

Demographic and Socio-Economic Profile of Labourers in Construction Industry of Varanasi City (India)

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Abstract: Unorganised labour sector covers more than 90 per cent of the total work strength of India. Among these unorganized workers more than half of the construction workers belong to the informal sector. The present study aim to assess the demographic and socio-economic profile of the workers engaged in construction work in Varanasi City, India. A primary survey conducted during the period of June-September, 2016, individual level primary data has been collected from the targeted population using multi-stage convenience sampling method. It was found that more than half of the workers were from the age group of 20 – 35 and most of them belong to local SC or OBC category. The average household size of labourers was found to be 6.92 per cent, which was more than the national average. More than 86 per cent of the workers in the city do not have a permanent house to live in. It was estimated as monthly income (indirectly based on expenditure and saving) of the labourer group is only Rs. 10278/- (less than 160\$). This paper recommends that there is an urgent need to pay attention on government policies to improve the overall socio-economic and working conditions of the construction workers.

Keywords: Construction labourers, Demographic condition, Socio-economic situation

1 Introduction

To meet the demand of large population in India, private and government sectors are using lands for building construction at fastest rate. it includes offices, houses, hospitals, schools and other buildings, urban infrastructure (including water supply sewerage, drainage) highways, roads, ports, railways, airports, power system, irrigation and agriculture systems, telecommunications etc. Building construction is basic of industrial development comes under informal/unorganised sector. Around 3 crore of labourers involved in construction industry in India, which is main source of employment for these labourers. In India Construction has accounted for around 40 per cent of the development investment during the past 50 years. Around 16 per cent of the nation's working population depends on construction for its livelihood. The Indian construction industry employs over 30 million people and creates assets worth over Rs. 200 billion. The construction equipment industry's revenues are estimated to reach US\$ 22.7 billion by 2020 from US\$ 5.1 billion in FY12. Unit sale of construction equipment is expected to grow to 82,000 by 2016 from 61,745 in FY12. Construction equipment forms around seven to eight per cent of gross domestic product (GDP) and gives employment to more than 30 million people in the country. It also accounts for more than 60 per cent in total infrastructural investment [2].

Social stratification is the ubiquitous characteristic of societies to organize people in a hierarchy of levels on a variety of dimensions, particularly, on the basis of their demographic and socio-economic conditions. Our society is a unique blend of diversities; which is classified according to their family background, education level, income level, occupations, etc. Among these stratum; occupation (working status) has its own importance. Working people have a different social status and also a have different life style as compared to non-working people. The working people are grouped by their occupations i.e. labour, agriculture, self-employed, private-employed, government-service etc. A labourer group is an unorganised occupation and it comes under informal sector.

Each country has its own agenda for development of the nation. India has taken many important steps in this direction. The development of a nation is based on the development of its both sectors viz. organised and unorganised. In India,

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construction industry is the second largest sector which includes a huge work force in the unorganised sector after the agriculture. It significantly contributes to the Gross Domestic Product (GDP) of our country. According to the NSSO estimates, about 5.57 percentages of workers are engaged in building and other construction work [6].

Varanasi city is predominantly an unorganised city; the key for the overall development of the city economy is health, education, tourism and construction. It is the backbone of economy of Uttar Pradesh with Net District Domestic Product Rs. 15543.49 Crore at current market price as 1.68 per cent of the total State Domestic Product [?, 5] Over the years, there has been considerable increase in the proportion of workers engaged in 'construction'; between 1977-78 to 2011-12, the increase in the proportion of workers in 'construction' was about 11 percentage points for rural males, 6 percentage points for rural females, 7 percentage points for urban males and 2 percentage points for urban females. During this period, in the urban areas, proportion of male workers engaged in 'trade, hotel and restaurant' increased by about 4 percentage points and proportion of female workers engaged in 'other services' sector increased by 14 percentage points [3].

