



THE DUAL CHALLENGES OF SOCIO-ECONOMIC AND WORKING LIFE OF CONSTRUCTION WORKERS: A CASE STUDY IN MAYURBHANJ DISTRICT OF ODISHA

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ABSTRACT

Background/Objectives: Today, it is highly emphasized that construction workers participation in the path of country's development is depending upon by enhancing their social and economic status. In construction activities, health is the important determinant of employment, and it is the deteriorating factors consider to workers especially in construction sector. They are simultaneously engaging in economic and non-economic activities. The aim of this paper is to investigate socio-economic conditions and special emphasis has given to identify the work related problems of building construction workers in Mayurbhanj district of Odisha.

Methods/Statistical analysis: The study largely relays on field data. A sample size of 300 building construction respondents were selected from the district by employing simple random sampling method. The respondents were interviewed with a well-structured schedule. Simple percentage and regression analysis was used to interpret the data. A multiple regression analysis has been conducted to show the economic impact of the construction work on the construction workers. The Garret Ranking Technique is used for analysing the study of problems faced by unorganised workers in Mayurbhanj District.

Findings: In this multiple regression analysis saving is dependent variable whereas income, expenditure and type of work are independent variables. Income and expenditure are significant at 1 percent level and type of work is significant at 10 percent level. In the result of Garret Ranking the 'health hazards problem' got the first rank with 89.44%, followed by 'Heavy Physical Work' got the second rank with 89.11 per cent of workers. This study concluded with some suggestions for improvement of the unorganised workers socio-economic conditions.

KEY WORDS: Building workers, socio-economic Condition, work-site problems, Regression Analysis, Garret- Ranking Technique.

1.INTRODUCTION

With millions of people employed, the construction sector is one of the biggest and most significant in the global economy. However, poor socioeconomic conditions, such as low pay, a lack of social security, and exposure to risky working situations, are frequently faced by construction employees. According to a research by the International Labour Organisation (2017), the daily wage for construction workers in poor nations is only \$2.50 on average. This implies that many construction workers struggle to make ends meet because it is well below the poverty line. According to ILO (2019) estimates, 1 million construction workers pass away each year as a result of illnesses or accidents at workplace. Falling, being electrocuted, and being hurt by machinery are the three leading causes of death. Due to exposure to dust and gases, construction workers are also at risk of getting respiratory conditions such silicosis and asbestosis; electrocution and machinery-related injuries.

The objective of the current study is to ascertain the socioeconomic status of building and other construction workers in the Mayurbhanj district of Odisha as well as the various work-related difficulties they encounter at their workstations. The Mayurbhanj district is one of the most backward districts in the state. Building and other construction employees in the region are in extremely low socioeconomic conditions (Government of Odisha, Ministry of Labour and Employment 2022). They primarily come from underrepresented groups like Scheduled Tribes and Scheduled Castes. They are paid minimal wages and frequently labour in dangerous situations. Basic necessities like housing, healthcare, and education are not available to them. Many construction employees do not receive social security benefits like pensions or health insurance. Construction workers are subjected to a number of risky working situations, such as falls, electrical risks, and dust exposure (National Institute for Occupational Safety and Health, 2018). These dangers have the potential to cause fatal illnesses and severe injuries (Das, Mohanty, and Dash 2021). Many people who work in the construction



industry are employed on a temporary or casual basis, so neither their hours of work nor their benefits are guaranteed. On the basis of their race, gender, or nationality, construction workers frequently experience discrimination. Because of this, it could be challenging for individuals to obtain work and earn money to survive. Many workers in the construction business lack the educational qualifications and work experience required to obtain well-paying positions. This may reduce their chances of advancement and increase their susceptibility to abuse. As a result, they live in poverty and deprivation.

2. REVIEW OF LITERATURES

Dr. Raja, V. A. J. & Vijayakumar, V. (2017) in their study determine and evaluate the effect of work stress on tile manufacturing workers in Kerala's Trichur district, at gender level. The author explain how stress becomes harmful when it reaches a degree that interferes with daily activities, despite the fact that it is an unavoidable component of our activities at work and at home. The body's response to what are known as stressors is actually stress. Descriptive research was used as the study's research design, and convenience sampling was used. The data gathered from 100 employees, half from male and half from female workers and the study's findings were analysed using the Henry Garret ranking method and the Mann-Whitney test.

