

Case Study

Trash to Treasure

September 2011

Governance Knowledge Centre

Promoted by Department of Administrative Reforms
and Public Grievances
Ministry of Personnel, Public Grievances and Pensions,
Government of India
<http://indiagovernance.gov.in/>

Researched and Documented by


oneworld.net
OneWorld Foundation India
www.oneworld.net.in
owsa@oneworld.net

TABLE OF CONTENTS

Executive Summary	2
Methodology	3
Background	4
Objective	6
Project Design	6
Key Stakeholders	6
Waste Management Process Flow	7
Funding	12
Impact	12
Challenges in Implementation and Sustainability	13
Scaling Up and Enhancements	14
Recommendations and Way Forward	15
Appendix A	17
Appendix B – Interview Questionnaire	18

Executive Summary

Since 2003, Cooperative Housing Foundation International's (CHF) mission in India has been to address urban poverty and transform lives in urban slum areas. Slums were identified as target area because waste that was disposed off openly was the first noticeable factor in the neighbourhood. Dump sites were common in slum areas. Therefore, CHF focused on improving waste management services, living conditions of waste collectors and informal recyclers in Bengaluru slum communities.

Initially, CHF's work started in the form of a slum upgradation initiative, piloted in Rajendranagar in 2008 as the neighbourhood is characterized by poor waste management services and sanitation. CHF set up a Common Interest Group (CIG)¹ to collect wastes directly from the households, and bring it to the waste management facility centres for sorting in to plastics, paper, compost material and organic waste.

Under CHF's supervision, individuals are advised to sort waste within the household before handing it over to the waste collectors, who are mostly women. Mixed waste is avoided, brought to the waste management facility centre for recycling instead of being dumped and burned in the landfills outside the city. This process exemplifies a decentralised model of waste management. The women waste collectors have a dual source of income: they are paid a fee by households for their door to door services and earn additional income by selling recyclable items to recyclers. A similar model was set up in Ambedkarnagar in 2008 and both were financially supported by the Bill and Melinda Gates Foundation.

The waste picking industry in Bengaluru is an unorganised sector wherein waste collectors do not have access to proper infrastructure (ventilated space) to collect waste and equipment (hand gear, mask) to sort waste. The city generates approximately 3,000 tonnes of waste everyday from households and other buildings. Of this, nearly 70 percent of waste is organic, thrown and burned outside of the city, causing air pollution. Moreover, the Solid Waste Management and Handling Rules (2000)² in Bengaluru are not reinforced by

¹ Common interest group comprises of informal women waste collectors in Rajendranagar and Ambedkarnagar. These groups are managed by Centre for Social Action (Christ University)

² For further information on Solid waste management and handling rules 2000, please refer to Annex A of this document

the government. The city, therefore, suffers from a poor system for waste collection and disposal management. The Trash to Treasure project was implemented in 2009 to address these challenges.

In 2009, CHF set up a waste management facility centre named Kasa Rasa (meaning 'waste into resources') in Ejipura to convert dry organic waste into compost heap. This was done in addition to door to door waste collection from 1000 households. With financial support from the Caterpillar foundation, the structure was set and required equipments such as organic waste compressor, red tanks, and sieve to develop compost heap were purchased. The land to set up the centre was provided free of cost by Bruhat Bengaluru Mahanagare Palike (Bangalore Municipal Corporation). Kasa Rasa operators are BBMP employees. The operations and waste management is being implemented by CHF's partner organisation, Saahas.

Trash to Treasure integrates the entrepreneurial energy of informal recyclers into this system so they can extract value from recyclables. It provides them a clean working environment and hygienic living conditions by reducing the quantity of waste at the source. Construction of centres for waste sorting and recycling waste has led to reduced number of landfills. Trash is now sorted at source and recycled to protect the environment. Most importantly, it has benefited the rag pickers by increasing their income, improving their working conditions and legitimizing their work. Waste pickers' contribution in keeping the environment clean is now recognised and they are provided with identity cards to receive social benefits.

