WHITE PAPER

"Invest in Planet"

A SMSMR contribution towards keeping the planet clean and green

The Context

Plastics, which are synthetic hydrocarbon-based polymers derived from crude oil and natural gas, have become an integral part of our lives in today's consumerist society. However, the majority of plastic produced is used and then discarded. This has resulted in a significant increase in global plastic waste generation, which more than doubled from 156 metric tons in 2000 to 353 metric tons in 2019, and is projected to triple by 2060 (OECD, 2022). In India alone, 3.3 million tons of plastic waste was generated in 2018-19, with only 60% of it being collected (CPCB report).

The impact of plastic waste is particularly severe in our oceans. It is estimated that by 2040, between 23 and 37 million metric tons of waste will be added to the world's oceans each year (UNEP, 2021). On land, plastic trash poses a threat to animals, as they can ingest it, leading to the death of animals due to clogged rumens and guts. Microplastics have even been found in the bloodstream of humans and animals. Improper disposal of plastic waste results in clogged drains, rivers, and ultimately, the ocean, through littering and maritime traffic. This pollution of the marine environment has destructive consequences for numerous marine species that aid in carbon absorption.

When plastic is not disposed of properly, it remains in its original form on land or in the oceans, taking an extended period to decompose. Throughout its lifecycle, plastic contributes to 3.4% of the total greenhouse gas emissions, equivalent to 1.5 billion tonnes, with 90% of these emissions occurring during production and conversion from fossil fuels (OECD, 2022). The additives used to enhance plastic durability make them last for up to 400 years before breaking down (Reuters report, 3 Dec 2021). Additionally, when organic waste is mixed with plastic and other non-biodegradable waste in uncontrolled landfills, it frequently leads to methane-induced fires, exacerbating air pollution. Even the recycling process of plastic, if not conducted in accordance with strict norms and standard operating procedures outlined in the Plastic Waste Management Rules and supervised by Pollution Control Boards, can result in environmental pollution.

The issue of plastic waste is significantly influenced by soft drink and beverage bottles, as well as packaging materials made of plastic. The introduction of plastic bottles in 1993 and the subsequent decline of the deposit return system for soft drink bottles have exacerbated the problem of plastic waste (Plastinida Foundation, 2023). Although single-use plastic is now banned in India, many non-recyclable plastic items remain unaffected by the ban, and the enforcement of the rule is less than effective. Compliance monitoring and enforcement of Extended Producer Responsibility norms are also far from satisfactory.

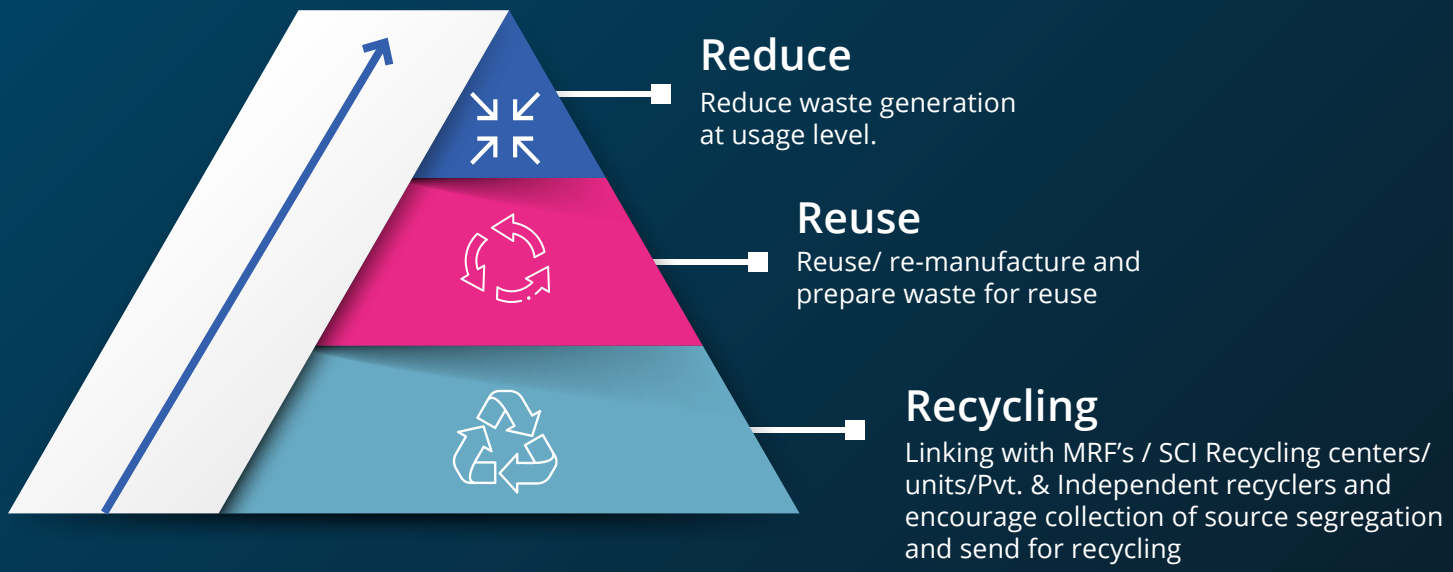
How SMSMR Fits?

