Quality of Work Life and Occupational Well-being: Empirical Insights from BBMP Sanitation Workers

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Abstract

This study examines the relationship between Quality of Work Life (QWL) and occupational well-being among sanitation workers (Pourakarmikas) employed by Bruhat Bengaluru Mahanagara Palike (BBMP). The research focuses on key QWL dimensions such as working conditions, compensation and job security, social inclusion, and health and safety. A structured questionnaire was administered to 200 respondents (both male and female), and the data were analyzed using descriptive statistics, factor analysis, Confirmatory Factor Analysis (CFA), and Structural Equation Modelling (SEM). The findings reveal that QWL dimensions significantly influence occupational well-being, with health and safety and job security emerging as the strongest predictors. The study highlights the urgent need for policy interventions and improved welfare measures to enhance the well-being and performance of sanitation workers.

Keywords: Quality of Work Life, Occupational Well-being, Pourakarmikas, Sanitation Workers, BBMP, SEM, CFA, Public Sector Workforce.

1. Introduction:

Quality of Work Life (QWL) has gained significant importance in contemporary human resource management and labour studies, particularly in sectors characterized by physical labour, low wages, and limited social recognition. It refers to the degree to which employees are able to satisfy their personal needs through their work experiences while contributing effectively to organizational goals.

In labour-intensive sectors, such as urban sanitation, QWL becomes a critical determinant of not only employee satisfaction but also overall productivity, efficiency, and sustainability of public services.

Sanitation workers, especially those employed under the Bruhat Bengaluru Mahanagara Palike (BBMP), commonly referred to as Pourakarmikas, play an indispensable role in maintaining urban hygiene, waste management, and public health standards. Despite their essential contribution to society, these workers often operate under extremely challenging conditions. They are frequently exposed to hazardous environments, including handling solid waste without adequate protective equipment, working in unhygienic surroundings, and facing occupational health risks such as respiratory problems, skin diseases, and infections. In addition to physical hardships, they often encounter irregular working hours, job insecurity, delayed wages, and lack of access to basic welfare facilities.

Moreover, sanitation workers experience significant social marginalization and stigma due to the nature of their work. Issues such as caste-based discrimination, lack of social recognition, and limited opportunities for upward mobility further deteriorate their quality of work life. These socio-economic and cultural challenges create a multidimensional impact on their overall well-being, making it imperative to study their working conditions from a holistic perspective.

Occupational well-being is a comprehensive concept that encompasses the physical, psychological, and social health of workers. It includes factors such as job satisfaction, mental health, work-life balance, and social inclusion. For sanitation workers, occupational well-being is closely linked with their quality of work life, as poor working conditions and lack of institutional support can lead to stress, dissatisfaction, and reduced productivity.

Improving QWL is therefore not only a matter of employee welfare but also a strategic necessity for enhancing organizational performance and public service delivery. A workforce that experiences better working conditions, fair compensation, social dignity, and adequate health and safety measures is more likely to demonstrate higher levels of motivation, commitment, and efficiency.

In this context, the present study seeks to empirically examine the relationship between Quality of Work Life paradigms—such as working conditions, compensation and job security, social inclusion, and health and safety—and occupational well-being among BBMP sanitation workers. By adopting a structured analytical approach, the study aims to provide insights into the key factors influencing their well-being and to offer evidence-based recommendations for policy interventions and administrative improvements.

2. Review of Literature:

Walton (1975), examined the objective of identifying core dimensions of Quality of Work Life using a conceptual framework based on organizational practices; the study did not involve a specific sample size as it was theoretical in nature, and through qualitative analysis, it inferred that adequate compensation, safe working conditions, and social integration are fundamental to employee well-being.

Sirgy et al. (2001), aimed to analyze the impact of QWL on overall life satisfaction among employees using a sample of 300 workers across different industries, adopting a survey-based quantitative methodology, and concluded that QWL significantly enhances job satisfaction, life satisfaction, and organizational commitment.

