

# Hasiru Dala Innovations



## Key Message:

- **Hasiru Dala Innovations is a social enterprise that was initiated to create jobs for waste pickers to help them become service providers and give them a sense of entrepreneurship.**
- **They collect about 18 tonnes of municipal solid waste per day from its clients.**
- **Over 100 full time jobs for waste pickers created and they are earning double to triple their previous earnings when they picked up waste from the streets.**

Hasiru Dala Innovations (HDI), established in 2015 is a social enterprise providing predictable livelihoods to waste pickers through circular economy centric business models that have both a social and an environmental impact. They provide total solid waste management services to bulk generators like residential complexes, hotels, restaurants, commercial complexes and campuses. Their business model of decentralized franchisees empowers waste pickers to be entrepreneurs and job creators.



## Overview of the Area (Bangalore)

The city of Bangalore, the state capital of Karnataka is located in the southern part of the Deccan Plateau at the border of two other Indian states Tamil Nadu and Andhra Pradesh. The city lies at an altitude of 949 meters (3113 ft.) above sea level, giving it a suitable climate among all the cities in India. The air quality of Bangalore lies between 90 to 127 index values with prominent pollutants being PM 2.5, PM 10, O<sub>3</sub>, NO<sub>x</sub> and SO<sub>x</sub>, which is considered moderate air quality (Karnataka State Pollution Control Board, Mar 2017). Major sources of water in Bangalore are the Cauvery River, the various lakes as surface water sources and ground water. Various samples from the city's water sources have revealed that the Water Quality Index lies between the ranges of 89.21 to 660.56 (P. Ravikumar et al, 2013)<sup>1</sup>. Almost 90 per cent of the samples lie above 100, the upper limit for drinking water. The ground water needs some degree of treatment before consumption.

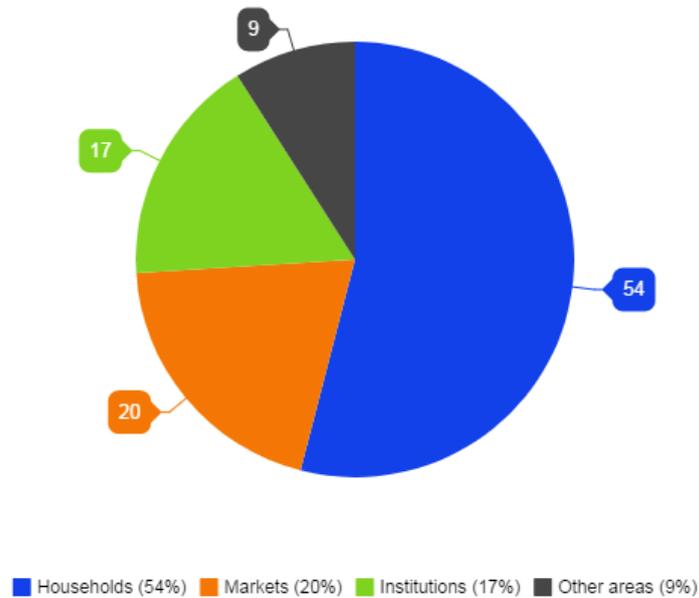
Also known as the "Silicon Valley" of India, the Bangalore metropolitan covers an area of 223 sq. km. The city has an estimated population of 8.5 million as per the 2011 census. About 10 per cent of the residents in Bangalore live in slums, although this number is low compared to other major cities in developing countries. It also has a skewed female to male gender ratio: 922 women for every 1000 men, with a very low work participation rate among women (only 24 percent working women). The population density of the city has increased from 2,985 people per sq. km. in 2001 to about 4,378 people per sq. km. in 2011. The current, exponentially, growing population rate in Bangalore is 7.30 percent (Census, 2011).

The Alliance of Indian Waste Pickers estimate states that there are 1.5 million waste pickers and itinerant buyers in India and according to an estimate made by the Mythri Sarva Seva Samithi (MSSS), there are about 15,000 waste pickers in Bangalore alone. A survey carried out by the CHF International (an international development and humanitarian assistance organisation) and the MSSS in 2010, provided some interesting insights into Bangalore's different categories of waste pickers and their socio-economic conditions. The survey found a significant number of illiterate and socio-economically disadvantaged people engaged in waste picking in the city. Roughly 70 percent of the waste pickers surveyed, earned between Rs. 100 and 200 per day. Their access to water, sanitation and housing facilities in the cities remain inadequate.

