

**A STUDY ON THE SOCIOECONOMIC PROFILE AND CHALLENGES
FACED BY HARITHA KARMA SENA WORKERS IN AMBALLOOR
AND MULANTHURUTHY PANCHAYAT**

*Major Project Submitted to St. Teresa's College (Autonomous), Ernakulam in Partial Fulfilment
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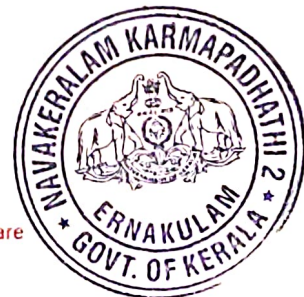
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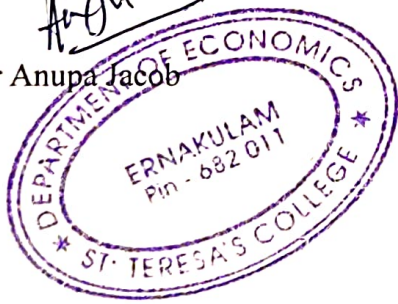
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CERTIFICATE

This is to certify that the project titled “A Study on the Socioeconomic Profile and Challenges faced by Haritha Karma Sena workers in Amballoor and Mulanthuruthy Panchayat”, submitted in partial fulfillment of the requirement for postgraduation of Integrated M.A. Programme in Social Sciences-Economics to St.Teresa’s College, Ernakulam (Autonomous) (Affiliated to Mahatma Gandhi University, Kottayam) is a bona fide record of the work carried out by ASWATHY BINOY under my supervision and guidance.

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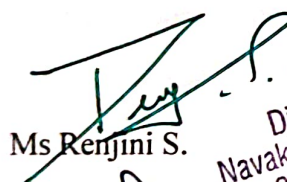

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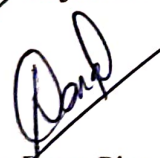


DECLARATION

I hereby declare that the project titled "A study on the Socioeconomic Profile and Challenges faced by Haritha Karma Sena workers in Amballoor and Mulanthuruthy Panchayat" submitted by me for partial fulfillment of the requirement for postgraduation of Integrated M.A program in Social Science- Economics in original work.

Signature of the Supervisor

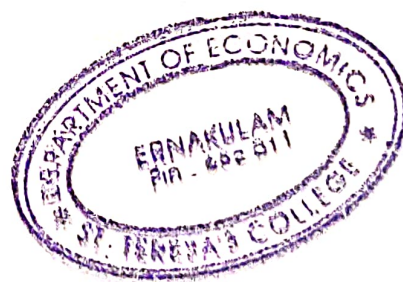

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LIST OF ABBREVIATION

- HKS – Haritha Karma Sena
- CDS – Community Development Societies
- MCF – Material Collection Facility
- RRF – Resource Recovery Facility
- ILO – International Labour Organization
- APL – Above Poverty Line
- BPL – Below Poverty Line
- LSG – Local Self-Government
- PF – Provident Fund
- ESI – Employees’ State Insurance
- SDG – Sustainable Development Goal

CHAPTER – 1

INTRODUCTION

1. INTRODUCTION

A major worldwide concern, improper waste management poses a critical global challenge, contributing to environmental degradation and jeopardizing public health. Data from throughout the world shows that 2.2 to 3.5 billion tons (World Bank, 2018) of waste are massively dumped on the planet. Approximately, one million people lose their lives as a result of improper waste management and waste dumping. Low-income communities and informal waste workers are disproportionately affected by poor waste management techniques, which also contribute to greenhouse gas emissions, air, soil and water pollution and major health concerns. Sustainable waste management is thus becoming a crucial part of both sustainable development objectives and global environmental governance.

India's fast population growth, urbanization, industrialization and shifting consumption patterns have made solid waste management a key developmental concern. With an expected 1.46 billion population (146 crore), India is the most populated country in the world and produces a significant amount of waste annually. About 9.3 million tons of plastic waste are produced in the nation each year, making up almost one-fifth of the world's plastic pollution. However, only a small portion of this material is managed or recycled successfully. Significant environmental, health, and socioeconomic issues have arisen as a result of the growing amount of municipal solid waste produced and the inadequacies in the systems for collection, segregation, treatment and disposal. Therefore, efficient solid waste management has become a crucial part of both urban and rural administration as well as sustainable development.

Kerala offers a unique but challenging waste management scenario in India. The state has severe waste management problems because of its dense population, scarce land supply, and comparatively high per capita waste generation, despite high literacy rates, good public health indicators, and an efficient decentralized governance structure. The state's centralized waste treatment facilities caused serious health and environmental issues, provoking protests in a number of areas. The social and environmental consequences of centralized waste disposal systems were brought to light by instances of resistance in places like Vilappilashala, Lalur, and Njeliyan parambu towards waste dumping and highlighting the necessity for alternate strategies.

Kerala responded by implementing a decentralized waste management approach that prioritizes door-to-door collection, waste collection at the source, and waste processing at the local level. The state has strengthened institutional structures to enable decentralized waste processing and encouraged household-level; separation of biodegradable and non-biodegradable waste since the mid-2010s. Hundreds of municipalities and Grama panchayats are involved in initiatives under missions like sanitation and cleanliness programs, which have increased coverage throughout urban and rural local bodies. This decentralized strategy seeks to increase community involvement in waste management, reduce reliance on landfills, and improve environmental quality.

In this context, Haritha Karma Sena (HKS) a professional team of “Green Technicians” and “Green Supervisors” has emerged as a key institutional mechanism in Kerala’s decentralized waste management framework. The team primarily comprised of women from Kudumbashree neighborhood groups, is in charge of waste collection, transportation, processing, recycling and disposal, in association with Clean Kerala Company, LSG’s, Suchitwa Mission and Haritha Kerala Mission. These units, designed as micro-enterprises, generate income by charging user fees, service charges and in certain situations, value addition through recycling and composting, which turns waste into a resource for the local economy.

From a socioeconomic viewpoint, involvement in Haritha Karma Sena has influenced shifts in workers’ household economic circumstances, employment stability and income patterns. Due to irregular user fee payments and improper domestic waste segregation, the nature of waste management labor also subject the workers to physical strain and occupational health concerns. These issues directly impact the effectiveness of decentralized waste management systems and the welfare of workers.

In light of this, the current study examines the socioeconomic profile of Haritha Karma Sena employees in Amballoor and Mulathuruthy Panchayats, providing special importance to their conditions before and after joining the initiative. The report also assesses the Haritha Karma Sena’s contribution to local economic development and looks at the main challenges faced by these workers. The study aims to offer data based analysis on the operation of decentralized waste management and its socioeconomic implications at the panchayat level in Kerala by using micro-level, field based methodology.

1.1 STATEMENT OF THE RESEARCH PROBLEM

Haritha Karma Sena (HKS) is a decentralized waste management initiative that works under local self-governments in Kerala. The major aim of the initiative includes collecting, segregating and handling non-biodegradable waste from households and businesses. In addition to addressing the growing problems with solid waste management, the project aimed to provide livelihood options, especially for women from economically disadvantaged groups. Even though Haritha Karma Sena is essential for preserving environmental cleanliness and promoting decentralized waste management, there are still challenges with the socioeconomic circumstances in which its employees work.

Haritha Karma Sena workers face numerous challenges including hazards to their health at work, unstable pay, irregular user fee collection, inadequate household waste segregation, and restricted access to social security benefits. Disparities in infrastructure, public involvement, and administrative effectiveness across local self-governments also have an impact on their working conditions and waste management efficacy. There is still limited factual data on the socioeconomic profile of workers, the challenges they encounter, and their role in promoting local economic development, despite the increasing reliance on Haritha Karma Sena at the grassroots level.

The study aims to investigate the socioeconomic characteristics of Haritha Karma Sena workers in Amballoor and Mulanthuruthy Panchayats, both prior and after they joined the movement. The study also intends to evaluate the effect of Haritha Karma Sena on regional economic development and address the main challenges that the workers face in work. An examination of the two panchayats will shed light on how decentralized waste management operates and identify areas in need of legislative action.

1.2 OBJECTIVES OF THE STUDY

- 1) To analyze the socio-economic profile of Haritha Karma Sena members in Amballoor and Mulanthuruthy Panchayats.
- 2) To identify the major challenges faced by Haritha Karma Sena members in Amballoor and Mulanthuruthy Panchayat.
- 3) To examine the impact of Haritha Karma Sena in local economic development in Amballoor and Mulanthuruthy panchayats.

1.3 SCOPE OF THE STUDY

The study's focus is limited to Haritha Karma Sena employees who work for the Amballoor and Mulanthuruthy Panchayats in Kerala's Ernakulam district. The study's main objective is to analyze the workers socioeconomic profile, which includes their age, level of education, income, employment status, and changes in their standard of living before and after joining the Haritha Karma Sena. It also examines the economic, social, and occupational challenges that workers encounter while performing waste management activities.

Additionally, the study evaluates how Haritha Karma Sena contributes to local economic development by creating jobs, generating revenue, improving waste management techniques, and improving environmental cleanliness at the panchayat level. The analysis does not generalize the results of the whole state; it is restricted to the chosen panchayats. The findings are expected to offer helpful information to local self-governments and legislators who are interested in decentralized waste management and the lives of women.

1.4 METHODOLOGY OF THE STUDY

The current study uses a descriptive and analytical research design and is based on both primary and secondary data. The purpose of the study is to examine the socioeconomic characteristics of Haritha Karma Sena employees, the difficulties they encounter, and the organization's influence on regional economic growth in Amballoor and Mulanthuruthy Panchayats. Both these panchayats were purposively selected for this study due to their successful implementation of waste management practices. Amballoor Panchayat was recognized as the model panchayat with awards for best HKS performance and waste management practices for the year 2025-2026 achieving universal HKS coverage. Mulanthuruthy Panchayat also complements the same with activities like biogas plants for the collection of organic waste, single use plastic ban and so on. Direct field surveys were used to gather primary data, and a structured interview schedule created in line with the study's goal was used. Using purposive sampling technique a total of 60 HKS members was selected, where 32 workers was from Amballoor Panchayat and 28 workers was from Mulanthuruthy Panchayat. During the period of January-February 2026, field survey was conducted. Secondary Data was collected from research articles, government official websites, and institutional publications of Haritha Keralam Mission, Suchitwa Mission, Kudumbashree Mission and other related sources. For analysis, simple percentage method, weighted mean analysis, Likert scale analysis, tabular and graphical presentation and ranking techniques were used to interpret the responses. Respondents' participation was voluntary and confidentiality was maintained throughout the study.

1.5 LIMITATIONS OF THE STUDY

The study is subject to certain limitations. The findings may not be applicable to other local self-governments because the research is based on primary data gathered from a small sample of 60 Haritha Karma Sena employees from Amballoor and Mulanthuruthy Panchayats. Because the study mostly uses self-reported data from interviews, replies could be skewed by recall bias and subjective opinions. The extent of contact during data collection was restricted by respondents' work schedules and time constraints. Furthermore, the study's scope did not allow for a thorough examination of the differences in infrastructure and administrative procedures among panchayats.

1.6 CHAPTER SCHEME

The study is arranged in five chapters. A brief description of content of each chapter is given below.

Chapter 1: The first chapter includes introduction, statement of the research problem, objectives of the study, scope of the study, methodology and limitations of the study.

Chapter 2: The second chapter includes review of literature, concepts and definitions.

Chapter 3: The third chapter includes an extensive overview of Haritha Karma Sena in Ernakulam District, their core functions, campaigns, progress (2019-2025), and ILO decent work linkage.

Chapter 4: The fourth chapter presents the primary data findings including demographic analysis, HKS income both pre/post, challenges faced in terms of health/user fees, job satisfaction, organic waste handling and their impact towards local economic development.

Chapter 5: The fifth chapter includes the summary and findings of the study, conclusion and recommendations.

