

Haritha Karma Sena and Gender Equity in Kerala's Decentralized Waste Governance: A Literature-Based Analysis

Sachu Puthuparambill Sasi

Department of Business Management & Commerce, Desh Bhagat University, Mandi, Gobindgarh, Punjab: -147301, sachups1995@gmail.com, orcid id: 0009-0005-3434-9344

Co author

Prof. (Dr.) Sukhdev Singh

Department of Business Management & Commerce, Desh Bhagat University, Mandi Gobindgarh, Punjab:-147301, orcid id: 0000-0002-6123-3356

***Corresponding author:** Sachu Puthuparambill Sasi, sachups1995@gmail.com

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Abstract

Haritha Karma Sena has emerged as one of the most visible women-led environmental efforts in the decentralised solid waste management system in Kerala. Haritha Karma Sena is an institutional initiative of Kudumbashree, Local Self Government Institutions, Haritha Keralam Mission, Suchitwa Mission and Clean Kerala Company which connects waste collection, segregation at the household level, recycling, livelihood generation, public health work, and protecting the environment. This chapter explores the question of Haritha Karma Sena as a gendered decentralized waste governance model in Kerala. The chapter, which is based on secondary literature, government reports, journal articles and project-based studies, makes the case that Haritha Karma Sena cannot only be read as a waste collection system. Instead, it is a labour system for women, a system of protection for community health and of local environmental governance. The chapter examines Haritha Karma Sena (HKS) in three interrelated aspects: gender equity, community health and environmental justice. It demonstrates how Haritha Karma Sena has helped women to be part of the paid environmental labour force, raise awareness on waste segregation, reduce unscientific disposal of waste and strengthen local waste governance. The chapter also points towards unresolved issues such as lack of infrastructure, low and irregular pay, lack of social recognition, occupational safety risks and dependence on public cooperation. The basic argument is that Haritha Karma Sena has tremendous potential to become a role model of green justice with gender sensitivity, but this potential can be realized when women waste workers are recognized as skilled service providers to the environment and supported through fair wages, safety protection, infrastructure, social dignity and voice in decision making.

Keywords: *Haritha Karma Sena, gender equity, decentralized waste governance, Kerala, women workers, Kudumbashree, community health, environmental justice, solid waste management, green work*

1. INTRODUCTION

In Kerala, solid waste management has become a huge crisis for public policy. Due to the state's high population density, high literacy rates, growing consumption patterns and urbanization of rural areas, waste management is one of the most pressing concerns for local administration and public health and for environmental protection. Waste handling can no longer be regarded merely as a technical task of collection and disposal. Now, it's a matter of local governance, behavioral change, gendered labor, participation, and environmental justice.

The decentralized waste management system in Kerala has developed out of the need to overcome the drawbacks of centralized waste disposal. According to the State of Decentralized Solid Waste Management in Kerala Report 2021 prepared by the Government of Kerala, Solid Waste Management is an important piece of the rural and urban socio-technical system, which is essential to safeguard the public health and the environment. The report also highlights that Kerala is generating over 10,000 tons of waste daily, the majority of which is biodegradable, and to that extent, source level treatment and decentralized waste management are relevant.

In this context, Haritha Karma Sena (HKS), more popularly known as waste management decentralization, is the working arm of decentralization. It is largely comprised of women workers who are linked to the Kudumbashree networks and Local Self Government Institutions. HKS members are involved in door-to-door collection of non-biodegradable waste, household level segregation, awareness generation among households and institutions, and connecting non-biodegradable waste collected and Material Collection Facilities, Resource Recovery Facilities and recycling systems. According to the Government report, the activities of the HKS are the collection, transportation, storage, segregation, processing, disposal and management of waste and it is a trained team of women entrepreneurs from Kudumbashree fold working along with Local Self Government Institutions.

In this chapter, it is suggested that Haritha Karma Sena's meaning should be seen beyond waste picking. It's not just a workforce that collects garbage from homes. It is a participatory environmental governance model for women linking waste management with gender equity, public health, community responsibility and environmental justice at the local level.

It is a chapter that also does not uncritically celebrate HKS, though. Women's involvement does not necessarily imply gender equity. Gender equity is more than work. It requires fair wages, occupational safety, dignity, recognition, social protection, and decision-making power. The undervalued nature of women's work in waste management and physical exertion which is not accompanied by proper compensation and security will make the model incomplete.

