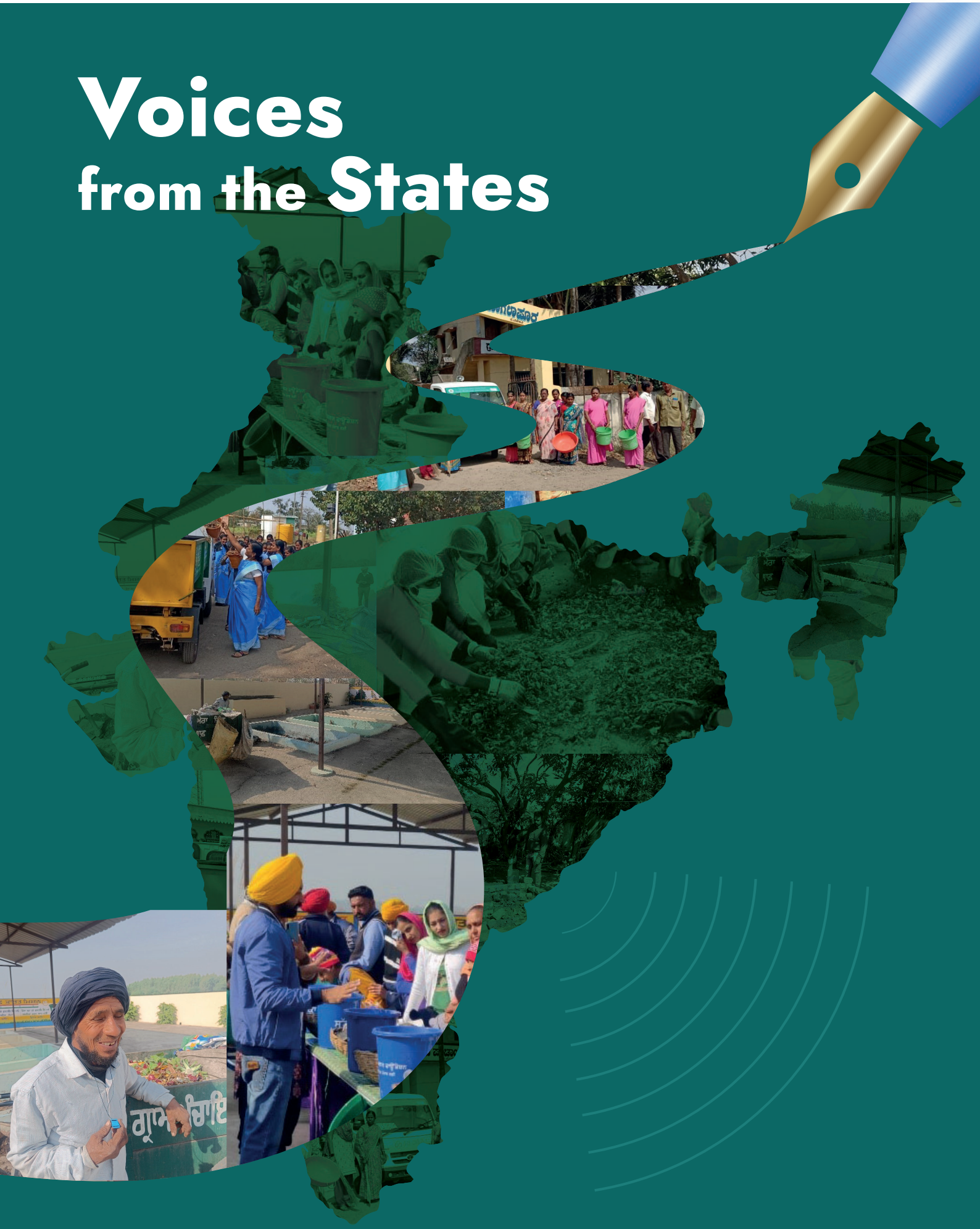
पेयजल एवं स्वच्छता विभाग
जल शक्ति मंत्रालय
भारत सरकार
DEPARTMENT OF DRINKING WATER AND SANITATION
MINISTRY OF JAL SHAKTI
GOVERNMENT OF INDIA

स्वच्छ भारत
एक कदम स्वच्छता की ओर

Azadi Ka Amrit Mahotsav

G20 भारत 2023 INDIA

Voices from the States



Voices from the States

पेयजल एवं स्वच्छता विभाग
जल शक्ति मंत्रालय
भारत सरकार
DEPARTMENT OF DRINKING WATER AND SANITATION
MINISTRY OF JAL SHAKTI
GOVERNMENT OF INDIA

स्वच्छ भारत
एक कदम स्वच्छता की ओर

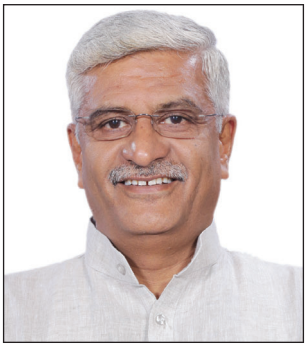
Azadi Ka Amrit Mahotsav

G20 भारत 2023 INDIA

गजेन्द्र सिंह शेखावत
Gajendra Singh Shekhawat

सत्यमेव जयते

जल शक्ति मंत्री
भारत सरकार
Minister for Jal Shakti
Government of India



Shri Gajendra Singh Shekhawat
Union Minister of Jal Shakti

Message

Swachh Bharat Mission Grameen which is said to be the world's largest behaviour change campaign has made enormous strides in the sanitation sector. It achieved the seemingly impossible task of increasing sanitation coverage from 39 percent in 2014 to 100 percent in 2019 with over 10.28 crore toilets built across 36 States/UTs that declared themselves ODF during the five-year campaign with expenditure to the tune of Rupees one lakh crores.

The success of the campaign is attributed to political leadership, public financing, partnerships and people's participation – the four pillars of India's sanitation revolution. It was also a jan andolan (people's movement) in the truest sense with over 60 crore people from all spheres of life contributing to making the programme a success, of a magnitude that few could have imagined.

At the same time, the campaign put India on the road to achieving the UN Sustainable Development Goal 6.2 – to achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of marginalised women and girls and those in vulnerable situations, by the year 2030.

Studies do indicate that toilet usage is 93.4 per cent owing to SBM(G) with significant economic, environmental and health impacts, contributing to the empowerment of women in particular.

Under Phase II of the Swachh Bharat Mission Grameen, the campaign continues through our efforts at ensuring sustainable solid and liquid waste management solutions in all 5.94 lakh villages and communities in India, while sustaining the gains made under Phase I in terms of toilet access and usage, ensuring that no one is left behind.

Today, it is a matter of pride that India has earned recognition around the world and is considered a role model in the field of sanitation. Swachh Bharat Mission Grameen which ensured access to sanitation to the whole of rural India was indeed a game changer.

The programme continues unhindered with states implementing innovative activities to build momentum and transform their Gram Panchayats into ODF Plus model villages that are visually clean.

In all our efforts, I believe that the 'Whole of Government' and 'Whole of Society' approaches are key to achieving 100% ODF Plus villages or Sampoorna Swachhata by 2024.

Office: 210, Shram Shakti Bhawan, Rafi Marg, New Delhi-110 001
Tel: No. (011) 23711780, 23714663, 23714200, Fax : (011) 23710804
E-mail : minister-jalshakti@gov.in

Smt. Vini Mahajan
Secretary
Department of Drinking
Water and Sanitation

Message

That the Swachh Bharat Mission Grameen has reached every nook and corner of this vast country in the form of a people's movement is obvious. Not only have behaviours changed but swachhata has become a household name. Such has been the impact of the Swachh Bharat Mission – a flagship programme, promoted by none other than the Prime Minister of India.

The mission in its first phase led to the construction of over 10 crore toilets, making the whole of rural India open defecation free (ODF), and now is concentrating on sustaining the ODF status of villages and the management of solid and liquid waste to make villages visually clean.

The process is ongoing equipped with the support of state and district machinery, development partners, NGOs, panchayat leaders, and the communities that are making massive efforts to contribute to the health and well-being of their communities in the spirit of a Swachh and Swasth Bharat.

Recent visits to various states to review progress and assess ODF Plus achievements have shown encouraging progress. It is heartening to note that village communities are taking ownership of their assets and are willing to ensure their sustainability.

Furthermore, to recognise the role of the private sector in Swachh Bharat Mission Grameen and that "swachhata" is everybody's business, DDWS is collaborating with the India Sanitation Coalition (ISC) at FICCI, a multi-stakeholder platform that together with corporate partners, and Development Partners, works to achieve sustainable Solid and Liquid Waste Management (SLWM) in villages of India. In addition, the Rural WASH Partners' Forum (RWPF) has reiterated its commitment to support states in the implementation of the flagship programme and to supplement the Department's efforts in the implementation of SBM-G through innovation, knowledge products, financing, and capacity-building, leading to impact-driven outcomes.

Today, the IMIS of SBM-G has shown that over 2.79 lakh villages have declared themselves ODF Plus. That is almost 50% of our villages, the progress demonstrating a five-fold increase in the last year alone. Our task remains to bridge the last-mile gap and focus on the quality and sustainability of the assets being constructed to bring about a visual change in the rural community.

The stories from the States in this booklet are a testament to their efforts.

Shri Jitendra Srivastava
Joint Secretary & Mission Director (SBM-G)
DDWS, Ministry of Jal Shakti

Foreword

The Government of India, in February 2020, approved Phase II of the SBM-G with a total outlay of 1,40,881 crores to focus on the sustainability of ODF Plus status and Solid and Liquid Waste Management (SLWM). SBM-G Phase II was to be implemented in a mission mode from 2020-21 to 2024-25 in a novel model of convergence between different verticals of financing and various schemes of the Central and State Governments. Apart from budgetary allocations from the DDWS and the corresponding State share, the remaining funds were to be dovetailed from the 15th FC grants, MGNREGA, and CSR funds.

There has been considerable progress in the last year and a glance at the DDWS dashboard would reveal that more than 2.80 lakh villages are ODF Plus which means that they have in place some systems for SLWM, and there are over 562 completed GOBARdhan plants.

Currently underway, is the Swachh Survekshan Grameen 2023 (SSG 2023) - an annual exercise to assess the implementation of SBM-G on various sanitation parameters through an independent survey agency. SSG 2023 has fostered healthy competition and generated wide participation at the GP, District, and State levels.

The National Scheme Sanctioning Committee (NSSC) which met on March 28, 2023, for consideration of the Annual Implementation Plans (AIPs) of all the States and Union Territories, has approved the State/UT budgets to the tune of Rs. 52, 049 crores for SBM-G Phase II activities through convergence for the Financial Year 2023-24.

To accelerate momentum, DDWS has also organised various iconic campaigns that have made a considerable impact. Among them was the Retrofit to Twin Pit Abhiyan which promoted simple on-site technologies by retrofitting the existing single-pit toilets into twin-pit toilets and connecting septic tank toilets to air vents and soak pits for the safe disposal of faecal sludge in rural households.

Under Sujlam 1.0 and 2.0 campaigns that were intended to treat greywater, and prevent its stagnation and discharge into the village ponds, more than 23 million individual and community soak pits were constructed in households and establishments.

With just around 2 years left to meet our target of making the entire rural India ODF Plus, all support is being provided to the States. The case studies presented in this booklet provide a glimpse of the important work being done under the various ODF Plus verticals in the villages. We can indeed look forward to a Sampoorna and Swachh Bharat soon.

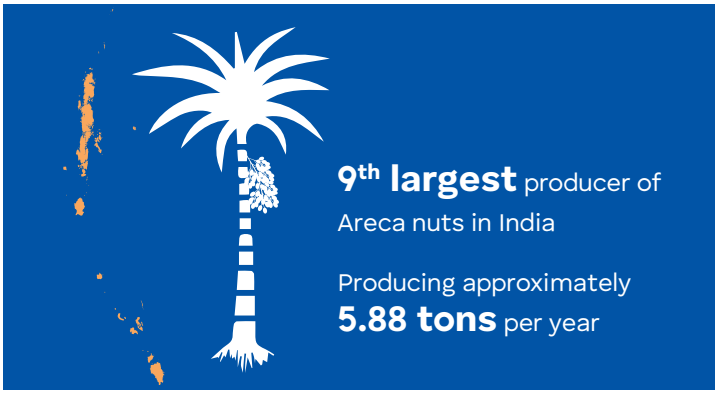
Table of contents

A&N Islands

Areca plates – an alternative to plastic plates

Plates made from leaf sheaths of Areca nut trees are an excellent alternative to plastic plates. Given that the Andaman and Nicobar Islands is the 9th largest producer of this commercial crop in the country, producing around 5.88 tons of Areca nuts in a year, the islands have enough supply of leaves to make usable commodities.

Technological innovations have demonstrated that rather than letting Areca leaf sheaths be wasted, they can be put to better use in the manufacture of leaf plates and bowls of different dimensions, which are both biodegradable and eco-friendly. In the wake of the ban imposed on single-use plastics by the government, such products are gaining importance



and penetrating the consumer market, as also the entrepreneurs producing them through a labour-intensive process that generates employment.

Incidentally, businessman, Shri Mutharasu (60) from Mohanpura has made quite a name for himself in this. A member of the Green Dealer Grocery Association, he was keen to explore alternatives to harmful plastics and having observed leaves of areca plants lie unutilized in Port Blair, he decided to make use of them and began his enterprise in 2022.

Having observed Areca plates being made in Coimbatore, he pursued training there, bought the required machinery which included 6 hydraulic machines and set up shop at a cost of Rs.10-12 lakhs at the Mohanpura Market in Port Blair. Initially, he received raw materials for free and then at Rs.3 per leaf from people. Together with two labourers that he hired, about 500 areca plates of different sizes are made every day and each plate is sold at Rs.10 per piece. The chemical-free process involves the collection of fallen dry sheaths of areca nut plants, thorough cleaning to remove dust and dirt, sun drying them, heat-pressing them using the machines, and cutting them into the required shapes of plates and bowls of various sizes.

During special events and social gatherings, the entrepreneur receives huge orders and this has helped him earn some profit. Plans are in the pipeline to set up a plant in Manpur where there is an ample supply of areca leaves.


Assam

Cluster model GOBAR-Dhan plants benefit HHs in Kamrup Metro

A team from the Department of Drinking Water and Sanitation (DDWS), Government of India, headed by Smt. Vini Mahajan, Secretary-DDWS, and accompanied by Shri Vikas Sheel, Additional Secretary and Mission Director-DDWS and senior officers visited the GOBAR-Dhan plants in Hatibagara Gram Panchayat of Chandrapur Block in Kamrup Metro District of Assam on January 12, 2023. They examined a few of the nine cluster-level biogas plants of 18 cubic meters installed there.

In operation since 30th September 2021, the biogas plants are made up of MS-reinforced KVIC type FRP Water Jacketed Floating Dome design. The biogas plants use about 65 tons of cow dung per year to provide clean cooking fuel for households and nutrient-rich slurry or fertilizer for use in agriculture.

Beneficiaries of the project are 18 households made up of 45 family members. Cow dung is collected from around 75 cattle that the families own. Gas generated per day is about 18 CUM that is used for 18 burners, saving the families about Rs.1.8 lakh to Rs.24 lakh per year in cooking fuel.

Around **75 cows** generate cow dung, producing **18 CUM** of gas per day

Given that this is the first GOBAR-Dhan project in Assam, the project has set a benchmark for all concerned stakeholders. Besides, the MS Reinforced KVIC Type FRP Water Jacketed Floating Dome has proven to be durable and safe in terms of design.

Gobar-Dhan Scheme under SBM-G Phase II: GOBAR-Dhan Scheme which converts bio-waste such as cattle waste, kitchen leftovers, crop residue, and market waste into clean cooking fuel and nutrient-rich fertilizer was launched by the DDWS to ensure cleanliness in villages while providing economic benefits to farmers and households, improving their lives in the process. The scheme benefits rural people in general and women in particular.

Further, the initiative would support biodegradable waste recovery and conversion of waste into resources; reduction of GHG emissions, and import of crude oil, and it will give a boost to entrepreneurship, and at the same time promote organic farming.

Objectives of GOBAR-Dhan

- To support villages in safely managing cattle, agricultural and other organic waste
- To support communities in converting their cattle and organic waste into wealth using decentralized systems, through the involvement of the community/SHGs, and milk cooperatives in the operation and management and promoting entrepreneurship.
- To promote environmental sanitation and curb vector-borne diseases through effective disposal of waste and cleanliness of surroundings
- To convert organic waste into biogas and fertilizer for use in rural areas and to make the process economically viable for all in the value chain

Benefits to the community

- Effective biodegradable waste management
- Reduction of GHG emissions
- Reduction in import of crude oil
- Employment opportunities for the local community
- Boost entrepreneurship
- Additional income for farmers/ local village community
- Promotion of organic farming

Project Models for GOBAR-Dhan

Community: Under this model, biogas plants can be constructed for a minimum of 5-10 households and can be operated and managed by either the GP or SHGs. The gas generated will be supplied to households/restaurants /institutions while the slurry can be used by the community as organic manure in agriculture or sold to farmers.

Cluster: In this model, individual biogas plants are installed in a number of households in a village or a group of villages. The biogas generated is used by households and the slurry is collected at a common place, separated into solid and liquid parts, and then fortified before it is sold as biofertilizer.

Importance of bio-digested slurry

- Bio-digested slurry can be fed directly to the crops through irrigation channels or it can be stored and used when required. For this, it is advisable to dig, two or three manure pits near the biogas plant.
- The digested slurry can also be used for composting. During the process of composting, bio-digested slurry helps in the quicker decomposition of organic materials and other waste that is put into the composting pits
- The digested slurry can also be enriched with bio-fertilizers (Beneficial Fungi and Bacteria)
- Bio-digested slurry can also be filtered and used in drip irrigation
- The Central Government, Assam State Government, KVK, and Agriculture Universities promote the use of organic manure and biofertilizers

MS Reinforced KVIC Type FRP Water Jacketed Floating Dome: The design was chosen, owing to its simplicity and suitability for cattle dung. Both the digester and dome are fabricated in MS structure (frame) with suitable mats of high tensile fabric and polymer coating. The major advantage of this technology is that it is easy to commission without delay; it can be installed in narrow access sites; there is no rusting or corrosion; one can clearly see how much gas has been collected; safety and long life is assured due to the water jacket. Further, water-jacket plants are universally applicable and easy to maintain. The Dome cannot get stuck in a layer of slurry, even though the substrate has high solid content. Water-jacket plants are characterized by long useful life and a more aesthetic appearance (no dirty gas-holder), owing to the superior sealing of the substrate (hygiene).

Bihar

Ganga Swachhata Raths underway in Bihar

Ganga Gram Abhiyan is currently underway in 12 districts of Bihar that are either situated on the banks of River Ganga or in close proximity to where the Ganga flows. Under the campaign, the districts will be made visually clean, ensuring ODF sustainability and the effective management of solid and liquid waste.

Organised jointly by Lohiya Swachh Bihar Abhiyan (LSBA) and ITC India Limited, the Ganga Gram Abhiyan covers the districts of Buxar, Bhojpur, Saran, Patna, Vaishali, Samastipur, Begusarai, Khagariya, Lakhisarai, Munger, Bhagalpur and Katihar.

Additionally, two Ganga Swachhata Raths were flagged off from Patna by the Secretary, Rural Development Department, Government of Bihar, Shri Balamurugan D, and Mission Director, Lohiya Swachh Bihar Abhiyan, Shri Rahul Kumar on 25th February 2023. The objective of these vehicles

The objective of the vehicles bearing IEC messages is to:

- Create awareness on safe sanitation
- Importance of Solid and Liquid waste management

bearing IEC messages about safe sanitation and the importance of solid and liquid waste management was to create mass awareness about Phase II of the Swachh Bharat Mission Grameen.

The two Ganga Swachhata Raths will conduct public awareness campaigns in each of the Gram Panchayat of the 12 districts from 25th February to 23rd March 2023.

Communities of 271 Gram Panchayats situated on the banks of the mighty river will be made aware of the need for segregation of waste at source, collection systems being put in place, proper disposal of biodegradable and non-biodegradable waste, and the importance of sustaining ODF status.

The Ganga Swachhata Raths have been equipped with digital screens and IEC materials on all aspects of sanitation including video documentaries, short animations related to solid and liquid waste management, and the legacy of River Ganga which will be broadcasted through their audio-visual equipment.

Further, a route chart has been prepared for the two Raths under which one Ganga Swachhata Rath will cover the districts of Patna, Buxar, Bhojpur, Saran, Vaishali and Samastipur while the other will cover the districts of Katihar, Khagariya, Begusarai, Munger, Lakhisarai, and Bhagalpur in the span of 27 days.

The Ganga Swachhata Raths are expected to mobilise widespread community participation. They would be accompanied and facilitated by the concerned Block Coordinators of respective districts and Sanitation Supervisors of the respective Gram Panchayats in which the Swachhata Raths would move, in order to keep the River Ganga free of pollution.

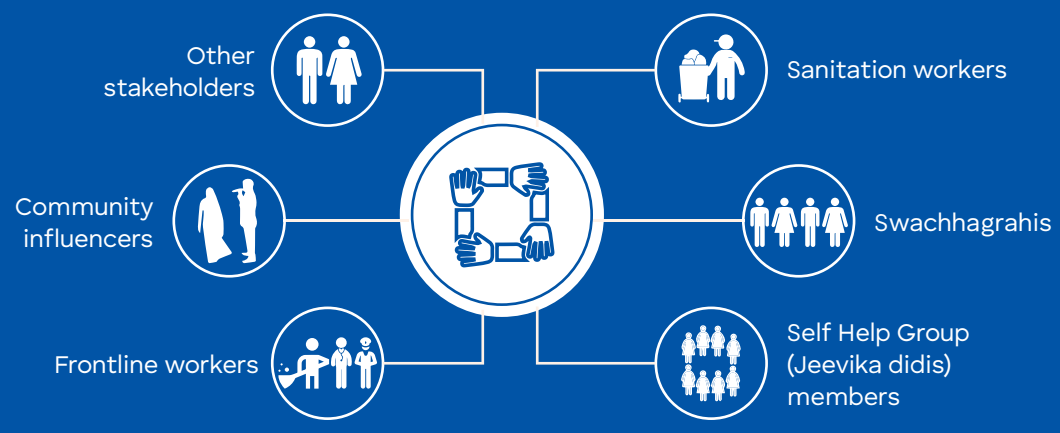
Swachhata Se Samridhhi underway in Bihar

With a view to enhancing public participation and community awareness; expediting user charge collection, and quality ODF Plus service delivery, a three-month-long behaviour change communication (BCC) campaign titled Swachhata Se Samriddhi (cleanliness to prosperity) has been rolled out in Bihar.