It is in context to the above and in response to the growing plastic waste crisis, The Coca-Cola Foundation and American India Foundation came together in 2017 to extend Coca-Cola's flagship program – 'Support My School Mission 1000' further into a new version 'Support My School Mission Recycling (SMSMR)'.

Objective

Creating awareness amongst the children and teachers of government schools towards recycle and reuse of PET (Polyethylene Terephthalate) waste.

The conceptual foundation of the programme is shown in diagram below:



The program aims to work with children and teachers to turn them into **ambassadors of change in the community for improved waste management outcomes through recycle and reuse.** The project envisions to create responsible and environmentally conscious young citizens who would be able to bring about a generational sustained change in practice of "recycle and reuse".

The program, as part of its sustainability, also aims to integrate activities of advocacy to help drive policy changes and action at grassroots to improve plastic and PET waste management in the long run. The aim is to improve and enhance source segregation, thereby resulting in higher rates of plastics and PET recycling. The project has kick-started processes through backward and forward linkages for better waste management.

The program involved linkages with Material Recycling Facilities (MRF's) as well as Smart City Initiative's Recycling/ Sorting units for establishing linkages to ensure source segregation, segregated collection and disposal. Looking forward, the program will be strengthening its monitoring system and overall documentation of processes and impacts to develop an evidence-body for scaling up and certification.

So far, the program has reached over 15,000 schools through its three phases of implementation. Phase 1 of the project was implemented across 5223 schools from 19 states and UTs. The phase 2 of the program reached over 5000 schools covering more than seven lakh students across India. This feat was achieved despite the pandemic constraints.