### Condition of the waste:

Bangalore has more than 25 lakh households and over 3.5 lakh commercial properties. The city is divided in eight zones and 198 wards for better governance. The Bruhat Bangalore Mahanagara Palike (BBMP) is the local government in the city and manages the Municipal Solid Waste generated by the population. According to the estimate calculated by the BBMP, Bangalore generates about 3,500 to 4,000 tonnes of waste every day. The following graph suggests the percentage of contribution of waste generated at different sources:

<sup>1</sup> (P. Ravikumar et al, Water quality index to determine the surface water quality of Sankey tank and Mallathahalli lake, Bangalore urban district, Karnataka, India, 2013)



**Bangalore: MSW Sources**

The per capita generation of waste is estimated to be about 350 grams per day (GMP) (domestic waste). About 10 percent of the total waste collected is segregated at the source for better disposal. About 70 percent of the waste generated in all Indian cities is organic/wet waste and the remaining 30 percent is inorganic/dry waste. In Bangalore, more than 50 percent of the waste is organic waste. The carbon content of the waste generated lies within the ranges of 13 percent to about 42.6 percent (BBMP, 2014).



**HDI Waste Pickers**

About 70 percent of the Municipal Solid Waste activity starting from primary collection to disposal is outsourced and 30 percent is being managed by BBMP. There are about 4,300 Pourakarmikas

(sweepers) appointed by the BBMP and over 10,000 Pourakarmikas from contractors that perform door to door collection services. The waste collected from the households is brought to a common point i.e. secondary storage locations, from where the waste is shifted to the treatment sites via compactors and tipper lorries. Since segregation at source is not very efficient, most of the waste reaches the treatment plant in an unsegregated manner (only 10 percent waste is segregated at source). BBMP has set up a 15 tonne capacity decentralized plant to process organic waste as well as to recycle plastic, metal, etc. They have also set up four separate processing and disposal facilities with capacities ranging from 600 to 1,000 metric tonnes per day (BBMP, 2014). The following table shows the processing and disposing facilities setup by the BBMP:

S. No.	Name of the Project	Capacity of the plant	Technology adopted
1.	M/s Ramky	600 MTPD	Aerobic composting and scientific landfill
2.	M/s S.G.R.R.L	1000 MTPD	Waste to energy
3.	M/s Terrafirma	1000 MTPD	Intergrated system where composting, vermicomposting and biomethanization is followed
4.	M/s Organic Waste India Pvt Ltd	1000 MTPD	Integrated system

Source: BBMP, 2014

## Need

The condition of waste was a major issue that needed the attention of the municipal corporation. The unsegregated waste is difficult to process when it reaches the processing plants as it contains both wet and dry waste, and each type of waste has different ways of being dealt with. About 70 percent of the waste goes to the landfills untreated, which creates several environmental issues and health issues. The Mavallipura landfill is located about 15 kilometres from Bangalore and is the most widely used landfill for waste dumping purposes. The garbage causes generation of toxic fumes and creates an unhealthy environment for the residents to live in. The improper maintenance of the landfill has caused soil contamination and lead to the loss of biodiversity in the surrounding areas. The toxic chemicals from the waste have leached and contaminated groundwater making it unfit for consumption. It was realized that waste pickers and rag pickers working in these landfills are also exposed to the dangers of handling unsegregated, toxic waste.



**HDI Van Unit**

It was noticed by HDI that for waste pickers it was a matter of their dignity. The persisting caste system in the Indian society is a major determining factor in the Solid Waste Management system. Waste picking or any work that is related to garbage or refuse is traditionally bound to the lowest caste. The low status of, and stigma against those operating at the lower ends of waste recovery, is one of the major reasons these waste workers are exploited by municipal workers, the local police and scrap dealers, etc. According to a study, about one percent of the urban population in India is part of the informal sector.

There was occasional harassment of waste pickers due to caste barriers leading to social injustice issues. Most waste workers face accommodation problems as they are migrants from other states. Lack of proper safety equipment makes them prone to several diseases and health issues. Due to poor financial conditions waste picking as a profession is generationally transferred to the children of these waste pickers.

In 2014, the local government (BBMP) notified that any bulk generators of waste (any community with more than 50 households), institution, corporate office, canteen or restaurant, that generates more than 10 kilograms of organic waste per day shall not be serviced for waste by the Government. They would have to manage their waste on their own by either in-house composting or through empanelled service providers. Since Hasiru Dala worked with waste pickers, they thought that it would be a great opportunity to create predictable livelihoods for the waste pickers. They started the business, Hasiru Dala Innovations, as a social enterprise that would focus on livelihood creation and be financially viable.

