

Litter-free India:

We can make it happen;

Rakesh Solanki

*H-PAMCO,
ESRF,*

R.R. Collective,

Indian Recycling Network,

Recycling hubs,

Litter free India

Come lets do the good work together,

Lets give back to the nature in naturally harmless form,

litter free India-we can make it happen,

Don't Throw Plastics waste, Call us up, give it to us,

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*Litter Free India,
We can
make it
happen.*

An Initiative Of Great value



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*In the Project planning
the prime
considerations were
:*

***“THE Plastic Centric
waste management
Rules”***

When addressing the plastic waste, we found every waste law is plastics centric,

It was 1998, The Biomedical Waste rules were in making, the issue of Plastics burning causes emissions of Dioxins and Furans, resulted for not to burn the plastics waste, sterilize it and give it to controlled recycling,

The MSW rules 2000, saw court cases on similar grounds for RDF, and specifications of industrial hazardous waste, E-waste carried plastics waste as core issue.

so all of them have to be integrated in the systems protocols, and in the SBM guidelines.

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The Systems Protocols

PLASTICS WASTE, mixed in organics waste of MSW, makes all waste dangerous, to our birds, cattle', and whole eco-systems.

While, addressing it, The KEY QUESTIONS emerged: –

- ***How to promote source segregation?***
- ***How to pick the litter cost effectively?***
- ***How to get waste pickers/traders in a formal network?.***
- ***How to meet the ULBs obligation under Waste rules?.***
- ***How to get plastics industry 's EPR?***
- ***How to recycle this plastics waste profitably?***
- ***How to intergrade, MSW C&T mechanisms ?***
- ***How the awareness campaign be done?***
- ***What are support avenues EPR, CSR, VGF***
- ***Why PPP? why NGO?***

Considering other Socio-economic factors:

- ❖ **Plastics are good, Plastics waste -litter is the problem.**
- ❖ **It is not commercially viable for the waste pickers to pick.**
- ❖ **Litter picking needs a separate viability gap funding,**
- ❖ **Though most of the plastics gets recycled, the small pieces of multilayer metalized plastics and carry bags are the main contentious issues in the littered waste and as well as in most of the other waste streams,**
- ❖ **and so its recycling, is not profitable either.**
- ❖ **Therefore litter picking, source segregation, recyclable dry waste collection from every house , shop and institution, needed a system innovation, and implementation..**

Integration with existing waste management practices and informal network:

- ❑ The solution developed here by harnessing, informal sector, recycling net work in a workable formal setup.**
- ❑ This can also meet the partial cost of litter free area management, and door to door recyclable waste collection**
- ❑ ULBs give space as in the law, waste traders , scrap dealers gets an identity,**
- ❑ and the faceless waste pickers gets extra income with a little extra responsibility of litter free area management.**
- ❑ The system has been test marketed and experimented.**
- ❑ A few prototypes operating in the country have some inherent conceptual flaws, Which are addressed here successfully.**

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One TURNING POINT HAS BEEN THE ***JUNE***
5, 2017 The Last WORLD ENVIROPNMENT
DAY, WHEN THE SBM DIRECTORATE
LAUNCHED::
INDIA BEGINS
SEGREGATION
OF WASTE

after a sudden realization and backtracked on October 2.

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These videos will give insight

<https://youtu.be/4RZui8MrMU8>

<https://www.youtube.com/watch?v=OYI7EY3wOIM>

<https://www.google.co.in/url?sa=t&rct=j&q=&esrc=s&source=video&cd=10&cad=rja&uact=8&ved=0ahUKEwj7wfSQpezWAhULPI8KHYTcDzkQtwIIUTAJ&url=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DWSWBobhaUnM&usq=A0vVaw2o35KbWZwZhumkTyH5n4h>

<https://www.youtube.com/watch?v=y4ntlBQmnPk>

However source segregation protocols were included in Swachh sarvekshan 2018, as a primary focus point without any infrastructure base.

And Cities were worked - day and night, to meet the objectives of gradation in swachhta sarvekshan, **mostly on paper** .

