

A photograph showing a person from behind, carrying a large, full sack of waste on their head. They are walking on a wooden plank that spans over the bed of a truck. The truck bed is filled with many similar large sacks of waste. The background shows some industrial or urban structures under a clear sky.

## Informal Recycling Units in Solid Waste Management System

Pinky Chandran, Kabir Arora, Salma, Siddique,  
Marwan Abubaker, Nalini Shekar, Usha





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**Case No 1-00029**

This Case Brief contains:

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Details on how to access the full case

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# Reframing Urban Inclusion

The opening set of cases produced by IIHS represents a focus central to our institutional mission, its teaching and its practice: urban inclusion. Through an on-going collaborative, multi-year research project titled 'Reframing Urban Inclusion', the 30 cases available on the website, [www.cases.iihs.co.in](http://www.cases.iihs.co.in) include original teaching and learning cases commissioned and produced at IIHS through support from the Ford Foundation.

The cases were curated to address a particular set of challenges. The first is pedagogical. IIHS' stated aim is to be part of a global moment to re-think urban theory and practice from India, South Asia and the Global South. These cases are a key curricular and pedagogical intervention within that effort. Distributed through open access modes to encourage widespread, public and diverse forms of use, the cases seek to give scholars and educators in the Global South a new canon to teach with, that begins from and is responsive to place.

The second is more outward facing. India is at a critical moment in its urbanisation. The urban agenda has begun to emerge strongly on the national political register, and questions of how to shape policy agendas from housing to employment, planning to service delivery, are more pressing than ever before. It is our hope that these cases will therefore equally be used by and inform an evidence-based, empirically rich, conceptually grounded and reflexive practice and interface with policy.

Since 2013, the project has brought together leading academics and practitioners from different disciplines to identify and contextualise social and economic realities of Indian cities through the case method. We hope that they will provide new evidence of the possible opportunities and mechanisms for urban integration as well as build a conceptual and empirical foundation for politically, socially, and economically inclusive cities.

The project has three thematic foci:

1. Conceptualising Pro-Poor Planning

Urban planning processes determine access to basic resources such as land, shelter and housing, livelihoods, mobility, and security. Inclusive urban planning is aimed at serving all the citizens of the city, reducing vulnerability and addressing exclusion from access to these basic resources.

Cases in this theme (1) untangle the current state of urban planning and its effects on vulnerability and exclusion, (2) explore how meaningful participation can be more effective in pro-poor planning, and (3) highlight opportunities for, and instances of successful integration across agencies and organisations involved in urban planning.

## 2. Re-visiting Settlement Upgrading

This theme seeks to expand and re-articulate debates on slums in India. The 'slum' is a form of an urban settlement that is situated at the intersection of land markets, new urban political economies, the efficacy of the state as a provider of housing to the poor, differentiated state-citizen relations, splintered urban infrastructure, questions of law, legality and planning, as well as conceptions of urban citizenship.

Cases in this theme (1) explore the processes of settlement and resettlement, paying attention to the market and political forces that shape the outcomes, (2) broaden the scope of settlement transformation from spatial upgradation to impacts on other sites of transformation such as livelihoods and employment, and (3) explore alternative imaginations of 'property rights' and tenure regimes.

## 3. Re-drawing the Picture: Metrics of Urban Inclusion

The dynamics of urban poverty and vulnerability are poorly understood. We know that the security of tenure, spatial coherence of urban infrastructure and service delivery, transit distances between livelihoods and living spaces, socio- cultural identities and social networks play important roles in inclusive cities. However, we have limited statistical data and information on the locational and distribution patterns of urban India.

Cases in this theme (1) examine the use of data in urban decision making and identify potential sites for intervention, (2) provide a more contextual and holistic analysis of urban dynamics, moving beyond sector-wise administrative data collection methods, and (3) emphasise improvements in information and learning from experience for local decision making.

# IIHS Case Method

The IIHS case is a work-in-progress that represents experiments in different forms of creating interdisciplinary and inter-sectoral cases, as well as a diversity of pedagogical environments to learn and teach with these cases. The opening set of cases is, thus, also in a sense, an experiment in form and teaching modes. Given this, we do not claim a singular 'IIHS Case Method' or any one form or definition of a case. Indeed, one of the explicit aims of case development at IIHS is to challenge conventional ideas of what case-based learning is.

