KERALA SOLID WASTE MANAGEMENT PROJECT

REPORT ON CLUSTER LEVEL BASELINE DATA

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INTRODUCTION

1.1 Background

Within the planning process, it is of prime importance to collect baseline data to determine the requirements for an appropriate Solid Waste Management system and to develop comprehensive and inclusive Solid waste management plan in ULBs. The collected background information will provide the basis for the social and technological interventions. The planning process should be accomplished in participatory and comprehensive manner. Conducting an integral evaluation and collecting socio-economic information on the existing systems are the first steps of this process. These steps are followed by a comprehensive identification of the socio-economic situation as well as external factors.

1.2 Objectives

- To develop a deep understanding of the current socioeconomic profile of the waste generators, service providers, HKS, Slum dwellers and status of land-related risks
- To Collect background information to determine the requirements for an adequate Solid waste management system and to develop ULB specific comprehensive Solid waste management plan
- To ensure the inclusion of vulnerable communities in the project
- To ensure the livelihood improvement of the service providers and informal sector waste workers involved in SWM

METHODOLOGY

Sl No	Methodology	Description
1	Tool for data collection	1. Interview with service providers and ULB officials on the prescribed template for data collection 2. Focus Group Discussions at selected ULBs 3. Secondary sources
2	Selection of Nodal officers	Health Inspectors are selected as the nodal officers for coordinating the data collection at the ULB level A letter from ULBs has been received on designating health inspectors as nodal officers
3	Training to Nodal officers	Training on the template, need and scope of data collection has been given to the nodal officers and Health standing committee chairperson of 93 ULBs
4	Review meeting	Fortnightly review meeting has been conducted with ULB nodal officers on the status of data collection
5	Data collection	ULB level Data collection has been monitored by DPMC Social safeguard experts

CLUSTER LEVEL BASELINE DATA

Background: Regional SWM Facility means a waste management facility or system which receives, manages, disposes solid waste from more than one local body. Regional facilities should be developed as a part of integrated system of collection, transportation, processing/ recycling/ resource recovery and environmentally safe disposal. Planning at the cluster level greatly aids in gaining a detailed understanding of all activities occurring at various ULBs throughout the cluster. This may be helpful for efficient project planning and suitable project execution. Based on the geographic features, we divided the entire ULB into five clusters.

Clustering will be planned for:

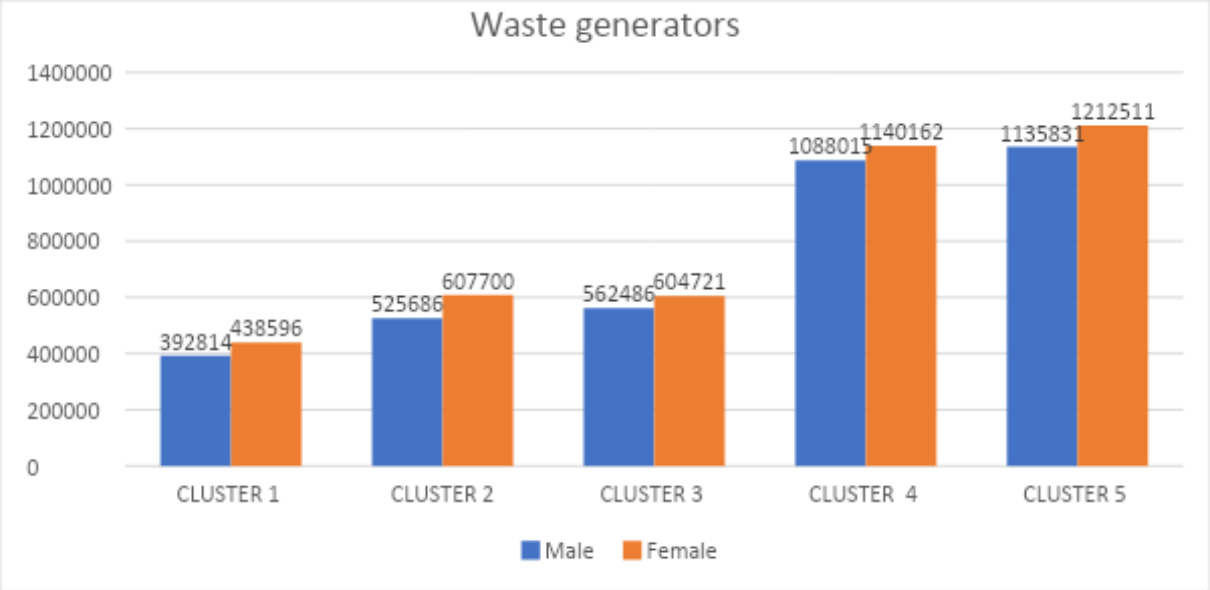
- BDW residual waste treatment
- NBDW processing- Segregation, Recycling, RDF
- C&D Waste Processing
- Bio-medical Waste Facilities
- Sanitary Landfill of Rejects
- Transfer stations for a long-distance haul