Most waste recyclers belong to the informal sector and are women - they have no job security and are unrecognised by the government. They collect and sell materials from streets and dump yards to support their families and have meagre earnings. Trash to Treasure project can be categorised as a best practice as it works to maximize social benefit and protect the environment through improving waste management facilities and restructure the recycling industry in Bengaluru.

Methodology

The Governance Knowledge Centre (GKC) team selected to document this project as a best practice because it has addressed concerns of poor waste management, contributed to keep the environment free from waste and secured livelihood of waste pickers. Secondary research, using primarily online resources, was done to understand overall working of the project. Based on the information gathered, a questionnaire was to procure detailed information about the project. A semi-structured questionnaire was used to interview CHF's Country Director,

Program Officer and Partners at CHF's Bengaluru office. The team also visited Kasa Rasa waste management facility centre in Ejipura to understand the project's work flow. It interacted with the field staff and supervisor to learn about the process of organic waste transformation into compost heap.

Background

Waste is a primary concern in our country. In most cities, quantity of waste is rising rapidly with an increase in urbanisation and migration from rural areas. Waste pickers, waste buyers and recyclers play an essential role in managing a city's solid waste. However, they have no access to basic rights and entitlements. Waste picking industry is an unorganised sector and the waste pickers' contribution is unrecognised by the government with poor enforcement of waste management laws. Despite their engagement with environment, they are considered to be 'unclean' as waste picking is typically considered a low-caste profession. Their work is considered undignified despite the indispensability of the service to any urban or rural set up. Waste pickers collect all kind of items from mixed waste that lies in dumpsites, roads and railway lines. They are exposed to cuts, diseases and allergies as they are not provided with protective gear to handle waste.

In order to address the concerns of waste pickers and the waste picking industry in general, CHF International introduced the Trash to Treasure project- a decentralised model of waste management to improve current facilities for the same and support livelihoods. The project is funded by the Bill & Melinda Gates Foundation and Caterpillar Foundation to revamp the waste management and recycling industry in Bengaluru.

Rajendranagar and Ambedkarnagar's waste collection service is now integrated with Kasa Rasa waste management facility centre. After demonstrating the success, it plans to start new centres in the urban settlement known as Koramangala to serve the needs of middle income households. CHF International and Mythri Sarva Seva Samithi (MSSS)³ carried out a sample survey of 264 informal waste collectors in September and October 2010 to understand the socio-economic conditions of different categories of waste pickers in the. Based on the survey, 15,000 waste collectors were identified in Bengaluru.

³ MSSS is a registered nonprofit organization involved with urban poor and waste related environmental issues. It works with waste picking groups and has specialised in urban poverty alleviation and integrated sustainable waste management since 1987.

The project has introduced two kinds of waste management models. The first model is of a traditional kind in which 8 women waste pickers are sent to collect waste from door to door in 2000 households in Rajendranagar and Ambedkarnagar. The waste is brought to the waste management facility centre to be sorted and sold to recyclers. The capacity of the waste management centre in Rajendranagar is 250 kg while that of the centre in Ambedkarnagar is 500 kg. The centres are known as *Parivarthana* meaning 'change'.

The Kasa Rasa waste management facility centre has a capacity to recycle 1.5 tonnes of waste. Waste from surrounding homes is collected and sorted by BBMP employees in Kasa Rasa centre. The centre is managed by Saahas, CHF's partner organisation that specialises in waste and recycling management. Saahas supervises the centre's staff, manages the operations and manufacturing of compost heap in organic waste convertor machines and finally sells it to recycling entrepreneurs.

The same model will be introduced in Koramangala neighbourhood with a larger capacity to convert waste into resources. In all three areas, BBMP has provided the land to construct centres for waste sorting and recycling services. CHF uses funds donated by the Caterpillar Foundation and Gates Foundation to run the operations (electricity and water for waste management, transport/service fee for waste collection) and cover management costs (staff and employees' salaries) in the recycling centres.