CHAPTER – 2

REVIEW OF LITERATURE

2. REVIEW OF LITERATURE

Dr. Ramla K and Dr. Noushad Chengodan (2025) in their study identifies the evolution of responsibilities of Haritha Karma Sena workers and the major challenges faced by them. The study focuses on the socioeconomic profile of HKS members, the occupational challenges faced by them, and also to identify the impact of local waste management strategies. A primary interview of 30 Haritha Karma Sena members revealed that most of them are middle aged women from Below Poverty Line (BPL) households. The results have shown a positive shift in people's views and attitudes, along with an increase in women empowerment. But the survey also identifies important issues like lack of safety precautions, health hazards, and unstable wages. Wage raise, improved infrastructure, and public awareness campaigns are among the recommendations for improvement.

Sinta Johnson, Anugraha Aneesh and Parvathy C.D. (2025) in their study examines on how Haritha Karma Sena (HKS) workers uses community-based, women-led projects to advance environmental conservation. The study concludes that Haritha Karma Sena promotes women empowerment, environmental awareness, and sustainable livelihoods based n survey data from 115 Haritha Karma Sena workers. However the study also highlights challenges like low wages, insufficient training, and unstable employment, underlining the necessity of gender-sensitive policy support.

Divya PJ and Dr Mallika (2025) in their study analyzes the effectiveness of Haritha Karma Sena in door-to-door collection, waste segregation, eco-friendly disposal and awareness generation using data from 543 respondents through stratified random sampling, interviews, focus groups and questionnaires across 14 districts of Kerala. The study identifies challenges such as irregular payments, infrastructure gaps and limited digital monitoring with recommendations for policy support, capacity building and digitalization to develop sustainable practices.

Girish M.C., Vijayan P.K, Sreela Krishnan, and Renjitha Rajeev (2025) in their study investigated the difficulties encountered by female employees in the solid waste management industry, paying particular attention to their working conditions, socioeconomic status and occupational vulnerabilities. According to the study, women who work in solid waste management are primarily from economically disadvantaged backgrounds and frequently deal

with a number of problems, including low wages, unstable employment, health risks and insufficient social protection. The authors note that women workers still face social stigma, gender discrimination, and restricted access to welfare benefits despite their critical role in environmental sustainability and urban sanitary conditions. The study highlights the necessity of gender-sensitive labour reforms, institutional support, and policy measures to enhance the working conditions and socioeconomic standing of women employed in the solid waste management industry.

Sreeraj N.R. (2025) in his study analyzed the influence of Haritha Karma Sena (HKS) on household level waste management practices in Ernakulam district. According to the report, the implementation of HKS has greatly enhanced household awareness of scientific waste disposal, regular collection services, and source segregation of waste. It emphasizes how regular interaction with HKS employees and local body efforts has led to increased community participation and beneficial behavioural improvements among households. However, the report also emphasizes limitations such as inconsistent service coverage, inadequate infrastructure, and dependence on household collaboration for good outcomes. Overall, the study indicates that HKS has played a vital role in enhancing decentralized waste management at the household level, while emphasizing the need for continual awareness initiatives and institutional assistance to promote system efficiency and sustainability.

Dr. Preethi K.N. (2025) in her study investigates the degree of job satisfaction among Haritha Karma Sena (HKS) employees, also known as “Green Warriors”, with an emphasis on elements affecting their motivation and work experience. The study reveals that while workers derive intrinsic satisfaction from contributing to environmental protection, community service, and local cleanliness, their overall job satisfaction is constrained by issues such as low remuneration, workload pressure, inadequate safety measures, and limited social recognition. It also emphasizes how training, peer support, and institutional assistance from local self-government organizations may boost dedication and morale. In order to empower HKS employees and maintain their participation in decentralized waste management projects, the study suggests that raising wages, guaranteeing workplace safety, and offering social security benefits are crucial.

Rakesh Gopal and Dr. Anoop K.K. (2025) in their study investigates how Haritha Karma Sena (HKS) operates from a customer-centric standpoint, emphasizing household satisfaction and

service efficacy in Kerala. According to the report, HKS's doorstep waste collection has improved cleanliness, convenience, and public involvement in decentralized waste management. It emphasizes how customer satisfaction and adherence to waste segregation procedures have been positively impacted by consistent service delivery, worker-household interaction, and raising knowledge. However, the report also identifies concerns linked to service discrepancies, user charges, and communication gaps between households and municipal organizations. In order to increase consumer trust and guarantee the long-term viability of the HKS model, the authors suggest that strengthening feedback systems, service quality, and institutional backing is essential.

Shajim M.S. and Dr.Udayakumar O.K. (2025) in their study examines the role of Haritha Karma Sena (HKS) in advancing sustainable development throughout Kerala with a focus on its contribution to Sustainable Development Goals (SDGs) of the United Nations. Through decentralized waste management, women employment, and community involvement, HKS significantly contributes to SDGs 11(Sustainable Cities and Communities), 12 (Responsible Consumption and Production), 5 (Gender Equality), and 8 (Decent Work and Economic Growth). It concludes that HKS has increased chances for women workers to make a living, reinforced environmental sustainability, and improved urban cleanliness. However, the study also points out problems such as poor infrastructure, financial limits, and inconsistent implementations across local organizations. The authors draw the conclusion that in order to optimize HKS's contribution to sustainable development and the accomplishment of the SDGs in Kerala, policy integration, capacity building and increased institutional support are crucial.

Abiya Jose (2025) in her study examined Haritha Karma Sena (HKS) initiative in Kerala with and emphasis on household collaboration, awareness and involvement. According to the survey, frequent door-to door waste collection, information initiatives, and the program's obvious environmental benefits have all contributed to an overall improvement in public response. It emphasizes that although resistance and non-cooperation in some regions because of attitudinal problems and inconsistent communication, families with greater awareness demonstrate improved compliance with segregation of waste and prompt user-fee payment. The study comes to the conclusion that improving public responsiveness and guaranteeing the long-term viability

of the HKS program need strengthening public awareness campaigns, community involvement, and efficient communication tactics.

Dr. R Saritha and Albert Alex (2025) evaluate how the Haritha Karma Sena (HKS) affects the financial security and well-being of its employees in Nilambur Block Panchayat. According to the report, participation in HKS has enhanced household financial security by giving workers especially women comparatively steady source of income. It also emphasizes how regular participation in sanitation activities and training have raised workers' awareness of their health. The research highlights enduring challenges including health issues at work, insufficient safety equipment and restricted eligibility for social security payments. The authors come to the conclusion that although HKS has been instrumental in providing economic empowerment to "green warriors", more robust institutional support and improved health protection measures are required to guarantee the long-term livelihoods and general well-being of HKS employees.

Dr Sajeev Kumar B. (2024) in his study investigates the role of Haritha Karma Sena (HKS) in enhancing Kerala's waste management techniques, focusing on the operational, social, economic and environmental implications. The study looks into how well HKS works to improve waste management techniques and lower landfill waste and open up economic opportunities, especially for women and underprivileged groups. The research also highlights the social and gender empowerment that women have attained by taking operational and leadership responsibilities. Furthermore, the study evaluates the environmental benefits of reduced carbon emissions and resource conservation, as well as the financial sustainability of HKS operations.

Dr. T. Shameerdas and Sandhya S. B (2024) in their study examines the HKS's role and effectiveness in Kerala using primary data from workers. The study identifies that Haritha Karma Sena helps in providing income and job opportunities for women in economically backward sections. They also aims to improve environmental quality through scientific waste management. Challenges identified by the authors include long working hours, low income and better technical and institutional support. The study thereby concludes by remarking the significant contribution of HKS towards local economic development and sustainability. Meanwhile they also emphasizes the improvement in policy support for the socio-economic well-being of its members.

D. Siva Prasad (2024) investigates the socioeconomic circumstances and livelihood outcomes of women employed by the Haritha Karma Sena (HKS) as informal sector waste disposal workers in Kerala's metropolitan local bodies. According to the report, the majority of HKS employees are women from low-income families that depend on collecting waste as their only source of income. It concludes that although the HKS initiative has helped create jobs, stabilize income and increase women's involvement in local government and environmental management, workers still have to deal with issues like low and inconsistent pay, a lack of social security, risks to their health at work, and a lack of institutional support. The study underlines the need for governmental interventions to enhance working conditions, offer social protection, and strengthen livelihood security for HKS workers, hence boosting the sustainability of decentralized solid waste management systems in Kerala.

Parvathy Ravikumar (2024) in her study investigates how the general public views Haritha Karma Sena's (HKS) contribution to panchayat waste management. According to the study, majority of residents agree that HKS is a useful tool for raising awareness of source segregation, cleanliness, and waste collection efficiency. It draws attention to favourable public perceptions of HKS employees' contributions to the environment and their role in boosting community involvement in decentralized waste management. The study does, however, also highlight issues with inconsistent delivery, poor communication, and inadequate infrastructural support in some panchayats. The study comes to the conclusion that boosting local institutional support, guaranteeing service consistency, and increasing public engagement are essential for boosting public trust and the general efficacy of HKS efforts.

Cilla Joseph K. (2023) in her study investigates how Kudumbashree projects, particularly those that involve microfinance, contribute to women's empowerment. The goal of Kudumbashree's microfinance program, which was launched in 1998 by the Kerala State Government's State Poverty Mission, is to help women in both rural and urban areas with their financial and economic circumstances. The primary goals of the study are to determine whether Kudumbashree members' debt to moneylenders for launching new businesses has decreased and to evaluate government assistance in providing corpus funding for their businesses. To gather data, 100 Cochin Corporation units were surveyed using cluster sampling. Z-tests and Likert

scales were used for analysis to see how Kudumbashree's microfinance programs affected women's economic empowerment.

Jini Thomas and Pramitha Prakash (2021) in their study, Kudumbashree women played a vital role in diverse initiatives such as community kitchens, mask and sanitizer production, loan schemes, agricultural and youth activities, and elder care during the pandemic. The mission implemented effective communication strategies including to support community engagement and pandemic awareness. Kudumbashree members actively participated in break-the-chain campaigns and educational programs to curb virus transmission. The resilience and proactive involvement of Kudumbashree women highlighted the mission as a model of empowerment and crisis management in Kerala's pandemic response.

Ameer M. and Kumar S. (2021) in their study analyzed the effectiveness of Haritha Karma Sena as a decentralized waste management system under local self-government institutions. The study highlights HKS's contribution to improved waste segregation, recycling, and community participation, while pointing out constraints related to infrastructure, funding, and public cooperation. The authors conclude that HKS is a crucial institutional mechanism for sustainable waste management and local environmental improvement.

Denny Cholappallil and Dr. Vidya N (2021) in their study, Kudumbashree significantly contributes to women's socio-economic development, improving their standard of living, health, nutrition, children's education, and economic status in rural Angadippuram Panchayath. The program plays a crucial role in local government poverty alleviation initiatives by empowering women through micro-credit and entrepreneurial activities. Women involved in Kudumbashree experience enhanced confidence, decision-making power, and social participation at the grassroots level. The study uses a mixed-methods approach, confirming Kudumbashree's vital role in promoting gender equality and empowering rural women in Kerala.

Robin Jose, Dr. N. Pratiba, and Dr. L. Ranjit (2021) in their study evaluates women's empowerment across social, economic, cultural, psychological, legal, and political dimensions among 437 Kudumbashree members in Kottayam District. Kudumbashree has significantly empowered women in all these dimensions, enhancing their socio-economic status and confidence. The program promotes skill enhancement training, leadership development, and

financial independence through micro-credit schemes and entrepreneurial activities. It highlights Kudumbashree's role as a key driver for women's empowerment and socio-economic transformation in rural Kerala.

Dr. Abdul Wahab C.K. (2020) Kudumbashree, launched in 1997 as Kerala's State Poverty Eradication Mission initiative, focuses on empowering women through Neighborhood Groups (NHGs) and microfinance. The program has significantly transformed Kerala's economy by providing economic independence and livelihood opportunities to millions, particularly disadvantaged women. Data analysis shows Kudumbashree's major role in reducing poverty and empowering marginalized groups, leading to improvements in financial independence, political awareness, and social participation among women. Kudumbashree is recognized as a comprehensive and innovative model successfully driving women's empowerment and poverty alleviation in Kerala.

