their wages are fixed at origin at the time of recruitment. The wage contracts vary between migration streams in many respects. These wages are fixed for varying lengths of a working day - eight, ten or twelve hours, usually on a daily wage basis. But in the cases of workers from Malda and adjoining regions, a lump sum remuneration package is determined for two or three months

of work, which excludes the costs of transport, a cook per team of workers, and meals, which are also borne by the contractor. Workers are usually paid an advance before departure and an expenditure allowance at destination, while the balance is expected to be paid at the end of the working season. There are cases of workers contracted locally, mostly skilled workers (although these workers are also long term migrants). Some skilled and unskilled workers are also recruited directly by sub-contracting firms. These are often skilled workers or manual workers required for lighter tasks at the site, and the latter are often entrants from other jobs with a recent history in the industry.

A snapshot of the average skilled and unskilled wages reported is given in Table 12.4. We have computed wages for a standard (eight hour) work day, even where the working day is actually longer. The table 12.4 gives the wages for the standard work day, wages for the full working day (after accounting for overtime rates, if any), and monthly earnings (after accounting for the number of working days reported per month.

Table 12.4
Wage Earnings of Workers

		Male	Female	Total
Skilled workers				
	Wages per Std. Day	247	-	247
	Wages per Full Day	338	-	338
	Earnings per month	9185	-	9185
Unskilled workers				
	Wages per Std. Day	161	147	156
	Wages per Full Day	207	175	196
	Earnings per month	5616	4596	5266
Total				
	Wages per Std. Day	195	147	183
	Wages per Full Day	259	175	239
	Earnings per month	7025	4596	6442

Source: Primary Survey, 2012-13

The average standard wage for skilled male workers was found to be Rs 247, while that for male unskilled workers was Rs 161, the former being about fifty per cent higher than the latter. Monthly earning for unskilled workers was Rs. 5616, while that for skilled workers was Rs. 9185 or nearly 75 per cent higher. This is on account of higher work intensity reported by skilled workers. Female unskilled standard wages were Rs 147 per day or about 91 per cent of male wages but monthly earnings of female workers was about 82 per cent of male workers.

Table 12.5
Wage Dispersion of Skilled and Unskilled Workers

Wage per std. day	Skilled – Male		Unskilled - Male		Unskilled – Female	
(Range in Rs.)	Number	Percentage	Number	Percentage	Number	Percentage
<= 100	0	0	5	4.4	0	0
101 - 150	3	4	58	50.4	48	80
151 - 200	26	34.7	42	36.5	11	18.3
201-250	25	33.3	9	7.8	1	1.7
251-300	14	18.7	1	0.9	0	0
301-400	5	6.7	0	0	0	0
> 400	2	2.7	0	0	0	0
Total	75	100	115	100	60	100

Source: Primary Survey, 2012-13

As one would expect, there is a greater dispersion of wages among skilled workers than among unskilled workers, and the least dispersion exists among female unskilled workers who are confined to a few types of jobs. Eight per cent of female workers receive between Rs 101 and 150 as wages for a standard work day, whereas 58 per cent of male unskilled workers receive wages in this range and another 36.5 per cent receive wages between Rs 151 and Rs 200 (Table 12.5). In the skilled work category, 34.7 per cent workers receive wages between Rs 151 and Rs 200, while 33.3 per cent receive wages between Rs 201 and Rs 250, 18.7 per cent between Rs 251 an Rs 300 and 6.7 per cent between Rs. 301 and Rs 400.

Average surveyed wages during the reference year for the different locations in Delhi, Noida and Gurgaon are given in Table 12.6 which also gives the legal minimum wages for that year. As can be seen from the table, the legally stipulated minimum wages differ quite significantly in the three jurisdictions, increasing from NOIDA to Delhi. The minimum wage for skilled workers was Rs. 339 in Delhi, Rs. 206 in Gurgaon and Rs. 197 in NOIDA. The minimum wages for unskilled workers was Rs. 279 in Delhi, Rs. 191 in Gurgaon and Rs. 155 in NOIDA.

Table 12.6
Comparison of Surveyed and Minimum Wages

Location		Skilled Male	Unskilled Male	Unskilled Female	All Unskilled
Noida	Surveyed wages	252	151	147	149
	Minimum Wages	197	155		
Delhi	Surveyed wages	272	164	153	161
	Minimum Wages	339	279		
Gurgaon	Surveyed wages	225	164	143	156
	Minimum Wages	206	191		
Total	Surveyed Wage	247	161	147	156

Source: Based on Primary Survey, 2012-13 and Govt. Reports of Different States

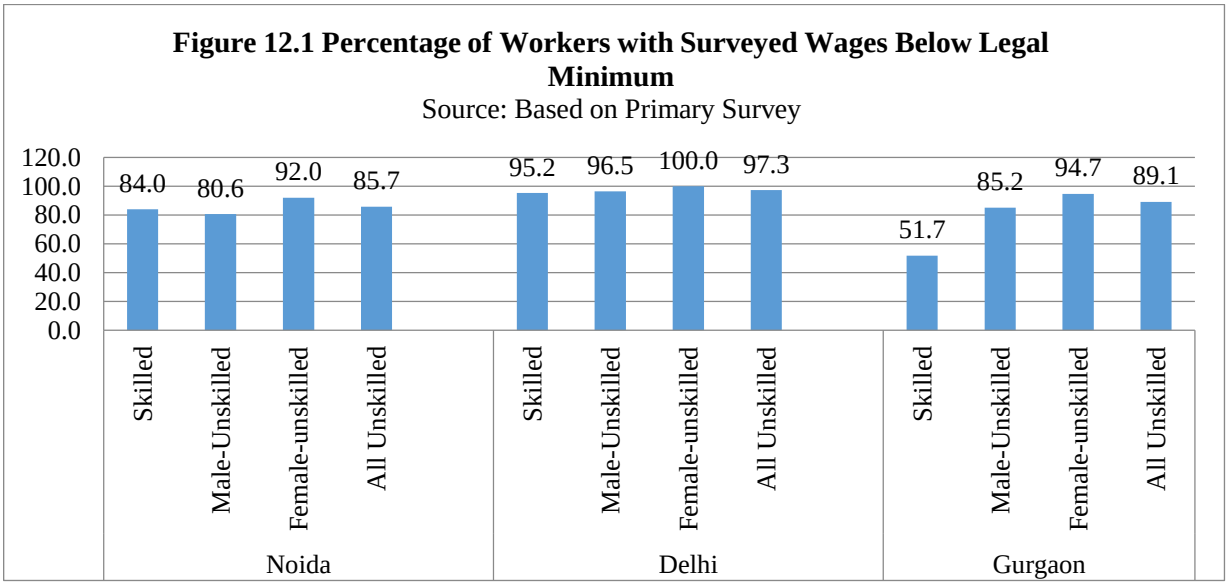
For skilled workers, the actual average standard wages reported was Rs. 225 in Gurgaon and Rs. 252 in NOIDA, both higher than the minimum wage in these jurisdictions. In Delhi, however, skilled workers received a wage of Rs. 272 for eight hours of work against the stipulated minimum of Rs. 339. But unskilled workers, both male and female, reported average wages less than the legal minimum in all three jurisdictions. Unskilled male and female workers in NOIDA reported an average wage of Rs. 151 and Rs. 147 respectively, compared to the legal minimum of Rs. 155, which, as already stated, was the lowest among the three jurisdictions. In Gurgaon, unskilled male and female workers reported a standard wage of Rs. 164 and Rs 143 respectively, compared to the legal minimum wage of Rs. 191. In Delhi, unskilled male and female workers received wages of Rs. 164 and Rs 153 respectively, as against the minimum wage of Rs. 279 per day for eight hour of work.

Figure 12.1 shows the percentage of workers by gender and skill level whose reported eight hour wages were below the legal minimum in the three states that were surveyed. Among skilled workers, 84 per cent workers in Noida, 95.2 per cent workers in Delhi and 51.7 per cent workers received lower than minimum wages.

Among unskilled workers, 85.7 per cent workers in Noida (80.6 per cent male workers and 92 per cent female workers) did not receive the minimum wage. In Delhi, 97.3 per cent unskilled workers (96.5 per cent male workers surveyed and 100 per cent female workers) did not receive legally stipulated minimum wages. Finally, in Gurgaon, 89.1 per cent unskilled labourers (85.2 per cent male and 94.7 per cent female) did not receive the legal minimum wages.

Figure 12.1 Percentage of Workers with Surveyed Wages Below Legal Minimum

Source: Based on Primary Survey



Thus, an overwhelming proportion of the surveyed workers in the highly organized segment of industry reported levels of wages that were below the legal minimum.

As discussed in earlier sections, employment in the construction industry is contractor based. Contractors derive their margins, including returns on capital outlays, either on the basis of pro-rata commission, or as a deduction from gross wages received from firms, or/and deductions

from workers' due wages. The extent to which the firms contribute towards the contractors' outlay also varies between firms.

Table 12.7
Difference Opinion about Prevailing Wage Rate

Type of Workers	Wage rate for a normal work day (according to labour contractor/supervisor)	Wage rate for a normal work day (according to labour Workers)
Mason	350-400	220-240
Carpenter	300-350	220
Bar bender	250-300	200-250
Scaffolder	200-250	200-220
Manual labourer	150-200	125-150

Source: Based on an interview at a worksite in Noida

Mapping the difference between "standard" wages quoted by the contractor or the supervisor acting on his behalf, and the wages reported by workers helps to assess contractors' margins in the industry. Interaction with firm managers and labour contractors at a site in Noida (summarised in Table 12.7) revealed that a skilled worker (involved in structure work) received between Rs. 160-250 for 8 hours of working day. For finishing and services of the construction, the rate was even higher and could go up more that Rs. 250 for 8 hours of work day. But typically since the labour contractors keep some margin for themselves, the wages received by him from the firm were higher. The table 11.7 shows that a mason gets between Rs. 220-250 for a normal working day, whereas the labour contractor takes between Rs. 350-400 from the firm owner. Similarly, a carpenter receives only Rs. 220 whereas the labour contractor takes between Rs. 300-350 for a normal work day.

Table 12.8
Wage Earnings by type of Employers

Employer & Type of Wages	Skilled Male	Unskilled Male	Unskilled Female	All Unskilled
Per Standard Day (Eight Hours)				
Owner	294	161	146	152
Contractor	242	161	148	157
Per Full Day				
Owner	402	206	164	182
Contractor	332	208	181	200
Per Month				
Owner	11172	5422	4364	4813
Contractor	8981	5643	4704	5372

Source: Primary Survey, 2012-13

A small percentage of skilled and unskilled workers are also hired directly by the firm's supervisors/managers. As discussed earlier, the unskilled workers directly hired are more likely

to be recent entrants to the industry and are involved in sundry tasks at the site. The wages received by them are similar to the wages received by the unskilled workers hired by contractors. However, as shown in table 12.8, directly recruited skilled workers (mostly hired in the local labour market or through team leaders) report higher wages than those received by their counterparts who are hired through contractors.

Further, although workers hired through contractors are employed for a smaller period per year compared to those directly recruited, their work intensity during their period of employment is higher, so that, as can be seen from the final column of the table, the gap between daily and monthly remuneration of the unskilled workers' hired through contractors and those hired directly is more than that based only on a comparison of eight hour wage rates. It is interesting that directly hired unskilled workers are not able to command a higher wage compared to those hired through contractors.

Wages by education level, gender and skill category are given in table 12.9. Within skilled (male) workers, results do not show the impact of education on skills. Workers with primary as well as secondary/higher secondary levels of education report the same standard wages (Rs 262) and workers with middle school level of education report lower wages than those who were illiterate or only with primary level of education. Among low skilled workers, however, male workers with middle or secondary level of education show somewhat higher wages (Rs. 152 for male workers with below primary level of education, Rs. 161 for those with primary level of education, and Rs 179 for those with middle level or secondary/higher secondary levels of education). However, since a higher proportion of workers with middle or secondary levels of education also tend to be skilled, these results show that the combined effect of skills with increasing levels of education on wages is positive. The average wages for workers with below primary education was reported to be Rs. 188, and for those with primary level of education was Rs 198. But workers with middle level of education earned a wage of Rs 198, while those with secondary or higher secondary levels of education received an average standard wage of Rs. 226 per day.

Among female workers, who are all low skilled and have lower levels of education, the impact of education on wages appears uncertain, with female workers with a middle level of education getting the highest wage, but those with primary education getting a lower wage than those with below primary level of education.

Table 12.9
Wages by Education Level

		Below primary	Primary	Middle	Secondary / Higher Secondary	Total
Male	Skilled workers	249	262	225	262	247
	Unskilled Workers	152	161	179	179	161
	Total	188	193	198	226	195
Female	Skilled workers	-	-	-	-	-
	Unskilled Workers	147	136	163	-	147
	Total	147	136	163	-	147

Source: Primary Survey, 2012-13

Experience in terms of number of years in the industry does not seem to affect wages in the industry. Table 12.10 shows wages by skill and gender for workers, grouped by number of years spent in the industry. No systematic relationship is observed for any category of workers, even among skilled workers. This could be both because of the pattern of recruitment and the low bargaining power of workers, and also because most workers acquire skills on the job.

Table 12.10
Wages based on Number of Years Spent in the Industry

First Job in Industry	Skilled male	Unskilled Male	Unskilled Female
less than 1 year	250	175	215
1-5 Years	235	161	143
5-10 years	264	185	146
More Than 10 Years	246	150	148

Source: Primary Survey, 2012-13

The caste-wise wage pattern has shown in Table 12.11 does not show a distinct pattern when wages are analysed across gender and skill level. But when average wage levels are considered for all workers taken together, the last column of Table 12.11 shows that average wages of workers from general castes and workers not reporting caste (mainly Muslim workers) are higher because of the mutually reinforcing skill and gender composition of these two social groups.