With CHF's influence, the City Mayor issued 200 identity cards to informal waste collectors in Bengaluru for legitimising their contribution to the waste management industry. The cards permits them to collect waste within the city limits, makes them a member of a city-wide association of waste pickers, enables them to access government support like health care, and validates their livelihood in the city. BBMP is the first urban local body in the country to issue such identity cards. There is an estimated 15,000 waste collectors in the city. Working with BBMP, CHF and its partners will continue to enumerate and issue ID cards to as many waste collectors as they can reach.

The women waste pickers in Rajendranagar and Ambedkarnagar earn Rs 4200 to Rs 4800 in a month. They also get paid by recyclers who buy the compost heap. In the Kasa Rasa centre, women field staff are earn between Rs 4500 to 5000 for their recycling services.

250 collectors, most of whom are women, are integrated in the project and CHF aims to involve all of 15,000 waste pickers in the city as the project progresses.

Reduce The use of plastics, packaged and canned products and electronic items

Reuse Paper, plastic, glass and cloth products as many times before recycling it

Repair Old shoes, toys, clothes, toasters, irons, television sets, computers, washing machines, radios and NOT buy new ones with changing trends

Recycle Newspapers, writing paper, envelopes, books, magazines, cardboard boxes, Glass bottles, metallic cans, aluminium foil, plastic containers and Tetra pack.

Objective

CHF has designed a system to manage waste, create jobs and improve the livelihoods of those involved in the waste picking industry. It has created a market-based model and garnered the support of BBMP and local partners to help make the project self-sustainable. Their aim is to give voice to the poor and empower them to take charge of their own development. Trash to Treasure project helps waste pickers organise themselves, provides them training and helps legitimise their profession, making them agents of change in their own communities.

Project Design

Key Stakeholders

The project owes its success to the following stakeholders for their support, encouragement and effort to make a real change in society.

1. *CHF International* is a humanitarian aid organisation founded in 1952 that works in post-conflict, unstable and developing countries. They partner with communities around the world to help them direct the improvement of their lives and livelihoods. They believe that the people best suited to decide what a community needs are the people of the community itself. CHF is a politically neutral, non-profit 501(c) (3) organization, which prides itself on an approach which is accountable, efficient and effective.
2. *Centre for Social Action* (Christ University, Bengaluru) is an enterprise run by women to manage all the waste of Christ University. It has trained the common interest group (CIG) of women waste collectors in Rajendranagar and Ambedkarnagar and has also trained households in sorting waste in their homes.

3. *Saahas* is a not-for-profit organisation working towards solid waste management in Bengaluru. It is the implementing agency in Trash to Treasure project and is currently conducting operations in Kasa Rasa waste management facility centre. It works towards (a) reduction in consumption of use and throw products like plastic carry bags, paper cups and tissues, (b) encouraging waste segregation at source and retrieval of recyclable material, (c) composting of organic waste, and (d) introducing safe management of e-waste in households, companies and schools.
4. *Bill and Melinda Gates Foundations* a philanthropic organisation that has supported CHF by donating \$500,000 in total to cover project and operational costs.
5. *Caterpillar Foundations* a philanthropic organisation that works towards securing people's basic requirements such as shelter, clean water, sanitation and reliable power. It has provided \$229,000 to cover program costs and \$250,000 to set up a 2,500 square foot Kasa Rasa centre.
6. *Bruhat Bengaluru Mahanagare Palke (BBMP)* is the municipal corporation of Bengaluru and official body responsible for the waste management industry. It supports CHF in its waste-to-resources endeavours by providing land to set up the recycling centres. It has also issued 200 IDs to waste pickers, thereby legitimizing their contribution to the city's solid waste management process. The card entitles them to get medical services and social security.
7. *Mythri Sarva Sama Samithi (MSSS)* is a non-profit organisation working on informal waste pickers and their families and promoting environmental sustainability through integral solid waste management. MSSS conducted a sample survey with CHF in Bengaluru to identify waste pickers and develop the initiative to improve their livelihood.

Waste Management Process Flow

This project was started as a slum upgradation initiative in Rajendranagar, a community with no formal household collection service. Gradually, CHF expanded its reach to the communities in Ambedkarnagar and Ejipura. After demonstrating the success, it plans to start 3 new centres in an urban settlement, Koramangala, to serve the needs of middle income households.