Rajendran and Nair (2017) in their study examined community involvement in solid waste management using Kerala model as a special reference. The report emphasizes that the success of Kerala's waste management programs has been largely due to the active participation of local communities, which is backed decentralized governance and local self-government organizations. In order to reduce waste disposal issues, the study highlights the importance of awareness campaigns, household-level waste segregation, and group responsibility. The Kerala model is a comparative framework for participatory solid waste management in other locations, according to the authors, who contend that community participation not only enhances environmental outcomes but also boosts local accountability and sustainability of waste management systems.

CHAPTER- 3

OVERVIEW OF HARITHA KARMA SENA IN

ERNAKULAM DISTRICT

3. OVERVIEW OF HARITHA KARMA SENA IN ERNAKULAM DISTRICT

3.1 Institutional Framework of Haritha Karma Sena in Ernakulam

Community organizations, local governments and technical waste management agreements together form the institutional framework of Haritha Karma Sena in the Ernakulam district. Through the Kudumbashree Community Development Societies (CDS), Haritha Karma Sena is established and organized at the urban local body and Grama Panchayat levels. A team of workers are assigned to certain group of markets, families and institutions in respective wards. They are provided with infrastructure like Mini Material Collection (Mini MCFs), Material Collection Facilities (MCFs), Resource Recovery Facilities (RRFs), and container-based collection points, and local self-government institutions are also in charge of coordinating, organizing HKS operations. Health, environment and sanitation wings of panchayats provide technical and supervisory support. Kudumbashree also offers the organizational foundation and mobilization of women workers. In this system, Haritha Karma Sena employees serve as the frontline workforce that converts waste management policy directions into routine household and regional practices, generating employment opportunities and services at the same time.

3.2 Core Functions of Haritha Karma Sena (HKS)

Some of the main goals of Haritha Karma Sena in the district include guaranteeing scientific solid waste management, reducing open dumping, encouraging source segregation and to improve environmental cleanliness. Door-to-door collection of separated non-biodegradable wastes from households and businesses, transportation of collected wastes to Mini MCFs, MCFs and RRFs, and their assistance with recycling and resource recovery are the main areas of operation by Haritha Karma Sena. Also with regular cleaning and maintenance, HKS workers helps to create and manage public waste storage and transfer locations as well as transform public areas into “Haritha Idangal”, or green spaces. Besides these standard duties, Haritha Karma Sena has a main role in enforcing Green protocol, also known as “Haritha Niyamavali”, during public events, religious meetings, and festivals by encouraging waste reduction, discouraging single-use plastics, and making sure that they are collected and disposed of

properly. By fulfilling these functions, Haritha Karma Sena connects local environmental governance with the larger Decent Work Agenda, while also serving as a major employer in the region and a provider of environmental services.

FIG 3.1
SEGREGATION OF HOUSEHOLD
WASTE BY HKS



FIG 3.2
MINI MCF OF AMBALLOOR
PANCHAYAT



Source – Primary Source

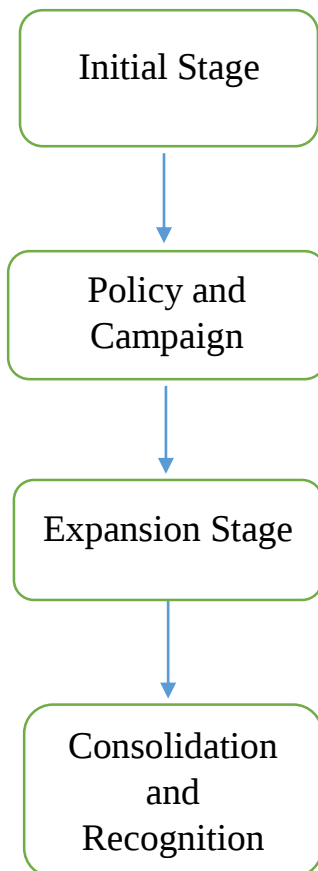
3.3 Green Campaigns and Program Components

In Ernakulam District, the Haritha Karma Sena is a part of larger set of campaigns and program elements that present waste management as a civic, local government, and regional responsibility. One important element of the initiative is the Green protocol activities, where HKS employees participate in public events, religious celebrations, and huge festivals to minimize waste production and guarantee appropriate collection and disposal. HKS has been actively involved in events like temple festivals, church feasts and Onam-related celebrations in Ernakulam District, especially Amballoor panchayat. In these events, they identify the need for waste management, encourage and use reusable materials, and instruct attendees on proper segregation techniques. This raises Haritha Karma Sena's profile and recognition in the community while also broadening their functional area beyond standard domestic collection.

District-wide or state sponsored initiatives that influences behavior and mobilize large numbers of people make up another set of components. The activities conducted in the district is often framed by slogans like "My Waste, My Responsibility" or "Freedom from Waste", these include cleaning drives, anti-littering campaigns, and efforts that highlight personal responsibility in waste management. Activities including awareness workshops, street campaigns, youth meetings, Haritha Sabha (green assembly), school-level programs, and thematic projects centered on sustainable practices are all carried out by or conducted by HKS workers. By means of these programs, Haritha Karma Sena plays a pivotal role in fostering social discourse on waste, establishing standards of appropriate conduct, and integrating environmental concerns into daily life. Even if workers still have practical challenges in their daily activities, this role supports the decent work aspect of social discourse and acknowledgement.

3.4 Progress of Haritha Karma Sena in Ernakulam District (2019-2025)

FIG 3.3
PROGRESS OF HKS IN ERNAKULAM DISTRICT



Source: Seminar Presentation, Harithakeralam Mission, Ernakulam, 31 Jan 2026

The Haritha Karma Sena went through four distinct phases between 2019 and 2025. Since there were fewer HKS units and fewer MCFs and RRFs to support the system, coverage was still building up in 2019 (Initial Stage). Subsequently, during the Policy and Campaign Intensification phase, state and panchayat-level programs like Green Protocol in festivals, Malinyamuktham Nava Kerala, and other Haritha awareness campaigns reinforced segregation laws granted HKS greater official recognition. HKS formed the backbone of local waste management during the Expansion Stage (up to 2025), when the number of HKS units and facilities expanded significantly. This included the addition of numerous households, institutions, and Haritha units

(Ayal Kootam, schools, campuses, marketplaces, and tourism centers). Even though workers still face difficulties with health, user fee collection, and segregation, this expanded system finally stabilized during the Consolidation and Recognition phase, HKS became fully institutionalized in routine governance, and panchayats like Amballoor were acknowledged as best/model Panchayat in waste management.

3.4.1 Growth in Infrastructure and Coverage

Table 3.1
Growth in Infrastructure and Coverage

Indicator	2019	2025
Thadesha Sthapanangal (Local Institutions being serviced)	96	96
Haritha Karma Sena Units	1483	4058
Mini MCF (Mini Material Collection Facility)	110	1347
MCF (Material Collection Facility)	46	111
RRF (Resource Recovery Facility)	6	14
Container- MCF	6	62

Source: Seminar Presentation, Harithakeralam Mission, Ernakulam, 31 Jan 2026

According to the data, the number of HKS units and the infrastructure that supports them has significantly increased, while the number of local institutions has remained the same. Increased collection frequency, broader coverage of families and institutions, and more job opportunities within Haritha Karma Sena are all results of this expansion. Increased operational needs and obligations for employees are also implied by infrastructure growth, which becomes pertinent when considering workload, health concerns and time constraints.

3.4.2 Expansion of Haritha Networks and Thematic Units

As part of broader environmental governance policy of Ernakulam District, there has been a noticeable growth in different Haritha networks and thematic units of the Panchayat in addition to the physical infrastructure. These networks are all connected to Haritha Karma Sena activities either directly or indirectly, which also include Haritha neighbourhood groups, green institutions, universities, schools, towns and tourist destinations.

Table 3.2
Expansion of Haritha Networks and Thematic Units

Initiative	Number
Haritha Ayal Koottam (Green neighbourhood groups)	24809
Haritha Sthapangal (Green Institutions)	5152
Haritha Vidyalayam (Green Schools)	1226
Haritha Campus	112
Haritha Sundara Town	344
Clean Market/Public Spaces	420
Haritha Tourism Kendrangal (Green Tourism Centres)	20

Source: Seminar Presentation, Harithakeralam Mission, Ernakulam, 31 Jan 2026

The development shown in these Haritha units suggests that environmental rules are deeply rooted in the institutional and communal life of Ernakulam district. This suggests a growing area of operation for Haritha Karma Sena workers, one that encompasses public areas, markets, educational institutions, and tourist destinations, each with its own set of requirements and expectations. As a result, the developmental relevance of the initiative is increased because in addition to removing wastes it aims to change socio-environmental practices on several levels.

3.5 Haritha Karma Sena under ILO Decent Work Framework and their impact towards Local Economic Development

The ILO Decent Work Framework, the framework which promotes rights at work, employment, social protection and social dialogue, can be conceptually used to analyze the activities and advancements of the Haritha Karma Sena in Ernakulam District. Simultaneously, HKS contributes both directly and indirectly to local economic development, particularly by enhancing environmental conditions and strengthening local livelihoods.

From the viewpoint in terms of employment, the growth the HKS units from 2019 to 2025 represents a significant increase in job opportunities, especially for women from Kudumbashree networks who might not otherwise have as much access to formal or semi-formal labour. The growing demand for waste collection needs, which includes households, businesses, marketplaces, and tourist destinations, suggests a variety of revenue streams to Panchayat assistance from user fees. However, in addition to being availed with work, the Decent work framework demands that work should be adequate, secure and of high quality. In this aspect, limitations relating to HKS employment must be resolved on a regular base to completely satisfy Decent Work framework, highlighted by the field evidence of health problems, workload stress, and irregular user-fee payment.

In terms of working conditions and rights, the legal development of facilities like MCFs and RRFs and the existence of Green Protocol rules offer a potential foundation for safer and more explicitly regulated labor. However, a number of factors, like the availability of personal protective equipment, the frequency of payments, the clarity of work standards, and grievance-redressal procedures, affect the real conditions that workers face. Haritha Karma Sena labor is placed in a setting where official recognition coexists with significant vulnerability, as seen by the reported health issues brought on by climatic condition along with inadequate segregation at the source, as well as challenges in collecting user fees from households.

Another element of the Decent Work framework is social protection and social dialogue. Kudumbashree gives HKS workers a forum to communicate with panchayat officials, health inspectors, and other stakeholders along with providing a collective organizational base. Public gatherings, Haritha Sabha, and campaigns offer platforms for community discussion and

acknowledgement of their contributions. However, workers' livelihoods are vulnerable to difficulties because institutional social protection such as health insurance, pensions, leave rights and safety needs is either insufficient or inconsistent.

In Ernakulam district, Haritha Karma Sena makes a significant contribution to local economic growth. By making neighborhoods, marketplaces, and tourist destinations clean, HKS contributes in lowering environmental health hazards. This lowers the burden of disease and strengthens productivity. Clean marketplaces and public areas draws attention to more customers and tourists, which helps small business owners, vendors, and tourism-related enterprises indirectly. The financial sustainability of local governments is supported by the methodical management of waste, which also lowers long-term expenses related to pollution, disposal and collective actions. As a result, HKS aligns with sustainable development goals by functioning at the intersection of social inclusion, economic development and environmental governance.