How then does a user know how to use cases? Pedagogical transactions will differ from case to case and indeed multiple options will be open within each case. Therefore, in order to aid users, all IIHS cases come with a set of consistent elements that help users navigate through the diversity of form and content. These are:

- **Preface:** Every case begins with an introduction by the case writer that describes their own approach to the case. How did the case writer frame the case? Why did they choose to structure it as they have? What were their intentions in writing the case?
- **Teaching Note:** The second shared case element is the Teaching Note. Here, the case writer lays out their imagination of how they would teach with the case in its current form. They suggest learning outcomes, pedagogical modes, learning environments and assessment frames. True to the diversity of the cases, each of these is particular to the case.
- **The Main Case:** This is the main body of the case—its core empirics, arguments, discourse and data. Across the cases, these come in different forms: PowerPoint presentations, audio-visual material, web interfaces, written text, and data visualisations.
- **Pedagogical Possibilities:** The next element lays out the case writer's suggestions on other ways in which the case could be taught, including in other disciplines or learning environments. These are not as detailed as the Teaching Note but offer a set of possibilities to the user to imagine other uses of the case than those laid out.
- **Case Archive:** The final element of the case is a library of documents—reports to interview transcripts, unedited footage to visual photo libraries—that act as an archive for the case. This repository allows users to also access a host of background and additional information necessary to navigate the larger contexts in which the case is situated.

Each IIHS case—regardless of the diversity of its form—comes structured with these elements. It is our hope that this recognisable framework will enable users to navigate easily across cases with very diverse elements and forms.



# Case Note

## Notes from Nayandahalli

Informal waste recycling in the context of urban informality is characterised by ignorance, non-recognition, and social exclusion. Exclusion, because people working in waste are often stigmatised for their association with it. However, even though the informal waste economy has been compensating for the inadequate solid waste management systems in the city and country, many key players in this informal chain are neither acknowledged nor appreciated for their work. Treated as a nuisance, they are constantly pushed in the margins. This case attempts to study the recyclers of Nayandahalli and in doing, so makes efforts to trace the actors involved in the informal recycling economy, and move away from binary definitions of waste of 'use and throw', and to appreciate waste as a resource.

The study used both primary and secondary research methods. Primary research included qualitative interviews with recyclers and factory owners using surveys, quantitative interviews through focus group discussions, and radio interviews. In addition, photo documentation has been used extensively.

The basic premise of the teaching strategy is reimagining the informal waste economy and the celebration of them, through spatial, political, social, cultural, and economic lenses. The idea is to rethink our understandings of the informal and informality. Questions must also revolve around informality and marginalisation in the waste sector. Informality as a means of survival—without social benefits (working in and with waste), planning for informality—spaces earmarked for them, from a policy perspective, appreciating economic contribution to the municipality (from a recycling perspective).

The teaching strategy caters to different actors; it involves multiple methods which can be used in combination or as one workshop module. A) The Recycling tour is meant to appreciate and understand informal recycling and the sector by, observing, questioning, and interpreting the experience of visiting Nayandahalli—the plastic recycling area! The guided tour is structured in a way for students to understand i) The informal recycling pyramid ii) Understand the process of what happens to dry waste iii) Meet people and listen to their stories.

B) Radio Series to set the tone to understand the informal waste economy that operates in Bangalore. From first person accounts to interviews, the episodes throw light on the different angles in the informal waste economy. The instructor can choose to play the entire story or parts of it, followed by discussions. The discussions centre around the following: i) Spaces, places available to the informal sector for recycling (Settling in the margins, to relocation and policy on earmarking informal spaces) ii) Recognition of the informal waste workers—the

marginalisation, attitudes around waste and our predisposition towards the people working in and with waste—vis-a-vis private waste to energy players and their economic contribution.

C) The photo exhibition titled **Daastan-e-Nayandahalli: Notes from the Plastic Recycling Hub of Bangalore**, is an attempt to engage the general public with the recyclers of Nayandahalli and hopes to bring to fore issues of space and the need for recognition of recyclers. It presents the changing landscape of the area following recent constructions and erases the binary between waste and resource

D) The blog posts are the author's reflection, interpretation, musings, and analysis of all things Nayandahalli.