Kumar & Mookiah (Nov, 2019) with particular emphasis on the Tirunelveli area, the aim of this study was to identify and highlight the economic and working situations of women employees in unorganised industries. The study's objective is to ascertain the financial circumstances of women employed in Tirunelveli district's domestic, construction, and beedi industries. Both primary and secondary data were used in the investigation. Regression, ANOVA, and Garret Ranking techniques are employed in this study's sample selection, which included 441 employees. Regression, ANOVA, and Garret Ranking are also used to analyse the study's data. The study discusses government policies, marginal propensity to consume (MPC), and problems encountered by unorganised employees.

Raj, et, al. (2021) the purpose of this paper is to look at the living conditions of construction workers in Varanasi, Uttar Pradesh, India. In a cross-sectional study, a quantile regression method has been used to identify the variables influencing quality of life. The study reveals that employment status, time spent working as a labourer, travel time to work, and salary are the main variables that affect and determine the quality of work life for construction workers. For the purpose of assessing data pertaining to quality of life, the quantile regression method may be thought of as an alternative.

Dr. Pandian & Dr. Duraisingh (2021) in their paper reveal that the workers of brick plants in Eral block, Thoothukudi District of Tamil Nadu are the subject of the current study. There are many new brick units, and hundreds of people are working in the brick industry. In many ways, the brick business is seen as crucial. It offers significant job possibilities to the underprivileged in Thoothukudi district's Eral block. The bricklayers in this study are not very happy with their jobs, but

they are compelled to do so by family obligations and tradition. Low pay are the main issue facing bricklayers, and it is also implied that they want the government to set the minimum wage. Five general problems were faced by the brick workers are to be ranked by using Garret Ranking Technique.

Guan, et. al. (2019) According to them, occupational safety and health are becoming increasingly significant in Malaysia. The use of personal protective equipment (PPE), which can include clothing, tools, and materials, is one technique to safeguard construction workers. PPE shields users from exposure to or contact with substances that could be dangerous and result in illness, damage, or even death. PPE knowledge among building construction employees is minimal, despite its advantages. The goal of this study is to investigate how PPE is used and how PPE knowledge affects worker safety during building construction. The poll was completed by 100 individuals in the building construction sector. Self-created questionnaires were used to gather the data, which was then analysed using partial correlation and multiple regression. The collected results show that experience has a negative impact on the efficacy of PPE on construction workers whereas awareness and training have a good impact.

3.OBJECTIVES OF THE STUDY

1. To study the Socio economic status of the Construction workers in Mayurbhanj District of Odisha.
- 2 To highlight the major problems faced by the construction workers in Mayurbhanj District.

4.HYPOTHESIS

1. **H₁:** There is a significant and positive impact of 'income' of the respondents on 'saving' of the respondents.
2. **H₂:** There is a significant and positive impact of 'expenditure' of the respondents on 'saving'.
3. **H₃:** There is a significant and positive impact of 'type of work' of the respondents on 'saving' of the respondents.

5. METHODOLOGY

The research exclusively used primary data. 300 construction workers in the Mayurbhanj District were chosen at random for the primary data collection. A well-structured questionnaire schedule was utilised to gather data on the workers' socioeconomic situation, workplace issues, and health risks. Usually around lunchtime, workers are personally greeted from their employment, and their working conditions are examined. The socioeconomic situation of construction employees was analysed using simple percentages and regression analysis; and Garret Ranking Technique was utilized to illustrate the issues the worker was having at their workstation. Data interpretation was carried out by using regression analysis.

The primary data used in this study were obtained via a field survey and direct questionnaires given to respondents in the Mayurbhanj area. In order to locate building sites in the Mayurbhanj area, a pilot study was first conducted. 26 blocks



make up the Mayurbhanj district. But five blocks are taken for this study. For the purpose of gathering information on their socioeconomic circumstances, the factors that led to their involvement in construction work, and the issues they encountered, 300 construction employees from the chosen areas were interviewed. After the survey was finished, each individual slip was examined, and the data was processed in tabular form in accordance with the needs of the many aspects of the research.

6. ANALYSIS AND INTERPRETATION OF DATA

6.1 Demographic Data

Table-1 presents the basic socio-economic and demographic information about 300 individuals of the study population. According to the sample; the gender distribution of the sample reveals that 62% are male, while the remaining are female. The analysis divides working age group into three category: individuals aged 40 to 60 constitute the largest portion at 64.67% followed by those between the ages of 31 to 45 (22%) and the rest 18 to 30 age group (13.33%).

