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Introduction

What We Know

In 2011, BBMP commissioned Dry Waste Collection Centers (DWCC) to be built in every ward throughout Bangalore. ADWCC is a decentralized location for residential dry waste to be aggregated, sorted, sold and stored. These facilities are meant to streamline the “entire process of waste management in the city, by concentrating exclusively on dry waste. They are equipped with appropriate infrastructure capable of purchasing, collecting, aggregating and processing both high value and low value dry waste such as plastics, paper, glass, tetrapacks, etc.” (1). DWCCs are managed and operated by one of three stakeholders: waste pickers, scrap dealers, or NGOs.

In Bangalore, 189 DWCCs have been built with 15-20 thousand waste pickers assisting in the collection of dry waste. These waste pickers collect door-to-door household waste on a bi-weekly basis or collect mixed dry waste off the street to drop off at the dry waste center. Other waste pickers sort the collected dry waste at the center. Sorting of the dry waste into saleable categories is a key role for waste pickers to make money. By sorting dry waste into categories such as plastic, paper, cardboard, metal and glass, the sorters can then bag and sell the material to another market. These materials are usually sold by the kilogram, starting at a minimum of 100 kilograms. Although the volume needed to sell these materials remains the same, the price at which they are sold changes drastically. This impacts the DWCC operators’ ability to pay his employees who make around 300-400 Rs/day. To put this into perspective, even the slightest shift in the global market has incredible effects on local markets.

For example, back in 2018 when China decided to put a ban on foreign imports of certain types of plastic and paper, a global crisis ensued. Developed nations were finally forced to face the impact of their consumer habits after years of sending their waste to poorer countries: recyclable materials began building up at transfer stations throughout the United States. Cities nearly gave up on finding a new market and began sending their recyclables to landfills and incinerators. Just when the guilt of disposing of recyclables in such a way started to ensue on these nations, a new market was found—India.

India began accepting reject recyclables from China, among other countries, importing 36,000 more tonnes of PET bottles scrap and flakes in 2018 than in 2017 (2). And because of this, the price of plastic dropped from 47rs/kg to just 12rs/kg turning the once most powerful revenue material into a quarter of its original worth.
This is one example of many slight shifts that occur in global trade that shakes the ground below it. Having reliance on an unstable market like this is risky and at times, detrimental. Therefore, in order to maintain a stable revenue, waste pickers must cater to the needs of the ever-changing market using the DWCCs as a platform to achieve necessary yield. Without a great deal of flexibility and innovation to make ends meet, hope and livelihoods would be lost.

As an additional consequence, the abundance of imported material reduced the need for biomass energy. Because India was not technically equipped to accept and effectively recycle all the materials that were flowing into the country, most of it ended up at cement factories to be incinerated. Previously, these cement factories around Bangalore were purchasing non-recyclable dry waste from DWCCs to fuel their energy production. However, as inferred above, this need was no longer relevant, so non-recyclable dry waste began to pile up and is still piling up today.

What We See

Among the non-recyclables is one material in particular that has great potential: clothing. Although Bangloarean DWCCs have no formalized market for clothing waste, they are still required to accept it into their facility by law, enforced by BBMP. Upon completing fieldwork and research, we have witnessed countless good quality clothes that have been discarded with the mixed dry waste, some even looking completely new. They come in all shapes, sizes, styles, and saturations; the only problem is their setting. When clothes of this condition end up mixed among other dry waste at a DWCC, their quality and, consequently their lifetime, decline due to various forms of contamination. In transport from households to collection center, good quality clothes come in contact with liquids, food scraps, and other soiled packaging that unintentionally end up in the dry waste, thereupon staining and soiling the clothes. Back at the DWCC, clothes are either immediately discarded into a pile of non-recyclable rejects or are improperly stored where they are exposed to environmental conditions, such as rainfall and rodents.

Instead of seeing these clothes as spoiled and useless, we see a valuable opportunity. An opportunity to turns rags into riches. An opportunity that diverts unnecessary waste from landfills and incineration. An opportunity that creates jobs. An opportunity that makes entrepreneurs out of waste pickers.

This opportunity taps into a resource that no DWCC has formalized to generate revenue. This is the resource of used, unwanted clothing. Clothing that otherwise ends up 6 feet underground, next to the rest of Bangalore’s reject waste, never to see the light of day again. These clothes were once respected for their utility but have now found themselves inferior to the temptation of tomorrow.
These clothes have not lost their utility—in fact, far from it. They contain lifetimes of untapped potential. Whether it be clothing a person in need, generating revenue for a waste picker, or recycling fibers to reduce the need for raw materials—this material has a lot to give.