This study is work in progress, as we continue to discover new things and meet new people in the recycling space of Nayandahalli. The next level of this study is to analyse practices of small scale plastic recovery and recycling units in the area and document their stories.

## Components and Materials

The components of this case study comprises written material and photos.

Exhibit 1 is from the section 'Welcome Note: Photo Exhibition'. It introduces the reader to one of humanity's greatest physical legacy—garbage. It points out that although waste is a global problem, it is a local phenomenon, a social construct, with varying meanings, actors, and ways in which the society engages and deals with it. It talks about both tangible aspects of waste, which is physical and visible, as well as the intangible aspect that is invisible and obscured. It takes the reader through a journey that reveals the experience of making Nayandahalli home for a year to explore the place as an ecosystem where waste is transformed to resource.

Exhibit 2 is a photo titled 'People in Waste'

Exhibit 3 is Section from a blog titled 'Story of Nayandahalli is the Story of Urban Nomads: Notes from Nayandahalli Author: Kabir Arora'. The blog focusses on Nayandahalli and describes it as a settlement of urban nomads, whose existence and movement is dependent on land and petroleum prices. It follows the waste that is sent for recycling by journeying with those involved in the trade—sorters, godown owners and factory wallas. It also delves in why the term urban nomads is used to describe recyclers.

# Exhibits

## Exhibit 1: “Welcome Note: Photo Exhibition”

Garbage, as we all know is one of humanity's greatest physical legacy, and as part of our daily routine, we all routinely separate the unwanted from the wanted and get rid of what we consider trash. However, it is only recently that garbage has gained attention, owing to its alarming volume.

*“Rich people's garbage was every year more complex, rife with hybrid materials, impurities, impostors. Planks that looked like wood were shot through with plastic. How was he to classify a loofah? The owners of the recycling plants demanded waste that was all one thing, pure.” — Katherine Boo, Behind the Beautiful Forevers: Life, Death, and Hope in a Mumbai Undercity*

So, although waste is a global problem, it is a local phenomenon. Waste is a social construct, with varying meanings, actors, and ways in which the society engages and deals with it.

So, while the physical, tangible aspect of waste is visible, active and influences the political and the urban landscape, it is the intangible aspect of waste that is invisible and obscured. One of which is the value transformation of something that is discarded through retrieval, categorisation, aggregation, transportation, and trading; and the second the people that work in the informal space—marginalised, in the fringes and vulnerable?

How does this transform the urban landscape of the city? What are the shifts behind the transformation of practices related value in waste? As we made Nayandahalli our home for one year to explore the place as an ecosystem where waste is transformed to resource, we also tried making sense of the many questions that remain unanswered when we speak about urban informality, in reference to the informal waste economy. Does social hierarchy exist? Is the recycling industry affected by the changing patterns of urban development like the metro line? Do they have right of in-habitation? Why does recycling matter? What journey does it undertake? What are the people's stories?

Just add to the appreciation, we even made a trip to Dharavi, Mumbai to compare notes.

Our efforts culminated in Daastan-e-Nayandahalli, a photo exhibition that attempts to engage the general public with recyclers of Nayandahalli. It hopes to bring to fore issues of space, the need for recognition of recyclers and present the changing landscape of the area following recent constructions and erase the binary between waste and resource.



Exhibit 2: Photo title “People in Waste”



### Exhibit 3: Section from blog “Story of Nayandahalli is the Story of Urban Nomads: Notes from Nayandahalli Author: Kabir Arora”

None of us at Hasiru Dala knew how to write, leave aside writing descriptions of the city. We undertook the challenge. We are an association of waste workers, we want to tell the story of Bangalore, through the waste it generates and manages. We want to tell our stories in our own way. We chose Nayandahalli as our laboratory.

How do you describe a city? Is there are particular style to follow? Give some statistics, share some anecdotes and move on to sermons about what is wrong with the city, romanticise its elements and add some *masala* of ethnographic divisions. Not so sure! There are books written about cities, their past, present and future. There is no single recipe to formulate understanding of a complex creature or an ecosystem called ‘city’. [Notes from Nayandahalli](#) is our way of looking at Bangalore—the fifth metropolitan of India—through its waste and the eyes of waste workers.

A lot has been described about Nayandahalli in our previous posts. A lot more is to be shared.