Table 12.11
Wages by Social Groups

Caste	Skilled Male	Unskilled Male	Unskilled Female	All Unskilled	All workers
ST	288	156	160	157	173
SC	252	162	148	157	183
OBC	247	161	140	153	175
General	235	165	146	162	194
Not Reported	259	146	158	151	200
Total	247	161	147	156	183

Source: Primary Survey, 2012-13

Table 12.12 and table 12.13 show wages across types of construction sites and types of firm ownership. Firm ownership structure here refers to tier two firms. In all cases, tier two firms are in the public sector only if tier one firms are also publicly owned.

Our sample in the infrastructure sector is small and consists of a public sector entity whose recruitment patterns, although contractor based, have responded to intense public scrutiny over wages and conditions of work. Average wages for both skilled and unskilled (male) workers were reported to be higher in the infrastructure sector, than in the residential and non-residential segments.

Table 12.12
Wages by Type of Construction

Types of Firm	Skilled Male	Unskilled Male	Unskilled Female	All Unskilled
Non-residential	244	147	149	147
Residential	242	158	146	153
Infrastructure	287	206		206
Total	247	161	147	156

Source: Primary Survey, 2012-13

Table 12.13
Wages by Type of Ownership

Public/Private	Skilled Male	Unskilled Male	Unskilled Female	All Unskilled
Public	280	188	156	179
Private	236	147	144	146
Total	247	161	147	156

Source: Primary Survey, 2012-13

The comparison between wages reported in sites where tier 2 firms are in the public sector and others where these are private sector firms is given in Table 12.13. Wages received by workers are higher in sites where tier 2 firms are public sector firms. This is despite the fact that employment of labourers in these sites is also contractor led. However, even then, the public sector sites were all located in Delhi, where minimum wages are also the highest among the three states, and a very high proportion of workers in such sites also do not receive minimum wages. This is shown in table 12.14 which shows category-wise percentage of workers whose reported average wages were below the legal minimum. As can be seen, 86.2 per cent skilled workers and 96.2 per cent low skilled workers employed in the sites under construction by public sector firms obtained wages below the leally stipulated minimum wages.

Table 12.14

Per cent of Workers Reporting Wages below Legal Minimum

		Noida	Delhi	Gurgaon
Public Sector	Skilled	-	84.2 (19)	-
	Low Skilled	-	96.2 (52)	-
Private Sector	Skilled	8.3 (24)	100.0 (3)	51.7 (29)
	Low Skilled	87.3 (55)	100.0 (22)	89.1 (46)

Source: Primary Survey, 2012-13. Note: *Figures in parentheses show total workers in that category.*

To conclude: wages are low in the organised construction industry, in relation to the legally stipulated minimum wages. Minimum wages for skilled wages do not reflect the actual premium on skills and as a result fewer skilled workers get less than minimum wages. Female wages are lower than male wages and are clustered together. Wages, which are part of the remuneration package of workers, are generally fixed at origin, by contractors, and this is the main reason why they differ between migration streams. Few workers are hired directly, and among them, unskilled workers report the same wages as those hired through contractors. Finally, sites related to infrastructure, and those under construction by public sector firms seem to pay slightly higher wages but this seems to be more a consequence of their location (in Delhi) and some greater scrutiny of the working condition of their employees.

We have noted earlier that labour costs are approximately 10 to 12 per cent of construction costs in most categories of projects. Why is it that wages remain low even in the most organized segments of the industry? This is, as pointed out above, because of the specific ways in which the contracting and the sub-contracting system operate. This leads to the question as to why these systems persist and why their use appears to have increased. ILO (2001) offers two sets of reasons, one having to do with the general advantages that the system offers for the companies and the other having to do with the changing context of the industry. Although the construction industry is a non-tradable, globalisation and competition have put a premium on low costs, and since construction costs are a major portion of capital costs there is pressure on construction costs and lowering of labour costs. Further, due to the bidding process, there is intense pressure on labour costs in the lower ends of the sub-contracting chains. Further, sub-contracting provides the advantage of flexibility in adjusting to changing labour requirements, passes on the responsibility of labour supervision to contractors, and helps in avoiding restrictive labour and welfare regulation.

13. Skills and Skill Acquisition

Skill Acquisition and Upward Mobility in the Sector: Some of the major issues such as working condition, wages and mode of payment have been discussed in the last section. It is also important to know to what extent workers in the construction industry are able to acquire skills, the modes by which they are able to do so, and whether there is a chance of upward mobility of low skilled in the sector through skill acquisition.

Table 13.1
Acquisition of Skills

Learning By Doing (on the Job)	67	85.9
Formal Training	4	5.1
Not Applicable	7	9.0
Total Skilled Workers	78	100.0

Source: Primary Survey, 2012-13

Results of the field study show that the majority of workers in the industry acquire their skill in the process of working as helpers to skilled workers. Table13.1 shows that out of the total of 78 skilled workers reported during the survey, 86 per cent of them acquired skills on the job through learning by doing. A small section of them (5.1 %) reportedly have acquired skills through formal training. Nine per cent skilled workers did not provide any conclusive answer. Most of them were semi-skilled workers. Among those who have acquired skills on the job, around 72 per cent acquired skills in masonry work, 8.9 per cent in carpentry work, followed by steel binding (4.8 %), electric welding (4.8 %) and scaffolding (1.5 %). The remaining 7.5 per cent workers acquired other skills (Table 13.2). The changing production system (from horizontal to vertical) in major cities like Delhi NCR has created requirements for new types of skills. Because of the new production system, the intensity of capital has also increased in the sector which leads to demand of more sophisticated nature of jobs.

Table13.2
Skill Acquired During the Job

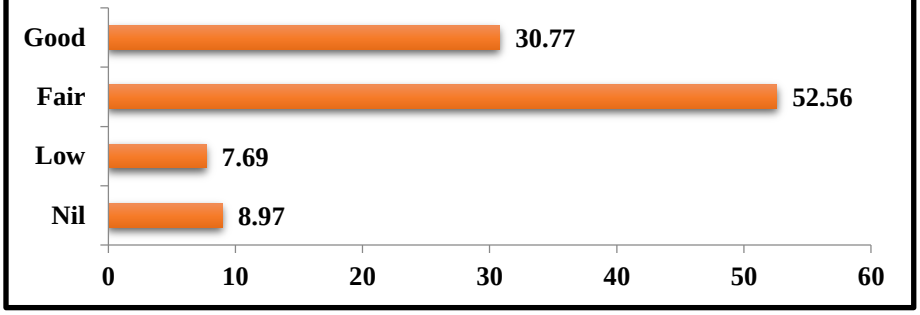
	Freq.	**Percent**
Carpentry	6	8.96
Steel Bending	3	4.48
Electric Bending	3	4.48
Scaffolding	1	1.49
Signalman	1	1.49
Masonry	48	71.64
Others	5	7.46
Total	67	100

Source: Primary Survey, 2012-13

In fact, the demand for skilled and highly skilled workers is increasing in the sector and this provides an opportunity for upward mobility for those who can acquire skills. Responses

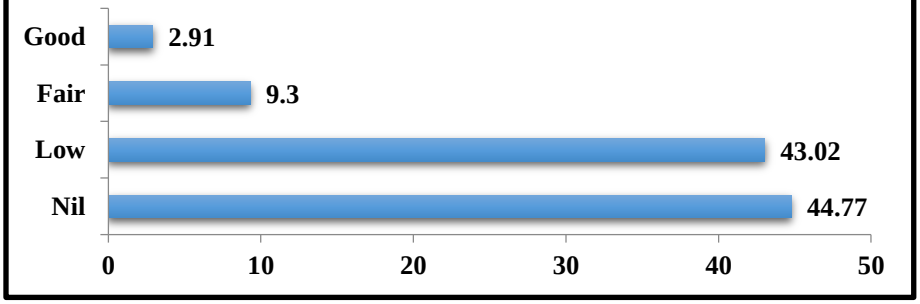
obtained from skilled workers also confirms that there is an increased demand for more skills, leading to greater scope for occupational mobility. Around 31 per cent skilled workers thought that there was a good chance of upward mobility in the sector while another 52.6 per cent reported that there were fair chances of acquiring better skills. Only 7.6 per cent and 8.9 per cent workers respectively felt that they had low or no chance of acquiring better skills in the sector (figure 13.1).

Figure 13.1
Upward Mobility in the Sector for Skilled Workers
Source: Same as in fig 6.1



In contrast, very few unskilled workers felt that they had a reasonable chance of acquiring skills. Only 9.3 per cent unskilled workers said that there was a fair chance of their acquiring better skills in the sector, while 2.9 per cent felt that they had good chance of acquiring better skills (figure13.2). As many as 44.8 per cent low skilled workers felt that they had no chances of acquiring better skills, while another 43 per cent thought that their chances were low.

Figure 13.2
Upward Mobility in the Sector for Unskilled Workers



Source: Primary Survey, 2012-13

Generally, since workers who work as helpers to skilled workers have a better chance of acquiring skills on the job, and since such jobs are more likely to be segmented along lines of gender and social networks, some groups have a distinctly lower possibility of moving up by

acquiring skills. Table 13.3 shows the responses of workers (both skilled and unskilled) categorised by gender and caste background.

Table 13.3
Chances of Upward Mobility in the Sector

	Nil	Low	Fair	Good	Total
By Sex					
male	20.0	34.7	30.0	15.3	100.0
female	76.7	23.3	0.0	0.0	100.0
Total	33.6	32.0	22.8	11.6	100.0
By Caste Group					
ST	42.4	48.5	0.0	9.1	100.0
SC	42.6	20.4	25.9	11.1	100.0
OBC	32.9	39.2	22.8	5.1	100.0
General	22.6	29.0	27.4	21.0	100.0
Not Reported	31.8	18.2	36.4	13.6	100.0
Total	33.6	32.0	22.8	11.6	100.0

Source: Primary Survey, 2012-13

The gender based segmentation which exists between male and female workers in terms of skilled and unskilled work persists even in the chances that men and women perceive in moving up the skill ladder. While 15.3 per cent male workers see their chances of acquiring skills and moving up as “good” and another 30 per cent see these chances as fair, no female workers sees her chance of acquiring skills as good or even fair and 76.7 per cent of women workers felt that their chances of acquiring skills and moving up were "nil".

In terms of social background, only 9.1 per cent ST workers see their chances of acquiring skills and moving up as fair or good, compared to 37 per cent SC workers, 27.9 percent OBC workers, 48.4 per cent General caste workers and 50 per cent workers not reporting their caste (of whom 81.8 per cent were Muslim).

14. Employment History of the Workers

The past employment profile of the workers in the construction industry shows that most of them are recent entrants. The current employment (at the worksite surveyed) was reported to be the first employment in the industry by 22.4 per cent (56 workers). The remaining workers had been engaged in the sector on other jobs/sites.

Table 14.1
Employment Profile of First-timers in the Construction Industry

First Employment in this Sector	**Yes**	56 (22.4 %)
Type of Work did Earlier in Case of First Employment		
	Freq	**%**
Cultivation	9	16.1
Agriculture Labour	19	33.9
Non-agriculture Casual labour	5	8.9
Self-Employed in Non-agriculture	2	3.6
Regular Workers in Service Sector	1	1.8
Regular Workers in Factory	1	1.8
Others	19	33.9
Total sample	56	100.0

Source: Primary Survey, 2012-13

For the first timers, 16.1 percent were cultivators, 33.9 per cent had been working as agricultural labourers, and 8.9 per cent as non-agricultural casual labourers (16.1 per cent) or non-agriculture (33.9%) casual labour. The other first-time workers were self-employed in non-agriculture (3.6%), regular workers in manufacturing or services (3.6%) or in other miscellaneous occupations or first time entrants in the labour market (33.9%) (table14.1).

Table 14.2
Period of Entry in the Industry for Previously Employed Workers

Last five years	103	53.1
Five to ten years	58	29.9
Ten to fifteen years	21	10.8
Fifteen to twenty years	11	5.7
More than 20 years	1	0.5
Total	194	100.0

Source: Primary Survey, 2012-13

As noted above, 77.6 per cent workers had been in previous jobs in the construction industry, either with the same employer or with other employers. Of these workers, 53.1 per cent joined the industry less than five years ago, while 29.9 per cent joined the industry between five and ten years ago. Only sixteen per cent workers joined the industry more than ten years ago (table 14.2).

Table 14.3
Previous Nature of Work in Industry

		Carpenter	Steel Bender	Manual Labour	Electric Welder	Scaffolder	Others	Total
Current Nature of Work in Industry	**Carpenter**	0	0	8.2	0	0	2	10.2
	Steel Bender	0	0	2	0	0	0	2
	Manual Labour	2	0	2	4.1	0	4.1	12.2
	Concrete Worker	0	0	2	0	0	0	2
	Electric Welder	2	0	0	0	2	2	6.1
	Mason	0	2	55.1	0	0	0	57.1
	Others	2	0	8.2	0	0	0	10.2
	Total	6.1	2	77.6	4.1	2	8.2	100

Source: Primary Survey, 2012-13

The data show some evidence of job mobility within the sector. Forty-nine workers reported a change in the nature of the work between the previous job and the current one. In nearly three-quarter of the cases, workers, who had worked as manual labourers, earlier reported working as masons (55.1 per cent of the total) while some took to carpentry, electric-welding, steel bending etc. However, in ten per cent cases, workers who were previously in semi-skilled or skilled jobs reported taking up manual labour (table 14.3).

