

ZERO WASTE CAMPUS

DTRTI, Bangalore adopts environmentally sustainable solid waste management practices and converts its new campus into a 'zero waste campus' – another feather in its cap.

It is well known that garbage dumps are sources of poisonous gases and leachates which pollute the atmosphere and ground water for miles around, and cause land degradation. The DTRTIs, being full-time training establishments, are frequented by trainers, trainees and a large number of other visitors. Inevitably, an appreciable amount of waste material is generated in the campus. It was imperative to find environmentally sustainable solutions which will keep the DTRTI, Bangalore's prestigious new campus free of toxic and environment-unfriendly waste.

2. The DTRTI's approach to solid waste management is based on two fundamental assumptions: first, in nature there is no concept of "waste" as such, since one man's waste is another man's value; second, as earth citizens, each one of us has to take full responsibility for our actions from the point of consumption to the point of final disposal of the 'waste' generated in the process of consumption.

3. The main highlights of the solid waste management strategy adopted by the DTRTI are as follows:

- All waste is strictly segregated at source into organic (food related) and inorganic (paper, plastic, electronic). For this purpose, a system of dual dustbins has been introduced. Every room in the campus, including hostel and officers' rooms, has two dustbins, one of bamboo for inorganic waste, and the other made of steel (with a removable plastic bucket inside) for organic waste. Several large waste bins made of steel have been placed strategically across the campus to ensure a litter-free atmosphere.
- Detailed instructions are repeatedly communicated to the trainees for proper segregation of waste. Non-adherence to the disposal norms is visited with prompt action,

including monetary penalties, issue of memos, and informing the respective cadre controlling authority.

- The facility management contract awarded by the DTRTI incentivizes timely discovery by the house-keeping staff of defaults as they occur, thereby keeping the pressure on the trainees for appropriate behavioral modification.
- Plastic, paper and e-waste are stored in marked bins for monthly collection for recycling. The plastic is given to contractors with the Bangalore municipality for mixing with the tar in road projects in the city. Awareness is generated that even the tiniest piece of plastic, including chocolate wrappers, twine etc is recyclable and that there can be “wealth out of waste” (WOW). E-waste, which is much smaller in quantity, is also recycled.
- A mechanical organic waste converter has been set up in the campus to handle kitchen, dining and garden waste, which is composted using an aerobic process. The operation of the unit has been integrated with the facility management contract.
- Sanitation residues are managed through a sewage treatment plant. Treated water is used for horticulture and toilet flushing purposes. Special equipment for decomposing sanitary towels has also been experimented with successfully. In fact, the campus is not even connected to the municipal sewage lines.
- Sessions on waste management, using films and interactive learning techniques, have been included as part of life skill training for DTRTI and MSTU trainees in all long- duration courses. Exacting discipline is expected from trainees with regard to non-littering, segregation of waste at source, and hygiene maintenance.

Close partnership with the Solid Waste Management Round Table, a city based net-work, ensures technical and training support to the DTRTI's endeavours.

4. Having by now stabilized these practices at its campus, the

DTRTI has launched an 'outreach' exercise to include the 200 departmental quarters located in its close vicinity. Accordingly, it has started contact and training programs for the officials and their family members, especially the lady members, on the criticality of segregation of dry and wet and organic and inorganic waste for effective waste management. The infrastructure and tie-ups available with the DTRTI have been placed at their disposal in order to optimize the benefits from the resources and efforts already invested by the DTRTI.

5. As a result of the initiative, the new high technology enabled campus of the Institute at Jalahalli, Bangalore, has been made a 'zero waste campus' with end to end management of all solid waste generated there. The DTRTI does not contribute the least bit to the 3600 tons of daily un-segregated waste which is collected and sent by the municipal authorities to the landfills. During the six month period starting from August 2011 when the collaborative arrangement has been in place, the campus has generated 866 kg of solid waste for recycling, including 702 kg of paper, and 164 kg of plastic. Waste paper recycling has saved resources equivalent to 15 trees, 28,000 liters of water and 700 units of electricity. More than 5250 kg of organic waste has been handled. The resultant high quality compost is primarily used for the campus garden with scope for future revenue generation for the government.

6. The campus now enjoys officially certified three star-rated green status. Its efforts have been recognized for presentation as a best practice in the public sector before the Lok Adalat in Bangalore which is hearing a slew of petitions against the local government on the inadequacy of its waste management system.

7. Visitors to the DTRTI receive a smart cloth pouch in which a handful of compost generated in the campus is gifted along with the following lines:

*“What you hold in your hand is nature's living clue
It went out as waste and returned as value
Ally of nature, mark its humble origin
Giving life to earth with its power within
From dust thou art born to dust shall return
With this token from our campus this lesson we learn”.*

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