Sorted Tetrapaks, ready to be sent to processing units

Nayandahalli is a settlement of urban nomads, whose existence and movement is dependent on land and petroleum prices. These urban nomads are sorters, godown owners and factory *wallas*. I will use the term ‘recyclers’ for them in this post, as it is all encompassing. They buy waste from all over the city from scrap dealers and waste pickers and bring it to Nayandahalli. They then sort it into various categories, transport it to factories in the vicinity, where it is processed. After processing, the waste which became raw material is forwarded to manufacturing units. They use it for producing finished products. To conclude, it is in Nayandahalli where waste becomes a resource, a raw material for the booming manufacturing sector.

#### **Why do I call recyclers urban nomads?**

Recyclers are constantly on the move. Their movement and existence is dependent on petroleum and land prices. Most recyclers are tenants. Very few of them own the land on which their factories or godowns are constructed or installed. The moment land prices go up,

their landlords give them a notice to leave. In the past many godown owners were based in Gangondanahalli and Shyamanna Garden, from there they moved to Nayandahalli. The land prices in Nayandahalli are shooting up fast, thanks to the metro rail extension to the area. The recyclers have already received the notices. They will soon be packing their bags, dismantling the structures they have installed and leave for another place. Their constant displacement makes them nomads. They are angry and want to get rid of this forced nomadic life.



# Teaching Note

The case can be taught through multiple modes, in different settings. The four strategies listed could also be taught as a whole using block method.

The basic premise of the teaching strategy is reimagining the informal waste economy and the acknowledgement of their existence, through spatial, political, social, cultural, and economic aspects. The idea is to rethink our understandings of the informal and informality. Questions must also revolve around informality and marginalisation in the waste sector; informality as a means of survival without social benefits (working in and with waste), planning for informality—spaces earmarked for them (from a policy perspective), appreciating economic contribution to the municipality (from a recycling perspective)

## The Informal Recycling Trail

The tour is meant to acknowledge and understand the informal recycling by seeing, observing, questioning and interpreting, the experience of visiting Nayandahalli—the plastic recycling area.

The structure of the guided tour is designed for students to understand:

- The informal recycling structure
- The processing of dry waste (Inorganic waste)
- The stories of people working in this space.

Following the session, students can share their impressions and observations; the tour also seeks to engage students in discussing informal livelihoods, development, and spaces often neglected or unknown.

### **Briefing Notes:**

*The flier and FAQs will need to be circulated to the participants in advance. On the day of the tour, following the welcome and introductions, the tour guide will brief the listeners with the history of Nayandahalli and the Informal Sector.*

### **The informal Sector**

*India is a part of the global trend where an increasing number of people live in urban areas. The number of towns and the absolute urban population in India has increased steadily over the last 60 years. Varying projections place urban population at about 590 million–600 million in 2030. and Bangalore mirrors this trend. According to the 2011 census data, “The population density in Bangalore has risen 47 per cent in the past decade as job opportunities and economic growth have lured people from across the nation to India’s Silicon Valley. The number of people*

living per square kilometer in the city has increased to 4,378 in 2011 from 2,985 in 2001".<sup>i</sup> It comes as no surprise then that with an increase in population, economic growth and changing consumption patterns, solid waste generation, a byproduct of increasing urbanisation is accelerating. Although the management of solid waste is the primary responsibility of the municipality, solid waste has three outlets: formal collection for disposal by the municipality, informal sector recovery for recycling, and waste that remains uncollected. (Beukering et al. 1996)<sup>ii</sup>

The informal economy forms a critical link in waste management and recycling and so in 2012 at Jain University, the Solid Waste Management Round Table (SWMRT), and Hasiru Dala attempted to study waste-pickers' demographic profile in Bangalore and their net contribution to the city. The study revealed that 15,000 waste-pickers retrieved about 1050 tons a day and saved the municipality about 84 crores annually with no subsidy or recognition of the work they do. So what happens after a waste-picker collects waste? They often sell it to scrap dealer, who further sells to a larger dealer. In this journey, we began our journey in Nayandahalli. Nayandahalli is known as the plastic recycling hub of Bangalore. Interviews with different stakeholders have revealed that about 20 years ago, Nayandahalli was at the margins of the city. Increasing urbanism, construction of the metro, and an increase in the demand for land, have led to Nayandahalli falling within the city limits. However, no literature exists on the communities that made it their home. Questions such as 'Why did recyclers choose to stay in the area?' remain unanswered.

