

# SOCIO ECONOMIC CONDITIONS AND WORK BEHAVIOUR OF COOLIE WORKERS IN CONSTRUCTION INDUSTRY: A RELATIONSHIP STUDY

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**Abstract** *The construction industry is an essential contributor to the process of development. Roads, dams, irrigation works, schools, houses, hospitals, factories and other construction works are the physical foundation on which development efforts and improvement of living standards are established. The products of the construction industry are investment or capital goods. Thus construction industry has linkage with rest of the economy in terms of generation of output and employment. The construction sector has the largest number of unorganized labourers in India next only to the agricultural sector and almost half of the workforce is unskilled labourers with no occupational mobility. Often they face serious problems/constraints related to work, viz., lack of continuity, insecurity, wage and gender discrimination, gender and sexual harassment, unhealthy job relationship, lower wages, and poor job satisfaction. As the discrimination is more among the workers in construction industry, this study analyses the relationship between socio economic conditions and work behavior of coolie workers of construction industry.*

**Keywords:** *Coolie Workers, Working Behaviour, Construction Industry*

## INTRODUCTION

India's construction industry is large and visible, engaging 3.2 crore workers nationwide. For most of these workers, the construction industry is their "principal" source of employment. Construction activity is an integral part of a country's infrastructure and industrial development; it includes hospitals, schools, townships, offices, houses, and other buildings, urban infrastructure (including water supply sewerage, drainage) highways, roads, ports, railways, airports, power system, irrigation and agriculture systems, telecommunications etc. The construction becomes the basic input for socio-economic development of country (Balaji, A & Das. V, T, 2015).

Construction workers are the back bone of the economy as they create the infrastructure necessary for industrial growth. Industrialization and urbanization has paved a good way for the construction industry. Small towns and cities have become more urbanized and the construction sector too has got a boost. Expanding and fast growing construction sector and in general, shortage of greater employment opportunities elsewhere has attracted large number of

workers to this sector. Construction labourers are those who have migrated from different regions and states leaving their native villages in search of daily job. They have maximum mobility because of the nature of work. These construction workers are from poor families and are illiterates. Their lack of education and skill make their choices very limited. They have to face a number of problems due to their inexperience and lack of skill. They become easy victims of exploitation and gender discrimination for work allocation and wage distribution. Sexual harassment is a serious problem for women construction workers. They faced different health hazards, physical problems and adverse out comes (Rajanna, K.A, 2015).

## LITERATURE REVIEW

The researcher has collected and reviewed the literature relating to the present study.

There is a certain way individuals behave in a particular situation. No two individuals behave in similar ways. There are individuals who find it difficult to handle stress whereas there are certain individuals who have the ability to face

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unforeseen circumstances with a smile. The behaviour of individuals towards the work here is called as work behaviour.

Construction industry plays an important role in the economy of all countries. Construction work is a risky and dangerous work and the workers do it for meager wages. It involves heavy overhead load, operation of heavy machinery, dirty materials, temperature extremes and working at heights. It is a job of 3 D's that is dangerous, dirty and difficult. Workers in the construction industries are exposed to many occupation related health problems which may lower the working capacity of construction workers (Tikoo, S & Meenu, 2013).

There is an inherent gender bias against women and also the shared general belief that women construction workers are unfit to be trained informally like men in the construction sector even though they have the necessary skills, capability and desire to become masons.

Though the contractors are willing to accept women as masons by giving them training and placement in the construction sector, it has been found, the social forces that have perpetuated the concept of women as inferior workers is inimical to any such move. (Barnabas, A., Anbarasu D.J., & Paul S.C, 2009). Women construction workers face harassment at home and work place and they are discriminated in wages and promotion. The women construction workers are competent enough to be trained to become masons and they could first be formally trained and then informally trained to become mason in the construction Industry in India (Kumar, R.B, 2013).

There are more than 20 million people engaged in various construction activities. They are born with indebtedness and poverty, their bodies are weak and they are overwhelmingly illiterate. They are not only discriminated but also exploited by the contractors/employers by taking benefit of their poor bargaining and socio-economic conditions. They are compelled to work on lower wages and unhygienic conditions without proper facilities of housing, washing, bathing, latrines, urinals and social security measures. (Singh, D, 2007).

The construction workers face the various problems such as low wages, lack of stability and durability, absence of social security, uncertain working hours, lack of security measures, changing working conditions, lack of labour welfare activities, improper implementation of labour laws and vulnerability to occupational diseases (Kumbhar, 2012).

Construction sector offers low remunerations for women and they are compelled to enter this sector due to poverty, lack of opening in the formal sector, due to their illiteracy and lack of skill (Chanchu, C.T & Cresida, C.T, 2012).

The construction industries may concentrate on safety programmes which would certainly help in reducing injuries

at the time of work. It will also minimize construction costs, increase productivity and profitability and help to save the lives of workers and consequently contribute positively to the construction industry and the nation as a whole (Ahmad, R, 2008).

