

## Case Study: Townships that excel



**IIMB Township in Bangalore is spread over 100 acres**



**Rain Cements has two townships in Telengana**

### Stewardship of Waste

In Indian cities or even in small rural districts, a township could well be equated with an oasis. A self-contained, self-sufficient community, managing its own interests. Take for example, an educational institution like the Indian Institute of Management, a Public Sector Unit (PSU), or even a corporate manufacturing hub - each of these places has carved out lush green spaces, even as they continue to buzz with diverse activities. Along with the business facility, these townships house residential quarters, cafeterias, sports facilities, a guest house, and study halls, as the requirement may be. Undeniably, each of these communities generates waste, so collectively, the whole area contributes significant volumes of solid waste.

Most of the Indian townships are meticulously maintained. Attention is given to housekeeping, and landscaping- waste, however, is looked at more from the lens of disposal and dumping, rather than resource recovery. Even segregated waste from the townships usually goes to landfills or dumpsites.

It is good to recognize that there are first movers. Townships that are now choosing to put in place systems for management of waste along with water harvesting and renewable energy.

Through this case study, Saahas Zero Waste (SZW) seeks to showcase stories of how these first movers, who work with us are able to demonstrate a responsible waste management system. This means,

- Commitment to SWM Rules 2016
- Recognition of a township as a Bulk Waste Generator (BWG)
- Allocating space, infrastructure an operational costs for waste management
- Maximum resource recovery

The following two stories demonstrate exemplary stewardship in integrated waste management, resource recovery and a circular economy.

# Indian Institute of Management, Bangalore (IIMB)

## Background

The Indian Institute of Management Bangalore (IIMB) is one of Asia's most prestigious management schools. Located in south Bangalore, the lush green campus is spread across 100 acres. Housed within the campus, are 16 hostel blocks, which accommodate about 1251 students as well as 300 residential units which include independent houses for the faculty and the support staff. There is also a Management Development Centre(MDC) which conducts residential training programmes.



***Collection of segregated waste from the residents in the township***

Additionally, there is 1 administrative block, 1 mess, 6 canteens, 2 cafes and 1 ice-cream parlour. IIMB is also well known for the support that it provides to start-ups through its business incubator NSRCEL, and on any given day, the centre is buzzing with young entrepreneurs. On all accounts, the campus is a lively mini-township.

As a result, there is significant waste which is generated every day. Currently, on an average, the IIM-B campus generates 1.5 MT of solid waste every day.

## Telling the Story

IIMB's journey towards sustainability started in 2008. The institution first looked at their water status and introduced a rainwater harvesting system for recharging their groundwater. Waste was the next area of focus. The faculty at IIMB, who were involved with the sustainability programmes were also keen to include holistic waste management within the campus, and the association between the two organizations began in 2010.

The first step was to conduct a waste audit to understand the quantity of waste generation and the flow of waste from the different points of generation. The administration along with the faculty at IIMB were very keen to have an organized, effective system to manage their waste.

A space behind the academic buildings was identified, and was a simple shed for composting the wet waste, as well as for the secondary sorting of the dry waste.

The unit began operating in 2011 and continued well, but just until the first monsoon hit. The area being slightly low-lying, got flooded, bringing the progress to a standstill and leaving both the teams in a quandary. Once again, the administration of IIMB came to the rescue and initiated the establishment of a new, integrated waste management facility on the campus.

NGO Saahas worked with IIM-B from 2010-2013. In 2014 SZW, the private limited company, the business model signed a partnership contract with IIMB.

## Zero-Waste Programme on the IIM-B Campus: The Process



### Primary Step 1: Source Segregation

The first step in the IIMB decentralized waste management programme was to introduce source segregation. Source segregation enhances resource recovery from waste.

