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'Empowering Green Warriors': A Study on Job Satisfaction Among Haritha Karma Sena Workers

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Abstract: ***The Haritha Karma Sena (HKS) represents a pioneering initiative in Kerala, India, aimed at promoting sustainable solid waste management through community participation. This study, titled* "Empowering Green Warriors: A Study on Job Satisfaction Among Haritha Karma Sena Workers"*, explores three key dimensions: the nature of work undertaken by HKS workers, the challenges they encounter, and their overall level of job satisfaction. Using a mixed-methods approach, data were collected through surveys, interviews, and field observations. Findings reveal that HKS workers play a crucial role in waste segregation, collection, and awareness generation, yet face significant issues such as inadequate remuneration, improper segregation of waste by the households and reluctance of the households to pay the user fee even though it is compulsory. Despite these challenges, workers are satisfied with their job, largely driven by a sense of environmental responsibility and community service. The study underscores the need for policy interventions to improve working conditions, enhance social security measures, and strengthen institutional support, thereby empowering these "green warriors" to contribute more effectively to sustainable urban development.***

Keywords: Haritha Karma Sena, Waste management, Segregation of waste, Job satisfaction

1.Introduction

In recent years, sustainable waste management has emerged as a critical concern for local governance in Kerala, India. Among the pioneering initiatives addressing this challenge is the Haritha Karma Sena (HKS), a grassroots collective formed under the aegis of the Suchitwa Mission. Comprising primarily women workers, the HKS plays a vital role in door-to-door collection, segregation, and responsible disposal of non-biodegradable waste, thereby fostering environmental stewardship and community hygiene. This study focuses on ten panchayaths in Kottayam district, where the Haritha Karma Sena has been actively engaged in solid waste management. While the operational success of HKS is often measured in terms of environmental impact and waste reduction, the lived experiences and job satisfaction of its workers-many of whom come from marginalized backgrounds-remain underexplored.

Haritha Karma Sena

Haritha Karma Sena (HKS), also known as the Green Task Force, is a micro-enterprise unit formed in each Local Self-Government Institution (LSGI), typically comprising two members per ward. Its primary responsibility is the door-to-door collection of non-biodegradable waste and assistance in managing biodegradable waste, for which a nominal user fee is charged. The HKS was constituted to streamline waste management in local bodies. These teams actively collect and manage non-biodegradable waste in each ward, including materials such as plastic. The initiative has been holistically integrated with various government missions and programs, including the Suchitwa Mission, Kudumbashree, Haritha Kerala Mission, and MGNREGS. Collected waste from households and establishments is transported to shredding units for recycling. The waste is meticulously segregated based on its characteristics into categories such as HM White, PP, HM, LD Print, Bajar, Ganny, bulbs, PVC, steel, tubes, bottles, e-waste, LD (Glucose), bottle caps, spray bottles, and more. According to the mission guidelines, shredded plastic is supplied to local bodies for road tarring through the Clean Kerala Company. Each worker is expected to visit a minimum of 250 households for waste collection, which is conducted on a user-fee basis. In addition to waste collection, Haritha Karma Sena also undertakes activities such as the production of eco-friendly materials, maintenance of waste disposal systems, promotion of organic farming, rental of environment-friendly equipment, and compost production.

2.Review of Literature

El-Fadel and Findikakis (1997) noted that solid waste disposal in landfills inevitably leads to gas and leachate generation, driven by microbial activity, climatic conditions, waste characteristics, and landfill operations. The migration of these by-products beyond landfill boundaries poses serious environmental concerns, including health risks, fires, explosions, vegetation damage, odors, settlement, groundwater and air pollution, and contributions to global warming. Their paper provides an overview of the mechanisms of gas and leachate formation and outlines control methods to reduce or prevent these impacts.

Syed (2006) emphasized that solid and liquid wastes from animal and domestic sources can contaminate drinking water, irrigation systems, and recreational water bodies in both rural and urban areas. Waste management, recognized for over four millennia, has evolved from direct disposal into the environment to integrated management approaches. The paper reviews the historical development of waste management practices and summarizes findings from current environmental monitoring programs.