2 Study Area and Data

This paper presents demographic change and socio-economic status of building construction labourers in Varanasi city, India. Cross sectional survey was being conducted in Varanasi city of Purvanchal region, Uttar Pradesh which is also known as Kashi and Banaras. Varanasi is one of the richest religious places of India, famous for its cultural heritage. As an emerging metro city Varanasi has become a business hub and also growing up as an important destination for education, health, tourism, spirituality etc. Geographically, Varanasi district lies between parallels of 24⁰56'N and 25⁰35'N latitude and 82⁰14'E and 83⁰24'E meridians of longitude. The rural area of Varanasi district in eastern Uttar Pradesh has primarily been an agrarian economic centre. The Varanasi city; an urban area of the Varanasi district, is expanding and the construction workers are required for the development of the city. Therefore, inter and intra migrations among the construction labourers have been increased in this area. Thus it is imperative to study their socio-economic, working conditions and quality of life. Various studies are available on construction labourers in India. Although the working conditions of male construction worker and its impact on their life in the Surat city, Gujarat and a studied the socio-economic status of migrant construction workers in Bangalore [8,9].

The individual level primary data has been collected from the target population using multi-stage cluster sampling method during June-September, 2016. The survey was carried out in the different wards and labourer mandi of Varanasi city. The respondents of the study areas were labourer working and seeking for work at different places of the city. Varanasi district is partitioned in total 7 sectors as Lanka, Bhelupur, Sigra, Sarnath, Chetganj, Cant and Rajghat. The National Sample Survey Organization responsible for conducting survey on Employment and Unemployment status in the states and country reported that in Uttar Pradesh about 14.36% of the population was working in construction areas in 2012-13. An estimated proportion of construction workers in 2015-16 were 15.06 which showed that out of seven workers at least one worker was engaged in the construction industry. A total of 508 respondents (168 engaged in work and 340 to search a work) were enumerated.

3 Method Used

The data has been summarized in the form of frequencies and percentages; also descriptive statistics (mean, standard deviations, minimum and maximum) has been reported. Chi-square test has been used to test the association between categorical variables- residence and status of work, Age group and residence, Age group and status of work, category and residence, Time duration in Construction Work and residence, accommodation and residence, distance to work place and mode of transportation, type of house and house head of family, status of facility and residence.

4 Results and Findings

It is observed in the Table 1 that the percentage distribution of labourers according to their residence by type of work; 66.54 per cent of the labourers were belong from Varanasi district, while 24.21 and 9.25 per cent of the labourers were from other districts of Uttar Pradesh and other states of the country respectively. This is an indicator of migration from other district as well as other states to the Varanasi city. From the results it was clear that one-third of migrated labourers, in the city, have occupied three-fourth of work force and it might be because of the availability of migrated people to work with ups and downs of wages. Results show that type of work differs significantly according to migration status. Age is important factor to evaluate capacity to work in such industry. It requires physical and mental capacity to continue further. Various studies show that this capacity develops with years and after certain age these begins to decline. The

Table 1: Percentage distribution of labourers as according to residence and status of work

Residence	Status of work			χ^2
	To search a work	Engaged in a work	Total	
Varanasi	74.56	25.44	66.54	33.682* (df = 2)
Other District	57.72	42.28	24.21	
Other State	36.17	63.83	9.25	
Total	66.93	33.07	100	

*Significant at 5 per cent.

Table 2: Percentage distribution of labourers as according to age group (in years) by residence

Age group	Residence				χ^2
	Varanasi	Other District	Other State	Total	
15-24	17.46	19.51	53.19	21.26	34.663* (df = 8)
25-34	31.95	28.46	21.28	30.12	
35-44	29.59	29.27	10.64	27.76	
45-54	14.5	17.89	12.77	15.16	
55 & above	6.51	4.88	2.13	5.70	
Total	66.54	24.21	9.25	100.00	

*Significant at 5 per cent.

capacity to work changes with the changing phase of human life, this study of worker willing to work with age is important. In table 2 and table 3 these effect are presented.

Table 2 reflects the percentage distribution of labourers according to their age-group by residence; there was 21.26, 30.12, 27.76, 15.16 and 5.70 percent of labourers belonging to 15-24, 25-34, 35-44, 45-54 and 55 & above years age group respectively. Mostly (66.54 per cent) labourers are local as compared to other district and other state, major proportion of workers comes under 25-34 years age group. Also, from younger age group are migrated in the search of a livelihood to Varanasi from other district/other states because of unavailability of work in their own locality. Age group differs significantly according to migration level.