CHAPTER – 4

ANALYSIS OF DATA

4. ANALYSIS OF DATA

The present study was undertaken in Amballoor and Mulanthuruthy Panchayat in Ernakulam District of Kerala. To examine the socioeconomic profile of the members of Haritha Karma Sena and to assess the challenges faced by the workers, a sample of 60 Haritha Karma Sena members were taken. The fact that all responses (100%) are female is significant because it shows that Haritha Karma Sena in both these panchayats is a livelihood project focused on women. Based on the sample data collected through a structured interview schedule with the members of Haritha Karma Sena, the analysis is broken down into four broad sections. These sections are given below:

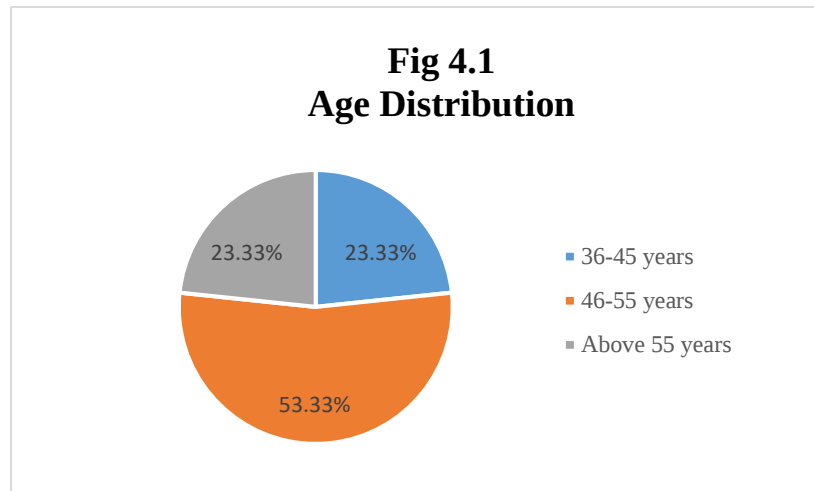
- 4.1 Demographic and Socioeconomic Background
- 4.2 Challenges faced by members in waste collection
- 4.3 Impact of HKS in local economic development

4.1 DEMOGRAPHIC ASSESSMENT

4.1.1 Age Distribution

According to the age distribution of the 60 women respondents, the majority of the workers are between the ages of 46-55 years, comprising 53.33%. Additionally, 23.33% of people are between the ages of 36-45 years and another 23.33% are older than 55. The fact that 76.66% of the employees are over 45 years demonstrates that Haritha Karma Sena mostly employs middle-aged and older women, acting as a vital source of income assistance for this demographic.

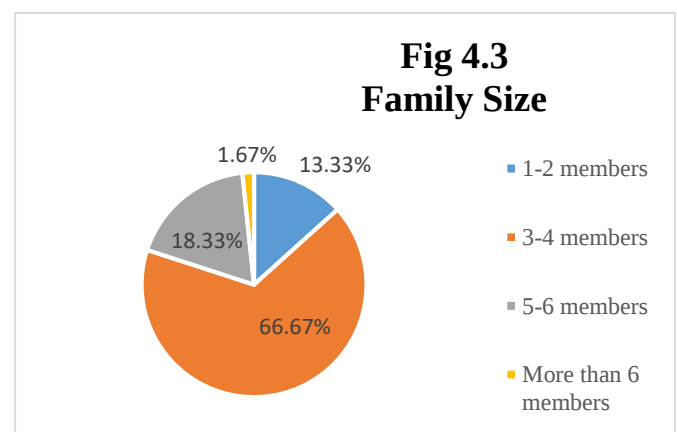
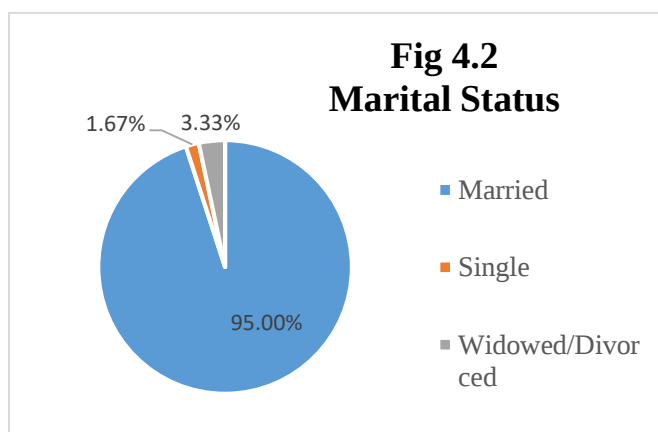
The following Figure 4.1 depicts the age distribution of Haritha Karma Sena workers.



Source – Primary Data

4.1.2 Marital Status and Family Size

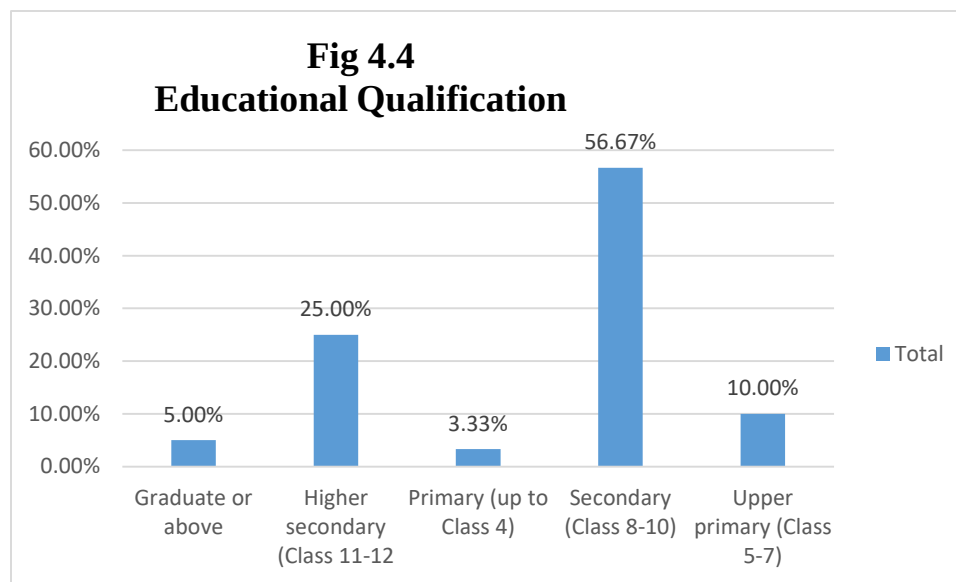
The distribution of respondents' marital status reveals that 95% of them are married. About 1.67% of people are single, while 3.33% are widowed. This suggests that practically all employees have family obligations, and HKS revenue probably makes a substantial contribution to the financial stability of houses. In terms of family size, the majority of respondents, comprising 66.67% live in homes with 3-4 members. Additionally, 13.33% are part of smaller households with 1-2 individuals, whereas 18.33% have 5-6 members. The percentage of households with more than six individuals is just 1.67%. The prevalence of medium-sized families indicates moderate levels of dependency, where home expenses and family welfare are significantly supported by HKS revenue.



Source- Primary Data

4.1.3 Educational Background

According to the respondents' educational profile, the majority of workers comprising 56.67% have finished secondary school, making them the largest group. Additionally, 10% have studied up to upper primary level, and 25% have finished higher secondary education. Only 3.33% of people have only completed primary school, while 5% have a degree or more. According to this distribution, the majority of HKS employees have a modest level of education, with more than half having finished secondary school. The program primarily offers work prospects to semi-educated women who might have limited access to formal sector employment, as indicated by the comparatively low percentage of graduates.

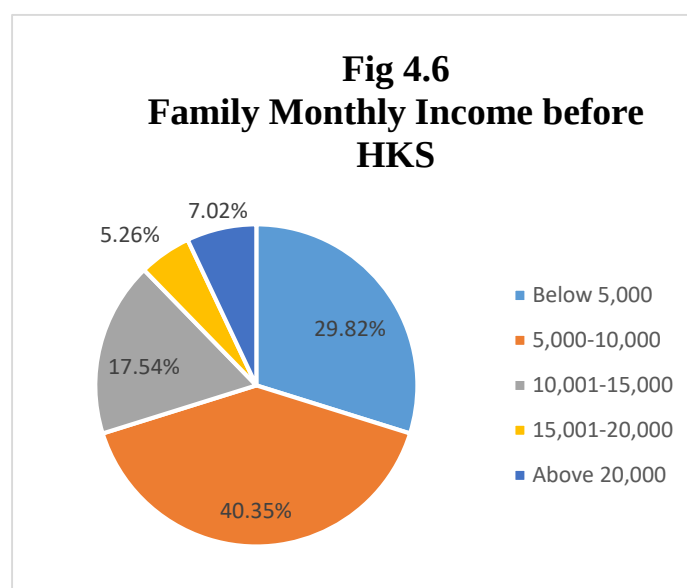
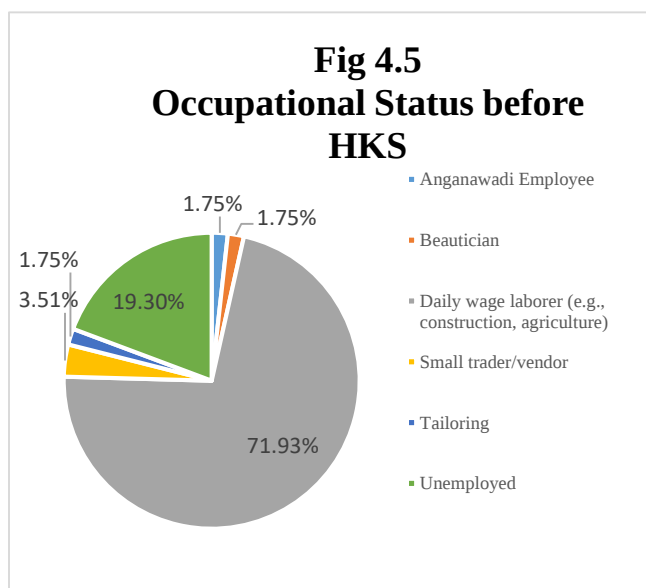


Source – Primary Data

4.1.4 Occupational and Familial Monthly Income before joining HKS

According to workers occupational profile prior to joining Haritha Karma Sena, the majority of the respondents comprising 71.93% worked as daily wage laborers in construction and agricultural industries. Furthermore, 19.3% of workers were unemployed. This shows that prior to joining HKS, 91.23% of the respondents were either unemployed or reliant on daily wage labor, indicating financial instability. Self-employed and other occupations include small-scale trading, comprising 3.51%, Anganawadi employment (1.75%), beautician (1.75%), tailoring

(1.75%) constituted only a small portion of the population. This conclusion is further supported by the income distribution prior to joining HKS. While 29.82% made less than ₹5000 per month, the majority, 40.35 percent, claimed a family income between ₹5000 and 10,000. When taken as a whole, this indicates that 70.17% of respondents had a family income of less than ₹10,000 per month, suggesting low-income status. Furthermore, only 5.26% and 7.02% reported income levels of ₹15,001-20,000 and beyond ₹20,000 respectively, whereas 17.54% earned between ₹10,001-15,000. The statistics makes it abundantly evident that the majority of workers were from economically disadvantaged groups with low household income and insecure employment before joining HKS. This demonstrates the important role of HKS in giving women from low-income families options for employment.



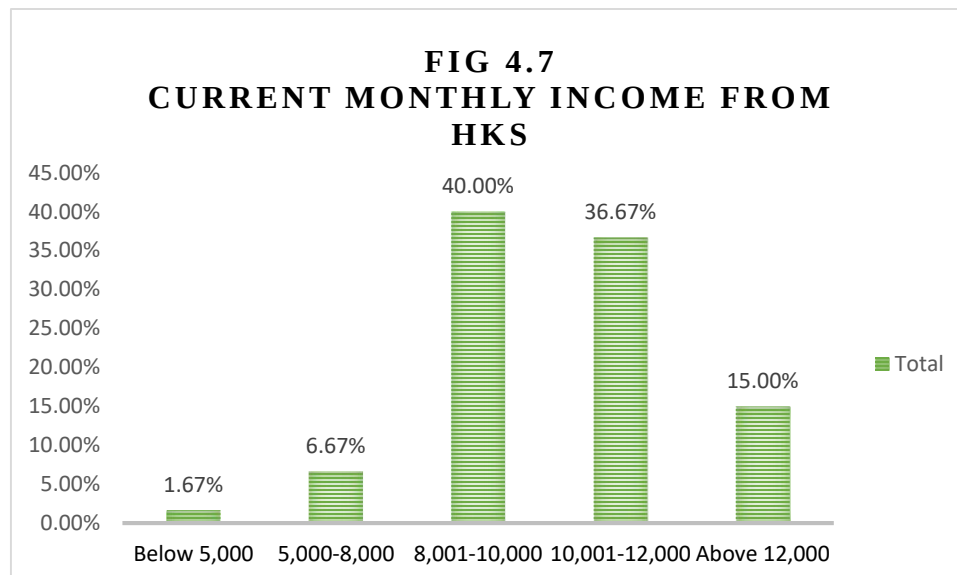
Source – Primary Data

4.1.5 Current Income Generation from HKS and Additional Income Sources

The respondents' financial situation has significantly improved, according to an examination of their current monthly salary from Haritha Karma Sena. Of the employees, 40% make between ₹8001 and ₹10,000 per month, and 36.67% make between ₹10,001 and ₹12,000 per month. Additionally, 15% of the respondents make more than ₹12,000, indicating that the group's income levels are comparatively higher. Only 6.67% make between ₹5,000 and ₹8,000, while

only 1.67% of workers make less than ₹5000. According to this distribution, 91.67% of the respondents make more than ₹8000 a month, which suggests that their financial stability has increased since joining HKS. The shift towards middle-income groups when compared to pre-HKS income levels demonstrates the beneficial economic effects of HKS employment.

