

# ROLE OF HARITHA KARMA SENA (HKS) WORKERS AS WOMEN INFORMAL SECTOR WASTE MANAGEMENT WORKERS IN URBAN LOCAL BODIES OF KERALA A SOCIO ECONOMIC AND LIVELIHOOD STUDY

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## ABSTRACT

*Haritha Karma Sena (HKS) is a latest entity in the informal sector occupation of Kerala in the solid waste management sector. The relevance of waste management in circular economy is getting sectoral importance now a days. In addressing environmental protection also waste management plays a vital role. The contribution in keeping the earth and environment clean is critical for a natural environment protection drive. But there are many road blocks in the end to end chain. The present study is an attempt to study the role, significance, issues, challenges and causative factors women face as Solid Waste Management (SWM) workers in urban Kerala. Whether the HKS system under the Kudumbashree Mission, the world's largest women empowerment initiative, is functioning satisfactorily or not is discussed here with strengths and weaknesses. The study shows that there is a shortage of nearly 10000 HKS workers in Kerala. It is an employment provider for the poor and vulnerable women by engaging in different stages of waste management. More job opportunities can be generated by giving thrust to recycling and value addition as part of the circular economy chain related to waste management. The social acceptance and recognition bestowed on HKS women also seems below expectation. They were not immune to the Covid-19 pandemic period and underwent financial crisis and debt traps. There is no steady income to them. A minority have psycho-social issues like stress, anxiety and personality disorders. However, their contribution to the sector is remarkable. Trade unionism is yet to emerge. However, there is an upward graph in their total strength which is hopeful. The discriminatory outlook of public needs debunking. The HKS system needs legs up initiatives with the support of the government. In addition to the current system analysis, the way forward is also suggested to overcome the challenges and issues.*

**Keywords:** Circular economy, Haritha Karma Sena, Informal Sector, Livelihood, Recycling, Social security

## INTRODUCTION

Waste management is a global concern and plays a key role in the day to day life of each and every citizen however considered as a challenge, threat or menace by different sections of the society. It is a resource for the rag pickers, itinerant buyers and scrap vendors who are in the fore front of waste

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management. It has a significant position to play in circular economy through hygienic handling with no harm on environment (recycling and value addition). Understanding the social responsibility and future scope, the Government of Kerala is planning to start recycling parks for promoting recycling of various items of the wastes that are usually disposed off unscientifically.

There are no significant studies related to the functioning of waste management workers at Urban Local Body (ULB) level by government, private agencies or NGOs. So, there is an urgent need to study the pros and cons or strengths and weaknesses of the system in detail. Local Bodies, especially Urban local bodies are cardinal in Indian earth and that is why the 72 to 74<sup>th</sup> amendment of Indian Constitution had taken place (Pandey 2020). In exercise of the powers conferred by section 3,6 and 25 of the Environment (Protection) Act 1986 (The Environment (Protection) Act 1986) and in supersession of the SWM Handling Rules 2000, the Ministry of Environment, Forest and Climate Change, Government of India introduced the Solid Waste Management Rules (SWM Rules) 2016 on 8<sup>th</sup> April 2016. As per the Rules (Solid Waste Management Rules 2016), Solid Waste means and includes solid or semi solid waste, sanitary waste, commercial waste, institutional waste, catering and marketing waste and other nonresidential wastes, street sweepings, silt removed or collected from the surface drains, horticulture waste, agriculture, battery waste, radioactive waste, diary waste, treated bio-medical waste excluding industrial waste, bio-medical waste and e-waste generated in the area under the local authorities and other entities mentioned in rule 2.

The Solid Waste Management Rules 2016 introduced by Government of India in tune with The Environment Protection Act (1986), give stress on integrated and scientific management of solid waste and mandates to integrate informal sector workers in SWM activities unequivocally in addition to stipulating time frame for each and every stakeholder to comply. In tune with the direction, Local Self-Government Department (LSGD), Government of Kerala decided to introduce the HKS system in the state by positioning informal sector women workers in the forefront for SWM. The present socio-economic status of the SWM workers is tried here to be brought to light. The key challenges and issues faced by them needed to be identified and suggestions also to be put forward to overcome the same. The legal backing, welfare measures and social security were looked into. The saving, income and expenditure pattern are assessed in view of the poverty standards. Being the informal sector a cushion for absorbing more unemployed people, it needs strategic attention. So, the present position of SWM sector as an employment provider is also assessed. Whether any social stigma is existing, whether they are part and parcel of the fabric of the society are also explored.

For the HKS members it is a noted livelihood activity. Livelihood is a means of securing the necessities of life. For Chambers, 'Livelihood' comprises of the capabilities, assets (both material and social), resources and activities required for a means of living (Emmanuel K. A, (2000)). Moreover, livelihood approach is one among the three poverty reduction strategies. Empowerment approach and skill development/ capacity building are the other

two approaches. SWM is now considered as an occupation. 'Occupation' is a regular activity of an individual, which implies payment or remuneration. Livelihood protection is a right embodied in Article 19.1. (g) of the Constitution of India (Right to work). It includes Right to life also (Article 21). In many leading decisions of the Honorable Supreme Court of India, it was reiterated again and again on the need to protect the livelihood right of citizens. So, livelihood should emerge as an entitlement whether it is for HKS or others.