SMSMR Program – Phase 3

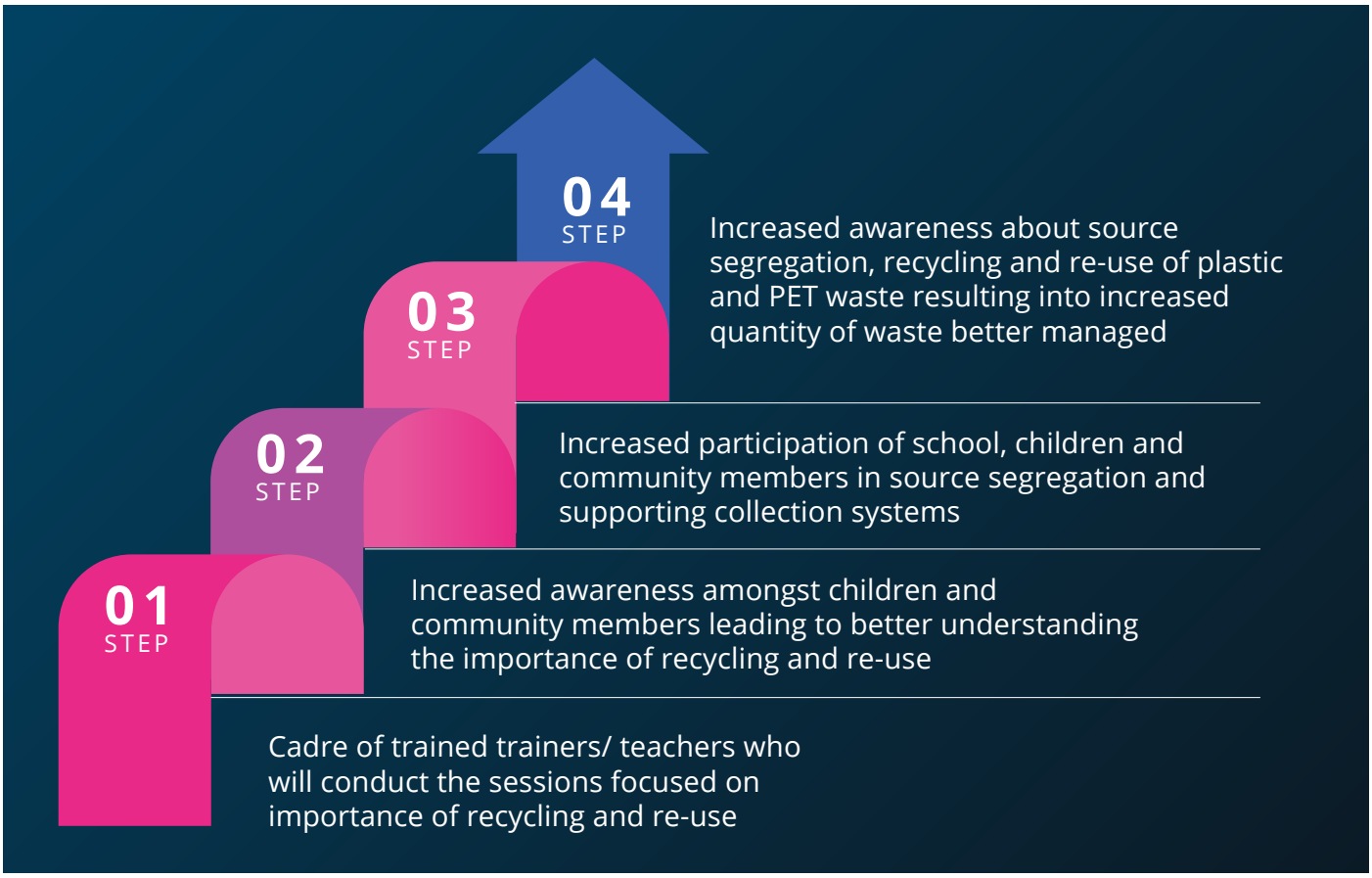
Phase 3 of the program, implemented by the American India Foundation, spanned from January 2022 to May 2023. The key strategy of this phase was to empower school children as ambassadors to promote recycling and waste management practices within their communities. The strategy for this phase was reaching out to the community through school children as ambassadors who would sustain the message of recycle and reuse and put the same into practice too. The expected results of the project were building the capacity of the school children in becoming responsible citizens by making them aware of the dangers of lack of waste management and facilitate them to take appropriate steps to tackle the problem through source segregation and better plastic & PET waste management and recycling, reaching out this message to the community through children and ensuring sustainability of the program by growing it as an on-going campaign while linking it to the Material Recycling Facilities (MRF) / Smart City Initiative –Recycling Units (SCI-RU) in select locations.

The achievement of the project has been impressive -1.04 million children (and through them an equal number of families) in 5000 schools, spread across 19 states.