Some workers participate in Kudumbashree CDS activities, daily wage employment, tailoring, and agriculture as other sources of income in addition to their HKS income. These extracurricular pursuits are a reflection of the income diversification methods some employees have used to raise household incomes and provide more financial stability. Overall, even though HKS is the main source of income, some respondents' household economies are further strengthened by additional economic activity.



Source – Primary Data

4.1.6 Asset Ownership and Living Conditions

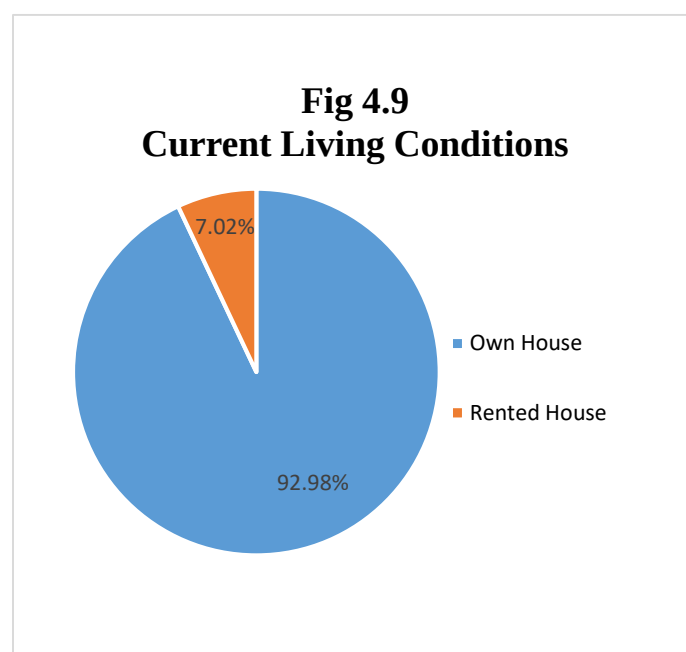
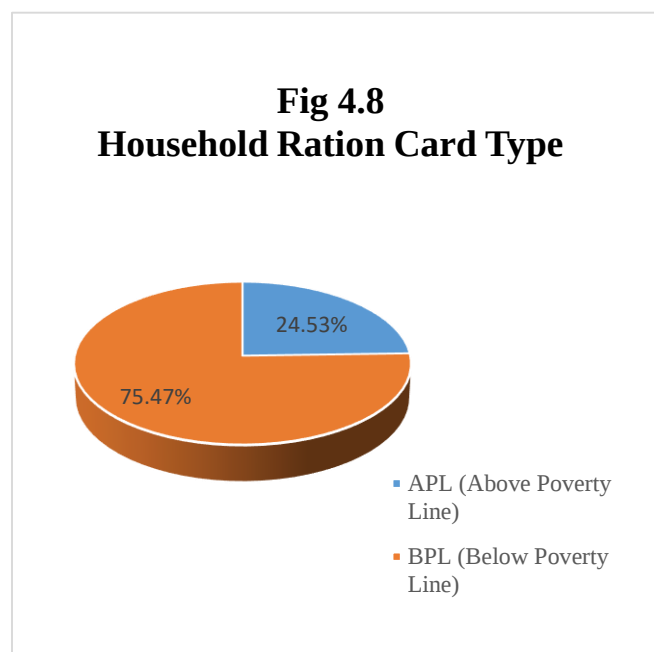
Ration card category, housing conditions, asset ownership, and access to basic amenities are other major indicators of the respondents' financial status. Among the respondents, 74.47% of the workers' ration cards are classified as BPL (Below Poverty Line), whereas only 24.53% are classified as APL (Above Poverty Line). This demonstrates clearly that the majority of workers are from economically disadvantaged groups.

Regarding housing conditions, only 7.02% of respondents live in rental housing, compared to a

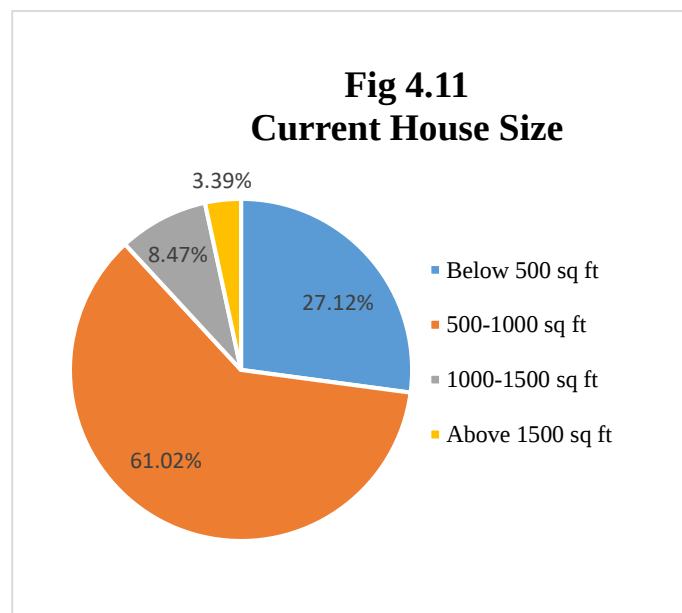
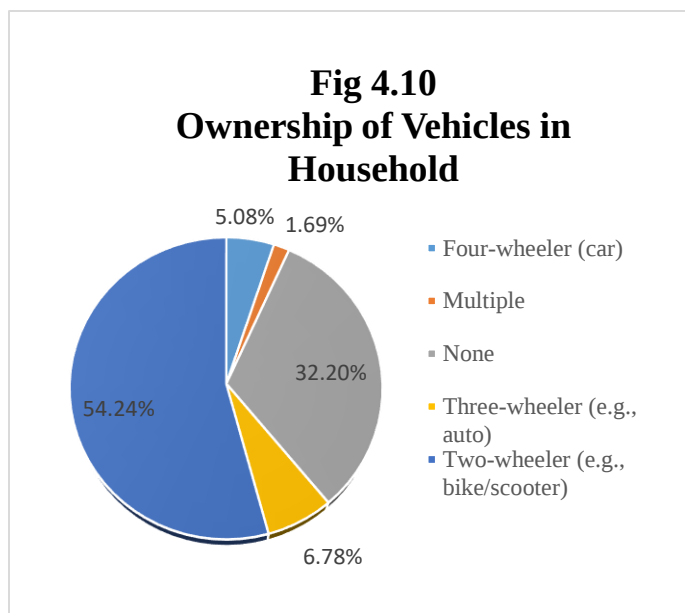
noteworthy 92.98% who own their home. Despite their financially unstable backgrounds, the significant number of workers who own their homes indicates that they are stable in their houses.

In terms of house size, 61.02% of the respondents reside in houses that are between 500 and 1000 sq. ft., which suggests moderate living conditions. This represents the workers' middle or lower middle class living conditions. Additionally, among the respondents, car ownership indicates a moderate level of asset possession. The largest group, two-wheelers, are owned by the majority, comprising 54.24%. In addition, 1.69% of workers has multiple vehicles, 5.08% owned four-wheeler, and 6.78% owned a three-wheeler. However, 32.2% of workers do not own any vehicle in their household. The distribution shows that workers have limited but necessary mobility assets.

It is noteworthy that all responders have access to basic amenities in their households including drinking water, cooking gas, electricity and toilet facilities. Even though the majority of workers fall under the BPL category, universal access to these basic facilities demonstrates satisfactory basic living standards among the workforce. Overall, while the ration card data reflects economic vulnerability, housing ownership and access to basic amenities indicate relatively stable living conditions among the respondents.



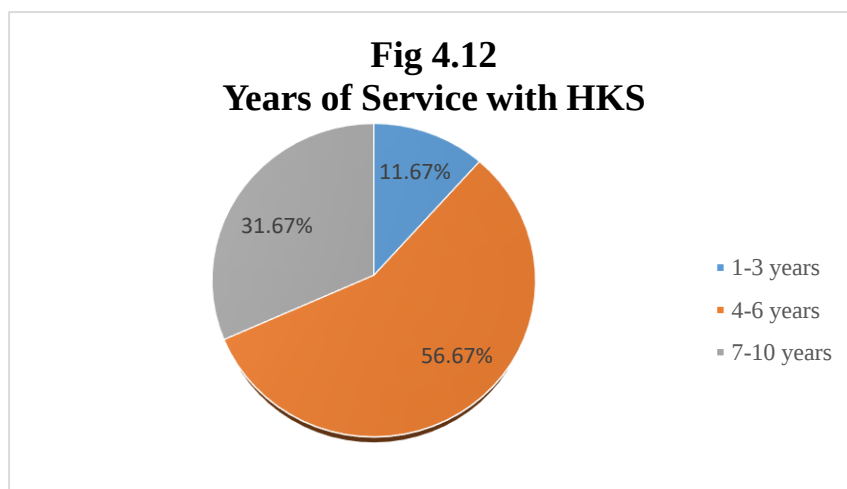
Source – Primary Data



Source – Primary Data

4.1.7 Years of service with HKS

According to the years of service distribution, the larger group of respondents comprising 56.67% had been employed by Haritha Karma Sena for 4-6 years. Additionally, 11.67% have worked for HKS for 1-3 years, whereas 31.67% have served for 7-10 years. This demonstrates consistency and ongoing participation in HKS activities, as 88.34% of the respondents had more than 4 years of experience. The comparatively large percentage of employees with long-term associations implies that HKS helps women workers maintain their jobs and support their livelihoods.

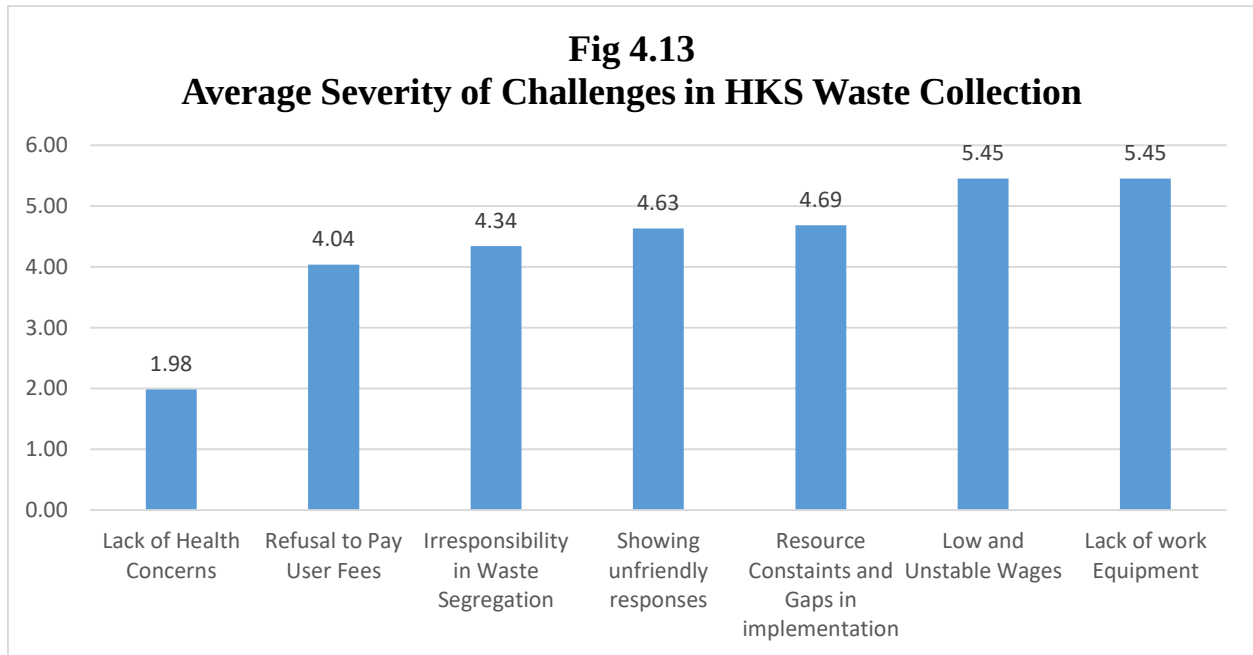


Source - Primary Data

4.2 CHALLENGES FACED BY MEMBERS IN WASTE COLLECTION

4.2.1 Average Severity of Challenges in HKS Waste Collection

A clear hierarchy of operational and occupational barriers is shown by the severity assessment of the difficulties faced by Haritha Karma Sena (HKS) employees. With a considerable average score of 1.98, “Lack of Health Concerns” appeared as the most critical difficulty on a ranking scale where a score of 1 denotes the most severe issue and a score of 7 represents the least severe. A number of minor issues, such as “Refusal to Pay User Fees” at 4.04 and “Irresponsibility in Waste Segregation” at 4.34, come after this main issue. Additionally, the employees recognized “Resource Constraints and Gaps in Implementation” (4.69) and “Showing unfriendly responses” (4.63) as mid-tier difficulties affecting everyday productivity. Remarkably, despite the fact that these elements have a direct impact on the workplace, “Low and Unstable Wages” and “Lack of work Equipment” were rated as the least serious in comparison to the other concerns, with both having a higher average score of 5.45. This analysis emphasizes that in the current project setting, public collaboration and health-related concerns are seen as more urgent barriers than equipment or financial constraints.