The waste management facility centres were opened in Rajendranagar, Ambedkarnagar and Ejipura areas because waste generated in these areas consists of different kinds such as waste

from households, commercial establishments and schools. The Ejipura centre has provision of space for waste sorting, compost-making, and sanitation facilities for workers.

This project operates in three simple stages: a) waste collection b) waste segregation at source and c) sale of waste to recyclers.

Stage 1: Waste collection

There are two models of waste collection. The first model involves 8 women waste collectors that visit 2,000 households in the slum areas of Rajendranagar and Ambedkarnagar, collecting waste from door to door.. They bring the collected waste to their centres, known as Parivarthana (meaning change), to segregate and directly sell it to recyclers. 250 kilograms and 500 kilograms are the respective waste collection capacities of Rajendranagar and Ambedkarnagar waste facility centres per day. The collection of waste is done twice a week.

The second model, run by partner SAAHAS, is called Kasa Rasa waste facility centre in Ejipura. The centre's space was provided by BBMP and the infrastructure was built with the financial support of the Caterpillar Foundation and the Gates Foundation. The centre is constructed with a capacity of collecting 1.5 tonnes of waste per day including mechanic and food waste. The waste comes from 1,500 middle income households around the centre. In both the models, the collection of organic waste is done daily where as recyclable waste is collected twice a week. CHF aims to work towards a sustainable model as far as maintenance of this project is concerned. In the first six months, it will be supported by funding agencies but thereafter will look after its own.

At present, the project is generating revenue from three main components: a) income from waste, b) income from compost, and c) service fee (for waste collection/transport costs) from apartments and commercial establishments. Hence, it is a market based model with the potential to generate revenue to cover its costs and earn profits. Transport is provided by CHF to collect waste from areas which are distant from Ejipura. For example, Acropolis Apartments, one of the locations where waste is collected from, are 5 kilometres away from Kasa Rasa and its households pay INR 2,000 per month to meet the transportation costs.

Stage 2: Waste segregation at source

The households were educated by the CHF team in sorting different kinds of waste in their homes before they dispose it is disposed. A second sorting exercise is done by the women employees in the Kasa Rasa centre. They earn INR 4,500 to 5,000 as monthly income. The waste is sorted into different categories such as plastics, paper and compostable materials.

The Kasa Rasa waste management facility centre is set up over a 2,500squarefeet area and can process 1.5 tons of recyclable material each day from 1,000 surrounding homes. Recyclable waste is segregated to be sold to informal buyers and organic waste is composted. Earlier, there were space limitations to sort waste and had to be done in a back alley or vacant lot but now they are provided physical space with amenities such as toilets, shade and ventilation. Waste segregation has resulted in a clean waste stream. At the Kasa Rasa waste facility centre, there are five field staff, security and a coordinator. The monthly expenditure is INR 60,000 at the centre comprising primarily of water and electricity costs. The monthly revenue is generated through sales of waste, compost and service fees and the amount is INR 45,000. At present, it is supported by donors but soon after six months of operation, CHF hopes to manage its services within its own resources.

The table below shows different kinds of waste generated in general:

RECYCLABLE	ORGANIC	MEDICAL	E-WASTE
<u>All kinds of paper</u> (tetra pack cartons and toothpaste boxes) <u>Plastic (clean and dried)</u> Carry bags Milk packets Plastic containers PET bottles <u>Metal and Glass</u> Cans (broken glass to be kept separately) <u>Miscellaneous</u> Clothes Shoes	<u>All Food waste</u> Cooked food Raw vegetables Fruits Egg shells Meat <u>Garden waste</u> Leaf litter Pulled out plants Garden clippings	Sanitary Napkins Diapers Expired medicines Syringes Condoms	Dry cell batteries Floppies/CDs Bulbs/tube lights Watches Mobile phones Computer and accessories Wires

Figure 1: Different kinds of Waste, Source: Brochure prepared by CHF, Saahas, Christ University and BBMP

Stage 3: Selling waste to Recyclers

The Trash to Treasure project is a market based model in which the collected recyclable items and manufactured compost heap are sold to informal recyclers and buyers in the market, and the revenue generated every month amounts to INR 45,000 that is utilised to cover the operational costs of the centre.