Just like the waste pickers. If we are able to give the waste pickers the tools they need, they will succeed. Shamed by caste and nature of their work, the unlocked potential of the waste picking community is decades old and thousands wise: collectively, they are a community not to be reckoned with. Skin thicker than the hide of an elephant, mind sharper than a tack, and a vision for the future. They have the promise to become incredible entrepreneurs.

**Solution**

We are Hasiru Batte. Hasiru Batte is a project under Hasiru Dala, is a social impact organization co-created with waste pickers. Hasiru Batte facilitates waste pickers to generate revenue from disposed clothing.

**Mission**

Our mission is to improve livelihood opportunities for waste pickers by generating a stable revenue stream from post-consumer use clothing.

**Values**

- **Community**
  - Empower waste pickers through training of effective outreach, collection, and segregation of clothing.
- **Environment**
  - Minimizing environmental impact by diverting clothing from landfills and incineration, doing no unnecessary harm.
- **Responsibility**
  - Taking accountability for actions and subsequent consequences of our project ventures.
- **Innovation**
  - Encouraging creativity within problem solving, creating entrepreneurs through ideation.
- **Passion**
  - Driven by cause, not cost, and expressing our actions in that manner.
- **Transparency**
  - Honesty throughout all operations.
We provide tools and training to the waste pickers so that they can build their own sustainable business. We achieve this in a 4 step model:

1. Outreach
2. Collection
3. Segregation
4. Market

These waste pickers go to every house at least twice in a week to collect dry waste. The residents usually come out of their houses to give their dry waste. Making the most of this interaction, the waste pickers will spread the word about the monthly clothing collection drive. For the first three weeks of the month, they will educate residents on how to give clothes separately from other dry waste and inform them about collection timings.

Hasiru Batte provide outreach through social media, emails, whatsapp groups, newspaper ads, banners, audio messaging and posters. We train waste pickers how to effectively communicate with residents during outreach.

After three weeks of outreach, during the 4th week the clothing collection van goes door to door. This is a very convenient way for the residents to donate clothes. Organizations like Clothes Box (3) foundation and Goonj (4), an NGO collecting donated clothes and supplying to 23 Indian states are successful. The advantage of our door to door collection model could have over these organizations is that the residents do not have to travel to drop box locations to donate clothes. Also because of fast fashion, people buy more clothes and would have more to dispose.

Hasiru Batte trains waste pickers to segregate clothes during collection, to make sure there is no possible contamination.

The clothes are brought back to the DWCC and segregated. Hasiru Batte educates waste pickers to be able to identify good quality resalable clothes from all the clothes received. A study by Hasiru Dala (5) across 4 wards in Bangalore indicated that 85% of all the clothes at the DWCC were in usable conditions.

According to UN Comtrade, India is the largest importer of post-consumer used clothing in the world, 42% of which is resold in India. An estimated 57.6 million garments enter Indian retail market every year (6). Thus, India has established itself as a sizable second hand clothing in the world.
The waste pickers identify second hand clothing markets to sell the clothes they collect. If they cannot find a market themselves, Hasiru Batte helps them connect to second hand clothing markets.

At every step of the process model, Hasiru Batte collects and analyzes the data to optimize and strategize. We provide tools and training to keep everything on track while constantly aiming to maximize revenues.

**Pilot**

After prototyping for a month, testing methods of reaching out to households in Ward 112, collecting clothes with dry waste, and selling the clothes to a middleman without sorting into usable and unusable category, we made some observations:

1. Collecting the clothes in the same van as the dry waste did not work well as the van did not have enough capacity.
2. Selling the clothes to a middleman instead of selling it directly to customers, Krishna, the DWCC operator for ward 112, could make Rs 6/kg (Appendix 1). The middleman bought all clothes, both usable and unusable.
3. Collecting clothes once in a month and selling them immediately instead of collecting with daily dry waste collection is a better option. This is because storing the clothes at DWCC over a month would contaminate the clothes.

Strategizing based on these observations, we conducted a pilot in Ward 112 on 03/09/19.

**Outreach** - We made flyers and recorded an audio message for the collection. We met with the residential welfare association (RWA) representatives, using their whatsapp groups to spread the word.

