The UN Secretary-General's Advisory Board on Zero Waste

Project Zero: Zero Waste Schools

Zero waste good practice

Women for India Foundation

New Delhi, India

Disclaimer

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Synopsis

Project ZERO focuses on creating progressive ZERO WASTE SCHOOLS (ZWS). ZWS is an innovative program whose objective is to help schools divert all recyclable and compostable waste, recycle, reduce waste and recycle by educating students, thus adopting the Circular Economy. This helps schools to reduce their C-footprint by making small but significant changes. It is a scientifically-driven module that works on 12 broad and 61 minor indicators.

Implementation period	Country	Location
2019 - 2022	**India**	**New Delhi**

Stakeholders and Partners: Women for India Foundation, The Shakti Plastics, Local administration, School Management, teachers and students. The project was implemented by Women for India Foundation

Connection Zero Waste

The project has helped to integrate the following practices 1) Segregation- Promoting Waste Segregation at class and school Level. 2) Plastic and Paper collection- Plastic waste to be segregated, collected and sent to the authorized recyclers. 3) E-waste collection -e-waste to be collected separately and to be sent to authorized dealers for keeping away from landfills 4) Tree-Plantation- Drives for promoting afforestation within or near school premises. 5) Composting - Building wet compost plants and training of housekeeping staff on making compost from wet waste. 6) Rain water Harvesting - Deploying Rain water harvesting system to recharge rain water. 7) Wastewater management - Session on how Wastewater or grey water could be reused for several purposes. 8) Gender Equality - Educating students on equal rights and opportunities for girls and boys to help all children fulfill their potential. 9) Menstrual Hygiene among girls - Educating and sensitizing girls of age group 11-17 on Menstrual Hygiene and personal care. 10) Innovation- Engagement with Mentors, Experts, Professionals to help solve pressing social and environmental challenges through innovation.

Contribution to Sustainable Development Goals

This project aligns seamlessly with several United Nations Sustainable Development Goals (SDGs), showcasing its comprehensive impact on various aspects of sustainable development. SDG 4 (Quality Education) is addressed through the dissemination of information on zero-waste practices, fostering awareness and understanding of sustainable living, thereby contributing to an educated and environmentally conscious society. SDG 5 (Gender Equality) is promoted by ensuring that zero-waste initiatives equally empower and involve individuals of all genders in sustainable practices, creating an inclusive movement.

In alignment with SDG 9 (Industry, Innovation, and Infrastructure), the project emphasizes innovation as a key driver for a circular economy. By spotlighting and encouraging innovative solutions, the project supports the development of sustainable infrastructure and practices, fostering a more resilient and environmentally friendly society. SDG 11 (Sustainable Cities and Communities) is advanced by promoting eco-friendly landscapes through the adoption of zero-waste practices, contributing to the creation of sustainable urban environments.

The project significantly contributes to SDG 12 (Responsible Consumption and Production) by advocating for accountable and sustainable consumption patterns. Through the replication of successful initiatives and the promotion of resource-efficient practices, the project aligns with SDG 12's goal of ensuring responsible consumption and production patterns. Lastly, the project directly addresses SDG 13 (Climate Action) by mitigating environmental impact through waste reduction and promoting a collective commitment to a zero-waste future, thereby actively participating in the global fight against climate change.

Background, Challenges and Objectives

In the context of India, where rapid urbanization and population growth have exacerbated environmental challenges, this project emerges as a vital initiative, particularly when implemented in schools. India's rich history, coupled with its burgeoning population and diverse geographical locations, necessitates a concerted effort to address the escalating environmental concerns. With waste management being a pressing issue, especially in urban areas, integrating a zero-waste initiative into the education system becomes imperative. The project is tailored to harness the potential of the younger generation, instilling sustainable practices early on and fostering a sense of environmental responsibility.

Challenges and Opportunities:
The challenges faced by India, including burgeoning waste generation, insufficient waste management infrastructure, and environmental degradation, have compelled the development of this initiative. The country's historical focus on economic growth often led to unsustainable practices, creating a need for a paradigm shift towards eco-friendly living. The opportunity lies in leveraging the vast school network to create a ripple effect of change, influencing not only students but also their families and communities. By integrating zero-waste practices into the educational system, the initiative aims to transform challenges into opportunities for sustainable development.

Choice of Approach:
The chosen approach focuses on schools as hubs for change due to their potential to shape young minds and influence societal norms. By incorporating zero-waste practices into the curriculum, extracurricular activities, and school operations, the initiative ensures a holistic and immersive learning experience. This approach aligns with the belief that education plays a pivotal role in fostering long-term behavioral change and creating a generation that values environmental sustainability.

Objectives and Goals:
The primary objective of this policy is to embed the principles of a zero-waste lifestyle into the fabric of education. This involves integrating sustainability into the curriculum, implementing waste reduction measures within schools, and fostering a culture of responsible consumption and waste management. The project aims to make schools not only educational institutions but also living examples of sustainable living. By doing so, the initiative seeks to create a multiplier effect, influencing not just the immediate school community but also inspiring broader societal change. Ultimately, the project envisions a future where every student is an advocate for a zero-waste lifestyle, contributing to a more sustainable and resilient India.