## Response

Hasiru Dala Innovations, the social enterprise, was started to create jobs for waste pickers and to help them become service providers and give them a sense of entrepreneurship. They started with servicing more than 60 complex apartment houses and over 10,000 households. Their mission was the same, i.e. to create predictable and sustainable livelihoods for the waste pickers. They decided to go for a Private Ltd. structure because it would help them attract capital both in terms of human resources as well as financial. They are a 'For Benefit, Not for Loss' social enterprise. Their main focus is on social and environmental impact.

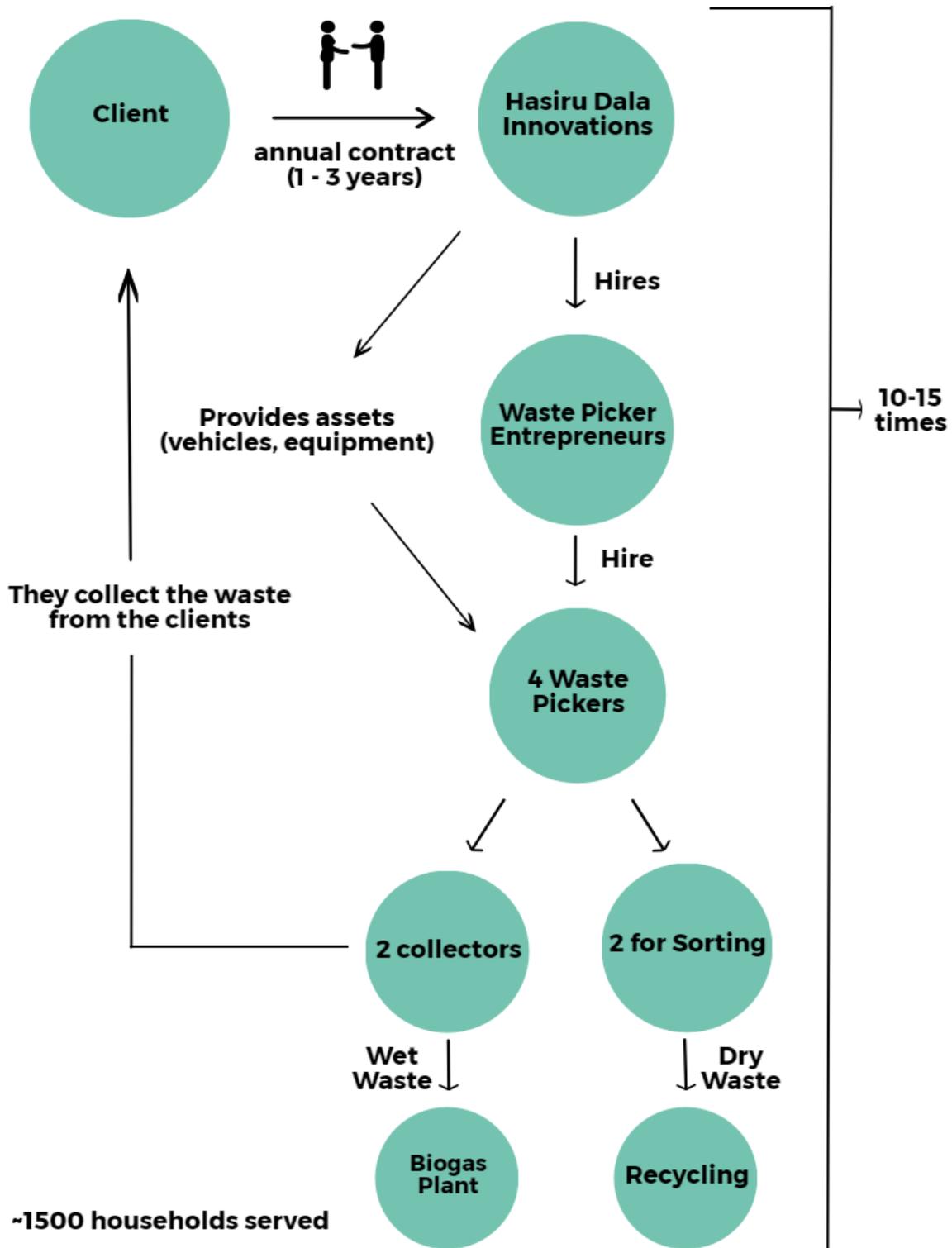


**HDI Women Waste Pickers – The Green Team**

Hasiru Dala has been active in bringing social-economic justice to waste workers. Bangalore is the first Indian city where the waste workers have been provided government issued identity cards and this was made possible by Hasiru Dala. The identity card not only gives the waste workers a sense of identity, but also gives them a right to the waste they collect. This helped in reducing harassment cases to a great extent. For many of these workers, it was the first proper identity card and they could open bank accounts which led to financial inclusion. Hasiru Dala has helped them in getting health insurances for their families and scholarships for their children from the central government.

