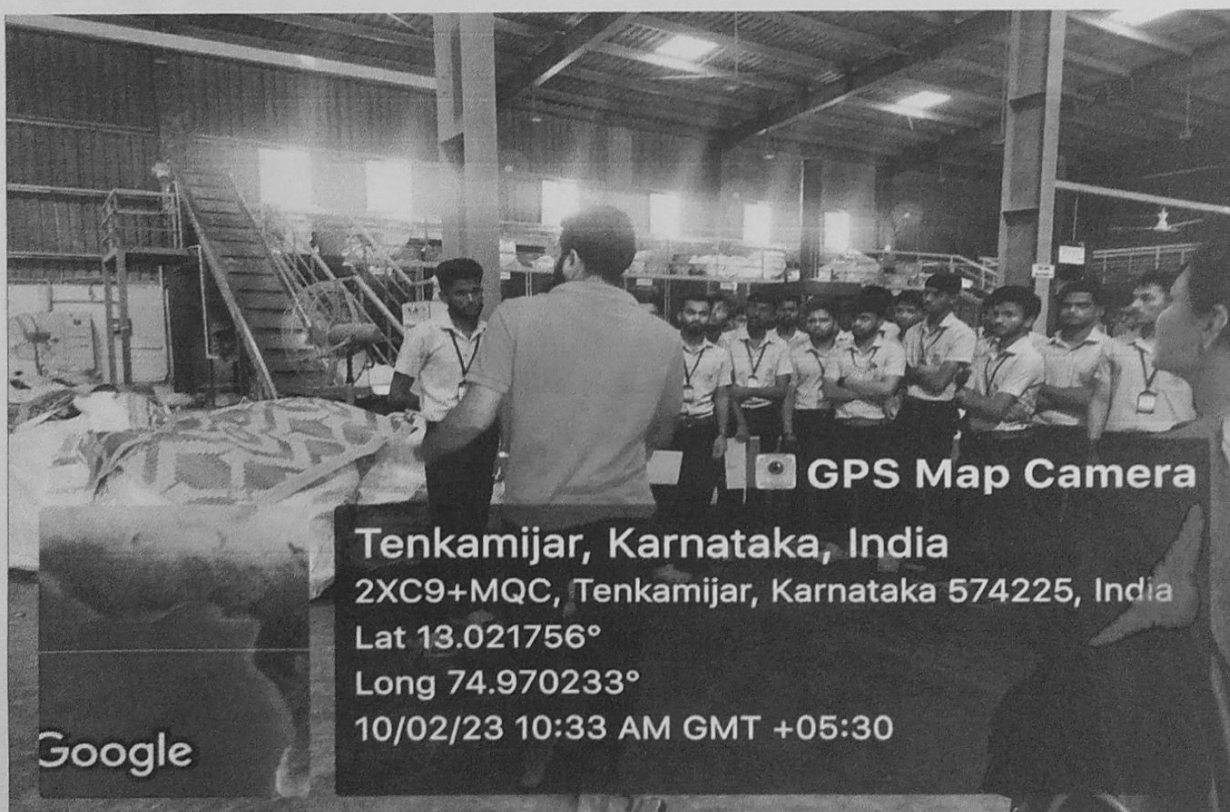


## MATERIALS RECOVERY FACILITY, NITTE

Students of ISE actively participated in Industrial visit of India's first material recovery facility (MRF) to scientifically handle and process 5 tonnes of dry waste every day. which was being set up at Nitte village in Karkala taluk by the Udupi zilla panchayat. This event is organized under **Social Connect and Responsibilities** by the Social Department of Alva's Education Foundation. Second year A section students of Information Science and Engineering from Alva's Institute Of Engineering And Technology visited on 10 february 2023 more than 66 members.



Visit is planned as part of **Social Connect And Responsibilities** subject under the guidance of subject faculty Mrs. Swapna. The supervisor has guided and explained about the MRF plant to the students. A material recovery facility (MRF) to scientifically handle and process 5 tonnes of dry waste every day. The unit is capable of deriving over 90% of resources from collected dry waste and could effectively handle the waste with minimal manpower.



The ZP plans to handle dry waste with least manpower in a centralized way for efficient handling, and recover maximum resources so as to reduce harm to the environment. It aims at enhancing manpower efficiency using simple machines, and dispatch processed waste to the final and authorized recycling center.

The project was being implemented with the sanction of the rural drinking water and sanitation department covering 42 gram panchayats in Karkala, Udupi, Kapu and Hebri taluks with technical guidance from Sahas Zero Waste Pvt. Ltd., and management by Mangala Resource Management Pvt. Ltd., Mangaluru, a three-year-old start-up. The estimated cost of the project was ₹3.2 crore. Dry waste collected door-to-door would be taken to the MRF where it would be segregated to around 30 sub-components. Recyclable baled waste would be sent to recycling units while non-recyclable waste would be sent to cement factories for co-processing.

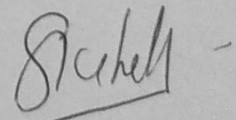
The MRF is spread over 10,000 sqft, employs 30 personnel, has storage, segregation and bailing units, an office, a security room and a rest room. A conveyor belt, bailing machine, stacker, fire safety, generator, CCTV, 70tonne capacity weighbridge and a 7-tonne capacity truck are the other components. MRF has 30 staff members including 15 personnel engaged in segregating waste at the conveyor belt and four engaged in maintaining the bailing machine. MRF has come up on a 10,000 square feet plinth area and is set up at a cost of Rs 2.5 crore.





The non-recyclable plastic was sent to cement factories which were used as a fuel for the burning furnace. So, there are some profits in this method. The most challenging waste which cannot be burned or decomposed was the E-waste which they had another alternative plan, they used to sell it the retailers which was reused in building PCB and other Electronics devices. MLP (multi-layered plastic) are categorised under non-recyclable plastics, this are sent to the cement factories as a fuel for Blast Furnace.

In the bailing process, it takes 16 huge bags to have a single compressed a single plastic bail, this would take about 15-20 minutes. LDPE (lowdensity polyethylene). This type of plastic is compressed and are sent to recycle units where they are broken to smaller units of LDPEs which can be used in making PVC pipes. Biological waste is not yet been concerned by them till date. So, this was our primary view about the field we went.

  
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