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SWACHHATA SANDESH

A monthly newsletter of the Ministry of Housing and Urban Affairs (MoHUA), Government of India

Swachh Survekshan 2018 Awards

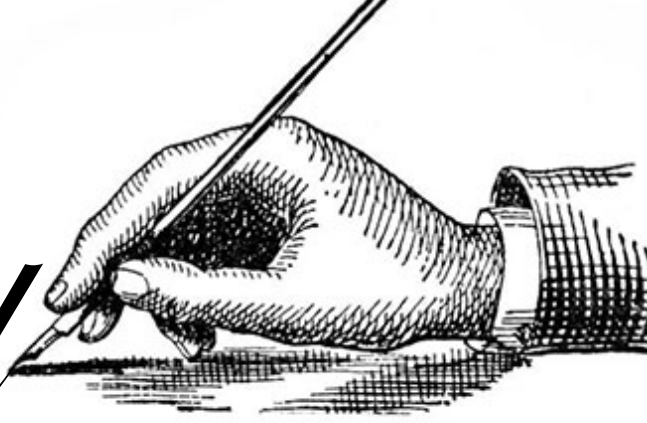
India hosts
World Environment Day

Global Swachh Perspectives:
Beating Plastic Pollution





Editorial



Cities across the country are struggling to deal with the increasing volume of waste. Statistics show that over 90 per cent of the municipal solid waste (MSW) collected by Urban Local Bodies (ULBs) in India is dumped in the open or in unscientific dumping sites. Realizing the challenges, the Union Government launched the Swachh Bharat Mission (SBM) with a goal to make Clean India with specific emphasis on eliminating open defecation by October 2019. The mission seeks to eliminate open defecation and manual scavenging besides promoting scientific solid waste management and promoting behavior changes in context of healthy sanitation. It is not just about cleaning surroundings but also seeking people's participation in creating trash free environment.

India was the global host to the United Nations World Environment Day observed on 5th June 2018. The theme of the World Environment Day for the year 2018 was 'Beat Plastic Pollution' with the world coming together to combat single use of plastic pollution. The Ministry of Housing and Urban Affairs (MOHUA) via SBM addresses the issue of plastic waste in India. India has witnessed substantial growth both in production and consumption of plastic. In absence of appropriate waste collection and segregation processes, the plastic waste management has become a challenging task. About 25,000 tonnes of plastic waste is generated every year in India, of which 60 percent is recycled. The plastic has several health hazards, both for humans and animals. Not just that, it is detrimental for the environment too. Management of plastic waste found in MSW is most critical sector because of continuous increase in the share of plastic in MSW, its non-biodegradability and direct harmful effect to society.

In India, many states have banned fully or partial use of plastic carry bags. These are Andhra Pradesh, Assam, Chandigarh, Chhattisgarh, Goa, Gujarat, Jammu and Kashmir, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Meghalaya, Nagaland, Odisha, Punjab, Tamil Nadu, Uttar Pradesh, Uttarakhand and West Bengal (Annual Report, 2015-16 of the Central Pollution

Control Board, Ministry of Environment, Forest and Climate Change, Government of India). Several states have implemented further bans, such as Delhi NCR (National Green Tribunal's ban on disposable plastic), Maharashtra and Himachal Pradesh (government's ban on all single-use plastic) and Sikkim (first state to ban plastic bottles and disposable foam products). On the occasion on World Environment Day, 2018, the elimination of all single-use plastic in India by 2022 was announced.

A Delhi-based startup, RVM Recycle is addressing the issue of burgeoning plastic waste through its Reverse Vending Machine (RVM), Zeleno. The aim is to show people the benefits of recycling PET bottles and aluminum cans for cashbacks and discounts. It is difficult to induce people to change their behaviour and habits. RVM Recycle works through the support of government agencies. Till May 2018, the team has installed 30 machines across Delhi-NCR, Uttar Pradesh and Jharkhand, collecting over 4,500 bottles each day, with nearly 32,000 kg of waste having been recycled. The smart bin also allows advertisers to showcase their campaigns and position themselves as part of the green movement. The Maharashtra government has made it compulsory for the Public Works Department (PWD) to use plastic waste for the construction and repair of bituminous (or asphalt) roads.

This newsletter brings news of such stories from different cities in India and showcases the progress of SBM, highlighting the women champions and ambassadors of change. It also serves as a vehicle for promoting ground level practices and knowledge for those interested in making India clean and litter-free.

The newsletter is available on the Mission website (<http://swachhbharat.gov.in>) and can be downloaded for further dissemination. The newsletter is an outcome of collective efforts made by states and cities. We thank them for their contribution and welcome suggestions for forthcoming issues.

Editorial Team, Swachh Bharat Mission

BEST PRACTICES

ULBS, INSTITUTIONS AND INDIVIDUALS DOING INSPIRING WORK

I. 'CROCKERY BANK' FOR STEEL UTENSILS TO REDUCE PLASTIC WASTE



Sameera Satija, a resident of Sector 14 in Gurugram, has opened a steel crockery bank, which lends citizens steel utensils for functions and occasions free of charge, in an effort to reduce the usage of single-use plastic cutlery. The idea for the bank came from observing charity drives, such as 'chabeels' (organised by devout Sikhs to serve water) and 'bhandaras' (community banquets). Many of the groups she observed

were serving water and food in disposable glasses/plates, even though the effort itself was selfless. Through a company manufacturing disposable plastic glasses and plates, Ms. Satija learnt that the process of manufacturing three disposable glasses required one glass of water. This usage of water in manufacturing and thereafter the waste from disposal made Ms. Satija search for alternatives.