'Waste Management Workers' mean those informal sector workers involved in the collection, segregation, transportation and processing of waste. It can be domestic degradable waste, paper, plastic, metal, Construction and Demolition (C&D) waste, medical waste, or any other form of waste. There are individual as well as institutions functioning in this sector. Rag picker is a person who collects scrap from streets, building or other premises and lives out of the value received from selling these items. They are otherwise known as waste collector or 'Line Workers' are in the lowest category in this sector. Itinerant buyers are also part of the system.

Haritha Karma Sena (HKS) is one of the waste management sector workers coming under the informal sector because their services are not covered under legal contracts. Hence, they are unprotected or meagerly protected. But as it is functioning as a micro enterprise of Kudumbashree and under the control of urban local bodies they are at a semi organized level. Most of them do not have the appropriate skill, training or education to enable them to find better paid secured jobs in the formal sector. The word 'informal sector' is a contribution of the British Anthropologist, Keith Hart, (1972) through his studies in Kenya, Africa. Informal sector includes all economic units and workers who are not part of the regulated economic activities and protected employment relations (Sharit K Bhowmik (2010); Chen, (1990). Earlier there were only formal sector and other caste-based occupations in Kerala. After the industrial revolution there was a boom in the informal sector occupation due to various reasons. Shrinking of formal sector, industrial growth, piece rate job, development of new policies like liberalization, privatization, recession, demonetization etc. are some of the reasons for it.

Informal waste collector includes individuals, associations or waste traders who are involved in sorting, sale and purchase of recyclable materials. There are rag pickers or line workers seen everywhere in our day to day life who belong to this category. The role played by them in keeping the earth and environment clean is a notable one. Waste is broadly classified in to biodegradable and non-biodegradable. In Kerala, during 1990s the Kudumbashree system placed women workers to collect the biodegradable waste from households for treating or processing in centralized treatment plants. Due to operational problems and public protest the centralized plants were closed and the biodegradable waste collection of Kudumbashree under the leadership of local self-government institutions ended abruptly. As per the Rules, waste picker is a person or group of persons informally engaged in collection and recovery of reusable and recyclable solid waste from the source of waste generation-streets, bins, Material Recovery Facilities (MRF), processing and waste disposal facilities, for sale to recyclers directly or through intermediaries to earn their livelihood. In one sense the rag pickers, itinerant buyers and HKS workers belong to this category.

As per the provisions of the Solid Waste Management Rules 2016, the Government of Kerala announced the management of waste as the responsibility of the waste generator. Alternatively, private agencies emerged to collect the waste and treated in their own systems by levying charges. Meanwhile the Government took initiative to collect the non-biodegradable waste from households and institutions for disposal to recyclers. The Solid Waste Management Rules 2016 mandates ULBs to collect, treat and dispose waste. The Haritha Karma Sena was introduced to facilitate the system. The HKS was constituted in September 2017 under the Haritha Kerala Mission vide G.O. (Rt) No. 2420/2017 LSGD dated 15/07/2017 which briefs about the formation, selection, roles, and responsibilities of HKS (G.O (Rt) No. 2420/2017). Kudumbashree, Haritha Keralam Mission and Suchitwa Mission are the coordinating and monitoring agencies. They are designated as informal waste collectors. Being controlled as per the bye-laws of Urban Local Bodies, they are semi organized in nature. Bye-law is a regulatory framework notified by the local body for facilitating the implementation of the provisions of the SWM Rules effectively in their jurisdiction.

The non-degradable solid waste collected and segregated by HKS is being sold out through Clean Kerala Company Ltd, a state operated public limited company. The income obtained from the activity is distributed among the members of HKS (The Malayala Manorama Daily). Ultimately it is the only source of income of the HKS members. Scrap dealers as well as middle level scrap vendors are also purchasing waste from HKS at competitive rates in certain areas.

Currently, the waste management system in Kerala is maintained as a citizen responsibility, especially the biodegradable waste. 'My waste my responsibility' is the slogan in practice in all the urban local bodies or Local Self-Government institutions across the state (State Waste Management Policy, 2018) (G.O (P) No. 65/2018). It is to be noted that the Solid Waste Management Rules 2016 promotes house to house collection of biodegradable waste by local bodies. Unfortunately, the State of Kerala is not in tune with the Rules. The integrated management of biodegradable waste is not given priority, they are supposed to be disposed at household itself. However, while striving to develop better waste management systems, the government established institutions like Suchitwa Mission, Haritha Keralam Mission and Clean Kerala Company in order to facilitate SWM. The Haritha Karma Sena (HKS) consists of groups of women and men for waste management activities at ward or division level. Their activity or service is considered as an occupation. Occupation means a regular activity of an individual which implies payment or remuneration. It is defined as the relatively continuous pattern of activities that provide an individual a livelihood and defines their general social status (Abbasayulu, 1986).