IDENTIFIED CLUSTERS

Name of Cluster	Districts Covered	Number of ULBs
Cluster 1	Kannur, Kasaragod	13
Cluster 2	Kozhikode, Wayanad	11
Cluster 3	Malappuram, Palakkad	19
Cluster 4	Thrissur, Ernakulam, Kottayam, Idukki	30
Cluster 5	Thiruvananthapuram, Kollam, Alappuzha, Pathanamthitta	20

WASTE GENERATORS

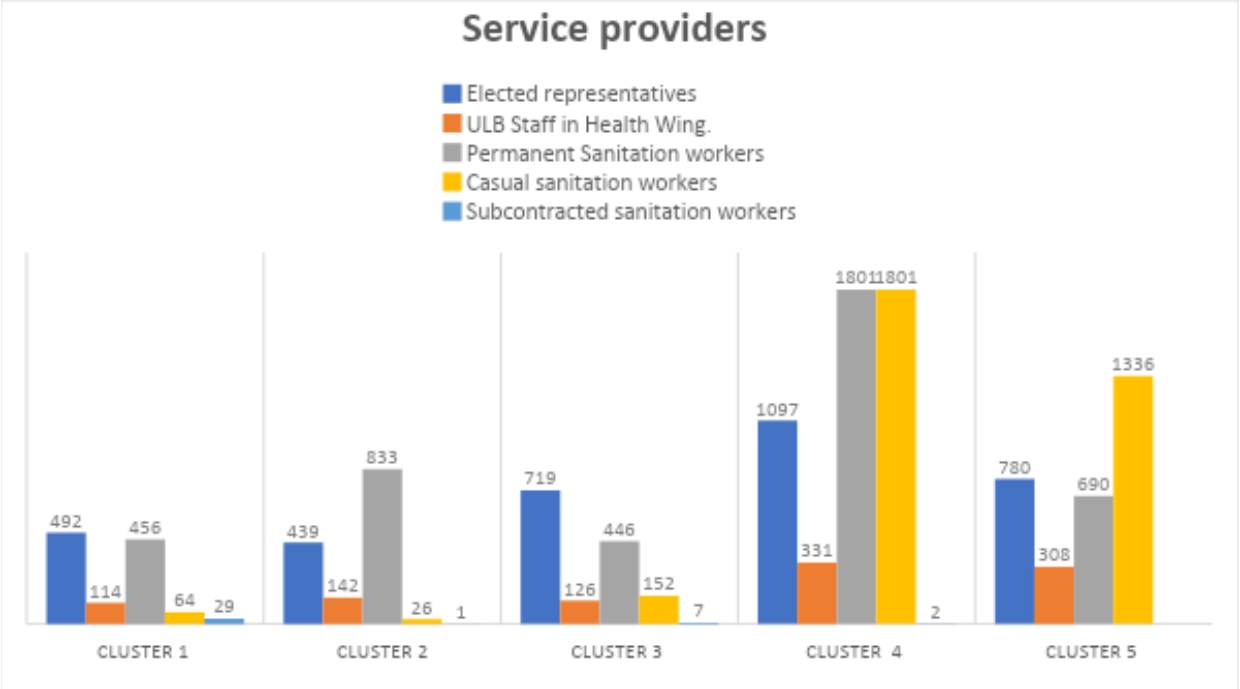
WASTE GENERATORS					
COMPONENT	CLUSTER 1	CLUSTER 2	CLUSTER 3	CLUSTER 4	CLUSTER 5
Total Population in the cluster	831410	1133386	1167207	2228177	2348342
Male	392814	525686	562486	1088015	1135831
Female	438596	607700	604721	1140162	1212511