**Collection** - We used a separate van for clothing collection. We went door to door from 9:00 am - 3:00 pm. We collected 306 clothes from 30 houses. (APPENDIX 3).

**Segregation** - 227 of the 306 clothes i.e. 75% was in resalable condition. (APPENDIX 3)

**Market** - Krishna hired Venkatesh, a waste picker to sell these clothes at the second hand clothing market and in slums. The clothes were sold at an average of Rs 25/ piece. Accounting for the fuel and labor expenses, the net profit is 13 Rs per piece. (APPENDIX 4)

**Impact**

1. **PROFIT** - Krishna and Venkatesh together made a profit of Rs 4,126 (APPENDIX 4)
2. **PEOPLE** - A job for a waste picker, Venkatesh.
3. **PLANET** - 227 clothes saved from contaminating and ending at incinerators or landfill.
What next?

One of the biggest costs for Hasiru Batte will be funding our desired two staff members. They include a part-time Communications & Outreach Intern and a full-time Supervisor and Data Collector. The expected yearly salary for the part-time Communications & Outreach Intern is ₹72,000. The expected yearly salary for the full-time Supervisor and Data Collector is ₹288,000. Because we only earn 10% of the total profit, we expect to receive CSR funding to pay for the staff.

We will continue to run the pilot in Ward 112 for at least 3 months and then expand to all the wards in Bangalore.

As we continues to expand, Hasiru Batte want to stay true to our vision. Working under Hasiru Dala to help them achieve their goal of uplifting the waste picking community.

Here at Hasiru Batte, we believe that the best way to help them is to give them the tools to help themselves.
References

Appendix

Theory of Change

I want to clarify my priorities by defining my goals and the path to reach them.

What is the problem you are trying to solve?
Untapped revenue in post-consumer used clothes that get contaminated with dry waste at DWCC which ends up in landfills and incinerators.

Who is your key audience?
Residents
Beneficiaries:
- DWCC operators
- Waste pickers community
- Commodity market (discounted clothes)
Customers:
- Commodity market
- Premium market
- DWCC operators (we take 10% revenue)

What is your entry point to reaching your audience?
Hasiru Dala → DWCCs → DWCC Operators (Krishna) → Residents (ward 112) → waste picking seller (Venna keltek) → Second hand clothing markets

What steps are needed to bring about change?
- Educational outreach to residents to segregate their clothes from dry wastes.
- Educate waste pickers to prevent contamination of clothes during collection.
- And the sorting higher value premium clothes from commodities.

What is the measurable effect of your work?
Revenue generated from sales of the inter-med clothes.

What are the wider benefits of your work?
Additional revenue streams for waste pickers within an unstable dry waste market.

What is the long-term change you see as your goal?
No clothes will be sent to landfills and incinerators because they will get reused and recycled to generate more revenue to uplift the waste picking community.

measurable effect?
The number of clothes diverted from incineration plants and landfills.

wider benefits?
Reduced environmental impacts from landfills and incinerators as well as reducing the need for raw materials.

measurable effect?
The change in the number of resalable clothes collected over time.

wider benefits?
Residents are more conscious about what and how they dispose of their dry waste.

key assumptions:
The contaminated clothes are in a good condition for resale immediately after collection.

key assumptions:
Residents are willing to separate their clothes from dry waste for the waste pickers.

key assumptions:
The outreach will be effective in getting residents to separate their clothes

key assumptions:
Residents will separate and give us good quality, washed, and resalable clothes (outreach works).

key assumptions:
We have the personnel to collect these measurable effects.

key assumptions:
Our mission and values are clear and relevant to our stakeholders for them to adopt it.

stakeholders:
DWCC operators, fashion banks, donors, waste pickers, consumers, markets, RSPs, waste pickers, shopping facilities, landfills.
Randomized Control Trial (RCT)

One randomized control trial that Hasiru Batte can conduct would be the use of a separate truck for clothing collection as compared to clothing collection within the dry waste collection van. The variable being tested will be the resultant number of high quality clothes collected through the two methods. The control in this test will be the clothes collected in the dry waste collection van, as the clothes are collected with the dry waste anyways. The experimental variable will include the separate collection van which will collect clothes behind the dry waste collection van. In order to keep the testing conditions similar for both tests, the collection will occur in the same neighborhood and at the usual dry waste collection time after a span of one months. The outreach to raise awareness in the two tests will stay the same, whatsapp messages through the RWA members and door to door outreach before the collection day. The results from this test will provide Hasiru Batte with valuable information regarding the best way to collect. The number of high quality clothes collected from both drives will determine the effectiveness of the intervention and play an integral part in determining the success of Hasiru Batte.

