# A STUDY ON THE SOCIO-ECONOMIC PROFILE OF HARITHA KARMA SENA WORKERS OF POTHANICAD GRAMAPANCHAYAT

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## CERTIFICATE

This is to certify that the dissertation work entitled "**A STUDY ON THE SOCIO-ECONOMIC PROFILE OF HARITHA KARMA SENA WORKERS OF POTHANICAD GRAMAPANCHAYAT"** is a bonafide record of study carried out by **ADHILA KA (24PEC1081)** under my guidance and supervision, in partial fulfilment of the requirement for the award of the degree of Master of Arts in Economics, during the academic year 2025-26 and that it has not been previously submitted to the award of any degree, diploma, fellowship or any other similar title or recognition.

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# DECLARATION

I, ADHILA KA hereby declare that the dissertation entitled "**A STUDY ON THE SOCIO-ECONOMIC PROFILE OF HARITHA KARMA SENA WORKERS OF POTHANICAD GRAMAPANCHAYAT"**is a bonafide record of project work carried out by me in partial fulfilment of the requirement for the award of the degree of Masters of Arts in Economics under the supervision of Dr. MERIN JOY, Assistant Professor, Department of Economics, Mar Athanasius College (Autonomous) Kothamangalam. I also declare that I have not submitted this report earlier fully or partially for getting any other Degree or Diploma or similar title of recognition.

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# CHAPTER 1:
# INTRODUCTION

## 1.1 INTRODUCTION

Waste management has become a major global challenge in recent years. Across the world, billions of tonnes of waste are generated annually, placing significant pressure on the environment and public health. Reports indicate that approximately 2.12 billion tonnes of waste are produced globally each year. Improper disposal and inadequate waste management practices contribute to environmental pollution and pose serious health risks. The negative impacts of mismanaged waste are severe, with an estimated one million deaths worldwide being linked to poor waste handling and disposal practices. Therefore, effective waste management has become essential for ensuring environmental sustainability and protecting human well-being.

To address this issue, the concept of Haritha karma Sena emerges as a promising solution. Haritha karma Sena, translating to "Green Action Force," is a community-driven initiative aimed at promoting sustainable waste management practices at the household level. Haritha Karma Sena is an initiative established to address Kerala's growing waste management challenges through a decentralized approach. It functions with the support and coordination of local self-government institutions, development missions, government departments, and other relevant agencies working in the state. The primary aim of Haritha Karma Sena is to ensure effective waste collection, segregation, and management while creating livelihood opportunities for its members(KS,2024).

The initiative promotes localized waste management practices that are suited to the specific needs of different communities. By encouraging the collection and proper treatment of waste at the local level, it helps reduce the burden on centralized disposal systems and contributes to a cleaner environment. In addition, Haritha Karma Sena provides income-generating opportunities for workers engaged in waste management activities(KS,2024).

The government emphasizes the principle that every individual is responsible for the waste they generate. Through Haritha Karma Sena, efforts are made to transform this idea into a broader social responsibility. With the active involvement of local self-government bodies, government agencies, and community-based systems, an organized framework has been developed for the scientific management of non-biodegradable waste that requires collective handling and public support(KS,2024).

Waste management is important for several reasons:

- Environmental Protection: Waste management is essential for maintaining a clean and healthy environment**.** Proper handling, collection, treatment, and disposal of waste help prevent environmental pollution and protect natural ecosystems.
- Conservation of Natural Resources: Another important aspect of waste management is the conservation of natural resources**.** Through recycling and reuse of materials such as paper, plastic, glass, and metals, the demand for new raw materials can be reduced. This helps save energy, water, and other valuable resources.

- Public Health: Effective waste management also contributes to public health. Improper disposal of waste, especially hazardous and medical waste, can create breeding grounds for disease-causing organisms and increase the risk of infections among people. Proper waste treatment and disposal methods help maintain community health and hygiene.
- Economic Advantages: In addition, waste management can provide economic advantages. Recycling activities and waste processing industries create employment opportunities and generate income. At the same time, efficient waste management systems can reduce the costs associated with waste collection and disposal.
- Compliance with Regulations: Proper waste management ensures compliance with government regulations and environmental laws. Following approved waste management practices helps individuals, organizations, and local bodies avoid legal issues while contributing to sustainable development(Thomas et.al, 2023).

Effective waste management is essential for environmental sustainability and the protection of public health. Every individual, institution, and government body has a responsibility to ensure that waste is handled, treated, and disposed of in a safe and scientific manner. Poor waste management practices can lead to environmental pollution, health hazards, and the depletion of natural resources.

India faces significant challenges in managing the large volume of waste generated due to rapid population growth, urbanization, and changing consumption patterns. Major cities contribute substantially to the generation of municipal and plastic waste. Factors such as inadequate waste management infrastructure, improper disposal methods, and limited public awareness further aggravate the problem. Scientific waste segregation, regular monitoring, and efficient collection systems are necessary to address these challenges effectively(Thomas et,al,2023).

In Kerala, a considerable quantity of solid waste is generated every day, making waste management a major concern for local authorities. To tackle this issue, the state has adopted a decentralized approach that empowers local self-government institutions to manage waste at the grassroots level. As part of this initiative, the Haritha Kerala Mission was launched to promote sustainable waste management practices across the state.

One of the key components of this mission is the formation of Haritha Karma Sena, a community-based group engaged in waste collection and management activities. The organization is responsible for collecting biodegradable and non-biodegradable waste from households and ensuring its proper transportation, processing, and disposal in coordination with local self-government institutions. Haritha Karma Sena also promotes waste segregation at the source, recycling, and environmentally friendly waste treatment methods(Thomas et.al,2023).

Haritha Karma Sena workers receive technical guidance and operational support through Haritha Sahaya Sthapanams, which function as Technical Support Agencies

under the guidance of the Haritha Keralam Mission. These agencies work in cluster-based arrangements and assist workers in improving waste management practices. Organizations such as NGOs, community groups, and corporate institutions with relevant expertise and experience in waste management can be selected to serve as these support agencies.

Kerala has a large network of approximately 20,000 Haritha Karma Sena workers, often referred to as the "Green Army" of Kudumbashree. According to government guidelines, existing Kudumbashree groups or self-help groups can be recognized as Haritha Karma Sena units after obtaining approval from the respective Local Self-Government Institutions (LSGIs). In areas where such systems are not already functioning, Grama Panchayats, Municipalities, and Block Panchayats may engage qualified NGOs or local entrepreneurs to carry out waste management activities. Preference is generally given to well-performing Kudumbashree units for waste collection and related services. However, when such groups are unavailable, local bodies can appoint other eligible organizations or individuals with the required capabilities. Haritha Karma Sena functions on a self-sustaining enterprise model, generating income through user fees collected from households, the sale of recyclable materials, the distribution of composting inoculums, and services related to waste treatment and composting equipment.

Haritha Karma Sena carries out several important responsibilities in Kerala's decentralized waste management system. One of its primary functions is to create awareness among the public about the need for proper waste segregation and environmentally friendly waste disposal practices. The workers also assess the quantity of waste generated in households and institutions and provide guidance on the effective use and maintenance of composting systems. In addition, they help ensure the availability of necessary materials, including inoculums, for source-level composting (Thomas et.al,2023).

The collection of non-biodegradable waste is organized according to a fixed schedule. Haritha Karma Sena workers collect a variety of cleaned recyclable and non-recyclable materials such as plastic items, paper waste, medicine blister packs, toiletry containers, glass fragments, electronic waste, and leather products from homes, shops, and other establishments. They also support households in managing biodegradable waste through proper treatment methods.

Another important responsibility of the workers is addressing complaints and issues related to waste treatment at the source. They are expected to respond promptly and provide assistance within a short period, seeking technical support from Haritha Sahaya Sthapanams whenever necessary. The workers also undertake additional waste management activities assigned by the respective Local Self-Government Institutions (LSGIs).

Haritha Karma Sena has expanded significantly across Kerala. Hundreds of Local Self-Government Institutions have established their own units, and thousands of trained green technicians are actively involved in waste collection and management services. Their operations reach a large number of households throughout the state. To support

the collection and processing of non-biodegradable waste, several Material Collection Facilities and Resource Recovery Facilities have been set up in different regions.

Through their dedicated efforts, Haritha Karma Sena members have become an integral part of Kerala's waste management framework. Their work has contributed to improving waste segregation, increasing recycling activities, reducing the volume of waste sent to landfills, and promoting a cleaner and healthier environment across the state.

The resent study aims to examine the socio-economic characteristics of Haritha Karma Sena workers in Pothanicad Panchayat. It also seeks to understand the government schemes, programmes, and policy initiatives designed to support their activities and improve their livelihoods. Furthermore, the study intends to evaluate the effectiveness of these welfare measures and identify the major challenges encountered by Haritha Karma Sena workers in carrying out their responsibilities. The findings are expected to provide a better understanding of their working conditions and the support mechanisms available to them (Thomas et.al,2023).

## 1.2 SIGNIFICANCE OF THE STUDY

Waste management is an important aspect of environmental protection and sustainable development. Haritha Karma Sena workers are actively involved in waste collection and management activities at the local level, helping to maintain cleanliness and reduce environmental pollution. Their services have become increasingly important with the growing volume of waste generated by households and commercial establishments.

However, the socio-economic conditions of these workers have received limited attention. Many of them face challenges related to income, job security, working conditions, and social recognition. Therefore, it is important to understand their living standards and the difficulties they encounter in their occupation.

This study is significant because it examines the socio-economic profile of Haritha Karma Sena workers in Pothanicadu Grama Panchayat. The study provides information on their demographic characteristics, income, employment conditions, and major problems faced in their work. The findings can help local authorities and policymakers develop appropriate measures to improve the welfare of these workers and strengthen the waste management system. The study also adds to the understanding of the role and contribution of Haritha Karma Sena workers in society.

## 1.3 STATEMENT OF THE PROBLEM

Haritha Karma Sena workers play an important role in waste collection and environmental protection at the local level. Their services contribute significantly to maintaining cleanliness and promoting proper waste management in the community. However, many workers face challenges such as low income, irregular earnings, limited employment benefits, health risks, and lack of adequate social recognition. In addition, increasing waste generation and difficulties in waste collection create further challenges in their work. Understanding the socio-economic conditions and problems faced by these workers is essential for improving their livelihood and enhancing the efficiency

of waste management activities. Therefore, this study attempts to examine the socio-economic profile of Haritha Karma Sena workers in Pothanicadu Grama Panchayat and identify the major issues affecting their well-being.

## 1.4 OBJECTIVES

The specific objectives of the study are given below:

1. To understand the waste management practices of Pothanicad grama panchayat.
2. To understand the socio-economic characteristics of Haritha Karma Sena workers in Pothanicad grama panchayat.
3. To understand the challenges faced by Haritha Karma Sena workers in the study area.