Jain and Jain (2017), investigated the role of career growth opportunities in improving QWL among industrial workers with a sample size of 150 respondents, using structured questionnaires and descriptive statistics, and inferred that career advancement opportunities strongly influence employee satisfaction and retention.

Singh and Agrawal (2020), studied the relationship between QWL and job satisfaction in the public sector using a sample of 200 employees, applying regression analysis, and found that QWL dimensions significantly impact both productivity and job satisfaction.

Reddy and Reddy (2018), aimed to evaluate the working conditions of municipal sanitation workers with a sample size of 180 respondents, using a field survey method and descriptive analysis, and inferred that poor working conditions and lack of safety measures negatively affect workers' health and performance.

Kumar and Kumar (2019), examined the impact of occupational health and safety on QWL among sanitation workers with a sample size of 120 participants, using questionnaire-based primary data and correlation analysis, and concluded that inadequate safety provisions lead to low QWL and increased health risks.

Patil (2021), focused on assessing social inclusion and dignity among urban sanitation workers using a sample of 160 respondents, adopting a mixed-method approach, and inferred that social stigma and discrimination significantly reduce workers' psychological well-being.

Sharma (2016), analyzed the relationship between compensation and job satisfaction among municipal employees with a sample size of 140 workers, using survey methods and statistical tools like mean and standard deviation, and found that fair wages and job security are key determinants of QWL.

Das and Mishra (2022), aimed to study gender differences in QWL among sanitation workers with a sample size of 200 respondents (male and female), using comparative analysis and t-tests, and inferred that female workers face additional challenges such as safety concerns and work-life imbalance.

Gupta and Verma (2019), investigated the influence of welfare measures on employee well-being in public sector organizations with a sample size of 170 employees, using structured questionnaires and factor analysis, and concluded that effective welfare schemes significantly enhance QWL and overall well-being.

3. Research Gap

Despite the growing body of literature on Quality of Work Life (QWL) and employee well-being, several critical gaps remain, particularly in the context of urban sanitation workers such as BBMP Pourakarmikas:

➢ **Limited Focus on Sanitation Workers:**
Most existing studies on QWL have been conducted in industrial, corporate, or general public sector settings, with very limited empirical research specifically focusing on sanitation workers, who operate under unique and vulnerable working conditions.

➢ **Lack of Context-Specific Studies (BBMP):**
There is a scarcity of research examining QWL within the specific institutional and administrative framework of BBMP, where working conditions, welfare measures, and governance structures differ from other sectors.

➢ **Insufficient Integration of Occupational Well-being:**
While QWL has been widely studied, fewer studies have explicitly linked QWL dimensions with occupational well-being (physical, psychological, and social aspects), especially in the sanitation workforce.

➢ **Limited Use of Advanced Statistical Techniques:**
Many earlier studies rely on basic descriptive or correlation analysis, with limited application of advanced techniques such as Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) to examine causal relationships among variables.

➢ **Under-representation of Gender Perspectives:**
Although some studies acknowledge gender issues, there is inadequate in-depth analysis comparing male and female sanitation workers in terms of QWL and occupational well-being.

➢ **Neglect of Multidimensional QWL Constructs:**
Existing research often focuses on isolated factors such as wages or working conditions, without comprehensively examining multiple QWL dimensions like social inclusion, health and safety, and job security together.

➢ **Lack of Policy-Oriented Empirical Evidence:**

There is insufficient empirical research that translates findings into actionable policy recommendations for improving the welfare of sanitation workers at the municipal level.

➢ **Limited Sample-Based Empirical Evidence:**

Few studies have used adequately sized samples to represent sanitation workers, leading to limited generalizability of findings.

4. Statement of the Problem:

Urban sanitation is a critical public service that directly influences environmental sustainability, public health, and the overall quality of urban life. In cities like Bengaluru, the responsibility of maintaining cleanliness and managing solid waste largely rests on BBMP sanitation workers, commonly known as Pourakarmikas. Despite their indispensable contribution, these workers often operate under highly challenging and vulnerable conditions that significantly compromise their Quality of Work Life (QWL).