Ms. Satija invested Rs. 10,000 from her own pocket to start a bank with 100 glasses, 100 plates and 75 newly acquired quarter-plates. She was able to increase the number to over 400 pieces in a matter of a few days. She began distributing the steel utensils among three organisations for their water charity drives, and they were so impressed with the idea that they

not only returned the glasses after use but also donated more glasses to expand the bank.

Sameera has created a Facebook page named 'Crockery Bank for Everyone' to promote the project. One may get in touch with them, share programme date and contact number. All that is required is a written letter for the requirement from respective Resident Welfare Association functionary or ward councillor. If none of this is possible, two members who require the crockery have to submit ID and address proofs. After this, the utensils may be used, washed and returned.

Visit their Facebook page, Crockery Bank For Everyone here or write to Sameera at simsatija@gmail.com

Source – The Better India website

II. AIRLINES GOING GREEN THROUGH BIODEGRADABLE CUTLERY AND PAPER STRAWS

According to a report by the International Air Transport Association, in 2016 alone, flyers generated 5.2 million tons of waste. This is roughly equivalent to the amount of waste that the entire city of Mumbai generates in a span of two years, and uncontrolled, this could go up to 10 million tonnes of waste by 2030. While the airline industry may have been exempted from the plastic ban, a few Indian carriers are consciously driving change by taking new steps

towards greener operations. Airlines such as Vistara, Jet Airways and GoAir are switching to eco-friendly alternatives like biodegradable cutlery to reduce plastic waste.

A Vistara spokesperson told The Times of India that the airline is taking measures such as replacing plastic casseroles with aluminium dishes, plastic straws and stirrers with paper or wooden ones, and disposable bowls in economy class with reusable ones, to halve plastic use as per a pledge taken

early in June 2018. Following suit, Jet Airways is also using paper cups, biodegradable bags, and insulated boxes for hot and cold items. Among the low-cost carriers in India, GoAir too has pledged its commitment to the plastic ban, by serving food and beverages that do not require the use of plastic cutlery. All banned plastic items have been removed from their aircraft.

Source – The Better India and The Times of India websites

III. MAHARASHTRA STATE MAKES IT COMPULSORY TO USE PLASTIC WASTE TO LAY ROADS

The Maharashtra government has made it compulsory or the Public Works Department (PWD) to use plastic waste for the construction and repair of bituminous (or asphalt) roads.

This step has been taken to sustainably utilise the increasing amount of plastic waste that has collected with the Urban Local Bodies and other civic bodies in the aftermath of the plastic ban imposed in Maharashtra affecting manufacturers and consumers

alike. The mandate will also ensure construction of roads with better quality at lesser price, due to roads built with plastic-asphalt tar having improved longevity, better water-resistance and requiring less maintenance as compared to roads built with conventional materials. According to the PWD, the Council of Scientific and Industrial Research has also found that such roads are of better quality and less expensive.

The PWD will henceforth receive collected non-biodegradable

plastic waste, with the responsibility to recycle it and thereafter use it for road construction/repairs. It will also have to explicitly mention the details of the aforementioned waste plastic usage in road tenders. As directed by the General Resolution, the chief engineer of each respective area will be tasked with supervising junior officers on whether or not they are adhering to the mandate in asphaltting work.

Source – The Better India website

IV. RVM RECYCLE - ENCOURAGING PEOPLE TO RECYCLE THROUGH FREEBIES

A Delhi-based startup, RVM Recycle, co-founded by an ISB Hyderabad alumnus, is addressing the issue of burgeoning plastic waste through its reverse vending machine (RVM), Zeleno. Their aim is to show people the benefits, of recycling PET bottles and aluminium cans for cashbacks and discounts, to the environment. Co-founder Prateek Mittal explained that unless incentivised, it is difficult to induce people to change behaviour and habits. RVM Recycle works through the support of government agencies, such as

its project in New Delhi Municipal Council (NDMC) area where nine smart bins were installed in four commercial areas. Till May 2018, the team had installed 30 machines across Delhi-NCR, Uttar Pradesh and Jharkhand, collecting over 4500 bottles each day, with nearly 32,000kg of waste having been recycled.

RVM Recycle's Zeleno involves collection of empty plastic PET bottles and aluminium cans using the smart bins and rewarding the user for the same in terms of cash back or discount vouchers, which can be subsequently redeemed at the specific outlet. Users open the door of the smart bin and drop in the bottle by following the basic commands on touchscreen available on each Zeleno. Sensors detect and scan the bottles. The details of the PET and aluminium bottles are then tallied with the database after which it is passed through the conveyor belt.

Around 2,000 bottles and aluminium cans can be recycled in one smart bin, and the company

has tied up with several recyclers, including VLS Ecotech. Plastic bottles are recycled to make yarn, which can be used as a fabric to make various products.

The smart bin also allows advertisers to showcase their campaigns and position themselves as part of the green movement. The LCD display panels of the RVM provide advertising space in the form of either rotating or static or video slots. This reduces the carbon footprint of more traditional advertising while remaining cost-effective and highly visible.