In Bengaluru, there are two popular recyclers' hubs known as Johallymohala and Nayandahalli to sell recyclable items. The CHF centres sell the recyclable items at prices listed below (which is subject to change, depending on market fluctuations):

ITEM	RS/KG
WHITE PAPER	5
COLOUR PAPER	1
POLYTHENE BAGS	3
KADAK (LOW GRADE PLASTIC)	2
LAMINATES (WRAPPERS)	1
CARTON BOX	4
COOKIE CARTON	1

<i>TAGADU (RUSTED IRON)</i>	4
<i>MILK COVER</i>	10
<i>PET BOTTLES</i>	9
<i>TETRA PAK</i>	4
<i>1ST GRADE PLASTIC</i>	10
<i>GLASS BOTTLES</i>	1
<i>NEWSPAPERS</i>	5
<i>METAL CANS</i>	20
<i>MIXED DRY WASTE</i>	2-3

Figure 2: Price list of recyclable items, Source: CHF



Figure 3: Waste aeration in red tanks



Figure 4: Sieving for a fine product



Figure 5: Compost heap ready to be sold in the market

Photo Credit: One World Foundation India

Funding

The organisations that have financially supported the project are:

1. Bill and Melinda Gates Foundation- \$50,000
2. Caterpillar Foundation-\$229,000 (overall program costs) and \$250,000 (Kasa Rasa centre exclusively)

The project operates on a market based model implying that it produces enough revenue to cover the operational costs. The land is provided by BBMP free of cost and the construction cost for each centre ranges from INR 10 to 15 lakhs⁴. The cost of facilities used in the centre such as compressors, convertors, machines, and sorting belt tanks is approximately INR 30 lakhs. This is inclusive of costs incurred on procuring water, electricity, transport and human resources.

The economic viability of these recycling units was tested during the first 2 to 3 years of the program with funds from the Bill and Melinda Gates Foundation. CHF has now leveraged additional funding from the Caterpillar Foundation and BBMP to open three more recycling centers across the city in the coming year, in addition to the three already established.

Impact

Trash to Treasure is a zero-waste initiative. It is best practice as it works towards keeping the environment clean in various parts of Bengaluru city: slum areas, schools, households and commercial establishments. Waste management is a huge issue in cities and, with increasing urbanisation and migration from rural areas, efficient waste collection and waste service delivery is a necessity. Improper waste disposal can cause diseases and deaths. Along these lines, the project has had much impact on garbage collectors, household communities and the environment.

Addressed the plight of waste collectors by organising the workforce

Unorganised garbage collectors are integrated in the project. Now, they can support themselves through waste service delivery. They are trained to compost organic items in centres and sell glass, plastic, paper and metal items in the market. These centres are spacious, ventilated, safe and hygienic and have improved their working conditions. They no more face harassment and

⁴ The construction costs of waste management facility centres in Rajendranagar, Ambedkarnagar, Ejipura and next to Jyoti Nivas centre in Koramangla were borne by CHF International. The next 3 centres in Koramangla will be funded by the BBMP.

discrimination as this initiative has integrated them into formal waste management system and provide these workers with a sense of legitimacy. BBMP provided 250 collectors with identity cards to avail medical services and other benefits.

Efficient waste management system

CHF in association with local partners and BBMP have introduced a decentralized waste management model that encourages communities to sort waste in their homes before it is disposed off to waste collectors. All establishments are encouraged to reduce, reuse, recycle and repaid materials to minimise littering openly in the environment. The model's advantage is that it reduces landfills/dump sites and as well as the time spent by work force on sorting waste. Since waste is segregated closer to the source, it also means fewer trucks having to transport waste to the landfills, thereby helps to reduce traffic congestion and pollution—two other big problems confronting Bengaluru residents. Moreover, this model has developed new revenue streams for recyclables. All recycled items are sold to informal entrepreneurs at market prices and this is a source of income for waste pickers. It has changed the waste picking and recycling scenario in the city.