The focus of the campaign being held between April and June 2023 is on clearing legacy waste and plastic waste in all Ganga Grams and Gram Panchayats of all districts. In this regard, cleanliness drives are being carried out, covering water bodies, Ganga ghats and other public spaces.

Under the campaign, 10 days (15th to 24th of each month) during the months of April to June 2023 are being dedicated to the sanitation and hygiene awareness campaign across the state. The first leg of the campaign was successfully completed between the 15th and 24th of April 2023.

The state has mobilized a range of stakeholders including:



The state has enlisted the support of swachhata supervisors, sanitation workers, Swachhagrahis, Self Help Group (Jeevika didis) members, frontline workers, community influencers and other stakeholders to be engaged in various community awareness activities.

Among the activities planned for the period are ODF Plus-led interpersonal communication (IPC)/BCC, door-to-door visits, community meetings and mobilization, rallies, processions, Sandhya Chaupal (evening village meetings), Transect Walks, shramdaan, community-led total sanitation (CLTS), legacy waste cleanliness drives, multidimensional ODF-Plus messages, etc.

All activities are being carried out in convergence with the Departments of Panchayati Raj, Education, Jeevika, ICDS, Health, MGNREGA, NYK, et.

Considerable focus is also being given to solid and liquid waste management assets, resource creation, and tidying of public spaces.

Needless to say, poor sanitation reduces human well-being as well as social and economic development and has a considerable impact on health and the environment. On the other hand, safe drinking water, sanitation, and hygiene (WASH) are fundamental to improving the standards of living for people. Improved WASH is therefore central to reducing poverty, promoting equality, and supporting socioeconomic development; owing to which drinking water and sanitation are targets under the Sustainable Development Goals (SDGs) to achieve universal access to WASH by 2030.

Chhattisgarh

Patora FSTP – the first in rural Chhattisgarh

Safe and effective faecal sludge management is the need of the hour as it can improve the quality of life whether in urban or rural areas by contributing to good health and a cleaner environment. It is particularly important in rural areas, given that many villages do not have underground drainage systems.

After trial runs and testing in August 2021, the Faecal Sludge Treatment Plant (FSTP) that was set up in Patora Gram Panchayat of Durg District in Chhattisgarh and has been operational since September 2021, was officially handed over to the GP on 29th March 2023. The GP will henceforth take care of the operation and maintenance of the FSTP and will be able to earn revenue through providing desludging activities in Patora and other nearby villages.

The FSTP in Patora GP of Chhattisgarh caters to a population of 13,877 individuals and 2803 households in 5 GPs namely, Patora, Chunkatta, Selud, Godpendri and Fekari.

Each week about 3 truckloads each with 2500 litres of faecal sludge are treated at the plant

Owing to intensive IEC campaigns carried out earlier on the importance and need for faecal sludge management, the residents of the villages are aware of the numbers to call for honey-sucking trucks.

Background: Patora and surrounding gram panchayats are largely agricultural areas with about 65 percent pucca houses. About 57 percent of the workforce constitutes agricultural and other labourers and 60 percent of families are engaged in farming as a primary or secondary source and own livestock, providing a good market opportunity for co-composting along with processed sludge. Further, Patora GP has one of the best revenue collection records as compared to other GPs of the state during the last five years. The GP also has an active women's SHG that works dedicatedly on hygiene and sanitation issues. In light of such reasons, Patora was the best choice for providing a treatment plant with limited external fund reliance.

Planted Drying Bed System: With 100 percent toilet coverage, the GP was declared Open Defecation Free (ODF) in 2017. Planted Drying Bed (PDB) System was selected for this village as it can tolerate inconsistent loads without too many operational requirements. Such a system does not require frequent desludging. It can be desludged once the bed is full which is after 2-3 years or more. The dried solids obtained after that period can be directly used for land application. Further, a PDB needs limited manpower and operations on a daily basis thus lowering the operations costs.

A PDB system consists of a screening chamber that screens large solid waste fragments like plastic, cloth, sanitary napkins etc; a Planted Drying Bed where solids dewatering, drying and stablisation takes place; Integrated Settler and Anaerobic Filter for treatment of PDB percolate/effluent; a Constructed Wetland for further treatment and oxygenation of percolate/effluent; and a Polishing Pond for disinfection and storage of treated effluent.

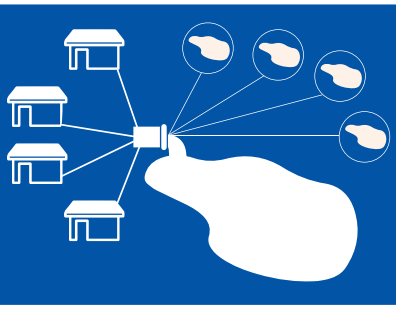
Haryana

ODF Plus stories of 2 Haryana villages

All across the country, villages have been gradually declaring themselves as ODF Plus abiding by the guidelines of Swachh Bharat Mission Grameen (SBM-G) Phase II. In fact, by March 2023 as many as 1,95,912 villages declared themselves as ODF Plus. An ODF Plus village is one in which ODF sustainability is ensured and solid and liquid waste is managed effectively leading to visual cleanliness of the village.

Here are 2 ODF Plus success stories from Haryana.

A drainage system was built to connect every household, channelling grey water into 5 ponds for treatment



Gadli Gram Panchayat (GP)

Gadli Gram Panchayat (GP) in Sirsa district of Haryana has recently been declared an ODF Plus model village with the passing of a resolution by the Gram Sabha. Much credit can be given to lady Sarpanch Kanta Kanwar who with the support of a cleanliness committee followed a process-driven approach to achieve this result.

Situated 30 kms from the district headquarters, Sirsa is home to 207 households and a population of 1092 individuals.

ODF Sustainability: For starters, to ensure ODF sustainability, community toilets were constructed and maintained, mainly to cater to migrant workers and those who assembled for functions and social gatherings. In addition, arrangements were made for separate toilets for boys, girls, and teachers in the government secondary school in the village; and in each of the two Anganwadi centres.

Solid Waste Management: To address the issue of solid waste, a garbage shed was constructed, and all the waste collected from households and commercial establishments was brought to the shed while the dry waste was further segregated into compartments and sold to local scrap dealers, thereby generating some revenue.

Liquid waste management: A drainage system was constructed, connecting every household. Through this, grey water was channeled into the 5 ponds constructed for the purpose where it was treated before it could be used for agriculture.

GOBARdhan: Cow dung is used by the people to make manure and biogas, while the sludge from the latter which is high in fertility is used in farming.

IEC and community participation: To generate awareness among the village community about hygiene and safe sanitation, meetings, cleanliness rallies, and slogan writing were organized. Further, announcements were made through loudspeakers, informing residents about source segregation and the benefits of home composting. In all activities, Gram Panchayat members, teachers, Anganwadi workers, Asha workers, and social and religious representatives cooperated to make the cleanliness campaign a success.

After fulfilling all the parameters of ODF Plus as per the guidelines of SBM-G Phase II, the GP passed a resolution and declared the GP as ODF Plus.

Dayalpur Gram Panchayat

Household waste was a major problem in Dayalpur GP (Ballabgarh Block) in Faridabad district of Haryana. The Gram Panchayat is home to 1434 households and a population of 8000. In the absence of allocated space to discard their garbage, most people threw it into the village pond or in empty spaces that over time developed into dumping grounds. This created an atmosphere of filth around the village, posing various risks to health.

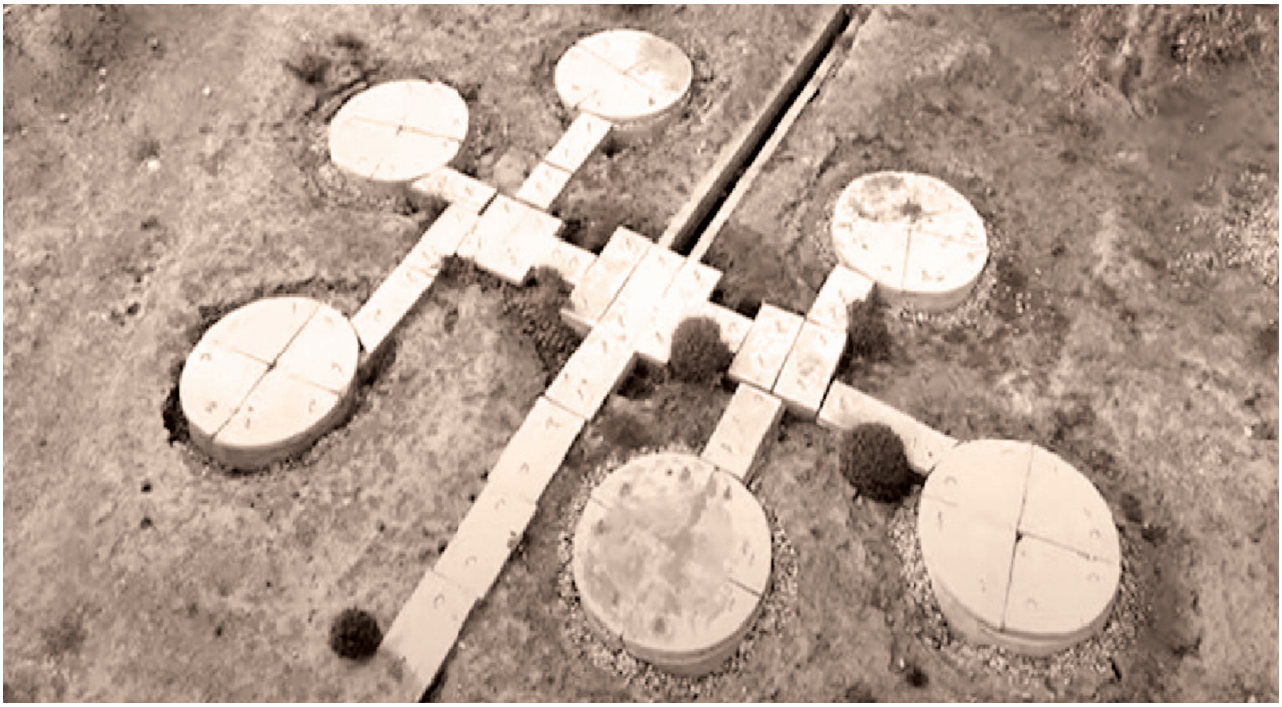
Owing to the accumulating piles of garbage and its stench, a need was felt for door-to-door collection of household waste and its management. People also needed to understand the need for solid waste management and their part in segregating waste at source as also the need for the 4 Rs - refusing, reusing, reducing, and recycling waste to contribute to a zero-waste environment.

To address the issue and to help the GP earn from waste, a solid waste management unit was constructed at a cost of Rs. 2,00,000. However, there was a desperate need to put systems in place for door-to-door garbage collection and its management. When the financial support from the tied grant was made available under the 15th Finance Commission, the problem of garbage was deliberated upon during the Gram Sabha by the GP community. Enlisting the support of Jagriti Enterprises, sanitation workers were appointed for the collection of garbage, segregation of the same, composting of wet waste, and storage of dry waste until it could be recycled or appropriately disposed of.

Currently, around 220 families are paying user charges, which are spent on cleaning the Gram Panchayat area. Further, the Government of Haryana has appointed 6 sweepers for the GP who clean the drains and ensure visual cleanliness in the GP.

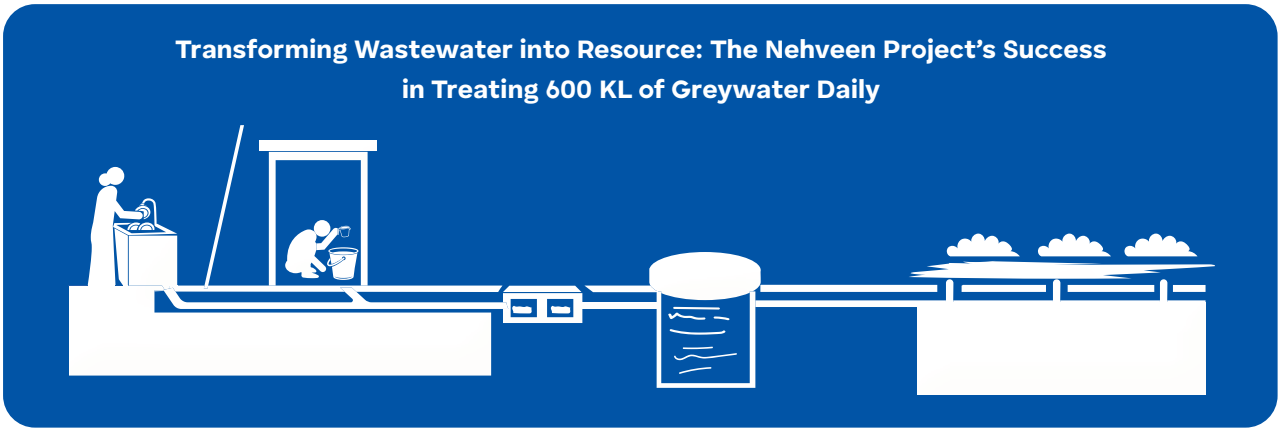
Solid waste management was possible in these villages owing to the availability of 15th FC funds and the residents agreeing to pay user charges regularly.

219000 KL greywater successfully managed in Bhiwani



Ever since the Nehveen Project was set up in Bhiwani district of Haryana in 2022, as many as 2,19,000 kilo litres of greywater generated in households of the district, has been successfully managed and the process has increased groundwater levels.

Bhiwani Gram Panchayat was identified for the model Nehveen Project with a capacity of treating 600 kilo litres of greywater per day. The project was expected to enhance the groundwater table, given that the groundwater level there is more than 20 feet deep.



Catering to around 200 families, the plant which was set up at a cost of Rs. 1.49 lakhs, consists of a 5-step filter system. This includes a chamber tank fitted with an iron grill that collects all large solid waste particles; and a smaller chamber tank fitted with a bend pipe that collects dust and small solid particles which can be collected and segregated.

After segregation of small and large size solid and floating particles, the wastewater is connected to honeycomb pits, half of them filled with stone and the other half empty. The half that is filled with stone again filters small solid particles and, in this manner, treated greywater is allowed to percolate into the ground.

Incidentally, Bhiwani district was ranked first across the country for the Swachh Survekshan Grameen of 2021. The model Nehveen project received an award for the nationwide Start-up Grand Challenge organised by the Department of Drinking Water and Sanitation, Ministry of Jal Shakti.

The district boasts of door-to-door collection, segregation, transportation, and safe disposal of solid waste in all its GPs.

Jammu & Kashmir

Pink Societies in Baramulla promote holistic development

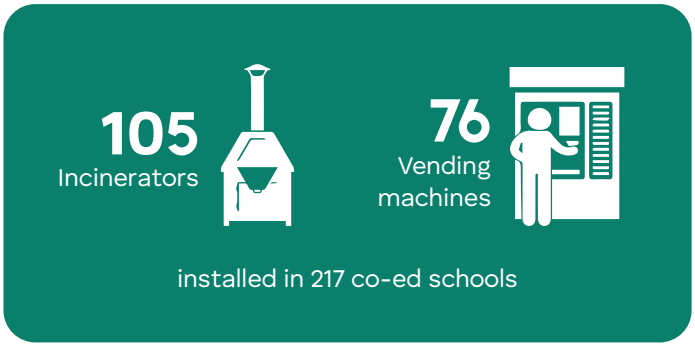
The district administration of Baramulla in Jammu and Kashmir has formed Pink Societies, each consisting of 2-3 teachers and 4-6 girl students in as many as 217 high and higher secondary schools of the district. The objective of the initiative is to enhance reproductive health and support adolescent girls, facilitating their holistic development and equipping them to respond to real-life situations effectively.

The broader objective of the initiative of the District Development Commissioner of Baramulla was to develop an awareness of symptoms and ways to prevent reproductive tract infections, ways and means to maintain personal hygiene, consequences of adolescent pregnancy and ways to avoid it, and services that adolescents can access for positive reproductive health.

The Pink Societies in the institutions make students feel comfortable in sharing concerns about their reproductive health and accessing services without shame or guilt. Going by the initial reaction of students and teachers alike, the role of the Pink Societies has gained importance, becoming an integral component of those institutions with regard to hygiene, sanitation, dignity, and maintaining respectful relationships.

Installation of sanitary napkin vending machines and incinerators: Reports indicate that several girl students drop out of school when they start menstruating, leading to a dip in their enrolment at secondary and senior secondary levels. Lack of adequate sanitation facilities, insufficient knowledge regarding reproductive health; awkwardness in asking for sanitary napkins, and embarrassment in such situations are the leading cause of this.

To address this, as many as 105 incinerators and 76 vending machines have been successfully installed in 217 co-ed schools. An additional 25 vending machines have been reserved under the aspirational district plan for block Uri which is a frontier area.



The District Development Commissioner of Baramulla has been constantly monitoring the progress of this initiative and has issued instructions for speedy installation in the remaining schools. The sanitary pad incinerators have indeed helped adolescent girls to appropriately dispose of their menstrual waste. Also in place, are vending machines with a drop-down facility by which girl students can avail of sanitary napkins by inserting a 5-rupee coin. This has been a source of income for the institutions that helps in the upkeep of washrooms. This initiative has helped the district to minimize the drop-out rate of girls and enhance their retention.

Functional toilets and piped water: Further, all the high and higher secondary institutions have been equipped with functional girls' toilets and piped water.

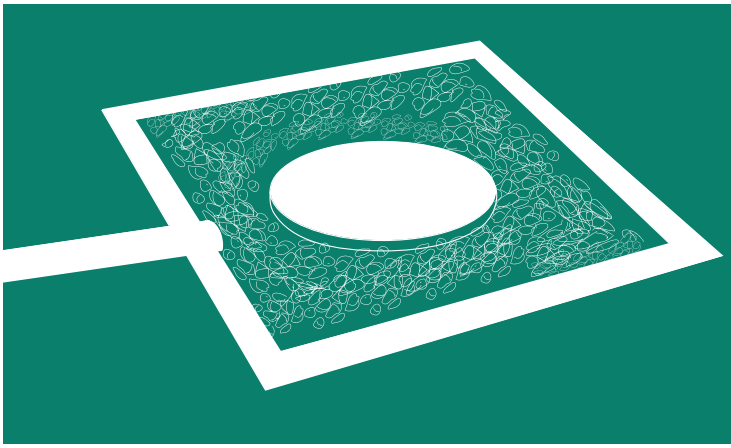
MoU with NGO SAKI: Several other major steps have been taken to ensure the sustainability of this project including the signing of an MoU with an NGO- SAKI for providing sanitary napkins to all schools at nominal rates.

As the nation's development and future lie in the hands of youngsters, they must be provided with all the basic amenities. In this regard, the pilot initiative of Baramulla district is novel and unique in nature, receiving appreciation from students, parents, and the public.

Soak pits manage greywater in J&K

In an effort to effectively manage greywater in rural areas, the Union Territory of Jammu and Kashmir has taken up the construction of soak pits that can treat greywater and at the same time enhance the groundwater table.

Greywater management (SLWM) is an integral component of Swachh Bharat Mission Grameen (SBM-G) Phase II that would lead to sustainable sanitation while preventing and reducing environmental pollution, protecting health, and keeping villages clean.



Greywater Management: A Key Component of Sustainable Rural Sanitation - Swachh Bharat Mission Grameen Phase II

The Directorate of Rural Sanitation J&K is keen to ensure effective greywater management in all its panchayats. In Sahar village of Kathua Block, which is home to 357 households more than 150 model soak pits have been constructed and construction of an additional 100 soak pits is underway, in keeping with the guidelines issued by the Department of Drinking Water and Sanitation (DDWS).

This journey to manage greywater was challenging given the initial reluctance of people in the village who were misguided about the process of construction of soak pits which they thought would require huge effort at a massive scale. However, owing to IEC activities including awareness generation at household and ward levels by the Sarpanch, the community finally agreed to the setting up of soak pits.

Furthermore, all Panchayat Raj Institution (PRI) members and public representatives were trained and given a target each for the construction of soak pits in their stipulated areas. This went a long way to build momentum as also the Training of Trainers (TOT) which was organized at the block level. Under this, resource persons from the districts provided training to PRI members and other resource persons at the block level, who further conducted multiple training programmes in villages for the construction of individual soak pits while providing technical guidance with regard to the dimensions of soak pits.

As a result of such initiatives, 80 percent of the water supplied, used, and discharged as grey water from households and institutions is now being treated through soak pits.

The Department of Rural Sanitation, J&K has implemented grey water management works in 7163 villages of 20 districts simultaneously. This adds up to a total of 2,30,244 individual soak pits of different structures constructed to suit the terrain of J&K. Through this effort, the administration has declared 41 of the total villages as ODF Plus model villages and 373 as ODF Plus Aspiring.

Panchayati Raj Institutions of J&K can also be credited for the impact of this intervention that brought about a behavioral change in the society, making people responsible for the proper disposal of grey water, compared to the earlier practice of letting it overflow onto the paths or stagnating in the low-lying areas. It has gone a long way to prevent waterborne diseases, waterlogging, and improper sanitation. All such efforts are contributing to the visual cleanliness of villages, as per the vision of the SBM-G.

J&K's Directorate of Rural Sanitation sets up GOBARdhan projects for residents living near the international border

The Directorate of Rural Sanitation, Union Territory (UT) of Jammu and Kashmir (J&K) is in the process of setting up two GOBARdhan plants in Jeora village of Suchetgarh Block that will cater to the rural communities, helping them curb the burning of wood and preventing air pollution. The initiative will also help create high-value organic manure for use in their farming.

The GOBARdhan (Galvanizing Organic Bio Agro Resources – Dhan) is a flagship programme being implemented under the Swachh Bharat Mission (Grameen) to harness bio-energy from cattle and organic waste with view to generating income and positively impacting village cleanliness. The main focus of GOBARdhan is to keep villages clean, increase the income of rural households, and generate energy and organic manure from cattle waste.