## 1.5 METHODOLOGY

Th study is based on both primary and secondary data. The primary data were collected from 28 Haritha Karma Sena Workers in Pothanicad Grama Panchayat through structured interview schedules. Secondary data for the study were gathered from sources such as books and the internet. Appropriate statistical tools including Percentage analysis, ratio, Bar diagram and Pie charts, were utilized for data analysis.

## 1.6 LIMITATIONS OF THE STUDY

The present study has certain limitations that should be considered while interpreting the findings. Since the study was conducted with a relatively small sample size, the results may not fully represent the views and experiences of the entire population. In addition, the research was carried out within a limited time period, which restricted the scope of data collection and analysis. Furthermore, the study relied on responses provided by the participants, and there is a possibility that some respondents may have given biased or subjective opinions, which could have influenced the accuracy of the findings.

## 1.7 CHAPTER SCHEME

The study is presented in five chapters:
The first chapter introduces the significance and statement of the problem, highlights the objectives, explains the methodology, and admits the limitations of the study.
The second chapter scans the available literature on the study.
The third chapter gives an overview of the waste management.
The fourth chapter focuses on data analysis and interpretation of the collected data.

# CHAPTER 2:

# REVIEW OF

# LITERATURE

# REVIEW OF LITERATURE

This chapter reviews the relevant literature regarding economics of waste management. This review provides a systematic overview of studies related to the economics of waste management, community-based initiatives and household waste practices. It focuses on the role of Haritha karma Sena in promoting effective waste management at the local level and improving environmental sustainability.

Abhiharshan and Samudyatha(2025) conducted a cross-sectional study about solid waste management in urban Karnataka, South India. This paper evaluated household solid waste management practices and their determinants in urban Karnataka. This study highlights the role of socio-economic and awareness factors of household solid waste management practices. Regression techniques used to draw the result in the study. This study points out that education, income and awareness significantly influence proper waste management practices. This paper also concludes that strengthening public awareness and policy interventions is essential for improving sustainable household waste management.

Abraham et.al.(2025) conducted a study assessing household waste management systems in rural areas such as Visakhapatnam. This study assessed the household waste management practices, awareness and the role of local governance in rural Visakhapatnam. This paper also highlighting poor segregation, low awareness and inadequate infrastructure as the key barriers to effective and sustainable household waste management in rural areas. Percentage and Frequency distribution are used to draw the result in the study. This study also found out that most households depends on waste collectors and the segregation practices of waste are weak. This study also concludes that improved infrastructure, community participation, awareness programs and gender-inclusive local governance are essential for sustainable rural waste management.

Alex and Saritha(2025) studied about the impact of Haritha Karma Sena on health and economic stability in Nilambur block panchayat. This paper examines the health outcomes, economic stability and job satisfaction of Haritha Karma Sena workers focusing on women employed in waste collection, segregation and recycling. This study highlighting improved income security and livelihood opportunities despite occupational health risks. Chi-square test is used to draw the result in the study. This study pointed out that the initiative enhances socio economic conditions, better safety measures and health support systems are essential for sustainable empowerment.

Divya and Mallika(2025) examined the role of Haritha Karma Sena in promoting sustainable waste management in Kerala. This study analyzed the role of Haritha Karma Sena in promoting sustainable waste management across kerala. This study highlights the Haritha karma Sena as a women-led, community-based initiative that strengthens waste segregation, door-to-door collection, awareness generation and eco-friendly disposal practices. Percentage analysis is used to draw the result in the study. This study also found out that Haritha karma Sena significantly improves waste

management efficiency and public participation while enhancing environmental sustainability. This study also concluded that Haritha Karma Sena is a highly effective decentralized model for achieving sustainable waste management in Kerala despite minor operational challenges.

Gopal and Anoop(2025) conducted a customer-centric study of Haritha Karma Sena in Kerala. This study analyzed the effectiveness of Haritha Karma Sena from a customer-centric perspective. This study focusing on household satisfaction, service quality and sustainability outcomes. This study also highlights the importance of door-to-door waste collection, user satisfaction, community participation and environmental awareness in achieving sustainable waste management. Percentage analysis, mean, correlation and ranking techniques are used to draw the result of the study. This study found out that the Haritha Karma Sena has significantly improved waste segregation practices, customer awareness and environmental cleanliness, though certain service gaps like irregular collection or communication issues may persist.

Haris(2025) examined in his article the socio economic condition and challenges faced by the Haritha Karma Sena workers in Vatakara taluk. This study aims to evaluate the socio-economic profile and working challenges of Haritha Karma Sena workers. This study also highlighting their role in sustainable waste management and women empowerment. Snowball sampling and frequency distribution are used to draw the result of the study. This study found out that workers are mostly middle aged with moderate income and education but face issues related to working conditions and challenges. This study concludes that despite these constraints, HKS workers play a crucial role in environmental sustainability and require better support and policy attention for improved welfare.

Maliakkel and Anju(2025) observed the effectiveness of Haritha Karma Sena in wadakkanchery municipality. This study analyzing how effectively Haritha Karma Sena handles garbage disposal, segregation and recycling. These study highlights the relationship between environmental activities and social empowerment. Regression is the tool used to draw the result in this study. This study emphasizes that transportation issues and public coorperation emerged as major challenges affecting waste management efficiency. This study suggested that the actionable improvements for policy and practice in local waste management systems.

Preethi(2025) studied about the job satisfaction among Haritha Karma Sena workers. This study explores three key dimensions includes the nature of work undertaken by Haritha Karma Sena workers, the challenges they encounter and their overall level of job satisfaction. Percentage method is used to draw the result in the study. This study found out that Haritha Karma Sena workers play a crucial role in waste segregation, collection and awareness generation, yet face significant issues. Th study underscored the need for policy interventions to improve working conditions, enhance social security measures and strengthen institutional support.

Ramla and Chengodan(2025) examined the trends and challenges on Haritha Karma Sena workers. This study explores the main challenges Haritha Karma Sena workers face and evolution of their responsibilities. This study focuses on their socio-economic profile, occupational challenges and the impact of local waste management

strategies. This study also highlighted significant challenges such as financial insecurity, health risks and lack of safety measures. Chi-square test is used to draw the result of the study. Finding of this study indicate a positive shift in people's attitude and an increase in women's empowerment.

Shibin and Divya(2025) examined the role of Haritha Karma Sena in promoting sustainable waste management and achieving zero waste homes in valanchery municipality. This study highlighted the importance of decentralized waste collection, household-level waste segregation and community participation in waste management. This study analyzed using descriptive statistics and one-way ANOVA to draw the result in the study. This study found out that Haritha Karma Sena has significantly improved waste segregation practices, collection efficiency and public environment despite existing gaps in awareness and consistency. This study concludes that Haritha Karma Sena serves as an effective and scalable model for achieving sustainable waste management and advancing the concept of zero-waste homes in kerala.

Sreeraj(2025) examined in his article impact of Haritha karma sena on waste management system in households with a special reference to Ernakulam. This study evaluated the role of Haritha karma sena in improving the waste management practices in kerala especially in Ernakulam district. This study emphasized on the environmental, economic, social and operational implications of waste management through Haritha karma sena. Regression, Mean Comparison, Correlation and ANOVA are the statistical tools used to draw the result in this study. This study suggested that Haritha Karma Sena volunteers have a positive impact on waste management. The results also point out the activities of Haritha Karma Sena plays an important role in reducing improper waste treatment and improve environmental qualities.

Kumar (2024) observed about Empowering communities developments through waste management practices. This paper evaluates how Haritha Karma Sena empowers community development through decentralized waste management practices in Kerala. This study mainly highlighting active local participation, women's involvement and improved waste segregation systems for strengthening community-based waste management and promoting sustainable local development. Qualitative method is used to draw the result in the study. This study found out that the initiative significantly enhances environmental awareness, livelihood opportunities and waste management efficiency. This study concluding that community-driven models like Haritha Karma Sena are effective and sustainable solutions for grassroots waste management and rural development.

Nishad(2024) evaluated the solid waste management practices in kerala, India. This study analyzing the impact of waste management practices implemented by Haritha Karma Sena and the factors affecting waste management in the area. These study highlights challenges faced in waste management like behavior change, limited participation and finding constraints. Chi-square test is used to draw the result in this study. These study shows that the Haritha Karma Sena's effort have made a positive impact on waste management in Kerala.

Uche(2023) studied Plastic waste regime in Rwanda, Kenya and South Africa. This study mainly evaluated the plastic waste regimes. Here mentioned the major three countries like Rwanda, Kenya and South Africa. This study mainly highlighted her approaches to managing plastic waste management practices. These study finds that they have adopted diverse strategies to tackle plastic waste. This study also identifies the role of stakeholders like government agencies, non-governmental organization etc… in driving plastic waste management initiatives.

Gour et.al.(2022) examined in their article about the solid waste management in India. This paper presents the current scenario of solid waste management aspects and its challenges in India. This paper evaluated that the growing population and new life style due to the increased per capita income are leading causes of waste generation. This paper also analyzed that many several source of waste like waste from industries, hospitals, construction sites and households severely affect the environment and public. Percentage and Graphical method are used to draw the result in the study. This study concluded that solid waste management in India remains inefficient and unsustainable due to rapid urbanization, poor infrastructure and weak implementation.

Prasanth(2022) studied the economics of municipal solid waste management in ottapalam municipality. This study mainly evaluated the economic aspects of municipal solid waste management in ottapalam municipality. This study analyzed the cost and efficiency of solid waste management in ottapalam municipality. It evaluated the waste collection, segregation and disposal system. Percentage, Averages and Frequency distribution are used to draw the result in the study. This study suggested that the waste management involves high operational cost for the municipality. These results also point out that decentralized waste management practices are more cost effective and sustainable.

Vidisha et.al.(2021) conducted an analytical study of municipal solid waste management in India the special reference to Rohtak city. This study analyzes the status and challenges of municipal waste management in Rohtam in Rohtak city significantly contribute to environmental degradation. Percentage analysis is used to draw the result in the study. This paper found that rapid urbanization, inadequate infrastructure and improper waste disposal practices lead to environmental and health issues. This study concludes that effective planning, improved infrastructure and sustainable waste management practices are urgently required for improving municipal solid waste management practices.

Kalra and Manasi(2020) examined the initiatives in solid waste management in the the city of Bengaluru. This study aims to analyze various solid waste management initiatives in Bengaluru. This study mainly highlighted innovative practices and strong community participation across stages like awareness and treatment. Qualitative analysis and case study method are used to draw the result in the study. This study found out that stakeholder engagement is relatively high especially in awareness and waste treatment phases. This paper also concluding that multi-stakeholder involvement and innovative local initiatives are crucial for effective and replicable urban waste management systems.

