

Zero waste program model implementation in india

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With urban cities of India growing at an exponential rate, the waste generated from these cities is also growing. With 200, 000 tons of waste produced in a day, managing this trash has become a major problem and the only solution at present is landfills, oceans or incinerators. Although it seems fine that the garbage is collected and disposed at one spot but the deep inside, it cause extreme damage to soil, water and air. The question here is what to do with all this trash? A Bengaluru based organization Saahas Zero Waste (SZW) considered this problem to be an opportunity and have created a business model based on circular economy leveraging nature, people and technology to manage waste and create value out of it.

Circular model

The model starts with a Zero Waste Program model which is based on providing on-site solutions for bulk waste generators that includes the big industrial centers to residential complexes. These solutions are:

Waste Audit & Consultancy: Providing professional consulting services on circular economy, how to recover the resources and handle the waste. Also estimating the waste generated at your location and giving support to manage it. Some examples are designing the waste flow process, managing the unique waste stream that includes expired foods, hazardous waste etc.

Onsite Waste Management: Using a decentralized onsite, end to end smart model for collection, segregation and processing of waste. **Kasa Rasa Model:** An offsite model specifically designed for small offices and houses in which

the waste is collected from a location, transported to the nearest hub and processed accordingly.

Paper Shredding: Providing professional shredding service to big organizations to ensure that paper is recycled through certified recyclers thus saving carbon footprints and ensuring resource recovery. **Construction and Demolition Waste:** Partnering with certified vendors to handle different streams of waste generated at a construction project and providing services to clients looking for sustainable construction projects.

After dealing with the waste at the consumer level, the second part of the model that links their circular economy model is the Extended Producer Responsibility (EPR) program. SZW has partnered with companies that are into packaging and E-waste production in order to execute a reverse logistic strategy that makes it easy to bring back bulk volumes of waste into the recycling chain. Some of the examples of this are:

Tetra Pak: SZW and Tetra Pak have created a strong collection model which involves segregation at source, appropriate collection, secondary sorting, transportation to a recycler through a wide network of scrap dealers and waste retrievers.

PET: One of the commonly used material in packaging is PET (Polyethylene Terephthalate). The good thing about this material is that it has high potential to get recycled. SZW recovers PET from the waste and sends it to the recycling factories to convert it into recycled yarn and finally into recycled products.

E-Waste: Setting up collection points to make it easy for the individual consumers to drop of their e-waste and hence ensuring the people responsible recycling of the waste. For completing the circular economy, the third of the model is called “ closing the loop” in which SZW sells products from the waste (in-short). According to SZW, when a waste is managed at source it becomes a resource and using these resources, an attempt is being made to create a circular economy. Some of these products are:

Used Tetra Pak Cartons are recycled to make chipboard which is a substitute to plywood. They are water resistant, termite proof and has good density properties. In addition to that, they are also used to make tissues. Without using any dyes or chemicals, hygiene and safety was ensured through direct high temperature and superheated steam while processing. These recycled tissues utilize only 1/3rd of the electrical energy and very less water resources. Collecting the organic waste at different collection centers and converting it into good quality organic compost. Filling the gaps in the system SZW is also working with the informal sector to help them get involved in the process of this reverse logistics system being established and hence is trying to bring every part of the industry in this process. By making waste a resource, SZW is not only solving the environmental issue but also the problem of poverty.

India stands among the top countries in the world in terms of GDP but in terms of HDI, it stands at 133. By providing employment to the people who come from poor households, they are helping these people in improving their livelihoods and at the same time, this is helping the company expand their

operations. As per the reports, if India executes circular opportunities, they could generate around \$624 billion annually in material savings by 2050. This is approximately equal to 30% of India's current GDP (in-short). This gives SZW a huge potential to grow in the country and become a role model for other South Asian Countries as well.

The biggest challenge

The solid waste produced in India every year crosses 62 million tons but the municipal waste collected is only 75-80% and out of that only 22-28% is processed and treated. Although SZW is trying to solve this problem but their main problem is not collection of waste, it is dealing with the local non-authorized waste collectors. These people collect waste from bulk generators at a very less price and either dump the garbage or burn it. This problem is exaggerated as there are no strict guidelines of waste management program and no strict penalty for all of this.

An Investment for the future

Although there are a number of challenges, waste management has become one of the prime investments in a rapidly growing country like India. SZW is quite young and has already started generating profits. They are growing at a rate of 150% every year with a turnover crossing \$900, 000 in 2016.

Backed by startups like Indian Angel Networks and Upaya Social Ventures, SZW is raising funds and are seeking overseas opportunities as well. SZW has revolutionized the whole model of how waste is considered in India. Their aim is to create the circular economy reality in India by creating a positive

impact on the environment and society with a hope that more industries and business will support their initiative and will invest in capacities of waste management enterprises.