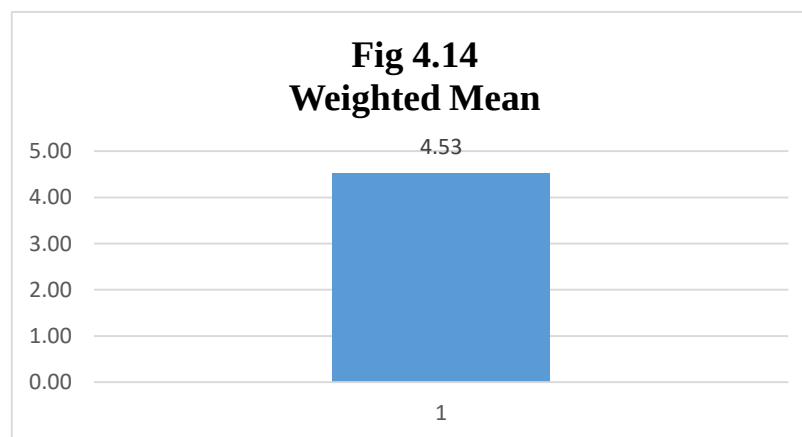
Source - Primary Data

4.2.2 Social Protection Benefits

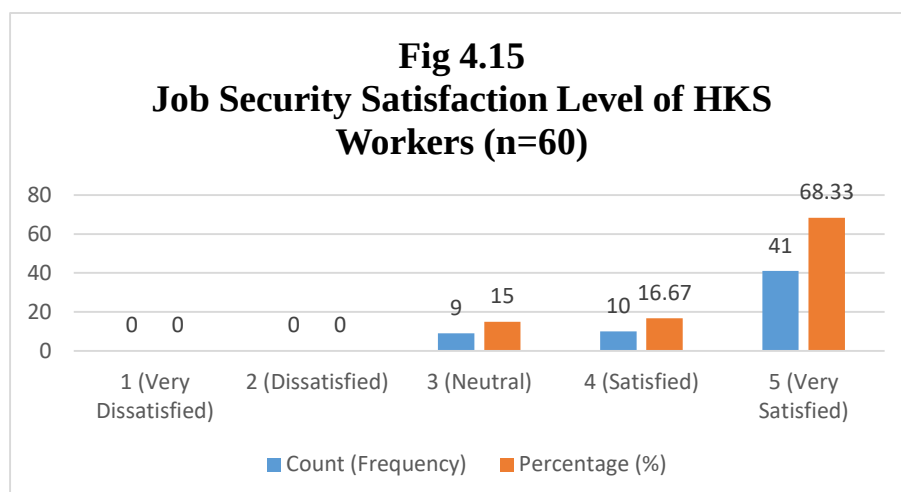
The examination of primary data concerning social protection benefits shows a considerable disparity between access to essential support measures and the provision of long-term financial security. The results indicate that Health Insurance and Training/Skill Development are the only benefits that declare universal coverage, with 100% (n=60) of participants indicating their access to these services. This demonstrates that institutional support is mainly aimed at improving workers' health awareness and skill development. However, the data also highlights a total lack of advanced social security mechanisms within the current HKS framework. Specifically, participants reported having non-access to Accident Compensation, Pension/Retirement Benefits, or Paid Sick Leave. This absence of protections suggests that there are no formal employment safeguards for individuals working in waste collection.

4.2.3 Job Satisfaction Level of HKS Workers (n-60)

The Haritha Karma Sena employees have a high degree of perceived employment stability, according to the analysis of responses relating to job security. The weighted mean score, which was 4.53 on a five-point Likert scale, indicated a high level of general job security satisfaction under the HKS framework. 68.3% (n=41) of the respondents reported being “Very Satisfied” (Level 5) with their job security, compared to 16.7% (n=10) respondents stated they were “Satisfied” (Level 4). Nine respondents, or 15% of the total, took a “Neutral” viewpoint (Level 3). The “Dissatisfied” and “Very Dissatisfied” categories (Levels 1 and 2) did not have any responses. Given the high weighted mean score and lack of negative response it appears that employees view their jobs under HKS as secure and stable.



Source – Primary Data



Source – Primary Data

4.3 IMPACT OF HKS IN LOCAL ECONOMIC DEVELOPMENT

4.3.1 Quantum of Waste Generated (Daily) and the Percentage of Total Waste handled for Recycling

The substantial operational contribution of Haritha Karma Sena to regional waste management and local economic development is highlighted by an analysis of waste collection and recycling procedures. The majority of respondents, comprising 61.67% stated that they collected between 101-200 kg of inorganic waste per day, demonstrating a significant volume managed at the local level. Additionally, 8.33% of workers collect around 50 kg, while 23.33% accumulate between 50-100 kg in their respective wards. Only a small percentage manage larger amounts; 1.67% of workers manage more than 500 kg daily, and 5% collect between 201-500 kg. According to the results, 51.67% of the respondents process 41-60% of the total waste that is collected for recycling, 21.67% manage 61-80%, and 26.67% recycle around 20-40%. These numbers show that a sizable portion of the waste collected is recycled instead of disposing, which reduces the load on landfills and aids in resource recovery. According to the statistics, HKS is essential for both preserving the cleanliness of the local environment and strengthening the recycling economy at the Panchayat level through organized waste collection and material recovery procedures.

Fig 4.16
Quantum of Waste Collected (Daily)

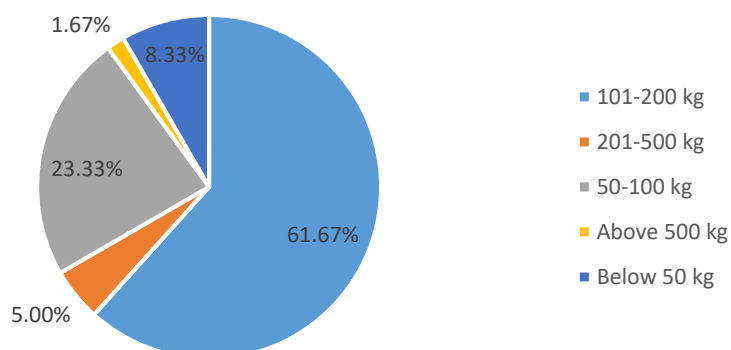
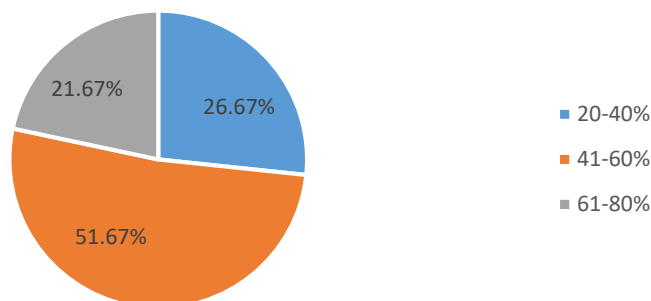


Fig 4.17
Percentage of Total Waste Handled for Recycling



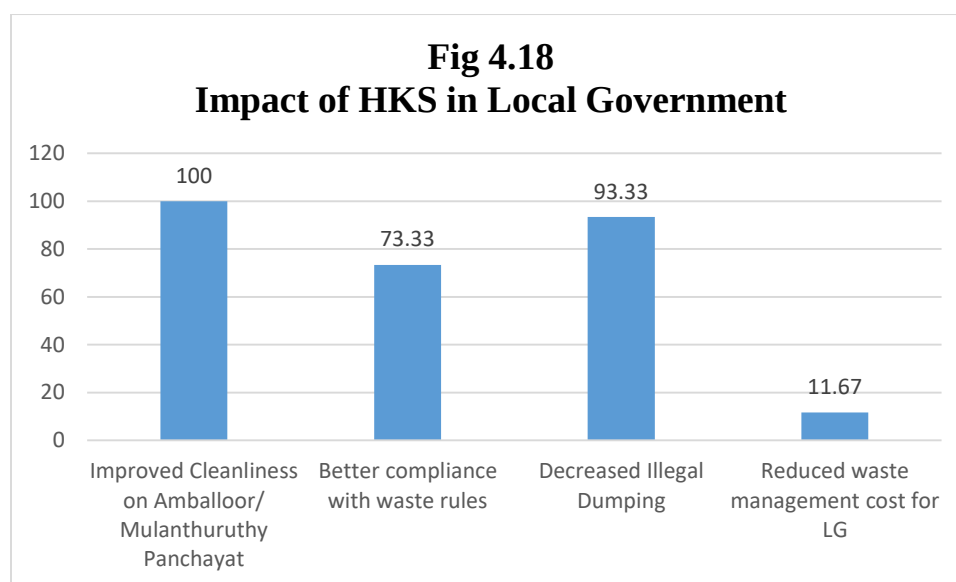
Source – Primary Data

4.3.2 Impact of HKS on Local Government/Panchayat

Workers' perceptions of Haritha Karma Sena's influence on the Local Government (LG) show very favorable assessment of the program's contribution to waste management results.

Interestingly, all respondents (100%) mentioned that HKS has made Amballoor and Mulanthuruthy Panchayats cleaner, demonstrating that its environmental impact is widely acknowledged. Additionally, 93.33% saw a decline in illegal dumping, indicating successful management of inappropriate waste disposal methods. Furthermore, 73.33% of the employees reported improved adherence to waste management regulations, indicating increased local

regulatory compliance. The workforce is less aware of the financial impact on the Panchayat, despite the fact that environmental and regulatory benefits are widely acknowledged, since only 11.67% of respondents felt that the Local Government's waste management expenses had decreased directly. Overall, the results show that HKS has significantly improved regulations, reduced illegal disposal in the study area and improved environmental sanitation.