Table 3: Percentage distribution of labourers as according to age group (in years) by status of work

Age group	Status of work			χ^2
	To search a work	Engaged in a work	Total	
15-24	17.94	27.98	21.26	9.362 (df =4)
25-34	30.00	30.36	30.12	
35-44	30.88	21.43	27.76	
45-54	15.00	15.48	15.16	
55 & above	6.18	4.76	5.70	
Total	66.93	33.07	100.00	

The percentage distribution of labourers according to their age-group by status of work is presented in table 3. It shows that about the same pattern of age group in both the status of work group i.e. either searching a work or engaged into a work. But according to table the results are not significant because age group does not have any effect on work status.

Table 4 reflects the percentage distribution of labourers in sample according to caste and residence, majority of labourers from the local community of SC and OBC were involved in the construction industry; in the migrated labourers from the other district/states; general category have higher proportion. It may be considered as social stigma of people to work in their locality. Results show that caste differs significantly according to migration level.

Table 5 illustrates the average household size of households from where labourers belong to study population according to caste. Results reveal that average household size was found to be 6.92 which was more than the national average of 4.8 and approximately same as Varanasi district average of 6.6 (Census 2011). Labourers from general category have the largest family size with members per household in the family of labourers from Varanasi whereas scheduled caste has had the largest average family size above 7.2 of labourers from other district/state. This indicates that

Table 4: Percentage distribution of labourers as according to social category by the residence

Category	Residence				χ^2
	Varanasi	Other District	Other State	Total	
SC	28.99	39.02	27.66	31.30	64.327* (df = 8)
ST	3.55	17.89	27.66	9.25	
OBC	45.86	30.08	25.53	40.15	
General	5.62	5.69	14.89	6.50	
Muslim	15.98	7.32	4.26	12.80	
Total	66.54	24.21	9.25	100.00	

*Significant at 5 per cent.

Table 5: Average household size according to different caste by status of work

Category	Residence			
	Varanasi	Other District	Other State	Total
SC	6.66	7.23	7.69	6.92
ST	6.75	6.82	4.46	6.15
OBC	6.77	6.30	7.25	6.71
General	7.32	5.71	5.57	6.61
Muslim	6.56	6.56	11.50	6.71
Total	6.73	6.74	6.53	6.92

in the labourers from general community have a matter of livelihood get involved in the construction work and overall community have a joint family. Percentage distribution of labourers as according to marital status and age at marriage

Table 6: Percentage distribution of labourers as according to marital status and age at marriage

Marital Status	Frequency	Percent
Never married	84	16.54
Ever married	424	83.46
Total	508	100.00
Age Marriage (Ever married=424)		
Below to 21	304	71.70
21 & Above	120	28.30
Total	424	100.0

Table 6 reflects the percentage distribution of labourers according to marital status and age of marriage. About to 83 per cent of labourer were married and 17 per cent unmarried. Out of the 424 ever married labourers 71.7 per cent were married below the age of 21 years, while 28.3 per cent were married above the age of 21 years. Along with this; it is observed that married respondents have on average 1.52 sons with a standard deviation of 1.15 and the mean number of daughters is 1.51 with a standard deviation of 1.28. Considering total number of children it is found that on the average number of children was 3.03 with a standard deviation of 1.81.

Table 7: Percentage distribution of labourers as according to time duration in construction work by residence

Time duration in construction work	Residence				χ^2
	Varanasi	Other District	Other State	Total	
Up to 1 year	40.53	42.28	44.68	41.34	2.055 (df=4)
2-5 years	30.77	31.71	36.17	31.50	
6-10 years	28.70	26.02	19.15	27.16	
Total	66.54	24.21	9.25	100.00	

Table 7 shows that about 41 per cent of labourers involved in the construction work within the year and about 27 per cent of labourers engaged in the construction work during last five years. Time duration have similar pattern in Varanasi as well as other district and state.

Table 8: Percentage distribution of labourers as according to accommodation in the city by residence

Accommodation	Residence				χ^2
	Varanasi	Other District	Other State	Total	
Footpath	1.26	15.29	5.26	4.32	42.965* (df=4)
Jhuggi	27.44	41.18	26.32	30.00	
Colony	71.29	43.53	68.42	65.68	
Total	66.54	24.21	9.25	100.00	

*Significant at 5 per cent.