The Directorate of Rural Sanitation under the Department of Rural Development and Panchayati Raj, Jammu and Kashmir (J&K) has undertaken the implementation of the GOBARdhan Project in the Union Territory of J&K. The intervention is likely to have a significant social and environmental impact on the rural community.

Of the two biogas plants being set up by the implementation agency, one has a capacity of 45 cubic metre biogas, capable of processing 1125 kgs of cow dung per day to generate 15 kgs of biogas, meeting the cooking needs of around 90 people each day. The second 80 cubic metre plant can process 2000 kgs of cattle dung and generate 32 kgs of biogas, sufficient for the cooking needs of around 160 persons per day.

Benefits of using biogas for cooking: Smoke-free cooking with the use of biogas is an efficient and sustainable way to cook food without harming the environment or human health. Biogas is a type of renewable energy that is produced from the natural decomposition of organic matter, such as animal waste, agricultural residue, and food waste. To use biogas for cooking, households need to install a biogas stove or a burner in their kitchens. Biogas stoves use gas efficiently, without producing harmful smoke or pollutants. They provide a reliable and cost-effective alternative to traditional fuels such as firewood, charcoal, or kerosene.

Reduced environmental impact: Given that biogas is a renewable energy source, greenhouse gas emissions and deforestation are reduced. Burning of biogas releases fewer pollutants and greenhouse gases than traditional fuels, helping to mitigate climate change.

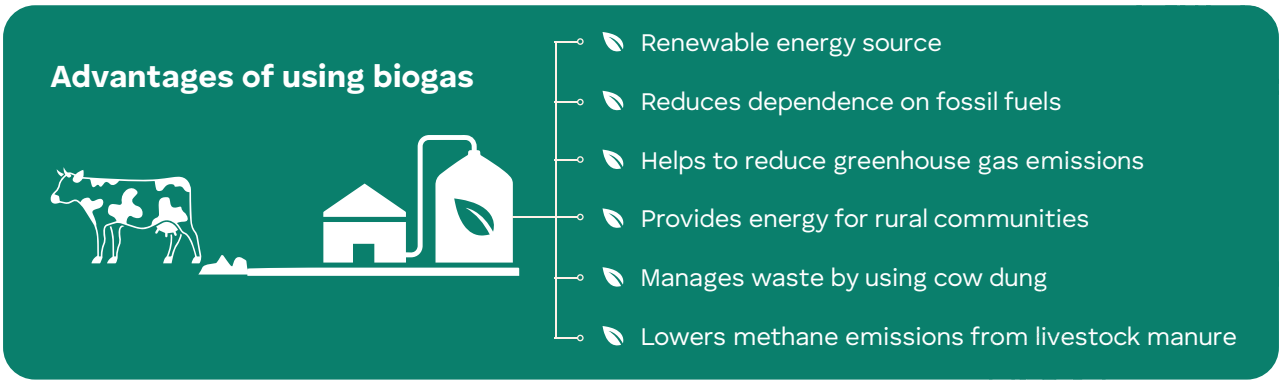
Healthier cooking environment: Smoke-free cooking reduces the risk of respiratory diseases, eye irritation, and other health issues associated with traditional cooking methods.

Economic benefits: Biogas is a low-cost fuel that can save money for households, especially in rural areas where traditional fuels are often expensive.

Increased food security: Biogas production can help reduce waste and increase the availability of organic fertilizer for agriculture, improving food security and promoting sustainable agriculture.

How a biogas plant works: Biogas is a type of renewable energy that can be produced from cow dung through a process called anaerobic digestion. Anaerobic digestion is a natural process that occurs when microorganisms break down organic matter in the absence of oxygen. During this process, methane gas is produced as a byproduct.

To produce biogas from cow dung, the dung is collected and mixed with water to form a slurry. The slurry is then placed in an airtight container called a biogas digester, where it is left to ferment for several weeks. As the slurry ferments, methane gas is released, which can be captured and used as a source of energy.



A blessing for farmers, biogas produced from cow dung is a promising source of renewable energy that can help to reduce greenhouse gas emissions and provide a sustainable source of energy for communities in rural areas of J&K.

Jharkhand

Jharkhand promotes innovative MHM practices

From setting up sanitary pad banks to the strengthening of menstrual waste disposal systems to regular sessions on menstrual hygiene management (MHM) in schools, gender-segregated toilets, and more, Jharkhand has been leading the change to prioritize women's health and sanitation needs to accommodate safe hygienic practices.

Initiatives of panchayats in Jharkhand have created an MHM ecosystem, promoting awareness and safe usage of menstrual products.

In fact, the initiatives of the panchayats of Jharkhand have created an MHM ecosystem that consists of awareness, safe usage of menstrual products, and access to menstrual waste disposal facilities.

Here are some of their initiatives:

Sanitary Pad bank system in Kasturba Gandhi Balika Vidyalaya (KGBV) Tonto, West Singhbhum: The unit caters to about 600 girls, especially those girls who are unable to buy pads regularly, providing the vitally needed access to menstrual products. The success of the initiative is attributed to the proper stock management toward meeting the MHM requirements. School girls manage the

stock register which helps them to calculate pad requirements in advance while the child cabinet ministers are responsible for ensuring regularity in the supply of pads. The school administration is actively engaged in strengthening the menstrual hygiene-related needs of the girls and in this regard, accepts donations from community members and others to fund MHM activities.

SS +2 High School, Chandil Block, Saraikella, Kharsawan propagates safe MHM waste disposal practices: The school is a shining example of cleanliness and good menstrual hygiene practices owing to the efforts of the teachers, students, and parents. Such improvements in the learning environment have helped the school retain its students to complete their studies and contribute effectively towards swachhata. The school is not only working on campus cleanliness and beatification, but it has also put a ban on single-use plastic and constructed a soak pit to manage grey water. This is in addition to the MHM Lab which is extending its facilities to a large number of girls. All other MHM-related facilities are also being upgraded and teachers are regularly sharing information with girl students on personal hygiene, crucial changes during puberty, and awareness generation among boys.

MHM Lobby in KGBV Jhikpani, West Singhbhum: A presentation was made by child cabinet ministers to the school-in-charge about the MHM lab which would allow girls to learn about menstrual health and provide them rest, which would increase their retention in school. UNICEF supported school authorities in setting up the lab with the arrangement of kits and other items and using school funds, a lab was set up within a week. According to Ashrita Gope (class 9), Health minister of the Child cabinet, "MHM lab initiative will be helpful in reducing the absenteeism, especially during periods. It is a happy space for girls to rest, learn and discuss menstrual hygiene practices on a regular basis"

Regular MHM sessions in KGBV Angada: Nodal teacher cum warden Babita Kumari from KGBV Angada realized that lack of knowledge and awareness on Menstrual Hygiene were affecting girls' learning. Even though good WASH facilities and a conducive environment were provided to the students, the lack of positive health behaviour was a major concern. Thus, Babita with UNICEF supported field agency conducted an awareness session cum training programme for girls comprising discussions, experiential learning, and sharing and use of IEC tools. This session is now being continued by the warden on a monthly basis which led to the setting up of an MHM Lab. Today all 175 girls in the school are not only aware but also vocal about their MHM needs.

MHM Lab in KGBV Gandey: The students of KGBV Gandey are free to use the MHM lab whenever the need arises. It is a space to discuss their concerns and needs. In addition, Mrs. Archana Kumari a swachhata nodal teacher took the initiative to form the 'Mahwari Swachhata Group' to work as a peer group to influence girls individually as well as in a group. After attending several online training sessions on menstrual hygiene, Archana Kumari decided to address menstrual hygiene in her school through this group as she thought that with the increasing enrolment of girls in the school, proper facilities and preparedness to ensure a menstrual friendly environment were crucial. Formation of the MHM lab has helped in regularizing MHM discussions and the swachhata group is playing a key role in generating awareness and building confidence among girls.

Helping adolescent girls to remain in school: Reena student of MS Adarsh Vidyalay, Devgaon, experienced her first period during her class. The cramps and the sudden change she experienced were frightening. The MHM Lab developed in the school provided sanitary pads, a space for Reema to rest, and information about personal hygiene and safe practices. With that, she was the first girl

in the school to be retained, having complete trust in her seniors and teachers. Reema is now a part of the group that can help her friends and spread the right information about periods.

Dialogue and awareness generation on MHM: The State has set another example of ensuring a dialogue and awareness generation among school students on MHM is New Bhagalpur Middle School, Bermo in Bokaro. This initiative has helped about 330 girls in the school to bust menstruation myths and confidently address MHM. Under the interventions, proper and better toilet facilities with adequate water, regular availability of pads, and dissemination of information through group awareness session is proving to be very helpful.

Gender-segregated toilets: Latehar district administration has been promoting gender-segregated toilets for healthy MHM in Turisot, Chandwa block, Latehar. In fact, their Swachh Bharat Mission – Gramin, Phase II and Swachh Vidyalay Swasth Bacche (SVSB) programme has generated impetus to take forward the WASH agenda with concerted actions in convergence. One such example of the initiative is visible in the Upgraded Middle School Turisot where all stakeholders joined hands to bring cohesive change by advocating for improved water and sanitation facilities and constructing gender-segregated toilets on the campus. Panchayat Mukhiya, Ms. Ranjeeta Ekka took the lead and actively supported the activity by leveraging 15th Finance Commission funds. Through her effort, the school now is equipped with adequate sanitation facilities.

Karnataka

Women are at the helm of garbage collection in Gadag

In various gram panchayats (GPs) of Gadag district in Karnataka, the responsibility of waste management has been entrusted to the Sanjeevini Women Self Help Federation of Gram Panchayats. The activity ensures sustained income for rural women who are offered an alternate source of livelihood.

"We have decided to involve women in this initiative. It is an encouraging sign that many are coming forward for the job. They have become good drivers while contributing immensely to the sanitation drive," said Mr. Bharat S. CEO-Zila Panchayat.

In the first phase, as many as 30 women have been trained and commissioned and they were taught to drive the garbage collection truck so they could carry out all the functions independently.

Women Trained to Drive Garbage Collection Trucks

30 women
trained and commissioned to drive garbage collection trucks

The move has been viewed with interest, welcoming even, given that women on the wheel is not a common sight in the villages.

Currently, 3 women have been appointed for each Panchayat waste management unit. Plans are in the pipelines to train an additional 100 women to cater to the 122 GPs in the district. For the role, women who have completed higher primary and secondary school have been selected, their payment being honorary.

Outcome: The women drivers seem to be enjoying their role, even though many of them are first-time drivers, and some had never even ridden a bicycle before. It is an alternative source of livelihood and given that they are doing something important to keep their villages clean is a source of pride and satisfaction.

Karnataka's Shirur GP gets a GWM unit

A Greywater Treatment unit consisting of an adopted settler and a constructed wetland has been constructed in Bedavatti village of Shirur Gram Panchayat in Kuknoor taluk of Koppal District in Karnataka.

Constructed at an estimated cost of Rs.10.05 lakhs (Rs. 6.60 lakh from SBM-G; Rs. 3 lakh from MGNREGA; and Rs. 0.45 lakh from 15th Finance Commission Grant), the greywater management (GWM) unit located at the outfall point will cater to 214 households of the village.

Previously, the greywater generated in the households would join the river Hirehalla at 2 places, contaminating the water body. The new system will ensure that greywater is treated and thereafter flow into a canal and used for agriculture, etc.

Before starting the greywater management (GWM) works in Bedavatti village, a survey was carried out to ascertain the quantity of greywater generated by the population of 1071 individuals in the village. Thereafter, the greywater treatment plant was constructed at one of the points where the greywater joined the river. Construction of the other plant at the second point is ongoing.

How the Settler and Constructed Wetland works: The greywater from households passes through various stages of treatment before it enters the main channel. The first stage includes a three-step screening system that features floating traps of large, medium and small sizes to trap particles. The greywater then passes through a silt trap that was constructed based on the size of the population and the water discharged and 45 mg /litre BOD (Biochemical Oxygen Demand) which will be reduced to 20 per cent.

In the next stage is a settler that comprises two chambers. The treated water is then channelled into a constructed wetland with a baffled wall every 10 metres that consist of aggregate 40mm, 20mm and canna indica plants when in the final stage the BOD comes to 8 mg/litre which is within the permissible limit.

Karnataka's Swachh Sanivara promotes sustainable sanitation

To promote awareness and community participation on issues pertaining to sanitation with a view to making villages visually clean, and using approaches that would make sanitation and waste management sustainable, 'Swachh Sanivara (Cleanliness Saturday)' is observed across rural Karnataka.

Swachh Sanivara is observed on the first Saturday of every month. In this regard, the Department of Rural Development and Panchayat Raj and the Department of Rural Drinking Water and Sanitation issued an advisory to all Gram Panchayats (GPs) which are required to conduct various activities to inculcate sustainable sanitation practices in the rural community. This would be done by carrying out comprehensive cleanliness activities, the tagline of the programme being **'Namma Grama - Swachh Grama, Gramada Nade Swachhate Kade'.**

Swachh Sanivara (Cleanliness Saturday)

Observance:
First Saturday of every month

Tagline:
Namma Grama - Swachh Grama, Gramada Nade Swachhate Kade

On those Saturdays, the communities engage in cleaning the entire village, streets, water sources, school premises, and places where excess waste is accumulated. They sort and dispose of garbage and engage in cleanliness activities through 'Shramadan' or voluntary work. Focus is also given to reducing, reusing, and recycling non-biodegradable waste, as per the guidelines of Swachh Bharat Mission Grameen (SBM-G) Phase II.

Activities recommended for Swachh Saturday are:

- Before commencing the sanitation drive, the GP President, Vice President, People's Representatives, Panchayat Development Officers, and other staff are to hold a special ward meeting with the village communities, youth associations, cooperative societies and self-help groups to involve them and make them aware of Swachh Sanivara.
- Thereafter, on the first Saturday of every month, a swachhata pledge would be administered when people will take an oath to maintain cleanliness of their surroundings, reduce the use of plastic and refrain from spitting. Thereafter, cleanliness activities are to be carried out in schools, anganwadis, hospitals, commercial areas, government offices, water sources, public spaces and temples by the community, village leaders and other stakeholders.
- Distribution of two bins to promote segregation of waste at source; identification of location for community compost pits to dispose of biodegradable waste.
- To ensure there is no stagnation of rainwater and greywater to prevent vector-borne diseases.
- All Government/community-based institutions are to be painted and decorated with swachhata messages/slogans. Records to be maintained of decisions made and activities carried out.
- Community to participate in the cleaning of stormwater drains to ensure smooth flow and to prevent stagnation.
- Installation of nameplates on the main road/highway/footpaths, reflecting the historical/cultural character of the village. To make arrangements for adequate movement of pedestrians/vehicles on the respective roads.
- Implementation of Village Sanitation Plans effectively.
- Ensuring usage and maintenance of community and public toilets and construction of community toilets wherever required.
- Identify families excluded from the baseline survey, fill out applications for them through Citizen Mobile App, and take necessary steps to construct individual household toilets.
- Take swift action for proper management of grey water and black water. In the absence of systems to manage the same, identify the nearest Hobli/Taluk Centres and link the GPs and promote awareness on the same.
- Necessary steps need to be taken for the construction of GOBARdhan units where necessary and 100% percent wet waste should be compulsorily converted into compost at the household level.
- A datasheet needs to be maintained and updated about the daily functioning of incinerators

and action to be taken when a repair is needed. Adolescent girls should be informed about the usage of the incinerators installed.

- Installation of name boards on cleanliness, water conservation and other vital information in public places of the village is mandatory.
- Adoption of swachhata designs for wall writings, and nameplates that can be used for Swachh Shanivara Abhiyan.
- Action to be taken to provide special incentives to those who collect more plastic items at home.
- Installing signs/ boards and wall writings in public places to prevent littering, spitting, use of plastic, burning of garbage, etc.
- Increased focus on waste collection-segregation-disposal and treatment campaigns and solid waste management.

State-level participation in Swachh Sanivara:

All the state level Directors, Deputy Secretary (Development), Chief Accountants Officer, Chief Engineer, State Level Officers and Consultants would visit each Gram Panchayat and participate in the campaign titled 'Namma Grama Swachh Grama', as also the cleanliness walk and confirm the participation and monitoring of officials present at village level.

At the Zilla Panchayat level, the Chief Executive Officers, Deputy Secretaries, Chief Accountants, Chief Project Officers, Project Directors, District/Taluk level officers of other related departments, and District Coordinators should attend the event at Gram Panchayat and take steps to make it compulsory to participate in this drive.

At the taluk panchayat level, executive officers, Coordinators (MGNREGA), taluk level officers and taluk consultants of other departments should be nominated as nodal officers for each village for this programme. They should participate compulsorily in every Swachh Sanivara campaign, and ensure the participation of other officers and staff.

Kerala

Suchitwa Mission tackles chicken waste

As many as 40 chicken waste rendering plants have become functional in ten districts of Kerala over the past two years, with others to come up shortly, in the remaining four districts of the State, thanks to the efforts of Suchitwa Mission, the technical support group in the waste management sector under the Local Self Government Department of the Government of Kerala.

The move is vital given that the inefficient handling of poultry waste for years has led to the pollution of waterbodies and an increase in the stray dog population within the state.

The chicken waste rendering plants have been set up under the public-private partnership model.

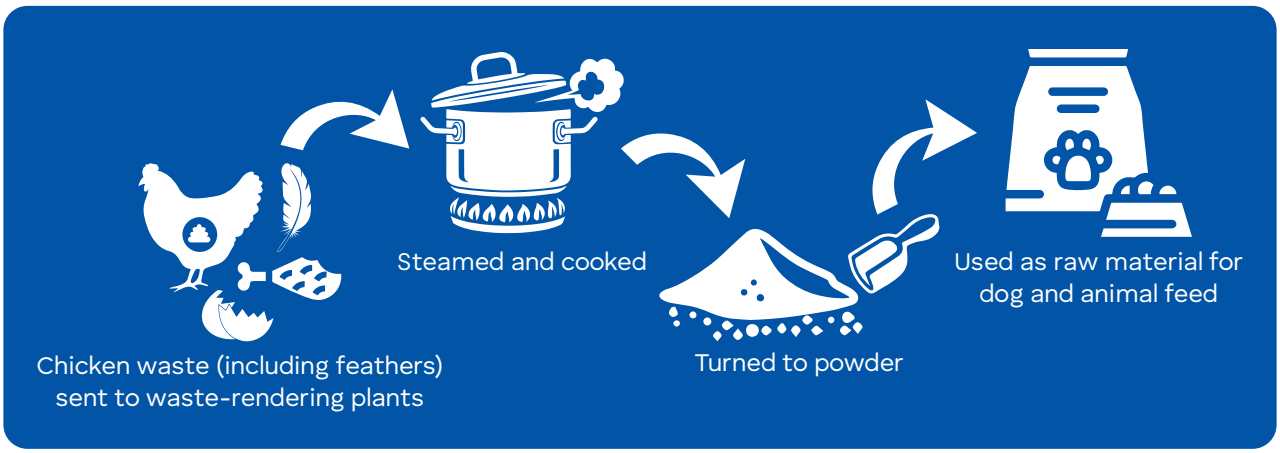
Previously, such poultry waste was handed over to pig farms. While this provided a solution of sorts, it was not effective in the long run, and as the waste collection process was not effective and some of it continued to be dumped in public spaces or water bodies. Further, chicken feathers could not be processed in biogas plants.

At that juncture, it was Suchitwa Mission that hit upon the idea of rendering plants, which could process all kinds of chicken waste and produce useful raw materials.

According to the Executive Director of Suchitwa Mission, Mr. KT Balabhaskaran, all chicken waste including feathers is steamed, cooked, and turned into powder which is used as raw material for dog and animal feed. The government of Kerala is now implementing a system to ensure that chicken waste reaches the waste-rendering plants.

If poultry shop owners did not have a facility to process the waste produced, they were required to hand over the chicken waste to those running the rendering plant in the area. The maximum fee for the collection was fixed at Rs.7 per kilogram. Additionally, all the plants had refrigerated vehicles for collecting the waste.

It is estimated that around 1080 tonnes of chicken waste are produced from the 16,000 poultry stores across the State. Around 75 per cent of the same is processed in the 40 plants that are in operation at present.



Reports indicate that the first plant was set up in Pappinissery of Kannur on an experimental basis in 2019. Given the success of the model, the Local Self Government Department issued detailed guidelines for licensing poultry meat stalls and poultry waste rendering plants in October 2021, after which more plants were set up in other districts. Currently, districts that are yet to have a plant are Kottayam, Idukki and Alappuzha, while the work on a plant is ongoing in Thiruvananthapuram.

Meanwhile, district-level facilitation and monitoring committees, headed by Collectors, have been set up to ensure the viability of the plants which require a sufficient supply of waste, before sanctioning. With the government playing the role of a facilitator, and local bodies providing land for the plant in some areas; there is no additional financial burden on the local bodies in this PPP model.

Kerala is a leader in plastic, non-biodegradable waste management

From collection to segregation, shredding, baling and establishing forward linkages, Kerala has effective systems in place for the management of plastic and other non-biodegradable waste and is therefore a leader in this field.

The entire process of non-biodegradable waste management is overseen by Suchitwa Mission (SM) - a technical body of the Government of Kerala, under the Local Self Government Department (LSGD). It is the nodal agency in the State for implementing Swachh Bharat Mission projects and for assisting local self-government institutions (LSGIs) in projects related to sanitation and waste management. In this regard, SM provides technical sanctions and issues the state government's share of funds to sanitation and waste management projects, implemented by Haritha Karma Sena (HKS).

Haritha Karma Sena (HKS): HKS or the Green Task Force is a micro-enterprise unit formed in each LSGI. Its members are trained by Haritha Sahaya Sthapanam (HSS) – a body empanelled by Suchitwa Mission to provide local-level technical and managerial support to local self-government institutions such as Gram panchayats, Municipalities, and Corporations to successfully implement their decentralised waste management activities. HSS provides vital support to achieve a waste-free Kerala. Suchitwa Mission has also empanelled NGOs and agencies with expertise in the field to handhold the HKS. Currently, HKS is functional in 1031 out of 1034 LSGIs.