Seventy per cent of workers also previously employed in the construction industry had worked only in the current destination state but 30 per cent had also worked in other states, possibly revealing a different circulatory pattern.

Table 14.4
Approximate Number of Months Worked During the Last Year

	Freq.	%
Below 6 Months	8	3.2
6-8 Months	33	13.2
8-10 Months	155	62.0
More Than 10 Months	54	21.6
Total	250	100.0

Source: Primary Survey,2012-13

There is seasonality in work in the construction industry. During interaction with workers, labour contractors and firm employees, it was clear that the months of October to June are generally regarded as a busy season in the construction sector while the period from July to September is regarded as a slack period. Workers' responses show that more than 73 per cent workers considered the period from October to May as peak season for work in the sector. Generally,

during the monsoons, firms avoid excavation and exterior work. However, at large construction sites, some work always take place and there is some evening out of seasonality. This is also shown by the number of months a year that workers report as being employed in the industry.

The survey shows that more than 62 per cent workers worked for 8 to 10 months during the last year while 21.6 per cent reported that they worked for more than 10 months during the last year. Only 3.2 per cent reported working for less than six months in a year and 13.2 per cent workers reported working for 6 to 8 months in the last year (table 14.4). Despite the fact that a large percentage of workers are engaged in the construction industry for nine or more months a year, many of them do work in other sectors in phases when they return to their native places. Nearly 60 per cent of workers report being engaged in other types of work. While 26.4 per cent of all sample workers were engaged in agricultural labour, 19.2 per cent worked as cultivators, 8.4 per cent worked as non-agricultural labourers and 3.6 per cent worked in NREGA schemes (Table 14.5).

Table 14.5
Work in Other Sectors in a Year

Type of Work	By Gender		By Skill level		
	Male	Female	Skilled	Unskilled	Total
Cultivation	24.74	1.67	25.64	16.28	19.2
Agricultural Labour	26.32	26.67	14.1	31.98	26.4
NREGA	1.58	10	1.28	4.65	3.6
Non-agricultural labour	8.42	8.33	7.69	8.72	8.4
Self-employment - non-agriculture	0.53	0	1.28	0	0.4
Others	0.53	0	1.28	0	0.4
No other work	37.89	53.33	48.72	38.37	41.6
Total	100	100	100	100	100

Source: Primary Survey, 2012-13

A smaller percentage of female workers (46.7%) took up other types of work, compared to male workers (62.1%). While 26.7 per cent of female workers reported working as agricultural labourers, NREGA took up the next largest chunk of work, with 10 per cent female workers reporting being engaged in it. Among male workers, working as agricultural labourer was followed by working as cultivators.

There were also differences according to the worker's skill level. While 51.3 per cent of skilled workers reported taking up other work when not working in the construction industry, 61.6 per cent of unskilled workers reported other types of engagement. Again, unskilled workers were mainly employed as agriculture labour, followed by cultivation, non-agriculture labour, and NREGA, while for skilled workers, cultivation was much more important, followed by agriculture labour and non-agriculture labour.

To conclude: due to the rapid growth of the industry, a high percentage of workers are recent entrants and in fact, for more than a fifth, the current employment at the sample site was the first

in the industry. We find that despite seasonality, a large number of workers work for nine or more months a year in the industry. However, nearly sixty per cent of the workers still combine construction labour with other activities, mainly agricultural labour and cultivation, although there are some differences between male and female workers, and skilled and unskilled workers, in this respect.

15. Women Workers in the Industry

In the previous sections we have shown that although women workers have a significant presence on the worksites, there are strongly gendered and discriminatory features in the functioning of labour markets in the construction industry.

Women workers are unskilled and unlike male labourers, women in the construction sector have virtually no chances of acquiring skills and moving up the job ladder. Even as unskilled workers, they are usually paid even less than the male migrants. They continue to have the responsibility of cooking and looking after young children who often accompany them to sites. Often, they are unable to retain control over their earnings which are handed to their spouses. The sites usually do not have crèche facilities nor do they have basic facilities such as separate toilets.

Further, studies show that where there is some formalisation of the workforce, as in Kerala, the proportion of casual workers among women is higher. There are some regional differences but they do not affect the position of women workers in general. In the southern states, the percentage of unmarried, widowed and separated women in the construction workforce is higher. There have been efforts by unions and other organisations to provide skills to women in state such as Kerala, Tamil Nadu and Gujarat, but the acceptability of such women workers by employers is low.

Apart from issues of segmentation, discrimination etc. in the labour market, in this study we have also asked women workers a separate set of questions relating to social reproduction responsibilities, autonomy, sexual harassment and abuse. The answers to these questions are discussed in this section.

When women workers were asked who kept their wages, a little less than half (49.8 %) reported that they kept their own wages while in more than half the cases, their wages were kept by their spouses.

On being asked whether in their assessment, they received similar wages as men for similar work, 80.3 per cent said that they did, but 19.7 per cent felt that they received lower wages.

About 15 per cent of women with infants said that they did not get sufficient breaks to breastfeed their child.

Among women with young children, 62 per cent looked after them themselves and on or near the sites during work hours, while in 25 per cent cases, older children or other relatives helped and in 13 per cent cases, children went to a crèche.

The sites lacked basic facilities for these workers. More than 61 per cent women workers did not have access to an enclosed toilet.

Fifty per cent of the women said that they faced domestic violence while 11.7 per cent were not willing to answer.

Only 3.3 per cent women said that they had been sexually harassed at or near the worksites but another 23 per cent were not willing to answer the question.

About seven per cent women said that they felt insecure because of advances made by others but another 33 per cent women were not willing to answer the question.[9]

[9] It is obvious that a questionnaire approach to these kind of issues is unlikely to lead to a proper understanding of these issues. Elsewhere, based on long-term in-depth fieldwork, Parry (2014) has reported in detail on the intertwining of sexual relations and harassment and labour relations in the construction sector in Bhilai.

16. Ocupational Health and Safety Issues

Occupational health and safety are major concerns for workers in the construction industry.

Table 16.1
Health Problems during the Work

Health Problems	Freq.	%
Cough	46	18.4
Back Pain	48	19.2
Eyestrain	8	3.2
Allergy	15	6.0
Exhaustion	27	10.8
Not Applicable	106	42.4
Total	250	100

Source: Primary Survey, 2012-13

It was found that cough (18.4 %), back pain (19.2 %) and exhaustion (10.8 %) are the most common health problems which develop because of the difficult nature of work. Six per cent of the workers reported developing allergies and 3.2 per cent reported eyestrain (table 16.1).

The major causes of occupation health risk that the workers face were reported to be due to dust-particles and pollution (63.9 %), followed by accidents (28.4%) and eye strain (4.4 %). The probability of industrial accidents is high in this industry. Workers recounted incidents of fatal accidents during interviews which had been dealt with quite summarily by employers and firms, with no protocol in place, and no policy or legislation covering these accidents (table 16.2).

Around 82 per cent workers said that there are some safety signs put up at the sites. The firms also provide some safety equipment. Workers generally get to use safety helmets (85.6 %) on the sites. The other less used safety equipment are gloves, safety belt (0.4 %), earplugs (0.8 %), shoes (0.4 %) and dusk mask (0.4 %).

Table 16.2
Major Causes of Health Risk

Health Cause	Freq.	%
Dust-Particles & Pollution	158	63.2
Accidents	71	28.4
Eye Strain	11	4.4
Others	10	4.0
Total	250	100.0

Source: Primary Survey, 2012-13

No regular health check-up facility was reported at any of the sites and access to public health facilities was extremely poor among this section of workers. When required, workers generally

availed themselves of the services of quacks (unregistered medical practitioners). This was resorted to in 83.6 per cent of cases. They also went to qualified private practitioners in 10 per cent of cases and to Faith healers in 1.2 per cent of cases. Government facilities were availed of in only 4.8 per cent of cases (table 16.3).

Table 16.3
Access To Health Care

Where do you normally go if you are ill?	Freq.	Percent
Faith/traditional healer	3	1.2
Unregistered Medical Practitioner	209	83.6
Private Doctor	25	10.0
Government Dispensary/ Doctor	12	4.8
Other	1	0.4
Total	250	100

Source: Primary Survey, 2012-13

17. Social Reproduction: Living Conditions AND SOCIAL PROTECTION

Since most construction activity is carried out in, or in the vicinity of, urban areas, and a significant proportion is in the vicinity of large metropolitan areas, the cost of social reproduction of the labourers and their households can be quite high, which would push up wage costs and the reservation wages of labourers. Employers are, therefore interested in a migratory labour force, which can continue to act as a pool of available labour supply, without pushing up local wages and without putting the responsibility on industry or meeting additional costs of social reproduction. By ensuring that labourers continue to be rooted in rural areas, the industry, or for that matter, urban local governments and even higher level governments, divest themselves of the responsibility of meeting the full costs of social reproduction of the labourers. Further, there is evidence that it is increasingly becoming difficult for poor migrants to settle in large cities as their development pattern has become more exclusionary due to a number of factors (Kundu 2009, Srivastava 2011c).

In areas of concentrated construction activity in urban areas, while a small segment of workers is housed in poor localities in these areas, a very large segment is housed by the contractors and builders on, or near, the sites. Studies show that the majority of construction workers, both recent urban settlers and seasonal migrants, lack proof of urban citizenship, denying them those entitlements that are available, at least in principle, to poor urban citizens (Srivastava 2011b). At the sites, living facilities are very poor. Worker's access to health facilities and basic facilities are also very poor and, in any case, treatment costs have to be borne by the labourers (Srivastava 2011b, Borhade 2012, PUDR Team 2009).

What we have, therefore, is an ever increasing mass of seasonal and circulatory labour force, which is rooted in rural areas but which circulates between its villages of origin, and work sites at destination. With the increasing circulation, changes are beginning to occur in the patterns of migration, which we note on the basis of our own evidence in this study.

The living conditions of workers and access to entitlements are major challenges in the construction industry. According to a report published by the NCL (2002), production activities in the construction industry take place in the open and therefore workers are exposed to scorching heat, rain, cold, dust and hazardous materials. They, and their families, live in huts or under canvas, and on the work sites they live in temporary shelters which lack basic amenities, sanitation and safe drinking water. The present study has extensively examined these issues through the worker interviews and through interactions with workers, labour contractors and firm managers.

Most workers – about 70 per cent in our sample, reported that they live in a room/shed provided by employer at the worksite (table 17.1). Around 83 per cent female workers stayed in a room/shed provided by the employer at the worksite, whereas 65.8 per cent male workers reported that they live in the room provided by the employers at the site. Fifteen per cent workers in the sample – 16.3 per cent of the male workers and 11.7 per cent of the female workers - live in rooms/sheds provided by the employer which is some miles away from the construction site.

Table 17.1
Accommodation of the Workers

Present Stay	Male		Female		Total	
	Freq	%	Freq	%	Freq	%
In Structure Under Construction Site	6	3.2	1	1.7	7	2.8
Room Provided by Employer/Contractor in Site	125	65.8	50	83.3	175	70.0
Room Provided by Employer/Contractor away from Site	31	16.3	7	11.7	38	15.2
Rented Room	25	13.2	2	3.3	27	10.8
Others	3	1.6	0	0.0	3	1.2
Total Sample	190	100.0	60	100.0	250	100.0

Source: Primary Survey, 2012-13

This is an increasing trend in Delhi where worksites are small in area and contractors house the workers in camps set up in urban or peri-urban villages and then transport them to the sites. In Noida, workers generally live in and around the work sites, where employer arrange temporary sheds for them. Workers who are long-term migrants often manage to rent some accommodation and 10.8 per cent of the total number – 13.2 per cent of males and 3.3 per cent of females - reported that they stay in rented accommodation. Another 2.8 per cent live in the structure under construction.