Mahima and Lavanya(2016) observed the problems of solid waste management with special reference to palakkad municipality, Kerala, India. This paper assess household solid waste management practices and related problems in Palakkad municipality. This study also highlights the issues like lack of segregation, absence of recycling facilities, inefficient collection systems and financial constraints. Percentages and averages are used to analyze the result in the study. These study finds that waste generation increases with household size and depends largely on door-to-door collection. This study also concluded that effective recycling systems, roper segregation and improved institutional support are essential for sustainable waste management.

. Agarwal et.al.(2015) studied about the waste management initiatives in India for human well-being. These paper aims to evaluates various waste management initiatives in India and their role in improving human well-being. This study highlights that government programs and community participation are crucial for improving the effectiveness of waste management initiatives and ensuring better human well-being. They used descriptive statistical tools used to draw the result in the study. This study concludes that stronger policy enforcement, public awareness, and integrated sustainable waste management systems are essential for enhancing human health and environmental quality.

The review of the studies provides a comprehensive understanding of solid waste management practices with particular emphasis on Haritha Karma Sena in Kerala. The existing literature consistently highlights the growing challenges both improper waste disposal, inadequate segregation and limited public awareness across both rural and urban settings. At the same time, several studies emphasize the positive impact of decentralized and participatory waste management models. Thus, the reviewed studies collectively highlight the need for strengthened policy support, improved infrastructure and enhanced community participation to achieve an efficient and sustainable waste management system.

# CHAPTER 3
# OVERVIEW OF WASTE MANAGEMENT IN INDIA

## 3.1 INTRODUCTION

This chapter aims to review the existing waste management system in the state level with special reference to district level waste management. In these changed times due importance must be given to the treatment of waste at source particularly at household level. To facilitate an efficient implementation of the same, a proper study of the macro picture is essential.

## 3.2 NATIONAL, STATE AND DISTRICT SCENARIO OF WASTE MANAGEMENT

The management and disposal of solid waste have become significant concerns in both developed and developing nations, affecting urban as well as rural communities. Municipal Solid Waste (MSW) management remains one of the most critical environmental challenges faced by local authorities worldwide. The increasing volume of waste generated in cities creates considerable pressure on existing waste management systems. When waste is not collected, treated, and disposed of properly, it can accumulate in public spaces, leading to environmental degradation, health hazards, and a decline in the overall quality of life. (Thomas et.al, 2023)

To address these challenges, waste management systems must be designed to be economically viable, technically efficient, environmentally sustainable, and socially acceptable. An effective MSW management framework includes systematic waste collection, transportation, processing, recycling, treatment, and final disposal. Municipal governments often collaborate with private agencies or establish dedicated waste management departments to ensure the efficient handling of waste and the protection of public health and the environment. (Central Pollution Control Board CPCB, 2020-21)

In recent decades, factors such as population growth, rapid urban expansion, economic development, and changing lifestyles have contributed significantly to the increase in municipal solid waste generation, particularly in developing countries. As living standards improve and consumption patterns change, the quantity and complexity of waste produced continue to rise. (CPCB, 2020-21)

Consequently, solid waste management has emerged as one of the most pressing challenges for urban administrations, regardless of city size. The growing volume of waste places a substantial financial burden on municipal budgets, while inadequate technical knowledge and limited infrastructure often hinder effective waste management practices. A review of existing studies and reports from various countries indicates that although numerous investigations have examined waste management issues, only a limited number have provided detailed quantitative assessments of the factors influencing waste generation, collection, treatment, and disposal processes. (CPCB, 2020-21)

## 3.2.1 NATIONAL SCENARIO

Waste management refers to the systematic handling of waste materials from the point of generation to their final disposal. It encompasses a series of activities, including waste collection, transportation, segregation, treatment, recycling, and disposal. In addition, waste management involves the monitoring and regulation of waste-related operations through appropriate laws, policies, technological interventions, and economic instruments to ensure environmental sustainability and public health protection.

India faces significant challenges in managing the large quantities of waste generated annually. The country produces approximately 62 million tonnes of waste each year. Of this total, around 43 million tonnes are collected through formal waste management systems. However, only a portion of the collected waste undergoes treatment or processing, while a substantial amount is ultimately disposed of in landfill sites. Rapid urbanization, population growth, changing consumption patterns, and economic development have contributed to a steady increase in waste generation. According to projections, the quantity of municipal solid waste generated in urban areas is expected to rise significantly, reaching nearly 165 million tonnes by the year 2030. This growing trend highlights the urgent need for efficient, sustainable, and scientifically managed waste management systems across the country.

**Table 3.2 Municipal Solid Waste Generation and Management in India**

| Particulars | Quantity (Million Tonnes Per Year) | Percentage (%) |
|---|---|---|
| Total Waste Generated | 62 | 100 |
| Waste Collected | 43 | 70 |
| Waste Treated | 12 | 19.35 |
| Waste Dumped in Landfills | 31 | 50 |
| Uncollected Waste | 19 | 30 |

Source: Waste Management Statistics reported for India

With a rapidly growing population and increasing urbanization, waste management has become a critical challenge for India. Improper waste disposal leads to environmental pollution, health hazards, and an overburdened landfill system. To tackle this issue, the Indian government has launched several initiatives to promote sustainable waste disposal, recycling, and efficient use of waste management machines.

The schemes are:

1. Swachh Bharat Mission 2.0
2. Smart Cities Mission
3. AMRUT 2.0
4. Plastic Waste Management Rules and EPR
5. Gobardhan Scheme

1. **Swachh Bharat Mission (SBM):** The Swachh Bharat Mission, introduced in 2014, is one of India's largest nationwide sanitation and cleanliness programs. The mission focuses on improving sanitation facilities, eliminating open defecation, enhancing public hygiene, and encouraging the scientific management of solid waste in both urban and rural areas. It has played a significant role in increasing awareness about cleanliness and environmental sustainability across the country. (Ministry of Hoiusing and Urban Affairs (MoHUA), Government of India)

2. **Smart Cities Mission:** Initiated in June 2015, the Smart Cities Mission aims to develop urban areas through the adoption of modern technologies and sustainable practices. The mission promotes the use of digital systems, data-driven governance, automation, and Internet of Things (IoT) technologies to improve urban infrastructure and service delivery. Efficient waste management is considered an important component of creating smart and sustainable cities. (Smart Cities Mission, MoHUA)

3. **AMRUT 2.0 (Atal Mission for Rejuvenation and Urban Transformation):** Launched in October 2021, AMRUT 2.0 seeks to improve urban infrastructure by focusing on water supply systems, sewage management, and stormwater drainage in thousands of towns across India. Although its primary objective is water resource management, the program also contributes to waste management by addressing issues related to pollution caused by improperly disposed solid waste. The mission encourages wastewater treatment, pollution control, resource recovery, and the protection of water bodies from contamination. (MoHUA)

4. **Plastic Waste Management Rules and Extended Producer Responsibility (EPR):** India has strengthened its approach to plastic waste management through the Plastic Waste Management Rules, which were introduced in 2016 and subsequently revised. Under the Extended Producer Responsibility (EPR) framework, producers, importers, and brand owners are required to take responsibility for the collection, recycling, and environmentally sound disposal of plastic waste generated from their products. The framework promotes accountability, transparency, and higher recycling rates through monitoring and compliance mechanisms. (Ministry of Government, Forest and Climate Change)

5. **GOBAR-Dhan Scheme (Galvanizing Organic Bio-Agro Resources Dhan):** Introduced in 2018, the GOBAR-Dhan Scheme encourages the productive use of cattle dung and other biodegradable agricultural waste. The initiative supports the generation of biogas, compressed biogas (bio-CNG), and organic manure from organic waste materials. By converting waste into valuable resources, the scheme contributes to sustainable rural development, renewable energy production, and environmentally friendly waste management practices. (Department of Drinking Water and Sanitation)

## 3.2.2 STATE SCENARIO

Kerala's urban areas generate an estimated 2.2 million tonnes of solid waste each year from a variety of sources, including households, commercial establishments, offices, institutions, and industries. Although several initiatives have been undertaken to establish scientific methods for waste collection, processing, and disposal, the state continues to face significant challenges in achieving effective waste management. A considerable portion of the waste generated remains improperly disposed of in open spaces, leading to the blockage of drainage systems and contamination of nearby water bodies. Furthermore, the accumulation of untreated and uncollected waste creates favourable conditions for the growth of disease-causing organisms and pests, thereby posing serious risks to public health and environmental sustainability. The Government of Kerala is implementing initiative with financial and technical assistance from the World Bank and the Asian Infrastructure Investment Bank (AIIB). (Kerala Solid Waste Management Project, 2022/2023)

Brahmapuram is a major solid waste disposal site situated near Kochi in Kerala. The waste management facility at Brahmapuram is owned and operated by the Kochi Corporation. Initially established in 2008 as a scientific solid waste treatment plant, the facility gradually evolved into a large landfill due to the continuous accumulation of municipal waste. Over the years, the site has become associated with several environmental challenges, including air and water pollution, fire incidents, and concerns related to public health and safety. (Wikipedia)

With a rapidly growing population and increasing urbanization, waste management has become a critical challenge for India. Improper waste disposal leads to environmental pollution, health hazards, and an overburdened landfill system. To tackle this issue, the Indian government has launched several initiatives to promote sustainable waste disposal, recycling, and efficient use of waste management machines.

The schemes are:

1. **Suchitwa Mission (2008):** The Government of Kerala launched Suchitwa Mission in 2008 to strengthen sanitation services and promote effective waste management practices through local self-government institutions. (LSGD Kerala)

2. **Haritha Keralam Mission (2016):** Initiated in 2016 under the Nava Kerala Mission, Haritha Keralam Mission focuses on environmental conservation through improved waste management and protection of natural resources. (Haritha Keralam Mission)

3. **Green Protocol (2015):** Introduced in 2015, the Green Protocol aims to reduce waste generation and encourage environmentally responsible practices in public and social events. (The Times of India)

4. **Kerala Solid Waste Management Project (2021):** Started in 2021 with financial assistance from international development agencies, the project seeks to enhance scientific waste management and sanitation infrastructure in urban areas of Kerala. (World Bank)

## 3.2.3 DISTRICT SCENARIO

In Kochi, the door-to-door collection of waste by Haritha Karma Sena workers is functioning effectively in many areas; however, the treatment and scientific processing of the collected waste remain inadequate. This gap in waste management reduces the overall efficiency and effectiveness of the collection system. Although the Corporation allocates substantial financial resources each year for waste management activities, the continued accumulation of waste indicates that existing measures have not achieved the desired outcomes, highlighting the need for more efficient and sustainable waste management strategies. (Thomas et.al, 2023)

## 3.2.4 SCENARIO OF POTHANICAD PANCHAYAT

Pothanicad Grama Panchayat is located in Kothamangalam block of Kothamangalam taluk of Ernakulam district and has an area of 17.14 sq km. This Grama Panchayat was formed in 1953. It is a highly developed, agriculturally rich village panchayat in the Ernakulam district of Kerala. Located in Kothamangalam Taluk, it is famously known as a "literacy village" and has grown from a forested area into a culturally advanced community.