Ascertaining waste management requirements of GPs: At the outset, the HKS conducts a survey to ascertain the requirement of waste management facilities at household and institutional levels. It monitors the establishment of source level solid waste management devices at houses and institutions. Thereafter, the HKS every two weeks visits households and institutions where source level biodegradable waste management devices have been installed to inspect their working and provide support if required. They also provide assistance for composting, providing them the monthly supply of inoculum and other help related to the Green Protocol.

Conducting awareness programmes and selling value added products made from non-biodegradable waste through the Clean Kerala Company Limited (CKCL) or other agencies is another responsibility of the HKS.

The process for treatment of non-biodegradable waste:

Collection of non-biodegradable waste from source: HKS appoints 2 persons in each ward for door-to-door collection of non-biodegradable waste such as paper, plastic, medicine covers, etc., at regular intervals, and also assists in biodegradable waste management. For these services, it collects a monthly user fee which varies from Rs.40 to Rs.60 for households and Rs.100 for institutions (for about 2 sacks and the amount increases based on the volume of waste.

A calendar has been prepared for the collection of non-biodegradable waste which the households are aware of. While all types of plastic waste and paper are collected every month, e-waste is specifically collected in January and July; medicine strips in February and September; hazardous e-waste in March; glass waste in April, August and December; shoes, bags, chappals and thermocol in May and November; and cloth waste in June and October.

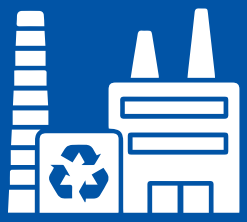
Transfer to Micro Collection Facility: Waste that is collected is sorted and transported either to the mini–Material Collection Facilities (MCF) located in GPs or the MCFs at the ward level. Spread across an area of 500 sq.ft, the facilities are equipped with weighing and bailing machines. As on 27th January 2023, there are 932 functional MCFs in panchayats, 114 in municipalities, and 21 in corporations.

Waste collected at MCFs includes plastic materials below 50 microns such as carry bags, toys, packing materials, etc; Plastic materials above 50 microns that have scope to be recycled - PET bottles, milk covers, aluminium cans, broken buckets, plastic plates and furniture, etc; leather products (shoes, bags), broken glass, broken plates (steel, aluminium, iron, etc), cardboard, newspaper, etc.; medicinal strips, toothpaste tubes, bottles and covers of beauty products; e-waste; tyres, rubber products; thermocol; different types of metal; beer cans/alcohol bottles.

Waste that cannot be collected at MCF includes biodegradable waste such as food waste, slaughterhouse waste, poultry waste; market waste and non-biodegradable waste such as chemicals or bottles containing chemicals, kerosene, petrol or diesel; as well as sanitary napkins and diapers.

Plastic waste is sent to RRFs: From MCFs, plastic waste is transported to Resource Recovery Facilities (RRFs) that are functional at cluster level.

Functional RRFs (as on 27 January 2023)



57 in gram panchayats

60 in block panchayats

67 in municipalities

11 in corporations

At RRFs the process involves dust removal, shredding and baling of plastic waste to recover usable fractions. While non-recyclable plastics are shredded for use in road construction work, e-waste, glass and metals are channelised to recycling centres through CKCL.

Collection and safe disposal of rejects by CKCL: Recovered fractions from RRF are considered for reuse and recycling. Plastic shreds and rejects from MCFs are also transferred to CKCL.

Meanwhile, all canals, drains, public places, roads and highway sides are cleaned by the respective LSGIs as part of pre-monsoon cleaning operations. The waste that accumulates during this drive is largely non-recyclable waste that needs to be converted into refuse-derived fuel (RDF) or to landfills. Most of the waste is sent to cement kilns after converting it to RDF. CKCL engages aggregators who have valid agreements with Cement Factories and hence such waste is transferred for safe disposal. So far 51,722 MTs of reject waste have been collected and disposed of safely; and 2987

MTs of shredded plastics have been handed over to Local bodies and PWD for road tarring so far and 5216 KM of road has been so far constructed.

Ban on Single Use Plastics (SUPs): The state government imposed a complete ban on the manufacture, storage, transport and sale of single use plastic items in Kerala with effect from 1st January 2020.

Innovative projects:

Plastic Fischer Project: Kerala has also made interventions in the prevention of marine plastic litter and pollution and through the Plastic Fischer Project in Thiruvananthapuram Corporation has provided end-to-end service that included building, deploying, collecting, sorting, preparing, and processing of plastic waste. So far, 63.313 tonnes of plastic waste have been collected through this project.

Clearbot project at Trivandrum: Veli Lake is an attractive tourist destination, that on one end is linked to the Akkulam Lake while the other end mingles with the Arabian Sea during the monsoons. All the garbage that clogs the Veli Lake is discharged into the sea during monsoons. Deploying Clearbot is an inexpensive way to clean trash, oil and invasive weeds. Clearbot Neo which runs on electric power can collect up to 15 litres of oil and 200 kgs of floating trash in a day. The garbage collected from the lake can be safely handled and processed by green worms at the MRF.

Green Protocol: It is a set of measures that when implemented result in a significant reduction of waste. The primary focus of the green protocol is the prevention of the use of disposals, and using reusable and recyclable alternatives like glass/stainless/porcelain cutleries. Green protocol is observed during various state/district functions/festivals.

Swap Shops to promote the reuse of resources: Swap Shops are being opened by local bodies where people can drop their old items which may be useful for others in society. From there, people can select things they need at a very minimal cost or even free of cost.

IEC Activities: Production and sale of alternative products, declaration of 10,000 government offices as green offices in January 2021, state-wide campaigns promoting green protocol during elections when use of PVC flex materials was restrained were among the IEC activities to promote plastic waste management.

Haritha Mithram App – a digital solution to waste management

Kerala has taken a great leap towards achieving the goal of a zero-waste state by adopting a digital solution to waste management. This is in keeping with their efforts to make waste management more efficient which includes enhancing the efficiency of door-to-door collection service through Haritha Karma Sena (Green Task Force) and allied services.

Haritha Keralam Mission, along with the *Suchitwa Mission*, last year launched a smart garbage monitoring system named Haritha Mithram Smart Garbage Monitoring System App. The App helps to streamline the activities of Haritha Karma Sena and its waste management interventions through time-to-time monitoring of various functional aspects covering the volume of generation from each waste source, its collection, transportation, and various other enormous processes that follow.

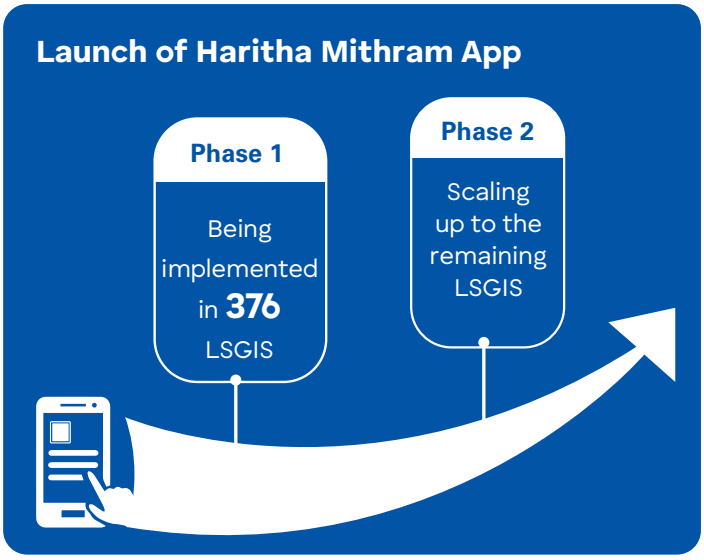
Under the *Nava Keralam Karma Padhathi* programme launched by the state government, almost all the Local Self Government Departments (LSGDs) have been integrated with a seamless chain that connects door-to-door waste collection by the Haritha Karma Sena, maintaining the mini material collection centres (MCC), material collection centres (MCF), resource recovery facilities (RRF), domestic and institutional level bio-waste, disposal of material, and the installation and operation of organic waste management systems at household and institutional levels. The activities under this network system are monitored from ward level to state level through this unified online platform called the Haritha Mithram App.

The App enables the public to directly participate in the process through a special module incorporated in the App and thereby creates a platform for the Local Self Government Institutions (LSGI) to identify the area of improvisation in waste management allied services. The project is being implemented under the leadership of LSGIs with the participation of Kudumbashree units (a community organization of neighborhood groups (NHGs) of women in Kerala) under the supervision of Suchitwa Mission and Haritha Keralam Mission. Keltron has developed the App and is continually providing technical support.

The services that can be availed through the App are information regarding waste sources such as homes, institutions, public places, etc. The activities of Haritha Karma Sena in each LSGD can be monitored and details regarding the quantity and type of waste collected through doorstep collection, the quantity, and type of waste that comes at the MCFS and RRFS, and the amount of waste collected by Clean Kerala Company or other private agencies are made available on a real-time basis.

A web portal that is a part of the App will help integrate and monitor waste management services. The real-time information from the LSG ward level to the state level will also be available on the App. People can report local pollution problems through the App to their respective LSG bodies. This will enable mechanisms to report problems, including careless and hazardous dumping, and

report the dangerous practice of burning waste to the local bodies concerned.



The launch of the App at the local body level in the state is in progress. In the first phase, the project is being implemented in 376 local self-government bodies. The project is nearing completion in four corporations, 59 municipalities, and 313-gram panchayats while the enrolment process of waste generation sources in the first phase is completed. The enrolment process in the second phase of implementation which aims at up-scaling the digitized services to the remaining LSGIS commenced in January 2023. After completing the enrolment of 100 per cent waste sources, the App will be operational in all the LSGIS in the state by August 2023.

The state-level launch of the project implementation activities was done by the then Minister of Local Self Government Department, MV Govindan, on 18th May 2022. The district-level and local self-government level rollout of the project is taking place in different parts of the state with public support.

Digitalization in waste management is the need of the hour, as it will help keep a tab on the status of biodegradable and non-biodegradable waste generated in the state especially when poor documentation and lack of accurate data create trouble for effective planning. A clear-cut database will be available regarding waste generation in the state and modes of its processing after this App gets fully operational.

This innovative initiative is indeed a step in the right direction. In fact, Kerala is a frontrunner in finding a digital solution to the stinking problem of solid waste management.

Haritha Keralam Mission integrates the components of Waste Management, Organic Farming and Water Resources Management. Once of its aims is to integrate household level segregation and safe disposal of organic waste through feasible options like composting, biogas, arrangements for institutional waste disposal, re-use, recycling and safe disposal of non-degradable and electronic waste are given priorities.

Suchitwa Mission is the Technical Support Group (TSG) in the waste management sector under the Local Self Government Department, Government of Kerala.

The **Haritha Karma Sena** is a Green Task Force that collects non-biodegradable waste from houses and establishments to shredding units for recycling.

The **Nava Keralam Karma Padhathi**, the flagship programme of the Government of Kerala, aims at elevating the quality of life of its people, in a mission-mode approach.

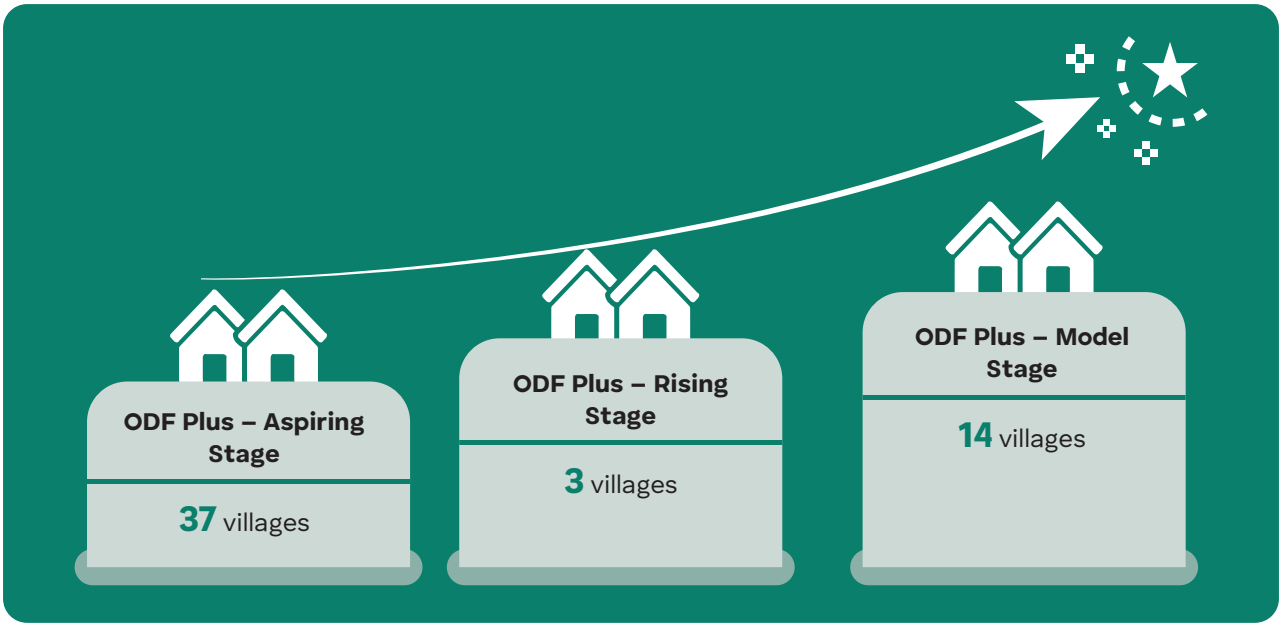
Ladakh

Ladakh has 15 functional PWMUs

Given that the Union Territory (UT) of Ladakh is a popular tourist destination, it faces acute challenges of solid waste pollution, particularly in the peak tourist season, similar to that of other tourist destinations. To address this, the UT has embarked on integrated solid and liquid waste management interventions, one of which is the setting up of as many as 15 plastic waste management units (PWMU) - 7 in Kargil and 8 in Leh that are currently operational and effectively managing plastic waste.

The Trans-Himalayan UT consists of 238 villages of which 37 have achieved ODF Plus Aspiring status; 3 are ODF Plus Rising and 14 are in the ODF Plus Model stage as per the DDWS IMIS on February 3, 2023.

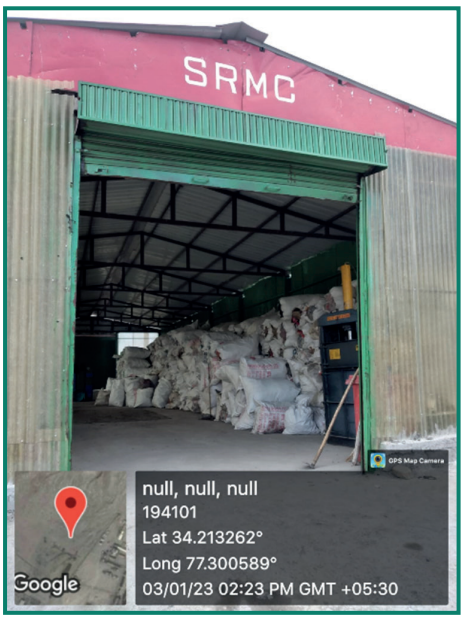
Each of the blocks in the UT has been equipped with garbage collection vehicles (2 for larger blocks) and each PWMU has about 5-8 workers. Colour coded bins have been distributed to every household and both biodegradable and non-biodegradable waste is collected door to door from households on a weekly basis. In GPs where door to door collection is not possible owing to the challenging terrain, there are common garbage points where people can deposit their garbage from where it is collected by the vehicles.



At the PWMUs which are equipped with both shredding and bailing machines, the collected solid waste is further segregated into paper, plastic, thermocol, etc. While most of the plastic waste is bailed, some of it is shredded, depending on the requirements, and sold either to registered vendors or recyclers. Biodegradable waste is converted into compost within the same facility.

The revenue collected from the sale of recyclable waste is used for workers' salaries which are further supplemented by the State.

To promote awareness of the importance of segregation of waste at source, composting of biodegradable waste, and curbing the use of single use plastics, at least 3-4 awareness sessions have been held in each Gram Panchayat.



Lakshadweep

All Lakshadweep villages have achieved model ODF Plus status

All nine villages in India's smallest Union Territory (UT) Lakshadweep have achieved model ODF Plus status. This means that they sustain their ODF status and have in place systems that effectively manage solid and liquid waste, making the villages visually clean.

Lakshadweep archipelago consists of 10 inhabited islands and 26 uninhabited islands including coral reefs and submerged banks spread across a total land area of 32 sq.km, managed under the Lakshadweep Panchayat Regulations, 1994. While fisheries and agriculture are the main livelihood areas, coir and coir-based industries are cottage industries available in all inhabited islands. All essential commodities except for fish and coconut are imported from nearby states and tourism is the main industry.

Sanitation coverage: Divided into 81 Wards, Lakshadweep has a population of nearly 70,000 individuals from 14200 households all of which have individual household toilets with septic tanks. As many as 91 community sanitary complexes are located in public spaces across the islands.

Biodegradable and non-biodegradable waste management: All households segregate waste at source. While some of them have individual compost pits, others feed their kitchen waste to their cattle and goats. Further, many villages have community vermi compost pits where the collected wet waste is deposited. There are also community heap compost pits to store coconut waste.

Further, the UT administration has installed nearly 4800 blue community waste bins for dry waste and 100 green bins of 200-litre capacity for biodegradable waste at various public places for households to deposit their waste. For sanitary waste such as napkins and diapers, as many as 35 red bins have been placed in Kavaratti.

Plastic waste management: Plastic waste is collected from community waste bins and workers have been equipped with 12 e-carts, 4 four-wheeler and 3 three-wheeler vehicles to transport the plastic materials across the islands. Casual labourers have been engaged for the collection, segregation, and transportation of waste, commensurate with the population and waste generated in each area.

All 10 inhabited islands have a central garbage depository for the management of dry waste generated. The Village Dweep Panchayat (VDP) manages the central garbage depository yard where waste from public spaces is collected for forward linkages.

Greywater management: Rainwater is the only source of fresh water in the islands that receive an average rainfall of 1600 mm per year. All the islands have calciferous aquifers to store the rainwater. The sand is actually a calcium silicate deposit and is porous. The average depth to the water column is 1.2 to 2 m.

In all villages except for Kavaratti and Agatti which are semi urban in nature, the houses are scattered all over the islands and have no problem with greywater management at present. Further, most of the houses have individual leach pits connected to their bathrooms or kitchens or channeled into their banana plantations within their premises. Further, all government buildings and quarters have community soak pits. Hence the problem of stagnation or overflow of greywater does not arise.

Faecal sludge management: While all households have individual toilets with septic tanks, community toilets have been provided to Madrassa institutions and the Mosque Committee on each Island and these are maintained and managed by a people committee that is supported through CSR funds of the Cochin Shipyard and the Shipping Corporation of India, Mumbai.

The UT is considering setting up one Sewage Treatment Plant on each island, even as it is exploring the use of mobile treatment units to both collect and desludge faecal waste. Meanwhile, all the Village Dweep Panchayats have taken resolutions to carry out mechanised desludging in their Islands during 2023-24.

Implementation and Monitoring: The Directorate of Panchayats is the nodal department to look after Swachh Bharat Mission activities in Lakshadweep and the District Panchayat acts as an implementing agency while the Village Deep Panchayat has been appointed as the local authority under Solid Waste Management Handling Rules and Lakshadweep Solid Waste Management Bylaws of 2022.

Until 2022, the collection, segregation, transportation and incineration were managed by daily workers appointed through the respective panchayats and all recyclable waste is sent to the recycling centre on the mainland. However, as per the new policy, the administration invites tenders through e-mode and awards management and recycling of waste through public-private participation. It is expected that all works including linkages to recyclers will be completed before 31st March 2023.

ODF Plus verification: Model islands verification is entrusted with the island's level committee on environmental norms appointed under Solid and Plastic Waste Management Rules of 2016. The Deputy Collector or BDO is the chairman of the committee. It is expected to be completed shortly.

Madhya Pradesh

SBM-G empowers Babita Dhurve of Betul, MP

After successfully achieving ODF status in 2019, Phase II of Swachh Bharat Mission Grameen (SBM-G) aims to make India ODF Plus. The objectives of this Phase go beyond toilet construction and the use of toilets towards eco-friendly and economically viable management of solid and liquid waste to bring about visual cleanliness in villages. This includes the management of bio-degradable and non-biodegradable waste, including plastic waste generated in homes and communities, and the effective management of greywater and faecal matter to prevent pollution of the environment.

The initiatives also support new livelihoods through dedicated and specific technological interventions for Solid and Liquid Waste Management.

With regard to solid waste management, one of the essential activities is the door-to-door collection of waste generated in households and establishments and transporting the same to waste collection sheds for appropriate disposal which includes the composting of biodegradable waste and recycling of plastic waste. For the collection of waste, Gram Panchayats are allocated funds to procure e-rikshaws and hire personnel to operate the e-rikshaws. This not only serves to clean up public spaces of villages but also provides income generation opportunities to e-rickshaw operators.

When Babita (24) lost both her parents in 2021, the responsibility of her 2 siblings and the household fell on her. Even though she was a visiting teacher in a neighboring village, the income she received was not enough to sustain the family. That's when she approached her Gram Panchayat of Ratanpur to allow her operate the e-rikshaw and collect waste from the village households. In spite of initial resistance from the community, the determined Babita, learned to operate the e-rikshaw and today successfully does her job. Her new job allows her to stay within the village, give more time to her family, earn an income, and allows her to be a part of the *swachhata* movement of her village.

Since she began working in this capacity, she was featured in the local newspaper for being the district's first woman e-rikshaw waste collector.

Around 100 GPs in the district of Betul in Madhya Pradesh are using different vehicles for waste collection such as e-rikshaw, tri-cycles, etc. These vehicles ensure cleaner villages, provide employment to the youth and channel their energies into productive activity.

100 GPs in **Betul district** use various vehicles for **waste collection**

Bhopal ZP signs MoU for disposal of plastic waste

A Memorandum of Understanding (MoU) has been signed between Swachh Bharat Mission Gramin (SBM-G) of Bhopal; Madhya Pradesh Rural Road Development Authority (MPRRDA) and Chairperson of Samarthan CLF (cluster level federation) to execute the sale and purchase of plastic waste generated at the Material Recovery Facility (MRF) centre.