Those self-help group members who are actively functioning in Kudumbashree units and familiar with waste management can register their unit as a Micro Enterprises (ME) unit and function as HKS or Agencies working in the field of SWM. They should sign Expression of Interest (EoI) with the ULB for establishing and functioning as HKS. Interested candidates can also be selected through an interview process by the ULB as per the instructions from the ULB Secretary. The ULB has the whole responsibility of

HKS right from their selection, orientation, monitoring and implementation. The capacity building and IEC for the HKS are to be provided by the ULB (HKS Guidelines 1). Out of the total budget outlay of the ULB, 15% can be used exclusively for sanitation and waste management which is a reasonable fund allocation. The Health Standing Committee of the ULB can place projects for utilizing this amount for various purposes. Funds can be allocated for strengthening of HKS under this head.

The diverse and paradoxical growth and development of Kerala society keeps it unique from many other states. Urbanization and diverse occupations keep mobility in employment sector. That paves way to growth and development of informal sector occupations in Kerala. The 580 km coastal belt, proximity and protection by Western Ghat, high literacy rate, higher standards of health indices etc. keep Kerala distinct and a noted model (The Malayala Manorama Daily). So, the HKS study also will bring typical findings. The National Green Tribunal (NGT) is also very keen on the SWM issue in all the states including Kerala.

### **OBJECTIVES**

The Objective of the research initiative was to find out the role or the contribution of the women Haritha Karma Sena members in the solid waste management sector of urban Kerala and to understand the socio-economic condition, their intervention as a livelihood activity for their sustenance, to understand the working environment and professionalism in carrying out functions and social welfare measures. To identify the socio-economic status, issues and challenges faced by them, causative or influencing factors as well as ways to overcome the situation were also considered. There are complaints from public as well as from the side of HKS members. How these are being sorted out. The perception of public as well as beneficiaries are also covered under the study.

### **METHODOLOGY**

The present study is primarily based on the primary data collected from field using a structured interview schedule from HKS members of 14 urban local bodies out of the 93 ULBs in the 14 districts of Kerala. Stratified systematic sampling was the method used for sampling, however, municipalities and municipal corporations were included. Information was collected from key informants from ULBs who have in-depth knowledge and experience in the study area.

An explorative cum descriptive method is followed in this study. Being no studies in this sector, it is explorative in nature. As per the records of Government of Kerala there are 5372 Haritha Karma Sena workers engaged in the 93 Urban local bodies (Suchitwa Mission Org) (87 Municipalities and 6 Municipal Corporations). From this universe a sample of 100 respondents were selected as sample for the study using stratified systematic sampling from all the districts. Stratification is used, as the list of HKS members is available. Both male and female were considered for the study. One ULB each was selected from each district using lottery method. Key informant interviews and case study were used to get an in depth understanding of the phenomena. Focus Group Discussions were also held in three regions based on their



presence in Material Recovery Facility (MRF) or Resource Recovery Facility (RRF) at different locations. Descriptive statistical analysis was also held using data analysis software-SPSS. Secondary sources were also used for reference.

**DISCUSSION AND FINDINGS**

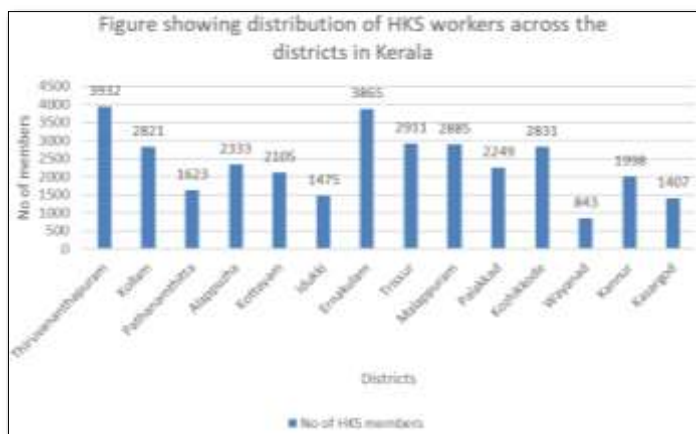
As per the Kerala Municipality Act (KMA), waste management is one of the statutory duties of Local Self-Government Institutions (LSGIs) in Kerala and hence the study is typical (The Kerala Municipality Act 1994).

For administrative purpose local self-government institutions are classified as Grama Panchayats (rural) and ULBs. The total number of local self-government institutions come to 1034 in Kerala. Out of this 941 are in rural area designated as grama panchayats. Municipalities and municipal corporations are also classified on the basis of population. Grama panchayats are functioning in rural areas and municipalities and corporations in urban areas (Urban Affairs Department Govt.in) (Table 1).