Pothanicad is a village located in the Kothamangalam taluk of Ernakulam district in the southern Indian state of Kerala. Renowned for its commitment to education, it holds the distinction of being the first village in India to achieve a 100% literacy rate, a milestone accomplished through intensive community-driven efforts in the late 20th century.

## 3.2.5 ECONOMICS OF WASTE MANAGEMENT IN POTHANICAD GRAMA PANCHAYAT

The Grama Panchayat allocates approximately ₹3 lakh annually to support the functioning of Haritha Karma Sena activities. This financial provision is primarily used to meet expenses related to waste management operations, transportation, maintenance of facilities, and other administrative requirements associated with waste collection and segregation.

In addition to the Panchayat’s financial support, user fees collected from households constitute a major source of revenue for the system. Each household contributes a monthly fee of ₹50 for availing waste collection services. The revenue generated through these user charges is distributed according to a predetermined financial structure.

Of the total amount collected as user fees, 90 percent is provided to Haritha Karma Sena workers as remuneration for their services, while the remaining 10 percent

is transferred to a consortium fund. This fund serves as a financial reserve to address emergency situations, operational contingencies, and other unforeseen expenditures related to waste management activities. Although only a small share of the revenue is set aside, the fund plays an important role in ensuring the sustainability and welfare of the Haritha Karma Sena system.

To facilitate efficient waste management, the Panchayat has established a Material Collection Facility (MCF), where collected waste is segregated and stored temporarily. Following the segregation process, recyclable and other waste materials are transferred to a company called North Arms for further processing, recycling, or safe disposal.

## 3.3 CONCLUSION

This chapter provided an overview of the waste management situation at the global, national, state, and district levels, with particular emphasis on Ernakulam. The analysis indicates that rapid population growth, increasing waste generation, and the lack of scientific and efficient waste management practices are among the major factors contributing to the accumulation of waste and the resulting environmental challenges.

# CHAPTER 4:
# SOCIO ECONOMIC PROFILE OF HARITHA KARMA SENA WORKERS IN POTHANICAD PANCHAYAT

# INTRODUCTION

The chapter analyses the socio-economic conditions of Haritha Karma Sena workers in Pothanicad Grama Panchayat. The primary data were collected by means of an interview schedule with the sample size of 28 respondents. Data collected from both the panchayat officials and Haritha Karma Sena workers. Data collected from panchayat officials covers the fund allocation for waste management. Data collected from Haritha Karma Sena workers includes the personal information, income and wage information, information about work, work environment and working conditions.

# PROFILE OF THE STUDY AREA

Pothanicad Grama Panchayat is located in Kothamangalam block of Kothamangalam taluk of Ernakulam district and has an area of 17.14 sq km. This Grama Panchayat was formed in 1953. It is a highly developed, agriculturally rich village panchayat in the Ernakulam district of Kerala. Located in Kothamangalam Taluk, it is famously known as a "literacy village" and has grown from a forested area into a culturally advanced community.

Pothanicad is a village located in the Kothamangalam taluk of Ernakulam district in the southern Indian state of Kerala. Renowned for its commitment to education, it holds the distinction of being the first village in India to achieve a 100% literacy rate, a milestone accomplished through intensive community-driven efforts in the late 20th century.

According to the 2011 Census of India, Pothanicad has a total population of 19,309 residents across 4,587 households, with a near-equal gender distribution of 9,620 males and 9,689 females. The village's literacy rate stood at 94.56% in 2011, surpassing the state average of 94%, with male literacy at 96.89% and female literacy at 92.26%. Economically, it features a workforce of 7,277 individuals, primarily engaged in agriculture, including 1,078 cultivators and 914 agricultural laborers. The area is administered by an elected sarpanch under the Panchayati Raj system.

# ECONOMICS OF WASTE MANAGEMENT OF PANCHAYAT

## 4.1 Financial structure

The Grama Panchayat allocates approximately ₹3 lakh annually to support the functioning of Haritha Karma Sena activities. This financial provision is primarily used to meet expenses related to waste management operations, transportation, maintenance

of facilities, and other administrative requirements associated with waste collection and segregation.

In addition to the Panchayat's financial support, user fees collected from households constitute a major source of revenue for the system. Each household contributes a monthly fee of ₹50 for availing waste collection services. The revenue generated through these user charges is distributed according to a predetermined financial structure.

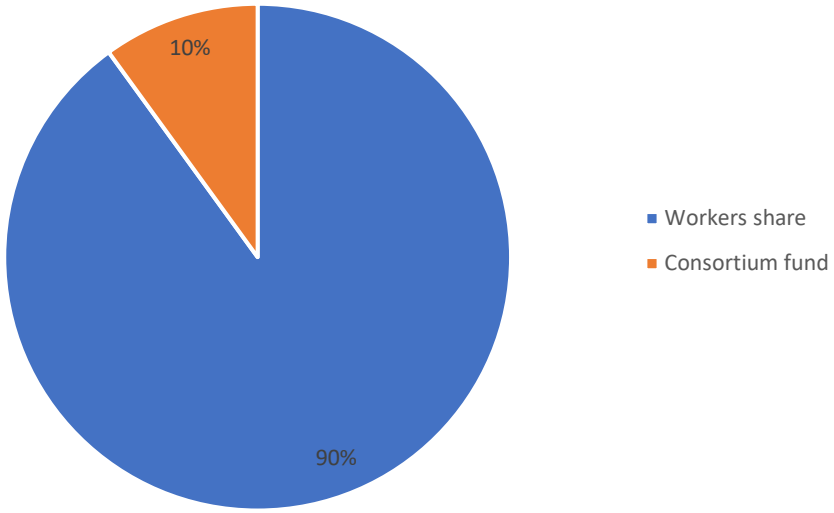
Of the total amount collected as user fees, 90 percent is provided to Haritha Karma Sena workers as remuneration for their services, while the remaining 10 percent is transferred to a consortium fund. This fund serves as a financial reserve to address emergency situations, operational contingencies, and other unforeseen expenditures related to waste management activities. Although only a small share of the revenue is set aside, the fund plays an important role in ensuring the sustainability and welfare of the Haritha Karma Sena system.

To facilitate efficient waste management, the Panchayat has established a Material Collection Facility (MCF), where collected waste is segregated and stored temporarily. Following the segregation process, recyclable and other waste materials are transferred to a company called North Arms for further processing, recycling, or safe disposal.

### 4.2 Monthly user fee collection structure

Apart from the panchayat allocation, the major source of operational income is the user fee collected from households. Each household contributes Rs. 50 per month as user fee for waste collection services. Out of Rs. 50, Rs. 45 is directly distributed among Haritha Karma Sena workers and Rs. 5 is reserved in the consortium fund. This indicates that the major share of the collected revenue is utilized for supporting workers involved in waste collection and segregation activities.

**Fig. 4.2 Distribution of user fee collected from households**




Source: Primary Data

## SOCIAL PROFILE OF HARITHA KARMA SENA WORKERS

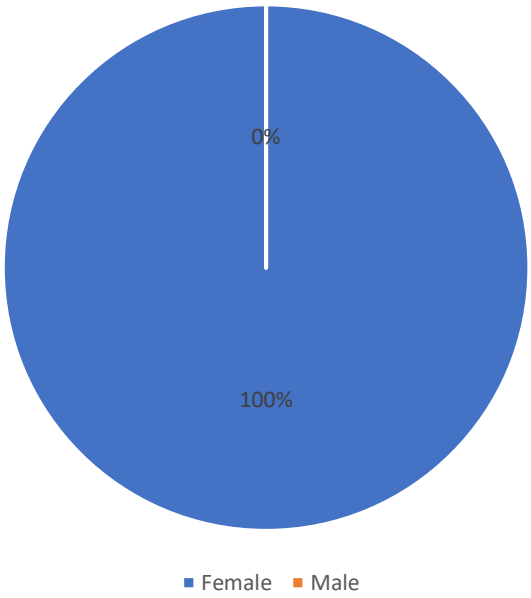
**Table 4.3 Gender Distribution**

| Gender | Number of Respondents | Percentage (%) |
|---|---|---|
| Female | 28 | 100 |
| Male | 0 | 0 |
| Total | 28 | 100 |

Source: Primary data

Table 4.4.1 shows that the gender distribution of Haritha Karma Sena workers in pothanicad grama panchayat. The data reveals that 100 percent (28 out of 28) of the workers are female, while there are no female workers among the respondents. This indicates that the Haritha Karma Sena workers in the pothanicad grama panchayat is entirely female-dominated.

**Fig 4.3 Gender Distribution**




Source: Primary Data

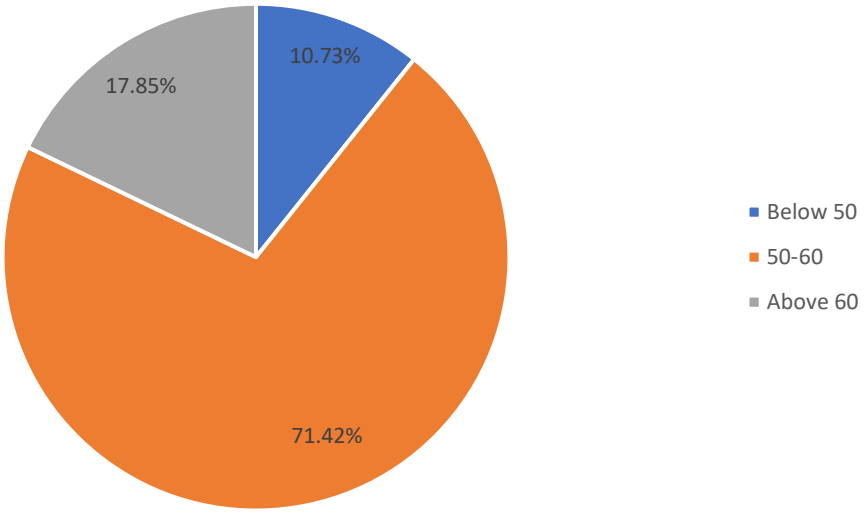
**Table 4.4 Age-wise Distribution**

| Age Group (Years) | Number of Workers |
|---|---|
| Below 50 | 3 |
| 50 - 60 | 20 |
| Above 60 | 5 |
| Total | 28 |

Source: Primary Data

Table 4.4 shows the age-wise distribution of Haritha Karma Sena workers in Pothanicad Grama Panchayat. A majority of the workers (71.42%) belong to the age group of 50 – 60 years, followed by 17.85% in the above 60 years category. Only 10.73% of the workers are below 50 years. This indicates that 50-60 years aged individuals constitute the major workforce of Haritha Karma Sena in Pothanicad Grama Pnchayat.