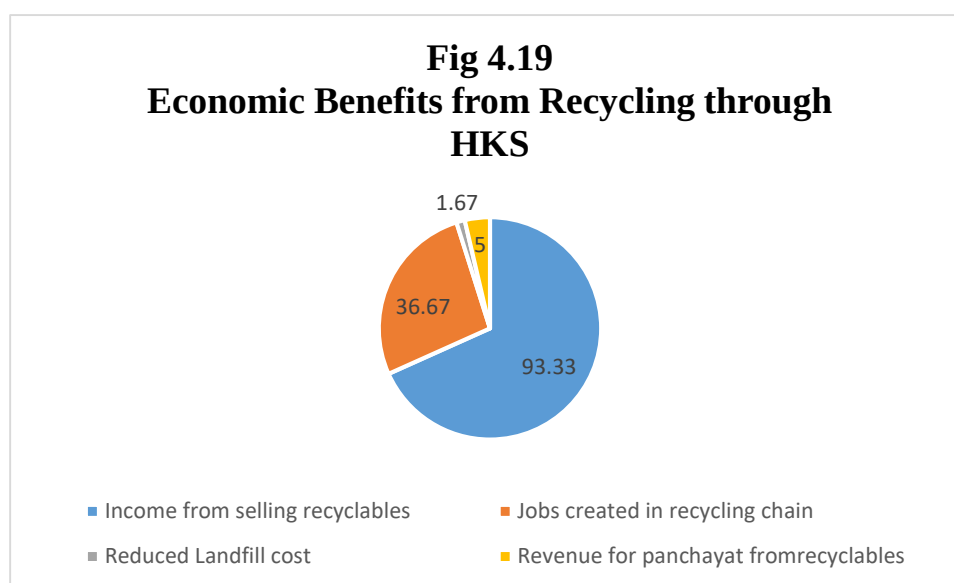


Source – Primary Data

4.3.3 Economic Benefits from Recycling through HKS

Income generation is the most important result of the recycling process, according to an examination of the financial gains made by recycling initiatives under the Haritha Karma Sena. The direct livelihood impact of recycling activities to workers is highlighted by the fact that a significant majority of respondents (93.33%) identified revenue from the sale of recyclables as the main economic advantage. Furthermore, 36.67% of respondents agreed that HKS has helped create jobs in the recycling chain, demonstrating its wider economic multiplier effect outside of waste collection. However, only five percent of respondents considered recyclables would generate income for the Panchayat, and only 1.67% claimed that lower landfills expenses were a significant advantage. According to these results, the indirect cost-saving effects on the economy and the environment at the institutional level are not widely recognized while the income gains at the worker level is clearly recognized. Overall, the evidence shows that recycling under HKS

largely improves economic stability at the household level, with a limited understanding of its broader institutional economic benefits.

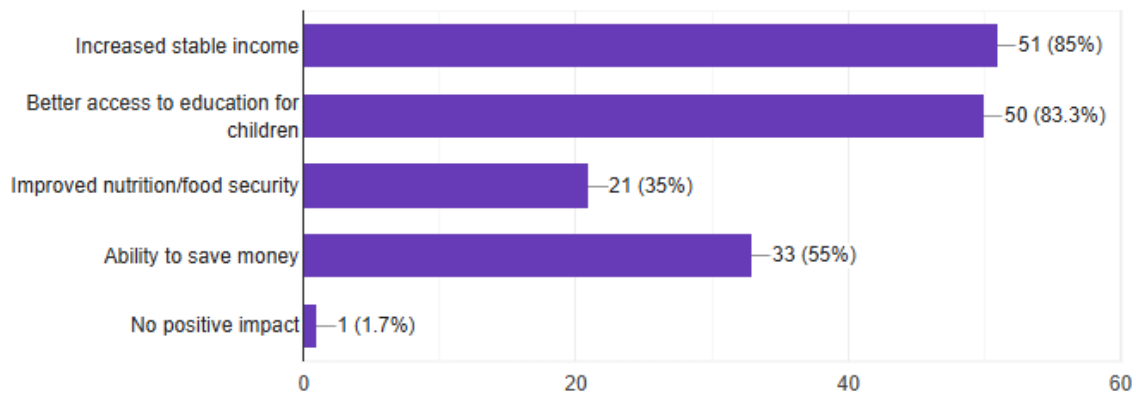


Source – Primary Data

4.3.4 Impact of Haritha Karma Sena on Workers' Household Conditions

The results show that the main effect of Haritha Karma Sena participation is a significant increase in workers' households' financial security, highlighting the scheme's function as a vital economic stabilizer. After joining HKS, a vast majority of respondents (85%) stated having steady income. In addition, 83.3% of respondents stated that they were able to provide their kids with better access to schooling. This financial stability seems to have had a direct impact on household wellbeing. The strong correlation between improved educational attainment and financial stability implies that HKS employment promotes the long-term development of human capital in families. Additionally, 55% of the participants stated that they were able to save money, indicating a shift from mere subsistence to having more financial resilience and the ability to prepare economically. Furthermore, 35% reported better food security and nutrition, indicating that a significant percentage of workers depend on HKS revenue to cover basic household needs. Remarkably, only 1.7% of respondents stated that there had been no beneficial impact, highlighting the program's nearly universal economic benefits. The conclusion states that HKS considerably improves household stability and makes a considerable contribution to local socioeconomic development, supported by the evidence.

Fig 4.20
Impact of Haritha Karma Sena on Workers' Household Condition

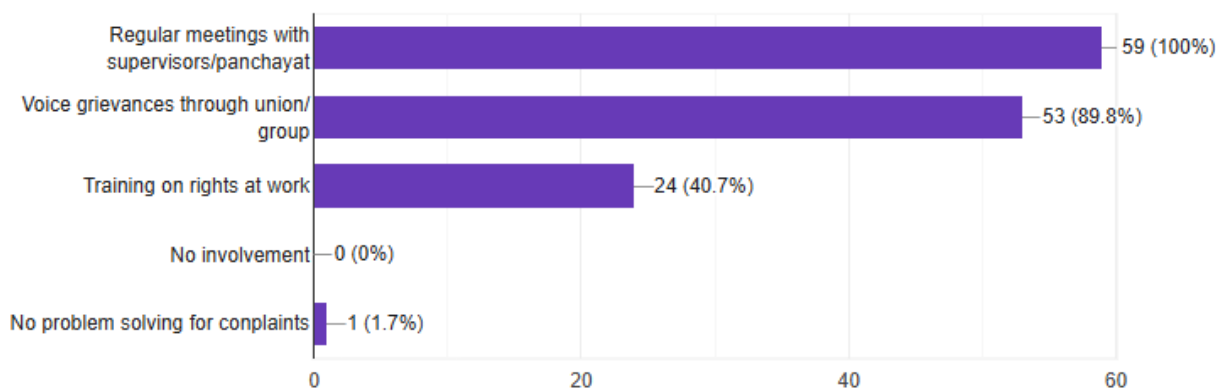


Source – Primary Data

4.3.5 Workers' Involvement in HKS Decision Making/ Social Dialogue

High level of bottom-up worker engagement is evident from the chart, which shows a robust framework of social dialogue and organizational participation inside the Haritha Karma Sena structure. All the respondents, according to the data, regularly attend meetings with their supervisors or the Panchayat, demonstrating a well-functioning system of contact between employees and local government representatives. Additionally, a significant majority of respondents comprising 89.8% reported utilizing union or group platforms for voicing their grievances, indicating a high degree of organizational trust, participatory governance, and collective representation. Regarding rights awareness and empowerment, 40.7% of employees have received training on rights at work, indicating progressive professionalization and legal awareness. However, this percentage is still relatively low compared to overall participation levels and shows room for additional capacity building. The HKS model successfully incorporates all employees into its social dialogue and participatory framework, as evidenced by the noteworthy fact that 0% of respondents stated they were not involved in organizational or decision-making processes. Overall, the results indicate that HKS functions as an inclusive institutional platform that promotes communication, representation, and group engagement rather than just as an employment scheme.

Fig 4.21
Workers Involvement in HKS Decision-making/Social Dialogue



Source – Primary Data

4.3.6 Analysis of Workers’ Perspectives for Improving Decent work and Local development

Effective waste management and the ILO Decent Work Framework are strongly correlated, according to the qualitative responses from 60 HKS employees. This is specifically true when it comes to social protection, workplace safety, and productive employment. A good impact on local development is overwhelmingly acknowledged by the workers, who point to observable reduction in plastic pollution, the conversion of landfills into communal areas (Vishramakendram), and heightened public awareness. To transform from “good work” to “Decent work”, however, the respondents highlight important deficiencies in occupational health and infrastructure. The necessity for technical advancements is a recurrent issue, particularly the substitution of electric vehicles or cars replacing manual trolleys in order to lessen the physical strain of transporting heavy waste bags. Additionally, the workers indicated that more reliable social security benefits like PF and ESI as well as higher-quality safety equipment (gloves, masks, and sunscreen) were needed. The HKS model can develop into a long-term force for both environmental cleanliness and respectable protected work for women by attending to these infrastructural requirements and guaranteeing financial stability through regularized “backbone salaries” and government subsidies.

Table 4.1 Suggestions provided by workers in terms Decent Work

Decent Work Pillar	Suggestions Provided by Workers
Productive Employment	Income Growth, Regular Employment, and the requirement for additional big vehicles in order to expand operations.
Social Protection	Requests for ESI, PF (Provident Fund) and financial support.
Workplace Safety	Requests for electric vehicle to avoid physical strain, and high quality safety equipments.

Source- Primary Data

4.3.7 Strategic Role of Haritha Karma Sena in Decentralized Organic Waste Management

The Panchayats' current organic waste management system serves as a decentralized, source-level treatment approach that creates a viable alternative for local development. Although Bio-Bins are frequently provided according to panchayat projects, the Haritha Karma Sena (HKS) is not directly in charge of their management or income; instead, its function has switched to providing crucial technical support through the supply of inoculum. According to the data, between 70-80% of households in high-performing wards have set up these systems, and HKS members help by taking orders and providing the inoculum needed for waste decomposition. Many employees are already integrated into the delivery chain for the 10-20 kg residential biogas and Bio-Bin systems, so even if some workers described the composting process as “difficult” or mentioned as having a “lack of guidance”, there is a definite willingness to help. Through the selling of inoculum, this specialized service generates a steady income stream for the HKS, thereby converting them into an environmental service providers within a sustainable at-source development paradigm.

4.3.8 Multifaceted Community Roles of Haritha Karma Sena beyond Waste Collection

The Haritha Karma Sena (HKS) has evolved into a multidimensional service provider that promotes local development for both panchayats through activities much beyond waste collection, according to the survey results. Supporting decentralized organic waste management is a major component of their enlarged function; although they are not directly involved in bio-

bin management, they offer crucial technical assistance by accepting orders for and delivering inoculum to houses. In addition to organic waste, HKS members are actively engaged in circular economy through the production of paper pens and cloth bags, as well as special collection events for e-waste, used clothing and LED bulbs. Their involvement in volunteering programs and particular cleaning projects, such as the maintenance of the Jubilee Church grounds, further demonstrate their commitment to community welfare. In order to reduce the amount of single-use plastic used at public events, HKS units, operating as micro-enterprises under the Kudumbashree mission, successfully execute the State Green Protocol by managing rental banks for steel plates and glasses. Additionally, their involvement in old cloth collection and distribution ensures that reusable materials reach people in need, acting as a social safety net. This extensive participation shows how the HKS has developed into a key collaborator in local self-governance, bridging the gap between social development and environmental sustainability.

CHAPTER – 5

SUMMARY AND FINDINGS OF THE STUDY

5. SUMMARY AND FINDINGS OF THE STUDY

5.1 SUMMARY OF THE STUDY

The study focuses the socioeconomic profile of Haritha Karma Sena (HKS) employees in Amballoor and Mulanthuruthy Panchayats of Ernakulam district, with special reference to their conditions both before and after they joined HKS. Within a decentralized waste management framework, the study also evaluates the impact of HKS to local economic development and the primary challenges faced by workers in waste collection. In addition to secondary data on the institutional development of HKS and district-level waste management infrastructure, the analysis is based on primary data gathered from 60 HKS members using a structured interview schedule. The ILO Decent Work Framework and local economic development perspectives are conceptually connected to the study, which employs a descriptive and analytical design.

The study focuses on the demographic background, employment history, income fluctuations, asset ownership, working conditions, social protection and perception of HKS's role towards local economy of the two selected panchayats. As a result, the results are micro-level and context-specific, but they shed light on the interactions between women-centered livelihood programs and decentralized waste management in Kerala's rural-urban interface. The study's small sample size, reliance on self-reported data, and inability to generalize results to all panchayats in Kerala are among its drawbacks.

5.2 MAJOR FINDINGS OF THE STUDY

5.2.1 Socioeconomic Profile of HKS Workers

- ❖ Haritha Karma Sena in Amballoor and Mulanthuruthy operates as a women-centered livelihood program because all the respondents from the sample are female workers. The vast majority of workers are between 45-55 years of age, indicating that middle-aged women are the primary recipients of HKS's essential income support.
- ❖ The majority of responders, comprising 95% of workers are married and reside in medium-sized homes with three to four people, indicating a high level of family responsibility and reliance on HKS revenue to support the household.