These points are

1. Segregated Collection and Transportation of Waste
2. segregated Processing & Disposal
4. IEC & Behavior Change, and Capacity Building
5. Innovation and Best Practices

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**Just Look at every one of the waste rule or waste stream
SWM, BMW, E-Waste, C&D Waste, I.Hz. Waste, or PWM**

There are two major components:

1. Collection and transportation : (C&T)

**very interactive with community, service delivery pays
larger the community, cost heads reduces
IT based/app based logistics and revenue collection
Labour intensive –co-operative helps**

2. Processing and disposal: (P&D)

**success dependent on efficiency of point 1 above
Decentralised facilities promoted and advantageous
Capital intensive, operations to be self sustainable.**

It calls for

- 1. One integrated waste collection mechanism which is app based and with proof of service delivery @ the capex cost downs heavily.**
- 2. Collection hubs, networked logistics and integrated services and supply chain**
- 3. Decentralised Composting facilities in communities and cities.**
- 3. Dry waste sorting and processing facilities.**
- 4. A few crude waste to energy plants, if Cement industry, Co-Processing does not absorb the non commercial, non recyclable waste**
- 5. Project management and Awareness campaigns.**

Cost parameters:

- 1. If we do source segregation and decentralised composting, the existing tipping fee parameter in transportation and processing does not hold good, however the costs of these operations almost remains same. There fore now cost of waste management is considered per capita. Grants and subsidies are based on these parameters.**
- 1. With proper technology integration, we will be able to achieve the total costs to be half of it with in 3 years of optimisation i. e. approximately Rs. 2 per capita per day.**
- 2. We look for a rupee a day per capita contribution of public, and a rupee a day per capita contribution from outside sources like VGF, EPR and CSR.**

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***The
Genesis***



This PROJECT OUTLINE,

As emerged

EXECUTIVE SUMMARY

- ***This Plan is based on “Waste Rules 2016, of MoEF, Gol. **All 6 waste rules*****
- ***This innovative and pioneering Waste management protocols takes in to account the extended producer responsibility (**EPR**) of plastic industry,***
- ***as well as the responsibility of the urban local bodies (ULB),In organizing IT based waste collection from houses, shops, and also the littered- dry waste.***
- ***This is through the recyclable waste collection centers, recycling facility and litter free campaign.***
- ***It also harnesses most of the informal sector workers in a formal set up, as is mandated in various regulatory guidelines. **INCLUSIVETY.*****

TWO Major Components: 1.Collection and Transportation :

- ❑ Organize collection through the two distinct and dedicated channels from every house/shop or unit and link their peers – the community leaders, and traders, integrate them in operational support system.**
- ❑ Organic waste is one distinct channel decentralized or city managed handling thru HFFF.**
- ❑ Dry waste transaction centers on municipal land under an arrangement with the informal waste handlers community.**
- ❑ Provide them tools, Bins, cycles, tricycles, bags, identity cards, PPE, and directives about them to citizens, institutions and media, data of t he area, forms the tools.**
- ❑ Skill development, insurances, children's education ensures, they are no more rag pickers.**

The Dry waste bases could be -Waste Exchange Centers (WECs)

- **They could be placed at approx. every 2 to 4 wards in the city, which will work as a nodal point for collection of recyclables.**
- **These could be housed in Portacabins and there will be (SOPs) for the their Operators,**
- **They will have house to house waste purchasers and waste pickers.**
- **As mentioned above These persons could be locally placed informal sector workers and will work under a profit sharing mechanisms serving a definite population and earmarked area.**

Waste Exchange Centres (WECs):

uniform design Portacabins, of approx. 5x5x5 meters sizes.

They will be:

- ***Well ventilated, segregated waste collection in hanging bags, and racks***
- ***With Security arrangement, Biometric identification and attendance system***
- ***Used only for waste collection and storage purpose (not for residence)***
- ***With Weighing scale, and small bailer, shredder , packers at a few places***
- ***Display for rate for recyclables, Place for advertisement, free bags for Plastics waste collection.***
- ***Fire Extinguisher, Table-1 & chairs- 2, With a calculator, registers***
- ***Billing machine for collection with mobile data transmission***