The main question addressed in this chapter is therefore:

How can Haritha Karma Sena be understood as a women-led model of decentralized waste governance, and what conditions are necessary for it to advance gender equity, community health and environmental justice in Kerala?

2. BACKGROUND OF HARITHA KARMA SENA IN KERALA

Kerala's approach to solid waste management has increasingly shifted from centralized disposal toward decentralized, source-based, and community-oriented systems. The state's decentralized solid waste management model emphasizes segregation at source, local-level processing of biodegradable waste and collection of non-biodegradable waste for recycling and further treatment. This model reduces pressure on landfill sites and attempts to make waste management a shared responsibility among households, institutions, local bodies, and waste workers.

The Government of Kerala report states that decentralized solid waste management involves segregation and processing of waste at source to the maximum extent possible and then at community level. It also notes that Material Collection Facilities and Mini-MCFs are intended to support waste storage, segregation and reduction of the drudgery of waste collectors.

Haritha Karma Sena was formed as a major field-level support system within this decentralized framework. The model brings together several institutions:

1. Local Self Government Institutions as the primary agencies for service delivery and enforcement.
2. Suchitwa Mission for technical and financial support.

3. Clean Kerala Company for commercial handling of non-biodegradable waste.
4. Kudumbashree for organizing women workers into HKS micro-enterprise units.
5. Haritha Keralam Mission for campaign, coordination, monitoring and technical-managerial support.
6. MGNREGS and Ayyankali Urban Employment Guarantee Scheme for infrastructure development support.

The Government report identifies HKS as a women-led and women-owned network of micro-enterprises formed in 2016. HKS members undertake collection from houses, institutions and other sources, perform storage and segregation at Mini-MCFs and MCFs, and encourage source-level segregation at households and institutions.

Published studies also describe HKS as a community-based initiative for waste management and environmental conservation. Nishad's study explains that HKS participates in segregation, collection, transportation, recycling, composting and disposal, while also highlighting behavior change, limited participation, infrastructure gaps and funding constraints as key challenges.

Thus, HKS is not an isolated voluntary group. It is embedded in Kerala's local governance system and functions as a bridge between environmental policy and everyday household practices.

3. METHODOLOGY: SECONDARY LITERATURE-BASED REVIEW

This chapter is based on a secondary literature-based review methodology. It is not based on new field data gathered by the author, using surveys, interviews, or observations. Rather, it revisits and meaningful interprets the already available literature on Haritha Karma Sena, decentralized governance of solid waste and gender equity and environmental justice.

The sources for this chapter are:

The State of Decentralized Solid Waste Management in Kerala Report 2021 by Government of Kerala.

- Journal articles published: Haritha Karma Sena and waste management.
- Research on HKS, Green Economy, Household Waste Management and Community Development.
- The materials include project-level items pertaining to HWMR at the household level, such as:
- Conceptual literature on gendered labor, community health, and environmental justice.

Thematic analysis is used for the chapter. The resources that have been reviewed are grouped into the following themes:

1. The decentralized waste governance system in Kerala.
2. HKS as a waste management system with women as leaders.
3. Gender equity and women's environmental labor.
4. Health & sanitation results in the community.
5. Environmental justice and fair distribution of responsibilities for waste.
6. Institutional, occupational and social challenges.

This is suitable as the aim of the chapter is not to conduct an empirical study on HKS but to gain conceptual and analytical insights about the need of HKS in Kerala's decentralized waste governance system.

Thus, the chapter's arguments are not primary empirical claims but rather literature-derived arguments. It is a difference that matters to academic honesty.

4. CONCEPTUAL FRAMEWORK

Gender Equity, Community Health and Environmental Justice

The chapter uses a three-part conceptual framework: gender equity, community health and environmental justice.

4.1 Gender Equity

Gender equity is the even and equitable distribution of livelihood, resources, recognition, safety, decision making and dignity. Gender equity is not about women working in waste management in the context of Haritha Karma Sena. Women's involvement is a first step – only. The real question is whether women workers are paid a living wage, have social respect, work protections and a say in local

governance.

HKS is gender-equity potential as it introduces women to public environmental work. It provides income, collective organization and visibility. But this potential is fragile if the pay is not good, the risk of the job is high, and the social reward is limited.

