



Waste Management

S3IDF



Hasiru Dala
INNOVATIONS

PLASTICS FOR
CHANGE

India's Urban Waste Problem

In 2012 it was brought to global attention that Bangalore, once known as the garden city, renowned for its hundreds of beautiful lakes, was instead overwhelmed by mismanaged waste.

For years, residents chose not to ask where their trash, whisked away by trucks and informal waste workers, was ultimately accumulating. The landfills in which the wet and dry waste was deposited became mountains of unsorted waste, leaching chemicals into the groundwater, often catching on fire from emitted greenhouse gasses (e.g. easily combustable methane), which further adds to Indian cities' high air pollution levels and compounds the myriad health issues of those nearby, culminating in a life expectancy of 39, almost 20 years less than the national average.

As these landfills reached critical mass the surrounding communities, upon which the landfills were thrust, began to protest, demanding that the municipality engage with city-wide waste management in a sustainable manner.

In the months leading to these protests a Karnataka High Court ruling mandated that the city recognize the contributions of the previously unrecognized waste workers through issuance of identification cards. This ruling combined with the visible public outcry catalyzed a progressive re-engineering of the Bangalore waste management system, which entailed greater integration of waste workers into the formalized system, and increased overall stakeholder engagement throughout the waste value chain.

Today Bangalore's roughly 25,000 informal workers¹, commonly known as waste or rag pickers, collect dry waste and recyclables from in and around homes, buildings, schools and other facilities before sorting, grading and baling it, after which the waste is sold to middlemen and wholesalers who process the recyclables (through up-cycling or otherwise) as appropriate.

While the mandated identification cards are a critical starting point for waste worker efficacy and inclusion, waste workers are still unable to access appropriate housing, health care, education, pension programmes and other social services enjoyed by formal workers.

Further, waste workers' livelihoods are fragile due to an inability to access financial services and fair markets. These market barriers are compounded by the unpredictable incomes endemic to the nature of informal work, and destabilizing global market forces, such as the falling price of plastic recyclables, linked to the volatile petroleum price. These barriers and product price instability reinforce a system in which waste workers cannot appropriately strengthen their enterprises, for the benefit of their families, the city and the environment.

1. CHF International and Mythri Sarva Seva Samithi (MSSS), Septemebr - October 2010

The waste workers' previously un-recognized efforts enables the daily recycling of 1,010 tons (over 2 million pounds) of waste, saving the city over \$13 million in solid waste collection and transportation costs.



Interventions

COMMUNITY	MARKET	ECOSYSTEM
<ul style="list-style-type: none">Facilitate access for waste workers to financial services such as loans and business trainingEngage various stakeholders on PFC mobile platform for transaction transparency and increased recyclingExtend social services such as educational subsidies, health insurance, pension plans	<ul style="list-style-type: none">Train stakeholders on opportunities for increased waste worker engagement for mutual benefitProvide risk mitigating services for stakeholders to encourage expanded service offeringsConnect corporates to BoP recycled plastic streams for commercial use	<ul style="list-style-type: none">Consult to multi-nationals on opportunities for BoP engagementCollaborate with corporations to apply inclusive internal practices on a global scaleDisseminate information on potential of market systems approach and Alliance methodology



Impact

COMMUNITY	MARKET	ECOSYSTEM
<ul style="list-style-type: none">Income gains for individual waste workers and their familiesHigher educational attainment for children of waste workersHealthier more productive lives for waste workers and familiesIncreased recycling/upcycling city-wideRespect within their communities and city	<ul style="list-style-type: none">Increase Indian GDPStrengthen corporate ethical supply chainsLocal banks with more inclusive lending practices and increased client poolsMore efficient municipal waste collection and sorting	<ul style="list-style-type: none">Inclusive national laws that provide protection for waste workers and the traditionally 'low-caste'Multi-national corporate practices that consider bottom of the pyramid potentialPositive global environmental impact through increased recycling and circular economies

Our Roles and Interventions

Our Alliance supports waste entrepreneurs through hands-on mentorship, capacity building and facilitated relationships with three main objectives, which broadly (although not exclusively) fall along differentiated partnership roles and provide for:

1. Social Security and deepened formal engagement with the municipality (Hasiru Dala -HD and Hasiru Dala Innovations HDI)
2. Financial inclusion, business mentorship and technology know-how, access and infrastructure support facilitation (S3IDF),
3. Access to a stabilized plastics market through collaboration with brands and manufacturers (Plastics for Change - PFC).