In order to strengthen the supply chain and simplify processes, the firm is also working on mobile wallets. The smartphone app is another aspect that the company is focusing on, and this will be tied up with mobile wallets, Paytm and Aadhaar wallets. The startup is also looking to soon add free Wi-Fi access on the machines.

Visit their website at www.zeleno.in for more information.

Source – YourStory website



THE MONTH THAT WAS..

June 2018

1. SWACHH SURVEKSHAN 2018 AWARDS



The award ceremony for Swachh Survekshan 2018 (SS2018) was held in Indore, Madhya Pradesh on June 23, 2018. Among the 52 award categories in this year's Survekshan, a total of 41 awards were handed over to the awardee cities by Shri Hardeep Singh Puri, Hon'ble Minister of State (I/C), Ministry of Housing and Urban Affairs, Government of India, at the Brilliant Convention Centre while 11 top categories were awarded by the Honourable Prime Minister at Nehru Stadium, Indore. A total of 3 Non-Urban Local Bodies (private ventures in the solid waste management space) shortlisted by the Ministry after an

independent assessment were also felicitated by the Honourable Prime Minister at the ceremony. The Prime Minister also released the Swachh Survekshan 2018 Report and launched the Swachh Survekshan 2018 Results Dashboard.

Lok Sabha Speaker Smt Sumitra Mahajan and Sh. Shivraj Singh Chouhan, Chief Minister of Madhya Pradesh were present on the occasion among other dignitaries.

The event also saw the launch of two booklets titled, 'Advisory on Decentralized Processing of Organic Waste' & 'Transforming Urban Landscape of India: A Book of Case Studies'.

In the run up to the ceremony,

a series of 15 films (5 minute and 30 second versions) for 15 awardee cities were developed through the National Film Development Corporation. The top performing States and the top Cantonment Board also developed videos to showcase their journey and achievements during SS2018. A 15-minute film, which captured the achievements of these cities as well as the top performing States, was also made. A 3-minute video documenting the process, methodology and scale of SS2018 was also developed by the Ministry. These films were showcased at the Award Ceremony and are being actively shared through the Mission's social media channels.



2. INDIA HOSTS WORLD ENVIRONMENT DAY 2018



India was the global host for 2018 to the United Nations World Environment Day observed on June 5 every year. The theme for this year

was 'Beat Plastic Pollution' with the world coming together to combat single use plastic pollution.

The Swachh Bharat Mission (Urban) under the Ministry of Housing and Urban Affairs (MoHUA) was part of the four day exhibition from June 2-5 held at Vigyan Bhavan, New Delhi. As part of the exhibition, SBM (Urban) not only showcased its progress since the inception of the project but also

highlighted various initiatives and policy interventions on and related to plastic waste management under the Mission. This was done through a digital exhibition and screening of multimedia videos at the designated stall.

The Mission also shared city level initiatives on World Environment Day through its social media channels.

3. REGIONAL CAPACITY BUILDING WORKSHOPS FOR STAR RATING OF GARBAGE FREE CITIES IN BHOPAL, CHENNAI, PUNE AND GANDHINAGAR



In order to familiarise Urban Local Bodies (ULBs) with the Star Rating Protocol for Garbage Free cities developed by the Ministry of Housing and Urban Affairs (MoHUA), a series of regional capacity building workshops are being conducted by ministry and Swachh Bharat Mission (Urban) Project Management Unit (PMU) members. The workshop sessions address the overall protocol, scoring mechanism, citizen/stakeholder engagement in achieving Star Rating, the process of self-declaration and third party

certification, and the specific requirements from collection, transportation, user charges, waste reduction, and more, and lastly, best practices related to different components.

The seventh such workshop took place on 7 June 2018 in Bhopal, for the state of Madhya Pradesh, with participation by 340 people, including Mayors and Chairpersons, Commissioners, and other ULB functionaries. The workshop was met largely positive feedback.

The eighth workshop was held on 8 June in Chennai for the state of Tamil Nadu, the ninth on 15 June in Pune for the states of Maharashtra and Goa, and the tenth on 30 June 2018 in Gandhinagar for the state of Gujarat. The Chennai workshop saw participation from over 200

ULB functionaries while the Pune workshop saw participation from 168 persons.

Concerns and questions raised by participants during these workshops will be either developed into a list of Frequently Asked Questions (FAQs) for reference or addressed in the appropriate manner. The protocol booklet on the Star Rating for Garbage Free Cities is available on the SBM Urban portal, on the main menu (<http://www.swachhbharaturban.in/sbm/home/#/SBM>).



4. CAPACITY BUILDING WORKSHOP ON ODF AND SOLID WASTE MANAGEMENT FOR JAMMU PROVINCE

A capacity building workshop on (Open Defecation Free) ODF Cities, Use of SwachhataApp and Solid Waste Management (SWM) was conducted on 19th June 2018 by Swachh Bharat Mission-Jammu & Kashmir and MoHUA. The training programme was attended by Chief Executive Officers, Executive Officers and Sanitary Inspectors of 40 ULBs of Jammu Provinces. The training covered the following areas on ODF and SWM:

Open Defecation Free Cities:

- Explanation and understanding of the concept of Open Defecation Free city
- Detail description of protocol to be followed by cities to work towards ODF
- Discussion on formats



pertaining to ODF declaration by stakeholders.

- Queries or doubts by ULB representatives pertaining to ODF- Challenges

Solid Waste Management:

- Understanding the process flow of waste management from collection to disposal
- Brief on DPR tool as to understand

the selection of requisite technology based on population size.