As per the above table cluster 5 is having the highest population among all other clusters. Least population is in cluster no 1. Regarding the female population also cluster five has the highest number whereas cluster 1 has the least. The population is sequentially increasing from cluster number 1 to 5. Cluster 5, (Thiruvananthapuram, Kollam, Alappuzha, Pathanamthitta) is showing the highest population ie,2348342 along with the highest women population 1212511, and male 1135831. Cluster 4 also shows a reasonable population a little bit lower than cluster 5, i.e., a consolidated total of 2228177, along with a female population 1140162, and male 1088015 respectively. In Cluster 3, the consolidated population is 1167207 with female population 604721 and male 562486 respectively. Cluster 2 is also showing a similar total population of 1133386, with female 607700 and male population 5256 of 86 respectively.

SERVICE PROVIDERS

SERVICE PROVIDERS					
COMPONENT	CLUSTER 1	CLUSTER 2	CLUSTER 3	CLUSTER 4	CLUSTER 5
Elected representatives	492	439	719	1097	780
ULB Staff in Health Wing.	114	142	126	331	308
Permanent Sanitation workers	456	833	446	1801	690
Casual sanitation workers	64	26	152	1801	1336
Subcontracted sanitation workers	29	1	7	2	0



The above table shows the distribution of population of various stakeholders in the 5 clusters across Kerala. The Clusters 3 and 5 showing a moderate strength of 719 and 780 respectively. The strength of ULB health staff is showing high in the clusters 4 and 5, i.e., 331 and 308 respectively. The Cluster 2 is showing a moderate strength while comparing to the others, i.e., 142.The lowest number is shown in the Clusters 1 and 3, i.e., 114 and 126 respectively. The strength of permanent sanitation workers in the ULB's are showing highest in the cluster 4, i.e., 1801, and the lowest in the cluster 1 and 3 i.e., 456 and

446 respectively. The clusters 2 and 5 are showing a moderate number, i.e., 833 and 690 respectively. The strength of casual sanitation workers in the ULB'S are shown highest in the Clusters 4 and 5, i.e., 1801 and 1336 respectively2. The cluster 3 is showing a reasonable strength, i.e., 152. Subcontracted workers are highest in Cluster 1, i.e. 29. Rest of the clusters 2,3,4 and 5 are showing very low strength, i.e., 1,7,2 and 0 respectively.

LAND RELATED RISKS

LAND RELATED RISKS					
COMPONENT	**CLUSTER 1**	**CLUSTER 2**	**CLUSTER 3**	**CLUSTER 4**	**CLUSTER 5**
Area of Land required for SWM	32.21. Acres	40.15 Acres	26.15 Acres	54 Acres	16.43 Acres
HH affected land transfer/acquisition	55 Acres	60 Acres	0. Acres	2 Acres	28 Acres
Persons affected land transfer/acquisition	212Acres	350 Acres	0 Acres	10 Acres	69 Acres
HH living within 200 m	42 Acres	17 Acres	0 Acres	259 Acres	37 Acres

As per the table given above, largest land area requirement is in cluster no 4. Land requirement is lowest in cluster no 5. Regarding household-affected land, the highest percentage is in cluster no 2. No one is affected in cluster no 3. Similarly, persons affected by land acquisition are highest in cluster no 2 and not affected in cluster no 3. As far as HHs living within 200m are concerned cluster no 1 ranks first and no one is affected in cluster no 3.