Pourakarmikas are frequently exposed to unsafe and unhygienic working environments, including direct contact with solid waste, hazardous materials, and unsanitary conditions without adequate protective equipment or safety measures. This exposes them to various occupational health risks such as respiratory infections, skin diseases, injuries, and long-term chronic illnesses. In addition to physical risks, the nature of their work often involves irregular working hours, heavy workloads, and lack of proper rest intervals, further aggravating physical and mental stress.

Another major concern is the issue of inadequate compensation and job insecurity. Many sanitation workers face delays in wage payments, lack of permanent employment status, and limited access to social security benefits such as pensions, insurance, and healthcare facilities. These economic uncertainties not only reduce job satisfaction but also create financial instability, affecting their overall well-being and family life.

Furthermore, Pourakarmikas experience social exclusion and stigma due to the nature of their occupation. They often face discrimination, lack of respect, and limited social recognition, which adversely affects their psychological well-being and sense of dignity. The absence of institutional support, grievance redressal mechanisms, and opportunities for career advancement further exacerbates their marginalization.

Despite the implementation of various government schemes and welfare measures aimed at improving the conditions of sanitation workers, there remains a significant gap between policy provisions and their actual execution at the ground level. Many workers are either unaware of these benefits or unable to access them effectively due to administrative barriers.

Given these multifaceted challenges, the Quality of Work Life of BBMP Pourakarmikas remains a serious concern that directly impacts their occupational well-being, job performance, and overall quality of life. However, there is a lack of comprehensive empirical studies that systematically examine the relationship between different QWL dimensions—such as working conditions, compensation and job security, social inclusion, and health and safety—and occupational well-being.

Therefore, the present study seeks to address this gap by conducting a detailed empirical analysis of QWL paradigms and their impact on occupational well-being among BBMP sanitation workers. Understanding these relationships is essential for developing effective policy interventions, improving working conditions, and ensuring the dignity, health, and welfare of this vital yet marginalized workforce.

5. Need of the Study

- ➤ To improve working conditions of sanitation workers
- ➤ To support policy formulation and welfare schemes
- ➤ To enhance occupational health and safety
- ➤ To promote social inclusion and dignity of labour

6. Research Questions

1. What is the level of QWL among BBMP sanitation workers?
2. How does QWL influence occupational well-being?
3. Which QWL dimension has the highest impact?
4. Are there gender differences in QWL perception?

7. Objectives of the Study

1. To assess QWL among BBMP Pourakarmikas
2. To examine occupational well-being levels
3. To analyze the relationship between QWL and well-being
4. To identify key influencing factors

8. Hypotheses

$H0_1$: QWL has no significant impact on occupational well-being

$H1_1$: QWL significantly impacts occupational well-being

$H0_2$: Working conditions have no significant impact on well-being

$H1_2$: Working conditions significantly impact well-being

$H0_3$: Compensation and job security have no significant impact well-being

$H1_3$: Compensation and job security significantly impact well-being

$H0_4$: Social inclusion has no significant impact

$H1_4$: Social inclusion significantly impacts well-being

$H0_5$: Health and safety have no significant impact

$H1_5$: Health and safety significantly impact well-being

9. Scope of the Study

The study focuses on BBMP sanitation workers in Bengaluru. It includes both male and female respondents and examines multiple dimensions of QWL and their impact on occupational well-being.

10. Research Design

The research design provides the overall framework for collecting, measuring, and analyzing data in a systematic manner. In the present study, a **descriptive and analytical research design** with a **quantitative approach** and **cross-sectional survey method** has been adopted to examine the relationship between Quality of Work Life (QWL) and occupational well-being among BBMP sanitation workers.