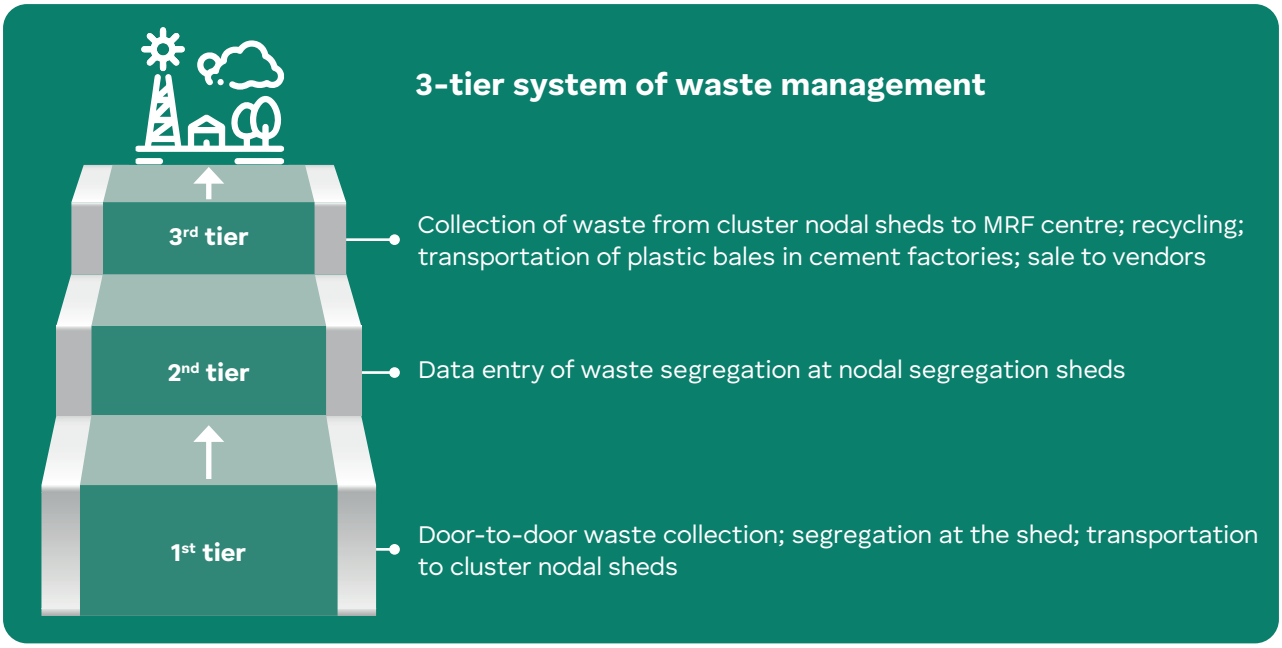
The MoU for the purchase of plastic waste was signed in the presence of Smt. Vini Mahajan, Secretary, Department of Drinking Water and Sanitation (DDWS), Government of India, and Mr. Malay Shrivastava, ACS Rural Development, Madhya Pradesh on January 6, 2023.

Located near Intkhedi Sadak on Berasia Road in Bhopal, the MRF is spread across an area of 5000 sq. Ft. and operated by Samarthan CLF in collaboration with the Zila Panchayat of Bhopal.

Implications of the agreement: The agreement allows the Bhopal District MRF centre to sell processed plastic waste directly to any of the contractors of Pradhan Mantri Gram Sadak Yojana (PMGSY) in the state of MP at the prevailing market rate. This will help enormously in the scientific disposal of plastic/solid waste (as per Plastic Waste Management Rules of 2016) which is generated in rural areas.

Moreover, it will be a beneficial business prospect for the operation of an MRF centre which in turn will benefit the Gram Panchayats as the income generated will be shared with them, acting as an incentive for the Panchayats to collect more waste. Best of all, it will make panchayats plastic-free, generate employment opportunities at village level and also for the women of self-help groups.

Villages supported: Plastic waste collected from the entire rural area of Bhopal comprising of 187 Gram Panchayats with 479 villages comes under its ambit and the project will benefit around 102325 households. It is estimated that around 35 MT of waste has been generated by the MRF thus far, consisting of 19 types such as MLP, LDPE, HDPE, PVC, Tyre, Iron, etc., and sent for scientific disposal as per the guidelines.



Process for collection and segregation before it is forwarded to the MPRRDA: The process of waste collection, segregation and processing is a 3-tier system where door-to-door waste is collected at the Gram Panchayats with the help of e-rickshaws. A total of 146 E-rickshaws and more than 50 hand-driven carts are deployed in 187 GPs of the district.

The collected waste is then transferred to the segregation shed at each Gram Panchayat where the plastic waste is segregated from the bio-degradable waste. A total of 187 such sheds are operational where the segregated waste is weighed and packed in different gunny bags as per the type of waste collected. The entire waste is then transported to the Cluster Nodal Sheds.

In the 2nd tier, the entire rural area is bifurcated into 26 clusters where the cluster nodal GP's segregation sheds act as the collection points for the other peripheral Gram Panchayats. The Panchayat Secretary of the nodal segregation shed maintains the data entry of the waste received and waste henceforth transported to the MRF centre for each of the Panchayats. The data entry is done daily through a Google form made available to them and data is monitored from the District Zila Panchayat Office. The 2nd tier reduces the travel time to collect waste and optimizes cost efficiency in waste collection of the MRF centre.

In the 3rd tier, vehicles from the MRF are sent to the cluster nodal sheds to collect the waste and transport it back to the MRF. The MRF centre is operated through women SHG groups of Gram Panchayats who are guided by a specialized agency. The segregated waste is then recycled and processed through various machines at the MRF centre. The waste is recycled into plastic bales weighing around 100 kgs (2.5 × 3 × 3ft). The bales that are packed and transported in trucks for co-processing in the cement factories are also sold to different vendors as per their requirements.

MPRRDA is the nodal agency for the PMGSY roads in MP which uses plastic waste in roads and hence is a viable vendor for the MRF centre, offering high value returns for the recycled plastic. A proper log book is maintained at the centre for the sale and purchase of the waste and the profit will be shared with the Gram Panchayats.

Maharashtra

Gadchiroli organises workshop for Sarpanches on SBM-G Phase II

To acquaint all sarpanches and PRI members of Gram Panchayats across the district on the various verticals of ODF Plus, as per the guidelines of Swachh Bharat Mission Grameen Phase II, the district administration of the aspirational district of Gadchiroli in Maharashtra organised a special workshop.

As many as 1200 officials and employees including Sarpanches, Block Development Officers, Extension Officers, Section Engineers of Rural Water Supply, Extension Officers of Panchayat Samitis, Secretaries of Gram Panchayats, Rural Home Engineers, and Implementation Agency officials attended the meeting held on 5th December 2022 at the Sumannad Hall.

Other than SBM-G, the workshop covered Swachh Jal Se Suraksha, followed by a prize distribution that recognised winners of the Swachh Survekshan and Sant Gadgebaba Village Cleanliness campaign.

Prize distribution to recognize winners of

Swachh Survekshan and Sant Gadgebaba Village Cleanliness campaign

The workshop was inaugurated by MLA Dr. Devrao Holi and MLA Shri Krishnaji Gajbe in the presence of Chief Executive Officer of Zilla Parishad Gadchiroli, Shri Kumar Ashirwad.

Others present at the event were - Additional CEO, Shri Rajendra Bhuyar; Project Director Jal Jeevan Mission, Shri Farendra Kutirkar; Deputy CEO, Shri Samam Shekhar Shelar; Dy CEO Gram Panchayat, Shri Ravi Kanse; and Executive Engineer Rural Water Supply, Shri Amit Turkar.

Speaking on the occasion, Shri Kumar Ashirwad appealed to the Sarpanches and PRI functionaries to complete the targets of construction of individual household toilets, and community toilets and to put in place systems to manage solid waste under the Swachh Bharat Mission (SBM) Grameen during the year 2022-23. He also instructed them to complete the works under “Swachh Jal Se Suraksha” campaign, and geo-tagging of all existing sources of tap water supply schemes in the district, water quality monitoring, as well as training on ‘Har Ghar Jal’ application.

On quality monitoring of drinking water sources after the monsoons, as also the collection of water samples through water protectors, and chemical analysis of water samples, the CEO advised officials to implement the same without fail. He also dwelt on the topics of biological testing, updating of information on the WQMIS website and availability of field-testing kits, training of water guards, and selecting 5 women from each village for the tasks.

On the other hand, Mr. Kutikar gave details of greywater management, solid waste management, plastic waste management, and faecal sludge management; explaining that each of those verticals needed to have systems in place in each village under Swachh Bharat Mission Grameen Phase-2.

Nashik gets a new GOBARdhan plant

The district administration of Nashik has set up a community biogas plant under GOBARdhan Yojana in Andarsul Gram Panchayat of Yeola Tehsil in Maharashtra. The facility which has been functional since the first week of February 2023 uses biotechnology to convert waste into clean energy and organic manure.

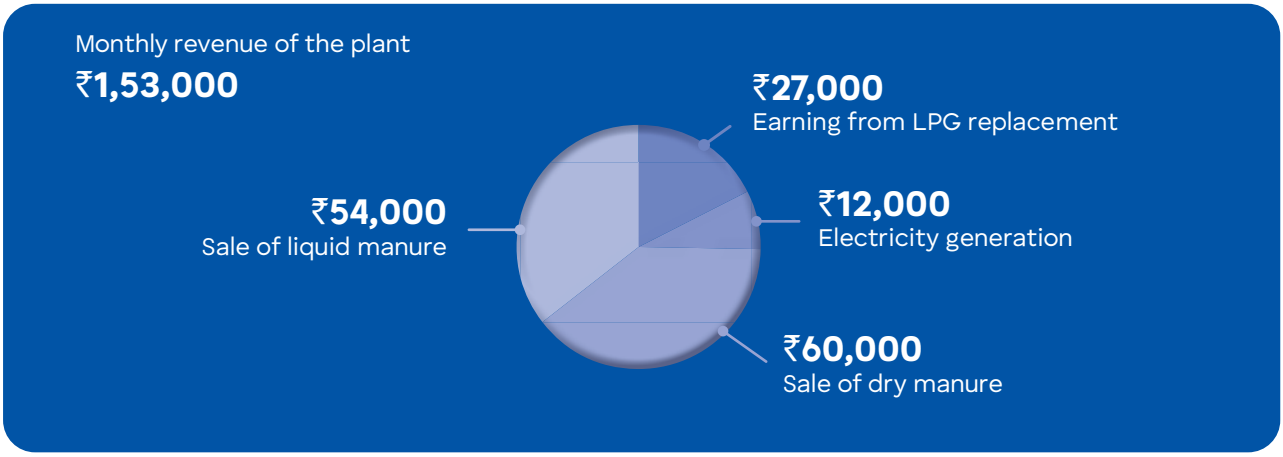
The initiative is in keeping with Phase II of the Swachh Bharat Mission Grameen (SBM-G). GOBARdhan supports villages in safely managing their cattle, agricultural and other organic waste. It also helps village communities to convert their waste into wealth, and improve environmental sanitation while curbing vector-borne diseases. The Government of India provides technical assistance to every district and financial support of up to Rs. 50 lakhs per district to achieve safe disposal of cattle and organic waste.

Technology used: Bio-methanation which is an approved technology under the Solid Waste Management Rules of 2016, is a sustainable process that uses bio-inoculums or microbes to work on organic waste to produce clean energy and organic manure. The energy-producing technology used in the plug-and-play plant is an eco-friendly solution that taps harmful greenhouse gases. The fully fabricated plant requires less space and is simple to operate with relatively less operation and maintenance cost. As the plant is completely water jacketed and compact, there is no foul odour. The size of the plant can be increased or decreased based on future requirements and can be easily shifted if necessary.

Waste availability in Andarsul GP: A survey carried out in the GP revealed that 14,190 kgs of organic waste is generated per day from dung of large animals (6920 kgs); dung of small animal (6745 kgs); kitchen waste of households (275 kgs) and wet waste from hotels and restaurants (250 kgs).

Project Overview:

Location	Self-owned land near Gram Panchayat office
Total available waste	14,000 kgs per day
Capacity of biogas plant	2 metric tons per day
Technology used	Pre-fabricated Continuous Stirred Tank Reactor (CSTR) Bio-methanation plant
Area required	6000 square feet
Output biogas	80 cubic metres per day
Output manure	400 kgs of dry manure and 3600 litres of liquid manure per day
Pipelined gas connection	Nearly 20 hotels, Anganwadi, and school
Electricity generation	Complete street light with 5.0 KVa generator
Employment generation	4-5 persons directly
Total project cost	Rs. 50 lakhs including 5 years of monitoring
Completion time	3 months
Type of plant	Community type
CMC production unit	1500 litres per day



Operational costs: The monthly operational cost of the plant is Rs.1,09,200 which covers the cost of manpower, electricity, water, consumables, waste collection, maintenance and insurance, cost of raw materials, and expenses for sales activities.

Outcome: The initiative ensures that the GP sustains its ODF status; generates energy, income, and employment, keeps the villages clean and improves the lifestyle of communities.

Manipur

People from all walks of life participate in Manipur's Swachhata Run

The Public Health Engineering Department (PHED) of Manipur observed World Toilet Day 2022 with a Swachhata Run in almost all Gram Panchayats under the guidance of team Swachh Bharat Mission Grameen (SBM-G) at the state level.

Apart from the district administration and block and GP level functionaries, social workers, sports stars, and film actors of the state took part in the grand events.

The activities held at the GPs were organized by the District Water and Sanitation Committees with the help of the Village Water and Sanitation Committees, Rural Local Bodies, and NGOs under the supervision of the District Administration and other district officials.

The Swachhata Run 2022, also observed at the village level was flagged off by eminent personalities such as Anjuna Awardee Smt. Sushila Devi Likmabam (an Olympian) at Imphal East District. It was a Marathon from Ibudhou Marjing Khubam to Maiba Khul consisting of a 10 km stretch.

Shri Paolienlal Haokip, MLA of 59 Saikot constituency flagged the grand event in Churachandpur District.

Among the activities carried out were the marathon run, rally, pledge taking, slogan writing, etc., at different places.

Different types of IEC Materials (pamphlets/ booklets/ manuals) and caps and shirts, printed with awareness messages were distributed to spread awareness among the village communities, making the swachhata campaign a Jan Andolan.

An overwhelming response was seen for the "Swachhta Run", organized in various states on World Toilet Day. As per the IMIS of SBM-G, over 51,80,000 people from 44,000 GPs participated in the events of 22nd November 2022.

51,80,000 people from **44,000 GPs participated** in events of 22 November 2022

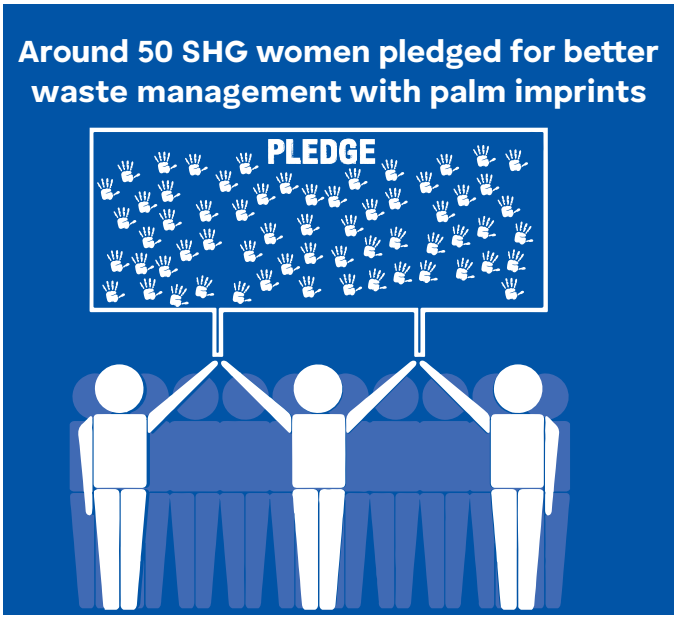
Odisha

SHG women oriented to PWM in Odisha's Sikiri GP

With a view to encouraging and strengthening women's participation in the management of plastic waste in villages, the HDFC Bank and the Centre for Environment Education (CEE) organized various IEC activities in the Gram Panchayats (GPs) of Hinjilicut Block in Ganjam district of Odisha in March 2023.

In response to the programme organised in partnership with the Zilla Parishad of Ganjam District and the Block Administration of Hinjilicut, around 50 women who were members of Self Help Groups (SHG) in Sikiri GP took a pledge with a palm imprint to manage plastic waste properly, refrain from littering in the village, and practice source segregation.

Following the oath-taking, an awareness session was held for women-led SHG groups, during which they were made aware of their responsibility to keep their villages free of plastic waste. Also, an animation film on source segregation and waste management processes was shown. Thereafter, the women were given the additional responsibility of sensitizing others in the village community to manage their plastic waste responsibly.



Further, a 'Plastic Plogging activity' was organised in Markandi village of Rangeilunda block. Organised under SBM-G, the activity was intended to make the rural landscape free of plastic waste. More than 55 people, including women and children, and members of Panchayat Raj Institutions (PRI) participated in the activity and collected around 12 kgs of plastic waste, which was then transported to the nearest MRF centre.

Waste management activities in the GP:

Collection of solid waste: On a daily basis, household waste is collected with the help of a battery-operated vehicle that was provided by the DRDA. The GP administration has engaged 4 daily wage workers for the collection and operation of the Waste to Wealth Centre at Sikiri. Plans are in the pipeline to engage additional SHG women who are interested in the work, after due training on the management of the waste processing centre in the village.

Households are encouraged to convert wet waste such as kitchen and garden waste into compost at their level. On the other hand, dry waste is collected by the waste collectors and while some households provide segregated dry waste, the sanitation workers further segregate the mixed waste for appropriate recycling/disposal. Having been trained in waste management, the SHG women are attempting to inform households of the importance of segregating waste at source.

Liquid waste management The village has a drainage system that channels greywater generated in households and establishments into community soak pits that while treating greywater, enhance the groundwater table. This method of greywater management prevents overflow of greywater onto the village paths and stagnation in low-lying areas.

Faecal sludge management: Most of the toilets in the GP are of the twin pit variety. However, the Gram Panchayat Development Plan (GPDP) has scope for retrofitting single-pit toilets and repair of defunct toilets when needed in households. Currently, the households having single pit and septic tank toilets call upon private desludging vehicles in Hinjilicut and Berhampur towns. The desludging charges range from Rs. 1500 to Rs.2000 per load for desludging tankers with a 3000-litre capacity.

Visual cleanliness: The GP has appointed daily wage workers for cleaning and sweeping public spaces across the village. This has contributed to visual cleanliness and people are aware of the need to use bins. Owing to such interventions Sikiri GP has declared itself as a model ODF Plus GP.

Odisha unveils Menstrual Health & Hygiene Policy

In a pioneering initiative, Odisha is preparing to implement a new and improved Menstrual Health and Hygiene (MHH) Policy that aims to provide affordable sanitary products to all adolescent girls and women in the reproductive age group, by 2030.

Developed by UNICEF, in collaboration with the Indian Institute of Public Health (IIPH), Bhubaneswar, and the Government of Odisha, the MHH policy seeks to mainstream menstrual health and hygiene within the field of health and development. The policy aims to improve the status of menstrual health of all menstruators so that they can manage their menstrual health in a safe and enabling environment, thereby also empowering them to contribute better towards the socio-economic development of the state.

In accordance with the policy, MHH should be incorporated into activities of all sectors in order to promote women's and girls' health and development.

MHH encompasses broad societal goals such as health and well-being, gender equality, education, equity, empowerment, and rights related to menstruation. Hence a comprehensive strategy was required that would provide access to menstrual hygiene and products, involving key ministries of state governments and society in general.

Current state of MHH in Odisha: Some mind-boggling statistics: An assessment of MHH status was conducted in three districts of Odisha - Bhadrak, Balangir, and Koraput. A number of factors were assessed in the study, including menstrual knowledge and practices, the availability and affordability of menstrual absorbents, water, sanitation and hygiene (WASH) facilities in educational institutes and workplaces, and information about the KHUSHI scheme under which the state government will provide free sanitary napkins to 17 lakh girls studying in Classes 6 to 12 in government and government-aided schools.

Most participants (74.3%) knew that menstruation is a physiological process, but 14.4% were unaware of its aetiology. Menstruation is still considered a secret in our society, according to 18.2% of the sample population. Menstruation was unknown to almost half the study population (46.7%)

before menarche, and the percentage was higher in rural than urban areas. First-period fear was experienced by about 67.2% of girls and women. There are still 33.8% of respondents who believe that it is not necessary to educate boys about menstruation.

About 61% of respondents only used sanitary pads as menstrual absorbent material, compared with 31.6% who used only cloth, and 7.2% who used cloth and sanitary pads together. Genital infections can occur when clothes are not properly washed and dried. To dispose of menstrual materials, 59.2% of participants buried/threw them into bushes. 38.6% of respondents in educational institutes and workplaces did not have access to a toilet to manage their menstruation. Overall, 20.7% of participants said menstruation affected their performance in the workplace or in educational settings.

Other MHM initiatives: To enable eco-friendly efforts, the state government also seeks to develop and disseminate feasible and context-specific guidelines for packaging, distribution, use, and disposal of menstrual hygiene products. During emergencies, social and physical barriers will be reduced by incorporating MHH absorbent products in their relief kit and ensuring MHH-compliant WASH infrastructure in relief shelters. Disseminating MHH key messages will ensure better awareness to children in primary schools, women and girls with special needs, tribal communities, major decision-makers in the community as well as men in the household and in the community. Furthermore, all schools, educational institutions, and workplaces will be equipped with clean and accessible toilets, changing rooms, adequate water supply, soap/detergent, menstrual products, and a proper disposal system for disposing of the used menstrual waste.

The distribution of sanitary pads alone cannot ensure overall MHH. As a result of the policy, menstrual health will become a mainstream topic in health and development. The main objective is to empower women and girls to make informed choices, end taboos, and create an environment that allows them to manage their periods with dignity. Focus will be laid on the importance of a proper disposal system for used menstrual waste which is a major issue that all menstruators are facing. It is also very crucial to maintain good menstrual health. The importance of the existing BIS standards and their implementation can be ensured and entrusted during such policy implementation. Also, the inclusion of a basket of choices would be a great addition thus ensuring that whenever referring to menstrual products there is a basket of choices rather than pushing a specific brand/ product.