There is a need to look into new ways of improving the image of the construction industry by reducing the hazards at construction sites. Providing a safe and healthy workplace is one of the most effective strategies for holding down the cost of the construction business. Accidents not only cause delays in operations and projects getting delivered in time but also directly and indirectly incur extra costs. Thus, there is a need to find a way on how to reduce accidents at construction sites (Bakri, A., Zin, M.R., Misnan, S.M & Mohammed, H.A, 2006).

Education and training are designed to prevent human error that may cause the accidents and to enable workers to perform a repetitive task with skill. It should involve the repetitive performance of the task until it becomes automatic (Paringga, L. A, 2010).

Safety training is the most effective tool to mitigate hazards as training helps to improve workers' skills and abilities to identify hazards (Lai, D. N. C., Liu, M., & Ling, F. Y. Y, 2011).

Several major problems are encountered in the safety practices; the problems are ignorance of workers of work procedures, lack of financial allocation for safety management, lack of awareness among workers and language barrier between supervisors and workers. Several strategies have been suggested to overcome the problems, like providing effective safety training, allocation of budget for safety management, full commitment from the top management and providing safety booklets in various languages as the strategies to reduce problems in safety practices. The suggestions cover three aspects of the implementation of safety practices, i.e. awareness of workers, commitment of top management and the allocation of resources (Keng, C.T & Razak, A.N, 2014).

In this part of literature review, the researchers have put their reasonable efforts and constructed the format of the statements to measure work behaviour.

Most of the studies done earlier concentrate more on the issues relating to safety measures, training, and workplace injuries etc., it is important to study the relationship between the socio economic conditions and work behaviour. Moreover most of the studies that have been carried out are in countries other than India. India is unique in regard to character, behaviour and geographical aspects. As very little number of studies has addressed the work behaviour of workers and how it was influenced by their socio economic conditions, this study was made.

## STATEMENT OF THE PROBLEM

The construction industry is an essential contributor to the process of development. Roads, dams, irrigation works, school, house, hospitals, factories and other construction works are the physical foundation on which development efforts and improving living standards are established. The products of the construction industry are investment or capital goods. Thus construction industry has linkage with rest of the economy in terms of generation of output and employment. Construction industry is the core of development and infrastructures and employs large number of unskilled and illiterate labour. It needs huge investments and has linkage to generate output and employment. The work force in construction sector is most vulnerable as employment is permanently temporary, the employer and employee relationship is very fragile and most of the time it is short-lived, the work has inherent risk to life and limb due to lack of safety, health and welfare facilities, coupled with uncertain working hours.

The construction is not only the process of building, but involves many other types of work aside from the building process such as painting, landscaping, electrical supply, telecommunications, plastering, plumbing and paving. All these types of work make up one industry, but each of them involves different exposure and thus differing health hazards. Construction workers are exposed to a wide variety of health hazards at work. The exposure differs from job to job. In India, there are about four million workers in the construction industry. Of these, female workers represent a small, unknown number, but now they are increasingly working in urban projects. The problems of women worker is still not addressed adequately both by the law makers and the employer.

There is urgent need to bring legislative stability to employment status, risk reduction by onsite safety management and imparting training and skill development as demanded by the types of construction sector, health protection and promotion through preventive vaccination and family welfare programs. It is desirable that adequate staffing and strengthening of regulatory agency, coupled with environmental risk assessment studies are done and regular construction site audits are carried out to safe guard the interests of construction worker in our country.

Construction sector plays a major role in which construction workers face many problems daily in their day to day life. This study, therefore, aims to examine the socio economic profile of the construction workers and their working profile. Moreover, the researcher has attempted to analyze working and living conditions of construction workers and test the relationship between socio economic profile of the construction workers and their behaviour in the workplace.

## OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

- To study the socio economic and working profile of the respondents.
- To analyze the working behavior of coolie workers in Sivakasi.
- To examine the opinion towards working behaviour and facilities of coolie workers.
- To study the relationship between socio economic status and the opinion of respondents towards working behavior at working place.
- To offer suitable suggestions based on the findings of the study.

## METHODOLOGY

### Area of the Study

Sivakasi town is an industrial town, located at Virudhunagar District, surrounded in the north by Virudhunagar block, in the south by Vembakottai block, in the east by Sattur block and in the west by Srivilliputtur block. In the commercial world Sivakasi is popularly called "Mini Japan". It is famous for matches, fireworks and printing. The present study covers the entire Sivakasi town as the study area. An incentive study is made on working behavior towards coolie workers in construction industry.

### Period of the Study

This study covers a period of 6 months from October 2014 to March 2015.

### Method of Data Collection

This proposed research study is both descriptive and analytical in nature. So, the researcher has used both primary data and secondary data. The primary data was collected through a well designed, pre-tested interview schedule, constructed for the purpose of the study. The secondary data needed for the study was collected from various books, journals, magazines, related research report, web sites and so on.