Table 8 reflects the percentage distribution of labourers according to their accommodation status in Varanasi city. We observed that 86.61 per cent of respondent's reside in the city but it is also felt by the researcher that some of labourers those live in the city, do not have own permanent house as 4.32 per cent reside in footpath, 30 per cent in slums, 19.55 per cent of labourers reside in colony and 46.14 per cent in other places. 15 per cent of labourers migrated from other district were accommodate on footpath. Accommodation differs significantly with the status of migration. Hence, there is an urgent need to make a shelter house for the labourers to accommodate in the city.

Table 9: Percentage distribution of labourers as distance from residence to work place by mode of transport

Distance to work-place	Mode of transport					χ^2
	By foot	Cycle	Auto	Bus	Total	
Up to 10	89.47	57.84	18.1	29.79	57.68	160.928* (df=6)
Nov-20	7.6	22.16	52.38	53.19	26.38	
21 & Above	2.92	20	29.52	17.02	15.94	
Total	33.66	36.42	20.67	9.25	100.00	

*Significant at 5 per cent.

Table 9 portraits that percentage distribution of labourers according to their mode of transport from their living place. It was seen that about 36 per cent of the labourers travelled by cycle and 34 per cent labourers did not have any vehicle and they were travelling by foot among them more than 10 per cent were travelling more than 10 km. and 20.67 per cent use auto and 9.25 per cent use buses as public mode of transport.

Near about 58 per cent of labourers moved within 10 km. for work from their living place to work place as well as about 16 per cent travelled more than 20 km. Mode of transport differed significantly with the distance from living place to work place.

Table 10: Percentage distribution of labourers as according to house-head of the family by the type of house

Type of house	House head of family			χ^2
	Self	Others	Total	
Kachcha	64.42	35.58	52.56	1.267 (df=3)
Pakka	68.72	31.28	35.24	
Both	71.05	28.95	7.48	
Hut	66.67	33.33	4.72	
Total	66.54	33.46	100.0	

Table 10 shows the percentage distribution of labourers in accordance to head of family by their type of house. Most of the labourers; about 66.5 per cent of the respondents were head of their household while 33.50 per cent reside in house headed by other family members. Majority of labourers; near about 53 per cent reside in kachcha house, while only 35 per cent reside in pakka house. About 7 per cent labourers have both type of houses and 5 per cent still living in hut. Type of house do not differ by the family house head; it may be most of the person belong to poor economy so it does not means who were the head of house.

Table 11 shows that only about 50 per cent of the labourers have own agricultural land. We also observe that out of the 253 respondents who have own agricultural land, About 52 per cent of labourers works in their own field, while about 44 per cent of the labourer's family member works in their agriculture land and about to 4 per cent of the respondents have employed a person for their agriculture.

Table 11: Percentage distribution of labourers as according to agriculture land

Agriculture land	Frequency	Percent
Yes	253	49.80
No	255	50.20
Agricultural work (Yes=253)		
Doing self	131	51.80
Family member	111	43.90
Others	11	4.30

Table 12: Percentage distribution of labourers as according to status of facilities by the residence

Status of facilities		Residence				χ^2
		Varanasi	Other District	Other State	Total	
Rashan card	Yes	66.57	71.54	53.19	66.54	5.145
	No	33.43	28.46	46.81	33.46	
Aadhar card	Yes	83.73	76.42	72.34	80.91	5.575
	No	16.27	23.58	27.66	19.09	
Bank account	Yes	62.72	65.85	41.30	61.54	9.125*
	No	37.28	34.15	58.70	38.46	

*Significant at 5 per cent.

From the Table 12 it is clear that only about 67 per cent of labourers have the facility of rashan card and this pattern is similar in the district Varanasi as well as among the migrated labourers from other district and other state. About to 91 per cent of labourers have the Aadhar card and were using their identity for citizen of the country. One-fourth of migrated labourers from other district and other state still have not registered under the plan of Aadhar card. Only about 62 per cent of labourers have bank account and it was opened under the scheme of Jan Dhan Yojana. Still one third of labourer has not opened a bank account. Mostly, it may be due to reason illiterate and poor labourers don't like transaction of money with bank. To avail the bank service was differs statistically with the different region.