Way Forward: To break the myths and taboos surrounding menstruation and promote the importance of menstrual hygiene, the MHH Policy proposes a set of complementary activities, including strategically designed Information, Education and Communication (IEC) programmes, for all members of the public. The policy will involve deeper and regular engagement with boys and men. The plan also proposes the creation of an integrated platform for civil society and representatives from the community in order to achieve the shared goal of MHH in Odisha. Moreover, the policy recommends the creation of a multi-stakeholder state-level steering committee with the involvement of major stakeholder departments such as Education, Women and Child Development department under the aegis of the Department of Health and Family Welfare to support, strengthen, and coordinate MHH interventions.

Punjab

GOBARdhan projects underway in 19 gaushalas of Punjab

Punjab is getting as many as 19 off-grid biogas power generation projects that are being set up in four phases across the state. The GOBARdhan projects are coming up in gaushalas that can provide an uninterrupted supply of cattle waste.

The 19 projects each of 100 Cum Biogas plant capacity will have a capital expenditure of Rs.31.17 lakhs and 5-year operation and maintenance cost would amount to Rs.16.20 lakhs.

The projects lined up for each of the 4 phases are:

Phase I consists of 5 projects in the gaushalas of Sukhemajra in Rupnagar District, Garolian in Fatehgarh Sahib, Janeri in Sangrur, Gajipur in Patiala, and Lalru in SAS Nagar. The projects will be functional by March 2023.

Phase II consists of 5 projects in the gaushalas of Pholahi in Hoshiarpur District, Dehriwal in Pathankot), Kamalpur in Kapurthala, Dilawarpur in SBS Nagar, and Kalanaur in Gurdaspur. The projects will be functional by April 2023.

Phase III consists of 5 projects in the gaushalas of Golewala in Faridkot District, Harraipur in Bathinda, Kishanpura in Moga, Salemshah in Fazilka, and Ratta Tibba in Muktsar Sahib. The projects will be functional by May 2023.

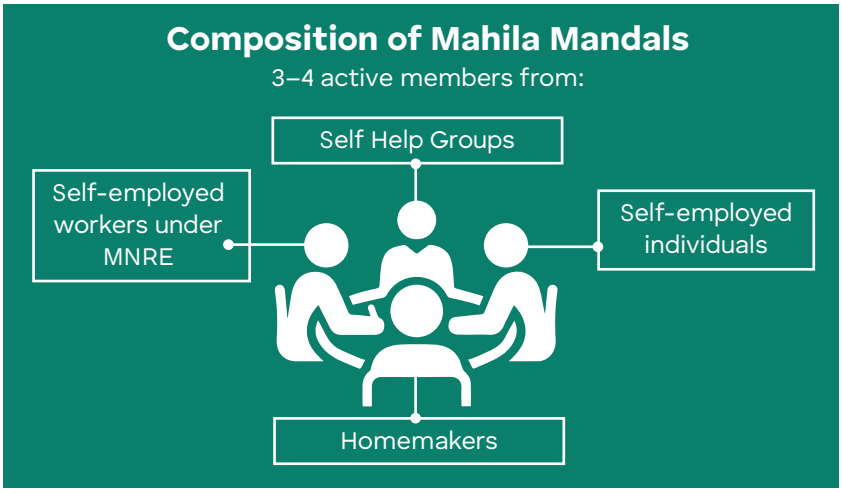
Phase IV consists of 4 projects in the gaushalas of Manal in Barnala District, Kaniya Kalan in Jalandhar, Khokhar Kalan in Mansa, and Dubli in Tarn Taran. The projects will be functional by June 2023.

While 4 projects funded under GOBAR-Dhan have been completed in Phase I; work is underway in village Garolian (Fatehgarh Sahib). Under Phase II, construction work has been started in Kamalpur village in Kapurthala) and one project has been completed at village Burj Pawat village in Ludhiana by Punjab State Council for Science and Technology (PSCST).

Components of Off-Grid Biogas Power Generation Project: Each of the projects will have a Bio Digestor unit, Flow meters, a Biogas purification system, a Power generation Unit, and a Manure handling system.

Operation and Maintenance and Business Model: For each of the projects, a Mahila Mandal comprising of 3-4 active members from Self Help Group, self-employed individuals, homemakers, and self-employed workers under MNRE will be trained to operate and maintain the plant, in the production of solid manure, its marketing and selling to generate income. They will also take care of

the promotion and sale of bio-slurry, and manure amongst farmers through Krishi Vigyan Kendras (KVKs) with the support of Punjab Agriculture University, Ludhiana. The Biogas Development and Training Centre under MNRE-PAU Ludhiana will be providing training to the Mahila Mandals. The 15th Finance Commission grants at GP and Block level will also be utilized for operation and maintenance, and in case of a shortfall of funds, the Panchayat's own funds will be dovetailed.



Way Forward: To ensure the functioning of the GOBARdhan plants at Gaushalas, the formation of Mahila Mandals in the respective villages is vital as also the roll-out of the training programmes for them with the support of Punjab Agricultural University, Ludhiana. Further, consultations need to be held with the Department of Rural Development and Panchayats for convergence of 15th Finance Commission tied grants for O&M of GOBAR-Dhan projects; consultation with the Department of Animal Husbandry, Department of Co-operation for identification of villages with availability of sufficient cattle for taking up of community GOBAR-Dhan projects; and consultation with the Animal Husbandry Department, Punjab Energy Development Agency for convergence of schemes under Biogas Programme of MNRE.

Project Outcomes:

Bio Manure: While some of the liquid slurry will be utilized in nearby fields, the remaining slurry will be converted into dry manure in the slurry handling system.

Power Generation: The biogas produced will be utilized to run a genset of 10 Kw to generate electricity needed to run the gaushala. The electricity charges of Rs. 40-45000 will be reduced.

Local Employment: Employment opportunities will be generated for the local community. The SHGs will be trained to run these projects which will generate livelihoods that includes the sale of manure.

Organic Farming: The utilization of bio manure will give a boost to organic farming and reduce dependency on chemical fertilizers

Biodegradable waste management: All cattle dung generated in the village can be effectively managed in the plant thereby making cattle dung management easier.

Stakeholder Departments: According to official data, the stakeholder departments of the projects are - Department of Water Supply and Sanitation which is the coordinating Department will take care of funding under Swachh Bharat Mission (Grameen); Department of Animal Husbandry will undertake monitoring and functionality of the biogas plants in Gaushalas; Punjab Energy Development Agency is the executing Department for off-grid biogas power generation projects; and Punjab Agriculture University will oversee the Biogas Development and Training Centre (BDTC).

Punjab organises 5-day Training of Trainers

More than 120 participants attended the Training of Trainers (ToT) programme on the 'Implementation of SBM-G Phase II,' held at the Mahatma Gandhi State Institute of Public Administration (MGSIPA) in Chandigarh from 30th January to 3rd February 2023.

The training programme was a part of the capacity strengthening exercise of the Department of Drinking Water and Sanitation, Ministry of Jal Shakti, Government of India and the Department of Water Supply and Sanitation, Government of Punjab and UNICEF, India.

SBM-G Phase II was launched to sustain the ODF status and improve the levels of cleanliness through Solid and Liquid Waste Management, making the villages ODF plus. ODF Plus includes key components such as retrofitting of toilets, Bio-degradable Waste Management, Plastic Waste Management, Grey Water Management, Faecal Sludge Management, Information, Education and Communication and convergence with other schemes.

The programme which was attended by 62 participants physically and the remaining virtually, included theoretical classroom sessions as well as on-the-field practical sessions.

Among the dignitaries present during the inauguration were Shri. D K Tiwari, Principal Secretary Department of Water Supply and Sanitation (DWSS), Punjab; Shri. Mohd. Ishfaq, Special Secretary WSS cum Mission Director DWSS, Punjab; Shri. Rakesh Kumar Sharma, State Co-ordinator, SBM (G) Punjab; Shri. Sarbjit Singh, Sub Divisional Engineer, (Sanitation) State Team, SBM (G), Punjab; Shri. Rajesh Bajaj, Training and Capacity Head DWSS, Punjab; and Shri. Laxmikant Shinde, Lead Trainer, PriMove Pune PriMove Infrastructure Development Consultants Pvt Ltd.

Participants of the programme consisted of IEC Specialists, Community Development Specialists, DWSS Engineers, Technical Assistants/ Work Manager MGNREGA, Department of Rural Development and Panchayats, Self Help Groups members, Assistant District Sanitation Officers, and Capacity Building Specialists.

Topics introduced during the sessions

* Introduction to SBM (G) II
* Overview of Village Sanitation Plan (VSP)
* ODF Sustainability (ODF-S)
* Concept of Solid Waste Management, technology options and implementation of biodegradable waste management
* GOBAR-DHAN – technology options available and hiring process
* Plastic waste management: technology options and roll out; Concept of liquid waste management
* Grey Water management: technology options and roll out
* Concept of Faecal Sludge Management (FSM)
* Technology options and implementation of FSM
* Community led planning process for preparation of Village Sanitation Plan (VSP)

During the field visits, there were demonstrations of implementation tools; Primary meetings, Social mapping, household survey, assessment of SLWM facilities during a Sanitation walk; waste quantification; - Gap identification and option selection. Participants were informed about the need for documentation as also village meetings/Gram Sabhas. They participated in group work on Village Sanitation Plan (VSP) report preparation; Integration of VSP into estimate; Climate Change Impacts; Resource Envelope and activities of VSP entered into GPDP; IEC, interpersonal communication in SBM(G) II with focus on ODF plus and hygiene and promotion of ODF Plus.

SBM (G) Phase II, focuses on community led planning, implementation and operation-maintenance of sanitation infrastructure. In this regard, the communities need to be in the driver's seat for SBM (G) II implementation and external/ government agencies are merely facilitators. Success of the programme implementation is therefore linked to motivated and capacitated GP level functionaries. It is therefore critical to strengthen capacities of the village functionaries regarding sustaining the gains of ODF, their role in ODF plus, making informed choices about technology options, O&M for long term sustainability, activities for achieving desired results, etc.

For building capacities of the GP level stakeholders, a large pool of trainers is required. Ministry of Jal Shakti proposes to create a pool of competent human resources to cater to the capacity building needs of GPs in a cascading mode. As a part of this initiative, 5-day Training of Trainers (ToTs) on "Implementation of SBM (G) II in the states" has been initiated by DDWS, Ministry of Jal Shakti, GoI, where Master Trainers (MTs) will be created in each district. These MTs will further train Sarpanches/Pradhans, village secretaries and Swachhagrahis through trainings.

The whistle man of Barsalpur

Between 7 and 10 am each morning, the households of Barsalpur Tapprian Gram Panchayat (GP) in Majri Block of SAS Nagar district in Punjab hear a distinct whistle – a signal for them to take out their segregated garbage to handover to Raghuveer Singh or the whistle man of Barsalpur.

Having started working as a waste collector in December 2021, the cheerful whistle man who has completed his 10th grade has been collecting waste from 73 households in the village, also collecting a monthly contribution of Rs.50 per household and managing records of the same. The job provides income for his family of 3 members, a task he is reasonably happy with.

The whistle man, so named by the children of the village has shown immense dedication to his work. This combined with the community's willingness to maintain a solid waste-free village has ensured 100 per cent collection of user fees.

Plans are in the pipeline for the village to set up a system for liquid waste management on similar community-managed lines, to achieve visual cleanliness and a model ODF Plus status.

Background

The village which achieved ODF Plus status on 25th January 2017 took the opportunity to participate in an exposure visit tour to a Solid Waste Management plant, organized by the district administration

and the Round Glass Foundation in Patiala district. The onsite orientation helped the PRIs realize the urgent need for the management of such waste and stop the ongoing practice of dumping and burning solid waste in the open.

Support from the administration and the community: Under Phase II of Swachh Bharat Mission Grameen (SBM-G), solid waste management is a key component towards achieving ODF Plus status. Further, as per the operational guidelines, biodegradable and non-biodegradable waste is the responsibility of the Block/District. Adhering to this, the Block and District teams have supported the GP in the implementation of the solid waste management (SWM) programme. It began with a meeting in the GP to build awareness amongst the community about the need and importance of SWM and its relevance towards attaining an ODF Plus status. It was then decided to set up units for the collection, segregation, and transportation of waste while making maximum utilization of available resources.

Convergence Model

Mobilization of funds to establish a SWM unit is generally a challenge for small GPs such as Barsalpur Tapprian with only 73 households. Hence, the GP decided to utilize MGNREGA funds for the construction work while the cost of dustbins, a tricycle, and manpower was borne by the NGO Round Glass Foundation, the latter handholding the GP to set up a system for segregation and transportation of waste to the recovery centre. It was also decided during the community meeting that operation and maintenance costs will be taken from the contribution of households who would pay Rs. 50 per month towards service charges of the waste collector and maintenance work of the recovery center and purchase of cleaning equipment.

The Waste Recovery unit

The SWM unit spread across almost 4000 sq.ft. is surrounded by a 5 feet high boundary wall that prevents entry of stray animals into the unit.

It consists of 4 compost pits measuring 15 ft x 5 ft x 5 ft constructed under a GI shed surrounded by a plantation and adorned with awareness messages on solid waste management. The unit was built at a cost of Rs. 6.1 lakhs from MGNREGA funds and handed over to the community on 19th December 2021 during the inauguration.

Operation and Maintenance:

The GP with the support of the Round Glass Foundation provided 2 dustbins (green and blue) to each household as well as tools and safety kits for the waste collector, and a resource person for 2 months to mobilize the community. These efforts have worked well and the community pays the salary of the waste collector while an additional income of about Rs. 2000-3000 is generated by selling plastic waste to recyclers.

Benefits to the community:

Aside from being free of dumping and burning of solid waste that have contributed to visual cleanliness, the village community has had health benefits that came from a cleaner environment; economic benefits from the reuse and recycling of waste products.


Rajasthan

Rajasthan's Kheruna village inaugurates CSC

ODF (Open defecation free) Plus village in Ramnagar Gram Panchayat of Bundi District in Rajasthan has transformed into a beautiful village that is visually clean, having systems in place to manage solid and liquid waste. The latest addition is a community sanitary complex (CSC) that ensures access to sanitation to all visitors and passers-by.

The new CSC built in a circular shape surrounded by a park has 4 toilets, 4 urinals and 2 bathrooms – with separate sections for men and women with adequate water (from a borewell) and electricity supply.

The Gram Panchayat spent Rs.3 lakhs (Rs.2.10 lakhs from SBM funds and Rs.90 lakhs from 15th FC grant) for the construction of the CSC which will be maintained by the GP. Usage is free for all.

Meanwhile, over the last 6 months, the district administration has made all possible efforts to clean up the village and has constructed soak pits for treatment of grey water. The IEC activities have shown results and people are able to segregate waste at household level.

Waste is collected by collectors appointed by the GP. While wet waste is converted into compost, the dry waste is sold to recyclers.

In public spaces and parks, various artistic installations have been set up, that have attracted visitors and residents alike.

The CSC has **4** toilets, **4** urinals and **2** bathrooms with **adequate water and electricity supply**, and **separate sections for men and women**

Sikkim

RRC keeps Khangchendzonga's forests spotless & litter free

As done in other parts of the country, a Resource Recovery Centre (RRC) has been set up in Yuksom town in the district of West Sikkim under the Swachh Bharat Mission Grameen (SBM-G) programme. In this facility, waste is received, collected, sorted, stored, and processed to ensure appropriate disposal, ultimately minimising waste that is sent to a landfill. It goes a long way to ensure that the forests of Khanchendzonga National Park are free of litter and plastic waste.

Yuksom is the starting point of the Goechala Trek - one of the country's most popular trekking routes. Each Springtime, the town sees numerous tourists that arrive to enjoy the pleasant weather and participate in the trek. Nevertheless, the influx of tourists leaves behind a waste management issue that if not addressed can mar the beauty of the region which is home to nearly half of India's bird diversity, wild trees, orchids, and rhododendrons and one-third of the country's flowering plants.

Tourist spots of Yuksom are relatively cleaner compared to other tourist spots, thanks to the RRC set up by the Department of Rural Management and Development, Government of Sikkim, which is carrying out phenomenal work in maintaining the forests.

Mr. Tsetan Tashi Bhutia who is in charge of the RRC at Yuksom believes that it is his duty to send as little waste as possible to the landfill situated almost 100 kms from town. A nature enthusiast and experienced birdwatcher, he makes every effort to follow the regulations laid down by the National Green Tribunal.

There are two departments that work in waste management in Yuksom. One is the Forest Department which works in collaboration with Khangchendzonga Conservation Committee whose jurisdiction is the Khangchendzonga National Park. The other is the RRC which is located in Yuksom, whose jurisdiction includes the 5 Gram Panchayat Units (GPU) of Yuksam- Dubdi, Thingling, Khechuperi, Melli Aching, and Rimbi Timbrong.

Principle of segregation: The facility in Yuksom works on the principle of segregation. Waste segregation is the sorting and separation of waste types to facilitate recycling and correct onward disposal. When waste is sorted correctly, it allows one to recycle more items, and prevent them from ending up in landfills. This, in turn, reduces the overall impact on the environment.

Waste from the 5 GPUs is brought to Yuksom RRC for segregation as per a schedule prepared for the entire town. Typically, the pickup truck moves around the town as per the prescribed timings and collects garbage from restaurants, hotels, lodges, and houses. Each GPU pays a collection fee of Rs. 2500 per month for the service.

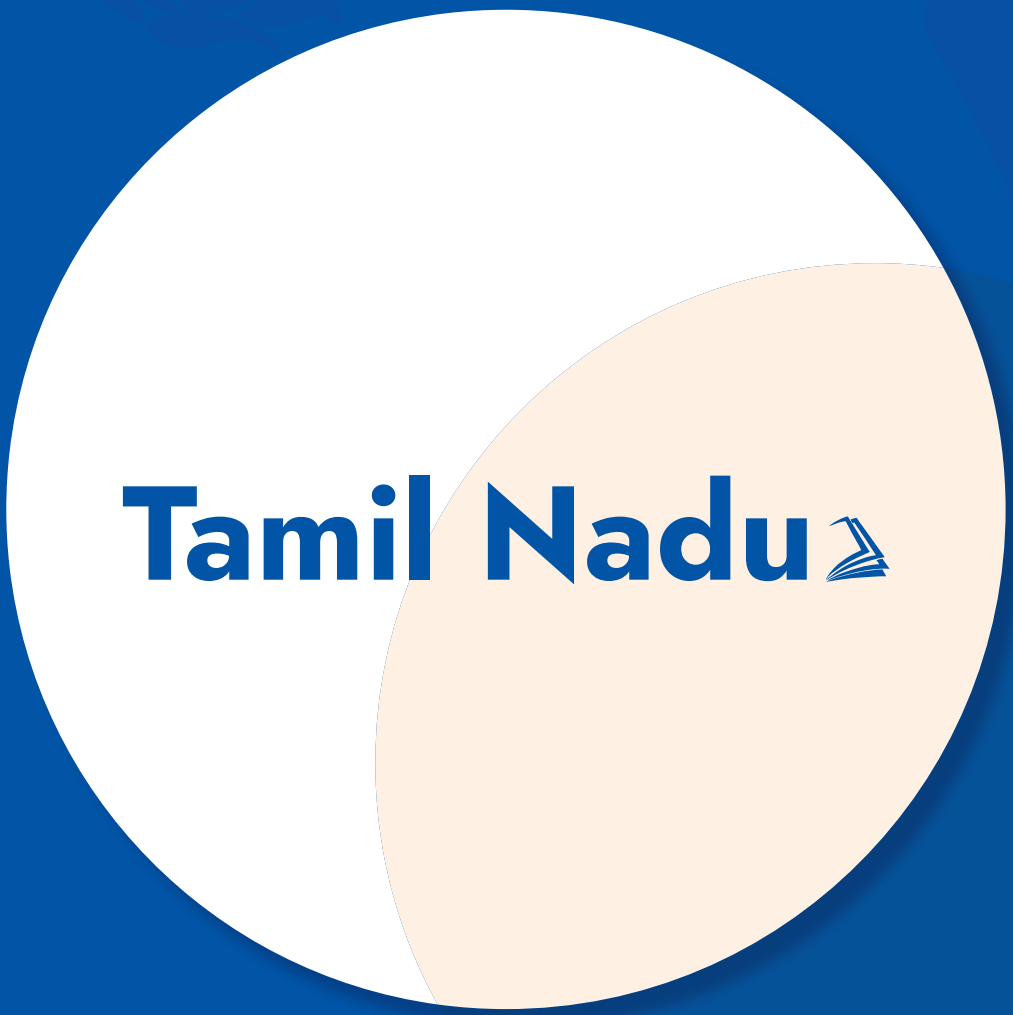
Departments overseeing waste management in Yuksom

Forest Department in collaboration with Khangchendzonga Conservation Committee

RRC in Yuksom with jurisdiction in 5 GPUs

According to Mr. Tashi, although the concerned groups are required to hand over segregated garbage, the majority of the time, they hand over unsegregated waste. Some even burn their waste at night to avoid paying the fee. While attempting to inculcate the habit of segregating waste at source, the district administration is hoping to address these issues, even considering a higher fee for unsegregated waste and at the same time compensating staff employed to handle the waste. In this regard, Mr. Tashi conducts extensive awareness programmes for the local community, police, and school students.

Once the waste reaches the RRC, bio-degradable waste is composted on-site to create high-quality manure. The non-biodegradable waste is further segregated into recyclables such as cardboard, paper, glass, and metal which can be handed over to scrap dealers, while plastic waste is sorted into products that can be reused or recycled. Only the non-recyclable waste which is relatively less is sent to the landfill.


Tamil Nadu

TN ensures safe FSM in all its villages

Fully cognizant of the impact that safe sanitation and clean surroundings can have on health, productivity, safety and dignity while promoting an enhanced quality of life among village communities; Tamil Nadu has laid considerable focus on safe sanitation and clean surroundings.

Clearly, sustaining ODF status is just as important as achieving ODF status with every household and institution adopting safe technology options for the disposal of faecal matter. However, having encountered issues in certain villages such as overflowing of faecal matter from single pit toilets or septic tanks, the State has stepped in to earnestly participate in the Retrofit to Twin Pit Abhiyan currently being implemented by the Department of Drinking Water and Sanitation, Ministry of Jal Shakti, Government of India.

