

**Affidavit to be filed before Hon. NGT in OA No: 439/2013 and OA
No 456/2013**

Status Report of Bio mining of Legacy Waste at Kureepuzha

Kollam Corporation has plotted tender on 23-10-2019 for Bio-mining of Legacy waste dumped on 2.5 Acres; M/s Zonta infratech Pvt. Ltd. has been selected as the lowest bidder. After the selection process is over the lowest bidder had visited the site and put forth a suggestion to re-verify the quantity of Legacy waste. Hence a survey team was called for by the lowest bidder and found out that there is a hike in the quantity, i.e.; there exists an additional quantity of 71,974m³ (including the legacy waste dumped on the land leased for KSIDC). The amount corporation estimated for the project was Rs.3,82,85,000; with the increase in the quantity the amount will increase to Rs.10,66,60,300/-, if the total quantity of waste is cleared there will be a threefold hike in both quantum and price. M/s. Zonta Infratech Pvt Ltd has requested to provide 25% of the contract value as mobilization advance for the newly arrived quantity and that the amount of performance guarantee (5%) to be remitted may be deducted from each of Running Amount bill at a reduced rate of 2.5% of contract value which are not in tune with the Kerala Public Works Department (PWD) manual and prevailing Government orders. As the council being the decision-making authority of Kollam Municipal Corporation, they decided to get approval from the government to sanction 25% of the contract value as mobilization advance and that the amount of performance guarantee (5%) to be remitted may be deducted from each of Running Amount bill at 2.5% of contract value; as it is a mandate to get concurrence from the State Government if any such changes as requested is to be made in the agreement. As per the decision of the council a letter for approval from the council was sent to the Government.

On 10/09/2020 Government of Kerala via letter stated that Kollam Corporation must not vary from the tender conditions and must follow the PWD manual (i.e., Security Deposit – 5%) while entering into contract with M/s Zonta infratech. As per the clarifications received from the Government of Kerala, on 11/09/2020 a letter was forwarded to M/s Zonta infratech to sign the contract agreement based on the tender conditions and to follow the PWD manual for security



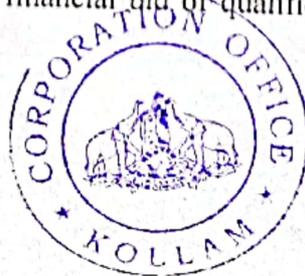

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deposit. M/s Zonta infratech reverted their unwillingness to sign the contract adhering to aforementioned tender conditions. On 25/09/2020 the above matter was put forth before the Council.

Further on 24/11/2020, a meeting chaired by Principal Secretary (urban affairs) was called to discuss the removal of legacy waste at Kureepuzha Kollam. A decision was made to render services of NIT Calicut for directing and supervising field survey for quantification of the legacy waste at Kureepuzha dumpsite. Meanwhile, Kollam Corporation received a willingness letter from NIT Calicut through director urban affairs.

On 22/12/2020, a letter from Principal Secretary to Government was received; the letter stated that Kollam Corporation must take necessary steps for re-tender immediately. Also, it was suggested that the new tender document must adhere to CVC guidelines and PWD manuals. A letter was sent to the Suchitwa Mission to prepare a new tender document, since the previous tender document was prepared by Suchitwa Mission. Suchitwa mission has scrutinized the document and returned the document back by 05/01/2021. On 06/01/2021 after incorporating the corrections made by the Suchitwa mission, Kollam Municipal Corporation has plotted tender for Bio-mining of the Legacy waste at Kureepuzha, Kollam.

On 27/01/2021, technical bid was opened; three bidders participated. i.e., Zigma global environ solutions pvt ltd., SIDCO, Socio Economic Unit Foundation. Based on the evaluation and report of the technical committee it was found that only one bidder was technically qualified. As per the PWD manual, if only one bidder is found eligible after technical evaluation then it is considered as a single bid; so, it has to be retendered. Before signing the Bio-mining agreement, Council has given approval to assess the actual quantity of Legacy Waste dumped in Kureepuzha with the technical support of NIT Calicut. On 11/02/2021 Kollam corporation has retendered the project. The Technical bid was opened on 25/02/2021; three bidders participated Viz. Zigma Global Environ solutions pvt ltd, Geethanjali environ solutions pvt ltd and socio-economic unit foundation were participated. On 01/03/2021, Technical Evaluation committee was held; the technical committee members evaluated the documents and the bidders had done a presentation before the committee members regarding their methodology. Based on the technical committee evaluation only one bidder i.e., (Zigma Global Environ Solutions Pvt Ltd) found technically qualified for the next stage. On 04/03/2021 financial bid of qualified bidder ie, Zigma Global