Our Alliance further intervenes and subsequently effects change on three inter-connected and inter-dependent levels: community, market and ecosystem.

Community

The Alliance’s impact on the individual lives and livelihoods of the waste entrepreneurs is varied and comprehensive. S3IDF’s interventions include conducting hands-on business training, and facilitating access to technical and financial services such as loans and savings accounts for underserved waste entrepreneurs so that they may have the capital and machinery they require to effectively manage and execute their waste management work. Hasiru Dala works on the ground to source new entrepreneurs and facilitate access for these waste workers to the social services and training they require, such as government pension programs, health insurance and education subsidies for their children, while the social enterprise HDI pioneers a franchisee model of waste (wet and dry) management. PFC’s mobile platform increases transaction transparency, enabling members throughout the waste value chain the ability to buy and sell sorted plastic to one and other at fair market prices with money exchanged at the point of sale. These individual community level interventions strengthen the foundation of the global waste management processes, addressing gaps and overcoming barriers that allow for downstream efficiencies and deepened broad impact.

Market

The Alliance’s interventions on the market level facilitate a more equitable, efficient and increased domestic market for both environmental and financial gain. These interventions include directly addressing the pain points felt by various stakeholders, which limit their ability to participate fully in the market. These stakeholders can be banks who are unclear as to how to best provide loans or accounts to poor waste entrepreneurs, but are looking to expand their client base. In addition the Alliance works with government entities and programmes intending to target waste worker populations, but unaware of how to specifically connect with the workers. Further the Alliance collaborates with corporations looking to build up their ethical supply chains, but without the resources or know how to develop these chains on their own. The Alliance trains these stakeholders on how best to engage with the waste workers, and connects them to the appropriate resources to facilitate their intended activity. Further, the Alliance collaborates with the waste entrepreneurs on how to run an effective business to enable a symbiotic relationship between the various stake-holders and individuals.

Ecosystem

The Alliance’s ecosystem interventions and their impacts can broadly be defined as the structural changes the Alliance enables through the combined top down and bottom-up methodology. The Alliance works to foster impacts such as national laws being re-written to recognize the formerly under-valued waste workers. The Alliance also seeks to enable multi-national corporations to apply their Bangalore-specific inclusive practices across their general operations, cultivating international circular economies. These impacts increase domestic GDP and enable international systemic re-framing with simultaneous reduction in negative environmental externalities and an increase in global poverty alleviation through improved waste management.

Progress to Date

Our efforts to foster multi-stakeholder relationships and facilitate the incorporation of the waste entrepreneurs into the formalised system have had significant impact on the individual, community and systems-level.


In 2016, the national Solid Waste Management Rules recognised, for the first time, the informal waste workers as critical members of the solid waste management sector, sanctioning their value on a national scale. On a local level, the Government of Bangalore built 198 Dry Waste Collection Centres (DWCCs), which are physical structures in which waste can be collected, sorted and then sold or brought to landfills, as an initial strategy for engaging with the waste problem. In February 2017 the city decided that all DWCCs will be managed by individual waste workers instead of NGOs and other professional entities, and began a staffing effort with which the Alliance (HD in particular) is involved, fostering a positive collaboration between the municipality and the informal waste sector. Thus far 40 waste entrepreneurs are formally operating the 40 open DWCCs with support already facilitated by S3IDF as well as HD.

The city of Bangalore has also mandated the systemic incorporation of door-to-door waste collection. This mandate allows our waste entrepreneurs the legal verification (in conjunction with their ID cards) to collect waste, mitigating much of the harassment they had faced when ‘illegally’ collecting waste for sorting and recycling. Additional legal gains are being made through the efforts of the Solid Waste Management Roundtable (SWM-RT), a citizen group that utilises judicial activism to steer municipal waste management rulings towards sustainable practices.

SWMRT completely endorses the inclusion of informal waste workers into the solid waste system, and our Alliance has a strong ally within the group who champions our methodology.

