



**RECYCLING OF**  
**PACKAGED DRINKING BOTTLES**  
**(PET BOTTLES)**  
**IN INDIA**





## **BAN OF PACKAGING PLASTICS OR SOLUTION ?**

- Plastic is an integral part of day to day life of human beings.
- Plastic is used in n number of items we came across in our daily life i.e. Electronic Gadgets, Textile, Automobiles, Packaging Sector and many more.
- Plastic is Economically favorable, easy to handle and transport

### **ANY ALTERNATE ???**

THERE IS NO REASONABLE ALTERNATIVE OF THESE ITEMS AT PRESENT

NEED TO FIND EFFECTIVE WAYS OF COLLECTION & RECYCLING OF  
PACKAGING PLASTIC WITH INCLUSION OF ALL STAKE HOLDERS



## **INSTEAD OF BAN FOCUS SHOULD BE ON**

- Better collection mechanism
- Awareness among general public
- Create recycling facilities
- Remove obstacles for recycling
- Incentivize the collection and recycling of packaging plastics
- Ban only those plastics which are very very difficult to collect and recycle i.e. Gutkha Pouches





## **PACKAGED DRINKING BOTTLES IN INDIA**

- Most (More than 99%) of the packaged drinking bottles i.e. water bottles, aerated drink bottles, juice bottles, liquor bottles etc are made from PET resin in India (same material is used for producing polyester fabrics also). Only few (less than 1%) bottles are made from PVC & PC.
- In India Approx 830KT of Bottle Grade PET Resin is used for home consumption during year 2015-16 and considering 10% growth every year, consumption of pet resin during year 2018-19 would be 1100 KT approx.
- 'Factory-to-Waste Stream' time, one can conclude that PET once produced spends on an average of 10-12 months to reach the waste stream.





## **PET BOTTLE RECYCLING IN INDIA**

- Most of the waste pet bottles are used in India to produce recycle Polyester staple fiber (RPSF), which is converted in to fabrics and garments by downstream value chain.
- PRESENT INSTALLED CAPACITY OF PET RECYCLING : -
  - ✓ 700 KT – TO PRODUCE RPSF (This is organized recycling )
  - ✓ 150 KT – OTHER PRODUCTS i.e. pet straps, sheets etc (Mainly unorganized sector)
- Considering above facts it is depicted that India has more than 80% capacity to recycle pet bottle waste. These recyclers has built their own collection mechanism in unorganized manner, Which collect more than 75% of pet bottle produced for recycling. India is better placed in Asia after Japan & China in terms of collection.







# Waste Collection Mechanism





## **PET RECYCLING PROCESS**

**WE AT JB ECOTEX,**

**RECYCLING 200MT OF PET BOTTLE PER DAY EQUIVALENT TO 1.2 CR BOTTLES**

**A SMALL VIDEO OF REYCLING PROCESS.....**





## **PET BOTTLE RECYCLING PROBLEMS NEEDS TO BE ADDRESSED**

- Intense Competition with Virgin PSF – Even tax benefits of recycle polyester staple fiber is removed under GST regime.
- With different type of method to fix wrapper on bottles, recycler is not able to separate wrapper from some type of bottles. **REDUCES recyclability**
- Plant & Machineries with latest technology are not available in India, and higher import tax rates on machineries for recycling.
- RPSF is being sold on heavy discount compared to virgin PSF. While situation is reverse in European countries.