### Sampling Design

It is very difficult to adopt census method to collect the data as there is a large number of workers; the researcher has used sample study. A sample of 125 workers was selected using Judgment Sampling Method.

## Hypothesis of the Study

In order to achieve the research objective of the proposed study, the researcher framed the following hypothesis that

“There is no relationship between socio economic status and the opinion of respondents towards working behavior in working place”.

## Tools used for Analysis

The Researcher has used the following statistical tools with the help of SPSS.

- Percentage analysis
- Chi-square Test

## RESULTS AND DISCUSSION

### Socio Economic Profile of the Respondents

The Researcher has collected the data relating to the socio economic profile of the respondents such as age, gender, residential status, educational status, marital status, family type, family members, occupation of father and monthly income. The detail is presented in the Table 1.

**Table 1: Socio Economic Profile of the Respondents**

S.No	Particulars	No. of. Respondents (Percentage)	Total (Percentage)
<b>Age Wise Classifications of the Respondents</b>			
1	Below 20 Years	21 (16.80)	<b>125 (100.00)</b>
2	20 – 30 Years	35 (28.00)	
3	30 – 40 Years	<b>40 (32.00)</b>	
4	Above 40 Years	29 (23.20)	
<b>Gender Wise Classification of the Respondents</b>			
1	Male	<b>75 (60.00)</b>	<b>125 (100.00)</b>
2	Female	50 (40.00)	
<b>Residential Status of the Respondents</b>			
1	Rural	61 (48.80)	<b>125 (100.00)</b>
2	Urban	<b>64 (51.20)</b>	
<b>Educational Status of the Respondents</b>			
1	Literate	<b>76 (60.80)</b>	<b>125 (100.00)</b>
2	Illiterate	49 (39.20)	
<b>Marital Status of the Respondents</b>			
1	Married	<b>100 (80.00)</b>	<b>125 (100.00)</b>
2	Un married	25 (20.00)	
<b>Family Type of the Respondents</b>			
1	Joint family	42 (33.60)	<b>125 (100.00)</b>
2	Nuclear family	83 (66.40)	
<b>Family Member of the Respondents</b>			
1	3 members	25 (20.00)	<b>125 (100.00)</b>
2	4 members	<b>38 (30.40)</b>	
3	5 members	35 (28.00)	
4	6 members	27 (21.60)	
<b>Occupation of the Father's</b>			
1	Farmer	50 (40.00)	<b>125 (100.00)</b>
2	Coolie	<b>55 (44.00)</b>	
3	Others	20 (16.00)	
<b>Monthly Income of the Respondents</b>			
1	Below Rs 5000	26 (20.80)	<b>125 (100.00)</b>
2	Rs 5000 to Rs 10000	33 (26.40)	
3	Rs 10000 to Rs 15000	<b>36 (28.80)</b>	
4	Above Rs 15000	30 (24.00)	

Source: Primary data

Table 1 explains that Out of 125 respondents, Majority of the respondents 32.00 per cent are in the age group of 30 to 40 years, 60.00 per cent of the respondents are male, 51.20 per cent are living in urban area, 60.80 per cent are literate, 80.00 per cent are married, 66.40 per cent are in the nuclear family, 30.40 per cent have the family members of four, 44.00 per cent of the respondents are coolie and 28.80 per cent are earning Rs.10000 to Rs.15000 as monthly income.

### Working Profile of the Coolie Workers in Sivakasi

This proposed study highlights the working profile of the coolie workers in Sivakasi. For that, different factors such as employment position of the coolie workers, experience, nature of dependence, working with contractor/individual home of the respondents, number of days worked per week, working with a single mistri, starting of work time, closing of work time, lunch, refreshment and drinking water facilities. Table 2 represents the working profile of the coolie workers.

