

Implementing a Zero-Waste Culture: A Sustainable Low-Cost Initiative

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Case Reports

Background

Inspired by the foundational values of the late Sri Sathya Sai Baba, Sri Sathya Sai Institution (SSSI) is a super specialty hospital that has 333 beds and 400 employees in Andhra Pradesh. They pride themselves with the ability to provide their patients and students with free healthcare and education due to the public charitable trust under their namesake which runs purely on donations. In fact, over the last 24 years, over 70,000 cardiac and neuro surgeries were completed free of cost. The hospital observed a profound dry waste generation and aimed to minimize waste generation and ensuring responsible recycling practices.

Distinctiveness of the Practice

The SSSI had created numerous unique practices to help aid in their fight against environmental waste. These components are listed below:

- One of the key components of this practice was the dry waste collection centre. The dry waste collected in this room was separated into a respective bin of four different categories – paper products, plastics, metals, and others. The aggregated dry waste was sent to the recycling vendor.
- The hospital had also formed a two-pronged waste management committee: 1) The core committee meet once a week where they discussed areas of improvement and planned ongoing sustainability activities. They also oversee the departments to ensure proper standards are met. For example, if they find mixed waste, they will go to the particular location and see if extra training is needed for the staff; 2) The larger committee meet once every six months where they summarized the results, impacts,

and learnings from the practice. They also brainstormed new waste reduction measures and focused on the feasibility of implementation.

- The Green Cell Waste Management Committee was a part of the subcommittee under infectious disease committee which undertook an oversight towards the waste handling practices, ensuring biohazardous waste and dry waste were not mixed.
- The hospital implemented low cost innovative sustainability measures that prioritized the reduction of waste in manageable areas. Some of the examples of these low-cost sustainable solutions were: Reusing old mattresses, use of steel cups instead of plastic or paper cups, ordering larger milk packs to reduce waste generated because of smaller packs, and using cloth bags cover stitched from textile waste for plastic scrub.



Fig. 1 Textile bags for ordered scrubs at the hospital

- Use of electric vehicles while transporting waste inside the facility.



Fig. 2 Electric vehicle used to transport waste

- By working with authorized recyclers, the hospital ensured that the waste was being correctly handled and recycled rather than being dumped into landfills.

Measured Effects

Before the intervention, there was no regulation and recycling of waste within the hospital. In addition, the waste generated by the hospital was handled in incinerators or open landfills, thus acting as a potential source of harm to the environment. Within the first 24 months of implementing the practice, the hospital had recycled around 46.5 tons of dry waste. In total, up till this date, the hospital had recycled over 100 tons of dry waste. This waste was also properly treated for and recycled due to the agreements with certified and authorized vendors.

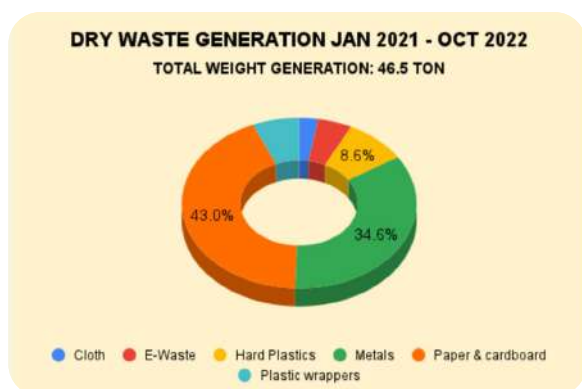


Fig. 3 Results of dry waste generation from Jan 2021- Oct 2022

In addition to the environmental benefits, the

hospital had seen economic benefit from the sale of scrap of recycled materials. The total sale of scrap till date had generated a revenue of over 20 Lakhs INR.

Challenges

The road to achieving such high standards in sustainable environment friendly solutions was riddled with challenges. The main challenge was to get staff on board with the new sustainability practice and make sure that they heed to the segregation of waste. A top to bottom approach was used in this regard. Further, to combat the resistance to change among the staff members, the hospital created training protocols and would have sessions with all types of staff, including security guards, housekeeping, nurses, and office admins.



Fig. 4 Staff residential training

Lessons Learned

There were certain strategies that allowed the hospital to successfully implement a framework of environmental sustainability, as mentioned below:

- **Visiting Vendors:** SSSI undertook visits to their downstream vendors responsible for collecting dry waste to gain a deeper understanding of the recycling process post-pickup. These visits fostered empathy toward the vendors, helping the institute recognize the importance of improving waste handling practices both within and beyond their campus. By observing the waste handlers' operations, SSSI gained insights into their motivations for participating in sustainable efforts. Visiting vendor collection

centers also highlighted the challenges of waste management and the daily obstacles vendors faced. This experience enabled the hospital to better support waste collection agencies and ease the strain on their operations.

- **Mindset Change of Staff and Volunteers:** To foster a culture of environmental responsibility among staff, the hospital prioritized securing the support of upper management. The core committee played a crucial role in gaining the commitment of the institute's director and housekeeping staff. Through training and awareness initiatives, SSSI successfully promoted sustainable waste disposal practices and shifted the perception of waste management. Volunteers were also engaged to drive change within the campus. Additionally, children were invited to participate in monthly litter collection activities, instilling environmental consciousness at an early age and shaping their mindset toward the importance of sustainability and the betterment of nature.



Fig. 5 : Children volunteering to collect litter

Sustainability of Practice

SSSI aimed to promote awareness of a zero-waste culture and green practices by implementing sustainable initiatives at conferences attended by other hospitals. They eliminated unnecessary waste by excluding disposable cups and single-use items, setting an example for the healthcare community. This approach encouraged other medical institutions to adopt environmentally friendly practices. Additionally, on the last Sunday of every month, the hospital organized educational drives to teach children about the importance of sustainability and practical ways to integrate green practices into their daily lives. By investing in future generations, SSSI sought to instill long-term environmental responsibility from an early age.

Conclusion

SSSI's commitment to sustainability was demonstrated through its comprehensive efforts to foster a zero-waste culture and environmental responsibility. By engaging upper management, staff, and volunteers, the hospital successfully promoted sustainable waste disposal practices. These initiatives not only improved waste management within the hospital but also influenced the wider community, reinforcing the importance of sustainability in healthcare and beyond for a healthier, greener future.

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1

Target Population

Hospital staff, volunteers, and external waste management vendors.

2

Phenomenon of Interest

Implementation of a zero-waste culture through structured waste segregation, recycling, and innovative low-cost sustainability initiatives to minimize environmental impact.

3

Context

Sri Sathya Sai Institute, a 333-bed super-specialty hospital in Andhra Pradesh, institutionalized sustainable waste disposal practices, recycling over 100 tons of dry waste and generating economic and environmental benefits.

Conclusion



SSSI's zero-waste initiative successfully integrated sustainability into healthcare operations, reducing waste, generating economic benefits, and inspiring broader environmental responsibility.

Key Findings

1

Economic Benefits from Sustainability Practices

The hospital generated over 20 Lakhs INR from the sale of recycled materials, demonstrating the financial viability of sustainable waste management.

2

Successful Waste Reduction and Recycling

Within 24 months, SSSI recycled 46.5 tons of dry waste, reaching over 100 tons to date, significantly reducing environmental impact.

3

Strong Staff and Community Engagement

Comprehensive training, leadership commitment, and volunteer participation transformed waste management behaviors, fostering a long-term zero-waste culture.