- Best Practices in SWM in source segregation and door to door collection

Also, step by step process on the use of Swachhata App and its significance in monitoring and managing citizen grievances was also provided during the meeting.

5. TECHNICAL ASSISTANCE FOR THE STATE OF TRIPURA

The State of Tripura had sought MoHUA's assistance in development of detailed project reports on solid waste management for 20 ULBs in Tripura and accordingly, a visit was made by MoHUA representatives from 27 June to 1 July 2018 to provide capacity building support in preparation of detailed project reports (DPRs) to the ULBs of Tripura. The visit included the following:

- Discussion with ULBs on existing infrastructure and need

assessment

- Gap analysis and estimation of actual infrastructure on ground
- Restructuring and renovation requirements of the existing facilities
- Assessment of capacity and land requirement for processing facilities
- Approach and framework on selection of technologies
- CAPEX and OPEX estimation

The ULBs were provided with an approach/ framework on development of DPRs and each

ULB was mentored in development of DPRs of their respective ULBs. A final meeting was conducted in Urban Development Department, Tripura on 30 June 2018 with Director, Urban Development Tripura and state Mission Director-Swachh Bharat Mission along with the chief executive officers of all 20 ULBs to discuss on the issues, way forward and finalization of infrastructure and processing technologies for DPR preparation.

6. WEEKLY RADIO SHOW ON ALL INDIA RADIO: SWACHHATA SELFIE

A weekly radio program on All India Radio (AIR) titled 'Swachhata Selfie' was launched on June 4, 2018. The 15 minute radio show being broadcast in 71 AIR channels every Monday morning (with a repeat telecast in the afternoon) is focused on presenting to listeners inspiring stories on Swachhata from across the country. The month of June saw four episodes being broadcast with the following themes:

- Episode 1, June 4, 2018: Introductory episode featuring interviews with Shri Hardeep Singh Puri, Minister of State (I/C), Ministry of Housing and Urban Affairs, Government of India

and Shri Durga Shanker Mishra, Secretary, Ministry of Housing and Urban Affairs, Government of India. This episode also focused on the theme of 'Beat Plastic Pollution' for the upcoming World Environment Day and featured an interview with lawyer and environment activist, Shri Afroz Shah who is synonymous with the world's largest beach clean-up project.

- Episode 2, June 11, 2018: This episode continued the theme of plastic waste management with initiatives from Ranchi and Port Blair Municipal Corporation being presented.
- Episode 3, June 18, 2018: This

episode focused on Indore's journey of being the cleanest city of India for two consecutive years in Swachh Survekshan 2017 & 2018.

- Episode 4, June 25, 2018: This episode focused on the contribution of women in the Swachh Bharat Mission's journey and captured interviews from a social worker in Andaman and Nicobar Islands and women SHG members (Swachhata Sakhis) from Rajnandgaon in Chhattisgarh.

These episodes are also being shared on social media, Whatsapp groups, Swachhata App and the SBM (Urban) portal.

7. UPDATE ON PUBLIC TOILET LOCATING FACILITY ON GOOGLE MAPS

The facility allows the user to locate, rate and review public toilets on Google Maps application.

User can search "Swachh Public Toilet" toilets on their smart phone and locate the nearest toilet. This

has already been implemented in over 287 cities with 27, 243 toilets live.

8. UPDATE ON SWACHHATA APP MAPS

The Swachhata App was developed to allow citizens to register complaints with respect to cleanliness and sanitation in their cities and have these resolved by the local authorities. The registered complaint (alongwith the location

and the picture of the issue taken by the user) appears on the engineer version of the app, is assigned to the appropriate staff and once resolved, an alert is sent to the citizen's phone alongwith a picture of the spot after resolution.

As on date, 79.12 lakh citizens are registered on the app (57.72 lakh on Swachhata app and 21.73 on local apps), 1.36 crore complaints have been registered, and 1.29 crore complaints of these have been resolved.

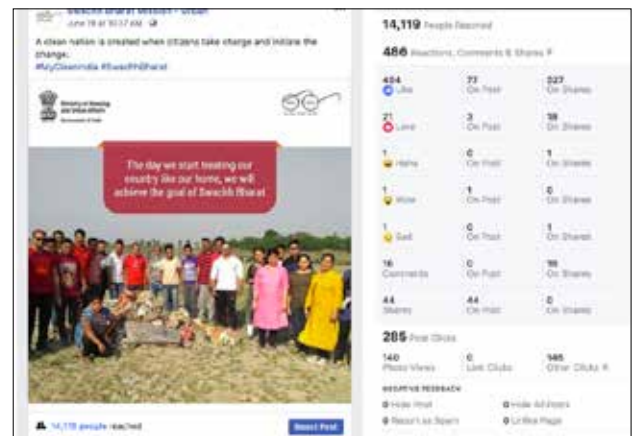
9. SOCIAL MEDIA UPDATE

Twitter			Facebook		
	May 2018	June 2018		May 2018	June 2018
Total Monthly Tweets	661	554	Total Monthly Posts	209	316
Total tweets last week	160	145	Total posts last week	53	65
Profile Visits	25,700	21,400	Page Views (last 28 days)	3,112	3,130
Profile Mentions	7,087	8,009	Post Engagements (last 7 days) Likes, Comments & Shares	4,867	2,858
Tweet Impressions	1.19 Million	1.22 Million	Post Engagements (last 28 days) Likes, Comments & Shares	13,500	13,298
New Followers	7,743	6,645	Post Reach (last 7 days)	38,839	24,947
Total Followers	123,000	124,000	Page Likes (last 28 days)	1,098	24,947
			Total Likes	2,69,000	2,69,370

Top Performing Posts (Twitter)



Top Performing Posts (Facebook)



Global Swachh Perspectives:

BEATING PLASTIC POLLUTION

When we think of plastic, what comes to mind? Packaging? Cheap children's toys? Plastic bags? These are the obvious answers. But what about sweaters? Cornflakes? Or a wardrobe?