Cleaner and greener city

The project educates households and businesses about segregating garbage for recycling. CHF and its partners have also raised public awareness and influenced municipal policies reinforce sorting at source. CHF has streamlined processes of waste collection, sorting, and recycling to regulate efficiency in waste industry. It offers income opportunities for garbage collectors as they can sell recyclable items in the market and support their families. The waste management facility centres have also contributed in keeping the city clean by managing trash and converting them into resources.

Challenges in Implementation and Sustainability

One of the biggest initial challenges faced by the project was the collection of waste from every household as the latter often resisted being part of the new decentralised model of waste management. They were not eager to give waste and pay the waste collectors, and continued to dump the waste instead. Also, they would not segregate the waste on their own and complained it was the BBMP's responsibility and they are paying taxes for it. To address this challenge, CHF, its partners and the government conducted awareness programmes and street plays in the neighbourhood to demonstrate people's participation in segregating/sorting waste at source. Though it continues to be a challenge, there has been a compliance of 50-60per cent

from the neighbourhood. If there is any non-compliance from the neighbourhood, the BBMP waste collector acts as a back up to sort different kinds of waste before it is taken to the centre.

Waste collection by the BBMP waste collectors was not regular in the initial months of project implementation. This was mainly because of irregular attendance of the workers. The households complained that they were sorting waste but no one was coming to collect the waste. To solve this problem, CHF monitors attendance of all waste collectors and absentees' salaries are cut by BBMP. Such an intervention has stabilized their performance and they are now absent for only 2 to 3 days a month.

This model was piloted under some of the toughest conditions in the slum of Rajendranagar, a community with no formal household collection service. The slow pace of government approvals and implementation of work is a limitation. CHF counteracts this hurdle by being present at local government meetings and staying in contact with officials who approve projects at various stages.

With funding from the Bill and Melinda Gates Foundation and the Caterpillar Foundation, changes in the funding scenario could also be a threat to the program. Often informal sectors are difficult to be recognised as organised institutions. Despite constituting a large work force, waste collectors are unorganised. Continuous efforts are to be made in getting local government to officially recognise waste collectors.

Scaling Up and Enhancements

Expanding area coverage

Since 2008, CHF chose Rajendranagar, Ambedkarnagar and Ejipura as areas of project implementation. These are primarily slum areas in which households have inadequate access to better services and poor sanitation. Now, CHF plans to target middle income groups in neighbourhoods such as Koramanagla that generate huge amounts of waste.

Integrating rest of the waste pickers in the city

There are 15,000 waste collectors in the city and CHF aims to integrate all of them in this project. These waste collectors include individuals working at the dump sites, scavengers on the streets, informal entrepreneurs who sell waste directly to those who buy recycled waste and scrap dealers selling materials all the way up to the global market.

Formally recognising waste pickers

CHF plans to integrate more waste pickers by providing them ID cards and formalising the waste picking industry. It also aims to expand recycling centres to other households with BBMP's support. With local government's support and resources, access points will be created for them to receive government assistance and even financial services like bank accounts.

Setting up more centres

Many tons of waste is being recycled that would otherwise pack landfills. CHF aims to engage more waste collectors as collectives and expand services in university campuses that produce a lot of waste. Training will be provided to waste collectors on recycling waste and ways to manage the enterprises to make them self-sustainable.

Recommendations and Way Forward

Trash to Treasure is an effective initiative to strengthen the structure and processes of the waste picking industry, to encourage the collectors and recyclers in performing a good service to the community and environment. However, the team has identified broad recommendations to bring about change to highlight the situation of waste pickers in the city. Although some of these are in the process of implementation, they are in need of further reinforcement.

During the field visit, the team found out that waste pickers have poor living conditions, some of them live in rented and temporary shelters and the others are homeless. They are exposed to allergies and diseases as they spend hours in dump sites and do not have access to health care. Those who are in need of immediate medical services must be taken to the hospital for vaccination and other necessary aid.