**Fig. 4.4 Age-wise Distribution of Haritha Karma Sena workers**




Source: Primary Data

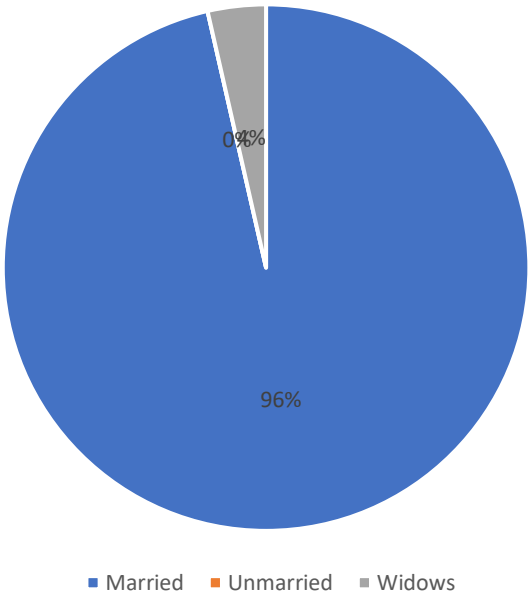
**Table 4.5 Marital Status**

| Marital Status | Percentage (%) |
|---|---|
| Married | 96.43 |
| Unmarried | 0 |
| Widows | 3.57 |
| **Total** | **100%** |

Source: Primary Data

Table 4.4.2 shows the marital status of HKS workers in Pothanicad panchayat. These indicates that a vast majority (96.43%) of workers are married and 3.57% of workers are widows. None of the respondents found to be unmarried.

**Fig. 4.5 Marital status**




Source: Primary Data

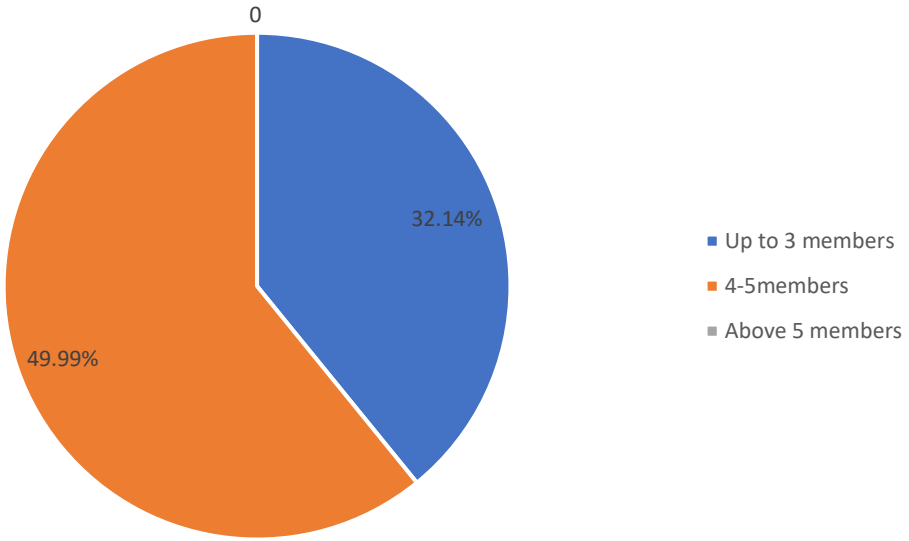
**Table 4.6 Household size of Respondents**

| Household Size | Number of Respondents |
|---|---|
| Up to 3 members | 9 |
| 4-5 members | 14 |
| Above 5 members | 5 |
| Total | 28 |

Source: Primary Data

Table 4.6 shows the household size of the respondents. 50.01% of the respondents belong to household with 4-5 members. About 32.14% have up to 3 members in their family, while 17.85% belong to household with above 5 members.

**Fig. 4.6 Household size of Respondents**




Source: Primary Data

## ECONOMIC PROFILE OF HARITHA KARMA SENA WORKERS

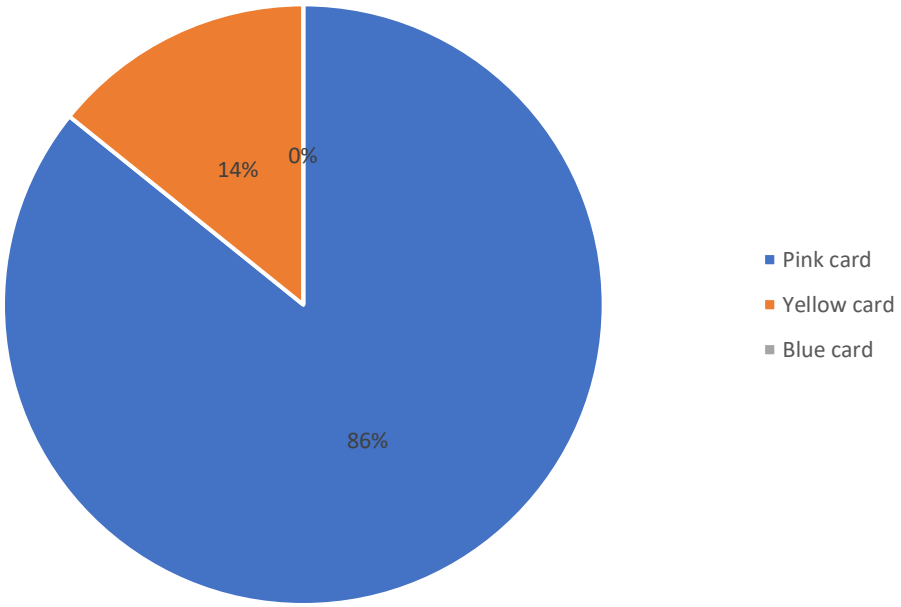
**Table 4.7 Ration Card Status**

| Card | Percentage (%) |
|---|---|
| Pink card | 85.72 |
| Yellow card | 14.28 |
| Blue card | 0 |
| Total | 100% |

Source: Primary Data

Table 4.4.3 shows that about 85.72 percentage of the workers belong to the BPL (Below Poverty Line) category and 14.28 percentage of the workers belong to the most economically backward sections of the society who are the beneficiaries of Antyodaya Anna Yojana. None of the workers found to APL (Above Poverty Line) category.

**Fig. 4.7 Ration Card Status**




Source: Primary Data

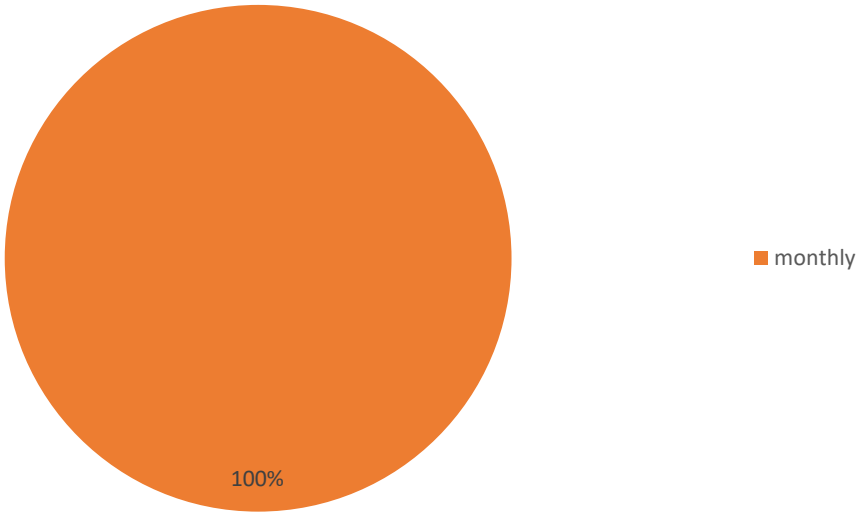
**Table 4.8 Preference on Wage System**

| Wage system preferred | Number of Respondents | Percentage (%) |
|---|---|---|
| Monthly | 28 | 100 |
| Weekly | 0 | 0 |
| Daily | 0 | 0 |
| Total | 28 | 100 |

Source: Primary Data

Table 4.5.4 shows the wage-system preference of Haritha Karma Sena workers. Upon enquiry, all the workers responded that they prefer receiving their salary on a monthly basis, some also opined that weekly salary is preferred as they can meet their day to day needs more easily.

**Fig. 4.8 Preference on Wage System**




Source: Primary Source

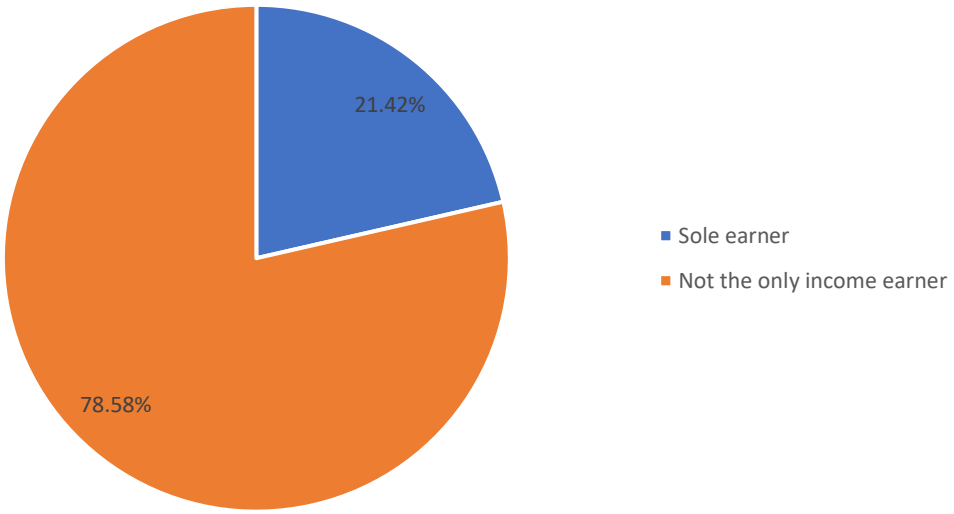
**Table 4.9 Detail of Dependents**

| Particulars | Number of Respondents | Percentage (%) |
|---|---|---|
| Sole income earner | 6 | 21.42 |
| Not the only income earner | 22 | 78.58 |
| Total | 28 | 100 |

Source: Primary Data

Table 4.5.1 reveals that, from the 28 sample respondents, about 21.42 percent of the workers are the sole income earners of the family. Out of the 21.42 percent of the workers 44.44 percent are finding it difficult to run their family with the income received and the remaining 55.55 percent find the income earned sufficient to run their families. The remaining 78.58 percent of the sample size belong to families where more than one person is employed either as an irregular labourer or in regular paid labour. Out of the 78.58 percent of the workers who are not the sole income-earners of the family, 14.3 percent find the income earned insufficient to run their family and the remaining 85.7 percent find the income received sufficient to run their family. The workers who found the income insufficient mostly belong to the economically weaker section.