It may be hard to believe, but from a chemist's perspective all these things are made of the same class of materials: Polymers. Polymers are extremely long repetitive molecules which, in the case of plastics, are primarily made of carbon. Other polymers include silicones, which are based on silicon rather than carbon. This is a simple organic molecule that is made to reach with itself over and over again. The polymers' shape is what gives plastics their plasticity, allowing them to be moulded into any shape. Interestingly, the distinction between which materials are called 'plastics' and which are not, seems quite arbitrary. When looking at a soft winter glove, or at a sheet of plastic for wrapping flowers, you are essentially looking at the same material. The difference is only in the way in which it has been cast. And that is just one kind of plastic. Today, there are over hundreds of thousands of different kinds of polymers. Their properties can be changed simply by tweaking their structure.

1862: Alexander Parkes demonstrates the first man-made plastic at the Great International Exhibition in London. Parkesine, as he dubbed it, was made from cellulose.

1868-70: John Wesley Hyatt invents celluloid, derived from cellulose and alcoholised camphor, as a substitute for the ivory in billiard balls. Celluloid became famous as the first flexible photographic film used for still photography and motion pictures. Hyatt created celluloid in a strip format for movie film. By 1900, movie film was an exploding market for celluloid.

1907: Leo Baekeland develops Bakelite, the first synthetic, fossil-fuel based plastic made from phenol (a coal waste-product) and formaldehyde. His work led to the introduction of now-familiar synthetic plastics - polystyrene in 1929, polyester in 1930, polyvinylchloride (PVC) and polythene in 1933, nylon in 1935.

1946: The first National Plastics Exhibition opens in New York City to showcase all the new consumer uses for the plastics developed to aid in World War II. During the war, plastic production had increased nearly four-fold, utilized

in everything from military vehicles, parachutes, body armour to radar insulation and aircraft windows.

Early 1970s: Reports published in Science about the prevalence of plastic pellets in the North Atlantic lead to more research into the prevalence of plastic on the seafloor and its impact on marine animals.

1979: Plastic grocery bags are introduced in the U.S.

1990s: Widespread use of plastic microbeads in cosmetics begins.

Plastic: The beginning

Following World War II, plastic production, which had experienced great impetus in wartime, did not reach a glut but instead



expanded, with the flexibility and versatility of the materials allowing several varieties with consumer applications to be invented and mass produced. For example, the introduction of Tupperware in 1948 and the invention of polyethylene terephthalate (PET) in 1941. Much of what Americans, in the most powerful country in the world, consumed was made of plastic. Plastic challenged traditional materials, which were made from natural fibers or material, and prevailed, taking the place of paper and glass in packaging, steel in cars, and wood in furniture.

There seemed to be a vision of a future with abundant material wealth due to an inexpensive, sanitary and seemingly safe substance that could be shaped by humans to any and every whim. Additionally, synthetic plastics, when introduced, had the advantage that they seemingly lasted forever. No organisms had evolved that were capable of digesting these complicated and alien materials.

The birth of concerns and plastic recycling

This optimism did not last, with a shift in perception coming about due to plastic debris being observed in oceans for the first time in the 1960s. Anxieties about waste increased in the 1970s and 1980s, with special focus on plastic due to its lasting nature. Interestingly, it was the plastics industry that introduced recycling as a solution to waste and pollution. In the 1980s, the plastics industry led an influential

drive encouraging municipalities to collect and process recyclable materials as part of their waste-management systems .

1980: Woodbury, New Jersey becomes the first U.S. city to adopt a curbside recycling program following litter awareness-campaigns in the 1960s and 1970s.

1997: Charles Moore discovers the Great Pacific Garbage Patch, the world's largest collection of floating garbage, when sailing home to Los Angeles. The Patch is estimated to be the size of the American state of Texas, or more relatably, roughly the size of Madhya Pradesh, Chhattisgarh, Maharashtra, Telangana, and parts of Odisha and Andhra Pradesh put together.

2002: Bangladesh becomes the first country to ban plastic bags after discovering they blocked drains during a severe flood.

2007: San Francisco becomes the first U.S. city to institute a plastic bag ban.

2008: A government study confirms that Bisphenol A, a chemical used to manufacture hard plastic bottles and the lining of baby-formula cans, may increase risks of early puberty, breast cancer, prostate issues and behavioral problems.

2014: The Netherlands becomes the first country to ban microbeads in cosmetics.

2017: The BBC's Blue Planet II, a documentary on our oceans, increases global concern about ocean plastics with striking footage of how they impact ocean animals.

2018: The Earth Day Network focuses Earth Day on ending plastic

pollution by 2020.