Waste pickers need a secured government collection job with security, fixed salary and less harassment. BBMP must enforce decentralised solid waste management system throughout the city, implying sorting of waste at the household level and integration with the informal waste sector. All waste pickers should be given capital and infrastructure facility to carry out day to day sorting exercises. The centres should be ventilated and sanitized for the waste pickers' well being.

Waste pickers must be provided with knowledge and skills to protect themselves from occupational hazards and risks. BBMP should enforce legal provisions to prevent child labour and enroll them in schools instead.

Lastly, Municipal Corporations must extend awareness to households that everyone is responsible to protect the environment from waste and waste is a resource. The four main components of maintaining a green environment- reuse, reduce, recycle and repair- must be practiced in all neighbourhoods as well as multiplexes⁵ so that everyone can live in hygienic conditions.

Research was carried out by OneWorld Foundation India (OWFI), Governance Knowledge Centre (GKC) team.

*Documentation was created by Research Associate, **Attrika Hazarika***

For further information, please contact Naimur Rahman, Director, OWFI, at owsa@oneworld.net

References

Peters, Joey. 'Foundations try to Legitimize India's Environmentalists'. *New York Times*. 16 May. 2011. Web.. 27 September. 2011. <<http://www.nytimes.com/cwire/2011/05/16/16climatewire-foundations-try-to-legitimize-indias-invisib-79578.html?ref=earth/>>.

English, Brian. 'Trash to Treasure- Improving the livelihoods of India's visible environmentalists'. *Ashoka Changemakers*. 16 June. 2011. Web. 27 September. 2011. <<http://www.changemakers.com/economicopportunity/entries/invisible-environmentalist/>>

CHF International. Web. <<http://www.chfinternational.org/node/36540/>>Sample study of Informal Waste Pickers in Bangalore

⁵ Key points taken from Sample Study of Informal Waste Pickers in Bangalore CHF and MSSS September-October 2010

APPENDIX A:

Legal Provisions and Recommendations for Integration of Waste Pickers into the Mainstream Economy

1. States should consider providing legal recognition to rag pickers so that recycling work becomes more organised and also ensure better working conditions for them. (CAG Audit on Municipal Solid Waste in India, December 2008)
2. Presently, the informal sector of rag pickers is contributing substantially to the recovery of recyclable material from urban solid waste. However, rag pickers- mostly women and children- live under and work in extremely unhygienic conditions. It is essential to improve the present system of collecting and utilising recyclable material. These rag pickers could be organised by setting up cooperatives. These workers can then collect recyclable material right at the household level; incidentally they could also collect at the same time organic waste material from the household and deposit at the roadside collection sites. This would get rag pickers the recognition that they are an essential link in urban solid waste collection and recycling system. This would also prevent health hazards associated with rag picking in garbage dumps and provide them better working conditions and possibly better economic returns. (Bajaj Committee Report 1995)
3. Segregation of municipal solid wastes: “ In order to encourage the citizens, municipal authority shall organise awareness programmes for segregation of wastes and shall promote recycling or reuse of segregated materials” (Municipal Solid Waste-Management and Handling Rules 2000)
4. Every unorganized worker shall be registered and issued identity card by the District administration which shall be a smart card carrying a unique identification number and shall be portable. (The Unorganised Workers’ Social Security Act 2008)
5. The circular highlights the role of waste pickers in environmental conservation and reducing the municipal solid waste management budgets. It further details the specific strategies ULBs could include to integrate waste pickers in door to door of waste. (UD circular, March 2010: Inclusion of waste pickers)