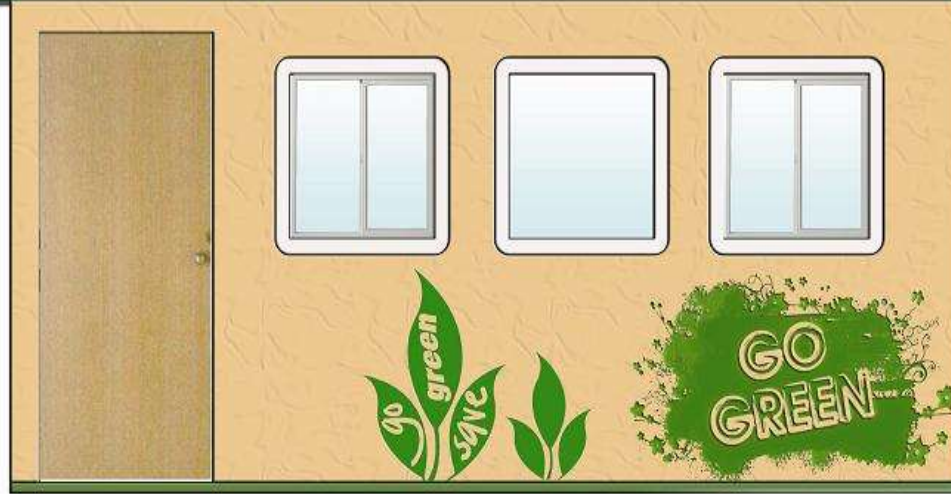
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Waste Exchange Center झाँसी नगर निगम द्वारा संचालित



OPERATIONS:

- **WECs will arrange to provide free bags for plastics dry waste collection to every household, collect it periodically and purchase recyclable waste.**
- **WECs will provide self sealing yellow bags for every house for sanitary waste, collect and send them to BMW facility under a service charge scheme with the ULB.**
- **Dry recyclable waste collected at various WEC's will be sold to authorized recycling industry with well supervised and synchronized modalities.**
- **the remnant plastic waste, the non commercial and non recyclable waste, could be sent to the sorting/ recycling plant set up for approximately every one million population.**

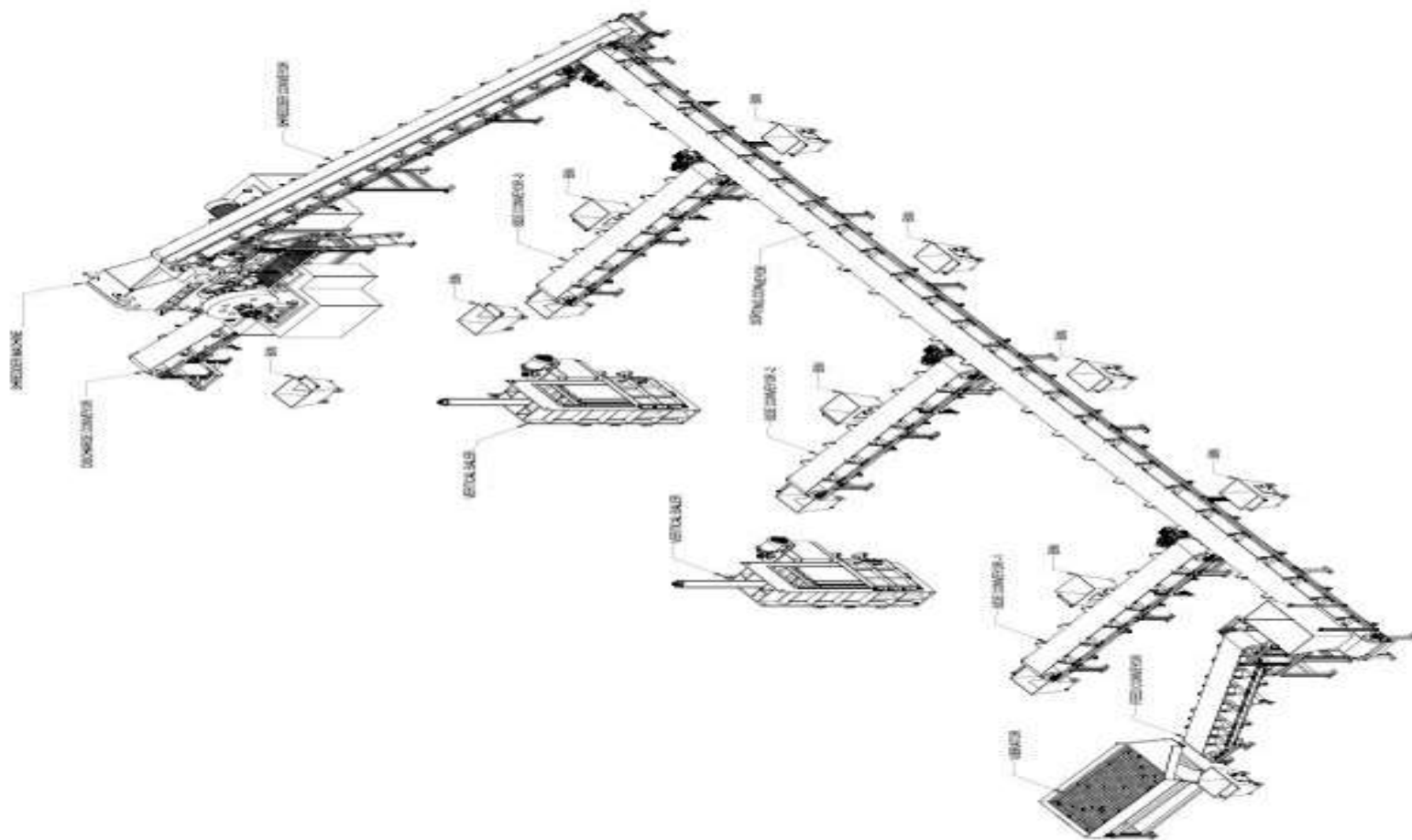
PROCESSING AND DISPOSAL:

- ❖ This is confirmed by our study of land fill waste and ward level surveys for NGT, that approximately 11 to 17% of non commercial plastics waste goes to a mixed waste collection mechanism, which corroborates with an other studies.**
- ❖ It could be harnesse approximately 85 to 95 % in this system and after segregation and sales, process the non recyclable plastic waste into fuel oil and lumber, besides RDF, and Bitumen Mix for roads.**
- ❖ Sorting technologies for dry waste are successful with robotics, x-rays, infrared or ultraviolet**
- ❖ Other options are of giving it to cement plants for co processing and waste to energy if exists.**

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Plastic Waste Recycling Plant Design

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A Pilot Plant manufactured by STEPS, Vasai, Thane District



Bio- gas from organic waste



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The anaerobic digester facility produces elect

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Once we have approval of financial support, we will develop our mutual activity plan.

Theme reflections: For

How many more cows will you let die,

and how many birds will you let not fly,

How many years more will you let go,

till the plastics litter, on our earth may lie,

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Let's aim together:

- ***no plastics to landfills,***
- ***and no plastics in our drains,***
- ***no plastics on roads, and***
- ***no plastics on the rail roads.***
- ***No plastics in our cows gut and***
- ***no plastics to kill our birds,***
- ***No plastics in our food chain***
- ***or no plastics to kill our plants.***

We all need a Clean Earth, A Green world, with clean Oceans, clean air ----

A wishful thinking or a necessity for our existence?

A joyous and peaceful environment in the world we live in, our children will live in, have to be in harmony and well synchronized with nature.

This is our collective existential environmental responsibility.



***And that's our vision- to begin with
The vision of Litter free India.
Zero Waste, Total Recycling.***



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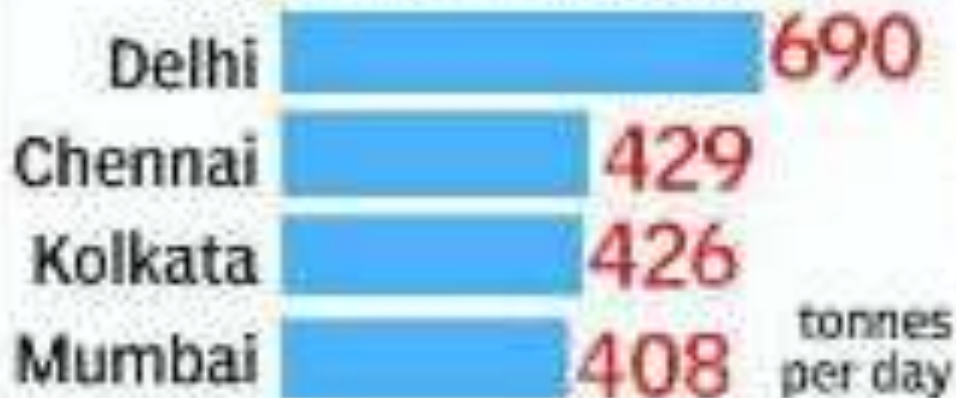
FILM OF FILTH