4.2 Community Health

The health of the community is the physical and environmental environment that impacts the wellness of households, neighborhoods and public spaces. Pollution, disease vectors, contamination of water resources, degradation and deterioration of soils and living environments may be a consequence of inadequate waste disposal. Through waste segregation, reduction of unscientific disposal and to encourage household participation in cleaner waste practices, HKS is helping to contribute to the community's health.

According to Nishad's study, solid waste management is crucial for environmental conservation and public health as failure to manage solid waste can result in pollution, health hazards and environmental degradation.

4.3 Environmental Justice

Environmental justice is about equal sharing of environment benefits and burdens. For waste governance, the question is: who creates waste? Who handles it? Who is responsible for the management of it? Who is at risk for health problems? Who is rewarded and paid for restoring the environment?

With the HKS model, environmental justice means that households should not dump the burden of waste care onto women workers. Respecting workers and paying user fees, household waste to be separated. Infrastructure, equipment and timely payments provided by local bodies. Women workers should be given dignity, safety and proper salary.

With this framework, the chapter can now consider HKS as a waste service as well as a gendered environmental justice framework.

5. Haritha Karma Sena and Gender Equity

Haritha Karma Sena is significant because it places women at the centre of decentralized environmental governance. HKS members are largely drawn from Kudumbashree networks and organized as micro-enterprise units. This institutional design links women's collective organization with environmental service delivery.

The gender-equity value of HKS can be identified in four major ways.

First, HKS generates livelihoods for women. Waste management is labor intensive and the Government report acknowledges that it can provide income and livelihood to those involved in collecting, storing, segregating, processing and recycling waste.

Secondly, HKS gives women a greater voice in the public sphere. Women workers have the access to the neighborhoods, institutions and public waste system as environmental service providers. Their work is not limited to the domestic sphere, but rather includes technical assistance, public relations, community education, and interaction with the community on matters of governance.

Third, collective agency of women is strengthened with the help of HKS. HKS groups are not just individual laborers but are organized collectives of laborers thus functioning as micro-enterprises. This opens room for negotiating, peer support, financial support and local development processes.

Fourth, HKS links women's work with sustainable development. Women are at the heart of waste reduction, recycling, segregation and environmental awareness. A study on community development through HKS mentions women members as service providers and agents of social change in the society as they do door to door collection and educating households and promoting proper segregation.

However, the gender-equity argument needs to be carefully drawn. It would be foolish to say that women are automatically empowered by HKS. Having a job is no guarantee of empowerment. Unless women are paid fairly and accorded proper protection and/or social integration, the model can result in gendered inequality being reproduced in the guise of empowerment.

Remuneration and working conditions are a subject of discussion in the Government report and indirectly raise this concern. It states that HKS income is user fees, institutional fees, non-biodegradable waste sales revenue and other revenue and also irregular crediting of sale revenue to HKS accounts by many LSGIs. This is relevant because without a guaranteed income, women's empowerment will not be sustained.

So, it is important to think of HKS as a possibility of gender-equity, rather than a finished product. Its gender-equity value is that of converting the waste work to dignifying green work.

6. HARITHA KARMA SENA AND COMMUNITY HEALTH

Waste management ties to community health. Mosquitoes, rodents and insects can breed in unmanaged waste; unmanaged waste can pollute water bodies, cause odors, and can impede drainage, which can leave neighborhoods unsafe. Waste segregation, collection and disposal are therefore not just environmental acts and should be considered as public health interventions.

Haritha Karma Sena is supporting the health of the community from the household level. It promotes household waste segregation, and pickup of non-biodegradable waste along with a circular economy and a minimized risk of open dumping. According to Nishad's study, some of the important activities that the members of the HKS do are awareness campaigns, cleanliness drives, support for waste segregation and promotion of composting.

The household based study on HKS in Ernakulam points out that the activities involved in HKS waste disposal are segregation, collection, transportation, recycling, composting and disposal. The same study points out that the lack of proper waste disposal contributes to pollution and health risks, as well as environmental degradation.

Behavioural change is another way in which HKS is helping to promote health. The failure of the waste management systems can be attributed to the failure of households in segregating the waste or disposing the waste irresponsibly. The members of the HKS serve as communicators between the local bodies and residents. They assist in the interpretation of the rules regarding waste, into a practice of everyday life in the house. This educational role is important as public health improvement is not only infrastructure but is also based on the consistency of behaviour.