**Fig. 4.9 Income Earners**




Source: Primary Data

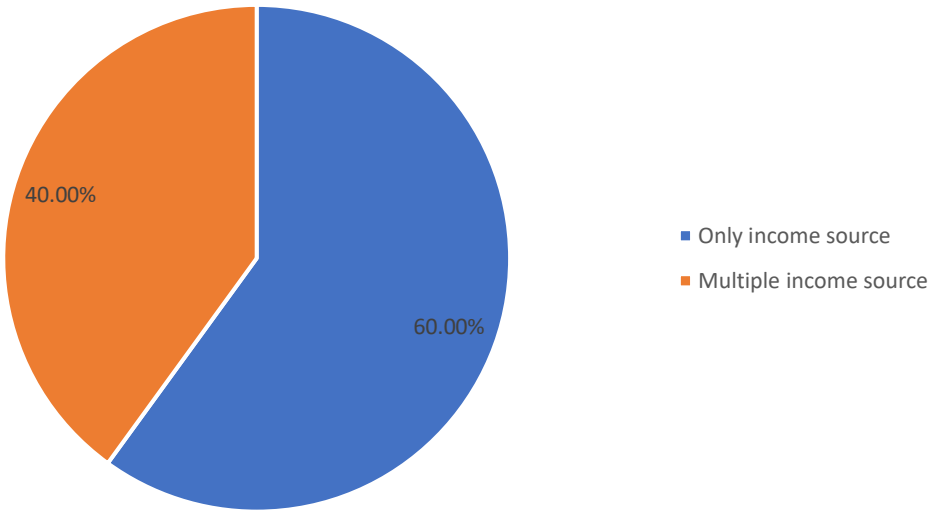
**Table 4.10 Sources of Income**

| Particulars | Percentage (%) |
|---|---|
| Only income source | 60.0 |
| Multiple income source | 40.0 |
| Total | 100 |

Source: Primary Data

Table 4.5.2 shows whether or not Haritha Karma Sena work is their only source of income. For 60 percent of the Haritha Karma Sena workers the only source of income to run their family comes for Haritha Karma Sena work so they dedicate a fair share of their time to this job and out of this 60 percent, most (72.3 percent) of them are also the sole income earners of the family having to cater for a family and the remaining 27.7 percent find the income earned insufficient to run their families. The remaining 40 percent of the workers engage in additional jobs after Haritha Karma Sena work as they have to do like Kudumbashree, Thozhilurappu etc… and also, they won't be the sole breadwinner of the family. Thus, they find the income sufficient to run the family. Thozhilurappu is the Malayalam name for the Mahatma Gandhi National Rural Employment Generation Act (MGNREGA). It is a massive government of India social welfare scheme that provides at least 100 days of guaranteed wage employment to rural households willing to do unskilled manual work.

**Fig. 4.10 Single/ Multiple Source of Income**




Source: Primary Data

**Table 4.11 Monthly Income Status of the Workers**

| Monthly Household Income (Rupees) | Number of Workers |
|---|---|
| Between 0 - 5000 | 9 |
| Between 5000 - 10000 | 10 |
| Between 10000 - 15000 | 4 |
| Between 15000 - 20000 | 2 |
| Above 20000 | 3 |

Source: Primary Data

According to Table 4.11 the average income earned by the workers is about Rs. 7680. The income range varies from getting nothing to 30,000 being the highest income earned. This wide disparity can be attributed to differences in the extent of waste collection activities undertaken by individual workers. Workers who serve a larger number of households generally earn higher incomes, whereas those covering fewer households tend to receive lower earnings.

**Table 4.11 Income Satisfaction**

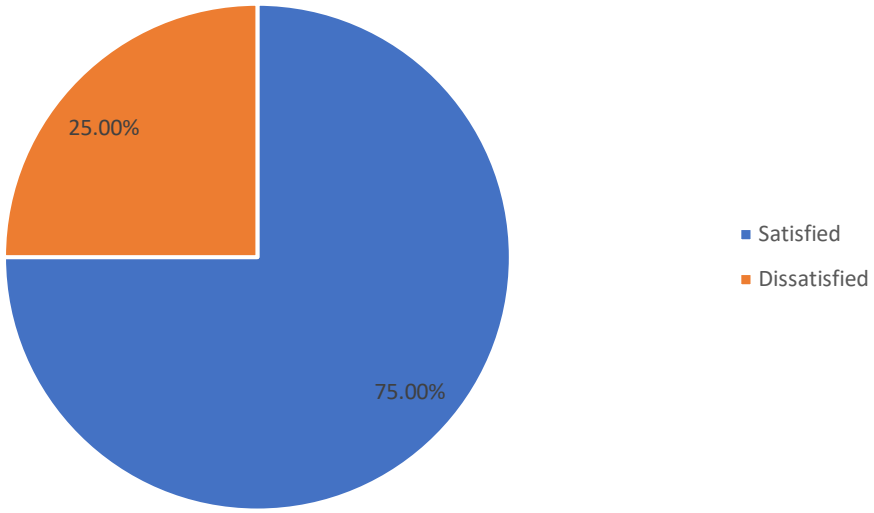
| Particulars | Percentage (%) |
|---|---|
| Satisfied | 75.0 |
| Dissatisfied | 25.0 |
| Total | 100 |

Source: Primary Data

Table 4.11 presents the level of income satisfaction among Haritha Karma Sena workers. The earnings of workers are largely determined by the number of households they serve for the collection of plastic and biodegradable waste. User fees are collected from households on a monthly basis and subsequently transferred to the Panchayat. After deducting a portion of the revenue for the purchase of tools, equipment, and other operational requirements, the remaining amount is distributed among the workers at the end of each month.

Despite this arrangement, some households are reluctant to pay the prescribed user fee regularly, which negatively affects the income of the workers. The analysis reveals that 25 percent of the workers are dissatisfied with their earnings from Haritha Karma Sena activities. This dissatisfaction is mainly associated with factors such as being the sole earning member of the family, having a larger number of dependents, and belonging to economically disadvantaged households. In contrast, 75 percent of the workers reported satisfaction with their income, indicating that their earnings are adequate to meet their present financial needs.

**Fig. 4.12 Income Satisfaction Status**




Source: Primary Data

## WORK ENVIRONMENT OF HARITHA KARMA SENA WORKERS

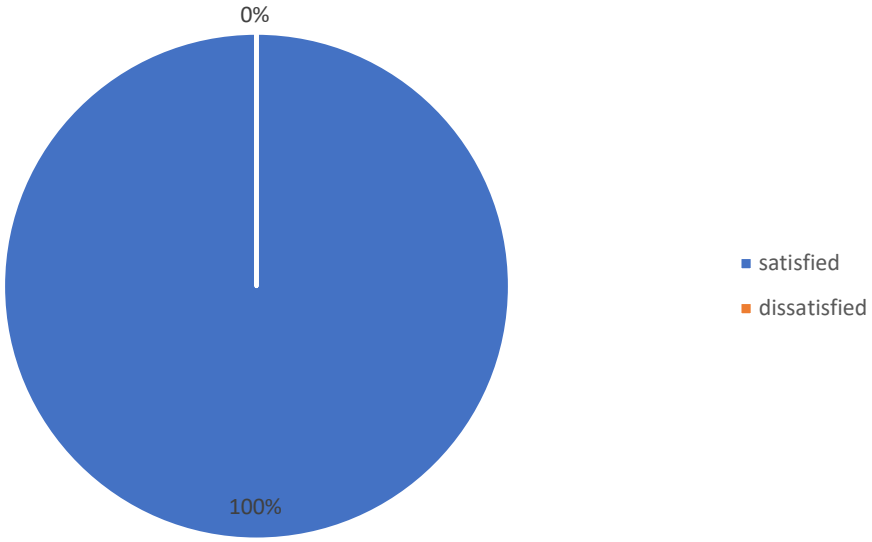
**Table 4.13 Satisfaction of Respondents with Their Work**

| Particulars | No. of Respondents | Percentage (%) |
|---|---|---|
| Satisfied | 28 | 100 |
| Dissatisfied | 0 | 0 |
| Total | 28 | 100 |

Source: Primary Data

Table 4.13 shows the satisfaction level of Haritha Karma Sena workers towards their job. It reveals that, all the 28 workers are satisfied with their job. None of the workers shown dissatisfied with their work. This is mostly because, they can enjoy their work.

**Fig. 4.13 Job Satisfaction of workers**




Source: Primary Data

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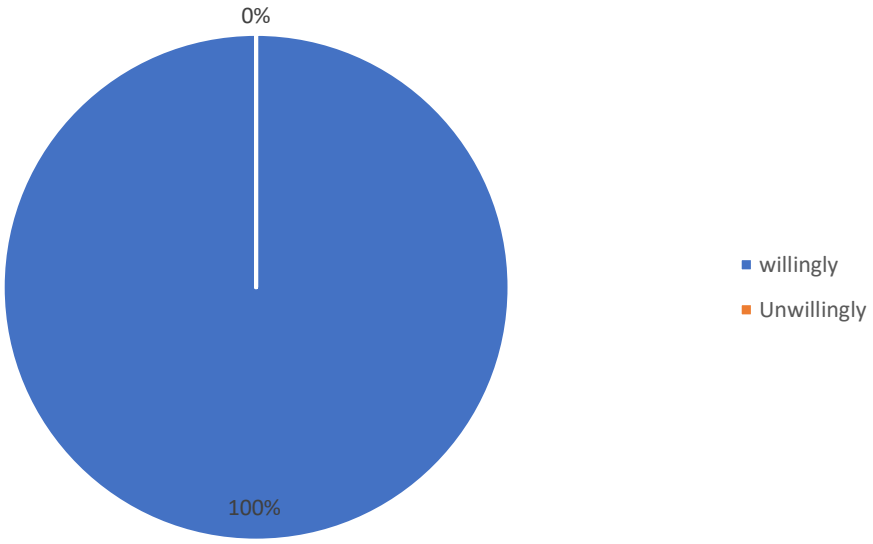
**Table 4.14 Willingness of the Respondents to Do the Job**

| Particulars | No. of Respondents | Percentage (%) |
|---|---|---|
| Willingly | 28 | 100 |
| Unwillingly | 0 | 0 |
| Total | 28 | 100 |

Source: Primary Data

Table 4.14 shows that The Haritha Karma Sena workers willingly or unwillingly do their work. The data reveals that all the 28 respondents had taken up the job willingly. None of the respondents were forced to do it.