**Table 1. Showing the distribution of grama panchayats (rural) and urban local bodies.**

Sl. No.	Type of local bodies	No.	Category	Percentage
1	Grama Panchayats	941	Rural	91.0
2	Municipalities	87	Urban	9.0
3	Municipal Corporations	6		
	Total	1034		100

There are 19489 wards in Kerala distributed among 1041 LSGIs. The strength of HKS members in these wards come to 33278. The Rural share of HKS members is 27906. The user fee is fixed as Rs.50 in rural grama panchayats and Rs. 100 in ULBs. The Government of Kerala is planning to make the user fee receipt issued by LSGIs, necessary for availing services from ULBs in near future in order to strengthen user fee collection and they're by increase the income of HKS workers. For the HKS, there is a collection calendar for various waste items like e-waste January, cloth- February, glass items - March etc. (The Hindu Daily pp: 4) (Figure 1).



**Figure 1. Distribution showing the strength of HKS members in districts.**

The study mainly focused on the urban local bodies which include 87 Municipalities and 6 Municipal Corporations coming under urban Kerala. There is a total of 3527 divisions/wards in these 93 ULBs. Out of the total 5372 HKS members, 5126 are female (96%) and 26 males (4%). It is seen as a woman dominated occupation. Total strength of HKS members in Kerala comes to 33278 (The Hindu Daily).

Out of the total, 86% are in rural areas and the rest 16% are in ULBs. This covers 941 grama panchayats and 93 ULBs. As per the government norms the strength of HKs members per ward in grama panchayat is to be 2, Municipalities 5 and municipal Corporations 10 respectively. In municipalities and corporations (ULBs) the expected strength is not provided so far and shows a deficit. The role of women HKS members is very significant and notable as far as solid waste management of ULBs are concerned. Public expects more professionalism and smart work from them in addition to efficiency in service by the waste generator. Unfortunately, there are complaints from the public at large about HKS members like irregular collection, non-collection, user fee etc. User fee is a fee imposed by the ULB on the waste generator to cover full or part of the cost of providing solid waste collection, transportation, processing and disposal services as per rule 2, SWM Rules 2016 (Figure 2).

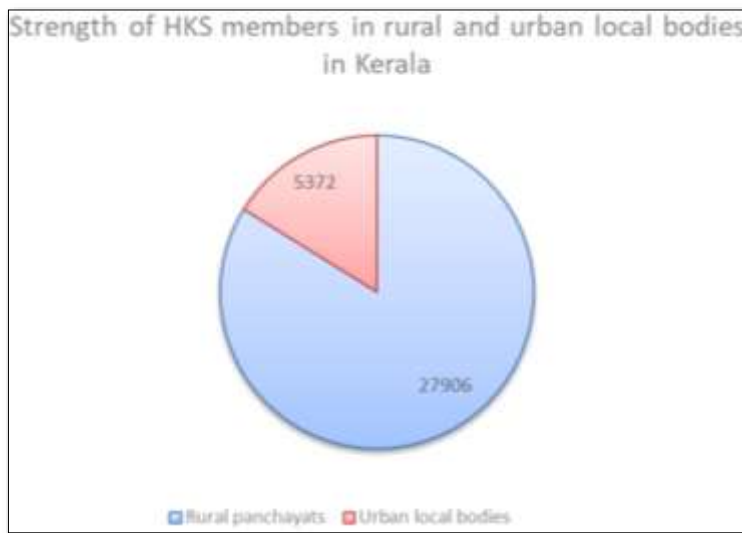


Figure 2. Distribution showing the strength of HKS members in Kerala.

The age group of HKS members ranges from 18 to 65. They are not having the privilege of Medi-claim or, other health insurance scheme. However, certain ULBs have initiated health insurance scheme under Kudumbashree. No old age pension scheme is mooted exclusively for them. Some of them are availing old age pension of Rs.1600/- per month under other schemes. Out of the 5372 HKS members there are only 26 men and hence a woman dominated occupation which attracts a stigma. A gender imbalance is noted as there are a few men members.

The waste collected from households is not weighed or quantified anywhere. Quantification, characterization and user fee needs to be linked logically. A proper database of different categories of wastes is a gap in all the ULBs which needs to be addressed (Figure 3).

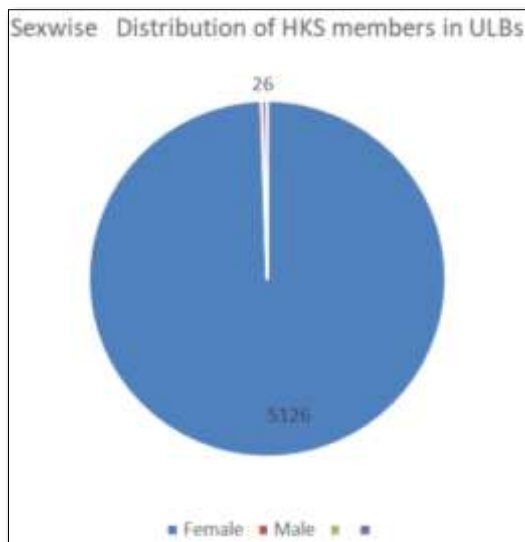


Figure 3. Distribution showing sex of HKS workers in ULBs.