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Enviro solutions pvt ltd was opened. Meanwhile, on 02/03/2021, a team from NIT Calicut has conducted the drone-based survey for assessing the entire quantity of legacy waste at Kureepuzha,. As the quoted rate for the Bio-mining process by the lowest bidder is higher than the scheduled rate; a Negotiation meeting (17/3/2021) was called for by Kollam Municipal Corporation. Despite the negotiation, the negotiated rate is higher than the scheduled rate. On 22/3/21, based on the approval from council, this matter has been sent to Government for approval. In between, the survey report has been submitted by NIT Calicut and the total quantity of legacy waste at an extend of 5.5 acres is 104906m3 found accordingly.

On 7/6/2021, a letter from Government has received stating the approval of rate negotiated by Zigma Global Environ Solutions Pvt Ltd and this matter was approved by the Council on 17/6/2021. Letter of acceptance has been issued on 28/6/2021 and the agreement was signed on 10/7/2021. Work order and site handing over has been done on 12/7/2021. Schedule of Bio mining work is as follows.

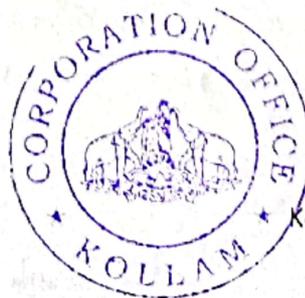


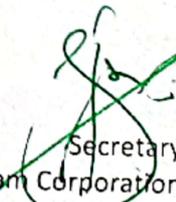

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GNATT CHART DURING CONSTRUCTION PERIOD

SN	WORK DESCRIPTION	Aug Week 1	Aug Week 2	Aug Week 3	Aug Week 4	Sep Week 1	Sep Week 2	Sep Week 3	Sep Week 4	Oct Week 1	Oct Week 2	Oct Week 3	Oct Week 4	Nov Week 1
1	Arrival of Admin Container at Site													
2	Computer & Mobile Internet													
3	35 KVA DG													
4	2 Excavator for stabilisation and site preparation													
5	Site levelling & compaction using C&D													
6	Mobilisation of Tools and tackles													
7	Materials for Temporary Shed													
8	Mobilisation of Skilled & Unskilled Resources													
9	Mobilisation & Assembly of Conveyor Structural													
10	Mobilisation, Assembly and positioning of Motors and Gearboxes													
11	Mobilisation of Trommel Structure (Trommel 1, Trommel 2 & Trommel 3)													
12	Mobilisation of Cables and Control Panel													
13	Mobilisation of Air Classifiers													
14	Positioning of Conveyors and Machinerles													
15	Cable Laying and Termination													
16	Individual Conveyor Trial Runs													
17	Weighbridge Precast & Weighbridge Structural													
18	Mechanical Separators and Trommel Screen Arrival													
19	Trial Run (Empty)													
20	Trial Run (Loaded)													
20	Commercial Run													

Note : The above projected works will be carried out as per the schedule, if there is any lockdowns or continuous rain at site this work may get delayed accordingly.




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STATUS OF SOLID WASTE MANAGEMENT IN KOLLAM CORPORATION

The Kollam Municipal Corporation (KMC) has taken imperative steps to facilitate door to door collection of non-biodegradable waste, segregation of bio-degradable and non-biodegradable waste at source, conversion of biodegradable waste into compost at source itself and proper recycle or utilisation of the non-biodegradable waste for commercial purposes.

NON-DEGRADABLE WASTE MANAGEMENT:

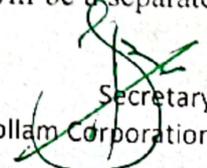
- **Facilities provided by Kollam Corporation for the effective management of non-degradable waste are as follows:**

Non-biodegradable waste collected from household and individual establishments by **Haritha Karma Sena (HKS)**, an initiative of Govt. of Kerala and LSGD. Currently 182 HKS members work across 55 wards of KMC. Number of members working per health circle ranges from 16-24. Most of the HKS members follow a monthly schedule for visit to households, although the daily working 9 Am – 5 Pm. Households are visited once in a month and Commercial establishments are visited twice in a month. Till July, user fee collected by the HKS is Rs.6900000/- . User fee collected is deposited in bank account (Micro enterprise group account) monthly, from which income is taken by HKS.