APPENDIX 1

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment</td>
<td>0 Rs</td>
</tr>
<tr>
<td>Total clothes collected</td>
<td>167 kg</td>
</tr>
<tr>
<td>Selling Price</td>
<td>1000 Rs</td>
</tr>
<tr>
<td>Profit</td>
<td>1000</td>
</tr>
<tr>
<td></td>
<td>6.0 Rs/kg</td>
</tr>
<tr>
<td>Collection Method</td>
<td>Hasiru Batte Collection drive + with regular dry waste collection</td>
</tr>
<tr>
<td>Selling method</td>
<td>Selling per kg to a middleman</td>
</tr>
<tr>
<td>Categorizing</td>
<td>None</td>
</tr>
</tbody>
</table>
APPENDIX 2 : Pilot collection route

APPENDIX 3

<table>
<thead>
<tr>
<th>Commodity</th>
<th>No.</th>
<th>Kg</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saleable</td>
<td>114</td>
<td>27.6</td>
<td>37%</td>
</tr>
<tr>
<td>Premium</td>
<td>17</td>
<td>3.0</td>
<td>6%</td>
</tr>
<tr>
<td>Donate</td>
<td>96</td>
<td>17.6</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>227</td>
<td>48.2</td>
<td>74%</td>
</tr>
<tr>
<td>Repair/Wash</td>
<td></td>
<td>7.1</td>
<td></td>
</tr>
<tr>
<td>Recycle</td>
<td></td>
<td>4.3</td>
<td></td>
</tr>
<tr>
<td>Too old</td>
<td></td>
<td>4.3</td>
<td></td>
</tr>
<tr>
<td>Unusable</td>
<td>79</td>
<td>6.0</td>
<td>26%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>306</td>
<td>65.6</td>
<td></td>
</tr>
</tbody>
</table>
## APPENDIX 4

<table>
<thead>
<tr>
<th></th>
<th>Krishna</th>
<th>Vankatesh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Van</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Diesel</td>
<td>0</td>
<td>349</td>
</tr>
<tr>
<td>Labour</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>aristotal</td>
<td>venkatesh himself</td>
<td>venkatesh spent a day</td>
</tr>
<tr>
<td>market</td>
<td>0</td>
<td>400</td>
</tr>
<tr>
<td>TOTAL EXPENSE</td>
<td>400</td>
<td>1149</td>
</tr>
<tr>
<td>TOTAL INCOME</td>
<td>2,838</td>
<td>2,838</td>
</tr>
<tr>
<td>PROFIT</td>
<td>2,438</td>
<td>1,688</td>
</tr>
<tr>
<td>TOTAL PROFIT</td>
<td></td>
<td>4,126</td>
</tr>
<tr>
<td>Profit per cloth</td>
<td></td>
<td>13 per cloth</td>
</tr>
<tr>
<td>Profit per kg</td>
<td></td>
<td>63 per kg</td>
</tr>
</tbody>
</table>
Empathy Map

**Think and Feel**
- Want clothing to end up in landfill or incineration
- Want to make an organization that uplifts waste pickers
- Improving livelihood of waste pickers
- Want to earn additional revenue
- Want clothes to go to people in need

**Hear**
- Advertisements for new clothes: radio, TV, social media
- People in this community need clothes
- Global concern about landfills and incinerators

**Say and Do**
- Buy clothes from trusted brand
- Use expensive money on clothing
- Sometimes takes clothes which come with the dry waste
- Works with Hasiru Batte to collect, sort, and sell clothing

**See**
- Brand name clothing
- Expensive prices
- Sales & fast fashion
- Clothing trends
- Their peers wearing old beat up clothes
- Advertisements: emails, banners, commercials, social media, etc.