**Fig. 4.14 Willingness to work as a Haritha Karma Sena worker**




Source: Primary Data

**Work Time Schedule**

The working hours of Haritha Karma Sena workers vary considerably from one individual to another, as there is no fixed work schedule. Workers are free to choose their working hours according to their convenience and capacity. The duration of work ranges from approximately two hours to twelve hours per day. This variation is mainly influenced by factors such as age, physical health, and the ability to engage in prolonged periods of work. Older workers and those with health-related limitations generally tend to work for shorter durations, while others are able to work for longer hours.

**Table 4.15 Timely Receival of Collection Fee from Households**

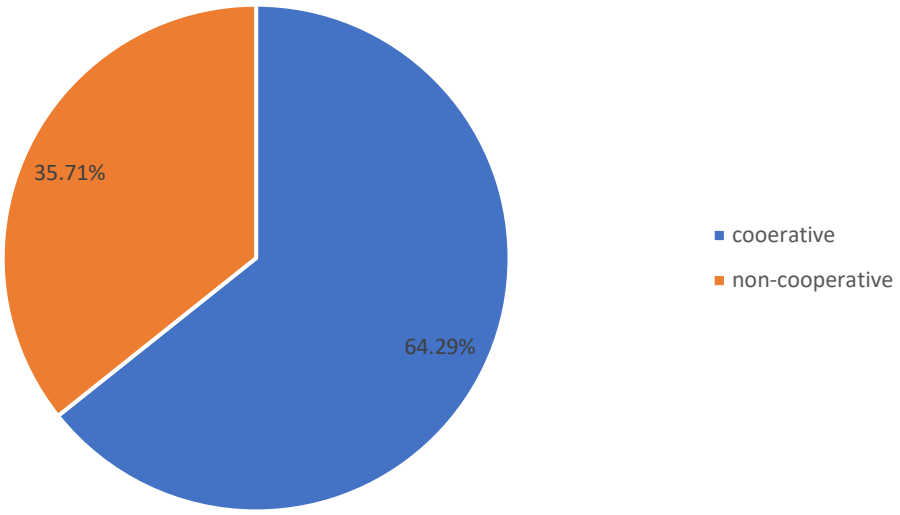
| Receival of collection fee | Number of Respondents | Percentage (%) |
|---|---|---|
| Cooperative | 18 | 64.29 |
| Non-cooperative | 10 | 35.71 |
| Total | 28 | 100 |

Source: Primary Data

Table 4.15 shows that the receival of collection fee from households in Pothanicad grama panchayat. It reveals that more than 50 percent of the workers responded that they did not face any difficulty in receiving the collection fee on time while others

expressed issues like indifferent attitude and deliberate postponement of payment of due amount by the households.

**Fig. 4.15 Timely Receival of Collection Fee from Households**




Source: Primary Dara

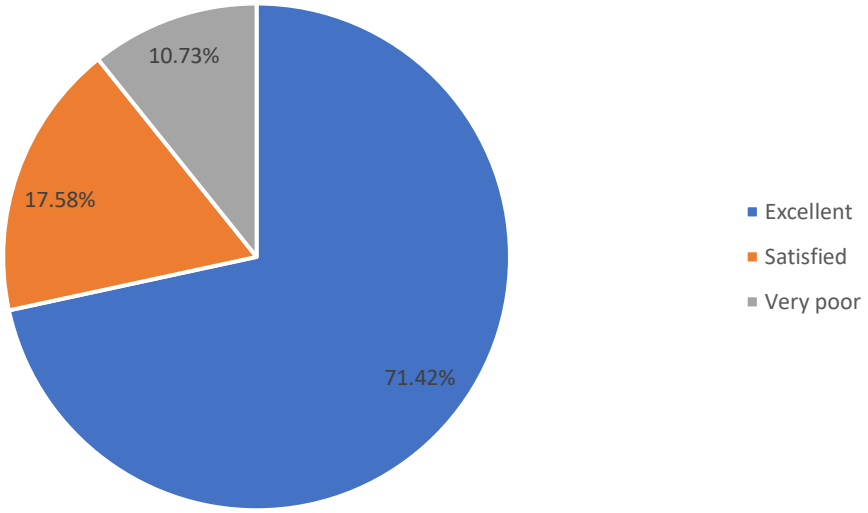
**Table 4.16 Cooperation Received from Households**

| Particulars | Number of Respondents | Percentage (%) |
|---|---|---|
| Excellent | 20 | 71.42 |
| Satisfied | 5 | 17.85 |
| Very Poor | 3 | 10.73 |
| Total | 28 | 100 |

Source: Primary Data

Table 4.16 shows that the extent of cooperation received from households by the respondents. Among the 28 respondents surveyed, 20 respondents (71.42%) expressed that the cooperation from household was excellent. A further 5 respondents (17.85%) considered the cooperation to be satisfactory, while 3 respondents (10.73%) reported receiving very poor cooperation.

**Fig. 4.16 Cooperation Received from Households**




Source: Primary Data

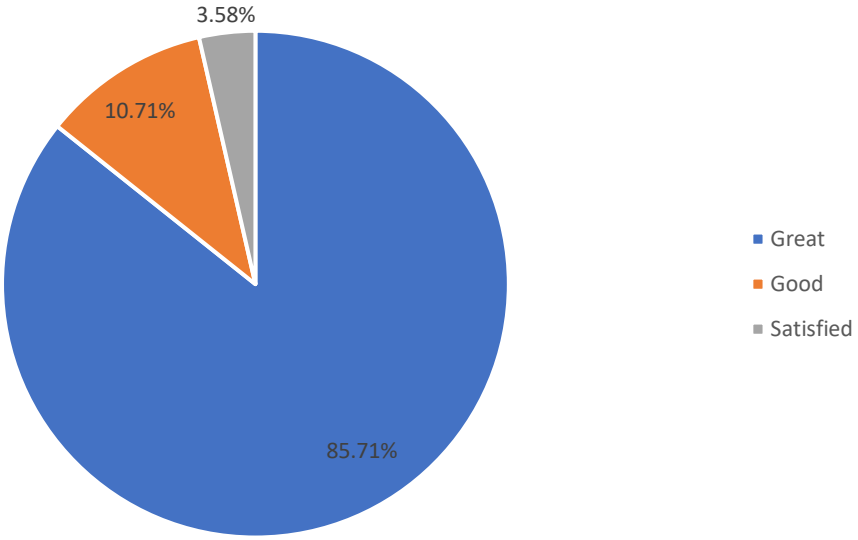
**Table 4.17 Cooperation Received from Panchayat**

| Particulars | Number of Respondents | Percentage (%) |
|---|---|---|
| Excellent | 24 | 85.71 |
| Good | 3 | 10.71 |
| Satisfied | 1 | 3.58 |
| Total | 28 | 100 |

Source: Primary Data

Table 4.17 shows the level of worker's satisfaction with the cooperation received from the Pothanicad grama panchayat. Out of the total respondents, 85.71 percent stated that the support received from the Panchayat was excellent, indicating a cordial and cooperative relationship with Panchayat officials. Another 10.71 percent of the workers rated the cooperation as good and reported that they did not encounter any major difficulties in their interactions with the authorities. Additionally, 3.58 percent of the respondents expressed a moderate level of satisfaction with the support provided.

**Fig. 4.17 Worker's satisfaction with the cooperation received from the panchayat**




Source: Primary Data

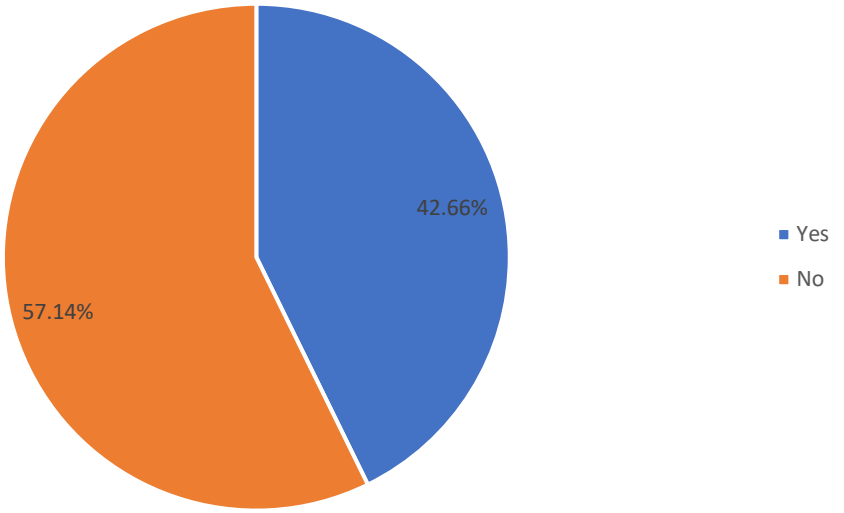
**Table 4.18 Complaints Received about Work**

| Complaints Received about their work | Number of Respondents | Percentage (%) |
|---|---|---|
| Yes | 12 | 42.66 |
| No | 16 | 57.14 |
| Total | 28 | 100 |

Source: Primary Data

Table 4.18 shows the Haritha Karma Sena workers in Pothanicad grama panchayat have received complaints about their work. The data reveals that about 42.66 percentage of workers in some cases are unable to cooperate with households, they misbehave and get complaints. It is clear that 57.14 percent of workers have not received any complaints regarding their work.