Till date, HKS status shows that they been able to visit 83% of households and 70% of commercial establishment in KMC. So HKS introduced to a more systematic work culture i.e.: Each ward was divided into clusters with each cluster having 100-120 houses. A cluster book is maintained by HKS in which the collection can be recorded. The households also given a consumer card for their record.

Micro-Enterprises groups of HKS has been registered under Kudumbasree. A single point of contact for HKS is to be made by starting an Office for HKS. It can also serve as a point of sale for eco-friendly products. Also, a helpline number and an online portal must be made functional. The income generated now is only from user fee collected. But it will not sustain for a long run as the quantity of NBW is reducing by the introduction of new Government policies. Hence other income generating activities which include biodegradable waste management, compost/fertilizer repack and selling, cloth/paper bag production, Nursery/ farming etc. must be carried out. Haritha Karma Sena is trained to repair idle biogas plants in households, there will be a separate




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fee for it. Biocomposter bins as well as the composting medium at households are being distributed by HKS as

The collected non-biodegradable waste (NBW) is stored at the collection point i.e.: material collection facilities setup at each zonal. Around 173 mini MCF is being installed in Kollam Corporation. Then it is transported to material recovery facilities at Anchalumood which is having a shredding machine and bailing machine. Shredding Unit and bailing unit run by HKS to segregate, bale and shred non-biodegradable waste. 15tonne of shredded plastics has been sold to Clean Kerala Company and 5Tonne shredded plastic has been used in road tarring works by KMC itself. Moreover, in bailing unit plastic bottles, PP cover, Milma cover etc.. Get bailed separately and sold to Clean Kerala Company for recycling. So far, 37,896.6 Kg of plastic has been sold to Clean Kerala Company and Local Scrap Dealers; and RS.3,82,731/- revenue has been generated.

As per instruction given from Suchitwa Mission, non-biodegradable waste other than plastic waste is also being collected as per calender from 55 wards. Previous month, 16 ton of glass waste was collected via collection point and sent to Clean Kerala Company for recycling. Like wise as per calender, other non-biodegradable waste will be collected throughout the year. Furthermore, 1 RRF (Resource Recovery Facility) is established and the second one is under construction each has a floor area of 5000sqft to facilitate the separation and preparation of recyclable materials for marketing to end-user manufacturers.

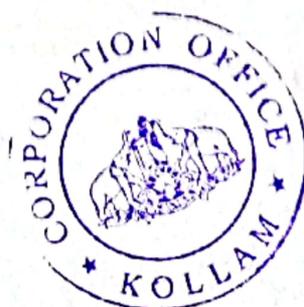
Details of non-degradable waste sold to clean Kerala Company is given below

Quantity of Non- Degradable Waste sold to Clean Kerala Company	
Glass Waste	23
TubeLight	5T
Bailed Plastic	25T
Non Bailed Plastic	10T
Shredded Plastic	20T(given to different panjayaths and municipalities for road tarring works)
Rejects and Leather Waste	27T




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Dumbed Legacy Waste	263T
Scrap	18T
TOTAL	372 Tonne handed over to clean Kerala company for recycling + 18 Tonne to local scrap dealers




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BIO-DEGRADABLE WASTE MANAGEMENT

Kollam Corporation has provided bio-degradable waste management facilities in source level like bio digesters, biogas plant, bio compost bins, pipe compost, ring compost) for treatment of biodegradable waste will be ensured at each household and commercial establishment. KMC has brought out provisions for availing subsidised bio compost bins for achieving 100% conversion of biodegradable waste at source itself. In community level Kollam Corporation has provided de-centralised treatment systems Viz, aerobic composting units, community based bio gas plants. An integrated solid waste management with a waste to energy plant of 200Tpd capacity was proposed by Government of Kerala at Kurecpuzha.