56L tonnes
of plastic waste
dumped by
India in a yr

9,205 tonnes
is recycled

6,137 tonnes
is plain litter

METRO LITTER



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THE TIMES OF INDIA

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NEWS DIGEST



Gautam Gambhir (42 off 29 balls), powered hosts **RBI** to a 6-wicket win over **Delhi Daredevils** in the first match of IPL-6 on Wednesday. **Barodvils** were dismissed for 12, with **Brett Lee** bowling **Umesh Yadav** off the very first ball. P 21 & 22

Don't be pessimistic, PM tells India Inc

India's business mood was unduly pessimistic, PM **Manmohan Singh** has said, urging the industry to believe in the Centre's resolve to get back to 8% growth. P 9

Push for 1,800 fast-track courts

Plastic waste time bomb ticking for India, says SC

Metros Throw Up 2,000 Tonnes Daily

Chandray Mohapatra | New

New Delhi: "We are sitting on a plastic time bomb," the Supreme Court said on Wednesday after the Central Pollution Control Board (CPCB) informed it that India generates 56 lakh tonnes of plastic waste annually with Delhi accounting for a staggering 180 tonnes a day.

"Total plastic waste which is collected and recycled in the country is estimated to be 9,205 tonnes per day (approximately 60% of total waste) and 13 tonnes remain uncollected and buried," the CPCB said.

The four major waste major outlets in generating such waste, with Delhi producing around 600 tonnes a day followed by Chennai (425 tonnes), Kolkata (426 tonnes) and Mumbai (408 tonnes).

FILM OF FILTH

9,205 tonnes is recycled
6,137 tonnes is plastic litter

METROLITTER

Delhi	690
Chennai	429
Kolkata	426
Mumbai	408



Picture

Click here to open picture

200m litres of factory slush in Delhi water

Mohd A Sahibani | New

New Delhi: Nearly 200 million litres of domestic and industrial waste is dumped daily in the water.

significant portion of which finds its way — semi-treated or untreated — into the water you drink.

In reply to RTI queries filed by NGO Yamuna Jyoti Abhiyan, Paripat revealed that it had 114 polluting industries of which 288 fell under the 'red' category.

It further said, "The general public hates vehicles with red beacons and siren mainly because of the brazen manner in which the police stop them to allow the VIP's car to have a smooth passage. Removal of the red beacon and siren will bring everyone at par though it may hurt some egos for some time."

The bench said the rate of crime would come down on the government damped down on illegal users.

Cut down on red beacon cars, apex court tells govt

Chandray Mohapatra | New

New Delhi: The Supreme Court on Wednesday frowned on the proliferation of red beacons and sirens on vehicles and urged the government to limit their use to unconditional authorities and ask all others to remove them.

Chief Justice G. S. and Justice Joseph part from top constellation.

SC wants list, P 13

Removal of the red beacon and siren will bring everyone at par though it may hurt some egos for some time.

— SC BENCH



The bench said the rate of crime would come down on the government damped down on illegal users.

Docs battle to save eye of UP acid attack victim

Dwijendra Kumar Singh & Durgesh Nandan | New

New Delhi: A day after an acid was thrown on four sisters in UP's Shamli district near Muzaffarnagar, doctors in Delhi were battling to save the left eye of one of the victims that was badly damaged in the attack.

The 23-year-old victim was brought to Ganga Ram Hospital late on Tuesday with severe burns on the

Pichhari spray, P 10

chest, face and neck. Doctors said on Wednesday they were most concerned about the injury in her left eye.

"The cornea has severe acid burn injury. Blood supply to the area is restricted. Even the surface area is affected," said Dr. A.K. Grewal, chairman of the hospital's ophthalmology department.

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**Commitment makes the competency
subservient.**



Thanks

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