



CLEAN-India

Community Based 3R / Waste Management *Cases from India*



George C Varughese
Development Alternatives
New Delhi



CLEAN-India

Solid waste scenario in towns and cities...



Community Led Environment Action Network

□ 4 Strategic Activities

- Assessment
- Awareness
- Action
- Advocacy

□ Waste Audits - 'R' Potential

- Home
- School
- 'Kabadi' Yards

□ Initiate Awareness & Action

- Refuse
- Reduce
- Reuse
- Recycle
- Recover



Segregation at Source – a key step

Awareness and Options



Composting Kitchen Waste



**Simple
composting**



Enzyme



**7 pot
composting**

Composting Kitchen Waste 2



Vermi-
composting

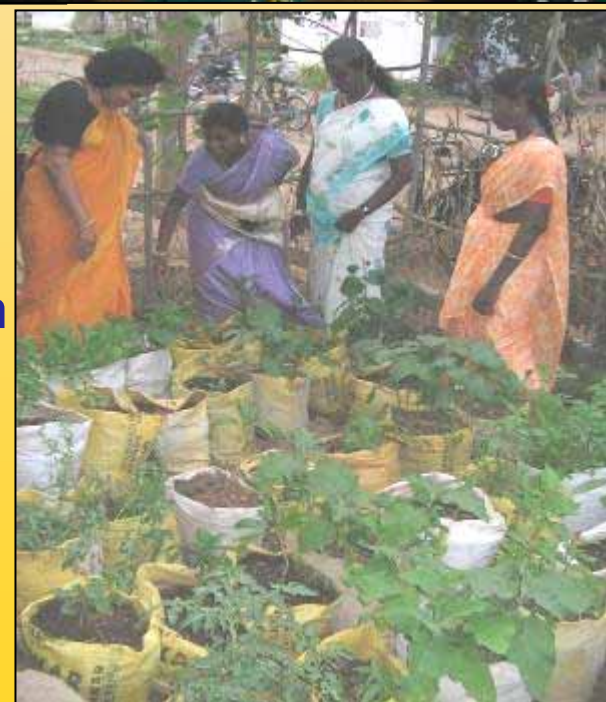


Compost to Kitchen and Terrace Gardens



City Farming – growing food on waste

- Vegetables: Brinjal, beans, tomato, radish, beetroot, lady's finger, cluster-beans, green chillies
- Flowering plants: Rose, jasmine, marigold
- Medicinal plants: Adathoda, aloe vera, ocimum sanctum, ocimum basilicum, and hibiscus



Growing Mushrooms on Kitchen Waste



Water Harvesting, Reduce & Reuse



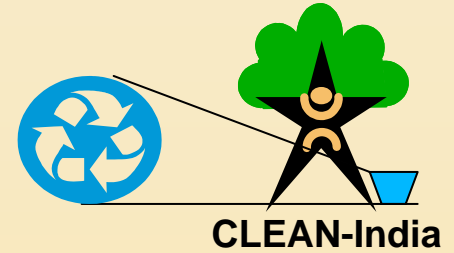
Campaign against polybags and over-packaging