The tour continues with meetings with different groups.

### **On Dry Waste Collection Centres**

Dry Waste Collection Centres (DWCCs) are an important part of decentralised waste management. The concept was modelled around the neighbourhood recycling centre and based on the principles of waste hierarchy, to put in practice the three Rs—reduce, recycle and reuse at the neighbourhood level. The DWCCs are to facilitate the collection/buy-back of all dry waste from local residents, contract workers, and waste workers or scrap dealers, integrate informal waste workers into the operations of these centers and encourage/implement Extended Producer Responsibility (EPR) of packaging materials that are not being recycled presently, thus serving as the cornerstone for the triple bottom line of operations—people, planet and profit.<sup>iii</sup> Bangalore became the first municipality to set up DWCCs in the country.<sup>iv</sup> A study by SWMRT in 2015 revealed that 32 DWCCs are saving the Municipality about 48 lakhs annually. If the DWCCs were to operate at 100 per cent capacity the annual savings of ₹1.18 crores will help to recover the cost of investment by the Bruhat Bengaluru Mahanagara Palike (BBMP) in about 4 years.<sup>v</sup>

Note: Bruhat Bengaluru Mahanagara Palike, the municipal authority of Bangalore city.

## Photo Exhibition

The old adage 'A picture is worth a thousand words', aptly summarises this teaching strategy as the exhibition can be used in three different ways:

Description	Classification	Interpretation <sup>vi</sup>
What is the photograph all about? Describe what you see? Eg., Black and white photo, setting, people, place, objects, settings, landscape	Have you seen a similar photo earlier? Or have you seen something similar in a real life setting. Let participants compare and contrast similar experiences  Note: The similarities and differences must be related to and within the scope of the curriculum	What stories do the photos tell?

The instructor can use all three ways together or just the latter two, if the instructor chooses to display pictures with the description by the photographer. Here again the instructor can choose to either print the photographs or use a projected display.

Provide participants with blank sheets and ask them to list out all possible observations using the three methods. The interpretation method must be used to write a short story based on their reading of the photo.

At the beginning of the class, the key is in observation. Give them time to speak, speculate, and articulate observations, without interrupting. Record it on the board for all to see. The idea is to allow participants enough time for analysis, and to structure and communicate text.

Then reveal to the students what is known about the photograph. Complete the sequence in the exhibition. Following that, the instructors can lead discussions on narratives of space, livelihoods, and the waste economy from different dimensions—geographical, ideological, technological, rational, and emotional. This goes beyond just an illustrative approach and uses a more exploratory approach about the people, place, caste affiliations, occupation, and perspectives.

At the end after seeing all the photographs in the exhibition the participants must:

- Point out specific attributes of the exhibition
- Communicate the problems of the informal waste economy
- Define city spaces for the informal waste worker
- Give new perspectives on appreciating people working in waste and waste as a resource



Notes to the Instructor: Allow for multiple interpretations, however background reading materials listed in the archive will help steer the discussions

## Radio Episodes

The first five radio episodes is to set the tone to understand the informal waste economy that operates in Bangalore. From first person account, to interviews the episodes throw light on the different angles of the informal waste economy. The instructor can choose to play the entire story, or plays parts of it, followed by discussions.

The discussions will centre around the following:

- Spaces: places available for the informal sector for recycling (Settling in the margins, to relocation and policy on earmarking informal spaces)
- Recognition of the informal waste workers: the marginalisation, attitudes around waste and our predisposition towards people working in and with waste, vis-a-vis private waste to energy players, economic contribution

Note to the Instructor: Episode 2 provides the historical context on waste and waste-workers in Bangalore and instructor may choose to play parts of it accompanied by the transcription, which can be read for further discussion.