Kumar (2012) emphasized that the management of rapidly increasing solid waste has become a major challenge for nearly all major cities in India. While municipal bodies bear the primary responsibility for solid waste management, several other stakeholder groups also play significant roles in the process. In the Indian context, waste pickers-often referred to as scavengers or rag pickers-occupy a unique and vital position. These individuals, typically from socially and economically vulnerable backgrounds, earn a livelihood by collecting and selling recyclable materials extracted from municipal solid waste.

Njoroge et al. (2014) investigated the "Review of Municipal Solid Waste Management: A Case Study of Nairobi, Kenya." The study indicated that Nairobi's solid waste situation, which can generally be taken to represent Kenya's status, was characterized by low coverage of solid waste collection, pollution from uncontrolled dumping, inefficient public services, an unregulated and uncoordinated private sector, and a lack of essential solid waste management infrastructure. The city generates approximately 4,016 tonnes of solid waste daily, yet the collection rate was as low as 33%, leaving about 2,690 tonnes uncollected.

Gupta et.al (2015) conducted a review on the current status of municipal solid waste management in India. Solid waste management has emerged as a major environmental challenge in the country. Rapid urbanization, industrialization, and population growth have significantly increased the generation of municipal solid waste in Indian cities and towns. Mismanagement of this waste can result in adverse environmental impacts, public health risks, and socio-economic problems. The paper provides an overview of the existing waste management practices in India and offers insights that can help authorities and researchers develop more efficient and sustainable management strategies.

Jing Ma and Keith W. Hipel (2016) conducted a systematic literature review exploring the social dimensions of municipal solid waste (MSW) management worldwide. Their study highlights that MSW is rapidly increasing in both volume and complexity across the globe. Effective and efficient management of MSW is recognized as a critical factor for future social development, requiring not only technological innovation but also the active participation of stakeholders and consideration of social, economic, and psychological aspects. Given this reality, the authors emphasize the urgent need for further research into the social dimensions of MSW management. Their analysis reveals that existing studies are unevenly distributed across regions and remain insufficient overall, suggesting that this area of inquiry deserves greater attention and may attract growing research interest in the future.

The reviewed literature highlights diverse dimensions of waste management practices, including historical developments, international strategies, and the roles of informal workers. However, there is a noticeable gap in research concerning the socio-economic conditions and occupational experiences of Haritha Karma Sena (HKS) workers, Therefore, the present study aims to bridge this gap by examining the challenges faced by HKS workers and assessing their level of job satisfaction.

Statement of the Problem

Waste management, once considered a complex problem, has now evolved into a system that generates returns. Protecting our fragile ecosystem has become imperative, especially in the backdrop of the damage inflicted on the environment. Environmental sustainability is increasingly framed within a biocentric approach, which situates humans as part of the larger natural context. In this circumstance, waste management systems are designed in eco-friendly ways to safeguard society from the adverse impacts of epidemics and other health hazards. Although numerous studies have examined waste management, limited research has focused on the role of the Haritha Karma Sena and the problems faced by the green warriors. The present study seeks to address this gap.

Significance of the Study

Waste management practices vary between developed and developing nations, across urban and rural areas, and among residential and industrial producers. Poor management of waste, treatment, and effluent disposal systems can result in significant public health risks. It is essential to consider all activities and actions required to manage waste from its inception to its final disposal. Today, waste management has become a major challenge for authorities at all levels. In this context, the activities of the Haritha Karma Sena deserve special mention, particularly in rural waste management. Hence, this study evaluates the role of Haritha Karma Sena in waste management and the challenges faced by the workers.

Objectives

- To examine the nature of work of Haritha Karma Sena workers
- To identify and analyse the problems faced by Haritha Karma Sena workers
- To assess the level of job satisfaction among Haritha Karma Sena workers

Methodology

- **Data collection**

The data for the study were collected from both primary and secondary sources. Primary data were obtained through the survey method using an interview schedule, while secondary data were gathered from relevant books, journals, newspaper articles, government records, and reports.