**Table 2: Working Profile of the Coolie Workers**

S.No	Particulars	No. of Respondents (Percentage)	Total (Percentage)
<b>Employment Position of the Coolie Workers</b>			
1	Mistri	30 (24.00)	<b>125 (100.00)</b>
2	Mason	40 (32.00)	
3	Labour	<b>55 (44.00)</b>	
<b>Experience of the Respondents</b>			
1	Less than 5 years	25 (20.00)	<b>125 (100.00)</b>
2	6 to 10 years	34 (27.20)	
3	11 to 15 years	40 (32.00)	
4	More than 15 years	26 (20.80)	
<b>Nature of Dependence</b>			
1	Fully Dependent on the industry	<b>62 (49.60)</b>	<b>125 (100.00)</b>
2	Occasionally Dependent on the industry	16 (12.80)	
3	Rarely Dependent on the industry	47 (37.60)	
<b>Work With Contactor / Individual House Owner of the Respondents</b>			
1	Contactor	<b>90 (72.00)</b>	<b>125 (100.00)</b>
2	Individual House Owner	35 (28.00)	
<b>No. of Days Worked Per Week</b>			
1	Below 3 days	<b>66 (52.80)</b>	<b>125 (100.00)</b>
2	Above 3 days	59 (47.20)	
<b>Work With Single Mistri</b>			
1	Working	<b>75 (60.00)</b>	<b>125 (100.00)</b>
2	Not Working	50 (40.00)	
<b>Starting of Work Time</b>			
1	8 A.M	34 (27.20)	<b>125 (100.00)</b>
2	9 A.M	<b>51 (40.80)</b>	
3	10 A.M	40 (32.00)	
<b>Closing of Work Time</b>			
1	5 P.M	14 (11.20)	<b>125 (100.00)</b>
2	6 P.M	<b>68 (54.40)</b>	
3	7 P.M	43 (34.40)	
<b>Lunch Time</b>			
1	Providing fixed lunch time	<b>111 (88.80)</b>	<b>125 (100.00)</b>
2	Not providing fixed lunch time	14 (11.20)	

<b>Lunch Duration</b>			
1	Below one hour	35 (31.53)	<b>111 (100.00)</b>
2	One hour	<b>51 (45.95)</b>	
3	Above one hour	25 (22.52)	
<b>Refreshment</b>			
1	Given Refreshment	<b>113 (90.40)</b>	<b>125 (100.00)</b>
2	Not given Refreshment	12 (9.60)	
<b>No. of Times Provided by Refreshment to the Respondents</b>			
1	One Time	41 (36.28)	<b>113 (100.00)</b>
2	Two Times	54 (47.79)	
3	Three Times	18 (15.93)	
<b>Refreshment Provided</b>			
1	Tea/Coffee	<b>63 (55.75)</b>	<b>113 (100.00)</b>
2	Cool drinks	17 (15.04)	
3	Snacks	33 (29.20)	
<b>Drinking Water Facility</b>			
1	Given	<b>112 (89.60)</b>	<b>125 (100.00)</b>
2	Not Given	13 (10.40)	
<b>Type of Drinking Water</b>			
1	Municipal Water	27 (24.11)	<b>125 (100.00)</b>
2	Bore well Water	22 (19.64)	
3	Mineral Water	63 (56.25)	

Source: Primary data

It is inferred from the Table 2 that 44.00 per cent of the respondents are labourers, 32.00 per cent have 11 to 15 years of experience, 49.60 per cent are fully dependent, 72.00 per cent are working with contractor, 52.80 per cent are working below 3 days per week, 60.00 per cent are working with single mistri, 40.80 per cent start their work at 9 a.m., 40.80 per cent are working up to 6 p.m., 88.80 per cent are having the lunch time, 45.95 per cent are having one hour lunch duration, 90.40 per cent are given refreshment, 47.79 per cent are provided two times refreshment, 55.75 per cent

are given tea/coffee for the refreshment, 89.60 per cent are given drinking water at their work place and 50.40 per cent have been provided mineral water for drinking purpose.

### Opinion of Respondents about Construction Works

Table 3 Presents the Opinion of the Respondents Towards Construction Works

**Table 3: Opinion towards Construction Works**

S.No	Particulars	No. of. Respondents (Percentage)	Total (Percentage)
<b>Reasons for coming to this Job</b>			
1	Only source of employment	33 (26.40)	<b>125 (100.00)</b>
2	Sufficient income	<b>53 (42.40)</b>	
3	Flexible employability	39 (31.20)	
<b>Like this job by the Respondents</b>			
1	Like	<b>100 (80.00)</b>	<b>125 (100.00)</b>
2	Do Not Like	25 (20.00)	
<b>Reasons for Liking the Job by the Respondents</b>			
1	More Income	<b>31 (31.00)</b>	<b>100 (100.00)</b>
2	Flexibility	20 (20.00)	
3	Career Opportunities	14 (14.00)	
4	Regular employment	26 (26.00)	
5	Other	9 (9.00)	