Radio Episode 1: Zarina	<p><a href="https://soundcloud.com/radioactivecr90-4mhz/daastan-e-nayandahalli-episode-1-zarinamp3">https://soundcloud.com/radioactivecr90-4mhz/daastan-e-nayandahalli-episode-1-zarinamp3</a></p> <p><i>25 years ago, Nayandahalli, was a jungle. There was no electricity, water, or roads. On a vacant plot, the landlord gave us permission, and we put up a hut, as my husband found a job as a watchman. Originally from Mulbagal, Kolar, after marriage I moved to Mandya. Following a family dispute, my husband and I moved to Bangalore. Living here, my thoughts were always on my children's future, so I worked as an incense stick maker, but the money was hardly anything. And then tragedy struck... somebody told us, "Give me your child and I will educate her", but my heart was not at it. I went back to Mandya. My husband and one of our children came back to Bangalore and our kid got lost. Though we found her, I began questioning myself, for how long should I be dependent, and why should I give my child away to someone else. That was when I decided that I had to look for work and I joined the godown and started my career as a waste-sorter. If I worked, I would get money, if I did not I would not get any. In my work, from glass pieces, to needles everything pricks. I often get hurt. There is no social security, if we fall sick. As long as you're healthy, you have work. Worked there for 20 years, and then we decided that we need to move up the ladder and start a godown. But now we have been asked to move out, a</i></p>
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	<i>notice has been issued by the government. And that is the story of my life..."- Zarina</i>
Radio Episode 2: Anslem Rosario	<a href="https://soundcloud.com/radioactivecr90-4mhz/daastan-e-nayandahalli-episode-2-in-conversation-with-anslem-rosario">https://soundcloud.com/radioactivecr90-4mhz/daastan-e-nayandahalli-episode-2-in-conversation-with-anslem-rosario</a>
Radio Episode 3: Shashikala	<p><a href="https://soundcloud.com/radioactivecr90-4mhz/dastan-e-nayandahalli-episode-3-shashikalamp3">https://soundcloud.com/radioactivecr90-4mhz/dastan-e-nayandahalli-episode-3-shashikalamp3</a></p> <p><i>"When I first came here, Nayandahalli was a forest, there were no bus facilities. I came to Bengaluru from Chennai in 1993 after my marriage and lived with my in laws on Magadi Road. My husband and I later moved out. My husband used to collect and sort gunny bags, which he later sold to shops. The work was very scarce, and on a friend's suggestion we moved to Nayandahalli. We found a small house for ourselves which was barely enough for us and our three children, but somehow we managed to scrape by. I have one daughter and two sons. After coming here, my husband decided to move into the plastic collection business</i></p> <p><i>Initially my husband collected plastic material and sorted it at home, before selling it to the scrap dealer and later we rented a small godown, with the help of his friend. In those days for 1kg plastic we got about 25 paise. For some material we got between 10 paise to 1 rupee.</i></p> <p><i>The people living nearby objected to setting up the godown, but we struggled hard and set up the shop. He goes around to all the small shops and factories, collects all the plastic waste, brings it back, breaks it down into smaller pieces, and then sorts it into different bags. These bags go to other factories which use these recycled plastic to create their products. I also try to help my husband whenever I can by breaking the plastic and sorting it out. We did not have many factories for processing these plastics then. The godown was our source of livelihood, it helped us educate our children, and in addition we could babysit our children while working. The godown business is seasonal, for six months there is steady income, for the next six months we just have stock and wait for the right prices.</i></p> <p><i>Back then, there was hardly anything in Nayandahalli. We had to walk a long distance to buy supplies for the house, and since the area was not that safe, I took my children to school, dropped them off and later picked them up in the evenings. There were hardly any buses, and the bus stop itself was a long walk. If and when the buses came, it was infrequent and full. If we fall sick or need a hospital for a delivery, we could only afford the Government hospital. For poor people like us, who have no money to afford better healthcare, this was our only hope and we had to make do with it.</i></p>