Analysing the socio-economic and religious background of the study population, scheduled tribe (ST) belong to the high majority category at 79.33%, followed by SC at 14%, and OBC at 6.67%. As a result majority of the workers are from tribal communities. Regarding family types about 55% of construction employees are a part of nuclear households, while 45% are belong to joint family. Family sizes also differ within the construction workers groups.

According to the workers' educational profile approximately half of them are illiterate (49%), while 32% have completed only elementary schooling. only 2% have completed higher secondary education. Within this study, a significant proportion of 71% workers are categorized as unskilled. The remaining 29% are skilled and professional workers such as masons, plumbers, electricians, carpenters, etc. Notably, all female workers fall under the unskilled workers category, primarily working as helpers.

Housing statistics show that 43% of works reside in tiled houses, followed by thatched houses at 34.67%, and 21.33% of concrete houses. Approximately 76.33% of workers own their houses. About 22.33% of workers live in leased houses in government-owned landed areas, whereas, just 1.34% of migrant workers opt for rented accommodations.

The tenure of job for the studied labourers falls into three categories. That are permanent (33%), temporary (38%), or occasional (29%). The length of working hours plays an important role in the socio-economic condition of the construction workers. A considerable majority (59%) of workers reported working for 8 to 9 hours per day, excluding lunch breaks. About 33% of respondents work 8 hours, while only 8% work less than 8 hours.

In this study, a substantial proportion of workers (59%) come from families with two wage earners, usually both husband and wife. Remarkably, 57.33% of workers have officially registered themselves under the Building and Other Construction Worker's Welfare Board. This registration entitles them to various welfare benefits for themselves and their families.

Analysing the duration of engagement in this profession, it's apparent that 29% of workers have been engaged for 3 to 4 years, while 15% have 5 to 7 years of experience. Additionally, 30% of workers have been involved in this occupation for 7 to 9 years, with the remaining 26% having been employed for more than 9years.

6.2 Economic Factors of Construction Workers

Construction workers are classified as wage earners and their wage is fixed in nature. In accordance with Table 2, the income of 52.67% of workers falls within the range of Rs.4000-Rs.6000 and while 30.33 % of the workers come under the category of Rs.6000-Rs.8000. A mere 4 % of the workers' income is above Rs.8000.

The table-2 displays the spending habits of the employees and their families. It is inferred from the table that a small percent of workers had monthly expenses less than Rs.3000. Highest proportion of workers (68.67 %) spend Rs.3000 to Rs.6000 per month and 21.33% of workers make between Rs. 6000 to Rs.8000. Approximately 6% of the workers falls into the category of earning more than Rs.8000. It is revealed that the propensity to consume is very high.

Every person should improve the saving habit in their life which allocated from income with an expectation to meet future benefit and needs. Here, we look the monthly saving habit of construction workers as indicated in Table 2. That out of 300 samples, 268 workers saved different amount of money monthly. Three-fourth (75%) number of respondent's have the saving below Rs.1000, whereas 5.67% of the workers save the amount of Rs.1000-2000 per month. 10.67% of workers have zero saving habits. Most of the workers use their salary for family expenditure. So their marginal propensity to consume is very high and marginal propensity to save almost zero.

6.2.1 Regression Analysis of Income and Saving Pattern

The dependent variable saving of workers was regresses on predicting variable of income, expenditure and type of work. The independent variables income, expenditure and type of work significantly predict the saving of the respondents, $F(3, 236) = 282.445$, $P < 0.001$ which indicates that the two factors under study have a significant impact on saving of respondents. Moreover the $R^2 = 0.782$ depicts that the model explain 78.2 percent of the variance in saving.



Table-3

Model Summary of Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.884 ^a	.782	.779	.56659	1.824
a. Predictors: (Constant), Type of Work, Expenditure, Income					
b. Dependent Variable: Saving					

Table-4 ANOVA Table

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	272.014	3	90.671	282.445	.000 ^b
	Residual	75.761	236	.321		
	Total	347.775	239			
a. Dependent Variable: Saving						
b. Predictors: (Constant), Type of Work, Expenditure, Income						

Table-5 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-6.738	2.416		-2.789	.006
	Income	8.440	.403	2.105	20.953	.000
	Expenditure	-7.148	.503	-1.350	-14.222	.000
	Type of Work	-.210	.115	-.079	-1.832	.068

Additionally, coefficients were further assessed to ascertain the influence of each of the factors on the criterion variable saving. H₁ evaluates whether income of the respondents significantly and positively affects saving of the respondents. The results revealed that income of the respondents has a significant and positive impact on saving (B= 8.44, t= 20.953, P= 0.00). Hence H₁ was supported. H₂ evaluates whether expenditure of the respondents has a significantly positive impact on saving of the respondents. The result shows that expenditure has a significantly inverse relationship on saving of the respondents (B= -7.15, t= -14.22, P= 0.00). Consequently H₂ was supported. H₃ evaluates whether type of work has a significantly positive impact on saving. The result shows that type of work has significant at 10 percent level on saving of the respondents (B= -0.21, t=-1.832, P=0.068). Hence H₃ was supported. The results are presented on table-5.