Their educational profile is very weak. Most of them are just literates. No one has studied beyond 10<sup>th</sup> standard. A good majority have education below 7<sup>th</sup> standard. However, they can read and write. Deprived of other employment options they have turned to this occupation. The majority (99%) consider this as their livelihood activity. A positive peer pressure and social cohesion is among them which motivates them to work regularly (Table 2).

Table 2. The monthly income distribution of HKS members in ULBs.

Sl. No	Monthly income range	No of ULBs	Percentage
1	Below 5000	21	22.6
2	5001-10000	50	53.8
3	10001-15000	16	17.6
4	15001-20000	5	5
5	Above 20000	1	1
	Total	93	100

The average monthly income of HKS in ULBs vary from one to another depending on the number of members, periodicity of collection, efficiency of collection and the volume of user fee collected. (Quantum of work and efficiency in user fee collection). In ULBs each HKS member covers 300 households. In grama panchayats there are two HKS members per ward on an average. The HKS members are experiencing difficulty in collecting and convincing waste generators regarding user fee. The absence of proper bye-law for levying user fee and imposing fine for defaulters is a hindrance. The KM Act is also silent in this aspect. In their income also, there are ups and downs. The SWM Rules mandates creation of public awareness through Information, Education and Communication (IEC) campaigns on the waste generator on topics like-not to litter, minimize waste, reuse maximum, segregation and bin



system, wrapping of sanitary waste, handing over the waste to waste collectors and pay the user fee monthly.

Out of the 93, in 21 ULBs HKS member are earning less than Rs.5000/- per month, while in 50 ULBs they have a monthly income between Rs.5000 to 10000/-. In 16 ULBs, it is Rs.10000/- to 15000/- per month. An income of Rs.15000/- to Rs.20000/- is obtained in 5 ULBs. A reasonable amount, above Rs.20000/- is received in one ULB only (Anthur Municipality). The expenditure pattern is seen as similar to other informal sector workers. They too have savings in bank, curries, Life Insurance etc. Investment is primarily on land, dwelling unit and vehicle. Regarding job satisfaction only 65% of them are satisfied with the current job. Other 20% are not happy and the remaining 15% are not at all happy. Lack of acceptance by the households, attitude of user women, stigma related to waste and women, lack of facilities for primary needs during work, drudgery of carrying waste on shoulders etc. are the highlighted issues. Out of the 100 samples 70% is having low self-esteem. Only 30 % of them are having notable self-esteem. They are confronting alienation, social ostracization and lack of work morale. Stress, anxiety, mood disorders and personality disorders are also found among a minority (12%) of members who are highly vulnerable like widowed, physically handicapped, single and old aged. There is an absence of trade union movement among them. However, cent percent of them have political affiliation which means that they are politically sensitized. They follow the customs, traditions and cultural practices of the community as well as society. The covid-19 pandemic period experience showed that they were not immune to economic crisis. As they could not visit houses they turned income less during this period. No social assistance was provided to them other than the free food kit supplied by government to all the ration card holders. Out of the 100 respondents 56 of them are having debt in one form or other. The major reasons observed were marriage related to daughter, sickness of family members, house construction and educational expense of children. The majority, 73% belongs to backward classes including scheduled caste and tribe. Abject poverty is the root cause for turning towards this occupation. As an additional factor, the peer pressure of Kudumbashree self-help group is noted as the reason for 95%.

HKS are the major service providers of SWM in ULBs of Kerala for the past 5 years. Many ULBs adopted some IEC programs for mainstreaming the activities of HKS. Due to the lack of regular community awareness programs and ward level interventions for public outreach, the attitude of people towards the work of HKS is still not positive. Some kind of social stigma is existing. The irregular practice of waste collection, lack of knowledge level of HKS members in dealing with SWM etc. also lead to lack of public support. User fee is not incorporated as a legal entity in Kerala as per (KMA, 1994).

Interpersonal issues, nonsupport from households, intervention of itinerant vendors, scrap dealers and elected representatives at ULB level are some of the major issues. As far as the challenges are concerned, lack of vehicles for shifting collected waste, toilet facilities and rest rooms are some of the grievance of the HKS members. In common parlance they have to carry

waste on shoulders or on head. The safety gadgets usage like gloves, mask, shoes/gum boots etc. during work are not up to the desired mark.