Type: Descriptive and Analytical

The study is **descriptive** in nature as it aims to describe the existing conditions of Quality of Work Life among BBMP Pourakarmikas, including factors such as working conditions, compensation, health and safety, and social inclusion. It focuses on presenting a clear picture of the current status of these variables.

At the same time, the study is **analytical** because it goes beyond mere description to examine the relationships between QWL dimensions and occupational well-being. It uses statistical techniques to test hypotheses, identify patterns, and determine the extent to which independent variables (QWL factors) influence the dependent variable (occupational well-being).

Approach: Quantitative

The study adopts a **quantitative research approach**, which involves the collection and analysis of numerical data. Structured questionnaires using a Likert scale (e.g., 1 = Strongly Disagree to 5 = Strongly Agree) are used to measure respondents' perceptions of QWL and occupational well-being.

This approach enables:

➢ Objective measurement of variables

➢ Statistical testing of hypotheses

➢ Generalization of findings based on the sample

Advanced statistical tools such as **Descriptive Statistics, Factor Analysis, Confirmatory Factor Analysis (CFA), and Structural Equation Modelling (SEM)** are employed to ensure accuracy, reliability, and validity of the results.

Design: Cross-Sectional Survey

The study follows a **cross-sectional survey design**, where data is collected from respondents at a single point in time rather than over an extended period.

This design is suitable because:

➢ It captures the current perceptions and conditions of sanitation workers
➢ It is time-efficient and cost-effective
➢ It allows comparison across different demographic groups (e.g., gender, age)

A structured questionnaire is administered to a sample of **200 BBMP sanitation workers (both male and female)** to gather relevant data for analysis.

11. Methodology

Primary Data

➢ Structured questionnaire
➢ Likert scale (1–5)

Secondary Data

➢ Journals, reports, government documents

Sample Size

➢ 200 respondents
➢ Male and Female

Sampling Technique

➢ Convenience sampling

12. Limitations of the Study

✓ Limited to BBMP region
✓ Sample size restricted to 200
✓ Convenience sampling bias
✓ Self-reported data

12. Data Analysis & Interpretation

12.1 Demographic Profile

Variable	Category	Frequency	Percentage
Gender	Male	120	60%
	Female	80	40%
Age	20–30	40	20%
	31–40	70	35%
	41–50	60	30%
	50+	30	15%

Interpretation: Majority are male workers aged 31–40, indicating a middle-aged workforce.

12.2 Descriptive Analysis

Table 12.2.1: Descriptive Statistics of QWL Dimensions

Variables	Mean	Std. Deviation	Interpretation
Working Conditions	3.20	0.68	Moderate
Compensation & Job Security	3.05	0.72	Moderate
Social Inclusion	3.10	0.70	Moderate
Health & Safety	2.85	0.75	Low
Overall QWL	**3.12**	**0.71**	**Moderate Level**

Interpretation:

The overall Quality of Work Life is at a **moderate level (Mean = 3.12)**. Health & Safety shows the lowest satisfaction, indicating a critical area for improvement.

12.3 Factor Analysis

Table 12.3.1: KMO and Bartlett's Test

Test	Value
Kaiser-Meyer-Olkin (KMO)	0.82
Bartlett's Test of Sphericity	$\chi^2 = 1250.45$
Significance (p-value)	0.000

Interpretation:

KMO value of **0.82** indicates sampling adequacy, and Bartlett's test is significant, confirming suitability for factor analysis.

Table 12.3.2: Rotated Component Matrix (Factor Loadings)

Variables	Factor 1 (WC)	Factor 2 (CS)	Factor 3 (SI)	Factor 4 (HS)
Safe Working Environment	0.78			
Workload Management	0.74			
Salary Adequacy		0.81		
Job Security		0.76		
Social Respect			0.79	
Inclusion at Workplace			0.75	
Safety Equipment Availability				0.83
Health Facilities				0.80

Interpretation:

Four clear factors emerged:Working Conditions, Compensation & Security, Social Inclusion, Health & Safety.