Table 13: Percentage distribution of labourers as according to status of assets by the bank account

Assets	Status	Bank account		Total	χ^2
		Yes	No		
Cycle	Yes	70.63	29.37	56.30	22.91*
	No	49.77	50.23	43.70	
Motorcycle	Yes	66.67	33.33	8.27	0.509
	No	61.08	38.92	91.73	
Mobile	Yes	71.60	28.40	65.16	40.793*
	No	42.61	57.39	34.84	
Radio	Yes	66.67	33.33	6.50	0.392
	No	61.18	38.82	93.50	
Television	Yes	67.20	32.80	24.61	2.247
	No	59.69	40.31	75.39	

*Significant at 5 per cent.

Table 13 portrays the percentage distribution of labourers as according to status of assets for the bearer of bank account. As assets; it must be cycle in every house but only 56 per cent of labourers have the cycle among these near about 71 per cent of labourers have bank account. The status of assets as cycle differs significantly with bearing of bank account. Those labourers who have a motorcycle about one third of them have no bank account.

Similarly, the motorcycle, radio and television like assets owned by labourers having no bank account. Nearly 65 per cent of labourers were using the mobile service; among them near about 72 per cent of labours have bank account. The mobile asset differs significantly to bearing of mobile. Overall holding of bank account depends on the status of mobile and cycle.

Table 14 shows the percentage distribution of labourers according to their income they received was how much sufficient by residence; among them 7.68 per cent of labourers have mentioned that they completely fulfil their family

Table 14: Percentage distribution of labourers as according to earn sufficient income by residence

Status of earning	Residence				χ^2
	Varanasi	Other District	Other State	Total	
Completely	5.92	11.38	10.64	7.68	11.160 (df=8)
Maximum	7.40	8.94	12.77	8.27	
Medium	33.73	34.15	34.04	33.86	
Minimum	29.29	30.08	31.91	29.72	
Not at all	23.67	15.45	10.64	20.47	
Total	66.54	24.21	9.25	100.0	

needs while 20.47 per cent say that they are not able to fulfil their family needs at all. 33.86 per cent of labourers try to fulfil their medium needs. 27 and 29.72 per cent of them fulfil their family's maximum and minimum needs respectively. One can estimates that the migrated labourers have satisfied with their earning in comparison to the labourers from Varanasi district.

Table 15: Descriptive statistics to monthly expenditure, saving and income of labourers.

Expenditures (in Rs.)	N	Median	Mean	Std. Dev.
Food	508	1500	2091.85	1670.29
Family	508	1800	4504.63	2553.93
Medical	508	4000	1145.7	1258.11
Miscellaneous	508	1000	1798.7	1773.62
Saving	196	1000	1911.22	1784.34
Income	508	9700	10278.28	4509.69

Table 15 shows that monthly expenditure on food, family, medical & miscellaneous including saving and income of the labourers. On average the monthly expenditure on the food, family, medical and miscellaneous items were Rs. 2091, 4505, 1147 and 1798 respectively along-with monthly saving of Rs. 1911. In such way, the monthly income of labourers was Rs. 10278/- (less than \$ 160). It was revealed that these labourers were only bread and butter earner of their family.

Figure 1 show that the average monthly total saving of the workers was meagre and hence it is very difficult to manage their family expenditure on food, basic needs of family, medical and miscellaneous items, which is pictorial form of table 15. From figure it is very clear that very few labourers were have marginal income and saving as well as the expenditure on various item show heterogeneity in their living status. Table 16 describe in details about the educational pattern in three generation i.e. literacy status of labourers grandfather's and the education level of labourers father along with the education level of their own. Approximately, 41 per cent of labourers were uneducated whose father and grandfather both was illiterate. Total 26.57 per cent of labourers were involved in the construction work those fathers were educated and 6 per cent of labourers were involved in the construction work those grandfather were literate. Similarly, there were only 4.53 per cent of such labourers; whose three generation literate i.e. sons, fathers and grandfathers all were educated.

5 Conclusions and Discussion:

The analysis conducted to understand the demographic and socio-economic conditions of building construction labourers, also to analyze the workers economic status by using the various categorical variables-residence, age-group, category. This is the first study of this kind that evaluates condition of labourer in the study area. Some challenges in construction area are lack of stability and durability, absence of social security, uncertain working hours, unhygienic and unsafe working conditions, vulnerability to occupational diseases, serious injuries, lack of social security measures, improper implementation of labour laws, lack of labour welfare activities, no holidays, absenteeism, and addiction to various habits economic backwardness of the construction workers, social ignorance of working conditions, low level of age rate, existence of poor working conditions, unavailability of employment low bargaining power, low level of wage rate, highly migratory nature, and deep indebtedness, which is to be taken in to consideration. The study suggested that there was urgent need for government schemes to provide more opportunity for low income group so that their financial problem could be solved to a larger extent and there was also a need initiating night school, where worker get free