The details of the Solid Management Facilities provided by Kollam Corporation (Subsidised) as well as procured by Individuals are furnished in the table below

BIODEGRADABLE WASTE MANAGEMENT		
Treatment Facilities	No's	Quantity (TPD)
Household Level		
Biogas Plants(HH)	2100	4.2
Pipe Compost(HH)	1750	2.6
Bio composter(HH)	16627	24.94
Vermicomposting(HH)	189	0.2
Ring compost(HH)	750	1.2
Compost pit(IHH)	7025	10.50
Bucket compost(IHH)	3200	4.8
Community Level(Decentralized Facility)		
Aerobic Composting Unit	27	1.30
Biogas Plants(Community Level)	13	5.60
Informal Waste Collectors (Hotels and Chicken Stall)		25.0
Total Quantity of Bio- degradable waste treated		80.34TPD



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The total quantity of waste generated in Kollam Corporation is 112.45TPD. Of this 48.4 TPD is processed at source with the facilities provided by Kollam Corporation (Subsidized) as well as procured by Individuals (data from field survey conducted by HKS and agency deputed by KMC for Property mapping); about 6.9 TPD is processed at community level(decentralized facility) : this facility is utilized by households (especially in slum areas) who are not having enough space for installation of source level treatment facilities. 25 TPD of chicken waste and hotel waste were collected by informal waste collectors. Hence, total 80.3 TPD of biodegradable waste is treated out of 112.45TPD of solid waste.

In the financial year 2020-21 for increasing the source level treatment of bio-degradable waste, Kollam Corporation has allocated fund of Rs.4,95,00,000/- for 27500 bio composter in household level, , biogas plants(2220 no:s)- Rs.2,31,00,000/-, ; Ring compost (3018 no's- BPL families) Rs.75,45000/- . These projects are being in implementation stage, the existing gap in biodegradable waste management can be filled. Also, Kollam Corporation has allocated further fund for providing compost pits in household level (2750 no's).

An amount of Rs.8, 84 ,46,250/- has been allotted to Kollam Corporation for waste management projects from Swatch Bharat Mission (Urban) . In this Aerobic composting units (10No's), Material Collection Facilities (250 no's), Resource recovery Facility of 5000 Sq ft (1 No's), 90% of work allocated under this project is completed. Kollam Corporation has a total of 88332 households. 44514 households were, benefitted with the existing source level treatment facilities and decentralised treatment systems. For proper waste management, we had planned projects for filling the Gap of 43818 households as per the action plan. As per the directions received from Hon. National Green Tribunal, Kollam Corporation is planning to become a Zero Waste City with the implementation of the said projects and the planned projects.

With the advent of integrated solid waste management – Waste to Energy plant, Kollam Corporation is aiming to achieve the 100% management of Municipal Solid Waste. For this, Government of Kerala has selected Kureepuzha in Kollam Corporation to setup a Waste to Energy plant of 200Tpd with a Bio-Methanisation plant, Refuse Derived Fuel and a Landfill. For



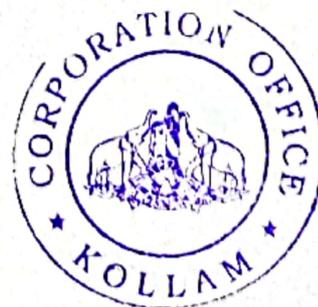
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that 7.05 acres of land in Kureepuzha were leased to KSIDC (nodal agency) and Kollam Corporation has signed the concession agreement for the same. Status of Waste to Energy Plant is given below:

STATUS OF WASTE TO ENERGY PROJECT

KSIDC has tendered for Waste to Energy Project(200tpd capacity) and on 3rd bidding process (26 Sep 2019), received bid from consortium of M/s Zonta Infratech P Ltd, M/s Zonta Bauer Pvt Ltd, M/s Ningbo Kaseen Ecology Technology Co Ltd, M/s Bauer GmbH. Financial bid of the Technically qualified bidder was opened and after 2 rounds of Financial Negotiation done, 33rd SLAC meeting approved the negotiated Tipping Fee on 07/02/2020. Govt approved the negotiated Tipping Fee of Rs 3450/ tonne on 07/03/2020.(GO (Rt) No 582/2020/LSGD dtd 14/03/2020).Concession Agreement signed on 14/10/2020 with M/s M/s Venad Waste Management Pvt Ltd , the SPV incorporated. DPR for the project approved by the Technical Committee on 30th November 2020. Processing capacity of the plant is 200 tonnes per day. Bio-degradable fraction in the MSW will be processed using bio-methanation technology and bio-gas thus generated will be sold to oil marketing companies. Inorganic fraction will be converted into RDF form and transported to nearest WtE plant.

As the site is near to the Ashtamudi lake Concessionaire has commissioned an EIA study which is mandatory and is expected to be completed in 4-5 months' time. Concessionaire to apply for statutory approvals on receipt of EIA clearance and the developmental activities of the plant is targeted by October 2021.



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