	<p><i>Now, there are buses running and groceries are easier to obtain. But again, our lives are at a turning point.</i></p> <p><i>The residential area has enveloped our godown and neighbours are creating problem. The Government's new rule on relocating godowns has hit poor people like us very badly. We, who have no other means of livelihood and know no other job, have no idea what the future holds for us. We might have start all over again..."</i></p>
Radio Episode 4: Nazeya, a waste sorter	<p><a href="https://soundcloud.com/radioactivecr90-4mhz/dastan-e-nayanahaali-episode-4-story-of-nazeya-waste-sorter-rj-ushamp3">https://soundcloud.com/radioactivecr90-4mhz/dastan-e-nayanahaali-episode-4-story-of-nazeya-waste-sorter-rj-ushamp3</a></p> <p><i>My mother left me in Bangalore under the care of my Uncle. He worked in a Government office. Later he asked me to inform my family to move to Bangalore as the facilities for work are much better here. He managed to get us a hut, to stay. My family shifted here but we didn't have any money to buy food so we decided to work to keep our stomachs full. I was 7 or 8 years old then and I was the eldest amongst my siblings. We picked vegetables from river side and sold it for ₹7 or 8 and with that I purchased dal and rice.</i></p> <p><i>I started work as an incense stick maker. I took 2 kilos of flour by rolling 4000 battis or incense sticks. I was paid ₹20 per day and I used that money solely for my family.</i></p> <p><i>One day a man approached me, and told me that instead of working so hard, for nothing, to join his plastic factory. Initially I was skeptical as I did not know sorting and the types of materials. He challenged me and said I could do it. And thinking of my family, I decided to take it up... I was quick at work, and the money was decent. Things improved.</i></p> <p><i>Soon after, my mother contracted TB and she fell very sick. We had to admit her in the hospital for 3 months. My father was not working at that time was. So, I went to the owner and agreed to do the work of three people. He agreed to pay for my mother's treatment. I earned ₹600/- and my siblings too dropped out of school. They began helping in the plastic factory and that way we supported the family.</i></p> <p><i>Two to three times, our hut was burned down by the government officials, because we were living there illegally as it was on government land. When we first came here, the hut we lived in was built of mud and leaves so it was burnt easily. Water was scarce and we had to walk two miles for it. There was no electricity and the toilet was common and out in the open. We had to go find logs to build a fire and make our food and I was just 8 years old</i></p>

	<p><i>when I had to work so much. The water we used for drinking was also toxic. Dead people were thrown there. A lot of people were killed too. Earlier, people were scared of coming to Nayandahalli because of the reputation.</i></p> <p><i>I was married when my mother fell sick, as that was her wish. My husband was not very nice and was a drunkard. He made me abort four of my children and looked at women in a very wrong way. I had no say in all of this. I have 2 children, who are 12 and 8 years old, and I want them to succeed in life. I am happy now. I have admitted them into an English medium school for that very reason. My brother and sister are married and they are leading good lives. Now, my only wish is to see my children get out of this squalor we are living in, and lead a respectable life. But people speak to me with respect, seeing the amount I worked for my age”</i></p>
Radio Episode 5: Shailender Kumar, small factory owner	<p><a href="https://soundcloud.com/radioactivecr90-4mhz/datan-e-nayandahalli-story-of-shilendra-kumara-episode5mp3">https://soundcloud.com/radioactivecr90-4mhz/datan-e-nayandahalli-story-of-shilendra-kumara-episode5mp3</a></p> <p><i>I am from Bihar, and I came to Bangalore in 1990 with my brother, when I was 5 years old. Today I am 26 years old. I completed by Bachelor’s in Commerce, from Bangalore University. I am married with one child. Earlier I worked at a Ration Shop</i></p> <p><i>I started the godown/factory about four years ago. My initial investment was about Five Lakhs and I gave one lakh advance.</i></p> <p><i>The size of my godown/factory is about 30/40. I collect Grade A quality plastics from different factories, bring it my godown and segregate it, and then put it in machine to make yarn and sell it back to the factories that makes plastic chairs, water drums, water pipes, carry bags, hand cover, suitcase, nursery covers, Syntax drums and other items. I go about six to seven times for collection. And collect about eight to nine tons of plastic. There are two types of yarn that we make 1st quality and 2nd quality. We then filter it and use it to make plastic. Per month, we segregate between six and seven tons of plastic. Per day it will amount to 300–350 kgs of plastic for re-processing. I run the machine weekly two or three times, depending on the load.</i></p> <p><i>After I send the yarn to the factory, they test it for quality, before paying me. On an average month, I do about 10 loads of yarn to different factories located in Tamil Nadu and Andhra Pradesh and I decide my selling price for the yarn. However the market is not stable and rates fluctuate severely. I have about eight people working with me. For men, I pay ₹300 per day and for the women I pay about ₹220 per day. I also provide lunch, coffee/tea and bonus once a year. I also give them advance as and when they ask.</i></p>

## Blogs

The Blogs, are the authors' own interpretations, summaries, analysis, musings or reflections, and so the blogs as such, can be used in multiple ways for students to think through the concept, reflect upon, react, comment, analyse, compare, critique, etc.