<b>Reasons for not liking this job</b>			
1	Hazardous to human health	4 (16.00)	<b>25 (100.00)</b>
2	Full of risk	6 (24.00)	
3	Good physical condition	3 (12.00)	
4	Lack of job securities	<b>7 (28.00)</b>	
5	Illiterateness of society	5 (20.00)	
<b>Like to Go to the Job Full Week</b>			
1	Like to work full week	<b>100 (80.00)</b>	<b>125 (100.00)</b>
2	Not like to work full week	25 (20.00)	
<b>Control of work</b>			
1	Independent	20 (16.00)	<b>125 (100.00)</b>
2	Contractor	<b>48 (38.40)</b>	
3	Mistri	27 (21.60)	
4	Mason	30 (24.00)	
<b>Reasons for Work Control of Contractor</b>			
1	Regular income	14 (29.16)	<b>48 (100.00)</b>
2	Regular employability	<b>20 (41.67)</b>	
3	To improve working ability	8 (16.67)	
4	Safety	6 (12.50)	
<b>Reasons for Control of Mistri</b>			
1	Career development	<b>11 (40.74)</b>	<b>27 (100.00)</b>
2	To get a training	3 (11.11)	
3	Flexibility	9 (33.33)	
4	Convenience	4 (14.82)	
<b>Reasons for Control of Mason</b>			
1	Lack of knowledge	5 (16.67)	<b>30 (100.00)</b>
2	Limited work force	<b>10 (33.33)</b>	
3	Betterment	9 (30.00)	
4	Low risk	6 (20.00)	
<b>Like to Continue the Same Job</b>			
1	Like	<b>96 (76.80)</b>	<b>125 (100.00)</b>
2	Dislike	29 (23.20)	
<b>Reasons for Continuing in the Job for the Same Period</b>			
1	More income	<b>38 (39.58)</b>	<b>96 (100.00)</b>
2	More Opportunities	23 (23.96)	
3	Satisfaction	20 (20.83)	
4	Family background	15 (15.63)	
<b>Reasons for Not Continuing the Job</b>			
1	Not enough income	5 (17.24)	<b>29 (100.00)</b>
2	Avoid illiterateness	8 (27.59)	
3	Switch over to this field	<b>10 (34.48)</b>	
4	To change standard of living	6 (20.69)	
<b>Advances of amount for the Job</b>			
1	Receiving	<b>95 (76.00)</b>	<b>125 (100.00)</b>
2	Not receiving	30 (24.00)	

Source: Primary data

Table 3 clearly explains that 42.40 per cent feel that it provides sufficient income, 80.00 per cent like the job, 31.00 per cent like this job due to more income, 28.00 per cent do not like this job due to lack of job securities, 80.00 per cent like to go to work for the job full week, 38.40 per cent are working under the control of contractor, 41.67 per cent are under control of contractor for the reason regular employability, 40.74 per cent are under control of mistri for their Career development, 33.33 per cent are under control of mason for the reason limited work force, 76.80 per cent

like to continue the same job for a long period, 39.58 per cent like to continue the same job for a long period for more income, 34.48 per cent do not like to continue the same job for the reason switch over this field and 76.00 per cent receive advances from job provider.

### Opinion towards Work Behaviour

The researcher gathered the respondents' opinion towards work behaviour. The details are presented in the Table 4.

**Table 4: Opinion towards Work Behaviour of the Respondents**

S.No	Particulars	SA	A	N	DA	SDA	Total
1	Work with full of dedication	23 (13.60)	47 (36.80)	25 (19.20)	20 (16.00)	10 (14.40)	125 (100.00)
2	Do whatever superior said	60 (48.00)	44 (35.20)	10 (8.00)	6 (4.80)	5 (4.00)	125 (100.00)
3	Work evenly throughout the day	11 (8.80)	20 (16.00)	42 (33.60)	38 (30.40)	14 (11.20)	125 (100.00)
4	Maintain good relationship with co workers	30 (24.00)	50 (40.00)	23 (18.40)	12 (9.60)	10 (8.00)	125 (100.00)
5	Willing to do all type of work	11 (8.80)	20 (16.00)	24 (19.20)	44 (35.20)	26 (20.80)	125 (100.00)
6	Be honest to all related persons	18 (14.40)	32 (25.60)	48 (38.40)	15 (12.00)	12 (9.60)	125 (100.00)
7	Trying to learn the work	17 (13.60)	26 (20.80)	31 (24.80)	29 (23.20)	22 (17.60)	125 (100.00)
8	Not feeling of inferior	45 (36.00)	36 (28.80)	17 (13.60)	14 (11.20)	13 (10.40)	125 (100.00)
9	Provides enhance for betterment	12 (9.60)	22 (17.60)	30 (24.00)	41 (32.80)	20 (16.00)	125 (100.00)
10	Feel satisfactory regard with income	23 (18.40)	47 (37.60)	25 (20.00)	20 (16.00)	10 (8.00)	125 (100.00)
11	Feel easy to work	13 (10.40)	19 (15.20)	20 (16.00)	49 (39.20)	24 (19.20)	125 (100.00)
12	No need for special care of health	10 (8.00)	11 (8.80)	12 (9.60)	40 (32.00)	52 (41.60)	125 (100.00)

Source: Primary Data

(SA = Strongly Agree; A = Agree; N = Neutral; DA = Disagree; SDA = Strongly Disagree) Note: Figures in bracket are per cent to total

Above Table 4 clearly explained that, most of the respondents strongly agreed with the statements serial numbered 2 & 8, most of the respondents agreed with the statements serial numbered 1, 4 & 10, most of the respondents have neutral with statements serial numbered 3, 6 & 7, most of the respondents disagreed with the statements numbered 5, 9, & 11 and majority of the respondents strongly disagreed with the statement serial numbered 12.