Of the 6.3bn tonnes of plastic waste produced since the 1950s only 9% has been recycled and another 12% incinerated . The rest has been dumped in landfills or the natural environment. If plastic waste reaches the sea or oceans, it chokes marine wildlife and when exposed to ultraviolet rays, can break down into microplastics which permeate down to the base levels of the food chain.

Today, several countries have adopted varied measures to combat plastic waste and pollution, some of which are provided ahead .

1. Ireland: In the 1990s, plastic bags were a significant problem in Ireland, littering towns, the countryside and the coastline, and accounted for 5% of the total waste stream. The Irish Department of the Environment Heritage and local Government commissioned a study to estimate consumers' maximum willingness to pay for a plastic bag. In 2002 the Irish government introduced a tax on plastic bags at points of sale, known as the "PlasTax". The levy was set six times higher than the estimated willingness to pay, at €0.15, with the aim to trigger behaviour change in consumers and promote the use of reusable shopping bags. The implementation was accompanied by strong awareness campaign on the reasons for the introduction of the levy. Governance functions were also clearly defined and separated between local authorities responsible for enforcement of the



levy. Revenue commissioners were granted the power to carry out a full tax audit of retailers suspected of not charging the levy.

Within one year from the introduction of the tax, the use of plastic bags in Ireland dropped by more than 90% and the consumption per person fell from 328 plastic bags per year to 21 bags. While prior to the 2002 levy, plastic bags accounted for 5% of the national waste, in 2004 this number fell to 0.22%. With the aim of keeping the use of plastic bags to a maximum of 21 bags per person per year, the 2011 legislation passed to allow the levy to be amended once a year, with a ceiling at €0.70 per bag.

2. Rwanda: In 2004, Rwanda's Ministry of Environment, was concerned by the improper disposal of plastic bags, as they were often burned or clogged drainage systems, and commissioned a baseline study which revealed that plastic bag litter was threatening agricultural production, contaminating water sources, killing fish and creating visual pollution.

In 2008, the government banned the manufacturing, use, sale and importation of all plastic bags. Paper bags replaced plastic ones, and citizens also started using reusable bags made of cotton. Along with the new ban, tax incentives were provided to companies willing to invest in plastic recycling equipment or in the manufacturing of environmentally friendly bags.

Despite the good intentions, after the introduction of the ban, investments in recycling technologies were lacking, as were good and cheap alternatives. As a result, plastic bags were smuggled from neighbouring countries and a lucrative black market emerged.

With time, enforcement of the law became stricter, and if caught, offenders faced high fines and even prison time. In the long run, citizens became used to the new regulation and, Kigali, the capital of Rwanda, was nominated in 2008 as the cleanest city in Africa by UN Habitat.

3. New York: In 2015, single-use Styrofoam containers (EPS foam) were banned in New York

City. Shortly after the ban was instituted, the city was sued by a coalition of recycling firms and plastic manufacturers, who claimed that Styrofoam is recyclable and proposed a recycling plan for the foamed plastic items. The ban was overturned, that same year, by a ruling of the New York Supreme Court. The ban was reinstated in 2017, following a report by the New York City Department of Sanitation which found that it is not possible to recycle Styrofoam in a manner that is economically feasible or environmentally effective. The ban applies to all stores that sell or offer polystyrene packaging, and was re-instated with a six-month time window for retailers and customers to adapt to the new legislation.

4. Antigua and Barbuda: In January 2016, Antigua and Barbuda prohibited the importation, manufacturing and trading of plastic shopping bags. In July of the same year, the distribution of such bags at points of sale was banned, giving enough time for retailers to dispose of their stocks. Since plastic bags sold by large

retailers accounted for 90% of the plastic litter in the environment, the ban was first implemented in major supermarkets, and later extended to smaller shops.

Key elements for the success of the policy include four rounds of stakeholder consultations to ensure engagement and acceptance of the policy. Stakeholders engaged include major retailers, the National Solid Waste Management Authority, the Ministry of Trade and the Department of Environment. After approval by the Cabinet, it was decided that the ban would be incorporated in the existing legislation, as this was more expedient than instituting a new law.