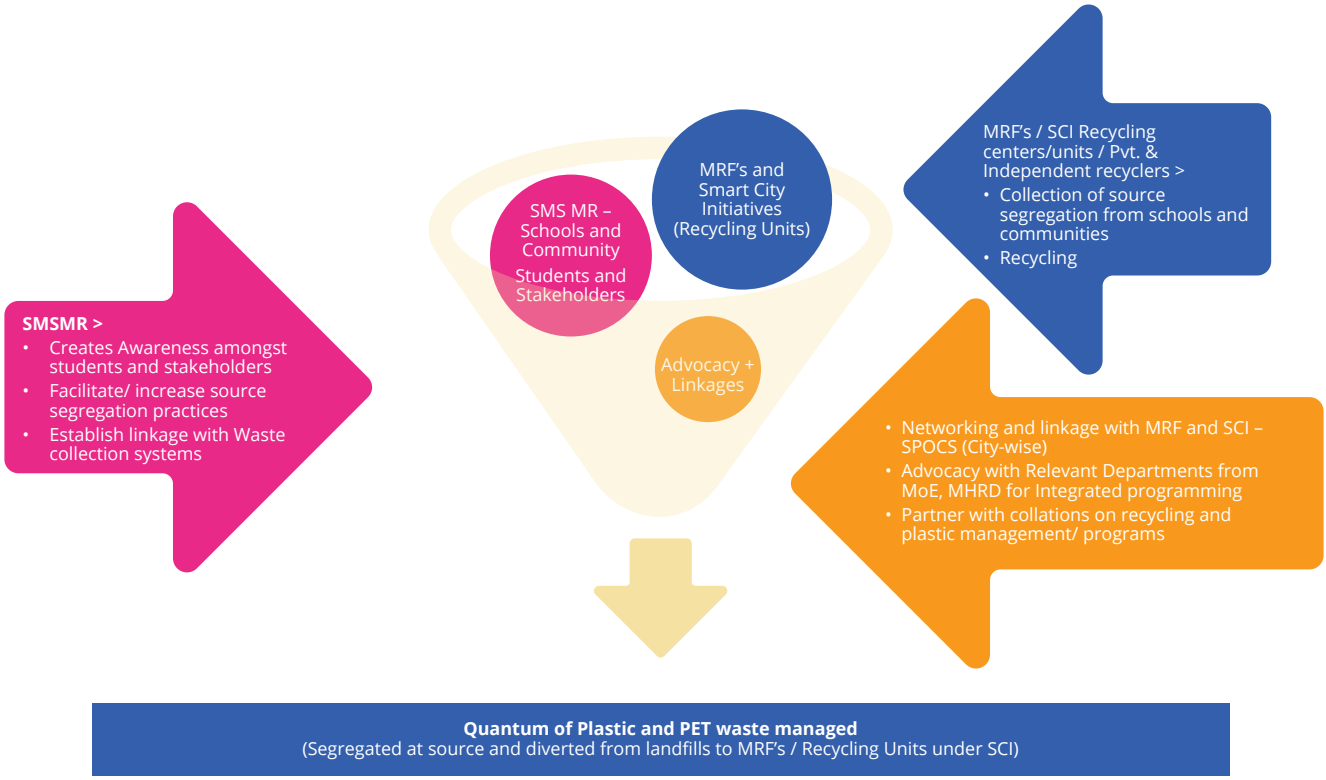
Type of Stakeholder	Numbers Reached
States/UTs	19
Number of schools covered	5000
Number of students reached	1104620
Number of teachers reached	25797
Number of SMC members reached	16110
Number of parents reached	78279
Number of CBOs reached	96696

Program Approach

With the school as fulcrum of the activity, the first task was to prepare a cadre of trained teachers to teach children the importance and methods of recycling and reuse of PET bottles and other plastic products both at school and at home. The curriculum with teaching material was developed by AIF and supplied to the schools. Motivational sessions were held in schools and the communities that they catered to, increasing awareness about reuse/recycling of plastic products. This step leads to adoption of source segregation of waste and use of waste collection systems. The final step is adoption of the waste management practices by school and its source community and better management of waste.



Customized teaching content was developed and imparted through master trainers and teachers of the participating schools. The school-level sensitization is expected to have a ripple effect in the community in the long run for more conscious waste management practices. The implementation process is captured in the diagram below:



Evaluation Framework

The evaluation study for SMSMR Phase 3 tried to assess the change in the status of key indicators that were committed in the project's logical framework.

The study specifically aimed at the following:

- Assess the **change** in knowledge, awareness, attitudes and practices of stakeholders on waste management and plastic recycling.
- Find disablers and enablers for change in terms of what interventions and strategies worked well and what were not well-received.
- Inform areas for replication and scaling up and feed into future program design at a micro level and policy suggestions at a macro level.

The evaluation involved interactions with children, parents, principals/teachers and community from 8 states split into 3 broad categories based on per capita waste generation. A **mixed-methodology** approach comprising of qualitative and quantitative techniques was adopted. **Quantitative data collection** was anchored by the individual respondent survey among 2812 children. Children survey was done using a self-administered tool in the form of Structured questionnaire (close-end responses through multiple choice questions). The **qualitative component** of the study entailed FGD with children & parents/community and IDI with the school staff. The feedback from students, teachers, and community members was collected to measure the effectiveness of the program and make necessary recommendations for future phases.