Lack of coordination with stakeholders, positioning problems of MCF and RRF at ULBs, user fee constraints, lack of awareness among people about the program, attitude of people in handling waste, unavailability of eco-friendly alternatives for non-biodegradable products, inadequate implementation of rules related to waste management, insufficient institutional mechanism, unavailability of monitoring tools, lack of user friendly technologies for waste collection and lack of consistent remuneration are the challenges faced by HKS in the SWM sector. In order to sort out this issue, LSGD has come up with a mobile based 'Haritha Mithram' application and piloted in 47 ULBs. The results are yet to come.

The Kerala Municipality Act (KMA,1994). which covers the entire portfolio related to management and functioning of ULBs is silent about the positioning of the HKS system. Efforts are ongoing to incorporate the system in ULB level byelaws. Lack of grievance redressal mechanism regarding SWM at ULB and state level is identified as a major gap. Monitoring role of HKS system is now with the Health Standing Committee at ULB level. The system includes Health Inspectors as well as Health Supervisor/ Health Officer in addition to ULB secretary. The CDS system of Kudumbashree is also part of the monitoring mechanism, but not coming up to the expected level. A blind folded approach is observed on other sides.

In general, ULBs have no proper data regarding the waste generated, collected, disposed as well as the characteristics. Segregation at source also needs strengthening. Refuse, Reduce, Reuse and Recycle (4 R s) concept needs to be mainstreamed. At ULB level health wing is taking care of the portfolio of waste management. A dedicated team headed by an Environmental Engineer is highly essential for the scientific management. Sanitary land fill concept is yet to emerge in Kerala. Automatically any waste processing procedure will result in residuals which is to be disposed scientifically in landfills. Sanitary land filling means the final disposal of residual solid waste and inert wastes on land in a facility designed with protective measures against pollution of ground water and fugitive air, dust, wind-blown litter, bad odor, fire hazard, animal menace, pests or rodents, greenhouse gas emissions, persistent organic pollutants slope instability and erosion. There is still delay in implementing the provisions contained in the Solid Waste Management Rules 2016, promulgated by Government of India. The SWM Policy 2018 of Government of Kerala also needs revamping. The chain of activities from collection at door steps to recycling, landfill, need to be tracked on an end to end real time basis. Waste transport vehicles shall be tracked on GPS, to avoid littering and dumping in water bodies.

## FINDINGS

Poverty is a concern for the waste management workers coming under HKS system. It can be either absolute or relative. Majority of them are women and hence a woman dominated occupation. In Kerala the proportion of women is more compared to men. Their education level is very low, Similar is regarding skill set. Unemployment is also a noted concern in Kerala even

among the educated. So, for the uneducated the situation is more severe. Lack of other employment opportunities lead them to this livelihood activity.

The waste management job is not considered as part of the social fabric of the main stream of society. A stigmatized approach is there. They are confronting as lower level worker. House hold level social acceptance needs improvement. Waste quantification and characterization is not done anywhere. Quantity linked user fee is not in practice. Quantity and user fee need to be interlinked. Their earning is not sufficient to make a decent living. There are fluctuations in income seasonally. There is no steady income. They are not immune to the fluctuations of social and economic crisis. Social assistance shall be provided at such circumstances.

Selling of these wastes is a monopoly of Clean Kerala Company Ltd, a government initiated firm. No competitive sales are in practice. However, scrape vending is emerging or developing as a multi-crore's business. There are a good number of scrap dealers operating in Kerala who have no proper licensing, fire safety regulations and residual waste disposal systems. Public private Partnership (PPP) is also not in practice. Total strength of HKS members is less compared to the actual need or demand in wards at ULB level and hence need scaling up. Five each HKS members is proposed to operate in every ward in municipality and 10 each in municipal corporation. Their dropout rate is high owing to various reasons. In certain ULBs there is no bye-law and hence lacks legal backing the support systems are poor. Welfare measures are also very weak. Social security is lacking or absent. Skill trainings are also lacking. Skill training is highly necessary like operation of shredding, baling units, conveyor belt-based sorting, driving of vehicles, maintenance of waste management equipment like biogas plant, 'thumpoormuzhi' model composting unit etc.

Alternate livelihood strategy is also lacking- say collect other types of plastic, scraps and sell outside for additional income. Value addition of existing items need strengthening. Forward and backward linkages are also essential. Spot collection is nowhere introduced so far. No weighing machines are available for this purpose. Bank linkages or financial inclusion is not up to the desired mark. Micro Enterprise (ME) support of central and state government is lacking. Circular economy and value addition - concept is not built in. Marketing Training need is a gap-regarding recycling and marketing of value-added products. This is not recognized as a legal occupation even now. A waste management workers protection Act is needed or they may be enrolled as service providers under the street vendors Act.

Infrastructure support like rest rooms, toilet facilities, uniform changing rooms etc. are lacking. Recycling parks or facilities are not yet tried out in Kerala's industrial scenario. Such initiatives are highly necessary as such models are functioning well in abroad. The women domination will be misinterpreted as 'waste management is a women prone occupation'. There are chances of stigma and discrimination. This gender imbalance and the stigma that waste management is the responsibility of women, can be addressed by including more men. ULB level byelaws and operational guidelines lacking mention of HKS. ULB level monitoring and hand holding support is also lacking. Kudumbashree support is also in the same direction, ULBs are not yet

obliged to the integration of informal sector workers. Though the SWM Rules 2016 direct time bound action, unequivocally. No grievance redressal mechanism is put in practice at ULB level related to SWM.