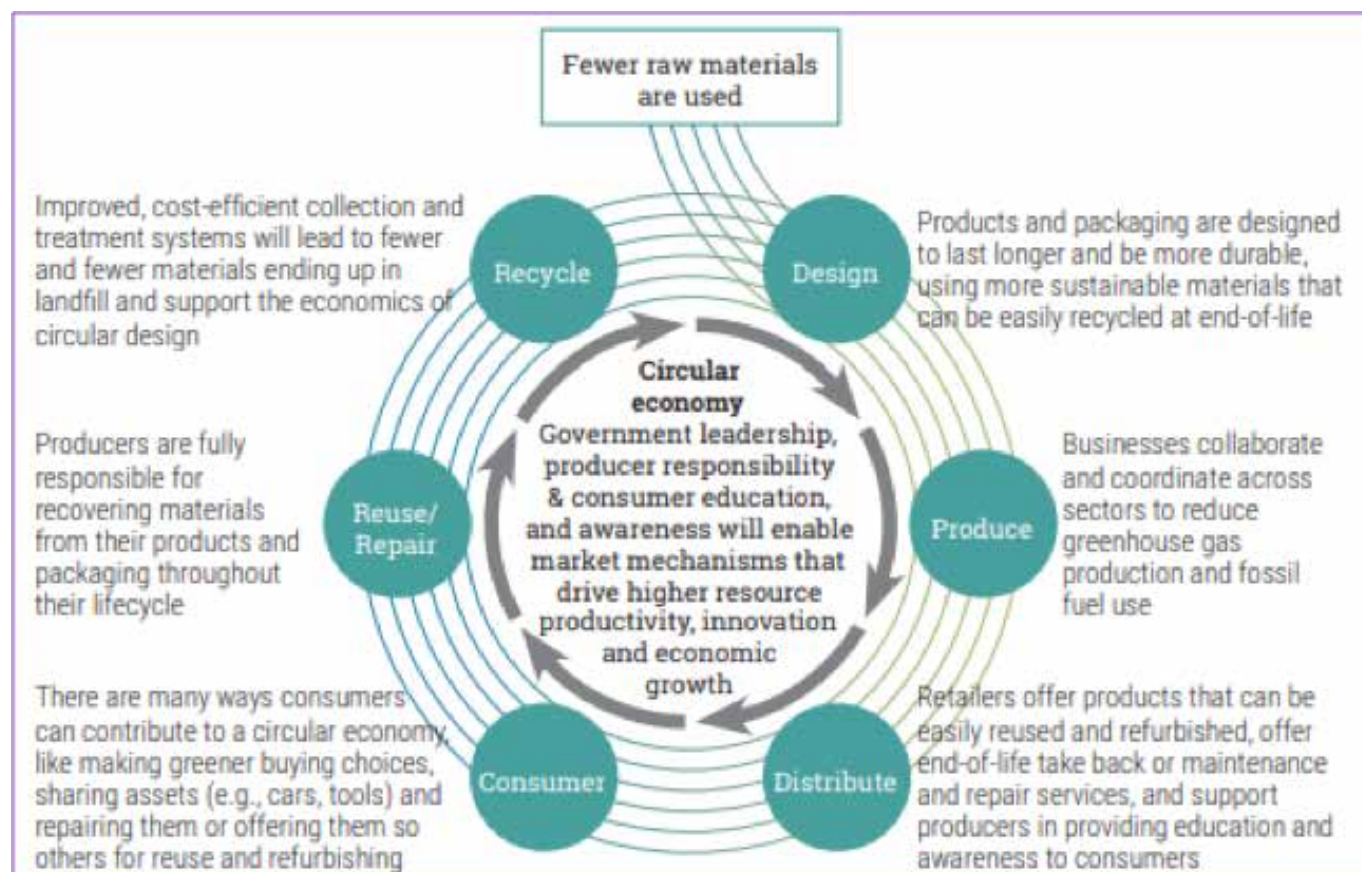
An awareness-raising campaign titled “I’m making a difference one bag at a time” included frequent

television short clips by the Minister of Health and the Environment providing information on the progress of the ban and feedback from stakeholders. A jingle was produced to promote the use of durable bags for a cleaner and healthier environment. Shoppers were provided with reusable bags outside supermarkets, and seamstresses and tailors were taught how to manufacture such bags so as to meet increasing demand. Major supermarkets were also required to offer paper bags from recycled material, in addition to reusable ones. To encourage the manufacturing and use of alternatives to plastic bags, the legislation includes a list of materials that will remain tax free, such as sugar cane, bamboo, paper, and potato starch.

In the first year of the ban, there was a 15.1% decrease in the amount of plastic discarded in landfills in Antigua and Barbuda, and this paved the way for additional policies targeting the reduction of plastics. For instance, the importation of plastic food service containers and cups was prohibited in July 2017. As of January 2018, single-use plastic utensils were banned, as well as food trays and egg cartons. At a later stage, Styrofoam coolers are also expected to be outlawed.

The Future of Plastics and Plastic Waste Management

Despite growing mistrust, plastics are critical to modern life, essentially indispensable. They are used in the development of computers, mobile phones, and



medical equipment. They help to save fossil fuels used in heating and transportation, due to light weight and insulation properties. Therefore, it is safe to say that plastics cannot be completely eliminated from modern production and consumption. In view of this, a discretionary approach may be taken. Policy interventions such as bans on single-use plastics and Styrofoam, and tax levies on plastic sales, have been successfully implemented across the globe, as is evident from the case studies described above. These interventions combat the increased production and consumption of non-profitable and unsustainable plastics and polymers, by removing them from the economy altogether. They must essentially be combined with efforts to increase production, profitability and consumption of alternative materials, such as Polylactic acid (PLA), which is derived from corn starch and can be used to make plastic bags, and fibres for clothing. Additionally, science is attempting to make plastics safer and more sustainable, such as through the invention of bio-plastics made from plant crops.

To support the move towards sustainability as well as to meet on-ground realities in developing countries where alternatives may take a while to be introduced, concepts such as Circular Economy, a concept introduced in 2013 in a report titled “Towards the Circular Economy” developed by the Ellen MacArthur Foundation, may be adopted for shorter term

impact and long term sustainability.

