Adoption of the Nisarguna Biogas Technology- an Approach towards Decentralized Waste Management operated by Waste Pickers" in Mumbai

Municipal Corporation of Greater Mumbai (MCGM), Stree Mukti Sanghatana, Bhabha Atomic Research Centre, Waste pickers cooperatives , Institutions, Navi Mumbai Municipal Corporation (NMMC) are the main players**.** For upliftment of women waste pickers sector the Parisar Vikas Programme (PVP) was one of the initiatives started by the Stree Mukti Sanghatana (SMS) in 1998. SMS has imparted training on segregation, handling of waste, composting and maintaining - operationalizing the bio gas plant through interactive sessions with the women wastepickers, who are commonly addressed as "Parisar Bhaginis" (Neighbourhood Sisters).

Institutional approach:

- Teams of waste pickers were formed for the collection and segregation of waste and for operating the biogas units.
- Institutionalization and adoption of an innovative, locally viable technology for generation of biogas at 8 sites. Each site is managed by 1 supervisor, assisted by a team of 4 parisa bhaginis. Workers were trained in the operation and maintenance of biogas plants which were based on the Nisarguna technology

Technological approach:

- Using the Nisarguna technology developed by BARC to generate biogas and manure.
- Slurry is then sent to filter beds to recover high quality manure. Water is recycled in the plant again resulting in zero effluent system.

Outcome:

- O&M training is give on-site to workers/bhaginis. 300 groups, with 10 Parisar Bhaginis each, have been established. 200 groups are part of micro-credit enterprise. A federation of these groups has been registered as an independent organisation called 'Parisar Bhagini Vikas Sangha (PBVS) along with 6 working cooperatives.
- 100% segregation of waste at the plant to produce biogas.
- Improved recycling efficiency through market exploration and tie ups with recycling units by SMS.
- Income/ revenue generation from the sale of recyclables (Rs.100-150 per day) apart from the service fee for collecting, sorting and managing biogas plant.
- Less space required by the technology; only 50 m2 required for a plant processing 100 kg per day.
- Utilization of the end product as cooking gas fuel for both domestic and/or industrial purpose.

Overall sustainability:

The model is a self- sustaining model and has successfully demonstrated the viability of decentralized waste management as income is generated from the sale of recyclables and at many sites a service fee for collection and managing the biogas plants is charged. The initiative has helped to mainstream the marginalized population of waste pickers giving them a recognized role in the formal waste management system.

For more details contact:

1. Shri Kunte Sitaram
   Municipal Corporation of Greater Mumbai
   Mob.: +91- 9167001100
   e-mail: mc@mcgm.gov.in