Achievements and Outcomes of the SMSMR Program

The SMSMR program achieved significant milestones during Phase 3, reaching over 1.04 million beneficiaries across 5000 schools and their communities in 17 states and 2 Union Territories. The program successfully built awareness and knowledge among school children, teachers, and school staff regarding waste management and recycling practices. Through interactive sessions, workshops, and educational materials, the program emphasized the importance of reducing, reusing, and recycling plastic waste.

> “After the sessions organized by AIF in our school, children have become so sensitized that they question us if they see us drinking tea in plastic cups”
>
> **Science teacher**
> Nallur, Tamil Nadu

The key achievements and outcomes of the SMSMR Program Phase 3 are as follows:

Increased awareness: The program successfully raised awareness among school children and the school staff about the impact of plastic waste on the environment and the importance of responsible waste management. Children were educated about the 3R approach (Reduce, Reuse, Recycle) and were encouraged to adopt sustainable practices in their daily lives. The knowledge imbibed included the importance of waste segregation into three streams (bio-degradable, non-biodegradable and hazardous); harmful effects of littering in environment, water bodies, food chains and feeding cycles of animals; spread of mosquito and other insect borne diseases due to littering/dumping; and recycling of PET. Girls showed greater awareness than the boys on all the aspects covered.

Behavior changes pertaining to reuse/ recycling: The program contributed to a positive change in the behavior of school children, teachers, and to a limited extent among families and communities regarding waste management. Students actively participated in source segregation of waste and took the initiative to set up waste segregation bins in their schools and homes. This led to a reduction in mixed waste and improved the quality of recyclable materials. They also engaged in reusing plastic waste for making planters, pen stands and other decorative items. Children have also insisted the usage of paper wraps for books and gifts, paper/ cotton/jute bags and steel water bottles, instead of those made from plastic. Perhaps continued community awareness, making provisions for waste disposal, an active monitoring mechanism and frequent collection of waste/garbage would ensure sustainable adherence of practices.

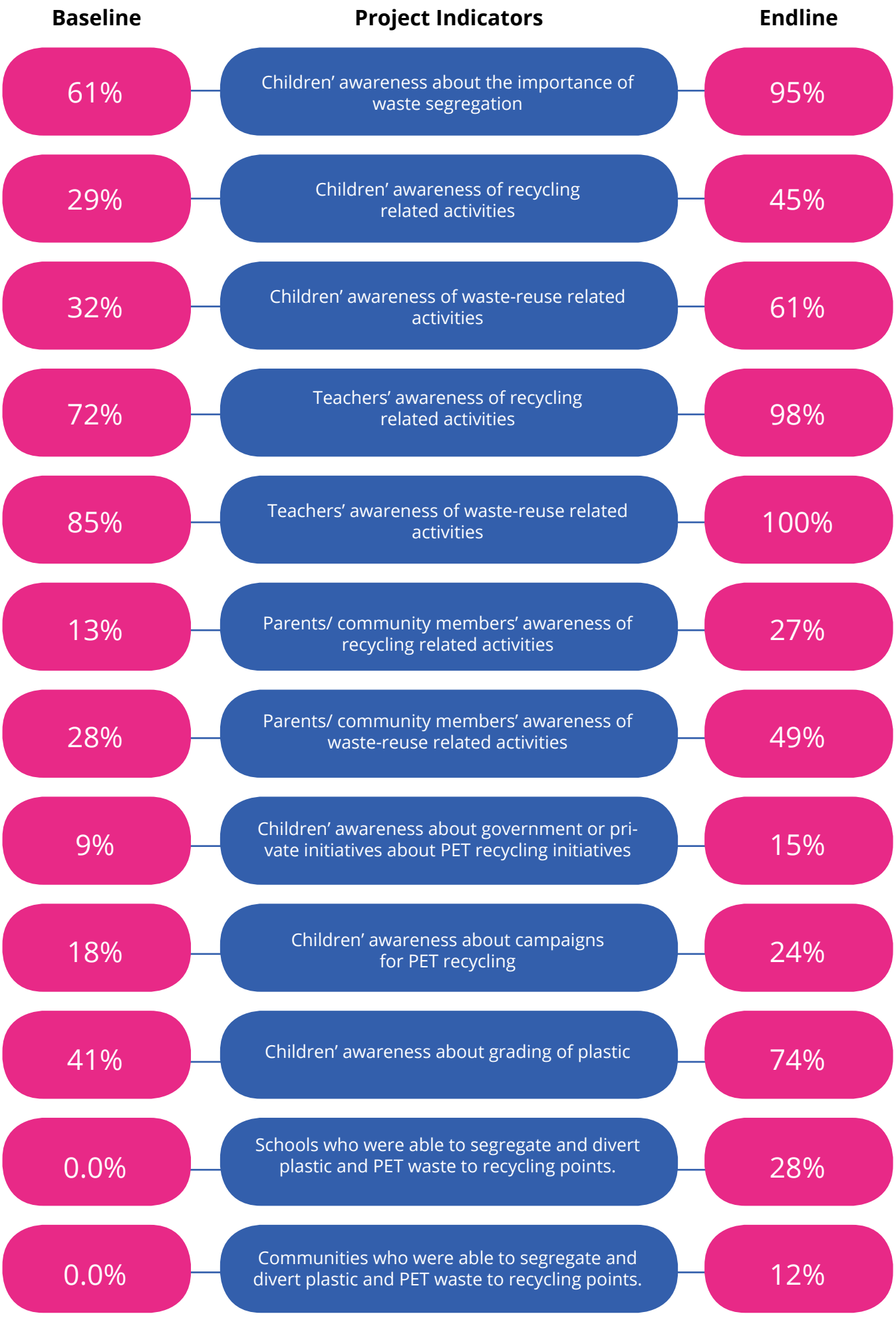
> During the sessions on waste management, AIF facilitators explained to us that we can make pen stand, bird's nest, brush stand, and other decorative items from used plastic containers. We have done this practically too. We have also used the plastic bottles for planting"
>
> **FGD Baramala High School**
> Odisha