Actions and Implementation

In our actions and implementation chapter, we methodically outline the steps taken to achieve sustainable waste management:

1) MOBILIZATION: Reach out to the principal, teachers and students through mobilization and outreach initiatives encouraging them to motivate them to adapt the best practices of waste management, plastic use and water. By prioritizing zero waste, principals create and support a culture of sustainability, inspiring and guiding students, teachers, and staff.

2) BASELINE AUDIT: A baseline audit of the school premises would be conducted before the start of the project in order to understand the waste management practices, plastic use policy, water conservation system and awareness levels among students. A detailed report is prepared at the end of the program. We work on 12 broad and 61 minor indicators.

3) TRAINING, ROLES & RESPONSIBILITIES: Principals, Coordinators, Teachers and Kitchen Staff all play key roles and have specific responsibilities relating to the successful implementation of Zero Waste Schools. Formation of Eco-Champs would help the project to succeed. Our women trainers help train the school staff.

4) NO SINGLE USE PLASTIC: All the plastic that would be generated in school as a waste would be recycled through connecting with the authorized dealers. Training and awareness on "Say no to plastics" is a major part of this campaign.

5) JAL SHAKTI- RAIN WATER HARVESTING: Each school would be made compatible to the by-laws of rain water harvesting. Awareness programs on saving rain water for future use would be focused and expertise.

6) COMPOSTING- SWACHH BHARAT:

 Once source segregation happens, the wet waste would be converted in compost in the school. A compost pit would be made with the help of school and training would be given to the staff to manage the pit.

Outcomes and Impact

The initiative has achieved significant outcomes, particularly in one of the schools, where a noteworthy reduction in carbon dioxide emissions was observed. The overall impact amounted to a remarkable 3,872 kilograms reduction in CO_2 emissions, equivalent to planting 194 additional trees. This tangible success underscores the effectiveness of the initiative in mitigating environmental impact and fostering a sustainable future. The initiative has benefited not only the immediate school community but also the broader environment. Students, teachers, and school staff have actively participated in waste reduction practices, leading to a substantial decrease in carbon emissions. The direct beneficiaries include the school community members who have embraced a zero-waste lifestyle, contributing to a healthier and more sustainable local environment. Success has been measured through quantitative data, with the reduction in CO_2 emissions serving as a key metric. The achievement of a 3,872-kilogram reduction provides a tangible and measurable indication of the initiative's positive impact. This data-driven approach ensures transparency and accountability in assessing the success of the project. The success of the initiative can be attributed to several factors, including the active participation of students and educators, the integration of sustainability into the school curriculum, and the creation of a supportive environment for waste reduction. Challenges such as initial resistance to change and the need for infrastructure improvements were addressed through community engagement and collaborative problem-solving.

>3.8kg

Reduction in CO_2 emissions

194 trees

This reduction is equivalent to planting 194 additional trees.

Availability of data

Success has been measured through quantitative data, providing tangible evidence of the initiative's positive impact.

Replicability and Scaleability

The success of this initiative, particularly in achieving a substantial reduction in CO_2 emissions, indicates its potential for replication and scalability. While certain aspects may be context-specific, the core principles of waste reduction, education, and community engagement can be adapted to various settings. The prospects for scaling up the implementation to benefit a larger number of people are promising, given the initiative's positive environmental impact and its focus on fostering sustainable behaviors. This initiative is well-suited for replication in urban contexts facing challenges related to waste management, environmental degradation, and a desire for sustainable development. Cities with a robust educational infrastructure and a commitment to addressing environmental issues would find this initiative particularly relevant. Additionally, urban areas with diverse populations and a mix of socioeconomic backgrounds could benefit from the inclusivity and educational aspects of the initiative.

1. Community Engagement and Education: Successful replication requires active community engagement and a strong focus on education. The initiative's emphasis on integrating sustainability into the school curriculum and involving students, teachers, and staff is crucial for building a foundation for sustainable practices.

2. Adaptability to Local Contexts: While the core principles are transferable, adaptation to local contexts is essential. Consideration should be given to factors such as cultural norms, waste management infrastructure, and the unique challenges faced by each community.

3. Measurable Impact Metrics: The use of quantifiable metrics, such as the reduction in CO_2 emissions, enhances the initiative's credibility and provides a clear measure of success. Parties interested in replication should establish similar metrics to assess the impact of their projects.

4. Inclusivity and Social Equity: Replicators should prioritize inclusivity and social equity, ensuring that the initiative benefits all members of the community, including disadvantaged and marginalized groups. This can be achieved by tailoring the project to address the specific needs of diverse populations.

5. Partnerships and Collaboration: Building partnerships with local stakeholders, government bodies, and educational institutions is crucial for successful replication. Collaborative efforts can enhance the project's reach and effectiveness.