**Gain**
- Revenue for previously (valuable) clothing
- Know where the product is going (not to landfill/incineration)
- Feel good about adding to helping other waste pickers and improving their livelihood opportunities

**Pain**
- Cannot find value in clothing that comes in
- Clothes with no value takes up valuable space
- Bad environmental impact due to clothes ending up in landfills and incinerators

**DWCC Operator**
The Business Model Canvas

Key Partners
- Hasiru Dala
- DWCC Operator
- Krishna
- RWA Members
- Shivkumar
- Sarioja
- Chin Ho Chitra
- Geeta
- Markets

Key Activities
- **Production**: Door to Door collection
- **Platform/Network**: brand (Hasiru Batte)

Key Resources
- **Physical**: DWCC, Door to door collection, vans
- **Intellectual**: our brand sells our business. It is important both to our market and the DWCC’s.

Value Propositions
- Convenience: Door to Door collection
- Sustainable sources
- Low risk and high return
- Transportation & Storage Equipment

Customer Relationships
- Setting up a routine with communities for collection.

Customer Segments
- **Segmented market**: urban slums; companies receiving shredded vs in tact cloth.
- **Diversified Market**: Premium market for Upper socioeconomic class. (Future Scope).

Channels
- **Sales force & Wholesaler**: Door to door collections
- Sunday Markets
- Selling in waste picking slum communities

Cost Structure
- **Cost-drive**: minimize costs where available (transportation)
- Value-driven: brand name
- Variable cost: clothing varies based on condition/quality

Revenue Streams
- Sell to sunday market, ramachandrapura market
- Make our own thrift shop, run by DWCC operators (future scope).
LET IT BURN?

Help Hasiru Batte keep clothes out of landfills and incinerators.

Collection days: March 7th - 9th in Ward 112.

Clothing collection will occur alongside usual Dry Waste collection. Clothes should be washed, ironed and given separately from other dry waste.

What can you do?
We will come to your house this week on
8:00 am to 10:00 am
Just keep your unwanted clothes washed and ready for us.

We will take your unwanted clothes to people who can REUSE them. And RECYCLE them to give them a new life.

We are Hasiru Batte.

1 truck of clothes burnt or sent to landfill every second in the world.
Which will you choose?

Hasiru Battice clothing & textile collection will occur
March 7th - 9th in Ward 112

*Clothes should be washed, dry and separate from other dry waste.
The environment thanks you for your contribution.

**COLLECTION GUIDELINES**

<table>
<thead>
<tr>
<th>Washed and cleaned</th>
<th>Unwashed and dirty</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔️</td>
<td>❌</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Separate clothes from dry waste</th>
<th>Mix clothes with dry waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔️</td>
<td>❌</td>
</tr>
</tbody>
</table>
Outreach Prototype Feedback

This prototype was testing different outreach methods. The feedback received for this prototype provided valuable information on how much clothing waste we collected and whether more people were giving the clothes separately from their dry waste.

<table>
<thead>
<tr>
<th>Who is giving feedback?</th>
<th>What is the feedback?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our team: Hasiru Batte</td>
<td>Though we did outreach many different ways, the best one at the moment seems to be the audio message we played during the collection. As people gave us their clothes, we asked them how did they hear about us and the audio message playing in that moment seemed to be the most common answer. Many people did not know that the drive was happening through the previous outreach we conducted with the flyers and whatsapp messages. There needs to be 3 weeks of outreach before collection.</td>
</tr>
<tr>
<td>Krishna: DWCC Operator</td>
<td>Changes like this do not happen overnight. There was a good response. Many community members feel that it is important to keep clothes, especially those which are in good condition, out of landfills.</td>
</tr>
<tr>
<td>Residents during DtD</td>
<td>Five people saw the outreach materials in the RWA WhatsApps. Many others heard our announcement on the loudspeaker as the collection was happening. The residents were willing to retrieve their unwanted clothes from their home as soon as they heard the audio. One common suggestion was that they prefer a specific time for collection but many do not have a direct contact with their DWCC operator.</td>
</tr>
<tr>
<td>Nalini, Indha, &amp; Karthik: Hasiru Dala staff</td>
<td>It will take time to make the collection a routine for the residents. People do not have many different option when it comes to disposing clothes. We would love to expand this operation to other wards.</td>
</tr>
<tr>
<td>GCIL Peers</td>
<td>The idea is good and look forward to seeing what’s next. There might be a concern that people are giving more clothes than previously to help with a good cause. The posters did a great job of explaining what is going on, working for people who might now speak English.</td>
</tr>
<tr>
<td>GCIL Staff</td>
<td>Instead of having flyers in WhatsApp groups, maybe a promo video will help non-English speaker to understand the collection drive.</td>
</tr>
</tbody>
</table>