At the outset meetings and training programs were conducted for all the stakeholders, including professors, students, staff and housekeeping teams to ensure that the waste is segregated at the source into the three streams (wet, dry and sanitary waste) as required under the Municipal Solid Waste Management Rules. The SZW team also interacted extensively with the students to build awareness and secure their buy-in.

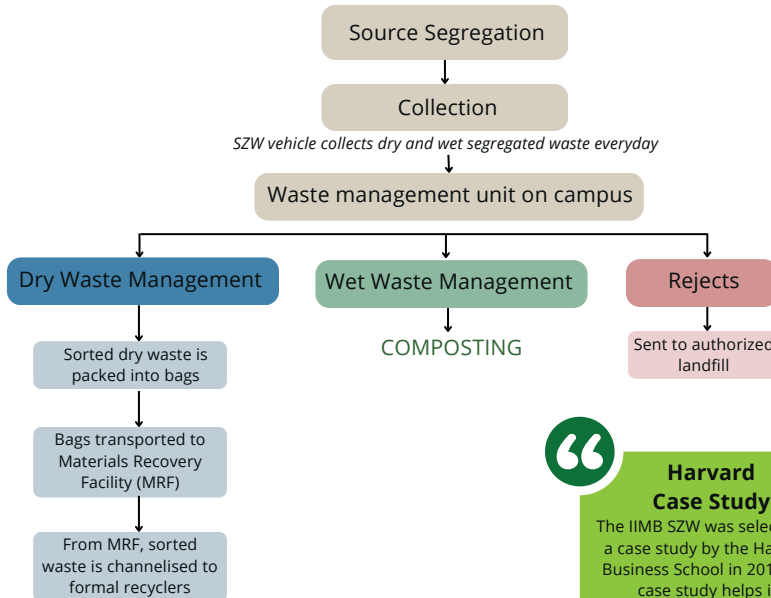


*Classroom session to understand segregation at source and collection of segregated waste.*



## Primary Step 2: Waste Collection

The segregated wet and dry waste is collected everyday and transported to the waste management unit.



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### Harvard Case Study

The IIMB SZW was selected as a case study by the Harvard Business School in 2019. The case study helps in de-mystifying the concepts of linear and circular economies, as well as entrepreneurship principles.

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**Waste Management unit within the township where wet waste is processed and dry waste sorted**





### Primary Step 3: Processing

The waste that is collected from the different locations on campus is taken to the waste management unit located within the campus. Here in this unit, the wet waste is further sorted. Cooked food goes to the bio-CNG facility and is also composted.

The dry waste is sorted and then sent to the Material Recovery Facility (MRF). In this semi-mechanized facility, the dry waste is sorted into more than 30 different categories, baled, and dispatched to authorized end destinations. Stringent systems have been put in place to monitor, track, and manage the waste everyday. This includes regular tracking of the rejects to ensure that the quantity of rejects is consistently reduced.



**Bio-CNG facility housed within the township**



**Sorting of wet waste**

### Interview with Dr. Rajendra K. Bandi, Dean Administration, IIMB

***Q. When IIMB started waste management about 15 years ago, the concept of decentralised waste management was hardly understood, let alone adopted. How were you able to take this vision forward? And how has this initiative panned out over these past years?***

It was actually a no-brainer for my team and me - our thinking was that, as producers of waste, we have to be accountable for what we generate, and

how we handle it. This cannot be pushed on to somebody else to manage. And if you have a hundred acre campus, there is enough area for us to have not just the wonderful greenery, but also the physical space for handling. Around the time when IIMB was in discussion with Saahas, we were also aware of the work that they were doing around the city.



**Dr Rajendra Bandi, Dean, IIMB**

I went to the \*SBI (State Bank of India) campus in Marks Road multiple times, with my wife, to see how the operations were being managed. I had also spoken with many of the women who were working in the composting unit there.