### Opinion about Facilities

The researcher analyzed the respondents opinion regarding the facilities provided. The details are presented in the Table 5.

**Table 5: Opinion about Facilities**

S.No	Particulars	VG	G	N	P	VP	Total
1	Water	<b>38</b> (30.40)	37 (29.60)	27 (21.60)	12 (9.60)	11 (8.80)	<b>125</b> (100.00)
2	Refreshment	<b>43</b> (34.40)	39 (31.20)	20 (16.00)	13 (10.40)	10 (8.000)	<b>125</b> (100.00)
3	First Aid	12 (9.60)	36 (28.80)	<b>46</b> (36.80)	20 (16.90)	11 (8.80)	<b>125</b> (100.00)
4	Safety Measures	11 (8.80)	23 (18.40)	31 (24.80)	<b>43</b> (34.40)	17 (13.60)	<b>125</b> (100.00)
5	Working Equipment	<b>41</b> (32.80)	38 (30.40)	24 (19.20)	12 (9.60)	10 (8.00)	<b>125</b> (100)
6	Personal Clothing	13 (10.40)	17 (13.60)	20 (16.00)	<b>43</b> (34.40)	32 (25.60)	<b>125</b> (100.00)
7	Personal Productive Equip- ment	13 (10.40)	31 (24.80)	<b>43</b> (34.40)	27 (21.60)	11 (8.80)	<b>125</b> (100.00)
8	Rest Room Shed	11 (8.80)	17 (13.60)	29 (23.20)	<b>47</b> (37.60)	21 (16.80)	<b>125</b> (100.00)

Source: Primary Data

(VG = Very Good; G = Good; N = Neutral; P = Poor; VP = Very Poor)

Note: Figures in bracket are per cent of total

Table 5 shows that, most of the respondents opined that very good with the statements serial numbered 1, 2 & 5, most of the respondents opined that neutral with the statements serial numbered 3 & 7 and most of the respondents said poor for the statements at serial numbered 4, 6 & 8.

### Identification of Level of Work Behaviour

The researcher has identified twelve statements regarding work behaviour and the scores are assigned in the order of 5 for 'Strongly agree', 4 for 'Agree', 3 for 'Neutral', 2 for 'Disagree' and 1 for 'Strongly Disagree'. The score value for every respondent is obtained. The level of worker behaviour has been classified into three categories, namely low level, moderate level and high level for analytical purpose. While the score value of the respondent  $\geq$  and the score value of the respondent  $\leq (\bar{X}+SD)$  have been classified as high level working behaviour and low level working behaviour respectively and the score values between  $(\bar{X}+SD)$  and  $(\bar{X}-SD)$  have been classified as medium level working behaviour. X and SD is the arithmetic and the standard deviation which is calculated from the score values of 125 respondents. The arithmetic mean and standard deviation are 37.24 and 4.52, respectively.

$(\bar{X}+SD) = (37.24 + 4.52) = 41.76$  and above – High level

$(\bar{X}-SD) = (37.24 - 4.52) = 32.72$  and less – Low level.

$(\bar{X}-SD)$  to  $(\bar{X}+SD) = (41.76 \text{ to } 32.72)$  - Medium level.

**Table 6: Level of Work Behaviour**

S.No	Level of Work Behaviour	No. of Respondents	Per cent to Total
1	Low	18	14.40
2	Medium	84	67.20
3	High	23	18.40
<b>Total</b>		<b>125</b>	<b>100.00</b>

Source: Computed Data

From Table 6 it is clear that out of 125 respondents, 18 of them (14.40 per cent) fall under the category of low level working behaviour, 84 of them (67.20 per cent) come under the category of medium level working behaviour and 23 of them (18.40 per cent) under the category of high level working behaviour.

### Socio Economic Variables and Level of Work Behaviour towards Coolie Workers – Application of Chi-Square Test.

In order to test for the relationship between socio economic variables such as age, gender, residential status, educational level, marital status, family type, family members, occupation of father and monthly income and their level of work behaviour. The hypotheses that there is no significant relationship between socio economic variables and level of working behaviour towards coolie workers have been framed. The researcher has applied the Chi-square test by using SPSS.

### Chi-Square Test

Chi-Square test is one of the simplest and mostly widely used non-parametric tests in statistical work. The  $\chi^2$  symbol is Greek letter Chi. The  $\chi^2$  was first used by Karl Pearson in the year 1900. The quantity  $\chi^2$  describes the magnitude of the discrepancy between theory and observation. The test statistics of  $\chi^2$  has been computed as follows.

$$\text{Chi-Square test} = \sum \frac{(O - E)^2}{E}$$

$$E = \frac{\text{Row total} \times \text{Column total}}{\text{Grand Total}}$$

$$\text{Df} = (r-1)(c-1)$$

Where O = Observed Frequency  
E = Expected Frequency

Df = Degrees of freedom  
R = Row  
C = Column

Association between Socio Economic Variables and Level of Work Behaviour of Coolie Workers.

