

ECO-SERVICE

ECO-SERVICE PERSONNEL



Auroville's Eco-Service is the primary waste collection and recycling operation that services all of Auroville's communities, business and service units. Eco-Service is managed and supervised on a weekly basis by Stefano at Aurodam who has carried out this task since 1992. For a 12 month period in 1999, Stefano was relieved of this duty by Mukul who managed and upgraded the service to its current operating standard.

The service operates 6 days per week and is carried out by two hardworking Tamil men, Arumugam and Narayanan. Both collectors employ younger men on a permanent basis to carry out the daily collections, and also have family members assist in sorting tasks. Eco-Service has no legal standing, and no legal agreement exists between Stefano/Mukul who comprise the management of the service on behalf of Auroville, and the collectors who perform its duties.

ECO-SERVICE OPERATIONS

Each week the collectors pick up non organic residual waste and recyclable material from the Auroville area. Arumugam works in the North and west while Narayanan works in the east and south, effectively dividing the geographic area in two parts. Collection vehicles comprise a pedal rickshaw (Arumugam) and a bullock cart (Narayanan). Arumugam is in the process of purchasing a motorised auto with a large fully enclosed tray in the near future.

At each tenement there is a designated area where mixed and separated material is stored in 75 or 200 litre plastic or steel containers. Aurovilians are charged on a *user pays basis* where a bag of unseparated material is charged at Rs 20 and a separated bag of material is charged at Rs. 10 per bag. The Eco-Service collectors purchase selected materials such as glass, paper and metal at set prices. No cash is



supposed to change hands as all transactions are carried out through the Financial Services Account.

At the end of each week the books are reconciled where the following formula is applied:

- Total monies collected for separated and unseparated material is calculated for the week.
- Half this amount is retained by Eco-Service for running costs, infrastructure improvements and system upgrades; and half is paid to the Eco-Service collectors.
- Total money debited for payment to Aurovilians for recyclable materials is calculated for the week.
- This amount is deducted from the money paid to the collectors
- Eco-Service collectors receive all money from the sale of recyclable materials on the local market, ensuring that the collection work remains profitable.



One of the ongoing problems is that there is a low level of awareness within the community of what materials are recyclable. Many of the bags that are deemed to be “separated” require re-sorting, as the materials are mixed with waste, particularly non-recyclable plastics. This results in substantial double handling, and difficulty in determining a fair charging system. The current categories of ‘separated’ and ‘non-separated’ do not provide the desired level of efficiency and quality. Those wastes, which are in fact unrecyclable, are often perceived to be fully recoverable. This does not assist Aurovilians to understand what packaging materials should be avoided.

10.3 FINANCIAL PERFORMANCE

In the financial year ending April 2000, after Mukul had restructured the financial mode of operation so it was self sufficient, the service had retained earnings of Rs 40,000.

Eco-Service generates a small surplus of funds each year, which are utilised for upgrading services and facilities. The surplus projected over the 12 month

period, beginning April 1, 2001 is estimated to be Rs 41,000¹. Eco-Service management retains half of the collection fees with the remaining 50% of the earnings retained by the Eco-Service collectors in a profit sharing arrangement.

During the same period, the collectors will have paid out Rs 30,307 to Aurovilians as payment for recyclables such as glass, newsprint and metals.

10.4 OCCUPATIONAL HEALTH AND SAFETY

India, like many other less economically developed nations where both life and labour are in ample supply, has not had the luxury to address workplace safety issues to the same extent as in the west. In the work places of economically developed countries, Occupational Health and Safety is a significant consideration in the handling and transport of hazardous and infectious municipal waste.

The collectors who carry out the collection and recycling service for Aurovilians are exposed to all the hazards associated with municipal waste collection. They do not use the standard safety equipment for their particular industry nor are they vaccinated against tetanus and Hepatitis. Current manual handling practices also pose a risk to the collectors, particularly in respect to back injuries.

10.5 MATERIALS HANDLING SYSTEMS

Materials handling systems address how materials are to be stored on site, collected, transported, sorted and sold. The system needs to be addressed more systematically in order to maximise efficiency at all points in the process chain.

Many of the community waste storage facilities are inadequate. In some places, waste is contained in steel drums that have rusted to the extent that the collectors are simply tipping the waste on the ground before placing it in bags. There exists a loose system of waste segregation, with basic bins provided for separated and unseparated material.

Eco-Service will upgrade the present system and implement a colour-coded and uniform waste storage and handling system throughout Auroville. This will be an important component of the community waste education task.

Materials handling needs to consider the following factors:

- Bins, drum or barrels need to be comfortable to handle, easy to empty and not too heavy.

¹ Based on 2000-2001 financial year data (7.5 months July 2000 – mid February 2001).

- Elimination of double handling (bag or bin exchange system)
- Bins need to be long lasting, resistant to UV light, rust and rot.
- Bins to be colour coded with clear signage on each unit.
- Bins should be affordable and easy to maintain.

The above issues are in relation to the on-site storage of materials. Eco-Service also must consider the handling of materials at the sorting and storage depots and the way that materials are then prepared for sale. The facility layout needs to minimise double handling, and improve the current handling, sorting and storage practices.

10.6 FUTURE GROWTH AND DEVELOPMENT

Auroville's Eco-Service is one of the highlights of the current SWM system. The financial restructure of the service has ensured that the enterprise will be economically sustainable over the longer term. There exists a strong level of trust between Eco-Service management and the collectors, which has developed over the past 11 years. As a result of these two essential ingredients, Eco-Service has the potential and capability to provide Auroville with a long term waste management transport and recycling service. However, in order for Eco-Service to move beyond its current level of operations, greater input and more time will be required by the managers of Eco-Service.

The management tasks for the ongoing operation and development of Eco-Service will involve the following:

- Weekly accounting of monies collected and debited, and payment of collectors.
- Supervision of collector's management of Kuilapalayam Sorting Facility and Waste Storage Facility in the Industrial Zone.
- Follow up of any complaints about the service.
- Ongoing business development, including market development, improving working conditions and materials handling infrastructure, and ongoing professionalisation of the service.
- Customer education in respect to source separation of solid wastes.
- Marketing of the role and functions of Eco-Service to the wider community
- Review of legal and liability issues
- Collection of waste data