Table 17.2
Accommodation of Workers at Different Locations

	Noida		Delhi		Gurgaon		Total	
	Freq	%	Freq	%	Freq	%	Freq	%
In Structure Under Construction Site	1	1.2	1	1.1	5	6.7	7	2.8
Room Provided by Employer in Site	75	92.6	35	37.2	65	86.7	175	70
Room Provided by Employer/Contractor away from Site	0	0.0	38	40.4	0	0.0	38	15.2
Rented Room	4	4.9	18	19.1	5	6.7	27	10.8
Others	1	1.2	2	2.1	0	0.0	3	1.2
Total Sample	81	100.0	94	100.0	75	100.0	250	100

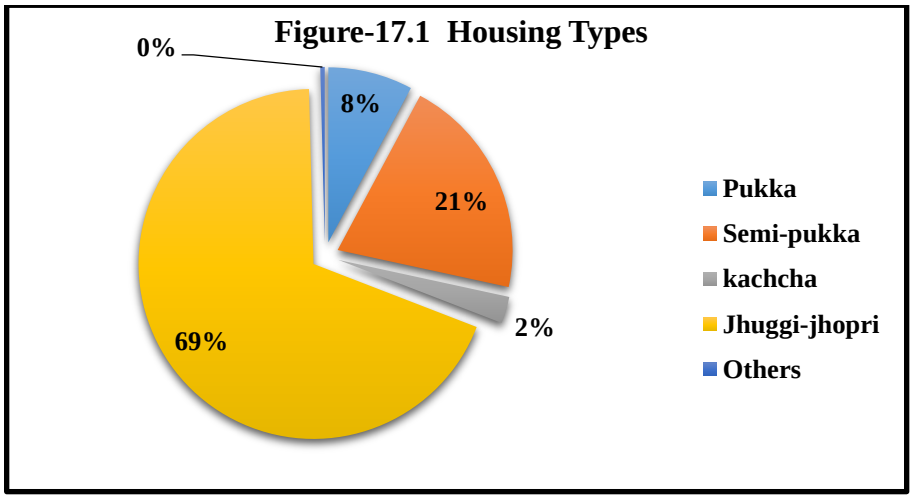
Source: Primary Survey, 2012-13

The spatial / state-wise differences are brought out in Table 17.2. More than 92 per cent workers in Noida reported that they lived in sheds provided by the employer at the worksite and around 4.9 per cent told that they live rented rooms. In Gurgaon also, more than 86.7 per cent workers lived in rooms/sheds provided by the employer at the worksite while around 6.7 per cent lived in

under construction structures and 6.7 per cent lived in rented rooms. The living conditions in Delhi are somewhat different from other two locations. Only 37 per cent workers reported living in rooms/sheds provided by the employer at the worksite. More than 40 per cent workers live in rooms/sheds provided by the employer away from the worksite and 19.1 per cent lived in rented rooms. Permanent labour camps have come up in many areas which are rented by contractors or builders. For example, several labour camps were located in Rangpuri Pahari area of Mahipalpur. The contracting firm or entity takes rooms on lease in these locations and provide them to the workers. On the other hand, at some places it was found that workers stay in a slum areas in peri-urban localities which were six to seven kilometres away from the construction sites. The major reasons of providing rooms away from the site were the non-availability of adequate space at the construction sites, and in the case of some of the sites, perception of security threat in high security zones (such as in a construction site near the International airport of Delhi).

The housing accommodation for the workers at the worksite is very poor. Sixty-nine per cent of workers reported living in Jhuggi-jhopri (temporary hutments and sheds) where the per capita room space was even less than 50 square feet. Most of the single male workers share room space. Twenty-one per cent workers lived in semi-pukka structures. Only 8 per cent workers live in pukka structures in privately rented rooms (figure 17.1). In Delhi, workers in two sites lived in camps, in one case the camps, consisting of semi-pukka structures with asbestos roofing, were rented to the firm and, in the other, land was rented in the peri-urban periphery by the tier 2 firms which then constructed semi-pukka rooms for workers. The camps had rudimentary facilities for workers, and one was exclusively for male workers.

The living condition of the workers in the residential as well as in non-residential construction segment was worse than that of workers in the infrastructure segment. Eighty-eight per cent workers in the residential segment and 60.9 per cent workers in the non-residential segment lived in hutments (*jhuggi-jhopri*) (Table 17.3). In the infrastructure segment, 88 per cent workers lived either in privately rented *pukka* rooms or in semi-*pukka* houses.



Generally, it was observed that skilled workers, especially those working in the infrastructure segment, have access to better housing as compared to unskilled workers in the residential and non-residential segments.

Table 17.3
Living Accommodation, House Type

Construction Activity	Residential		Non-residential		Infrastructure	
	No.	%	No.	%	No.	%
Pukka	3	2.4	2	2.2	14	56.0
Semi-pukka	11	8.7	31	33.7	8	32.0
kachcha	1	0.8	2	2.2	3	12.0
Jhuggi-jhopri	111	88.1	56	60.9	0	0.0
Others	0	0.0	1	1.1	0	0.0
Total	126	100.0	92	100.0	25	100.0

Source: Primary Survey, 2012-13

Access to toilet, drinking water and sources of lighting are other basic amenities which define the living conditions of the workers. Results based on this survey reveal that more than 50 per cent workers had access to drinking water from tapped water which is either inside the building or near the premises. Fifteen per cent workers, who also get tapped water, have to bring it from more than 100 meters distance from their premises. The remaining 34 per cent workers get drinking water from hand pumps and from some unprotected sources (table 17.4).

Table 17.4
Living Conditions, Drinking Water

Source of drinking water	Freq.	%
Tapped water inside residential premise	30	12.0
Tapped water near premise	96	38.4
Hand pump near premise	45	18.0
Tap water/hand pump more than 100 m from Premise	38	15.2
Other	41	16.4
Total Sample	250	100.0

Source: Primary Survey, 2012-13

Interestingly the survey findings indicate that almost all the workers are able to get electricity facility in their room/shed and in the labour colonies through connections that are provided by employer. 93 per cent of the workers said that they get electricity through their employers for a specific time period in the morning and in the evening. Some of them (6.4 %) who live in privately rented rooms get electricity from private connections installed by the house owners (table 17.5).

But although most workers have some access of drinking water, more than 97 per cent of workers do not have adequate sanitation facilities and use insanitary latrines or open spaces for defecation. Only 2 per cent of workers reported having sanitary latrine facilities (table 17.6).

Table 17.5
Living Conditions, Source of Lighting

Source of lighting within premise	Freq.	Percent
Electricity from private connection	16	6.4
Electricity provided by employer/builder	233	93.2
Other source	1	0.4
Total	250	100

Source: Primary Survey, 2012-13

Table 17.6
Living Conditions, Place of Defecation

Access to toilet	No.	%
Attached to room or inside house (Sanitary)	5	2.0
Common Toilet (Insanitary)	144	57.6
Open Space	101	40.4
Total	250	100.0

Source: Primary Survey, 2012-13

The level of expenditure and its pattern throws light on the basic living condition of the workers. The present study collected expenditure data for 11 heads of expenditure.

Results in table 17.7 shows that on average a worker spends Rs. 3,487 in a month on house rent, electricity, water, food, transport, clothing, medical care, education, telephone/mobile and on intoxicants. The expenditure on food consumption is higher as compared to the total expenditure on non-food items. On average, a worker spends Rs. 2200 per month on food items (63.1 % of total expenditure), followed by Rs. 392 on intoxicants (11.3 % of expenditure) , Rs. 365 on communication (cell phone) (10.5 % of expenditure), Rs. 323 on clothing, Rs. 165 on medical expenses and Rs. 145 on transport. Intoxicants are the second highest source of expenditure after food items. We have already noted that in most cases, employers provide workers with very basic accommodation, a source of drinking water, and lighting facility, reducing the share of workers' expenditure on these items.

A disaggregated picture of expenditure across the three jurisdictions shows that workers in Noida spends more in a month as compared to a worker in Delhi and Gurgaon regions. It was found that a worker in Noida on average spend Rs. 4278 per month, whereas workers in Delhi and Gurgaon, on average, spend Rs. 3142 and Rs. 3071 per month respectively (table 17.8). Higher expenditure on food consumption and clothing are major causes of higher spending in Noida as compared to Delhi and Gurgaon.

The asset ownership structure of the industry workers at the destinations is poor. An overwhelming proportion of workers do not own any asset such as radios, television, bicycle and motor bike.

Table 17.7
Average Monthly Expenditure

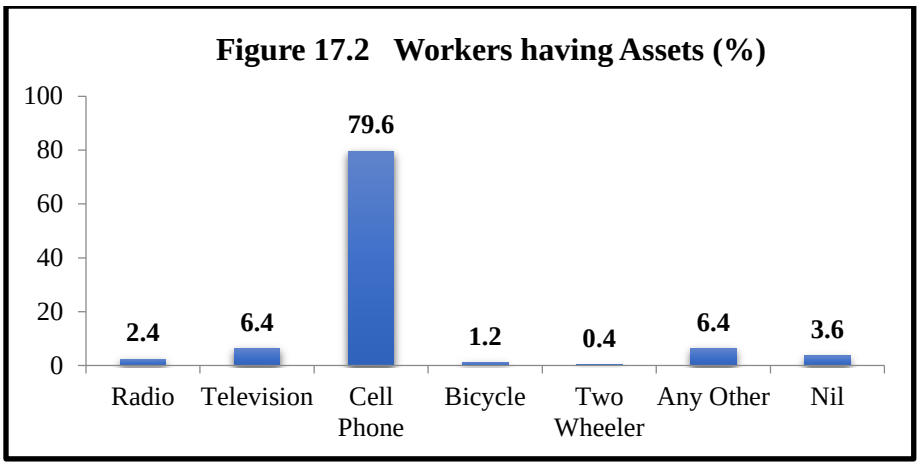
Sl. No.	Items	Expenditure in INR	Percentage
1	House Rent	127.7	3.7
2	Electricity	11.6	0.3
3	Water	163.3	4.7
4	Food	2200.4	63.1
5	Transport	145.5	4.2
6	Clothing	323.7	9.3
7	Medical	164.9	4.7
8	Education	86.4	2.5
9	Telephone	365.3	10.5
10	Tobacco/Pan / Alcohol	392.9	11.3
11	Other Expenses	263.2	7.5
12	**Total expenses**	**4244.9**	**100**

Source: Primary Survey, 2012-13

Table 17.8
Average Monthly Expenditure in Different Locations

Sl. No.	Utilities	Average Expenditure			
		Noida	Delhi	Gurgaon	Total
1	House Rent	0.1	312.0	0.0	127.7
2	Electricity	0.1	28.3	0.0	11.6
3	Water	293.4	136.7	40.5	163.3
4	Food	2752.7	1764.2	2120.3	2200.4
5	Transport	132.8	211.3	32.4	145.5
6	Clothing	400.0	241.0	344.6	323.7
7	Medical	247.9	118.7	128.4	164.9
8	Education	98.8	112.2	37.8	86.4
9	Telephone	414.2	346.5	332.8	365.3
10	Tobacco/Pan / Alcohol	400.7	412.6	356.3	392.9
11	Other Expense	337.0	263.7	140.0	263.2
Total expense		**4278.4**	**3142.1**	**3071.1**	**3,487.2**

Source: Primary Survey, 2012-13



The cell phone is the most widely owned asset with more than 79 per cent workers reporting that they have a cell phone. But only 6.4 per cent workers owned a television and 2.4 per cent had access of radio. Further, only 2 per cent of the workers reported owning a bicycle or motor bike at the present location (figure 17.2).

The state provides various benefits to workers under its social protection programmes. The basic architecture of these programmes is provided by the Central government, although state and local governments can redesign them and also provide additional programmes. The state and local governments are also responsible for the implementation of the social protection programmes. The range of these programmes is very wide and includes subsidised food from the Public Distribution System (PDS); free elementary schooling and provision of scholarships for children from socially deprived backgrounds; crèche, supplementary feeding, health check-ups and other programmes for young children (0 to 3 years) in *Anganwadis* (state run kindergartens); housing for the urban poor, and so on. All these programmes require proofs of local residence, including proofs of length of residence. Opening a bank account also requires proof of residence and proof of address. Construction industry workers being migratory, are not able to acquire these proofs and consequently are not entitled to receiving these benefits.

Most of the workers do not have local ration card (a card which gives them an entitlement to buy from the PDS shop but which they can also use as a proof of residence) or BPL card (a card which attests to their poor economic status) at the current location.

Only one worker in the sample (0.4 % of the total) possessed a local ration card, which was an APL (above poverty line) ration card. With no access to the PDS shops, 93.9 per cent workers purchased their requirements from the open market, while 6.1 per cent went to shops specified by the contractor or sourced their food purchases through the contractor.

In fact, 87.2 per cent workers did not possess any form of identification and only 32 workers (12.8 %) possessed some identification. Of these workers, 24 (9.6 %) possessed identity cards given by employers which are principally used to regulate entry and exit into/from the sites. Six workers (2.4 %) possessed the newly issued Aadhar card (biometric identification number issued by an agency of the Government of India) and 4 workers (1.6 % of the total) possessed more than one form of identification. Thus, 96 per cent of the workers did not have form of proper

identification at the destinations. Not surprisingly, bank penetration was abysmal among these workers, with only 4 workers (1.6 per cent of the total) reporting bank accounts.

Table 17.9
Facilities availed by children of workers

			Percentage	
S. No.	**Activity**	**Total responses**	**Yes**	**No**
1	Do 0 to 3 year old children have crèche facility?	43	23.3	76.7
2	Do 3 to 6 year old children go to Anganwadis?	27	3.7	96.3
3	Do school aged children go to School/	29	27.6	71.4

Source: Primary Survey, 2012-13

Children of workers could not avail of facilities, including those constitutionally guaranteed, such as schooling. Of 43 responses received, only 23.3 per cent of children in the age group 0 to 3 years went to a crèche. Only one child (3.7 %) went to a Anganwadi. And only 27.6 per cent of workers with children in the school going age group sent them to school. Of the school going children, 75 per cent went to government schools while 25 per cent went to private (fee paying) schools (table 17.9). Although workers in the industry come from very unsatisfactory backgrounds in the rural areas, the unsatisfactory state of their living conditions at destination is also pithily brought out in their own perceptions (see table 17.10).

Table 17.10
Housing Condition at the Work Place

S. No.	Criteria	Better here	Same	Worse here	Difficult to say
1	Housing	21.9	30.4	47	0.8
2	Other Living Conditions	30.8	31.6	36.8	0.8
3	Working Conditions	83.5	11.7	4	0.8
4	Amount of employment available	94.8	8	4	1
5	Remuneration / Earning	94.8	3.6	1	0
6	Feeling of Security	30.5	55.8	3.6	10
7	Freedom from social constraints	32.1	60.6	0.8	6.4
8	Overall	78.1	14.6	4.1	3.3

Source: Primary Survey, 2012-13

Forty-seven per cent of the workers found that their housing conditions were worse than in their native places and 31.6 per cent of workers found that their other living conditions were worse than in their native places. But there is a clear dichotomy between this and their perception regarding employment and remuneration which are clearly perceived to be better here.