It was learnt that most of the children communicated the topics covered in AIF sessions to their parents. The parents followed good waste management practices but sometimes proper adoption was constrained due to the lack of facilities for safe waste disposal.

> They listen to us and also understand that proper waste management practices need to be followed but since there are no facilities to dispose waste safely, they are confused"
>
> **Children from ZPHS Ladsawangi**
> Maharashtra

Recycling infrastructure: A stronger collaboration with MRFs and SCI-RUs is required to establish recycling units in select locations. Children were inquisitive and showed a great deal of enthusiasm to learn more about the concept of recycling. Perhaps this element should be closely tracked for greater effectiveness and sustainability of the program.

Key achievements and outcomes of SMSMR phase 3 at a glance



SMSMR's Convergence with National and Global Initiatives

Convergence with National initiatives

The SMSMR program is closely linked to several flagship schemes and policies of India. These linkages demonstrate the program's alignment with national priorities and its potential to contribute to the implementation and success of these initiatives. The SMSMR aligns with Swachh Bharat Abhiyan by focusing on improving waste management practices in schools. It aligns with the NEP's goals by incorporating waste management and recycling as an integral part of school activities. By engaging students, teachers, and school authorities in recycling initiatives, the program promotes environmental consciousness, practical learning, and responsible citizenship among students, thereby supporting the objectives of the NEP. The SMSMR program aligns with the Plastic Waste Management rules of 2016 by focusing on recycling and reducing plastic waste in schools. It educates students about the adverse effects of plastic waste and encourages them to adopt sustainable practices like recycling, reducing single-use plastics, and promoting alternatives such as cloth bags and steel water bottles. By promoting recycling and waste reduction, the program supports the idea of Atma Nirbhar Bharat utilizing available resources effectively, reducing dependence on imports, and creating a sustainable and self-reliant waste management ecosystem within schools. By instilling a sense of responsibility towards the environment, promoting cleanliness, and encouraging green practices, the SMSMR program aligns with the objectives of Clean India Green India and helps create a cleaner and greener India.

Convergence with Global initiatives

The SMSMR is closely linked to several Sustainable Development Goals (SDGs) outlined by the United Nations and India G20 priorities.