- ❖ The workers are semi-educated women as 56.67% have completed secondary schooling and 25% have higher secondary education.
- ❖ Prior to entering HKS, 86.66% were either unemployed or had unstable daily wage employment. About 70.17% of households had a monthly family income of less than ₹10,000 before joining HKS, indicating low-income, economically vulnerable backgrounds. 91.67% of HKS members generates more than ₹8000 per month, indicating a significant increase in income and stability.
- ❖ Along with HKS work, some workers additionally participate in supplemental activities like Kudumbashree CDS labor, daily wage labor, tailoring and agriculture demonstrating income diversification.
- ❖ According to ration card data, around three-fourths of workers are from BPL households, demonstrating that HKS primarily targets and serves economically disadvantaged groups.
- ❖ Despite this, all respondents have access to basic amenities including electricity, cooking gas, drinking water, and toilets, and nearly 93% of respondents reside in their own homes, indicating somewhat stable living conditions even among low-income groups.
- ❖ The majority of respondents comprising 61.02% live in houses that between 500-1000 sq. ft in size, and over half of them possess a two-wheeler. However, around one-third do not own any vehicles, showing modest yet necessary asset ownership.
- ❖ Majority of HKS workers worked for more than 6 years, demonstrating consistency and a long-term commitment to the company.

5.2.2 Challenges and Decent Work Concerns

- ❖ The most serious challenge that members of HKS face is related to health issues. “Lack of health concern” has the highest severity grade, indicating insufficient operational health protection in waste collecting duties.
- ❖ Inappropriate waste segregation and refusal to pay user fees by households are the two significant operational challenges that have a direct impact on employees’ workload and regular income.
- ❖ Mid-level challenges include resource limitations, implementation gaps, and unfriendly responses from certain houses, which reflect institutional and social barriers to daily functioning.

- ❖ Health and behavior-related challenges are addressed as more concerning than “low and unstable wages” and “lack of work equipment” indicating that workers view public cooperation and health security as more essential.
- ❖ Regarding social protection, every employee reports having access to training and skill development opportunities as well as health insurance, suggesting an adequate degree of institutional support. However, under the current HKS framework, there is no long-term social security as none of the respondents receive paid sick leave, pension/retirement benefits, or accident compensation formally.
- ❖ Perceptions of job security are high as 68.3% of respondents are “very satisfied”, and 16.7% are “satisfied” and there are no negative answers, suggesting that employees identifies HKS as a reliable source of income despite other risks.
- ❖ According to qualitative replies, employees primarily suggest on improving decent employment condition in both panchayats through better social protection (ESI, PF), more safe working conditions and a decrease in physical labor through advancements like electric vehicles.
- ❖ In order to transition from basic employment security to comprehensive decent work, workers also emphasizes the necessity for stronger financial support.

5.2.3 Contribution towards Local Economic Development and Waste Management.

- ❖ Significant daily waste management waste at the ward level is clearly demonstrated by the fact that the majority of respondents, comprising 61.67% handle between 101-200 kg of inorganic waste per day, while a smaller percentage handle up to 500 kg.
- ❖ A substantial portion of local waste is diverted from landfills and fed into recycling chains, as evidenced by the fact that around 41-60% of collected waste is recycled by 51.67% of workers and a larger share by some others.
- ❖ Every respondent agrees that HKS has improved the cleanliness of Amballoor and Mulanthuruthy panchayats, and 93.33% stated that, illegal dumping has decreased indicating significant perceived environmental benefits. 73.33% concur that HKS has increased compliance with waste management regulations.
- ❖ The livelihood aspect of recycling operations is shown by the fact that 93.33% of respondents cite revenue from the sale of recyclables as the primary economic advantage.

- ❖ Additionally, 85% of workers reported that HKS has given them a steady source of income, 83.3% stated that HKS has allowed them to provide their kids with higher education, 55% have begun saving and 35% reported their improved food security and nutrition. The fact that only 1.7% of respondents claim there is no beneficial effect indicates that HKS employment has universally improved household economic resilience and well-being.
- ❖ Every responder routinely attends meetings with panchayat authorities or supervisors, and 89.8% of them use group platforms to voice complaints, demonstrating strong organizational participation.
- ❖ Approximately 40.7% of employees have received training on their rights at work, which is encouraging but still shows room for more extensive capacity-building on labor rights and entitlements.
- ❖ The study also reveals that HKS members promote decentralized organic waste management by collecting orders and delivering inoculum to households, creating a second source of revenue and strengthening source-level treatment.
- ❖ In addition to collecting waste, HKS units participate in cleaning and volunteering programs, produce cloth bags and paper pens, and collect e-waste and old cloth, demonstrating their diverse role social and environmental development.

5.3 CONCLUSION

The study demonstrates that Haritha Karma Sena is a vital institution that integrates decentralized waste management with women-centered livelihood development in Amballoor and Mulanthuruthy panchayats. HKS provides secure employment for middle-aged and older women from low-income, mostly BPL homes. This has significantly increased their income, savings capacity, and ability to invest in children's education and basic necessities. This effort directly reduces household poverty and promotes social upliftment, especially for women who previously relied on informal employment or had no paid work. At the same time, HKS workers are the major agents of decentralized solid waste management, guaranteeing consistent door-to-door collection, high recycling rates and cleaner neighborhoods, as well as a significant decrease in illegal dumping and improved compliance with municipal waste rules and regulations. HKS is positioned at the core of regional environmental governance and circular economy practices due

to their participation in Green protocol implementation, special collection efforts, and biodegradable waste treatment services. Aligning with the general Sustainable Development Goals pertaining to cities, responsible consumption, gender equality and decent labor, Haritha Karma Sena enhances both the productive foundation of the local economy and the quality of the environment through those initiatives.

However, significant gaps exist in the ILO's Decent Work Framework. While workers have relatively high perceived job security and universal access to health insurance and training, they lack modern social protection tools such as accident compensation, pensions, paid leave and they continue to face significant occupational health risks and physical strain. Irregular user fee payments, inadequate waste segregation, and unfriendly responses from household contribute to increased emotional stress. HKS provides "good work" in terms of employment contribution and community recognition, but does not reach the standards of "decent work" that ensures safety, social security and long term livelihood. Overall, the evidence indicates that Haritha Karma Sena is a critical component of decentralized waste management and local economic development in the research area, with major benefits for both workers and their region. Improving institutional support, social security, and infrastructure can transform this promising concept into a sustainable and rights-based framework for women's work and environmental governance at the panchayat level.

5.4 RECOMMENDATIONS

1. Enhance Transport Facility: Introduce electric vehicles or motorized trolleys in wards where workers manually move heavy waste to decrease their physical strain and long-term health risks.
2. Regular Health Check-ups and Counselling: Organize health camps, medical check-ups, and vaccinations for HKS employees in partnerships with health departments. Provide counselling and stress management support to address the psychological impact of stigmatized and physically hard job.
3. Improve Household Awareness and Enforcement: Increase awareness efforts for source segregation, prompt user fee collection, and respectful treatment of HKS staff. Incentives and sanctions for household compliance with segregation and user-fee standards can reduce refusal to pay and irresponsible waste practices.

4. Introduce comprehensive and social security: Extend ESI, PF and pension/retirement benefits for HKS employees through structured schemes, potentially in collaboration with Kudumbashree and local self-governments. Provide accident insurance and paid/sick leave due of the substantial health hazards involved with waste collection and management.

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Appendix

QUESTIONNAIRE

Section 1: Demographic and Socioeconomic Background

1. Age group:
 - Below 18 years
 - 18-25 years
 - 26-35 years
 - 36-45 years
 - 46-55 years
 - Above 55 years
2. Gender:
 - Male
 - Female
 - Transgender
 - Other (specify): _____
3. Marital status:
 - Single
 - Married
 - Widowed/Divorced
4. Educational qualification (highest level completed):
 - Illiterate
 - Primary (up to Class 4)
 - Upper primary (Class 5-7)
 - Secondary (Class 8-10)
 - Higher secondary (Class 11-12)
 - Graduate or above
5. Family size (including yourself):
 - 1-2 members
 - 3-4 members

- 5-6 members
 - More than 6 members
6. Approximate size of your house (in sq ft):
- Below 500 sq ft
 - 500-1000 sq ft
 - 1000-1500 sq ft
 - Above 1500 sq ft
7. Household ration card type:
- APL (Above Poverty Line)
 - BPL (Below Poverty Line)
 - No ration card
8. Ownership of vehicles in household:
- None
 - Two-wheeler (e.g., bike/scooter)
 - Three-wheeler (e.g., auto)
 - Four-wheeler (car)
 - Multiple (specify): _____
9. Before joining HKS, what was your main occupation?
- Unemployed
 - Daily wage laborer (e.g., construction, agriculture)
 - Small trader/vendor
 - Self-employed (specify): _____
 - Other formal job (specify): _____
10. Before joining HKS, approximate monthly family income (in INR):
- Below 5,000
 - 5,000-10,000
 - 10,001-15,000
 - 15,001-20,000
 - Above 20,000
11. Years of service with HKS:
- Less than 1 year

- 1-3 years
- 4-6 years
- 7-10 years
- More than 10 years

12. Current monthly income from HKS (in INR):

- Below 5,000
- 5,000-8,000
- 8,001-10,000
- 10,001-12,000
- Above 12,000

13. Do you have any additional income sources besides HKS?

- Yes (specify): _____
- No

14. Current living conditions (house type):

- Rented House
- Own House
- Other (specify): _____

15. Access to basic amenities at home:

- Electricity: Yes / No
- Drinking water: Yes / No
- Toilet: Yes / No
- Cooking gas: Yes / No

Section 2: Challenges Faced by Members

16. What are the main challenges you face in HKS waste collection? (Rank the challenges from the most severe to less)

- Refusal to Pay User fees
- Irresponsibility in Waste Segregation
- Showing Unfriendly responses
- Low and Unstable wages
- Lack of work equipment

- Lack of Health Concerns
- Resource Constraints and Gaps in Implementation
- Other (specify): _____

17. Do you have access to social protection benefits through HKS?

- Health insurance: Yes / No
- Accident compensation: Yes / No
- Paid leave/sick leave: Yes / No
- Pension/retirement benefits: Yes / No
- Training/skill development: Yes / No

18. On a scale of 1-5, how satisfied are you with HKS job security? (1 = Very dissatisfied, 5 = Very satisfied)

- 1
- 2
- 3
- 4
- 5

Section 3: Impact of HKS on Local Economic Development

19. Approximate quantum of waste you collect daily (in kg):

- Below 50 kg
- 50-100 kg
- 101-200 kg
- 201-500 kg
- Above 500 kg

20. Extent of waste you handle for recycling (percentage of total waste collected):

- Below 20%
- 20-40%
- 41-60%
- 61-80%
- Above 80%

21. Impact of HKS on Local Government (LG)/Panchayat (select all applicable):

- Reduced waste management costs for LG
- Improved cleanliness in Amballoor/Mulanthuruthy Panchayat
- Decreased illegal dumping
- Better compliance with waste rules
- No noticeable impact
-

22. Economic benefits from recycling through HKS (select all applicable):

- Income from selling recyclables
- Jobs created in recycling chain
- Reduced landfill costs
- Revenue for panchayat from recyclables
- Other (specify): _____

23. How has HKS positively impacted your household economy?

- Increased stable income
- Better access to education for children
- Improved nutrition/food security
- Ability to save money
- No positive impact
- Other (specify): _____

24. Involvement in HKS decision-making/social dialogue:

- Regular meetings with supervisors/panchayat
- Voice grievances through union/group
- Training on rights at work
- No involvement
- Other (specify): _____

25. Open suggestion: How can HKS improve to support decent work and local development?

26. Is there any current initiative or method in HKS for collecting/handling organic waste in Amballoor/Mulanthuruthy Panchayat?

27. Are you interested in assisting households with composting organic waste at home? (e.g., providing guidance, bins, or collection support)

28. Is HKS involved in any other activities besides waste collection in your area (If Yes-specify)