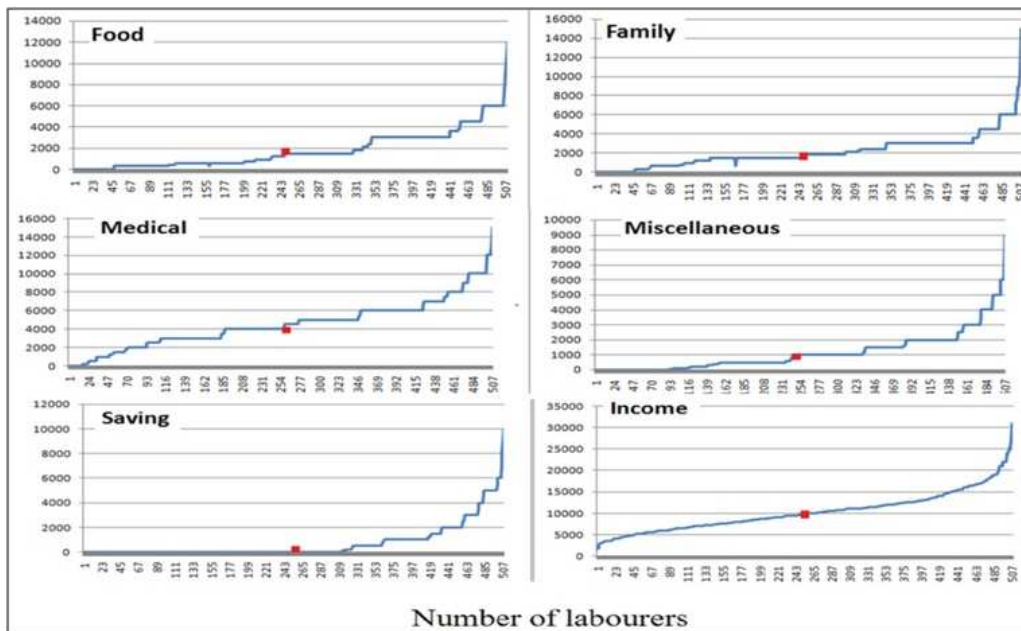


Fig. 1: Monthly expenditure on food, basic needs of family, medical and miscellaneous items including monthly saving and estimated income of labourers.

Table 16: Percentage distribution of labourers as according to education pattern in three generation

Grandfather's Literacy Status	Labourers Father's Education Level	Labourers Education Level					Total
		No education	Primary	Middle	Metric	12 & above	
Illiterate	No education	40.94	15.35	9.45	4.92	2.56	73.23
	Primary	3.35	2.36	2.76	1.77	0.98	11.22
	Middle	1.18	0.39	0.59	0.79	0.39	3.35
	Metric	0.2	0.59	1.18	0.2	0.39	2.56
	12 & above	0	0	0.59	1.77	1.18	3.54
Literate	No education	0.2	0	0	0	0	0.2
	Primary	1.18	0.79	0.2	0.2	0.39	2.76
	Middle	0.2	0.59	0	0.2	0	0.98
	Metric	0	0.39	0	0.2	0	0.59
	12 & above	0	0	0.39	0.39	0.79	1.57
Total		47.24	20.47	15.16	10.43	6.69	100

education and make them able to understand their rights, government schemes. Train them to live in hygienic place, aware them about infectious disease so that they keep their family healthy and save money for future.

Government has various plans for upliftment of their condition, but they are not implemented in a systematic way. The process from which workers get benefit from government is corrupted. Ignorance and illiteracy of construction workers allows Intermediate activities to take all benefit. Workers are victimising in their work place without letting them know. Thus there is an urgent need to pay attention on these issues and policies should be made more vibrant to improve the overall socio-economic and working conditions of the construction workers.

Although there are many welfare schemes available, but they are not implemented on ground. Both labourer and contractor are not aware of the welfare programs. Thus there is an urgent need to pay attention on these issues and policies should be made more vibrant to improve the overall socio-economic and working conditions of the construction workers.

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