VULNERABILITY MAPPING

DESCRIPTION	CLUSETR 1	CLUSTER 2	CLUSTER 3	CLUSTER 4	CLUSTER 5
Total Population	831410	1133386	1167207	2228177	2348342
SC	25460	53715	85686	142108	187750
ST	3119	17995	2333	4480	10091
OBC	452598	471254	711302	681008	1370568
Religious minorities	327147	453533	529348	582248	587622
Persons with disabilities	13964	12136	12099	36633	25645
Homeless	14036	9064	11116	16603	91425
Single Women	4701	3628	4870	65708	46885
Single Men	8521	3955	4640	75405	81717
Above 60 Years.	109882	143597	172291	254703	429377
HH living within 200 m	42	17	0	259	37
Migrant Sanitation workers	0	0	0	800	690
Subcontracted Migrant workers	13	7	0	12	0
Total Rag pickers	394	447	298	836	681

The above distribution represents the number of ST/ SC /single women/ homeless/single men/old age/people living near dumpsite/migrant sanitation workers/subcontracted migrant sanitation workers and rag pickers in ULBs. Cluster 5 shows the highest number of homeless people. In addition, single women are more common in clusters 4 and 5. Furthermore, data shows that there are significant number of disabled people in the ULBs. The data indicates the need of close observation with reference to TDF and SMF to develop the tribal action plan and livelihood development plan wherever required. During the stakeholder consultation meeting in Kalpetta, Iritty, and Sultan Bathery ULBs, we have received numerous suggestions to improve the waste management practice in tribal community. Many people suggested that more tribal members shall be included in the HKS, as well as for collecting NBD from

various tribal hamlets. There is also a need of targeted IEC in vernacular languages (tribal languages) to raise the awareness on the importance of waste management and to keep the project tribal sensitive by engaging them in all stages of the project and other SWM initiatives of the ULBs. The participation of tribal community in ward sabha meetings and planning activities are relatively low. As this project envisages livelihood support to vulnerable communities, methods should be adopted to ensure the participation of vulnerable communities from planning phase itself.

DISTRIBUTION OF RAG PICKERS AND HKS

DISTRIBUTION	CLUSTER 1	CLUSTER 2	CLUSTER 3	CLUSTER 4	CLUSTER 5
Total Population in the cluster	831410	1133386	1167207	2228177	2348342
Total Number of wards in ULBs	492	439	719	1149	728
Wards covered by HKS	492	421	684	1131	791
Number of HKS Members in ULBs	524	955	728	1673	1575
Total number of Rag pickers	394	447	298	836	681

The above table shows the distribution of rag pickers in 5 clusters registered in the ULBs. The registration was done during the time of Covid 19 outbreak. Due to the unorganized and scattered nature of the waste-picking activity, it is difficult to develop an exact database of people involved in waste-picking. Out of 2656 registered under different ULBs, 1474 are female and 1182 are male. They are collecting the waste individually and in groups. Before the functioning and establishment of HKS, ragpickers played a vital role in the waste management sector. HKS collects NBDW from households at regular intervals. In cluster 4, 65% of them are full-time workers and 35% are part-time workers.

CONCLUSION

The baseline data collected from 93 ULBs are mapped in 5 clusters according to the cluster planning based on various scientific calculations like waste quantification, transportation, availability of land, etc. The details mentioned in the report will provide a detailed understanding of the status of various service providers and waste generators in 5 clusters along with the status of vulnerable communities.