Campaigns



Jute & Paper

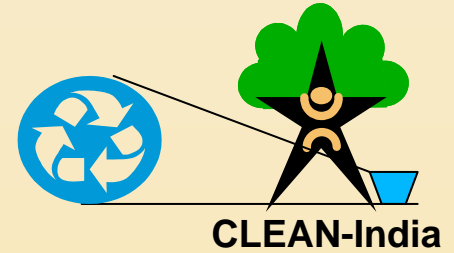
Making our own Paper



Over 400 units in schools, CSR centers, government secretariats, cantonments



Our Paper Products



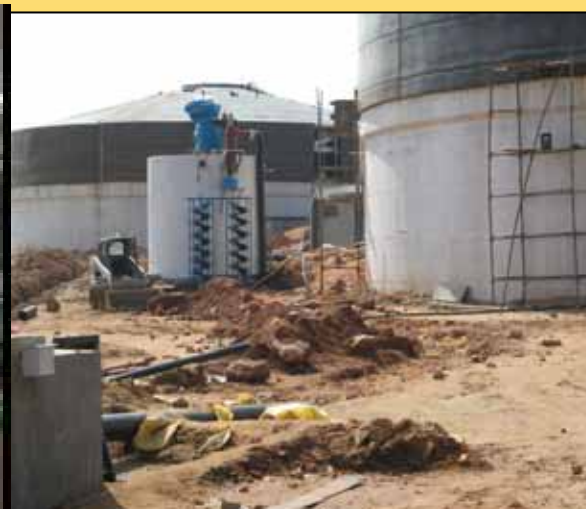
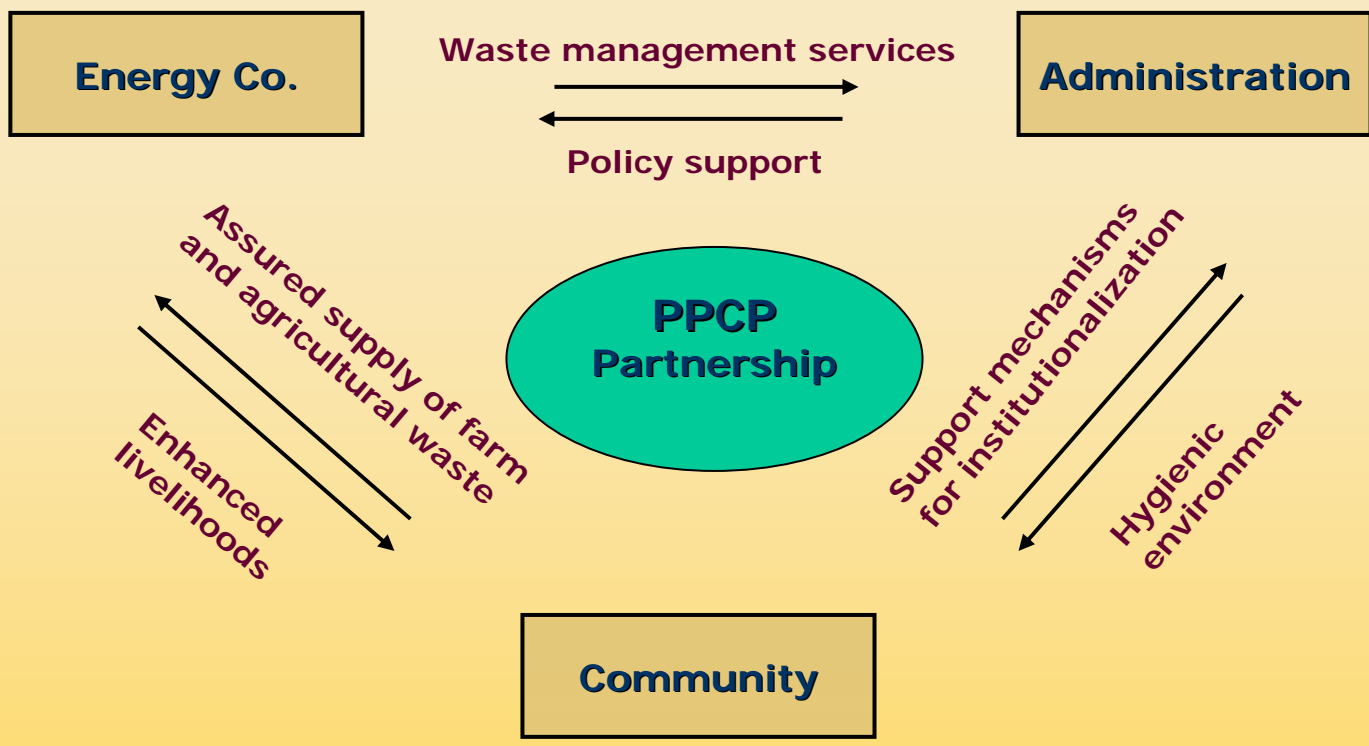
SAVE 40,000 TREES PER YEAR

- Install paper recycling plants in your offices/schools/institutions.
- Write on both sides of paper.
- Use paper to clean glass window panes.
- Use paper bags and not plastic bags.
- Make value-added products from paper/recycled paper, like file covers, greeting cards, etc.

For setting up of paper recycling units
Contact: M/S Development Alternatives, New Delhi
Ph: 26134192, 26892307



Poultry Waste to Energy



Recycled Plastic Products



Industrial Waste



Stone Dust to Concrete Blocks & Tiles



Industrial Waste

Flyash & Waste Lime to Bricks & Paving Blocks





Hazardous Waste Lead Acid Battery

- ❑ Partnering with the industry to develop voluntary environmental certification standards for lead acid battery
- ❑ Developing model for battery take-back which will help promote environmentally sound management of used lead acid batteries
- ❑ Need for modern technology with innovative institutional mechanisms

Electronic Waste



- ❑ Facilitating collection and channelization of e-waste for sound management in Bangalore
- ❑ Exploring technological, institutional and investment opportunities for improved operations in Bangalore & Delhi



Public Awareness and Advocacy





Earth Day Celebrations 2008





***“Ezhilmighu”* Namakkal – First Zero Garbage Town in India**

- ❑ first municipality in the country to privatize all components of solid waste management
- ❑ Institutionalized
 - segregation at source
 - door-to-door collection
 - vermi-compost from organic waste
 - sale of recyclable inorganic waste

Empowering and Enabling ...



Adoption of rag pickers by CLEAN-India Schools
waste is segregated,
canteen and garden waste composted,
waste paper recycled; and

the rest of the recyclables collected and given to
the rag picker by the end of the day.

He goes to the school in the morning



Thousands of *Institutes*



Thousands of *Ramus!!*