- **Sample selection**

Out of the 71 panchayats in Kottayam district, 150 Haritha Karma Sena workers were selected through random sampling from the Vazhoor, Chirakkadavu, Manimala, Kanghazha, Pallickathodu, Karukachal, Mutholi, Vellavoor, Kozhuvanal, and Kooropada Grama Panchayats.

- **Tools for analysis**

The data were analyzed using percentage and the Likert scale.

Likert Scale

A five-point Likert scale was used to analyze the level of job satisfaction of Haritha Karma Sena workers. Respondents were asked to choose from five options: highly dissatisfied, dissatisfied, neutral, satisfied, and highly satisfied. These responses were assigned values ranging from 1 to 5, respectively.

∑ (fx / Total no. of. respondents)

Data Analysis and Observations:

Demographic and Economic profile HKS) workers

The demographic and economic profile provides the essential information on the respondents of the survey sample group, which is useful to move further to analyse and attempts to find out whether Haritha Karma Sena has brought significant changes in the study area.

Table 1: Demographic and Social profile of HKS workers

Age	No. of Respondents	Percentage
20-30	24	16
30-40	57	38
40-50	69	46
Total	150	100
Marital Status	**No. of Respondents**	**Percentage**
Married	112	75
Single	12	8
Widow	26	17
Total	150	100
Education qualification	**No. of Respondents**	**Percentage**
SSLC	48	32
Higher Secondary	60	40
Graduate	30	20
Any other	12	8
Total	150	100
Economic category	**No. of Respondents**	**Percentage**
APL	24	16
BPL	126	84
Total	150	100
Type of family	**No. of Respondents**	**Percentage**
Nuclear	114	76
Joint	36	24
Total	150	100

Source: Primary data

Observations

- The majority of respondents (46%) are in the 40–50 age group (69 out of 150).
- A significant portion (38%) are aged 30–40, while only 16% fall in the 20–30 age group. This indicates that the sample HKS workforce is largely middle-aged, with fewer younger participants.
- Most respondents are married (75%), showing family responsibilities are common among workers.
- Widows (17%) form a notable minority, while only 8% are single. ➡ The data suggests that the majority of workers have family commitments, which may influence their economic and social needs.
- The largest group (40%) have completed Higher Secondary education.
- SSLC holders (32%) and Graduates (20%) also form significant portions.
- A small group (8%) reported other qualifications. ➡ Overall, the workforce is moderately educated, with most having at least secondary-level education, but relatively fewer graduates.
- A vast majority (84%) belong to the Below Poverty Line (BPL) category.
- Only 16% are in the Above Poverty Line (APL) category. ➡ This highlights the economic vulnerability of the respondents, with most living under constrained financial conditions.
- Predominance of nuclear families (76%) Out of 150 respondents, 114 belong to nuclear families, showing that small, independent family units are the dominant household structure.
- Smaller proportion of joint families (24%) Only 36 respondents reported living in joint families, indicating that extended family living arrangements are less common.

Table 2: Distribution of Respondents by Years of Work Experience

Years of working	No. of respondents	Percentage
Below 1	9	6
1-3	49	32
3-5	82	55
Above 5	10	7
Total	150	100

Source: Primary data

Observations

More than half of the respondents (55 percent) fall into the 3–5 years category. This suggests that the workforce is relatively experienced, but still in the early to mid-stages of their careers. A significant portion (32 percent) have between 1–3 years of experience. This indicates a strong presence of junior employees who are building their professional foundation. Only 6 percent respondents are newcomers with less than a year of experience. This shows limited fresh entry-level participation compared to other groups. Just 7 percent of respondents have over 5 years of experience, highlighting that senior or long-tenured employees are relatively scarce in this sample.