But the notion of community health cannot be limited to the domestic level. Community health is also about the health of HKS workers. When workers come in contact with unsafe waste, sharp objects, sanitary waste, biomedical waste or social hostility, then the model improves the cleanliness of the community by transferring the health risk to the woman workers. It is not a fair representation of public health.

Therefore, a gender-sensitive understanding of community health must include both:

- Health benefits to the community from cleaner environments.
- Health protection for HKS workers who perform waste labour.

7. Haritha Karma Sena and Environmental Justice

Haritha Karma Sena helps to promote environmental justice through decentralization of waste management, making it more visible and participatory. In a centralized waste system waste is generally transported from where it was generated and disposed of in a different place, thus imposing environmental costs on communities near the landfill site. Kerala's decentralized strategy aims to mitigate the injustice, with its focus on source separation, local storage and recycling, along with the responsibility of local communities.

According to the Government report, the decentralized model of Kerala helps in minimizing the amount of waste going to landfill sites through biodegradable waste treatment and collection of the non-biodegradable waste for recycling.

This has environmental implications by decreasing reliance on dumping and fostering a circular economy strategy of reduce, reuse and recycle.

HKS is an integral part of this environmental justice process as it links households to the waste management chain. The household visits and waste collection and promotion of waste separation makes waste responsibility visible. It is a reminder to communities that waste is not "out of sight, out of mind" once it is disposed of, it must be sorted, handled, stored, transported and processed.

Meanwhile, HKS exposes a big environmental justice paradox. Waste is produced by households but the physical and social burden of dealing with waste falls mainly on the shoulders of HKS workers. Proper segregation of waste, refuse fee payment and disrespect towards workers create an unfair burden on women workers.

Thus, environmental justice in the HKS model depends on four conditions:

- Household responsibility through segregation and user-fee payment.
- Institutional accountability through infrastructure, safety equipment and timely payment.
- Worker dignity through fair treatment, social recognition and occupational protection.
- Sustainable waste chains through recycling, composting and scientific disposal.

Without these conditions, HKS remains a waste collection system but not a full environmental justice model.

8. KEY CHALLENGES

8.1 Infrastructure

One of the most critical issues regarding waste governance in the use of HKS is infrastructure. To manage waste efficiently, the following are required: Material Collection Facilities (MCF), Mini-MCF, Resource Recovery Facilities, vehicles, sorting facilities, protection gears, recycling facilities and scientific disposal facilities.

According to the Government report, MCFs are set up at LSG level for the storage and segregation of non-biodegradable waste and Mini-MCFs are planned to be set up to ease the drudgery and workload of waste collectors. But infrastructure is not evenly distributed throughout regions. Nishad's study also mentions that lack of infrastructure and funds are challenges that limit effective waste management.

The women workers are directly impacted by infrastructure failure. Without sorting spaces, or without toilets or restrooms at the MCFs, or without transport, women workers must bear the burden by doing extra work, by sacrificing comfort and safety.

8.2 Wages and Remuneration

Wage is a key element of gender equity. HKS collect a wide variety of waste and the revenue generated from users fee, institutional payments and non-biodegradable waste sale is vital for their income. The Government report lists the monetary income sources for the HKS micro-enterprises as user fees received from households and institutions, and the sale of non-biodegradable waste and buy-back of the organic waste compost. Another highlights that over 43 per cent of LSGIs failed to regularly credit sales revenue to the member's accounts with HKS.

This is no simple matter! If the income of women is not regular or sufficient, then women-led model cannot be called empowering. Remuneration must be timely and predictable, it's not just a matter of administration, it's a matter of gender justice.

8.3 Social Recognition

Socially necessary, but socially undervalued work is waste work. While workers in the HKS are engaged in environmental and public health labor, they are expected to continue to be treated, or understood, as a waste collector as opposed to a skilled environmental service provider. This lack of

recognition impacts on dignity, morales and public cooperation.

A true gender-equity strategy will have to transform the social status of HKS work. Members of the HKS should be recognized as environmental workers, contributors to public health and actors of local governance.

8.4 Occupational Safety

One of the most ignored and significant of these is occupational safety. Waste workers may come in contact with items which include sharp objects, contaminated waste, sanitary waste, plastic, glass and sometimes hazardous materials. The system puts workers at risk, if they are not wearing gloves, masks, boots, uniforms and health protection.