18. The State and Social Security

The apathy of the state and employers towards construction labourers force these migrant workers to live in vulnerable conditions.

The government has, over the years, instituted a number of measures to provide social security to formal and informal sector workers. It has also steadily extended these benefits to informal and contract workers in establishments covered by social security legislations. Specific and important legislations framed with applicability to construction industry workers are the Fatal accidents Act, 1855; Workmen's Compensation Act, 1923; Employees State Insurance Act,1948; Employee's Provident Fund and Miscellaneous Provisions Act, 1952; Maternity Benefit Act, 1961; Personal Injuries (Compensation Insurance) Act,1970; Payment of Gratuity Act,1972; Building and other construction worker's (Regulation of Employment and Conditions of Service) Act,1996; and the Building and other Construction Worker's Welfare Cess Act, 1996, as amended from time to time.

These social security Acts (other than the last two) cover defined groups of establishments, usually employing a minimum number of workers, and cover the important areas of injury and accidents; retirement benefits; health insurance and treatment; and life cover. However, doubts have been raised whether they cover workers in the kind of sites that have been studied here, despite the fact that these workers have been employed by organized sector entities. This is tantamount to saying that if formal sector entities carry on part of their business in temporary or mobile premises (or indeed without such premises, as is often the case with service sector enterprises), either by directly engaging workers or through contractors, their workers would be exempt from the coverage under these laws. This is a question which needs to be debated at length.

In any case, after a historic struggle, workers organizations succeeded in two laws passed by the Central government which are specific to the construction industry.

The Building and other Workers (Regulation of Employment and Conditions of Service) Act, 1996 is a major piece of legislation for the construction industry covering the regulation of conditions of work of workers in the industry and is discussed in the next section. This Act is also the major instrument of social security and social welfare of construction workers. It provides for the registration of the establishment and the registration of the building workers as beneficiaries of a welfare fund. It further provides for creation of Welfare Boards at the state level which are responsible for transferring prescribed benefits to workers. The funds for these benefits are to be drawn from Welfare Funds instituted under the Act.

The Building and Other Construction Workers Welfare Cess Act, 1996 enables the states to levy a cess of not less than one per cent but not more than two per cent of the construction cost incurred by employers. The amount has to be deposited in the Construction Workers' Welfare Fund and is to be used for the welfare activities of construction workers including pension, assistance in case of accident, housing loan, education, health, and safety of the workers and their families as prescribed under the companion Act.

The study examined the status of the workers pertaining to social security provisions in all the sites and found these to be almost completely absent. Almost all the workers, both skilled and

unskilled, reported having no entitlements for injury compensation, membership of EPFO, retirement benefit, ESIC membership benefits or any other form of social security.

Table 18.1
Social Security Benefits

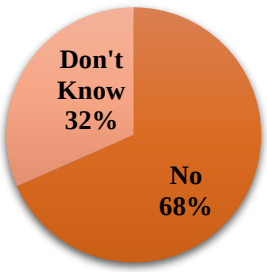
	Yes	No	Don't Know
Injury Compensation	0.8	92.4	6.8
EPFO	0.8	86.8	12.4
Retirement Benefit	-	90.8	2.2
ESIC	-	88.0	12
Health Benefit	-	93.7	6.8
Any Other Social Security	-	91.6	8.4

Source: Primary Survey, 2012-13

The result based on the survey revealed that only 0.8 per cent workers claimed that they had access to an injury compensation scheme and a similar percentage said that they had access to EPFO. No worker reported having any retirement benefit, health benefit or any other form of social security (Table 18.1).

The firm level survey and information gathered under the Right to Information Act, 2005 revealed that most of the construction firms and developers in Delhi[10] submit one per cent of cess to the Construction Welfare Board. But not a single worker, during the interviews, was found to be registered with the Board (figure 18.1). Most of the workers did not even know about the Board or its benefits.

Figure 18.1 Registration With Welfare Board
Source: Same as in fig 6.1



There is a large canopy of laws providing social security to informal workers in the formal/organised sector. The construction industry workers interviewed in this study work in sites constructed by organised sector entities in the private or public sectors. However, no social security scheme meant for such workers is accessible to them. As discussed earlier, two specific legislations were framed more than a decade and a half ago to provide social security to

[10]Information for Noida and Gurgaon are yet to be received from the respective labour departments.

construction industry workers. Data show that progress under the scheme has been very tardy. Among the workers interviewed by us, not a single worker was registered with the Welfare Boards in the respective states, nor had any workers received any benefit from its schemes. Despite the canopy of schemes, and the specific welfare law enacted for them, construction industry workers remain highly unprotected and vulnerable.

19. Regulation of Conditions of Work, and Collective Action by Workers

The role of state and its intervention in various forms plays a crucial role in the construction industry in India (Loop, 1996). A pivotal role is attributed to the state in stimulating activities such as the provision of credit, training and so on (World Bank, 1984 and ILO, 1987a), or solving the problems of dependence on subcontractors (Watanabe, 1971), or the creation of the necessary conditions for collective specialisation to arise (Schmitz, 1990). Generally, the state can play both a direct as well as indirect role in the sector. In India, considering the enormous amount of investment in the construction of all kinds of public structures such as roads, dams, steel & nuclear plants, offices, factories, hospitals and dwellings, it becomes necessary for the state to play a crucial role. However, post liberalisation the state plays a minimal direct role in carrying out construction activities by contracting out these activities either solely to private enterprise or corporatized public sector entities, or undertaking public-private partnership.

Contrary to this, the state continues to exercise an important indirect influence on the industry through various laws and regulations concerning the building plan, through the tax system, credit related policies, social security provisions, and labour (Loop, 1996). There are also many organisations in India which cater for the interest of government and private contractors in construction industry. The Builders' Association of India (BAI) is the most prestigious one founded in 1941 which deals with the problems of finances and credit, specific government regulations and laws, condition of contract and so on (Loop, 1996).

The present section however mainly focuses on the legal provisions for regulation of employment and conditions of work, and points to the state apathy towards construction workers. It also discusses the present situation of unionisation in the industry.

Legal Provisions

Although as we have discussed in the introductory part of this report, the construction industry has a large formal segment, and the concentration of capital has increased significantly in the last decades, the assignment of the main production activity to sites which are temporary in nature, the use of sub-contracting, and the use of a migrant and temporary workforce, has assigned this workforce to the status of informal workers, and there is an unfortunate lack of clarity on the applicability of laws meant for informal and formal workers in the formal sector.

However, there is no dispute that laws meant to protect the rights of association of informal workers as well as laws meant to secure minimum conditions of work and social protection to such workers are also applicable to the workers in the construction industry. The state has also legislated specific laws for the construction industry, of which we have made an earlier mention.

The Indian situation is long on multiple legislations which regulate the conditions of work on the sites but short on effective implementation. The payment of adequate wages and overtime rates is regulated the Minimum Wages Act. Prompt payments are ensured by the Payment of Wages Act. The Contract Workers (Regulation and Abolition) Act, 1970, regulates the condition of recruitment of workers by contractors and the registration of the latter. The Interstate Migrant Workmen's Act regulates the employment of inter-state migrant workers and provides for the registration of contractors and the workers. There are several other laws which are meant to

protect the minimum conditions of work of labourers in this industry, as well as provide them with a modicum of social security.

A complete list of legislations that are germane to this sector is provided in Annexure A. Further, a brief summary of some of the major laws is provided below to provide a context to the discussion which follows.

a. Trade Union Act, 1926: The Trade Union Act was legislated in 1926 following the establishment of All India Trade Union Congress (AITUC) in 1920. The Trade Union Act facilitates unionisation both in the organised and unorganised sectors. It stipulates that minimum of seven members can form a union.

b. The Minimum Wage Act, 1948: The Act provides for fixation of minimum wages of workers in scheduled employments. It has the widest coverage among all labour laws. It provides for the fixation of a minimum wage by the appropriate government for employments placed in a schedule. The variable component of the minimum wage is linked to the cost of living and revised twice every year. The basic rate is also revised every few years.

The Minimum Wages Act does not specify any limit on enterprise size or nature of work contract (permanent/temporary or regular/casual) for its applicability. The Act is, however, applicable only to employments that are included in the Schedule appended to the Act. State governments are responsible for adding employments to the Schedule and for fixing and revising of minimum wages for each scheduled employment.

c. The Equal Remuneration Act, 1976: The Act is intended to protect the interest of women workers, but a wide gap in the payment and earning of wages still exists between male and female workers in the industry.

d. **The Workman's Compensation Act, 1923:** The Workman's Compensation Act 1923 is one of the earliest labour legislations. It covers all cases of accidents.

e. The Contract Labour (Regulation and Abolition) Act, 1970:

The Contract Labour Act currently applies to every establishment employing twenty or more workers in the preceding twelve months and to every contractor who employs or employed twenty or more workers on any day in the preceding twelve months. The Act puts certain liabilities of compliance on the "principal employer" along with the contractor. Under the Act, the appropriate government can prohibit contract labour, after taking into consideration whether the activity is core/non-core, perennial, and whether the activity is/can be ordinarily done by full time workers. Both establishments and contractors need to acquire a license. Rules under the Act can provide for safety, canteens, rest rooms and other facilities. While payment of wages is the responsibility of the contractor, the Act also provides for liability of the principal employer.

f. The Inter-state Migrant Workmen's Act, 1979: The Act applies (a) to every establishment in which five or more Inter-State migrant workmen are employed or who were employed on any day of the preceding twelve months; (b) to every contractor who employs or who employed five or more Inter-State migrant workmen on any day of the preceding twelve months. The "contractor", and the "Principal Employer" in the Act are defined on the lines of the CLRAA. The contractor, in relation to an establishment, means a person who undertakes (whether as an independent contractor, agent, employee or

otherwise) to produce a given result for the establishment, other than a mere supply of goods or articles of manufacture to such establishment, by the employment of workmen or to supply workmen to the establishment, and includes a sub-contractor, *Khatadar*, *sardar*, agent or any other person, by whatever name called, who recruits or employs workmen.

The Act provides for registration of establishments employing inter-state workmen; registration and licensing of contractors; and contractors' responsibilities in maintaining passbooks, making payments, ensuring safety of workmen etc. It also makes the Principal Employer responsible for payment of wages.

These Acts are principally implemented by the respective state governments (except where the Central government is an employer). The implementation of these legislations was poor even before the labour machinery and the state lost both the intent and the capacity to implement them in more recent decades (see NCEUS 2007; Papola et al 2009, Vol. 3).

The registration of contractors under the two Acts (the Contract Labour (Regulation and Abolition) Act (CLRA) and the Interstate Migrant Workmen's Act) has been very poor with the latter being almost dysfunctional, although some states like Orissa have put in some effort to register contractors. In Delhi, in seven districts of Delhi, only nineteen establishments in construction and 63 contractors were registered under the Contract Labour Act. Among the sites surveyed by us, second tier contractors were registered as labour contractors only in the case of a single public sector infrastructure firm. In Noida, a total firms and 124 contractors had registered under the Act in 2012. No information was available from Gurgaon (all information obtained through RTI applications to the labour departments). Prosecution proceedings were undertaken against three firms in Delhi and eight firms in Noida during 2012 for violation of the CLRA. No establishment or contractor was reported to be registered under the Inter-state Migrant Workmen's Act.

Other violations of these laws are widely and routinely reported throughout the country. The long hours of work in the unorganised sector have been pointed out in many studies and more specifically construction workers have reported a day off from work per week without wages (Suryanarayan, 2004, Labour Bureau, 1995a). Our enquiries revealed that hardly any action had been initiated against employers for breach of law in the study districts in any of the three states.

As mentioned earlier, in addition to the above laws and regulations there are special laws applicable specifically to the construction industry. Prolonged workers struggles resulted in the adoption of a comprehensive legislation regulating the conditions of work of Construction workers (Building and Other Construction Workers Act, 1996) and for providing for the creation of State level Welfare Boards, the collection of cess for the Welfare Fund, and the payment of social security benefits to the workers through the accompanying legislation (Building and Other Construction Workers Welfare Cess Act, 1996). These Acts were passed by the parliament after the intense mobilisation by the National Campaign Committee on Central Legislation for Construction Labour (NCC-CL)and other worker's organisations for several years.

The Building and other Workers (Regulation of Employment and Conditions of Service) Act, 1996: The Act regulates various aspects of construction workers' employment and establishes regulatory bodies to administer the Act. It covers workers in all construction activity except construction by an individual where the cost of construction is below a certain ceiling.

Employers, a defined in the Act, means the owner, head of department or chief executive, if the construction is carried out directly, or the contractor if it is carried out through the contractor. The Act provides for Central and State Advisory Committees. It also provides for the registration of the establishment and the registration of the building workers as beneficiaries of the welfare fund. The Act provides for the registration of every building worker who has completed eighteen years of age, but has not completed sixty years of age, and who has been engaged in any building or other construction work for not less than ninety days during the preceding twelve months (section 12).It provides for the creation of a Welfare Fund and the constitution of Welfare Boards to provide for accident relief, group insurance premia, children's education expenses, medical expenses, maternity benefit, and other welfare measures as may be prescribed.

The Act further provides for prescribing through rules framed under the Act: (a) normal working hours; (b) a rest day every week on payment of prescribed remuneration; (c) overtime rates; basic facilities including drinking water, latrines and urinals, accommodation and crèches (on sites where more than fifty female workers are employed); canteens, if the number of workers employed is more than 250; safety committees and safety officers, if the numbers employed are more than 500. Each establishment is required to maintain required records and registers. The implementation of the act is to be carried out by inspectors and supervised by a Chief Inspector.

