PRACTICAL IMPLEMENTATION OF ZERO WASTE PRINCIPLES (INCLUDING 3R)
1 = 100000
0.3 BILLION TO 7 BILLION
Toxic chemicals in your home and body

BPA is found in 9 out of 10 Americans

Phthalates and PBDE flame retardants are found in 99% of pregnant women

232 toxic chemicals were found in umbilical cord blood for U.S. newborns

SOURCE: 2012 Environmental Defense Fund
300 contaminants have been detected in the umbilical cord blood of newborns.
Our babies are born pre-polluted.
Leach into soil, water...

Absorbed by plants, microbes, animals

End up in humans
Biomagnification through the Food Chain

Increasing concentrations of fat-soluble environmental contaminants

HIGH LEVELS

LOW LEVELS
Is this the road we are going to give them to tread their life?
IT JUST DOESN'T WORK THAT WAY....
THE SOONER WE REALISE THE BETTER

Life on this planet cannot continue like this......
Change is the only option.

Climate change... demands lifestyle change.... demands design change....
DEMANDS YOU TO CHANGE
LINKING

CONSUMERISM

CLIMATE CHANGE

Sanitation
Waist or waste .... Zero is the best
Zero Waste is a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use.

Zero Waste means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them.

Implementing Zero Waste will eliminate all discharges to land, water or air that are a threat to planetary, human, animal or plant health.
The order of importance of these R’s is as follows:
Our baby step......

GREEN PROTOCOL
MAIN PROBLEM AREAS

• Indiscriminate insinuation of disposables
WHAT CAN BE DONE?

Prevention is better than cure
2nd R - Reuse

• Take along washable cups or travel mugs instead of disposables;

• Reuse plastic and glass containers as pots for planting.

• Donate old clothes, books etc.

  Remember

“One man's trash is another man's treasure!”
Be creative.....
Recycle

• **Recycling** is a process to change *(waste)* materials into new products to prevent waste of potentially useful materials, reduce the consumption of fresh raw materials, reduce energy usage, reduce air pollution (from **incineration**) and water pollution (from **landfilling**) by reducing the need for "conventional" waste disposal, and lower **greenhouse gas** emissions as compared to plastic production.

• Bio degradable

• Non biodegradable
Recycling is a process to change (waste) materials into new products to prevent waste of potentially useful materials, reduce the consumption of fresh raw materials, reduce energy usage, reduce air pollution (from incineration) and water pollution (from landfilling) by reducing the need for "conventional" waste disposal, and lower greenhouse gas emissions as compared to plastic production.

**Bio degradable**

**Non biodegradable**

**DID YOU KNOW?** Austria has the highest recycling rate in the world, with 63% of all waste diverted from the landfill. The United States produces 25% of the world's waste. Humans have consumed more resources in the last 50 years than in all previous history. 75% of the nearly 1 billion tons of aluminium ever produced has been recycled and is still in productive use. About 1% of the urban population in developing countries (at least 15 million people) survives by salvaging recyclables from the waste stream.

*Most developing countries do not have a formal waste disposal system in place, but in many places there is a strong informal recycling sector. Waste pickers retrieve reusable materials from landfills and resell them to make a living, which benefits the environment and provides the poor with a source of income. In fact, the global recycling industry employs the largest amount of people in the world apart from the agriculture sector.*
Time
For a little game

.....

What is the recycling percentage of India?
60 %
56% by MSW Manual
OPERATIONS

THREE LEVELS:

1. RAG PICKERS AND HAWKERS:
   1. Very poor
   2. Unorganised
   3. Prefer to remain unknown
   4. Some involved in unsolicitory activities.
   5. Migrant labours too

2. SMALL SCALE RETAIL SCRAP DEALERS:
   1. Poor
   2. Outsiders

3. LARGE SCALE WHOLESALE SCRAP DEALERS:
   1. Comparatively well off.
   2. Better organised.
HOUSEHOLD LEVEL SOLID WASTE
“My Waste….
My Responsibility”
SO...

WE MAY NOT BE THE FIRST......

BUT WE DEFINITELY ARE THE LARGEST IN SHEER NUMBER

10,000 LAKH HOUSEHOLDS SO FAR ....

AND CLIMBING.....
The real environmentalists of Kerala
PHASES OF WASTE MANAGEMENT IN COUNTRIES ALL OVER THE WORLD

Minimal waste — Mindless generation — Open dumping

3R and zero waste concept — Mass burn incineration — Sanitary land-filling
REGISTRATION OF SCRAP DEALERS

• Registered and created an online inventory of 2000 scrap dealers
• Encouraged by this a lot many dry waste collection drives.
SUGGESTIONS

• First and foremost importance of creating dedicated institution building for sanitation.

• Dedicated courses for sanitation.
SUGGESTIONS

• Due reference to concepts in MSW manual?
• Due emphasis on behaviour change, lifestyle change, etc that is required for environmental and economic sustainability.
• Due emphasis on Material Recovery and Zero Waste.
• Waste management hierarchy may be prioritised and put in the beginning of the document.
• Practical suggestions for 3R and zero...
• A roadmap for the following policies
  – Waste reduction strategy
  – Reuse and Recycling policy with due recognition and inclusion of the informal (?) recycling sector.
  – Material Use policy (to prevent toxicity)
  – EPR framework
  – Zero Waste Policy
  – Recycling policy with due recognition and inclusion of the informal (?) recycling sector.
• Possibly rule out waste to energy, mass burn (which is against the MSW rules), gasification, pyrolysis, which has not been proven in Indian Context.

• If not remove, at least mention that they are the least of priorities and yet to be proven just as mentioned in the following GoI documents
  – MSW Manual
  – Task force on waste to energy (Volume -1 and Volume - 2)
Seven billion dreams.... One planet.... Consume with care