Work behaviour may be varied among the coolie workers based on their socio economic status. The association between socio economic variables and their level of working behaviour has been analyzed with the following hypothesis.

#### Hypothesis

“There is no significant relationship between socio economic variables and level of working behaviour of coolie workers”.

To test the above hypothesis, Pearson’s chi-square test is applied and the result is presented in the Table 7.

**Table 7: Association between Socio Economic Variables and Level of Work Behaviour of Coolie Workers – Result of Chi - Square Test**

Socio Economic Variables	Level of Working Behaviour of Coolie Workers			Total	Chi-Square	
	Low	Medium	High		Value	Asymp.Sig. (2-sided)
<b>Age</b>						
Below 20 years	1 (0.8)	12 (9.6)	8 (6.4)	21 (16.8)	7.943	0.242
20-30 years	6 (4.8)	24 (19.2)	5 (4)	35 (28)		
30-40 years	6 (4.8)	27 (21.6)	7 (5.6)	40 (32)		
Above 40 years	5 (4)	21 (16.8)	3 (2.4)	29 (23.2)		
<b>Total</b>	<b>18</b> <b>(14.4)</b>	<b>84</b> <b>(67.2)</b>	<b>23</b> <b>(18.4)</b>	<b>125</b> <b>(100)</b>		
<b>Gender</b>						
Male	8 (6.4)	53 (42.4)	14 (11.2)	75 (60)	2.157	0.340
Female	10 (8)	31 (24.8)	9 (7.2)	50 (40)		
<b>Total</b>	<b>18</b> <b>(14.4)</b>	<b>84</b> <b>(67.2)</b>	<b>23</b> <b>(18.4)</b>	<b>125</b> <b>(100)</b>		
<b>Residential Status</b>						
Rural	8 (6.4)	39 (31.2)	14 (11.2)	61 (48.8)	1.667	0.435
Urban	10 (8)	45 (36)	9 (7.2)	64 (51.2)		
<b>Total</b>	<b>18</b> <b>(14.4)</b>	<b>84</b> <b>(67.2)</b>	<b>23</b> <b>(18.4)</b>	<b>125</b> <b>(100)</b>		

<b>Educational Level</b>						
Literate	11 (8.8)	50 (40)	15 (12)	76 (60.8)	0.246	0.884
Illiterate	7 (5.6)	34 (27.2)	8 (6.4)	49 (39.2)		
<b>Total</b>	<b>18</b> <b>(14.4)</b>	<b>84</b> <b>(67.2)</b>	<b>23</b> <b>(18.4)</b>	<b>125</b> <b>(100)</b>		
<b>Marital Status</b>						
Married	16 (12.8)	67 (53.6)	17 (13.6)	100 (80)	1.424	0.491
Unmarried	2 (1.6)	17 (13.6)	6 (4.8)	25 (20)		
<b>Total</b>	<b>18</b> <b>(14.4)</b>	<b>84</b> <b>(67.2)</b>	<b>23</b> <b>(18.4)</b>	<b>125</b> <b>(100)</b>		
<b>Type of Family</b>						
Joint Family	7 (5.6)	29 (23.2)	6 (4.8)	42 (33.6)	0.840	0.657
Nuclear family	11 (8.8)	55 (44)	17 (13.6)	83 (66.4)		
<b>Total</b>	<b>18</b> <b>(14.4)</b>	<b>84</b> <b>(67.2)</b>	<b>23</b> <b>(18.4)</b>	<b>125</b> <b>(100)</b>		
<b>Family Members</b>						
3 Members	3 (2.4)	18 (14.4)	4 (3.2)	25 (20)	2.746	0.840
4 Members	6 (4.8)	22 (17.6)	10 (8)	38 (30.4)		
5 Members	5 (4)	25 (20)	5 (4)	35 (28)		
6 Members	4 (3.2)	19 (15.2)	4 (3.2)	27 (21.6)		
<b>Total</b>	<b>18</b> <b>(14.4)</b>	<b>84</b> <b>(67.2)</b>	<b>23</b> <b>(18.4)</b>	<b>125</b> <b>(100)</b>		
<b>Occupation of Father</b>						
Farmer	7 (5.6)	35 (28)	8 (6.4)	50 (40)	0.370	0.985
Coolie	8 (6.4)	36 (28.8)	11 (8.8)	55 (44)		
Others	3 (2.4)	13 (10.4)	4 (3.2)	20 (16)		
<b>Total</b>	<b>18</b> <b>(14.4)</b>	<b>84</b> <b>(67.2)</b>	<b>23</b> <b>(18.4)</b>	<b>125</b> <b>(100)</b>		
<b>Monthly income</b>						
Below Rs.5000	2 (1.6)	15 (12)	9 (7.2)	26 (20.8)	9.207	0.162
Rs.5000 -Rs.10000	6 (4.8)	25 (20)	2 (1.6)	33 (26.4)		
Rs.10000 -Rs.15000	5 (4)	23 (18.4)	8 (6.4)	36 (28.8)		
Above Rs.15000	5 (4)	21 (16.8)	4 (3.2)	30 (24)		
<b>Total</b>	<b>18</b> <b>(14.4)</b>	<b>84</b> <b>(67.2)</b>	<b>23</b> <b>(18.4)</b>	<b>125</b> <b>(100)</b>		