The SMSMR program promotes quality education (SDG 4) by integrating waste management and recycling into school activities. By engaging students, teachers, and school authorities in recycling initiatives, it provides practical learning opportunities, fosters environmental awareness, and promotes responsible citizenship. By reducing plastic waste and promoting alternatives like steel water bottles, the program contributes to the goal of ensuring clean water and sanitation

(SDG 6) for all. By promoting sustainable waste management practices, it contributes to creating sustainable and resilient cities and communities (SDG 11). The SMSMR program aligns with SDG 12 by promoting responsible consumption and production patterns. It educates students about the adverse effects of plastic waste and encourages them to adopt sustainable practices like recycling, reducing single-use plastics, and promoting alternatives such as cloth/jute/paper bags. The program also raises awareness among students about the impact of waste on the environment, fostering a sense of environmental stewardship and encouraging climate-conscious behavior (SDG 13). By fostering partnerships among corporate entities, government and local communities and through mobilization of resources, AIF through the SMSMR program contributes to the goal of strengthening global partnerships for sustainable development (SDG 17).

The **"Support My School-Mission Recycling"** program by the American India Foundation (AIF) aligns with several initiatives and priorities of the Group of Twenty (G20) -

Green Development, Climate finance and LiFE

Accelerated, Inclusive & Resilient Growth

Accelerating progress on Sustainable Development Goals (SDGs)

Women-led development

By linking with these G20 initiatives, the "Support My School-Mission Recycling" program demonstrates its alignment with global efforts to address plastic waste, promote sustainable development, and foster international cooperation. By empowering students, schools, and communities to adopt responsible waste management practices, the program contributes to multiple dimensions of sustainable development and helps create a more inclusive, resilient, and environmentally conscious future.

Conclusions and Way Forward

The SMSMR Program Phase 3 has made significant strides in promoting waste management, recycling, and awareness among school children and their communities. The program has been grand in improving awareness levels about plastic waste management. Despite high awareness, adoption of waste segregation, recycling and processing remains a challenge, especially at the community and household level. Though the children are the best ambassadors of progressive measures in their families, illiteracy of parents and absence of waste management facilities constrained sustained adoption of the practices. To build upon the achievements of the program, the following recommendations are suggested -

Fostering partnership/linkages

- It might be more effective and impactful to concentrate on consolidating awareness and knowledge gains by linkages of community with waste management facilities, waste aggregators and closer linkages with local self-government bodies.
- Partnering with non-governmental organizations (NGOs) and community-based organizations can enhance the program's outreach and effectiveness, especially among the community members. These organizations often have a deep understanding of local contexts and can provide valuable insights and support in implementing waste management initiatives.
- Strengthening partnerships with private entities, industries, and corporate sectors can provide additional resources and expertise to support waste management initiatives.

Collaboration with plastic manufacturers and packaging industries can promote responsible production and support recycling efforts.

- The program should actively engage with policymakers and advocate for policies that promote sustainable waste management practices. Collaboration with government agencies and NGOs can facilitate the development of comprehensive waste management policies at the national and local levels.

Expansion and Sustainability: The replication of a modified project with more focus on improving the outcomes is highly relevant and need to consider the mounting problems of plastic pollution even in remote villages. Therefore, the SMSMR Program should be expanded to reach more schools and communities across the country. Continuous support and funding should be ensured to sustain the program's activities and infrastructure for long-term impact.

Research, Innovation and Technology: Exploring innovative solutions and leveraging technology can enhance waste management practices. Introducing recycling technologies and incentivizing the development of eco-friendly alternatives to plastic can contribute to a circular economy approach. The program should support research initiatives and collaborate with academic institutions and research organizations to drive innovation in waste management practices.

These linkages between the "Support My School-Mission Recycling" program and flagship schemes/policies of India highlight the program's relevance and potential to align with national and international priorities. By integrating waste management, recycling, and environmental awareness into school activities, the program empowers students and schools to become active participants in the larger national initiatives promoting cleanliness, sustainability, and self-reliance. Through its alignment with these SDGs, the "Support My School-Mission Recycling" program demonstrates its commitment to addressing pressing global challenges and promoting sustainable development. Through its localized actions, the program contributes to the broader goals and priorities of the G20, reinforcing the importance of sustainable waste management practices and building a more sustainable future. More such programs are required for continuing to invest in schools and communities to create awareness, sensitization and positive behavioral change in students related to waste management and recycling for sustainable future. The program demonstrates a scalable low-cost solution that can be integrated in the National program for school students. AIF with Coca Cola will continue to work towards creating environmental awareness and contribute towards keeping the planet clean and green.

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