The Building and Other Construction Workers' Welfare Cess Act, 1996: This law enables the states to levy a cess which shall not be more than 2 per cent but not less than one per cent of the construction cost incurred by an employer on all new construction activity. The amount has to be deposited with the Construction Workers' Welfare Board for the welfare of construction workers including through pensions, assistance in case of accident, housing loan, education, health, and safety of the workers and their families and is applicable to the establishment employing 10 or more workers and to the project costing more than one million INR (EPW, 2008 & Dogra, 2010).

The implementation of these two legislations which are specific to the construction industry has also been very poor and few states had set up the State level Welfare Boards till the Supreme Court of intervened in a public interest litigation.

Among the study states, Delhi was the first to notify the rules under the B&CWWA in 1992 setting up the Fund and the State Board. Benefits such as pensions, accident benefits, life cover, educational expenses, and maternity benefit have been prescribed for workers. The Labour Commissioner of Delhi Government has been notified as Chief Inspector of Inspections under this Act. All Joint, Deputy, Assistant Labour Commissioners, Labour Officers and Inspecting Officers have been notified as Inspectors. Haryana notified the rules only in 2005 and the Board was set up in 2006. The Chief Inspector of Factories has been made the Chief Inspector of Inspection of Building and Construction under section 42(2) of the Act of 1996, and the Additional Directors, Joint Directors, Deputy Directors, Assistant Directors, Industrial Safety and Health, have been appointed as "Inspectors". Uttar Pradesh was the last to notify the rules in 2009 and to set up the Board. Each of these states has specified a cess of one per cent of the cost of construction.

But even after the formation of Boards, the registration of workers and disbursal of benefits has been very poor. According to Soundararajan (2013), by 2011, registration rates were still very poor, covering about 11 per cent of the construction workforce, although the coverage was very

high in some of the states (Tamil Nadu, Kerala, Madhya Pradesh). Kerala had near universal registration. Rupees 43.2 billion had been collected as cess under the Welfare Act. In most states, the utilisation of the cess was very low. Again, Kerala, Tamil Nadu and Madhya Pradesh were exceptions. Delhi, which had collected the highest cess had used only 4 per cent of the amount collected (ibid.).

The latest figures available (Feb. 2014, DGLW, MOLE) show that the registration had improved with a coverage of about 10.85 million, and that about Rs. 116 billion had been collected as cess. The highest registration was in Madhya Pradesh (2.42 million), Tamilnadu (2.28 million), Kerala (1.84 million) and Andhra Pradesh (1.80 million). Out of the amount collected as cess, Rs. 17.26 billion (14.97 % of the total) had been defrayed as benefits to workers, with the maximum percentage being spent in Kerala, Andhra Pradesh, Tamilnadu and Madhya Pradesh. Till February 2014, according to the latest figures available, a total of about 292,000, 236,000 and 162,000 workers had been registered in the states of Uttar Pradesh, Haryana, and Delhi respectively, and out of the amounts collected as cess only 0.91 percent, 2.17 per cent and 8.83 per cent had been passed on as benefits to the registered workers.

The implementation of the regulations provided under the Act, including safety regulations, and the provision of amenities to workers has been even more tardy.

The Act specifically provides for various safety procedures that need to be followed at every site, with respect to safety equipment, training, inspection and inquiry. There are supposed to be safety committees with worker representation and qualified safety officers for every establishment employing 500 or more workers. But there are no monitoring mechanisms in place to ensure that these provisions are being followed. Meanwhile, workers' complaints about the quality and safety of the machinery and material they use have been regularly ignored (Ghosh, 2009).

Recently the Government of India (GoI) has proposed amendments to the Welfare Act with a view to making registration of workers easier. The amendments remove the: (i) the eligibility requirement of 90 days of work as a construction labourer in any given year for registration of workers and, (ii) the upper age limit of 60 years. The amendment will authorize the Central Government to specify the maximum cost of construction by notification, in place of the present limit of Rs.10 lakh, which shall fall within the definition of establishment under the BOCW (RECS) Act. It also authorizes the Central Government to notify such percentage of total expenditure, in place of existing 5 per cent during the financial year, for meeting administrative expenses by the State Building and Other Construction Workers Welfare Board. The amendments were placed before the upper house of parliament for passage in March 2013.

The steady decline of formal employment in organised sector and the inability of the agricultural sector to provide productive employment to workers has resulted in large influx of tribal and other marginalised sections of rural workers in the construction sector, especially in and around large cities. However, improper implementation of these Acts and the specific laws, reflecting the apathy of governments, appears to have created the ground for large scale denial of rights and entitlements to these workers, something which we further explore below on the basis of our field survey (EPW, 2008).

Table 19.1
Most Pressing Problems Related to Employment

	First Response		Total Responses	
Problems Faced at work	No. of Responses	Percent	No. of Responses	Percent
Low wages	159	65.2	211	36.2
Irregular payments	44	18.0	158	27.1
Long working hours	28	11.5	142	24.4
Strenuous work	12	4.9	62	10.6
Other	1	0.4	10	1.7
Total	**244**	**100.0**	**583**	**100.0**

Source: Primary Survey, 2012-13

We begin by noting that workers reported facing a number of work related problems. Since workers were asked to provide multiple responses, we have analysed the first reason reported as the most pressing reason. Low wages are reported as the most pressing problem by 65.2 per cent workers followed by irregular payments (18%), long working hours (11.5 %) and strenuous work (4.9%). Six workers did not report any problem. When total responses are analysed, low wages was still figured as the most reported problem (36.2 %), followed by irregular payments by employer and contractors 27.7%), long working conditions (24.4%), and strenuous work (10.6%). Overall workers seem more concerned by level of remuneration and regularity of payments, although poor working conditions, reflected in the responses relating to long working hours and strenuous work, also figure importantly (table 19.1).

Freedom of association of workers is regarded as one of the core labour standards by the ILO. Workers in the construction sector are entitled to form unions as provided in the Trade Union Act of 1926. But the informality on the conditions of employment, the conditions of isolation under which they work, the fear of being thrown out of a job, on the one hand, and the inaccessibility of the workplaces, combined with its temporary nature in any single location and even city or state, results in a very low penetration of trade unions. The large-scale union federations[11] (such as All India Central Council of Trade Union, Bhartiya Mazdoor Sangh, Indian National Trade Union Congress, Centre of Indian Trade Unions and so on), have a relatively small focus on organising the construction workers because of the difficulties in doing so (Loop, 1996). The activities of unions are mainly restricted to the more sedentary or the more privileged segment of this workforce (Vaidya 1999; also our interviews with trade unions). Undoubtedly, unions like the SEWA union, the Nirman Mazdoor Panchayat, IFTU, and several others have focused on organising construction workers, but these efforts have only touched the tip of the iceberg.

[11]According to the Labour Ministry's recognition there are 12 central trade union organizations in India which has combined membership of more than 24 million workers.

The upsurge in capital in the sector, the withdrawal of the state from virtually any semblance of regulating capital-labour relations, and the low presence of worker's collective organisations, tilts the balance firmly in favour of large capital in determining labour market outcomes.

Table 19.2
Labour Organisation at Work Place

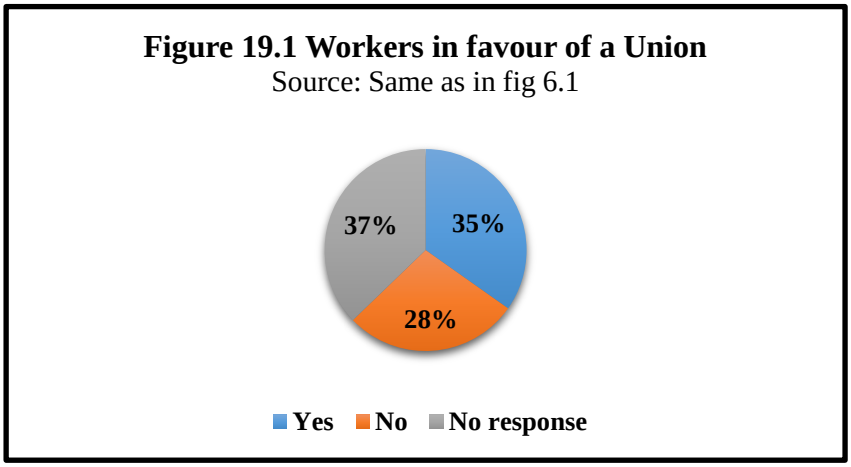
	Noida	Delhi	Gurgaon	Total
Yes	2.5	1.1	0.0	1.2
No	85.2	89.4	80.0	85.2
Don't Know	12.3	9.6	20.0	13.6
Total	100.0	100.0	100.0	100.0

Source: Primary Survey, 2012-13

The present study also shows that trade unions are yet to make inroads in the construction sector. Among all the 10 construction sites in Delhi, Noida and Gurgaon, only a few workers in Noida have reported the existence of a labour organisation at the workplace. Only 1.2 per cent interviewed workers reported the existence of a labour organisation at the work place, (2.5 % in NOIDA, 1.1 % in Delhi, and none in Gurgaon) (table 19.2). Only one worker (0.4 %) reported being a member of a trade union while 1.6 per cent workers reported being a member of any other organisation (1.6 %).

In a general manner, however, a number of workers supported the idea of a union, or were uncommitted in their responses. Nearly 35 per cent of the workers in the sample favoured the formation of a union at the workplace while 37 per cent workers did not give a response, and 28 per cent were not in favour of a union being formed (figure 19.1).

Figure 19.1 Workers in favour of a Union
Source: Same as in fig 6.1



The immediate major reason for the gap between workers' interest in unions and their representation appears to be the low presence of unions in the industry. Most of the workers said that either there were no organisations present in their particular area or, in any case, they were not approached by any organisation. Together, these reasons were reported by about 72 per cent

of the workers. Another 22.4 per cent workers were not interested in joining a labour organisation while 5.2 per cent were apprehensive of loss of employment if they participated in unions. (Table 19.3).

Table 19.3
Reasons for not being a Member

	Freq.	Percent
No union/organisation in this area	55	22.1
No one approached	124	49.8
Not interested/No use	56	22.5
Apprehension of Loss of Employment	13	5.2
Other	1	0.4
Total	249	100

Source: Primary Survey, 2012-13

It is not surprising that despite these major problems perceived by workers at the workplace, only 6.8 per cent workers had ever participated in any form of collective or individual bargaining for better working conditions.

Only two workers (0.8 per cent of the sample) reported that a labour organisation had ever taken up an issue on their behalf.

Workers' awareness of their specific legal entitlements under the labour laws was also very low. Almost all the workers in the sample are not aware of the any of the important labour laws such as the Trade Union Act, the Inter-state Migrant Workmen's Act, Contract Labour Act, Minimum Wage Act, Factories Act and Workmen's Compensation Act (table 19.4).

Table 19.4
Knowledge About the Act/Laws

	Yes	No
Trade Union Act	0	100
ISMWA	0	100
CLRA	0.4	99.6
MWA	0.4	99.6
WCA	1.2	98.8

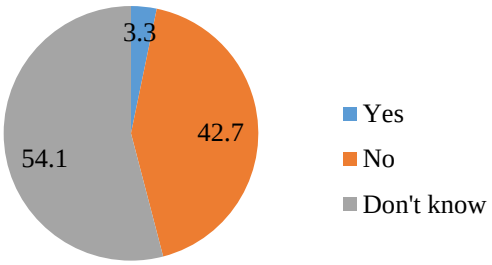
Source: Primary Survey, 2012-13

Due to absence of any collective organisations, and the nature of the recruitment process, in case of grievances related to the condition of work, these workers were most likely to approach their contractors (86.8 %) or their employers (11.6 %) for a resolution, rather than the government machinery, unions or other organisations.

Even the public display of employers' concern with compliance of regulations seems to be generally lacking. Only 25.6 per cent workers reported that norms for minimum working conditions were displayed in their sites, but 44 per cent workers said that no such boards were displayed and 30.4 per cent workers did not know whether this was the case. In construction sites where the first tier firms were public sector firms, 42.3 per cent workers reported that norms were publicly displayed, whereas in private sector sites, only 19 per cent workers reported this. However, among workers who reported that such norms were displayed in their sites, 94.3 per cent workers felt that these norms were not respected.

Pro-active regulation by the state seems virtually non-existent in the industry. Only 3.3 per cent workers knew of inspections at their worksite, while 42.7 per cent thought that such inspections had never taken place, while 54.1 per cent workers did not know about inspections. Half of the very few workers who reported that inspections had taken place considered that these had been carried out by the labour office, while the other half did not know who had carried them out (figure 19.2).

Figure 19.2 Percent of workers reporting inspections at the workplace



Source: Primary Survey, 2012-13

There appear to be many reasons for this sorry state of affairs in the construction industry. First, employment relations in the construction industry have been reduced to a highly informal state, with a sub-contracting system in place, through which workers are recruited and controlled. The principal employer is very often hidden through a complex hierarchy of sub-contracting relationships, and virtually takes no direct responsibility for the state of affairs. Second, the workers, on their part, are highly isolated, fragmented and segmented. They are dependent on the contractors for their day to day existence. As such, they desist from collective bargaining situations. Third, workers' organisations find it very difficult to organise these workers due to their temporary location, high mobility, apprehensions in being part of a union, and the tight control that contractors and firms have over their movement and activities. Finally, the state has neither the commitment nor the capacity to enforce its laws in this industry. (Loop, 1996).