The forward and backward linkages related to waste management is not put in practice at ULB level. They may be ascertained through Participatory Rural Appraisal (PRA) method and may be put in practice which will improve professional competency of the system.

### **SUGGESTIONS AND WAY FORWARD**

A database of waste management workers like ragpickers, itinerant buyers, scrap vendors etc. including HKS shall be created at ULB level across the state which will help in planning and policy development. As the waste workers are operating at different time interval in different days, inclusive enumeration with professionalism is very crucial. E-shram portal initiated for the enrolment of informal sector is a typical example in which more than 28.62 crore workers enrolled (e-shram.org).

Legalize HKS system as an occupation as envisaged under Article 19.1.g of Indian Constitution. A new protection and regulation Act are necessary. In tune with 19.1.g, include some provision in KMA also as amendment. Provide skill trainings through National Urban Livelihood Mission (NULM) and National Rural Livelihood Mission (NRLM). Hybrid system of collection and processing shall be introduced, both from house hold and spot based. Initiate spot collection centers for collecting waste on spot pay, based on weight and type. This will enhance collection as well as increased income. Extended Producer Responsibility (EPR) of any producer shall be implemented through an enactment. If so the scenario will change and they will also become partners in the process. Till then Corporate Social Responsibility (CSR) funds of such companies can be routed for the welfare of waste management workers.

The provisions of the SWM Rules are not fully yet complied with. The blind folded approach needs debunking. The community ownership and participatory nature of the cross section of society is critical Sustainability can be achieved through a series of rigorous interventions only. A system may be started at ULB for addressing the complaints of waste generator as well as HKS members (Grievance Redressal).

The monopoly of Clean Kerala Company is to be changed by introducing competitive bidding for sale of solid waste or through PPP. Efforts for starting recycling units or parks may be initiated. End to end monitoring of waste management is to be tracked for avoiding unhealthy practices including dumping or throw away instances of rejects. GIS mapping shall be introduced in trucks which transport waste. Biowaste management also cannot be ignored. The SWM Rules mandate household collection and processing. The thumboormuzhi, biogas plants, ring composting, vermi composting and community management facilities need to be revamped scientifically. The compost obtained from such process shall be marketed through proper channels with standard NPK fertilizer quality.

Section 10 (m) of the Rules mandates integration of informal sector waste management workers namely, waste pickers, itinerant buyers and waste

dealers. A systematic approach is needed in which online registration with subsequent verification by ULBs can be done. Introduce alternate livelihood options to stabilize income of these workers including HKS. Legalize user fee. Introduce digital payment options like google pay/Paytm under UPI. Provide Health protection including protective gadgets, identity cards, uniform etc. Introduce financial inclusion and bank linkages. Provide welfare measures including social security. Provide social assistance during economic crisis due to pandemic, calamity and emergency. Conduct community campaigns for improved social acceptance to reduce stigma and discrimination. Effective implementation and monitoring at ULB level are mandatory as the Rules mandates it as the duty of local body. Amendment of KMA in tune with the Rules 2016 is a high-end need. State Policy on SWM 2018 also need debunking.

QR coding at households and institutions has been started and tracking of waste management through a mobile based Application “Harithamithram” is progressing in selected municipalities (The Mathrubhoomi Daily pp: 13). Quantification of waste and characterization is intended through this application. This online system will ease the problem of monitoring and tracking. User fee collection can also be monitored through the application. Defaulters can be fined through proper channel. Enforcement will become more systematic and technology based. Government of Kerala is implementing the program with the support of Keltron, a public sector undertaking of government of Kerala. ULB level total quantity will be assessed based on population. Then the capacity of the existing processing facility will be ascertained and the gap will be the ultimate result. Alternate solutions will be planned and implemented for the management of the waste turned out in the gap. Innovative technologies will be used for the same including regional level sanitary landfills. The harithamithram application was introduced in 376 LSGIs during first phase. It was planned to be scaled up in 350 LSGIs. The strength of HKS needed for each ULB also can be fixed systematically based on the quantification and characterization study results.

The Kerala Scrap Dealers and Merchants Association (KSDMA) has also come up with an application “aakkrikada”, a mobile based one to interact with the public for the collection or sale of recyclable materials from households and institutions (aakkrikada.com). It is a new application available in google play store. The households can intimate any scrap dealer or vendor through the application and they will in turn collect the waste at a pre-announced price through the application. The scrap dealers are one among the organized business group in Kerala having bargaining power with government as well as local bodies. They are not supporting GST as well as licensing by Pollution Control Board and the ULBs. The guideline of Pollution Control Board is also totally ignored. However, they have expressed their willingness to purchase the waste collected by the HKS from all the ULBs at competitive rates. If so, the dumping issue at MCF and the Resource Recovery Facility (RRF) of the ULBs can be sorted out instead of avoiding the waiting time for Clean Kerala Company vehicle.