Source: Computed Primary Data

The result of chi-square test has been shown in the Table 7. The P value for the socio economic variables such as age, gender, residential status, educational level, marital status, family type, family members, occupation of father and monthly income are not significant at 5 per cent level. Hence the null hypothesis regarding these variables is accepted. Therefore it is concluded that there is no relationship between the socio economic variables such as age, gender, residential status, educational level, marital status, family type, family members, occupation of father and monthly income and their level of working behaviour.

## SUGGESTIONS OF THE STUDY

They are following under the major suggestions for this study:

- Most of the respondents feel that there is no first aid facility in the work place. Therefore the steps should be taken to provide such facility to the workers through local body authorities.
- The construction industry is full of dangers and deals with materials hazardous to human health. In the study area in workers feel that the safety measures have not been taken properly. Hence the steps should be taken to implement safety measures in the work life.
- As construction industry is unorganized in nature, the workers have not been provided the proper medical facilities for the work related dresses. Therefore we suggested to establish a separate fund from a local body government to provide such facilities.

As most of the workers like to continue in the same industry, the researchers suggest that government should enact separate acts to regulate that industry.

## CONCLUSION

The present era is an era of competition. The efficiency of workers must be improved to increase productivity and reduce cost. The efficiency depends upon better working behaviour. If all the above mentioned suggestions are carried out the working behaviour of coolie workers in the study area will definitely get improved. But the improvement of working behaviour is not in the hands of the workers alone. It also needs the concerted efforts of management, workers and government. A workable co-operation among three groups alone can produce the desired result.

## REFERENCES

Ahmad, R. (2008). Best Practices in Safety Management for Conventional Civil Construction Industry in Malaysia,

Master Thesis of Science in Construction Management, Malaysia: University Teknologi Malaysia.

Bakri, A., Zin, M. R., Misnan, S. M., & Mohammed, H. A. (2006). Occupational safety and health management system: Towards development of safety and health culture. In Proceeding of 6th Asia-Pacific Structural Engineering and Construction Conference (pp.19-28), Kuala Lumpur, Malaysia.

Balaji, A., & Das. V. T. (2015). Socio-economic conditions of house construction Workers in Vijayawada City. *International Journal of Management and Social Sciences Research*, 4(12), 38-45.

Barnabas, A., Anbarasu D. J., & Paul S. C (2009). A study on the empowerment of women construction workers as masons in Tamil Nadu, India. *Journal of International Women's Studies*, 11(2), 121-141.

Chanchu, C. T., & Cresida, C. T. (2012). An evaluation of women construction workers. *Indian Journal of Applied Research*, 1(6), 37-39.

Gupta, S. P. (2006). *Statistical methods*. Sultan and Sons Publishers, New Delhi.

Keng, C. T., & Razak, A. N. (2014). Case studies on the safety management at construction site. *Journal of Sustainability Science and Management*, 9(2), 90-108.

Kumar, R. B. (2013). Gender discrimination among construction workers with reference to Vijayawada. *Journal of Sociology and Social Work*, 1(1), 42-53.

Kumbhar. (2012). Retrieved from [http://Shodhganga.Inflibnet.Ac.In/Bitstream/10603/4063/13/13\\_Chapter%208.Pdf](http://Shodhganga.Inflibnet.Ac.In/Bitstream/10603/4063/13/13_Chapter%208.Pdf) on 22/01/2014.

Lai, D. N. C., Liu, M., & Ling, F. Y. Y (2011). A comparative study on adopting human resource practices for safety management on construction projects in the United States and Singapore. *International Journal of Project Management*, 29, 1018-1032.

Paringga, L. A. (2010). Construction safety in Jakarta, Indonesia, Master Thesis of Science in Construction Management, Malaysia: University Teknologi Malaysia.

Rajanna, K. A. (2015). Nature of work, working conditions and problems of women construction workers: A case study. *International Journal of Business Quantitative Economics and Applied Management Research*, 1(9), 70-85.

Singh, D. (2007). Working conditions and problems of unorganized labour: A study of building construction workers. *Labour and Development*, 12(2) & 13(1).

Tikoo, S., & Meenu. (2013). Work place environmental parameters and occupational health problems in women construction workers in India. *Global Journal of Management and Business Studies*, 3(10), 1119-1128.