The Government report clearly highlights protective gear and equipment as a critical element of the HKS system and PPE kits, and safety equipment are part of the assessment system. This is a testament to the fact that safety is not a choice option for welfare. It's part of the basic institutional responsibility of the local bodies.

8.5 Public Cooperation

Cooperation from the public is essential for the effectiveness of HKS. The households are responsible for separation, timely delivery of waste, payment of user fees and treating workers with dignity. The whole decentralized system is undermined by public non-cooperation.

According to the community development study, logistical challenges and resources and sometimes resistance of unwilling communities to changes in disposal practice are issues with HKS.

This indicates that behavioural change is still at the heart of it. Responsible citizens are necessary as well as workers and institutions for waste governance.

9. DISCUSSION

Haritha Karma Sena is one of the key innovations in the decentralized system of waste management in Kerala. It links women's work to environmental sustainability, local governance and community health. It has its best impact in addressing waste management at the household level and providing livelihood opportunities for women.

The model should not, however, be idealized. A weak analysis would state that the fact women are employed means that they are empowered in HKS. A more rigorous analysis should also include questions into whether the work is justly remunerated, socially esteemed, institutionally protected and occupationally secure.

Based on the sources reviewed, it may be inferred that HKS has contributed significantly in waste segregation, awareness of recycling, household collection and local management of the environment. The Government report indicates the institutional embedding of HKS in the context of the decentralized waste management system in Kerala and journal studies indicate the aspects of awareness, collection, community participation and environmental conservation.

Meanwhile, evidence suggests that the structural weaknesses remain. However, the transformative potential of HKS is constrained by infrastructure barriers, financial constraints, lack of regular payment systems, public opposition, and/or occupational risks. These are not "teething woes. Their impact on the gender-equity and environmental justice value of the whole model.

Overall, the main idea of this chapter is:

The most effective way to understand Haritha Karma Sena is as a women-led governance system for the environment with great gender-equity potential, contingent upon the shift from waste work to dignified, protected and fairly paid green work.

This argument is more than a mere declaration of the success of the HKS model. It acknowledges contribution and contradiction.

10. POLICY SUGGESTIONS

Firstly, workers from HKS should be officially acknowledged as skilled environmental service workers. But it's not just garbage collection; their work deserves that much. They conduct environmental

education, waste separation assistance, public health and local governance activities.

Secondly, stable and equitable remuneration should be ensured. There is a need to increase the collection through user fees, while also protecting workers' income against household failure to pay. Local bodies need to ensure prompt transfer of revenue from waste sale and gap funding, if required.

Thirdly, there is a need for ensuring occupational safety. Each worker in HKS should be provided with gloves, masks, boots, uniform, protection clothing, vaccination support, health check-up and insurance coverage.

Fourthly, the upgrading of Material Collection Facilities and Mini-MCFs should be done. Basic things like toilets, washrooms, drinking water, rest areas, ventilation, storage space and sorting facilities are essential, particularly as the workforce is predominantly female.

Fifth, it is necessary to add respect for HKS workers to the public awareness campaigns. Household need to understand segregation, paying user fees and respectful behaviour is a civic responsibility.

Sixth, Members of the HKS should participate in local planning and review meetings. The feminine model should not only be operated by women, but also be made to have decision-making voice.

Seventh, future research needs to gather primary data from the HKS workers, households, officials of local bodies and health workers to test the claims of this chapter. If you are able to use your later survey to create an empirical research paper, this can help strengthen this chapter.

11. CONCLUSION

Haritha Karma Sena is one of Kerala's most significant experiments in decentralized, women-led waste governance. It connects waste management with household responsibility, women's livelihood, public health and environmental sustainability. Its members perform work that is essential for cleaner neighborhoods, reduced unscientific disposal and stronger local environmental governance.

This chapter has argued that Haritha Karma Sena should be analyzed beyond waste collection. It is a gendered environmental governance system. It gives women a public role in sustainability, but the quality of that role depends on wages, safety, recognition and institutional support.

The chapter concludes that HKS has the potential to become a model of gender-sensitive environmental justice. However, that potential is not automatic. It requires the state, local bodies and communities to treat HKS members not as low-paid waste collectors, but as skilled environmental workers and public health contributors.

The future strength of Haritha Karma Sena will depend on whether Kerala can combine decentralized waste management with decent green work, gender equity and shared environmental responsibility.

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