6. The circular permits Rag pickers to collect the waste from homes, shops and market places. It instructs civic authorities to issue identification cards to the registered Rag pickers, give preference to the cooperatives formed by the waste pickers to collect dry waste and engage the registered rag picker on a daily wage or a monthly wage basis for collecting waste from homes, shops and market places (Government Circular, Government of Maharashtra, Water Supply and Sanitation Department, January 2002)
7. It must be mandatory for all municipalities to register waste pickers and other scrap collectors, and to issue a photo-identity card to each such worker as has been done by the Pune and Pimpri Chinchwad Municipal Corporations. The card authorizes the bearer to collect scrap.
 - In view of their contribution to the removal and reduction of solid waste, it should be mandatory for the municipalities to provide medical and life insurance coverage to all authorized waste pickers through the levy of a welfare cess from citizens.
 - It should be mandatory for the municipalities to protect the livelihood of waste pickers and to consult with organisations of waste pickers before initiating any scheme for the collection and disposal of urban solid waste
 - It should be mandatory for all municipalities to earmark green zones in each ward where waste pickers can sit and sort their scrap.
 - It should be mandatory for all municipalities to provide a rest room, drinking water, and toilet and crèche facilities at garbage dumping grounds / landfill sites.
 - All registered scrap collectors should be listed as falling Below the Urban Poverty Line by the municipalities for the purposes of State social security schemes for the weaker sections.

Appendix B – Interview Questionnaire

Background- Stakeholders and roles

1. According to our research, the major stakeholders in this project are :
 - a) Cooperative Housing Foundation (CHF International)
 - b) Centre for Social Action (Christ University)
 - c) Alliance of Indian Waste pickers
 - d) Bill and Melinda Gates Foundation
 - e) Mythri Sarva Seva Samithi
 - f) Caterpillar Foundation
 - g) Municipal government of Bengaluru

- i. What are their specific roles the project?
- ii. Are there any other stakeholders? If yes, who are they? What are their roles and responsibilities?

Evolution

2. We understand that Trash to Treasure project aims to improve the livelihoods of India's invisible environmentalists (waste collectors), organise waste collection and recycling services in slum communities in Bengaluru, Pune and Kanpur.
 - i. Why was it conceptualised?
 - ii. When did the actual implementation begin?
 - iii. What are its objectives?
 - iv. What are its advantages?
 - v. Where there any challenges? If yes, then how were they overcome?
 - vi. What is the coverage plan in future?

Workflow

3. According to our research, Trash to Treasure is based on a decentralised model of waste collection and informal recyclers are integrated into the system so that they can benefit from this project. The project's process can be divided into a) waste collection b) waste segregation c) selling waste (to waste recyclers):
 - a) Waste collection:
 - i. How is waste collected from households?
 - ii. What is done to non-recyclable waste?
 - iii. How many times is waste collected in a month?
 - iv. How many households are covered under this project?
 - v. How many waste collectors are there in total?
 - vi. How much are waste collectors paid (by households and collectors)?
 - vii. Are all waste collectors given an ID?
 - b) Waste segregation:
 - i. How do the waste management facility/recycling centres (known as Kasa Rasa) operate?
 - ii. What is the process behind segregating recyclable waste?
 - iii. How is composting of organic waste done?

c) Selling waste (to Waste recyclers):

- i. What were the working conditions of waste recyclers prior to the project?
- ii. How are they benefiting from this project?
- iii. What do the collectors do with the recycled products? How is it distributed? (Who do they sell it to/do they make profit etc?)
- iv. How much do they pay to the waste collectors?

Outreach, Training and Support

We learn that CHF has improved waste collectors' livelihoods by:

- a) Establishing collectives of informal waste collectors to collect and sell recyclables from bulk waste producers
- b) Providing linkages to social and financial services
- c) Providing public awareness and education to communities on recycling and sorting at source to improve occupational hygiene of waste collectors
 - i. How has CHF achieved these factors in Bengaluru?
 - ii. Did it face challenges during implementation? If yes, what are they?

Impact and Sustainability

4. How has this project benefited the following in social and economic terms:
 - i. Waste collectors
 - ii. Waste Recyclers
 - iii. Community
5. How many waste collectors and recyclers have been integrated in this project? Has there been an increase in the number since the initiative started?
6. How has the initiative sustained itself financially?
 - a. Is there a revenue generating mechanism? If not, then who is funding the project?

Monitoring

7. Is the project being monitored? If yes, how is it being done?

Measuring success

8. Are there any enhancements to this project? If yes, what are they?
9. What are the innovative features of the project?
10. To what extent can this project impact waste management policy and be practiced in India?