6.3 Problem Faced by the Unorganised Workers:

A descriptive study was conducted to assess the impact of different problems of construction workers upon their work-life in Mayurbhanj district of Odisha. For the purpose of measuring the problems faced in construction work, the Likert scaling technique has been adopted. For this measurement, 9 statements relating to the problems faced by the respondents at work place and their life were identified. The respondents were asked to rate them on a five-point scale, namely "highly serious," "serious," "moderately serious," and "not seriously at all," with the score values of 1, 2, 3, 4 and 5 respectively.

From Table-6, it is clear that in the study region, nine different problems are identified. That is, lack of job security, inadequate

social security measures, Health hazards, Insufficient Payments, Heavy Physical Work, Gender Discrimination, Traveling Problems, Long Hour of Work, No Family support have been given in the Interview schedule. Both male and female, skilled and unskilled respondents were instructed to indicate different problems faced by them at the work place and their working life. By giving rank 1 to the most important factor, rank 2 the second important factor and so on. Based on the ranks assigned by the order of importance is identified. To find the most significant factor Henry Garrett Ranking Technique is used. It is calculated as percentage score and the scale value is obtained by employing the scale conversion table given by Henry Garrett.

The Percentage Score is calculated as

$$\text{Percent position} = \frac{100 (R_{ij} - 0.5)}{N_j}$$

Where,

R_{ij} = Rank given for the ith variable by jth respondents

N_j = Number of variable ranked by jth respondents

The percentage score for each rank from 1 to 5 are calculated. The percentage score thus obtained for all the five ranks are converted into scale values using Scale Conversion Table given by Henry Garrett. The scale values for first rank to fifth rank are 98.32, 84.56, 50, 15.44 and 1.68 respectively. The score value (fx) is calculated for each factor by multiplying the number of respondents (f) with respective scale values (x). The total scores are found by adding the score values (fx) of each rank for every factor. The mean score is then calculated to know the order of preference given by the respondents for the factors.



Based on the mean score, the overall ranks are assigned for each. The ranking analysis of the impact of different problems on construction workers in Mayurbhanj district of Odisha shown Henry Garrett’s ranking in Table-7.

According to Garrett Ranking technique construction workers are estimated. The ‘health hazards problem’ got the first rank with 89.44% of the workers have this problem. It was followed by ‘Heavy Physical Work’ got the second rank with 89.11 per cent of workers. ‘Insufficient Payment’ got third rank with 88.12 per cent of population. ‘In adequate Social Security Measures’ got the fourth rank with 87.27 per cent of workers. ‘Gender Discrimination’ got the fifth rank with 87.04 per cent of workers, ‘Lack of Job security’ got the sixth rank with 86.77 per cent of workers, ‘Long Hours of Work’ got the seventh rank with 82.84 per cent, ‘No Family Support’ got the eight rank with 78.71 per cent and ‘Travelling Problems’ got the last rank i.e. ninth rank with 76.45 per cent.

7. SUGGESTIONS

Based on this study, some suggestions and recommendations are made as a part of improving and development of living standards of the construction workers in unorganised sectors.

1. Ensure equal wage for the work in the unorganised sector and renew the wages yearly
2. In the study area the wages of the construction workers are very low. In ranking technique ‘Health Hazards’ is in 1st rank and after that ‘Heavy physical work’ is in 2nd. So government different welfare measures should be properly implemented and work out so that the works get benefits from that.

3. Provide awareness about different welfare scheme to workers and need to have an adequate intervention from the government authorities required ensuring the health, safety and welfare of the construction workers.
4. Odisha government implemented OB&OCW’s Welfare Board to provide immediate assistance to a beneficiary in case of different health hazard related problems and also different type of financial help to improve their socio-economic conditions.