That's how it began, and our overall experience has been very positive. The main aspect of course, is the material aspect in terms of what SZW does, i.e. managing the composting unit, sorting the dry waste, and so on. The other important facet that this effort has brought about for us, is the behavioral change over a period of time. IIM-B's scenario is different from that of a corporate, where employees come during the day and then return in the evening. This is a residential campus, which means that there are three distinct stakeholders we have to work with.

One is the student community, most of them in their mid-20s or late 20s, who are aware of environmental issues, but are very focused on their achievements and their career. They are here for two years, so they need to be pushed so that issues such as these, rise up in priority. The other community is the resident employees like me. There are about 150 families who reside on this campus and are generally aware of the issues concerning waste management. They also have house help and gardeners who need to be trained.

*\*SBI - SBI campus was a pilot program of NGO Saahas which started operations in 2004.*

The third set of stakeholders is the employees who are here 9 to 5 PM.

SZW's expertise has brought these three stakeholders together in an integrated way as part of the Campus Waste Management programme.

Another important outcome of our waste management efforts is this - When we dived into the exercise, we looked at two key aspects - one, how do we deal with the waste that is generated on the campus, which encompasses source segregation, composting, etc. And two, how do we minimise the amount of waste that we generate in the first place.

We would like to minimise the waste - in whatever form – that leaves the campus. The ideal is zero, but we are not there yet. I don't know if we will ever get there as we still send out some waste, but that is the ultimate goal.

So, towards this, particularly in our hostels and the management development centre, one of the key focus areas was – and continues to be, to reduce the food wastage. When all of us on campus began talking about waste, people also started becoming more conscious about the food that was being wasted on a daily basis.

We also started a campaign around this, which included a daily update on how much food was wasted the previous day.



***SZW Material Recovery Facility where the dry waste from the township is transported for further sorting and aggregation***

Eventually, people became conscious and to some extent, that triggered the reduction of food wastage.

These unanticipated benefits of behavioral change, through our tie up with SZW, have brought about a significant positive shift.

***Q. Are there any aspects you have introduced with the students on campus, as a result of the waste management programme?***

One new thing that we have started is that the orientation programme for the new batch of students includes our entire environmental focus and within that, our waste management infrastructure and practices. We take the students to the composting unit, so they can understand the source segregation practices. This is now integral to our academic activities.

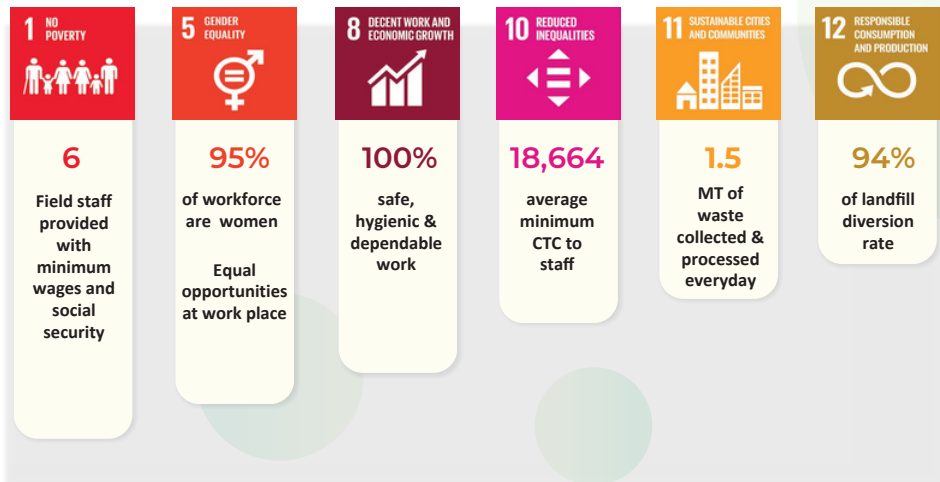
***Q. IIM-B has clearly achieved a lot in its journey towards sustainability thus far. What are the areas that you would like to focus on now, to take this two steps ahead?***

One of the areas we face a challenge is in the events that we conduct as an academic institute. The number of footfalls are quite high at these events, attendees come from all over, and this aspect is not necessarily a priority for the students. We are striving to include waste management as an integral part of these events. There is some effort being made, but I believe we still have quite a bit of ground to cover.