20. Conclusion

In the last half century or so, for which we have scanned the available evidence, the construction industry provides strong elements of both continuity and change. The NCL (1968) Study Group on construction labour provides certain benchmarks for comparison over time. Capital-labour relations were then, as they are now, mediated by intermediaries, and characterised by extreme informality. Organisations of workers in the industry were conspicuous by their absence. Inadequacies in the conditions of work as well as social reproduction of labourers were addressed neither by employers nor by the state. The regulatory and social security framework was weak and virtually non-existent.

Since then enormous changes have taken place regarding size and organisation of capital active in the sector which we have traced in the initial sections of this report. The public sector is no longer the main principal employer, nor are public agencies the main executors of organised sector construction projects. There has been enormous growth and concentration in the higher segments of private capital in the industry. Side by side, the employment of labour in the sector has increased at a phenomenal rate. From about 2 million workers in 1961, the number of workers stood at 50 million, increasing twenty-five times in the span of fifty years. The growth in the formal segment of the industry has not altered the main modes of labour recruitment and labour use, and labour continues to remain completely informal.

In the construction industry as a whole, labour and capital (or its agents) continue to interact in a number of overlapping circuits, in which the position of labour is determined by its subsistence possibilities and the space over which it interacts with capital, and the latter's position is determined by its size and scale of its production activity. Since both vary across space and scale, the circumstances of (informal) labour in construction are not narrowly predetermined.

Within the broad contours of sustained expansion of the construction industry, *large scale* construction has acquired a growing niche. It is in large scale construction activity, driven by large firms, with huge investment plans, profits, requirements of skilled and unskilled labour that we need to situate a possible turnaround in labour standards of the workers in the industry. This study has, therefore, focused on this segment of the industry in a rapidly growing urban agglomeration and has further taken diverse types of construction activity to study recruitment patterns and employment conditions in detail. While the main focus is on a workers survey in ten sites, detailed information has also been collected from, and about, both formal and informal firms in the hierarchically organised production structure. These firms include labour contracting firms. Further, interviews have also been carried out with other stakeholders and informants and information has been collected from government departments, through direct engagement as well as applications made under the Right to Information Act.

Large scale construction activity needs to draw labour on a massive scale from cheap (and mostly distant) sources and subordinate them to the discipline of the production process. While fragmentation and segmentation of the labour force are generic to the industry as a whole, in large scale activity, these exist side by side with the mobilisation of a large number of workers through organised recruitment. Such recruitment processes now span the length and breadth of the country. This pattern of mobilisation is not without considerable cost to labour as well as to industry. As far as labour is concerned, there are multiple costs since capital and its agents, as well as the state, are unwilling to bear the full costs of social reproduction of labourers, who

oscillate between the sites and their rural origin. As far as the industry is concerned, the instability in the workforce is felt in terms of its continuous deskilling and the inability of the industry to meet its skill requirement (NSDC, 2009 Planning Commission).

This study has made a number of detailed findings which corroborate as well as supplement other studies. We note that the contractor driven recruitment process has acquired scale and variety with large labour contractors emerging both in areas of origin as well as destination. Contractors, sub-contractors or their agents function as *de facto* employers of workers although responsibilities of supervision at the worksite are divided between the construction firm and the labour contractor. As de facto employers, contractors are responsible not only for recruitment of labourers but also for disciplining them in and around the worksite. At any rate, the heavily securitised worksites and workers' camps create an environment where workers have virtually no freedom to interact with the outside world, and to organise.

It is no surprise that the poorest and most oppressed castes, ethnic and religious minorities (Dalits, Adivasis and Muslims) are overrepresented amongst lower skilled construction workers.

These inequalities reinforce other divisions within the workforce. The primary segmentation of workers is along the migration streams and their (oral) labour contracts are decided at origin. Other kinds of segmentation are by skill type, social origin, and gender, which are mutually reinforcing. Women workers are usually part of family movements and combine work in the sites with social reproduction activities. They work at the bottom of the recognised skill hierarchy and receive lower wages than their male counterparts. The changes in the organisation of the industry towards round-the-clock work and higher capital and skill intensity is tending to further reduce their participation in the industry.

Work intensity in the industry is high, restricting participation to a young workforce. Since labour contracts are independently determined, remuneration is either fixed for an entire working day or overtime, if given, is lower than the legal amount. Most workers receive wages which are below the legal minimum, more so in the case of unskilled work. Other rules such as paid weekly holidays receive short shrift.

The canopy of legal regulations for enforcing minimum conditions of work, minimum wages, registration of contractors, and interstate migrant workers and their contractors is ineffective. We also did not find evidence of existing social security provisions reaching workers.

Given the highly securitised atmosphere in and around the worksites, the degree of segmentation of the workforce, and its temporary stay in any one place, collective organisation both from within and without remains a very difficult task and unions are usually relatively more successful in reaching the more sedentary sections of the workforce.

In the light of this situation, what are the relevant policy issues which can lead to improving labour standards in the industry, especially the organised segments of the industry, which has been studied here?

The NCL Study Group to which we have alluded earlier had made a number of recommendations which aimed at (i) coordinating supply and demand of labour to reduce fluctuations in employment; (ii) create formal relations of employment; (iii) follow public policies, such as for social housing, which would help meet the worker's social reproduction costs; (iv) create

instrumentalities, such as cess-based welfare funds, to meet social security requirements; (iv) ensure living wages and minimum conditions of work; (v) change the recruitment system through regulating entry of contractors and setting standards.

These suggestions continue to be valid even in the changed context. But as we have seen, contrary to these recommendations, the state has stepped back from both appropriate regulation and social policy. However, workers' struggles did create the two legislations of 1996. But their application has been tardy, except in a few parts of the country, since the laws require sedentary characteristics of an increasingly mobile workforce.

We have therefore put forward a agenda for decent work and improved labour standards for wider discussion:

1. Harmonisation of Certain Labour Laws applicable to Construction Industry Workers.

There are three major laws viz. the CLRA, ISMW and the B&OCWWA, which provide for regulation of conditions of work of the labourers, provision of basic amenities, and safety and health. These laws also have a requirement for the registration of establishment/principal employer, registration of contractors, and registration of specific categories of workers covered under these laws. But a close scrutiny of these laws reveals that not only do they have different coverage, they also differ in fixing liability as well as in defining different categories of employers and workers. For example, the CLRA makes a distinction between the principal employer and the contractor, as also does the ISMW. But the B&OCWA only defines employers who can either be owners/occupiers if no contractors are involved or contractors/sub-contractors. There is no liability on the part of the principal employer who is also not defined in this Act. None of these Acts specifies responsibilities and liabilities if there is a chain of contractors/sub-contractors, as is usually the case. As far as registration of workers is concerned, each of these Acts refers to a different sub-group of workers and taken together, they still do not exhaust all categories of workforce at an establishment/site. Similar ambiguities exist in the defining working conditions, amenities and benefits under these laws.

We believe that the harmonisation of these laws should aim at:

-- Registration of all principal employers as defined in the CLRAA but with respect to the lower limits of investment as defined in the B&CWWA.

-- Registration of all contractors and sub-contractors in the labour recruitment chain, with appropriate changes in law.

-- Possible amalgamation of the CLRAA and the ISMWA, noting that there is almost total non-observance of this Act.

-- In the construction sector, minimum conditions of work, amenities, and safety rules to be defined by the B&CWWA.

2. Registration of Workers

As discussed above, the three labour laws provide for registration of specific categories of workers. In addition, the Unorganised Workers Social Security Act (2008) provides for universal registration of unorganised workers and the provision of smart identity cards, but this law has remained largely unimplemented. A large percentage of construction industry workers are circulatory migrants, working in temporary sites, and often moving between occupations, and issuing them identity cards which are portable seems to be a basic requirement. Linking these smart cards with wage payments and social security deductions would be the next step.

3. Applicability of Social Security Laws

A perusal of the social security laws which are meant for formal sector workers show that these laws are fully applicable to the construction industry workers employed by the formal segment of the industry. These include laws such as the employees State Insurance Act, the Employees Provident Fund Act, and the workmen's Compensation Act (specified in VIIIB of Schedule II of the Act), but they are rarely applied to workers in the sector nor is there any enforcement of these laws. Our discussions with workers' organisations also reveals that even these organisations lack clarity on the applicability of these laws. The labour departments should, therefore publicise the applicability of laws to these workers and take steps for their implementation.

4. Implementation of the Welfare Provisions of the B&CWWCA

The Building and Other Construction Workers Welfare Act and the corresponding Cess Act have been implemented very tardily but have, nevertheless, built up a very impressive corpus of funds. The focus has now shifted to registration of workers and benefits to them. One of the major problem of the Act is that it treats construction workers as sedentary and mono-occupational. There is little awareness that a large number of workers are mobile, moving between jurisdictions and even states. In recent years, due to expansion of the sector, workers tend to stay in employment with a contractor for longer periods but the basic problem remains. While we believe that the registration of these workers must be linked to a universal registration system, we also hold the view that a larger part of the funds should be used to provide public goods to workers (health facilities, crèches, shelters, housing, upskilling etc.) as was also envisaged by the First National Commission on Labour Study Group.

5. Enforcement of Labour Laws

The evidence in this study indicates that while employers do not take existing labour laws seriously, the state has virtually abdicated its responsibility in enforcing existing labour laws. While there is pervasive evidence of these laws not being observed, the filing of cases and prosecution of offenders takes place in very few cases. There has been a steady erosion in the capacity of the labour departments to enforce laws, but more importantly the state does not show any commitment to implement the laws. The temporary nature of the workforce and the lack of any collective voice also prevents any countervailing action on behalf of the workers from taking place.

6. Skill Improvement

In the last decade and a half, a number of reports have highlighted skill shortages in the construction industry. The Construction Industry Development Council (CIDC) was set up jointly by the Planning Commission and the Industry to respond to these shortages and in the last few years the NSDC and the Ministry of Labour and Employment have also stepped in to expand training capacity. However, no impact of these initiatives was seen on the ground. All skills were reportedly acquired on the job, and this mode of skill acquisition reinforced gender-based segmentation of the workforce. The evidence drawn from this study suggests that there is a need to significantly upscale skill training initiatives in the sector and to make these accessible to young workforce, particularly women.

7. Stopping Wage Theft

As we have noted in this study, most workers receive very low wages, which are below the legal minimum. The gross margins of the contractors are high - an estimated 30-40 per cent of the wage bill in some cases. Contractors use these margins to cover costs and to earn profits/incomes. Instead of setting labour contracts on a wage plus commission basis, firms set up contracts to cover gross wages, with some additional amounts being set aside occasionally for workers' transportation etc. Since contractors generate these margins from the wage bill, paid-out wages to workers are low (they are also low because contracts are set up without reference to legal stipulations). Employers do not fulfil their responsibilities of overseeing wage payments. In addition, contractors or their agents also retain part of the wages till the end of the contract/season and in many cases, the workers' dues are never fully settled. These problems could be reduced if contractors and employers were registered and if there was greater transparency in the contract between the different tiers of employers/contractors/sub-contractors. There is also some need for regulating this relationship as has been done in the MSME sector.

8. Focusing on Gender-friendly Policies and Employment

One of the main concerns in this sector, also highlighted in this study, is the status of women workers and the declining share of women's employment in the organised construction industry, as its work organisation, capital intensity, and provision of housing to workers is changing, discouraging the presence of women workers and workers' families. We had noted in the study that, unlike East Asia, women have a significant, though minority presence in the industry which is sustained by family-based circular migration. Such family based migration has both positive and negative features. While, on the one hand, it increases household incomes and women come out of agriculture which is lower paying, on the other hand, it exposes young children to an unhealthy environment in which they are also deprived of education. If rural employment increases, including through the contribution of programmes like MGNREGA, women's outmigration may come down. However, given that the construction industry is still one of the major avenues of non-agricultural employment for women, every attempt has to be made to reduce improve their working and living conditions, to reduce discrimination, and to improve their prospects for better jobs in the sector through skill acquisition and creating a demand for skilled women workers. This will require focused policy attention and also affirmative action on the part of employers.

9. A Trajectory for Decent Employment in the Construction Industry

Although there is large scale violation of minimum norms, given the high rates on investment and profits in the real estate and construction sectors, and year-round demand for labour, policy advocacy must focus on the creation of regular jobs with reasonably flexible contracts, and fair wages for workers, along with other decent conditions of work at the sites.

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Appendix A - List of Labour Laws Applicable to the Construction Industry in India

1.	Children (Pledging of Labour) Act, 1938
2.	Employment of Children Act, 1938
3.	Factories Act, 1948
4.	Mines Act, 1952
5.	Employment Exchange (Compulsory Notification of Vacancies) Act, 1959
6.	Industrial Employment (Standing Orders) Act, 1946
7.	Industrial Disputes Act, 1947
8.	Workmen's Compensation Act, 1923
9.	Indian Trade Unions Act, 1926
10.	Employer's Liability Act, 1938
11.	Employer's Sate Insurance Act, 1948
12.	Employees Provident Funds Act, 1952
13.	Maternity Benefits Acts, 1961
14.	Payment of Wages Act, 1936
15.	Motor Transport Workers, Act, 1951
16.	Contract Labour (Regulation and Abolition) Act, 1970
17.	Payment of Gratuity Act, 1972
18.	Apprentices Act, 1961
19.	Equal Remuneration Act, 1976
20.	Minimum Wages Act, 1948
21.	Payment of Bonus Act, 1965
22.	Weekly Holidays Act, 1942
23.	Collection of Statistics Act, 1953
24.	The Inter-State Migrant Labour (Regulation of Employment and Conditions of Service) Act, 1973
25.	The Building and Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996
26.	The Building and other Construction Workers Welfare Cess Act, 1996
27.	The Employees Provident Fund and Misc. Provisions (Amendment) Act, 1996.