**Fig. 4.18 Whether workers receive complaints about their work**




Source: Primary Data

**Table 4.19 Health Status**

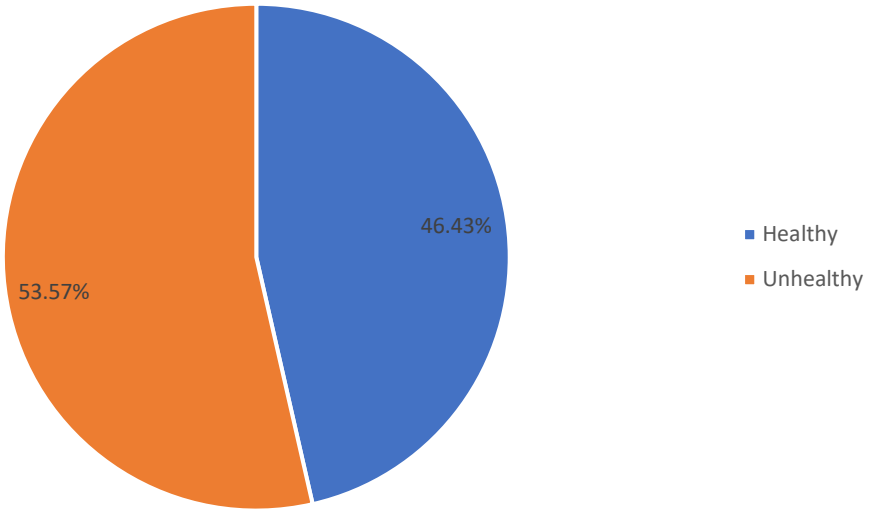
| Particulars | Number of Respondents | Percentage (%) |
|---|---|---|
| Health | 13 | 46.43 |
| Unhealthy | 15 | 53.57 |
| Total | 28 | 100 |

Source: Primary Data

Table 4.19 shows the health conditions of Haritha Karma Sena workers in pothanicad grama panchayat relation to their occupational activities. The data indicates that 46.43 percent of the respondents reported that their work has not caused any significant health problems. This may be attributed to the fact that the workers belong to the middle-aged group and are physically capable of performing waste collection and related tasks

On the other hand, 53.57 percent of the respondents stated that they experience certain health issues associated with their work. These problems are largely related to advancing age and the physical demands of the job. In addition, workers reported facing challenges such as prolonged exposure to heat, environmental pollution, and the strain of handling heavy workloads.

**Fig. 4.19 Health Status**




Source: Primary Data

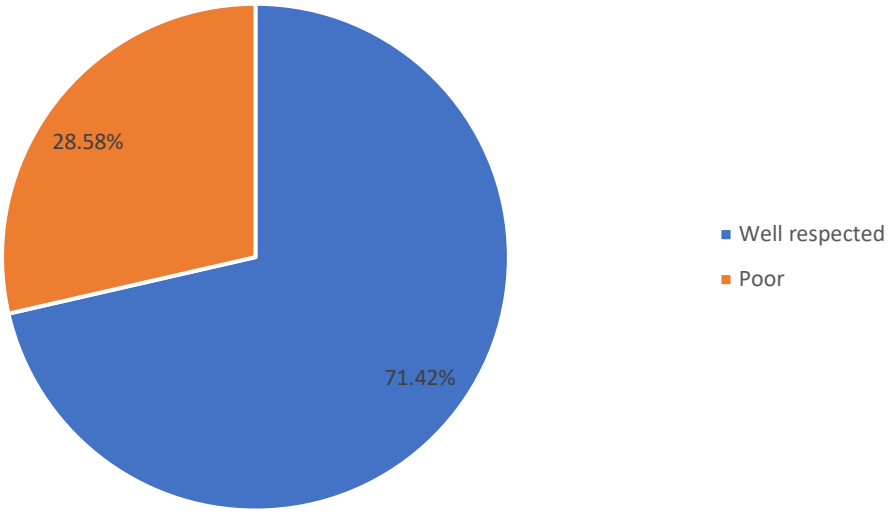
**Table 4.20 Social Acceptance**

| Particulars | Number of Respondents | Percentage (%) |
|---|---|---|
| Well Respected | 20 | 71.42 |
| Poor | 8 | 28.58 |
| Total | 28 | 100 |

Source: Primary Data

Table 4.20 shows the Haritha Karma Sena workers of Pothanicad grama panchayat were asked how their job influenced their social status. The data indicates that a majority of the Haritha Karma Sena workers (71.42 percent) reported that they had not experienced any form of discrimination in society due to their occupation. However, 28.58 percent of the workers expressed dissatisfaction regarding their social status. They perceived that their occupation did not receive the same level of respect and recognition as other professions, which negatively affected their sense of social acceptance.

**Fig. 4.20 Social Acceptance**




Source: Primary Data

**Relationship with co-workers and superiors**

Almost every Haritha Karma Sena workers having good interpersonal relations at the workplace, which contributes to a supportive working environment. Only a very small proportion of workers, accounting for less than two percent, indicated the presence of minor disagreements or issues with their co-workers.

Similarly, the findings show that most workers have cordial and satisfactory relationships with their supervisors. The majority of respondents expressed positive opinions regarding the support and guidance received from their superiors. However, less than one percent of the workers reported negative experiences in their interactions with supervisors, while the remaining respondents described their relationship with superiors as satisfactory.

## 4.7 CONCLUSION

This chapter revealed the socio-economic status of Haritha Karma Sena (HKS) workers in Pothanicad grama panchayat. It provided insights into their demographic and economic characteristics, working conditions, workplace environment. The chapter also highlighted the impact of HKS employment on the lives of the workers, including improvements in their socio-economic conditions and overall well-being. In addition, it assessed the effectiveness of their waste management activities and emphasized the role of the Panchayat in supporting and facilitating the functioning of Haritha Karma Sena. The findings demonstrate the significance of institutional cooperation in enhancing the performance and welfare of HKS workers.

# CHAPTER 5
# FINDINGS
# AND
# CONCLUSION

## 4.1 INTRODUCTION

This chapter presents the key findings and suggestions of the study on Haritha Karma Sena (HKS) workers in Pothanicadu Grama Panchayat. The study examines their income, wages, working conditions, work environment, and other job-related aspects. The chapter provides a concise overview of the major observations and recommendations derived from the collected data.

## 4.2 FINDINGS

- All the respondents (100%) were women.
- Out of the 28 respondents, 71.42% of the respondents belong to the age group of 50-60 years.
- Majority (96.43%) of the workers are married.
- 49.99% of the respondents belong to household with 4-5 members.
- 85.72 percentage of the workers belong to the BPL (Below Poverty Line) category.
- Out of the 28 respondents, all the workers receiving their salary on a monthly basis.
- 78.58% of the workers are not the sole income-earners of the family.
- For 60 percent of the Haritha Karma Sena workers the only source of income to run their family comes for Haritha Karma Sena work.
- Out of the 28 respondents, 10 workers (35.7%) belonged to households with a monthly income ranging from rupees 5000-10000.
- 75 percent of the workers are satisfied with their earnings from Haritha Karma Sena activities.
- Out of the 28 respondents, all the workers are satisfied with their job.
- Out of the 28 respondents, all the respondents had taken up the job willingly.
- 64.29% of the workers responded that they did not face any difficulty in receiving the collection fee on time.
- Out of the 28 respondents, 20 respondents (71.42%) expressed that the cooperation from household was excellent.
- Out of the 28 respondents, 85.71 percent stated that the support received from the Panchayat was excellent, indicating a cordial and cooperative relationship with Panchayat officials.
- Out of the 28 respondents, about 42.66 percentage of workers in some cases are unable to cooperate with households, they misbehave and get complaints.
- Out of the 28 Haritha Karma Sena workers (71.42 percent) reported that they had not experienced any form of discrimination in society due to their occupation.

## 4.3 RECOMMENDATIONS

When asked about the changes they would like to see in their work environment, nearly 75.0 percent of the respondents stated that they were satisfied with the existing working conditions. They also mentioned that several digital initiatives are being introduced and expressed optimism about the benefits these improvements may bring to their work.

The remaining respondents shared various suggestions for improving their work conditions. Some of the workers emphasized the need for better-quality buckets for waste collection, while some others suggested providing raincoats to help them work more comfortably during the monsoon season. Some of the workers expressed the need for financial support from the government. Additionally, 3.58 percent of the workers felt that greater cooperation from households would improve the efficiency and smooth functioning of their work.

Workers should be provided with basic financial literacy training to help them manage their earnings effectively. They should also be informed about various government welfare schemes, incentives, and benefits available to them so that they can make full use of the support provided.

Some other improvements that can be undertaken to boost the morale of the workers and improve efficiency of work include:

- Provision for regular and free health-checkups.
- Provision of affordable credit facilities etc

## 4.4 CONCLUSION

The study examined the waste management practices of Pothanicad Grama Panchayat and the socio-economic conditions of Haritha Karma Sena workers. The findings indicate that Haritha Karma Sena has become an important component of the Panchayat's waste management system, contributing significantly to environmental cleanliness and public health. The study reveals that most workers come from economically disadvantaged backgrounds and rely on this occupation as an important source of livelihood. Although the workers generally show a positive attitude towards their job and receive considerable support from the Panchayat and the community, they continue to face challenges such as health-related issues, income limitations, and occasional difficulties in collecting user fees. Therefore, measures aimed at improving worker welfare, occupational safety, and financial security are essential for enhancing both the quality of life of Haritha Karma Sena workers and the long-term sustainability of waste management activities in the Panchayat.

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# QUESTINNAIRE

1. Name:
2. Gender
    - Male
    - Female
    - Others

3. Age:
    - 18-25
    - 26-35
    - 36-45
    - 46-55
    - 56-65
    - 65 Above

4. Number of family members:
5. Educational qualification:
    - Primary
    - Secondary
    - Higher secondary
    - Degree and Above

6. Annual income
    - Below 10000
    - 10000-20000
    - 20000-30000
    - 30000-40000
    - 40000-50000
    - Above 50000

7. Marital status:
    - Yes
    - No

8. Ration card status:
    - APL
    - BPL

9. Details of family members

| Sl. No. | Relationship with Respondent | Age | Sex | Educational status | Employment status |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |

10. What is the role of Haritha karma Sena in waste management?

11. Approximately how many households are covered under the waste collection system?

12. What are the major source of income for waste management activities?

    - User fee
    - Government fund
    - Panchayat fund
    - Other sources

13. Does the panchayat collect user fees from households?
    - Yes
    - No

14. What is the average user fee collected from households?
15. Is the collected user fee is sufficient to manage waste management expenses?
    - Yes
    - No
16. How much amounts is allocated to waste management from the panchayat in a year?
17. What percentage of the collected user fee is paid to the workers?

18. Are you or are you not the only earning member of the family?
    - Yes

- No

19. Is this your only source of income?
    - Yes
    - No

20. Is the income sufficient to run your family?
    - Yes
    - No

21. How do you prefer your wage system?
    - Daily
    - Weekly
    - Monthly

22. Are you satisfied with your job?
    - Yes
    - No

23. What is your work time-schedule?

24. How much money do you receive by selling plastic waste monthly?
25. Do you face any difficulty in receiving the collection fee from the households?
    - Yes
    - No

26. Does your health status allow you to perform your job efficiently?
    - Yes
    - No

27. Do you have a healthy relationship with your co-workers?
    - Ys
    - No

28. Do you have a healthy relationship with your superiors?
    - Yes
    - No