Secondly, I believe we have to cover more ground in the area of awareness-building, particularly with the house help and staff. The engagement with them has to be different, maybe in the local language, and on a regular basis.

The third area of focus will be on E-waste management. Though we have put E-waste bins everywhere, I believe that a good part of the E-waste generated is not being collected, so we need to be innovative for this piece and determine how to address it.

## Contribution to the UN Sustainable Development Goals (SDGs)



*The serene campus, seating made from recycled materials*



## Rain Cements Limited (RCL)

Just like it was at the Indian Institute of Management Bangalore, the management of Rain Cements Ltd (RCL) made some deliberate and conscious choices towards reducing the organisation's environmental footprint.

The company has two townships in rural Telangana, one in Ramapur and the other in Kurnool, both of which have now become role models for waste management and resource recovery.

In their journey towards more sustainable operations, Rain Cements first invested in a 'waste heat recovery' plant in their manufacturing units and also set up a 1MW solar power plant in the premises of each facility. In 2018 they then turned their focus towards waste and SZW was invited to become their waste management partner of land, includes a factory, residences, canteens and extensive landscaping. A small part of this waste generated was recovered.

Together, RCL and SZW worked to turn the system around, from dumping to resource recovery. The following process was implemented:

- Introduced source segregation at all the points of waste generation.
- Instituted door-to-door collection of wet and dry waste.
- Set up an integrated waste management unit for composting of wet waste, with sorting, storage and management of dry waste.
- Trained a dedicated workforce to manage both the collection and the processing of wet waste.



*The waste management unit located in the Rain Cements township.*





*Collection and composting of wet waste within the township*

RCL Units	Total township area	Waste management unit area	Avg Incoming Wet Waste (Kgs/Day)	Avg Incoming Dry Waste (Kgs/Day)	No of Staff working
Unit 1, Ramapuram	600 Acres	13,068 Sq Ft	49	17	5
Unit 2, Kurnool	900 Acres.	11,000Sq Ft	190	170	8

# About Us



We are an environmental and social enterprise with 10 years of experience in waste management, resource recovery and social impact.



Saahas Zero Waste was registered as a Pvt Ltd Company in 2013. We are grateful for all the learning from our mother organisation. NGO Saahas that was established in 2001.



The founder of NGO Saahas and our founder & CEO. Wilma Rodrigues. was a journalist who actively advocated the importance of sustainable and holistic management of waste.



State Bank of India, previously worked with NGO Saahas and subsequently became our first customer.



We have 3 business verticals- The Zero Waste Programme. Extended Producer Responsibility and Circle Up.



With the expansion of our clientele and scope of our operations, we Introduced our first Materials Recovery Facility (MRF) in Bangalore in 2017.



Our goal is to manage +500 tonnes of waste per day by 2026.



We are a 21st century social enterprise that puts planet and people ahead of profits.



We closely measure our environmental and social impact in line with the Sustainable Development Goals.



We live by our RIIHT core values where R means Resilience, I stands for Integrity, I for Impact, I for Innovation. H for Humility and T stands for Team.



We ensure maximum recovery of resources from all streams of waste. We believe that landfill diversion alone is not enough. We need to transition to systems that will enable a circular economy.

## 'Creating Value for the Planet and for all People'

For SZW, waste management is synonymous with resource recovery. More than half of the world's total GDP, amounting to about US \$44 trillion is moderately or highly dependent on nature.

Recovery of resources enables giving back and makes us citizens accountable to the materials we receive from nature.

Let us now use our collective intelligence to work together and commit to doing things fundamentally different, so as to be completely accountable to the resources we receive from nature. This is what it will take to build a new circular economy.