The transport vehicles or the trucks shall be managed with efficiency and GPS tracking. The HKS members shall be equipped for driving goods autos. E- vehicles or CNG autos may be provided to them for waste



transport. Now they are carrying it on shoulders or head. Hybrid vehicles can also be tried out. Automatic loading and de-loading vehicles shall be promoted. Training to HKS members can be carried out from the 10% plan fund allocated for women or from the 15% budget share earmarked for sanitation and waste management.

The issue of landfill fire coupled with smoldering at Brahmapuram, Kochi was a dreadful episode as far as the nepotism in waste management is considered in 2023. It was an incident of a fire outbreak at the windrow compost cum dump site cum waste storage center under the control of the Cochin Municipal Corporation. Bio-mining was also under way at the site to remediate the legacy waste (The Hindu Daily pp: 6). The ULB had entered in to an agreement with an external agency for bio mining. Unfortunately, the fire outbreak lead to a gas chamber effect for the people at cochin and nearby places. However, no life was lost due to this mishap. The National Green Tribunal as well as High Court of Kerala had intervened and an amicus curi system was introduced to chalk out the issue of waste management on the LSGIs of Kerala. The new High Court triggered plan is expected to produce positive results in the near future. The H.C has already asked to draw up action plans with time line to clear the mess. It was proposed to have a three-level court monitored program for the implementation of SWM Rules. The Kerala High Court was of the opinion that though Government is issuing directions to ULBs, they are not in a position to implement these directions due to various reasons (The Malayala Manorama Daily pp: 11). The Pollution Control Board is also oblivious to it.

The waste management needs a twofold approach. One is to segregate, collect and process all the waste generated until nothing is left other than the inert waste. This will need multiple stakeholders and HKS is one among them. Secondly, long term and short-term measures for waste management is there and ULBs shall resort to both of them. One of the long-term options, Landfill, is a costly affair because large area of land is needed which cannot be used for other purposes in near future as the standard operating procedures for landfill is very rigid. The solution can be two folded. One, a change in waste management policy which is in the domain of the government. The second is that the people shall become change agents for better waste management. The state should take the responsibility to protect the natural environment while concentrating on distributivism of goods and services to public at large. The HKS system can do remarkable things in this regard if the state extends its hand. The fact is that this is a poorly funded and badly managed sector which ultimately induce deep insecurity among the public as well as tourists coming to Kerala. So, the harmful human activities need to be regulated stringently. The government machinery appears to be unconcerned and incapable (The Hindu daily pp: 4). The public policy in Kerala should pivot towards conservation of natural capital resources with a focus in the carrying capacity of the earth. The public policy and political will should go beyond distributivism and encourage production which will provide employment. Approximately, 50000 new employment opportunities can be generated in this sector in Kerala in the near future. Now also the dashboard shows an upward curve. So, the coexistence of HKS members as informal sector workers along with municipal formal sanitary workers are here also



proved for waste management. Hence the structuralist theory is again proved here which reiterates the coexistence and need of formal and informal sector workers.

### **CONCLUSION**

The efforts of HKS in SWM sector is remarkable and appreciable. They can be the model for all the SWM service providers in the country like SWaCH, Pune, India's first wholly owned cooperative endeavor of self-employed waste collectors and other urban poor. The SWaCH is a membership-based organization of waste pickers and itinerant buyers started in 1993, aimed to showcase the contribution of WM workers to environment and recognize the occupation of waste management. They cover 8 lakhs households per day and recycle 70000 Tones annually. It is one of the autonomous enterprises that provides front-end-waste management services to the citizens of Pune like the HKS in Kerala. Only difference is that HKS is ULB initiated and motivated.

The HKS workers can also emerge as a woman initiated and noted model by enhancing their professional performance in a structured way at community level and can lead a blissed life. The support of public can be ensured through legal interventions, ULB level IEC initiatives and school level programs to engage general public and students in their activities to increase awareness. Proper work plan and collection mechanism can ensure user satisfaction at house hold level, ultimately increased user fee collection and improved income generation. The HKS members should be trained and engaged as Green technicians for biogas plants and composting units. Self-operated transportation system also will boost their esteem.

Kerala is very famous for welfare movements starting from Bhoothaan, abolition of Sati, untouchability, and campaigns like total literacy, total immunization, people's plan etc. All these have demonstrated and emerged as successful models. All mass movements will result in improved creativity of people, development of expertise of participants, development of voluntarism etc. For SWM also we need a campaign movement with the participation of people- a people's movement, for social transformation in waste management sector. Improvements in HKS system will ultimately result in better model solid waste management systems in Kerala. This will be a face lift for the HKS women as well as for the ULBs in Kerala.

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