To evaluate the potential of wet waste (bio-degradable products) within the waste management system and its potential to mitigate environmental and public health risks, S3IDF anchored an institutional analysis to examine “Possibilities for Resource Recovery and Reuse Businesses and Their Feasibility” as part of a formal evaluation conducted by CGIAR and lead by the International Water Management Institute (IWMI). Within this research S3IDF analysed the three dimensions of energy, nutrient and water recovery through engaging with multiple stakeholders and fostering relationships with the municipality, public institutions, private players and civil society. While our Alliance’s current programme focuses on dry-waste, we are considering opportunities to include business models for wet waste that would capture energy, nutrients or a combination of both.

The Alliance members, HD in particular, are additionally regularly invited to train members and departments of the municipality on the opportunities for and methods of symbiotically engaging with the poor and underserved waste workers. These regular engagements reflect both the Alliance’s ability to influence official policy, as well as municipal inclination towards recognition of the value of waste worker inclusion. Further S3IDF has recently facilitated a loan through Vijaya Bank, from the National Safai Karmachari Development Corporation (NSKFDC), which has dedicated 10% of its budget for waste workers. Karnataka is the first state to implement this programme after its introduction, in large part because of the policy and financial work done by HD and S3IDF.



It is the hallmark of our approach, that for each entrepreneur we help overcome service access barriers, it will be incrementally easier for all future entrepreneur to access those same services.

Our Entrepreneurs' Experience

Fatima



Fatima is a sorter in a plastics warehouse, and finds it very challenging to be a single mother and support her family through working in the informal sector. Through HD she has been able to access an ID card and education loans for her children, and she’s hopeful that the work the Alliance is doing will help others in similar situations to her own.

“It’s overwhelming to know that organisations like Plastics for Change are thinking about the betterment of people working at the base of the informal waste sector and are committed to solving the challenges that will allow for payment at the fair market price. I trust in their vision and hope for their success.”

Krishna



Krishna always wanted to expand his waste management business, providing services to more apartments and quarters, but lacked access to the financial and business mentorship services that would give him the tools and confidence to approach new clients. Through S3IDF he has accessed and repayed multiple loans, and was the first waste entrepreneur to receive a loan from the NKSFDC via Vijaya Bank through our program.

“The fear that my socio-economic background would prevent employers from trusting me with work stopped me from pursuing it, and getting financing for implementing my goals was another challenge I faced. S3IDF financed me to purchase a pick-up truck and also walked me through the process of getting a waste management services contract for one of the residential quarters.”

Peer Saab



Peer Saab is a home-based worker and itinerant buyer who feels that the lack of trust and transparency in the waste supply chain inhibits the quantity and quality of plastic moving through the chain. He was connected with the Alliance through Plastics for Change, and is hopeful for the systems-level transformation the partners of the Alliance are enabling.

“I feel that in order to involve the itinerant buyers in the ethical supply chain there has to be a small scrap shop run by the them, as it will help in trust building and accelerate the supply of plastic within the chain. I anticipate that the Plastics for Change Bengaluru [Bangalore] project will be beneficial for all the stakeholders involved in the supply chain and that it will bring transparency, which can lead to better incomes for marginalised groups like waste pickers and itinerant buyers.”

Facilitating change on the ecosystem level through a market systems approach is crucial to inciting a paradigm shift towards more sustainable and effective global poverty alleviation.

Looking Forward

The Alliance's iterative market-systems approach enables change on the community, market and ecosystem levels, sustainably unlocking previously underutilised resources and integrating the underserved into the mainstream economy. The Alliance influences the evolution of government policies, facilitates changes in business-as-usual practices, and reinforces an ecosystem of an appreciation for our entrepreneurs' work.

The Alliance continues to develop a scalable and replicable model and expand its sector-specific expertise through strategic programmatic growth within the Bangalore waste sector as well as throughout India. While the majority of the work to date has been concentrated in the dry waste sector, the Alliance is exploring opportunities to engage with wet waste, in particular the energy and nutrient recovery of wet waste through bio-digestion and electricity generation systems in conjunction with public-private partnerships.

The Alliance is committed to sustainably addressing ineffective and inefficient waste management systems facing municipalities to make possible productive economic, environmental and social change.



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