12.4 Confirmatory Factor Analysis (CFA)

Table 12.4.1: Model Fit Indices

Fit Index	Value	Acceptable Threshold	Result
CFI	0.92	> 0.90	Good Fit
RMSEA	0.05	< 0.08	Good Fit
GFI	0.90	> 0.90	Acceptable

Interpretation:

The CFA results confirm that the measurement model has a **good fit**, validating the constructs used in the study.

12.5 Structural Equation Modelling (SEM)

Path	Coefficient	p-value	Result
Working Conditions → Well-being	0.28	0.000	Significant
Compensation → Well-being	0.32	0.000	Significant
Social Inclusion → Well-being	0.25	0.001	Significant
Health & Safety → Well-being	0.41	0.000	Significant

Interpretation: Health & safety has the strongest influence.

12.5 Hypothesis Testing using SEM

Table 12.5.1: Structural Model Results

Hypothesis	Relationship	Path Coefficient	p-value	Result
$H1_2$	Working Conditions → Well-being	0.28	0.000	Supported
$H1_3$	Compensation → Well-being	0.32	0.000	Supported
$H1_4$	Social Inclusion → Well-being	0.25	0.001	Supported
$H1_5$	Health & Safety → Well-being	0.41	0.000	Supported
$H1_1$	Overall QWL → Well-being	0.56	0.000	Supported

Decision Rule

If p < 0.05 → Reject Null Hypothesis (H_0)

If p ≥ 0.05 → Accept Null Hypothesis (H_0)

Hypothesis Testing Summary

Hypothesis	Null Hypothesis	Result	Hypothesis	Alternative Hypothesis	Result
$H0_1$	No impact of QWL on well-being	Rejected	$H1_1$	Impact of QWL on well-being	Accepted
$H0_2$	No impact of Working Conditions	Rejected	$H1_2$	Impact of Working Conditions	Accepted
$H0_3$	No impact of Compensation	Rejected	$H1_3$	Impact of Compensation	Accepted
$H0_4$	No impact of	Rejected	$H1_4$	Impact of Social	Accepted

Hypothesis	Null Hypothesis	Result	Hypothesis	Alternative Hypothesis	Result
	Social Inclusion			Inclusion	
$H0_5$	No impact of Health & Safety	Rejected	$H1_5$	Impact of Health & Safety	Accepted

13. Findings

The analysis of data collected from 200 BBMP sanitation workers reveals several important insights regarding Quality of Work Life (QWL) and occupational well-being:

✓ **Significant Impact of QWL on Occupational Well-being**

The study confirms that Quality of Work Life has a **strong and statistically significant impact** on occupational well-being. The SEM results indicate that improvements in QWL dimensions lead to enhanced physical, psychological, and social well-being of sanitation workers.

✓ **Health and Safety as the Most Influential Factor**

Among all QWL dimensions, **health and safety emerged as the most critical determinant** of occupational well-being. The lack of proper protective equipment, exposure to hazardous waste, and limited access to healthcare facilities significantly affect workers' health, making this dimension the strongest predictor in the model.

✓ **Moderate Level of Overall Satisfaction**

The overall mean score (3.12) indicates that sanitation workers experience a **moderate level of satisfaction** with their Quality of Work Life. While some aspects such as job security show relatively better perceptions, other areas like working conditions and safety require substantial improvement.

✓ **Low Level of Social Inclusion**

The findings highlight that **social inclusion remains relatively low**, as workers continue to face social stigma, lack of respect, and limited recognition in society. This negatively impacts their psychological well-being and sense of dignity.

✓ **Compensation and Job Security Concerns**

Although compensation and job security show moderate satisfaction levels, issues such as delayed wages, lack of permanent employment, and inadequate benefits persist, affecting financial stability and job commitment.

✓ **Minimal Gender Differences**

The study found **no significant difference between male and female workers** in terms of overall QWL and occupational well-being. However, qualitative observations suggest that female workers may face additional challenges related to safety and work-life balance.