8.CONCLUSION

The results of the current study suggest that in order to improve their family status, construction workers in unorganised industries need demonstrate a significant level of financial gain. Construction employees' socioeconomic circumstances are not great. Therefore, Mayurbhanj District has not yet paid attention to the situation of construction employees or their socioeconomic security. Builders are also dissatisfied in the government's disregard for this industry. In conclusion, we can say that there is a lot that needs to be done by the government and companies to better the situation of construction employees. In this research region, the employment, financial situation, and degree of job satisfaction for construction employees are not entirely adequate. One of India's top employers of labourers is the construction sector. The contractors are not educating the construction employees on the law, state, and federal government programmes. The government's healthcare programmes are completely unknown to the construction employees. On the majority of job sites in the Mayurbhanj District, social services like canteens and restrooms are non-existent.

TABLES
Table-1 Demographic Statistics of the Construction Workers

Variables	Category	Frequency	Percent	Variables	Category	Frequency	Percent
Gender	Male	186	62.00%	Ownership of the House	Owned	229	76.33
	Female	114	38.00%		Leased	67	22.33
Age	18-30	40	13.33%		Rented	4	1.34
	31-45	66	22%	Permanent	98	33%	
	46-60	194	64.67%	Temporary	115	38%	
Caste	General	0		Tenure of job	Occasional	87	29%
	OBC	20	6.67%	Duration of Working Hours	Less than 8 hours	23	8%
	SC	42	14%		8 hours	177	59%
	ST	238	79.33%		More than 8 hours	100	33%
Educational Qualification	Illiterate	147	49%	Earning member	One	81	27
	Primary	97	32%		Two	177	59
	Middle School	50	17%		Three	30	10
	Secondary	6	2%		Four	11	3.67
Family Size	Below 3	12	4%		More than Four	1	0.33
	3 to 5	152	51%	Registration as a construction	Yes	172	57.33%
	5 and above	136	45%		No	128	42.67%
Type of Work	Unskilled	213	71%	Year of experience	Less than 5 years	87	29.00%
	Skilled	87	29%		5 to 7 years	45	15.00%
Type of Living House	Concrete	64	21.33%		7 to 9 years	90	30.00%
	Tiled	129	43%		9 years and above	78	26.00%
	Thatched	104	34.67%				
	Reinforced	3	1%				

Sources: Primary Data



Table-2
Income, Expenditure and Saving Pattern of Construction Workers

Variable	Parameters	Frequency	Percentage
Income	Less than 4000	39	13%
	4000 - 6000	158	52.67%
	6000 - 8000	91	30.33%
	Above 8000	12	4%
	Total	300	100%
Expenditure	Less than Rs. 3000	12	4%
	Rs. 3001 -Rs. 6000	206	68.67%
	Rs. 6001 - Rs. 8000	64	21.33%
	More thanRs. 8000	18	6%
	Total	300	100%
Monthly Saving	Less Than Rs. 1000	225	75.00%
	Rs. 1001 - Rs. 2000	17	5.67%
	Rs. 2001 - Rs. 3000	7	2.33%
	Rs. 3001 - Rs. 4000	13	4.33%
	Above Rs. 4001	6	2.00%
	No saving	32	10.67%
	Total	300	100.00%

Sources: Primary Data

Table-6 Problem Faced in Construction Work

Statements	Highly Serious	Serious	Moderately Serious	Not Serious	Not Serious at All
Lack of job security	91 (30.3)	192 (64)	17 (5.7)	0	0
Inadequate social security measures	117 (39)	160 (53.3)	23 (7.7)	0	0
Health hazards	129 (43)	162 (54)	9 (3)	0	0
Insufficient Payment	133 (44.3)	145 (48.3)	22 (7.3)	0	0
Heavy Physical work	137 (45.7)	148 (49.3)	15 (5)	0	0
Gender discrimination	133 (44.3)	138 (46)	27 (9)	1 (0.3)	1 (0.3)
Travelling problems	110 (36.7)	96 (32)	77 (25.7)	9 (3)	8 (2.7)
Long hours of work	96 (32)	154 (51.3)	44 (14.7)	6 (2)	0
No family support	81 (27)	142 (47.3)	71 (23.7)	6 (2)	0

Sources: Primary Data

Table- 7
Calculation of Garrett Value and Ranking

	Problems	Total Score	Garrett Ranking Mean Score	Rank
1	Lack of job security	26032.64	86.77	6
2	Inadequate social security measures	26183.04	87.27	4
3	Health Hazards	26832	89.44	1
4	Insufficient payment	26437.76	88.12	3
5	Heavy physical work	26734.72	89.11	2
6	Gender Discrimination	26112.96	87.04	5
7	Travelling Problems	22935.36	76.45	9
8	Long Hours of work	24853.6	82.84	7
9	No support of family	23614.08	78.71	8



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