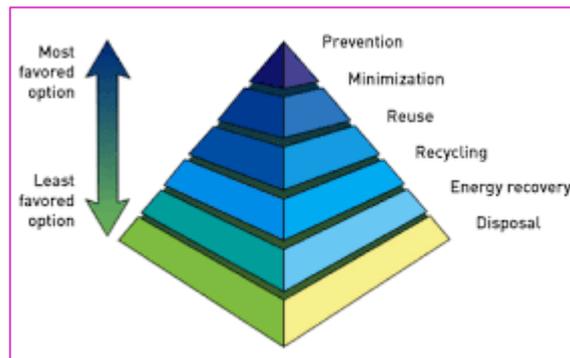


# Waste Management - Time bomb exploding silently



We raise our eyebrows to any discussion on Waste Management, not because the topic is taboo but the need is urgent and we avoid it. In India It's all to be done by Government or others and we simply remain silent or discuss on Who should do What.

We believe in clean houses, offices but the surroundings hardly matter, in fact they do matter and we tend to ignore. The waste management is a deep subject with ongoing changing requirements due to increase in waste and types of waste. Unless we shift our mindset around it, there is no success with such a big menace.

Inventions and Innovations fill up various areas of our life with new enthusiasm but the big area to be transformed is the area of Waste Management.

What has happened to us the world is turning out to be a big garbage pile and the impact is deep, when natural calamities affect us and throw back the rot to us whether it's heavy rain, flood or diseases.

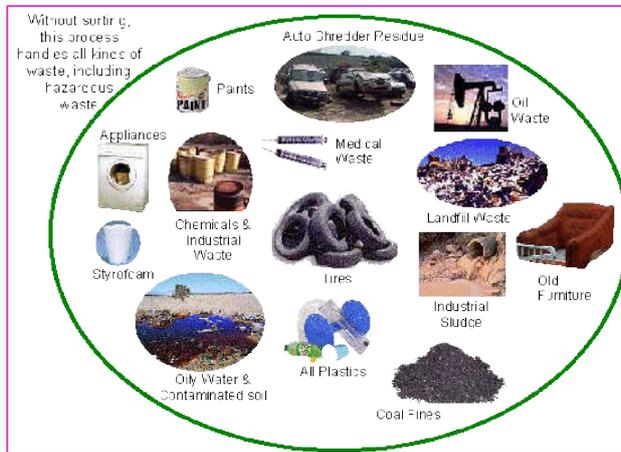
Use and throw products may look trendy and time saver but ultimately all that we are throwing out will have to be recycled, we are part of the environment and need new ideas to save it and recycle it to reduce the pollution.

Things that can be thought differently:

- Pens have become cheaper and are available at the rates of refill, pens with extra refill set which allows reuse.
- With the new vehicle models coming in and non availability of parts they are scrapped and the customer needs to buy a new one.
- Water purifiers are throwing away 3 liters of water to provide 1 liter filtered water, needs solution.
- Dry waste like leaves and paper needs better recycling.
- Toothpastes for decades are available in tubes, waiting for a refill version.

With green waste now E-waste is also a major concern for all countries. Best way of reducing general waste is building quality and tested products.

### Types of Wastes:



### Waste management is possible and urgently required.

Companies can have products that are reusable and environment friendly, and it will still attract the returning customer which is necessary for each and every business unit.

Society adapts to the products if they are well created. People can contribute to preserve environment by sharing their ideas with some companies about the observation on waste created by their products and how you think can it be solved.

### Inventions for Waste Reduction:

People who saw opportunity not only had ideas but tried their ideas, failed, created small trial versions, modified and then launched the products to market with surety of demand generation.



➤ **Water Purifier with Storage tank**, which allows the waste water to be reused appropriately. Since while the water is not good for drinking it is perfectly fine for washing clothes.



› SuryaGen Solar Water Purifier this open source solar water purifier can transform water from any source (sea, river, pond, wells, or rain water) – into potable water. This low-cost device can also provide clear drinking water in areas where the only sources are contaminated with arsenic, fluoride or sewage. The impure water is evaporated using solar energy and the vapours are condensed to pure water on a cold surface. This leaves behind bacteria, heavy metals, arsenic, fluoride and other impurities. It can effectively produce 1.5 litres of potable water from 3 litres of impure water daily.



› **Envigreen Edible Bags** created by Ashwath Hegde due to high use of plastic bags in India and its recycling problem as well as high cost. His bags look and feel like plastic but are made of natural starch (from potato and tapioca) and vegetable oils hence edible, no harm to animals if they eat them. EnviGreen's bags will naturally degrade in 180 days and if they are submerged in water they disappear in a day.



› **Self-Repairing Roads** by Nemkumar Bhantia saves waste of money, efforts and time, has greater longevity and mainly adds to the comfort of travelers. Built using ultra high-strength concrete and special fibers, the first self repairing road using 60 % fly-ash and only 40 % cement, in Karnataka. The fibers used have a hydrophilic nano-coating, which attract water in the event of rains, which is a key component in healing cracks.



› **Samit** and Priya Choksi's product **Ultra Chaata**, a patented system that smartly converges rainwater harvesting and generation of renewable energy for open spaces in smart cities, industries, or large campuses. A single unit of Ultra Chaata can help you harvest up to 100,000 litres of water and capture energy with maximum peak power of 1.5 Kw. It also works as a solar electricity generation system to provide lighting at night and charge devices.

It is also IoT (Internet of Things)-enabled, to collect useful environmental data.



› **Low-Cost Wind Turbines** of Kerala is in Top 20 Cleantech Innovations in India, has come up with a low-cost wind turbine that can generate enough electricity to power an entire house for a lifetime. The size of a ceiling fan, this wind turbine can generate 5 kWh/ kW per day and cost less than an iPhone! It's highly scalable for power capacities of 300 kW or even higher.

It is a bright idea to utilize the resources which otherwise would get wasted.

Creating an innovation culture includes creating an environment where people are trained to operate with a focus on

INNOVATION = CREATIVITY + IMPLEMENTATION

People need to be trained in all the aspects of Divergent Thinking and Convergent Thinking

**Divergent Thinking** - Creating lots of New Ideas

**Convergent Thinking** -

1. Shortlisting ideas systematically
2. Polishing and Developing the Shortlisted Ideas and
3. Creating buy in for implementation



### **Generating Ideas**

More ideas, more opportunities



### **Narrowing down ideas**

Choose the best ideas with confidence



### **Polish & fine tune ideas**

Create competitive proposals



### **Design implementation plans**

Develop a feasible road-map

The above 4 stages have their own set of methods that enable the movement from problems to ideas to implementation.

Business Consultants Inc. Japan has been helping companies across the world in creating an innovation system and innovation culture in their organizations. Indian companies can reach out to them or their partners in India.

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