The main idea behind the circular economy concept, and which is echoed by the New Plastics Economy concept put forth at the World Economic Forum 2018, is that plastic should not become or be treated as waste, but rather should re-enter the economy as valuable resources. The aim is to “create an efficient after-use plastics economy which delivers better outcomes for the economy and environment”. This entails developing and instituting better waste management systems that incorporate the circular system, such as through:

- i. Increased uptake of reuse and recycling: As per a study by the National Chemical Laboratory, India recycles 95% of the 900 kilotonnes of PET, annually. This can be further boosted and extended to other plastics, with the help of new technologies and by incentivising waste management.
- ii. Extended Producer Responsibility: It is especially important for developing countries like India, where recovery is unable to match pace with production and usage. This requires strict adoption of the extended producer responsibility (EPR) strategy, under which producers are given a significant responsibility—financial or physical—for treatment or disposal of post-consumer products.
- iii. Robust implementation of Plastic Waste Management Rules 2016: Through segregation of

waste at source, incorporating and formalising waste pickers, recyclers and waste processing units, and adopting the ‘polluter pays’ principle.

- iv. Comprehensive behaviour change: All policy and regulatory changes must be accompanied by extensive stakeholder consultations as well as behavior change campaigns that work with the people to support a transition that will affect the rhythms of their daily lives.

Conclusion

India’s contribution to plastic waste that is dumped into the world’s oceans every year is an amazing 60%. The only law or regulation in place in India, nationwide, requires that no manufacturer or vendor can use a plastic bag which is below 50 microns. Several states have implemented further bans, such as Delhi NCR (National Green Tribunal’s ban on disposable plastic), Maharashtra and Himachal Pradesh (government’s ban on all single-use plastic) and Sikkim (first state to ban plastic bottles and disposable foam products). However, much more needs to be done to strengthen the move towards the vision of eliminating all single-use plastic in India by 2022, as announced on World Environment Day 2018 (5 June). A comprehensive approach that addresses all stakeholders and takes into account major system changes will need to be adopted for this vision to be realised.

SOCIAL BHARAT

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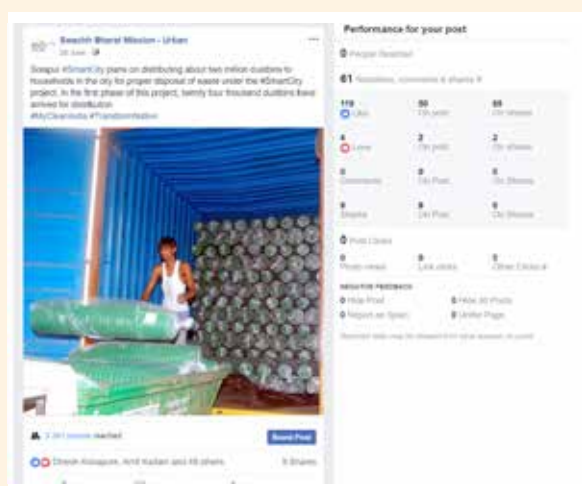
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OTHER SWACHH UPDATES

ODF TRACKER



SWACHHATA APP



ODF Status as on 30st June 2018

States/UTs	Total ULBs	Declared ODF (requests received by QCI)	Certified ODF	% Certified ODF
Andaman and Nicobar	1	1	1	100
Andhra Pradesh	110	110	110	100
Arunachal Pradesh	28	12	4	14
Assam	98	37	14	14
Bihar	144	31	26	18
Chandigarh	1	1	1	100
Chhattisgarh	168	168	168	100
Dadra & Nagar Haveli	1	1	1	100
Daman & Diu	2	2	2	100
Goa	14	0	0	0
Gujarat	171	171	171	100
Haryana	81	81	81	100
Himachal Pradesh	61	46	31	51
Jammu and Kashmir	82	26	21	26
Jharkhand	42	41	41	98
Karnataka	282	125	111	39
Kerala	94	92	76	81
Madhya Pradesh	383	383	383	100
Maharashtra	392	392	382	97
Manipur	27	27	26	96
Meghalaya	10	2	1	10
Mizoram	23	23	22	96
Nagaland	19	5	0	0
Delhi	5	5	2	40
Odisha	113	0	0	0
Puducherry	5	1	1	20
Punjab	170	107	84	49
Rajasthan	193	192	161	83
Sikkim	7	7	7	100
Tamil Nadu	666	666	472	71
Telangana	74	69	59	80
Tripura	16	2	1	6
Uttar Pradesh	667	54	26	4
Uttarakhand	100	100	95	95
West Bengal	128	73	3	2





स्वच्छ भारत का सपना प्लास्टिक मुक्त देश हो अपना

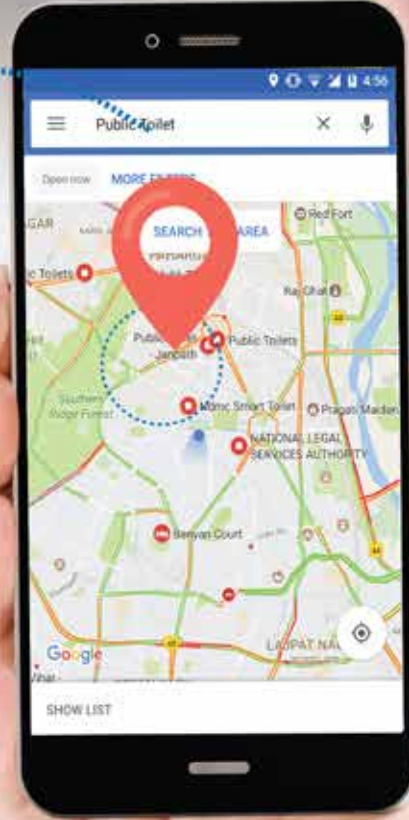




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