## Process

Hasiru Dala Innovations was started as a business in November 2015, and they had transferred all their clients from the trust to the social enterprise. They serve roughly 240 clients currently, across the residential and corporate sectors. In the residential sector they service nearly 23,500 households. They offer 'Total Waste Management Services' which means they collect and transport at source segregated waste, they refuse to collect/pick up mixed waste. The wet waste goes to a Bio-gas plant that HDI has partnered with. The dry waste belongs to the waste pickers, it is their property and the company does not touch that, any profits made through the dry waste is their own. Only the sanitary waste and rejects go to the landfills. They assure that more than 90 percent of the waste generated and picked up by them will be diverted from going to the landfills.



HDI: Process Diagram

Hasiru Dala Innovations as a business venture, has been funded by Social Alpha, a TATA Trust Initiative and Ennovent, a social impact fund. Most of these funds are used for Total Waste Management services. Other costs include secondary transportation (to the biogas plant),

supervision and monitoring, customer care services and sending the waste to the landfills. The business operations are managed through their revenues. The external funding is used for the expansion plans. They aim to become a profitable company by the end of 2017, after two years of its establishment.

Their services are highly affordable and they personally train their clients (residents/house-keeping staff/house maids) before they start their services. This is done to make sure that the segregation level comes up to at least 85 percent, once it reaches this level they start their services. They perform waste audits regularly to keep a check on the level of segregation at source and see if it has improved. The whole model is based on a 'polluter pays' principle.

$$\text{Fixed Fee} + \text{Variable Fee (depends on the kind of waste)} = \text{Total Fee}$$

### Variable Fee Tariffs

Rs per kg	Type of waste
X	Wet Waste
Y	Dry Waste
Z	Reject Waste

Where,  $Z > X > Y$

### Polluter Pays Principle followed by HDI

They have a GPS based mobile app that helps them keep a record of the waste collected and transported. They have also enabled a 7-day customer care phone number that the clients can call if they have any queries/issues. They are expanding into event waste management – weddings, corporate events, marathons etc. Hasiru Dala Innovations provides small services like urban gardening. They also sell 'easy to use' home composting kits to their clients, which are delivered by the waste pickers.



**Wet waste unloading at composting site**

## Performance

### *Environment:*

- Hasiru Dala Innovations collects about 18 tonnes of municipal solid waste per day from its clients.
- They collect over 13 tonnes of organic waste daily that is transported to the Bio-gas plant they are partnered with.

### *Social:*

Hasiru Dala Innovations aims to create predictable and sustainable livelihoods for waste pickers and their families.

- The waste pickers have been provided with better work conditions, equipment to handle waste and training.
- Hasiru Dala has managed to get 7,500+ waste workers government issued identity cards which enabled them to open bank accounts making financial inclusion possible.
- 1800 waste picker families have been provided with health insurance through the central government.
- More than 400 educational scholarships have been provided to the children of these waste workers with the help of Hasiru Dala.
- Over 100 full time jobs for wastepickers created till May 2017 and they are earning double to treble their previous earnings when they picked up waste from the streets.

### *Business:*

- Hasiru Dala Innovations services currently services nearly 200 clients encompassing 23,500 households in the residential sector and over 40 clients in the commercial sector.

- Bangalore has 192 wards and every ward has dry waste collection centres. Out of these, 40 wards are supported by Hasiru Dala.
- The waste picker entrepreneurs earn nearly four times that of a typical wastepicker and are creating an asset in the form of a truck in the process.

### Barriers faced

- Clients have to be motivated to change from the status quo of how they are handling waste today, which is always tough.
- Bringing about behaviour change: Motivating people to segregate their waste at source with their optimum level of segregation being 85 percent.
- Transitioning of waste pickers to becoming service providers.

### Future Scope

The main aim of Hasiru Dala Innovations is very clear, i.e. to create sustainable livelihoods for waste pickers and their families. They have a vision of making this business expand beyond Bangalore, at the state and national level, which they gradually will achieve. The waste sector is highly unorganized and is politically driven, they aim to run it professionally as an essential sector just like water and electricity. In a bid to get into more job generating businesses they are planning to work at multiple levels of the waste value chain. They are currently involved only in the collection and transport of waste. They are planning to set up an aggregation centre for recyclables (paper, plastic, metals, etc.) Once this venture is set up and fully established they will set up processing plants for recyclables.

*Compiled by:*

*Jenisha Kiri*