Source: Working Group on the Construction Industry, 11th Plan

Appendix B - Profile of Tier 1 and Tier 2 Firms in the Field Survey

1. Firm A

Firm 'A' is a multi-disciplinary consultancy organisation established in 1974 under the patronage of a large Departmental Undertaking of the Government of India. It is a public limited company which focuses on several infrastructure sectors. In the last 38 years of operation it has maintained pivotal position in the field of transport, infrastructure and related technologies. Both domestically and internationally, it is engaged in a comprehensive array of services under a single roof and provides transfer of technology to local client organisations. It is internationally recognised as a leading consultant with operational experience of 62 countries in Africa, South East Asia, Middle East and Latin America. At domestic level central government, state government, public sector undertakings, Corporation and Industrial Establishments are major clients whereas internationally national governments and other apex organizations are major clients of the firm.

Sectors of Operation: There are vast sectors of the operations where the company operates. This include airports, architecture & planning, bridge & tunnel engineering, construction project management, environmental and urban engineering, highways, industrial engineering, railway equipment services, transportation and economics, urban planning and many other sectors.

Financial Performance: The annual financial statement shows that the company achieved its highest turnover of Rs. 1076 crore during the year 2012-13 as compared to previous year turnover of Rs. 934 crore, showing more than 15 per cent growth. Overall, the company has registered 18.1 per cent annualised growth between 1999-00 to 2012-13. The profit after tax was Rs. 254 crore in 2012-13, as against Rs. 164 crore in the previous year, an increase of 49 per cent. The net worth of the company increased from Rs. 1001 crore in 2011-12 to Rs. 1195 crore in 2012-13 , i.e., by 19.4 per cent. Between 1999-00 to 2012-13 the total net worth of the company increased by 17.4 per cent annually, which reflects the spectacular performance of the company in the last 14 years.

2. Firm 'B'

Firm 'B' is a state-owned infrastructure company which operates the transport network in the National Capital Region of India. It is registered as a firm under the Companies Act, 1956 with equal equity partnership from Government of India and Government of Delhi. Besides the operation of the transport network in Delhi NCR it is also involved in planning and implementation of different transport projects in many other cities in India.

Sectors of Operation: Over the years the company has emerged as the public transport backbone in Delhi and its nearby areas. As per the instruction by the ministry of urban development the firm has also set up a subsidiary company to provide consultancy services. The firm offers consultancy services to several metro projects in the country and abroad. The firm is also engaged in property development and provides consultancy to state owned institutions in Delhi. The firm provides tenders for property development, civil engineering, electrical, signalling & telecom and track.

Financial Performance: During 2012-13, the total revenue generated by the firm was Rs. 2687 crore inclusive of income from operations, real estate, consultancy and other incomes as against

Rs. 2245 crore in previous year. The operating profit of the firm increased from Rs. 653.7 crore in 2011-12 to Rs. 666.6 crore in 2012-13.

3. Firm "C"

Firm 'C' is one of the India's leading real estate developers. It was established in 1972 by a group of technocrats and became a limited company. It started business as a consultancy firm for soil and foundation engineering and has grown to have a highly diversified product mix in real estate comprising of world-class commercial complexes, IT/ITes parks, SEZs, integrated residential developments, schools, hotels, malls, golf courses and amusement parks. Currently 4.5 million sq. ft of retail spaces are under construction in major cities of India. It has a history of partnership with leading global organizations.

Sectors of Operations: the company's diverse portfolio includes residential, commercial, special economic zones, IT parks, industrial & logistic parks, hospitality, retail and entertainment projects. The company's infrastructure related projects include general construction, design, manufacturing, erection and commissioning of transmission towers, facilities and property management services and township management services.

Financial Performances: The total income of the company in the year 2012-13 is reported to be Rs. 15,264 million which was 15 per cent lower than the previous year income of Rs. 17,766 million. However, between 2004-05 and 2012-13, the total income of the company has increased by nearly three times. The consolidated profit after taxes stood at Rs. 1,520 million which is nearly half the profit earned in the previous year. The profit of the company constantly increased in the pre-recession period from Rs. 348 million in 2004-05 to Rs. 16,691 million in 2007-08. During 2008-09 the net profit of the firm declined to Rs. 11.968 and further to Rs. 5,811 million in 2010-11.

4. Firm 'D'

Firm 'D' is also a leading real estate developer, which was founded in 1988 as a limited company. Mainly a regional presence in the national capital region and neighbouring urban settlements like Meerut, Moradabad, Hardwar and Rudrapur, it is engaged in the building of both residential and commercial complexes. It is also planning to enter into the development of IT and software parks and recently built the highest residential tower in Noida with the help of multinational companies.

Sectors of Operation: Presently the company is involved in both residential and commercial projects and is planning to enter into the area of IT and software parks. The company has also introduced high technology equipments for quality control and fast delivery system. It has imported pre-cast technology for fast delivery. The use of such technology helps in saving up to 64 per cent of the total man hours that were earlier needed by conventional methods.

Financial Performance: the total turnover of the company in the year 2010-11 increased by 2.97 per cent as compared to the previous year. Profit after tax and net worth of the company also increased by 1.66 and 0.45 per cent respectively in the year 2010-11.

5. Firm 'E"

Firm 'E' is a private limited real estate developer. The major business operation of the company is based in Delhi & Gurgaon and some other cities in India. The company is claimed to build one of the largest and most ambitious integrated township projects in the NCR.

Sectors of Operation: the firm is engaged in excellent structures in residential ventures, commercial spaces, business centres, education and hospitality sectors.

6. Firm 'F'

Firm 'F' has extensive experience in the real estate sector which enabled its steady rise to become a prominent player in the industry. Being one of the most competitive players in the real estate sector, the business activities of the firm encompass development of commercial and residential projects. The firm is looking forward to create an ineffaceable mark in this sector with the help of internationally acclaimed architects and design consultants. It has a national presence and many government organizations are clients of the firm.

7. Firm 'G'

Firm 'G' is engaged in the real estate sector for seven years. It was established in 2007 in Delhi NCR. The company claims to have developed environment friendly green building in the name of 'creating, caring and conserving' from the time when the construction of energy efficient building in India was at a nascent stage.

The company has mainly got a presence in the Delhi NCR area, with the vision to evolve as an integrated developer of green buildings that are truly sustainable in form, function and use. In the coming years the company would like to penetrate the Delhi NCR market more, and hopes for a larger presence in other cities with the increasing demand for green buildings. The company has also a joint venture in the hospitality sector with a prominent Canadian hotel chain company which is planning to scale up its presence in India to six luxury hotels by 2020.

Sectors of Operation: The core area of operation of the company is real estate development, which includes an IT park and township, residential buildings and hotel. The company has also forayed into the hospitality sector by joining hands with an international hospitality brand and doing business in education, facility management and architecture.

8. Firm 'H"

Firm 'H' is a private developer and construction company mainly based in Greater Noida, Ghaziabad and Delhi. It was started in the year 2003 and it has become a major player in the real estate sector. Apart from major business operation in Delhi NCR, the firm has created residential complexes in Bihar, Orissa, Madhya Pradesh, Kerala and Mumbai. It mainly focuses on smaller cities because of the growing demand of housing in tier- II and tier-III cities.

The company is also in the process of bringing in new technologies that will reduce wastage, gestation period and pilferage during the construction process. It is also going to use pre-cast

imported technology imported from Germany and Dubai which will reduce the project cost by up to 15 per cent.

Sectors of Operation: Over the years, the company has expanded both vertically and horizontally into areas like film production, processed food products, hotels and hospitals.

9. Firm 'I'

Firm 'I' is a joint venture between firm 'X' of Dubai and firm 'Y' of India. Firm X is one of the world's leading real estate companies having developed residential, commercial and other business segments in more than 14 countries. Firm Y has established itself as one of the key players in real estate development in northern India. The company started its operations in India in 2005 and it is into real estate development with pan India presence and operation spanning all key segments of the real estate industry, namely the residential, commercial, retail and hospitality sectors. The operation of the company encompasses various aspects of real estate development such as land identification, project planning, designing, marketing and execution. Presently it focuses on the development projects in Delhi NCR, Chandigarh, Hyderabad, Chennai and other key cities.

The company is also in the process of investing more than Rs. 13000 crore in building of 80 new hotels across the country on the basis of 50:50 joint ventures with UK's largest hospitality company.

10. Firm 'J'

Firm 'J' is a large construction company established in 1924. During the colonial era it was incorporated as a British company specialising in the system of piling in both India and South East Asia. After independence the ownership of the company was transferred to an Indian family and thereafter the company started working in civil and structural construction of industrial projects. It became a public limited company in 1993, crossing Rs. 3000 million in turnover before the turn of the millennium. With a growing international footprint in Asia and Africa, the company sustained tremendous growth over the years with turnover crossing the landmark figure of Rs. 60,000 million by 2010-11 which is a twenty fold rises in less than two decades.

Sectors of Operation: From being the pioneer and leader in ground engineering since 1924, it has diversified its operations into the areas of road, railways & bridge building, industry, power & transmission, marine and urban infrastructure.

Financial Performance: During the current financial year, on consolidated basis, the company reported revenue from operations at Rs. 58975 million as against Rs. 60098 million the previous year. Profit after tax declined to Rs. 520 million from Rs. 827 million the previous year. The earning before finance costs, tax, depreciation and amortization (EBITDA) also declined from Rs. 2462 million in 2011-12 to Rs. 2179 million in 2012-13. Besides the current financial year, there has been remarkable growth in revenue from operation, EBITDA and profit between 2005-06 and 2012-13. The revenue from operation has grown at a rate of 23 per cent at annualized growth rate basis. Similarly, EBITDA and profit after tax have also shown significant growth performance of 13.1 per cent and 8 per cent annually in the last 8 years.

11. Firm 'K'

Firm 'K' is also a construction company involved in the preparation of the structures as a first layer subcontracting firm. This was incorporated as a limited company in 1989 and was founded as a partnership firm in 1978. This firm claims to be the most respected construction and infrastructure firm which has pan India presence. According to a news report published by 'Construction World' a multinational media information group, it has recorded the fourth largest turnover in the year 2009 in India.

Sectors of Operation: The service portfolio of the company extends across the construction of factories and manufacturing facilities, IT campuses, Commercial and Residential complexes, malls and hotels.

Financial Performances: During the financial year 2012-13, the total turnover of the Company was Rs. 150 million as against Rs. 192 million during the previous year. This reflects a decline of 21 per cent in income from operation. However, compared to the pre-recessionary period of 2005-06, the total turnover of the company has increased by 69 per cent. Profit after tax in the year 2012-13 was 8.41 million than the previous year's profit of Rs. 1.59 million in the year 2011-12.

12. Firm 'L'

Firm 'L' produces climate control equipment and was included in the survey as a second layer subcontracting firm, under a government consultancy organisation. This is a limited company incorporated in 1957 and promoted by a large Indian business house which has a diverse operational background in the energy, infrastructure and defence sectors. This particular firm was setup to fulfil the demand and future business prospects for climate control equipment, especially in the field of air conditioners in India.

Sectors of Operation: the firm focuses on four diverse business areas which include an air system division, a scaffolding & form work division, a structural steel division and a domestic power project division.

Financial Performance: The annual financial statement of the company states that during the financial year of 2012-13, it has maintained strength and momentum with healthy earnings, given the challenges of slowdown in global and domestic economy. According to the report, the total revenue grew by 12.7 per cent from Rs. 9061 million during the previous year to Rs. 10214 million this year. As compared to total turnover in the year 2008-09, it has increased two and half times in 4 to 5 years. During 2012-13, the EBITDA grew by 22.7 per cent and profit after tax increased by Rs. 50 million from the previous year profit of Rs. 446 million.

13. Firm 'M'.

Firm 'M' is a private limited company and a subsidiary firm under a major group which itself is involved in real estate and construction activity. The company is involved in civil construction for 15 years in the commercial, residential, industrial and hospitality sectors.

Sectors of Operation: The major sectors of operation of the company encompass turnkey projects, civil engineering, plumbing, electrical, air conditioning and fire fighting.

Financial Performance: In the recent year the financial performance of the company has weakened. During 2010-11, the company earned Rs. 181.9 million in income from operation and other means and this declined by 28 per cent in the next financial year. The profit after tax was Rs. 5.6 million in the year 2011-12, 33 per cent less than the previous financial year.

14. Firm 'N'

Firm 'N' has over 50 years of experience in the construction business and is considered to be one of the leading private limited company in turnkey civil construction in northern India. The business activities of the companies range from institutional and commercial complexes to industrial plants, high rise residential buildings, hotels and SEZs.

The company has expertise in executing the entire spectrum of construction from making pure structures to finishing, interiors and external development as well as services such as electrical, plumbing, air conditioning and fire fighting. On average it executes 10 projects in a given year.

15. Firm 'O'

Firm 'O' is widely known in the field of civil construction with more than 34 years of experience. It was established in 1976 as a class-1 contractor operating in various cities in India. The company has expertise in handling of multi-story buildings, shopping malls, township, hotels, factories and roads.

Financial Performance: In the last 5 to 6 years, the annual turnover of the company has constantly increased. The annual turnover of the company increased from Rs. 43.07 crore in 2009-10 to Rs. 185 crore in the current financial year 2013-14.