The objectives of the campaign are to:

- Promote the construction of only twin pit toilets in the new IHHLs as per the guidelines of SBM-G Phase II and the Faecal Sludge Management (FSM) Manual
- Retrofit the existing single pit toilets into twin pit toilets
- Retrofit the existing septic tanks toilets, attaching them to soak pits
- Generate awareness about the safe disposal of faecal sludge in rural households

To achieve the objectives of the campaign, Tamil Nadu has taken the following steps:

- All 37 Districts have been instructed to take the campaign seriously and achieve the target during the campaign period of 19th November 2022 to 26th January 2023.
- All District and Block level officials have been involved in identifying and verifying the beneficiaries
- Special training was conducted at District and Block levels for masons to help them overcome challenges in retrofitting toilets and to maintain the quality of construction. Step-by-step procedures as per the guidelines issued by the Government of India were demonstrated with practical examples.
- To increase awareness among the beneficiaries, resolutions were taken at the Village Panchayat, and participation was mobilised for the Swachhta Run conducted on World Toilet Day, and door to door campaign was carried out by district and block coordinators on the promotion of twin pit technology while simultaneously trying to stop the indiscriminate disposal of faecal sludge.

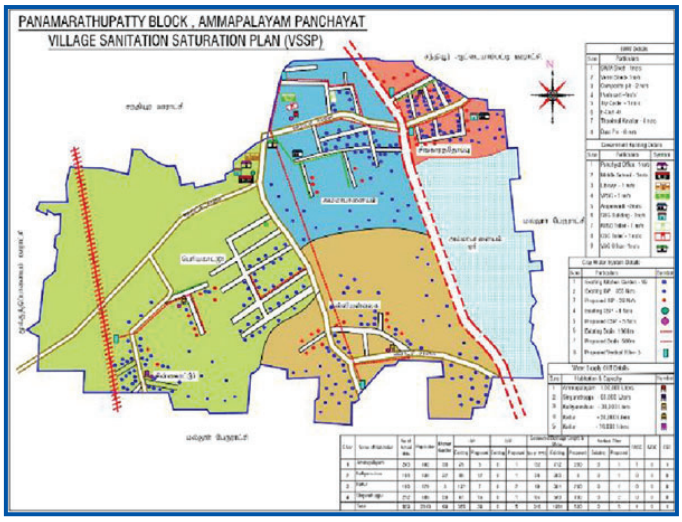
As on January 6, 2023, Tamil Nadu has retrofitted as many as 1762 toilets of which 1630 single pit toilets have been converted into twin pit toilets and 132 septic tank toilets have been attached to air vents and soak pits.

Tamil Nadu makes Village Sanitation Saturation Plan

Tamil Nadu which has made considerable strides in rural sanitation in terms of access, and usage of improved sanitation facilities in households and institutions, has come out with a Village Sanitation Saturation Plan (VSSP).

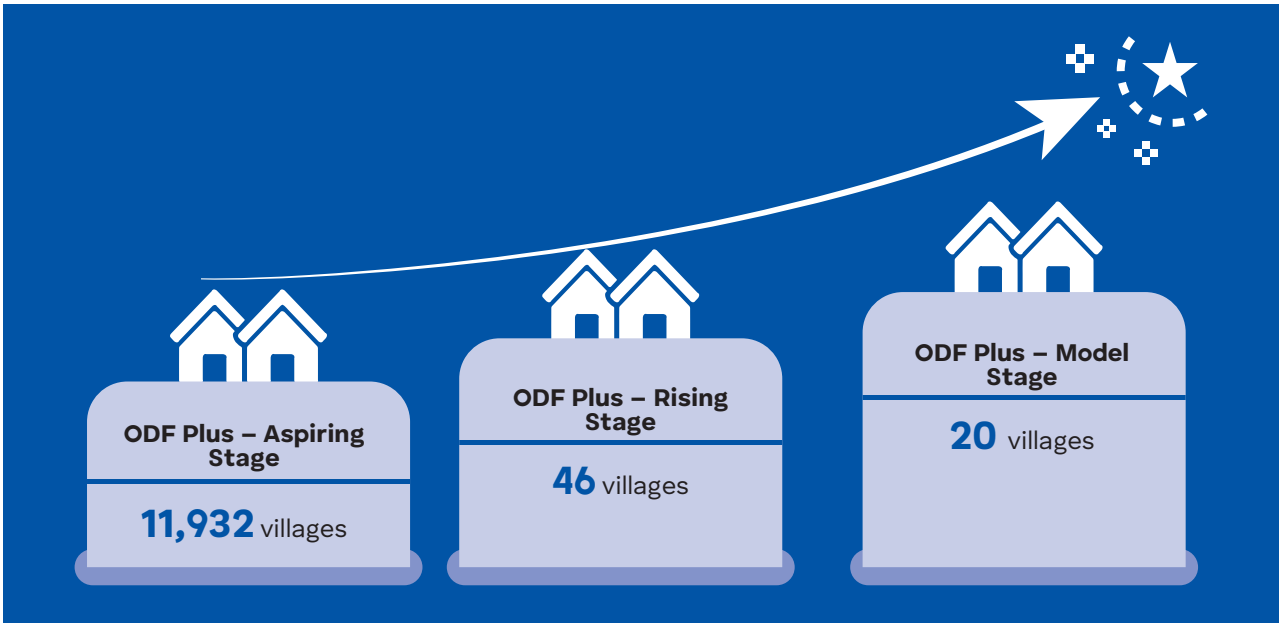
VSSP is a tool for grassroots planning and monitoring of ODF Plus status that would help consolidate gains made, assess gaps, and bridge them and thereby improve the status of panchayats enabling them to move from the ODF Plus Aspiring category to the ODF Plus Model category.

The tool was mandated by the State for a comprehensive and holistic assessment of the existing sanitation facilities and the requirements at the household and community level for each panchayat.



A critical component of the VSSP is the involvement of the Local Body representatives and people, who take up street-wise transect walks to understand the existing infrastructure and evaluate any further requirements, with a greater focus on solid and greywater management.

Upon finalisation of the VSSP, based on



the needs identified, funds are allocated from SBM(G) components and from other schemes like MGNREGS and 15 FC. The aim is to reinforce a bottom-up approach, ensuring needs-based planning to enable the effective and sustainable achievement of access to sanitation, and solid and greywater management with a view to creating a clean and green state.

ODF Plus villages in TN: Of the 12525 villages in the State, ODF Plus Aspiring villages are 11932, ODF Plus Rising are 46 and ODF Plus Model are 20, making a total of 11998 ODF Plus villages. The VSSP is likely to hasten the process of transforming all villages into ODF Plus Model villages.

The criteria for declaring a village as ODF Plus depends on interventions on the various verticals of solid and liquid waste management. DDWS had introduced intermediate stages in the process of declaring a village as ODF Plus as under:

ODF Plus – Aspiring: A village in which all households have access to a functional toilet facility; all schools/anganwadi centres/panchayat ghars have access to a functional toilet with separate toilets for men and women; and the village has arrangements for solid waste management or liquid waste management.

ODF – Rising: A village in which all households have access to a functional toilet facility; all schools/anganwadi centres/panchayat ghars have access to a functional toilet with separate toilets for men and women; and the village has arrangements for solid waste management and liquid waste management.

ODF – Model: A village in which all households have access to a functional toilet facility; all schools/anganwadi centres/panchayat ghars have access to a functional toilet with separate toilets for men and women; all public spaces in the village have minimal litter, minimal stagnant wastewater and no plastic waste dump in public places; the village has arrangements for solid waste management and liquid waste management; and the village should have ODF Plus IEC messages prominently displayed through wall paintings and billboards.

Telangana

Dhammakkapally GP reduces plastic waste, manages greywater

With a view to reducing plastic waste and managing greywater, Dhammakkapally Gram Panchayat in Kondapak Mandal of Siddipet district in Telangana has set up a steel bank that would reduce the use of plastic and has encouraged households to promote kitchen gardens to manage the greywater generated.

The simple solutions used are motivating the community which already has adequate access to sanitation facilities to participate in the management of solid and liquid waste; inspiring other villages to make similar arrangements.

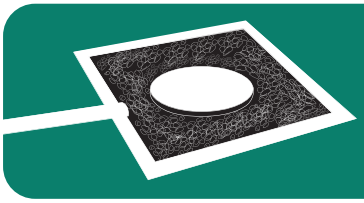
Earlier, in support of the ban on Single Use Plastic (SUP), the Government of India and the State governments collectively issued public notifications and conducted country-wide publicity campaigns. With the same spirit, the Minister of Health, Medical and Family Welfare, Sri. Harish Rao, called upon all public representatives to promote eco-friendly lifestyles and refrain from the use of single-use plastics.

Further, the District administration under the leadership of the Collector, Sri Prashant Jivan Patil, supported district-wide publicity of the SUP ban. He was supported in this task by Additional Collector Sri Muzamilkhan and SUP taskforce committee members including DRDO, DPO, CEO-ZP, and Municipal commissioners in the district. The committee also appealed to the Municipalities and GPs to promote the Steel Bank concept, which had already been popularized in Siddipet town.

Background: Dammakkapally which was previously a habitation and a part of Kondapak GP was made into a GP and today is home to 233 households and a population of 1084. Since its inception, the Sarpanch and the governing body have been playing a key role in the overall development of the village, particularly with regard to the central and state government flagship programmes namely, the Swachh Bharat Mission and the Palle Pragathi programmes. As a result, the GP achieved ODF status in 2017 by providing access to improved sanitation facilities and in Phase 2 of SBM-G in the area of solid and liquid waste management (SLWM). In this regard, the GP had distributed bins

for wet and dry waste, promoting segregation of waste at source; constructed a compost shed, procured a tractor, and built magic pits and community soak pits in addition to drains to cover all households.

Under the Palle Pragathi programme, notable changes have taken place across the village, utilizing MGNREGA funds. This included the construction of 146 Magic soak pits; and 9 Community soak pits in the school, and other mini water tank areas. Also, with the support of the Special Development Fund (SDF), the GP drains were covered and made into underground drains and under MGNREGA, a compost cum segregation shed was constructed. Moreover, a nursery was started for various perennial plants as also a plantation programme under Haritha Haram initiative.



146 Magic soak pits were constructed and **9** Community soak pits were built in the school and other areas with mini water tanks

Implementation: To support the SUP ban in the villages, the GP set up a steel bank. They also mobilised donations for the procurement of 300 steel plates, glasses and bowls. Community members borrow them for use at festivals and functions. Further, various awareness generation activities were conducted by the Sarpanch, panchayat members, Panchayat Secretary, active SHGs, and youth. This included interpersonal communication among the public and shopkeepers on the SUP ban.

Capacity building: To strengthen the capacities of village functionaries, a training of master trainers was conducted in November 2022. With the technical support of Primove and supported by UNICEF, a Village Sanitation Plan (VSP) was formulated and implemented.

Further, during VSP Grama Sabha, the Panchayat decided to improve kitchen gardens in the village. During visits to households, it was found that the majority of the households were having some form of kitchen gardens but needed technical support to channel their greywater into them.

Accordingly, with hand-holding support from Primove, 2 models of Kitchen gardens and a Magic soak pit were constructed for demonstration. People have now commenced repair of chambers and platforms. As of now, around 80 households are effectively managing kitchen gardens in the village.

Impact: These interventions seem small but the results are substantial for the effective management of greywater and in enhancing the nutritional status of the village community as also the availability of vegetables for their use.

At the District Level, the DRDO and DPO are encouraging replication of these models in all the villages in the district, and exposure visits are planned for Mandal Level officials as well as for field functionaries so they can implement these practices in the villages.

Telangana's Siddipet temple produces divine compost

Komuravelli Mallikarjuna Swamy Temple popularly known as Komrelly Mallanna Temple in Siddipet district of Telangana is now converting all the flowers, leaves and other organic waste generated in the temple into organic compost for use in agriculture and kitchen gardens. The Divine Waste Management programme carried out with the support of the district administration of Siddipet is a part of the Swachh Bharat Mission Grameen (SBM-G) campaign Phase II.

According to District Collector, Sri Prashant Jeevan Patil, the objective of the solid waste management initiative was to make use of the huge quantities of organic materials offered to the deity by devotees each day which earlier were left to rot, adding to the quantity of waste dumped in the garbage bins.

Floral compost typically refers to compost that is primarily made from plant materials such as flowers, leaves, stems, and other plant debris, that are high in carbon and nitrogen. It is made by combining these materials with other organic matter, such as food scraps, and yard waste, allowing it to decompose over time.

Initially, the programme was started in a temple in Siddipet town by the municipal authorities. After implementing the pilot in town, Additional Collector, Sri Muzamil Khan, planned to expand the programme in popular temples in rural areas. Under his direction, District Panchayat Officer, Smt. Devaki Devi, implemented the programme in Komuravelli Mallikarujana Swamy Temple, a popular temple in Telangana, which is visited each year by 3-4 lakhs pilgrims, particularly during the Patnalu period from November to April.

During this season, around 50 quintals of waste consisting of flowers, leaves, fruits, and vegetables are generated each month. It is also the time of the year when there is increasing use of single-use plastic and other disposable items including plates, glasses, bottles, and other non-biodegradable waste which is estimated to be around 10-12 quintals during the peak season.

In the wake of such waste generated in huge quantities, sorting it into biodegradable and non-biodegradable waste was a huge challenge for the Komuravelli Gram Panchayat and the temple authorities. Today, the situation has improved with the installation of bins for waste segregation and all available manpower being employed to transport waste to the dump yard where it is further segregated and converted into compost.

Having successfully managed the waste generated in the Siddipet temple on an experimental basis two months ago, around 70 kgs of compost has been generated so far.

With these results, the district authorities plan to execute a programme called Swachh Mallanna across the district by involving all key stakeholders with the support of the local community. In this regard, the Additional Collector has formed a team comprising of Kousaly Devi (Additional DRDO), Devaki Devi (DPO), Anuradha (MPDO) Komuarvelli, Sarpanch, Secretary-Gram Panchayat and Chairman of the temple.

He personally visited all the Komurvelli temple shops and hotels, requesting the public and shop owners to participate in the Swachhata temple campaign which included refraining from the use single-use plastics and adopting the use of alternatives.

Speaking to local shop owners, “Our Temple is our pride and prestige. Hence it is time for us to support the “Swachha Mallamnna programme. If we work together, we can bring about a change. We can create a swachh temple, happy pilgrims and at the same time generate employment for our women who make products that are a safe alternative to plastics,” Additional Collector Muzmil Khan said.

He further advised district authorities, to involve the Self Help Group (SHG) women in the production of alternatives to single-use plastic such as plates and carry bags. He also recommended an exposure visit to Sirigirpally and Thimmareddypally GPs where the SHGs are involved in the production of leaf plates and paper bags.

In response, the GP carried out a survey of the waste generated around the temple and the shops in the vicinity and sent temple authorities, and Panchayat Secretary Sri Lokesh Reddy and other representatives to visit the GPs of Sirigirpally and Thimmareddypally. Having returned with samples of biodegradable plastic bags and cloth bags, plans have been made to produce similar items within the GP for use in the temples.

Also, notices banning the use of SUP have been issued to all 160 shops, advising them to arrange for alternatives to plastic within the notice period. Meanwhile, as a part of the divine waste management programme, collection points have been identified in the temple surroundings.

A notice was issued to ban the use of single-use plastic (SUP) in **160 shops**

Steel Bank in Telangana's Annampatla GP curbs plastic waste

Annampatla Gram Panchayat in Bibinagar Mandal of Yadadri Bhuvanagiri District in Telangana has set up a steel bank which was recently inaugurated by Smt. Pamela Sathpathi, District collector. The unit which will lend crockery items for functions in the village is expected to put an end to the use of disposables and curb the use of plastic waste at events.

The steel bank became a reality owing to the generous contribution of philanthropist, Sri V. Balakishan who at the request of the Sarpanch – Smt. Bokka Vasumathi Jaipal Reddy contributed steel utensils worth Rs.28,000 to the GP.

Among the items handed over to the President, Village Samakhya of the Annampatla GP for proper maintenance of the steel bank were, 200 plates, 200 glasses, 24 small plates, 2 serving trays, 2 jugs, and 6 water bottles.

Appreciating the gesture, the Collector said that, through the Steel Bank, the use of single-use plastic items can be avoided in all functions held in the village. She further appealed to all GPs in the district to replicate the same to reduce plastic pollution and work towards making their villages plastic-free.

Earlier, another GP Deshmukhi in Pochampalli Mandal had established a similar steel bank. The District Collector also appreciated the efforts of Sri M. Upendar Reddy, DRDO, and SBM-G district consultants Mr. Murali, and Mr. Nagababu for this initiative. She reiterated that through the establishment of steel banks in the villages, the GPs were following the 4R principle of Refuse, Reduce, Reuse, and Recycle which would lead to a reduction in plastic pollution in rural areas.

Plastic products have become an integral part of everyday lives, resulting in increased plastic consumption. Plastic waste has also emerged as an important environmental challenge in the rural parts of the country. Swachh Bharat Mission Grameen (SBM-G) Phase-II strives to improve rural cleanliness through Solid and Liquid Waste Management (SLWM) activities. Plastic waste management has been made a critical criterion for declaring villages ODF Plus.

To control plastic pollution, the Centre has imposed a ban on certain Single Use Plastic items and the Telangana Government has issued a similar notification with the State Pollution control board issuing instructions to curb the use of single-use plastics in the state. It is therefore imperative for Gram Panchayats to adopt the 4R (Refuse, Reduce, Reuse, Recycle) principle which plays a vital role to curb the plastic menace in society.

Siddipet GPs procure steel utensils, promote SUP ban

All Gram Panchayats (GPs) in Siddipet district of Telangana have procured steel utensils with a view to supporting the ban imposed on single-use plastics (SUPs). The move will encourage communities to use steel items and refrain from using plastics and other disposable products that have a drastic impact on health and the environment.

In a bid to reduce plastic pollution, the Government of India with effect from 1st July 2022 has banned 19 single-use plastic items that have low utility and high littering potential. These include polystyrene (thermocol) plates, cups, glasses, forks, spoons, knives, straws, trays, packaging films around sweet boxes, invitation cards, and plastic, or PVC banners of less than 100 microns among others.

In accordance, Sri Prashant Jeevan Patil, District Collector, Siddipet, issued a notification and constituted several task force teams for the effective implementation of the SUP ban.

Further, Sri Muzamil Khan, Additional Collector - Local Bodies, and Taskforce members Sri Ch. Gopal Rao, District Rural Development (DRDO), Smt. Devaki Devi, District Panchayat Officer (DPO) along with the teams had taken up.

Meanwhile, the State Swachh Bharat Mission Grameen (SSBMG) conducted an orientation programme for district-level officers on SBM-G Phase II guidelines, giving special attention to the need to minimize plastic waste as well as banning SUPs in all institutions and offices. Above all, the strategies motivated the district-level officers to commence implementation of the SUP ban in all GPs across the district.

As a part of this initiative, the first and second week of January 2023 saw Mandal-level meetings conducted at the Collector's office with Panchayat secretaries, Mandal Development officers (MPDOs), Mandal Panchayat Officers (MPOs) and divisional level Panchayat officers (DLPO) with the prime objective of sensitizing people on the ill effects of SUP while promoting the formation of steel banks in the villages.

During the meetings with Panchayat Secretaries, the Panchayat office procured steel crockery and served refreshments in those utensils. They directed all the Mandal officers and Panchayat Secretaries to do the same in their respective offices, right up to the village level. Further, all

Strategies to promote zero plastics usages in the villages are as follows:

- Behaviour change communication programmes for the village communities
- Orientation meetings with shopkeepers
- Wide display of public notices through the Gram Panchayats
- Encouraging the use of alternatives to Single Use Plastics
- Imposition of fines

government offices were instructed that in all government-related programmes and other related activities, they must use steel or eco-friendly products.

Incidentally, Sri Harish Rao, the Minister for Finance and Health and Smt. Veleti Roja Radhakrishna Sharma, Zilla Parishad Chairperson, were involved in bringing awareness among public representatives such as Sarpanches and other PRI members, Mandal as well as district-level representatives on the importance of supporting the SUP ban and promoting steel banks and eco-friendly products instead of plastic.

Monitoring: The district administration had assigned Ms. Devaki Devi to effectively monitor the programme and to organize awareness programmes regarding the SUP ban and the use of alternatives in the villages. According to district officials, so far, fines amounting to Rs. 60,000 have been imposed by Panchayat Secretaries on shopkeepers continuing to sell SUP items despite the ban.

Impact: All such interventions led to significant results across the Gram Panchayats, Mandal offices, and district offices.

- All the Heads of the Departments at the Collector's Office issued internal circulars to avoid the use of plastic and strictly banning SUPs. As a direct result of this, the staff began carrying their own steel water bottles and steel/eco-friendly lunch boxes.
- All the 23 Mandal offices made necessary arrangements for the use of eco-friendly or steel utensils.
- All 499 Grama Panchayats of the district arranged for the procurement of steel utensils to enable them to serve water, tea, snacks, and lunch during meetings.
- During Kanti Velugu (eye test camps) a flagship programme that commenced in the State from 16th January, various medical camps were held when hundreds of people attended the camp for diagnosis. Equipped with steel banks, food and beverages were served by the GP to visitors in those steel utensils. This served to generate awareness of the need to use alternatives.

Community participation yields good results in Vepalagadda

Thinking positively and acting collectively makes a big difference in any community project, contributing to contented households. The impact of such an attitude was proved during a greywater management project implemented by the people of Vepalagadda village in Bhadradri Kothagudem district of Telangana.

Home to 261 households, Vepalagadda village has a population of 1,117 individuals from mixed communities who are engaged in daily wage labour or small businesses. All households had toilets that were constructed during Phase I of SBM-G which were being used. Thereafter, awareness activities were initiated in 2019 through door-to-door messaging and community gatherings at the GP office where the issue of Grey Water Management was discussed at length.