## **PET BOTTLE RECYCLING PROBLEMS NEEDS TO BE ADDRESSED**

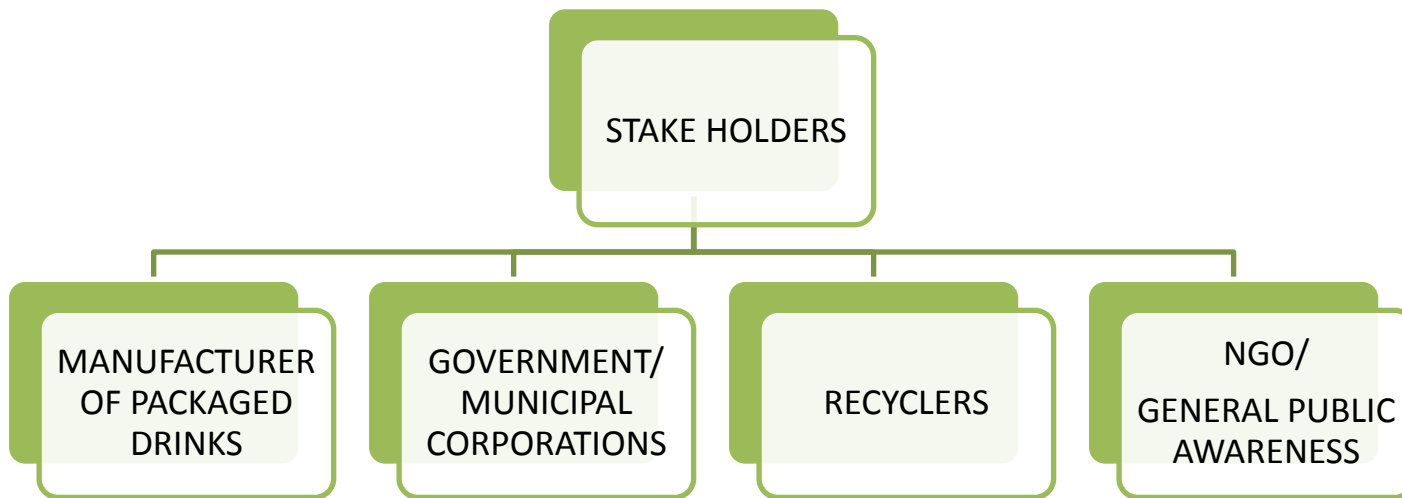
- At Present, whole collection system is unorganized
- With the development of country and increase in per capita Income the collection cost may increase in coming years
- Increase in cost will make recycling non viable compare to virgin PSF

**Therefore organized collection mechanism is need to develop**





## **RESPONSIBLES FOR PET BOTTLE CHAIN**





## **PACKAGED DRINK MANUFACTURERS**

- Follow extended producer responsibilities (EPR) guidelines.
- There should be a standard practice among bottle manufactures about wrappers on the bottles, caps on the bottles, colors of the bottle etc for easy separation of different type of plastics – which will ease recycling.
- Educate & Train Rag Pickers through NGO's, Govt. bodies etc
- Join hands with organized recyclers and develop a system where recyclers can get some revenue from manufacturers by issuing a certificate of recycling quantity - This will reduce cost of recycling and recycler will be able to pay more to rag pickers, kabadis etc, which will further increase collection of waste.



## **EFFORTS FROM GOVERNMENTS**

- Public awareness Program by means of “Swacchh Bharat Mission” or other movement for better collection of waste with efficient segregation.
- Organized recyclers should be given proper place in committees formed at various Govt. level for policy formation regarding pet bottle waste.
- Immediate policy require on following points: -
  - ✓ Material, Size of Wrapper and Method to fix wrapper on bottles
  - ✓ Material & Color of Bottles
  - ✓ Standard Material, Color, size of Bottle Caps

These measure will increase segregation of different type of plastics





## **EFFORTS FROM GOVERNMENTS conti..**

- Incentivize recycling activities by means of followings: -
    - ✓ Refund of GST to recycler and downstream chain
    - ✓ Subsidize Cost of Project (CAPITAL/INTEREST/POWER etc)
    - ✓ Benefit to Recycler under Income Tax
    - ✓ Significant Export incentives for Recycled Products
- Ex: In Asia, Bangladesh gives export incentives for products made from recycling of waste pet bottles







## **EFFORTS FROM GOVERNMENTS conti..**

- A policy to promote garments made from recycled waste pet bottles. It should be made compulsory to sale certain percentage of garments made from Recycled PET Bottles for organized retailers, e-commerce companies.
  - EX: Many European countries have this kind of policy, and big size retailers i.e. Marks & Spencer, H&M, Zara etc are following this policy there.
- Government Research institutions for technology development
  - EX: Starlinger of Austria





## **General Public Awareness**

- Use of Social Media for Awareness about Recyclability of Plastic Waste
- Dedicated one page on news paper magazine explaining about recycling
- Plastic Waste Awareness related Animated video in Public Domain
- Inclusion of Recyclability of plastic waste and identification in Academics





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## ***A COMMITMENT***



## **SWACCH BHARAT**



एक कदम स्वच्छता की ओर