Risks and Considerations could be as follows. Infrastructure Challenges: Replicators should assess the waste management infrastructure of the target area and address any existing challenges before implementation. Lack of proper infrastructure may hinder the success of waste reduction initiatives. Resistance to Change: Anticipate potential resistance to change and plan for effective communication and community engagement strategies. Overcoming resistance through awareness campaigns and education is crucial for the initiative's success. Resource Availability: Parties

interested in replication should consider the availability of resources, both financial and human. Adequate funding, skilled personnel, and community support are essential for the successful implementation and scaling-up of the initiative. Regulatory and Policy Alignment: Ensure alignment with local regulations and policies related to waste management and sustainability. Replicators should be aware of and comply with existing frameworks to facilitate smoother implementation.

Inclusion and Innovation

The practice demonstrates a robust engagement of various stakeholders and partnerships, particularly at the local level. Key stakeholders involved in the initiative include educational institutions, local government bodies, waste management authorities, and community members. The collaboration among these diverse stakeholders ensures a comprehensive and inclusive approach to addressing waste reduction and promoting sustainable practices. The initiative incorporates innovative methods of engagement and participation throughout its planning, implementation, and follow-up processes. Mobilizing community members is a central focus, achieved through interactive workshops, awareness campaigns, and involvement in waste reduction initiatives. This participatory approach fosters a sense of ownership and responsibility among the community members. The practice stands out due to several distinguishing and innovative features:

1) Curriculum Integration: One innovative aspect is the integration of sustainability principles into the school curriculum. This ensures that environmental education becomes a fundamental part of students' learning experiences, promoting a holistic understanding of waste reduction and sustainability.
2) Quantifiable Impact Metrics: The use of quantifiable impact metrics, such as the reduction in CO_2 emissions equivalent to planting trees, is a distinguishing feature. This data-driven approach not only measures success but also communicates the initiative's impact in a tangible and relatable manner.
3) Community-Led Initiatives: The practice encourages and supports community-led initiatives, empowering individuals to take an active role in waste reduction. By mobilizing and involving community members, the initiative fosters a sense of collective responsibility and shared commitment to sustainability.
4) Inclusivity and Equity: The emphasis on inclusivity and equity is another distinguishing feature. The initiative deliberately targets beneficiaries from diverse backgrounds, ensuring that sustainable practices are accessible and beneficial to all members of the community, including disadvantaged and marginalized groups.
5) Partnership Ecosystem: The initiative builds a partnership ecosystem that includes not only educational institutions but also local government bodies and waste management authorities. This collaborative approach enhances the initiative's reach and effectiveness, leveraging the strengths of various stakeholders.

Accountability and Sustainability

The initiative demonstrates a proactive approach in addressing gaps and challenges throughout its implementation. Challenges such as initial resistance to change and the need for improved waste management infrastructure were acknowledged and strategically tackled. Community engagement and collaborative problem-solving played a pivotal role in identifying and addressing potential obstacles. By fostering open communication channels and involving stakeholders in decision-making, the initiative ensures that challenges are met with adaptive and effective solutions.

The practice incorporates robust elements to ensure accountability and sustainability. A monitoring mechanism is in place to track the progress of waste reduction initiatives, with quantifiable metrics such as the reduction in CO_2 emissions serving as indicators of success. Regular assessments and data-driven evaluations provide a transparent and accountable overview of the initiative's impact. This monitoring process not only measures short-term success but also contributes to long-term sustainability by identifying areas for improvement and adaptation. Additionally, the integration of sustainability principles into the school curriculum ensures that accountability and awareness become ingrained in the educational system, fostering a culture of responsible consumption and waste management that can endure over time.

Financial Data

The budget for the initiative has been strategically allocated to cover various aspects of planning, implementation, and ongoing maintenance. The total budget for the initiative is estimated at USD 12,055$ per school. This budget encompasses expenses related to educational materials, community workshops, waste reduction infrastructure, monitoring equipment, and awareness campaigns.

The initiative has received external support in the form of financial contributions through CSR funds. These external resources have played a crucial role in enhancing the initiative's scope and impact, allowing for the implementation of more comprehensive programs and the acquisition of necessary resources.

Internal resources were allocated to ensure the successful planning, implementation, and maintenance of the initiative. This includes dedicated human resources such as project managers, educators, and administrative staff who oversee different aspects of the initiative. Technical expertise was also employed for the development and maintenance of monitoring systems, waste reduction technologies, and other relevant components. Additionally, the initiative leverages existing educational infrastructure within schools to integrate sustainability into the curriculum. But with shortage of funds after covid the project has been halted.

The initiative utilizes data and technology as integral resources. Monitoring mechanisms incorporate data collection to quantify the impact of waste reduction efforts, with the reduction in CO_2 emissions serving as a key metric. Technological tools may include waste tracking systems, educational platforms, and communication channels to facilitate community engagement. These resources contribute to effective decision-making, transparent reporting, and ongoing improvements to the initiative.

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