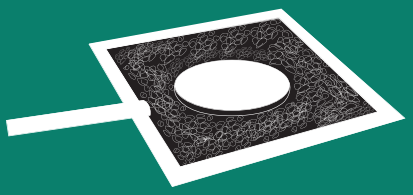
Initial training was conducted at the Mandal level on the construction of soak pits that would absorb grey water, preventing stagnation or overflow onto the village paths and at the same time help enhance the groundwater table. The GP then made a resolution for the construction of soak pits compiling a list of beneficiaries. With the active participation of the Village Water and Sanitation Committee (VWSC) and the support of Ward Members, the construction of the soak pits was made easy in the village.

Meanwhile, the Sarpanch and the GP body ensured that people derived the benefits of Magic soak pits while supporting them with the procurement of material directly to the households for speedy progress.

Further training was conducted for village functionaries, and the community where the design, required materials, and the operation and maintenance of the soak pits to effectively manage greywater were discussed in detail.

On its part, the Gram Panchayat maintained a register with details of beneficiaries and updated the progress of the construction of magic soak pits. Finally, with the active participation of various sections of people in the village every household constructed magic soak pits. The impact is obvious. Currently, there is no sign of water stagnation and the incidence of water and vector-borne diseases has reduced considerably.

Every household in the village constructed **magic soak pits** with active participation



Community soak pits were also constructed in 5 locations for those households which did not have space for individual soak pits and for institutions.

Soak pits are easy to construct by the households themselves and require low operation and maintenance. Magic soak pits can sustain for a very long time with community engagement, comprehensive IEC activities, and proper orientation on operation and maintenance. This is being monitored during field visits and follow-up discussions by the district administration. This process can be replicated in other villages across the district.

Uttar Pradesh

Aligarh's Plastic Waste Shav Yatra eliminates/manages plastic waste

A whopping 7000 kgs (7 tons) of plastic waste were collected from 867 villages of Aligarh district in Uttar Pradesh during the Plastic Waste Shav Yatra held from 14th to 28th November 2022, in an initiative to eliminate and manage plastic waste.

The innovative campaign to manage plastic waste in rural areas covered villages in 12 blocks of the Aligarh district.

The major objective of the campaign was to free villages from the ill effects of plastic waste and to transform as many as 76 selected villages into model ODF Plus villages with effective systems in place for solid and liquid waste management during the year 2022-23, in keeping with the guidelines of Swachh Bharat Mission Grameen (SBM-G) Phase II.

76 villages selected
for model **ODF Plus** villages

In this regard, the following initiatives were undertaken:

- Segregation bins or plastic banks were installed in 1844 spots for the collection of plastic waste from different revenue villages. Additionally, the collected plastic waste was transported to the Resource Recovery Centres (RRCs), constructed by the district and called 'Kachra Se Kanchan'.

- Safai Karmis were deployed in the Gram Panchayats and assigned to collect waste from the villages.
- In every block, the existing Plastic Waste Management units, Kawadiwals, waste collectors etc., were mapped so that forward linkage could be made.
- Construction of a Block Level Plastic Waste Management Unit (BPMU) was proposed for every block, and Block wise Clusters of villages were listed. The process for the arrangement of collection vehicles to be hired on a monthly basis was organized to collect plastic waste from each cluster of villages.
- Children of Primary and Upper Primary schools of Gram Panchayats were motivated and swachhata oaths were administered, to refrain from using single-use plastics.
- In almost all GPs, rallies were organized to generate awareness among the rural masses to eliminate single-use plastics and to use cloth bags instead of plastic bags.
- On the concluding day of the campaign, the collected plastic waste was transported to the District Headquarters from the blocks for 'Shav Yatra' to propagate the message promoting the reduction of plastics and elimination of Single Use plastics. The District Collector, Mr. Indra Vikram Singh flagged off the rally in the presence of other District level officials including the DPRO, Aligarh, and SBM(G) team, and all the vehicles loaded with more than 7.00 tons of Plastic waste were handed over to "A to Z" company for appropriate disposal and management.

The block-wise details of plastic waste collected during the campaign are as follows:

S.No	Name of Block	No. of GPs	No. of collection vehicles	No. of sacks filled with plastic waste	No. of plastic banks installed
1	Akrabad	65	2	537	140
2	Atroli	86	1	480	40
3	Bijauli	68	1	719	73
4	Chandaus	63	2	247	119
5	Dhanipur	71	2	450	89
6	Gangiri	80	2	790	189
7	Gonda	65	1	302	182
8	Iglash	67	1	583	206
9	Jawan	80	1	244	70
10	Khair	73	2	141	493
11	Lodha	82	1	281	104
12	Tappal	67	2	230	139
	Total	**867**	**18**	**5004**	**1844**

Gorakhpur women set a shining example in waste management

At 8 AM each morning, Geeta, Sarita and Reena Devi from Kotha village of Gorakhpur district in Uttar Pradesh set off to begin their task of collecting garbage from the 5000-odd households in the village. Equipped with gloves, masks, aprons, and a garbage collection vehicle, they complete the task in about 2 hours.

The garbage that is collected is then taken to the Resource Recovery Centre (RRC) where it is segregated into biodegradable waste (kitchen or wet waste) and non-biodegradable waste (metal, paper and plastic). The RRC has 12 compartments into which the waste is segregated. Thereafter, while the wet waste made up of vegetable and fruit peels is converted into vermicompost, the remaining dry waste is kept aside and sold to junk collectors. The women besides their monthly wage, receive some income from the sale of dry waste and organic compost.

Earlier, the village with support from the Panchayati Raj Department had constructed a Solid Waste Management Centre at a cost of Rs. 15 lakhs. About a dozen women from the Ambedkar self help group, Kotha, Kauriram, Gorakhpur have been involved in implementing the waste management project. Although a small beginning, the RRC constructed in Kotha village manages waste as per the guidelines issued under Swachh Bharat Mission Grameen (SBM-G) Phase II.

About a **dozen women from SHGs** implement the waste management project

The success of the initiative has prompted the District Swachh Bharat Mission Grameen Samiti, Gorakhpur District Magistrate

Shri Krishna Karunesh, Chief Development Officer – Shri Sanjay Kumar Meena, District Panchayat Raj Officer — Shri Himanshu Shekhar Thakur and District Consultant (I.E.C.) — Shri. Bachcha Singh to set up similar centres in more than 1000 villages of Gorakhpur district.

Meanwhile, the Pradhan of the village, Smt. Sunita Yadav, along with her husband has been involved in creating awareness about the Swachh Bharat Mission and the need for cleanliness, appealing to people to support the campaign wholeheartedly.

Gorakhpur's DPRO Himanshu Shekhar Thakur is credited for starting the RRC and training women to effectively manage waste.

The women of the Ambedkar self-help group are keen to make a difference in their community by managing waste and cleaning the village surroundings which would contribute to the health and well-being of the community. Best of all, they are able to earn a livelihood to supplement their family income.

Earlier, the women had no work and seemed to pass each day doing household chores. This new role has given them the satisfaction of contributing to the community and bringing about swachhata.

UP's Bhadohi district organises Samvad with Gram Pradhans

As a part of a district-level sensitization programme, a Samvad with Gram Pradhans was organized by the district administration of Bhadohi in Uttar Pradesh under the chairmanship of the District Magistrate of Bhadohi, Mr. Gauranga Rathi on 18th January 2023, at the Carpet Expo Mart grounds.

As many as 546 Gram Pradhans, 119 Panchayat Secretaries, 17 consulting engineers, 102 Panchayat Sahayaks along with officials of 19 Line Departments among others attended the one-day Orientation-cum Samvad programme of Gram Pradhans.

The major objective of the programme was to sensitize Pradhans, enabling them to develop ODF Plus model villages in convergence with other departments/schemes such as National Rural Livelihoods Mission (NRLM), Health, Agriculture, MGNREGA, Integrated Child Development Scheme (ICDS), Education, and Social Welfare. The meeting provided a platform for all the Departments to share details of their innovative schemes including that of solid and liquid waste management, its need, technological options available, and the campaign to bring about cleanliness to rural markets.

For the financial year 2022-23, the district administration had set a target of making 171 villages from 99 Gram Panchayats as model ODF Plus villages. In this regard, the Gram Pradhans of those identified villages had already prepared their Village Sanitation Plans and had hitherto presented those plans at the state level.

Goal of creating **171 model ODF Plus** villages from **99 Gram Panchayats** for the financial year 2022-23

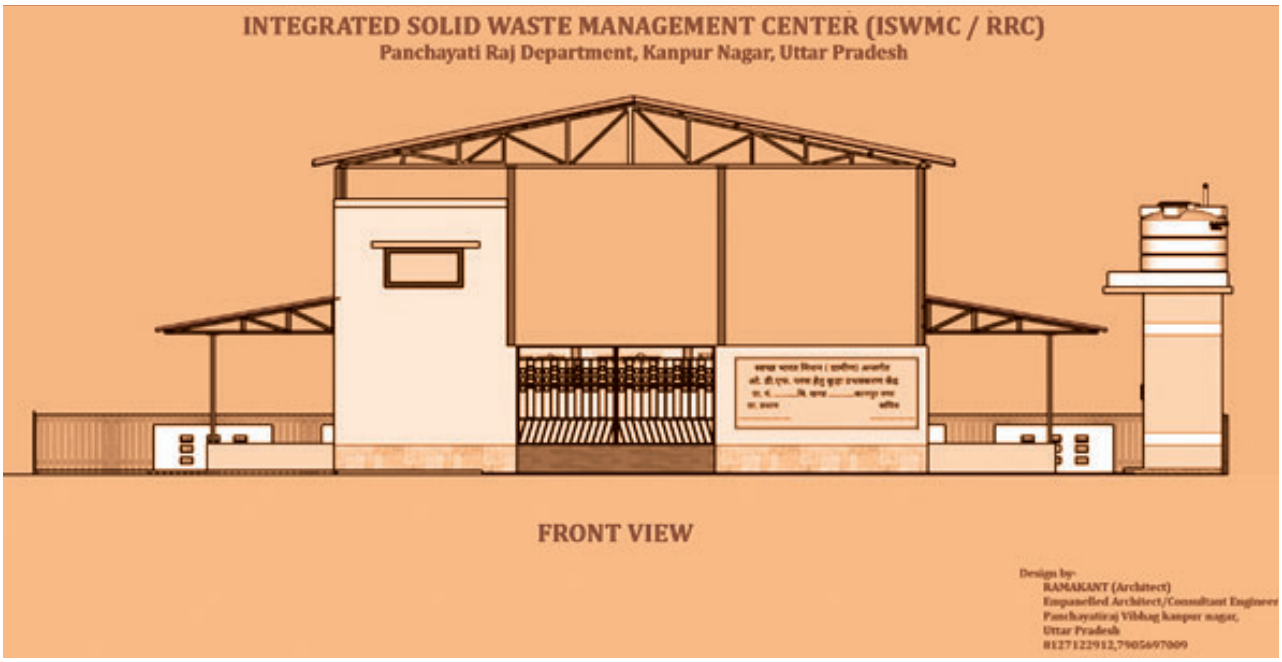
Further, credit limits had been issued to the Panchayats for implementation of Solid and Liquid Waste Management (SLWM) works, and most of the Gram Panchayats had started work such as the construction of NADEP and vermin compost pits, Resource Recovery Centres, installation of plastic banks, soak pits, drains, silt catchers, filter chambers, GOBARdhan projects, beautification of ponds, etc.

Meanwhile, the remaining Gram Panchayats were also motivated to prepare their Village Sanitation plans along the same lines as the others to convert their villages into model ODF Plus villages.

The Orientation programme was successful under the able guidance of the District Magistrate and the Pradhans were encouraged to expedite work with immediate effect. The CDO, Mr. Yashwant Kumar Singh and DPRO, Mr. Rakesh Yadav have also been making consistent efforts to make the ODF Plus campaign a success.

On their part, the Pradhans demonstrated enthusiasm to finish the tasks within the stipulated time. Around 24 Departments had set up stalls at the venue to inform the Pradhans about the different schemes they could avail of.

Kanpur Nagar constructs a 3D RRC model; similar units to come up in 47 GPs



The district administration of Kanpur Nagar in Uttar Pradesh has constructed a three-dimensional (3D) model of a Resource Recovery Centre (RRC) which would essentially be an integrated solid waste management centre to be replicated in around 47 Gram Panchayats (GPs) having a population of more than 5000 individuals.

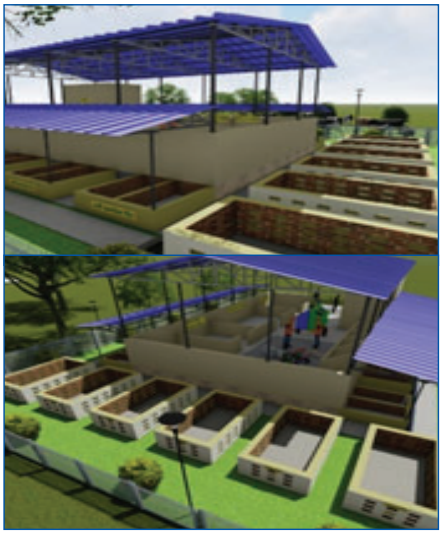
The estimated cost of each RRC is approximately Rs. 10 lakhs. When operational, the RRCS would be managed by SHGs, NGOs, or private institutions with expertise in waste management.

The need: Owing to the ever-increasing population, urbanization, and industrialization in rural areas, solid waste generation has been increasing enormously day by day in GPs. The use of plastic, thermocol, and other artificial substances in rural areas has been increasing drastically, as in urban areas.

In the earlier days, handling of garbage was not problematic as the solid waste generated in villages was limited and it was often disposed of completely at the household level. However, as the quantity of solid waste generation has steadily increased in rural areas, it is time to find solutions for handling of solid waste at the community level in GPs.

State initiatives: Under Swachh Bharat Mission Grameen Phase-2, the state government has been approaching the issue of solid waste management as an urgent matter and has come up with solutions such as installation of segregated garbage bins, plastic banks in market areas and public spaces, construction of compost (vermi or Nadep methods) pits for the treatment of wet waste, GOBARdhan, and door to door collection of solid waste. With a view to transforming all villages into ODF Plus model villages, the Government has planned to introduce several solid and liquid waste management activities.

The Government of Uttar Pradesh intends to construct Integrated solid waste management centres (ISWMC) or Resource Recovery Centres (RRC) at the gram panchayat level for the disposal of solid waste generated in villages.



District-level initiatives: The district administration of Kanpur Nagar has designed a 3-dimensional model of an RRC considering land availability and economic viability of the gram panchayats. The centre is designed to accept solid waste collected and transported from e-rickshaw-based garbage vehicles. Optimum use of land is ensured in this design where secondary segregation and disposal of solid waste is to be done.

Important features of the RRC design:

- The total area of the RRC is 80 x 60 feet and the building area is 50 x 30 feet, covered with an MS sheet shed. Solid waste collected from the gram panchayat via a door-to-door waste collection mechanism (e-Rikshaw garbage vehicle) is taken to the centre after primary segregation at the source. Secondary segregation is done into 10 different categories - paper/newspaper; plastic bottles, plastic bags, metal, cloth, leather or rubber, electronic waste, medical waste, glass bottles, and hazardous waste; and stored in chambers.
- A separate unit measuring 10 feet x 10 feet has been designed at the corner of the unit for menstrual waste, diapers, masks, etc. which will be disposed of by electronic incinerators.
- An office room cum tools room measuring 10 X 12 feet has been designed for employees to sit and for storage of tools.
- An area measuring 20 x 10 feet has been dedicated for compost sieving and storage.
- A washing area has been provided at one corner for cleaning and washing plastic waste.
- There is also a dedicated area for manual segregation and parking of e-rickshaws
- As many as 20 vermi beds measuring 6 x 3 x 1.5 feet along with 4 feet of windrowing space have been designed along the long wall of the RRC for the handling of gobar and wet waste management. Similarly, 6 Nadep pits have been designed on the short wall of the building area for wet waste handling and management.
- Toilet facility – separate for men and women with water supply has been accommodated for the use of workers.
- The unit has a solid waste drying bed to facilitate the drying of solid waste
- The periphery of the centre has been covered with wire fencing for security reasons.

Kanpur Nagar has plans to construct RRCs in 47 GPs having a population of more than 5000 with the view to making those GPs model ODF Plus GPs, as per the guidelines of SBM-G Phase II.

47 GPs (with a population of over 5,000) plan to become **model ODF Plus GPs**


Uttarakhand

Swachhata champion donates land for GOBARdhan project

When Smt. Richhawati, an active community leader and SHG member heard that the community biogas plant sanctioned for their Gram Panchayat (GP) in 2021-22 was being shelved owing to non-availability of community land and inadequate finance, she donated 2500 square feet of land that she owned for the project that would cater to the clean fuel needs of the community.

Having a large cattle population, the village community was looking forward to the community biogas plant under Swachh Bharat Mission Grameen (SBM-G) that would benefit 20 households. The woman's magnanimous gesture has set the wheels in motion for the construction of the GOBARdhan plant that is now located in Salmatta GP in Sitarganj Block of Udham Singh Nagar district in Uttarakhand.

It was after a series of meetings with the Panchayat representative and community consensus that the project was first approved. But the unit could not start at the scheduled time for various reasons. A patch of common Panchayat land was first identified but it was far from the cluster of 20 households. However, their technical agency had advised that the land should be located close to the cluster of households so that biogas connections could be easily made to them.

A beneficiary of the cluster, Smt. Richhawati who owns an individual biogas plant is an active community social worker and a member of a Self-Help Group run by National Rural Livelihood Mission (NRLM). In fact, all households in the cluster who belong to the Scheduled Tribe category own land near the cluster.

Having learnt about the benefits of a biogas plant, Richhawati did not want such a valuable project to be dropped owing to non-availability of land. Soon as she decided to donate her land for the project, the proposal for land donation was sent to SWAJAL (SBM-G) district office, following which all formalities were carried out. A donation letter (Dan-Nama) for 2500 square feet of land was prepared; and the project for a 45 cum community biogas plant costing Rs. 18 lakhs that will benefit a cluster of 20 families was started in the financial year 2022-23. The construction work is currently underway with about 45 per cent completed and the entire project is set to be in operation by September 2022.

Outcome

The knowledge that a Biogas plant can provide clean fuel and alleviate the suffering of women prompted the woman to donate the land. The woman's magnanimous gesture benefits 20 families.

How Patanpatni ensures collection & safe disposal of solid waste



With the support of the district administration, Patanpatni village of Lohaghat Block in Champawat district of Uttarakhand has been successfully managing its solid waste with effective systems in place for segregation, collection, and safe disposal of solid waste including biodegradable and non-biodegradable waste such as plastics.

Patanpatni which is home to about 800 households has rented a garbage collection vehicle that helps in the collection of waste from 350 households that have a road facility and 100 households of the Indo-Tibetan Border Police (ITBP), making a total of 450 households from which waste is collected door to door. As far as the remaining 350 households are concerned, which are inaccessible to the collection vehicle, all inorganic waste is collected at the local level and sent to the roadside centre every month. From there it is collected by the vehicle periodically.

The Gram Panchayat has been spending a total of Rs.70,000 per month for solid waste collection, including Rs.7000 for vehicle rent per month, Rs.7500 for driver's honorarium, Rs.16000 for two cleaners and about Rs.35000 for fuel, and approximately Rs 4500 for other expenses.

With regard to income, a total of Rs.53,400 is received by the GP per month which includes Rs. 45000 from the 450 households (at the rate of Rs 100 per HH), Rs. 4400 from 22 local general shops (Rs. 200/shop) and Rs 4000 from 08 local hotels/meat/fish shops (at the rate of Rs. 500/ shop) which are being collected as user charges on a monthly basis.

The expenditure beyond the income of Rs. 20,000 per month during the initial period was provided by the District Magistrate of Champawat as gap funding for the next 6 months. Henceforth, the expenses will be managed by the Gram Panchayat itself.

During the initial period, the waste collected by the Gram Panchayat was sent to the waste collection centre developed by the Nagar Panchayat Lohaghat for final disposal. Presently, the GP Patanpatni has provided land for the development of a block-level plastic waste collection centre free of cost.

Door-to-door waste collection using a garbage collection vehicle from:

350 households
with road facility

100 households
of the Indo-Tibetan Border Police (ITBP)

Meanwhile, the waste collection shed has also been completed; and the compactor will soon be installed by the Panchayati Raj Department.

Further, the Gram Panchayat has decided that from December 2022 the GP will sort the collected waste in their own Gram Panchayat. The GP will also collect plastic waste from all Gram Panchayats of Lohaghat Block and send it for recycling instead of handing it over to the Nagar panchayat.

West Bengal

Howrah trains SHG members in Solid Waste Management

To ensure the efficient management of both organic and inorganic waste, the district administration of Howrah in West Bengal held a training programme on solid waste management for members of Self-Help Groups from 14th to 15th March 2023.

Solid waste management which is an essential component of Swachh Bharat Mission Grameen (SBM-G) Phase II includes the proper management of biodegradable and non-biodegradable waste with a view to protecting the environment and ensuring the safety and well-being of all living creatures. While biodegradable waste includes kitchen waste, agricultural waste, and human and animal waste, which can be decomposed by the biological action of living microorganisms; non-biodegradable waste includes plastic, metal, glass, etc., which cannot be decomposed biologically.

Biodegradable waste:
kitchen waste, agricultural waste, human waste, animal waste decomposed by microorganisms

Non-biodegradable waste:
plastic, metal, glass cannot be decomposed biologically

Around 90 participants consisting of Secretary-Zilla Parishad, District Coordinator of Sanitation Cell, Pradhan-Gram Panchayat, Joint Block Development Officer, Sansad members, sanitation workers, and SHG members attended the first day of the training that was held in Sankrail Gram Panchayat.

The entire process of solid waste management from segregation at source, collection, transportation, composting of biodegradable waste, further segregation of non-biodegradable into recyclable and non-recyclable waste and forward linkages were demonstrated.

The second day of training was held in Kalyanpur Gram Panchayat in Bagnan-I Block that saw the participation of 134 individuals consisting of Panchayat Samity Sobhapoti, Janasasthya Kormadhaksha of Panchayat Samity, District coordinator of the sanitation cell, GP pradhan, Block Development Officer, Joint BDO, Nirmaan Sahayak, Sansad members, Sanitation workers and SHG Members.

On both days of the training led by Primove, group discussions followed - for participants to get their queries answered and their doubts clarified. They were assured of handholding support until efficient systems were in place to manage solid waste.


unicef
for every child