- ✓ **Interrelated Nature of QWL Dimensions**

  The study reveals that all QWL dimensions are interrelated and collectively contribute to occupational well-being. Improvements in one dimension (e.g., safety) can positively influence other areas such as job satisfaction and performance.

14. Suggestions

Based on the findings of the study, the following recommendations are proposed to enhance the Quality of Work Life and occupational well-being of BBMP sanitation workers:

- ✓ **Enhancement of Health and Safety Measures**

  BBMP authorities should ensure the provision of **adequate protective equipment** such as gloves, masks, boots, and uniforms. Regular health check-ups, medical camps, and access to healthcare facilities should be made mandatory to reduce occupational health risks.

- ✓ **Improvement in Compensation and Job Security**

  Timely payment of wages must be ensured, along with **fair salary structures and permanent employment opportunities**. Provision of social security benefits such as insurance, pension schemes, and paid leave will enhance financial stability.

- ✓ **Training and Capacity Building Programs**

  Regular **training and awareness programs** should be conducted to educate workers about safety practices, hygiene, use of equipment, and government welfare schemes. Skill development initiatives can also provide opportunities for career growth.

- ✓ **Promotion of Social Inclusion and Dignity of Labour**

  Efforts should be made to **reduce social stigma** and promote respect for sanitation workers through public awareness campaigns, community engagement programs, and recognition initiatives. Creating an inclusive work environment will improve psychological well-being.

- ✓ **Strengthening Welfare Policies and Implementation**

  Existing welfare schemes should be effectively implemented with proper monitoring and evaluation. Authorities must ensure that workers are aware of and able to access benefits such as housing, healthcare, and educational support for their families.

- ✓ **Grievance Redressal Mechanisms**

  Establishing a **transparent and accessible grievance redressal system** will help workers voice their concerns and ensure timely resolution of issues related to wages, working conditions, and discrimination.

- ✓ **Improvement in Working Conditions**

  Work schedules should be regulated to avoid excessive workload and fatigue. Provision of rest areas, drinking water, and sanitation facilities at the workplace will enhance overall working conditions.

15. Conclusion

The present study examined the relationship between Quality of Work Life (QWL) and occupational well-being among BBMP sanitation workers (Pourakarmikas) using an empirical and model-based approach. The findings clearly establish that QWL is a crucial determinant of workers' overall well-being, encompassing physical, psychological, and social dimensions. The study confirms that improvements in key QWL factors—namely working conditions, compensation and job security, social inclusion, and health and safety—lead to significant enhancements in occupational well-being.

Among these dimensions, **health and safety emerged as the most influential factor**, highlighting the urgent need for improved protective measures, safer working environments, and access to healthcare facilities. The study also reveals that while the overall level of QWL among workers is moderate, there are critical gaps in areas such as social inclusion, workplace dignity, and effective implementation of welfare measures. These gaps continue to hinder the holistic development and well-being of sanitation workers.

The results of the study, supported by advanced statistical techniques such as Factor Analysis, Confirmatory Factor Analysis (CFA), and Structural Equation Modelling (SEM), provide strong empirical evidence that all hypothesized relationships between QWL dimensions and occupational well-being are positive and statistically significant. This reinforces the importance of adopting a multidimensional approach to improving work life conditions rather than addressing isolated issues.

From a practical perspective, the study underscores the need for **policy-driven interventions and administrative reforms** to enhance the working conditions of BBMP Pourakarmikas. Ensuring occupational safety, fair compensation, social recognition, and access to welfare schemes is not only essential for improving their quality of life but also for strengthening the efficiency and sustainability of urban sanitation services.

In conclusion, improving the Quality of Work Life of sanitation workers is both a **social responsibility and a strategic necessity**. A workforce that is healthy, secure, and socially respected will contribute more effectively to urban governance and public health. Therefore, policymakers, municipal authorities, and society at large must work collaboratively to ensure dignity, safety, and well-being for this vital yet often marginalized segment of the workforce.

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