Table 3: Number of houses allotted for waste collection

Number of houses	No. of Respondents	Percentage
100-200	50	33
200-300	82	55
Above 300	18	12
Total	150	100

Source: Primary data

Observations

More than half of the respondents (55 percent) are allotted 200–300 houses for waste collection. This indicates that medium-sized allocations are the most common practice. One-third of respondents (33 percent) are responsible for 100–200 houses, showing that smaller allocations are also fairly significant. Only 12 percent of respondents are allotted more than 300 houses, suggesting that very large allocations are relatively rare in the sample.

Table 4: Remuneration of HKS Workers

Remuneration	No. of Respondents	Percentage
6000-8000	30	20
8000-10000	36	24
Above 10000	84	56
Total	150	100

Source: Primary data

Observations

More than half of the respondents (84 out of 150) receive a remuneration above 10,000, showing that higher pay brackets dominate among HKS workers. About one-fourth of respondents (36) fall into the 8,000–10,000 range, indicating a significant portion of workers are in the mid-level pay category. Only 30 respondents earn between **6,000–8,000**, suggesting that lower pay brackets are less common in the sample.

Table 5: Proper segregation of the waste by the households

Proper Segregation of waste	No. of Respondents	Percentage
Yes	90	60
No	60	40
Total	150	100

Source: Primary data

Observations

Out of 150 respondents, 60 percent households properly segregate their waste. This indicates that a majority of households are aware of and follow waste management practices. 40 percent do not segregate their waste. This shows that a considerable portion of the population still neglects proper waste segregation, which can hinder effective waste management.

Table 6: Problems faced by HSK workers

Problems	No. of Respondents
Reluctance of the households to pay user fee	54 (36)
Low remuneration	18 (12)
Improper segregation of waste by the households	60 (40)
Ill treatment from households	6 (4)
Houses closed during the collection day	12 (8)
Delay to get remuneration	4 (3)
No other benefits (other than salary)	150 (100)
Heavy work load	30 (20)
Long working hours	4 (3)

Source: Primary data

*Figures in bracket shows percentage to total

All respondents (100 percent) reported that they receive no additional benefits other than salary, making this the most pressing and widespread problem. A significant portion (40 percent) face difficulties because households do not properly segregate waste, which complicates collection and disposal. 36 percent of respondents highlighted that households are unwilling to pay the user fee, creating financial strain and resistance in the system. 20 percent reported being burdened with heavy workloads, pointing to inefficiencies in task distribution. 12 percent of respondents expressed dissatisfaction with low pay, showing that income levels remain a concern for a notable minority among the sample.

Table 7: Level of satisfaction of HKS workers

Satisfaction of job	No. of Respondents	Likert Scale	Total
Highly Satisfied	48	5	240
Satisfied	84	4	336
Neutral	6	3	18
Dissatisfied	12	2	24
Highly Dissatisfied	0	1	0
Total	150		618

Source: Primary data

The Likert scale value is calculated as:
Likert scale=$\sum(f \cdot x)$/Total number of respondents
= 618/150= 4.12

Since the obtained value (4.12) is greater than the midpoint value of 3, the survey results indicate that respondents are generally satisfied with their job.

3.Suggestions and Conclusion

To empower Haritha Karma Sena (HKS) workers and enhance their effectiveness, several measures are essential. Ensuring financial security through fair wages, timely payments, and social security benefits can provide stability and dignity to their work. Occupational safety must be prioritized by supplying protective gear, conducting regular health check-ups, and offering training on safe waste handling practices. Strengthening institutional support by fostering better coordination between municipal bodies and HKS workers will improve efficiency in waste management. Equally important is the recognition and dignity of labor, which can be achieved through awareness campaigns that highlight their contributions and reduce social stigma. Finally, capacity-building initiatives, such as skill development programs, will empower workers, expand their opportunities, and reinforce their role as vital agents of sustainable urban development. The study concludes that improving financial security, ensuring occupational safety, strengthening institutional support, and enhancing the dignity of labor are essential to sustain and increase job satisfaction among HKS workers. Empowering these “green warriors” not only uplifts their livelihoods but also strengthens the effectiveness of community-based waste management systems, thereby contributing to long-term environmental sustainability and inclusive urban development.

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