However, it is recommended that the students are given a briefing or reading of background materials before using this tool (Archives 3,4 and 7)

The six blog posts can be read one after the other in the sequence listed and discussed in groups under different themes.

- Spaces, places available for the informal sector for recycling (Settling in the margins, to relocation and policy on earmarking informal spaces)
- Recognition of the informal waste workers: the marginalisation, attitudes around waste and our predisposition towards people working in and with waste, vis-a- vis private waste to energy players, economic contribution

The trainer can choose to include more topics for discussion, and the students can bring out different themes for discussions, based on the readings.

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<sup>i</sup> Kenur, Bhargavi (April 7, 2011). "Karnataka population growth slows, Bangalore gets more crowded". (*Livemint.com/The Wall Street Journal*) Retrieved on November 13, 2013

<sup>ii</sup> Gill, Kaveri (2010) . "Of Poverty and Plastic: Scavenging and Scrap Trading Entrepreneurs in India's Urban Informal Economy. *Oxford University Press*

<sup>iii</sup> Chandran, P & Narayanan, S (2015) "A Working Observation on Dry Waste Collection Centers in Bangalore: *proceedings of the 5th IconSWM 2015*," International Conference of Solid Waste Management 25th -27th November 2015, Bangalore, ed. Ghosh, India, pp 104-112

<sup>iv</sup> "DWCC Concept Note", (2010), SWMRT Submission to Lok Adalat, Bangalore

<sup>v</sup> Quantitative Analysis of BBMP Submission on Costs on Solid Waste management, June 2014 by SWMRT . Ref WP24739/2012, Kavitha Shankar Vs. State of Karnataka & ORS

<sup>vi</sup> Idea Borrowed from Mathers Museum of World Cultures □Teaching with Objects and Photographs (2012) retrieved from <http://www.indiana.edu/~mathers/Tops.pdf> Accessed on 15<sup>th</sup> November 2015



# Accessing the Full Case

The full content of this case is open-access and downloadable at [www.cases.iihs.co.in](http://www.cases.iihs.co.in).

The full content of this case includes the following documents:

## **Folder A: Introduction to the Case**

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Reframing Urban Inclusion

IIHS Case Method

Preface Note

Teaching Note

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Radio Episodes

Radio Episode 1: Zarina

Radio Episode 2: Anslem Rosario

Radio Episode 3: Shashikala

Radio Episode 4: Nazeya, a waste sorter

Radio Episode 5: Shailender Kumar, small factory owner

Blogs

Exploring Nayandahalli as an Ecosystem Where Waste is Transformed to Resource

Thoughts on the Process of Waste Work: Value and Precarity in Nayandahalli's Recycling Economy

In the Fringes of Urban Economy

Story of Nayandahalli is the Story of Urban Nomads

Nayandahalli Godowns send 10.94% of Bangalore's Dry Waste

Reading Through the History of Waste Management and Inclusion of Wastepickers in Bengaluru

## Photo Exhibition

- Opening Note on the Exhibition

- Note on the Exhibition

- Photo Exhibition- Sequence and Poems

## Recycling Tour

- Nayanda Halli Sketch

- Informal Recycling Tour

- The Informal recycling Trail

## **Folder C: Case Archives**

- Reports

- Podcasts

- Photographs

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## About the Authors

**Kabir Arora:** Kabir coordinates Alliance of Indian Wastepickers—an informal network of organizations, cooperatives, and companies—working on waste management with the help of waste pickers and is currently based in Bengaluru. Before this Kabir was a learner in the Program for Working Professions in Urban Development at the Indian Institute for Human Settlements, Bangalore. He firmly believes that informal economy work-force has entrepreneurial zeal and if supported a little, they can make significant contribution towards economic growth. In addition to his interest in informal economy, Kabir follows the discourse on sustainability quite thoroughly and is a Board Member of Indian Youth Climate Network (IYCN) - torchbearer of nascent climate movement in South Asia.

**Pinky Chandran:** Pinky has over 15 years of experience across international education, community media and environmental activism. Currently she heads Radio Active 90.4MHz—Bangalore's first community radio station. Pinky is also an active campaigner for decentralised community based waste management. In past, she has worked on several policy-related documents and reports and has co-authored a paper on "A Working Observation on SWM Policy- Karnataka State and ULB Bangalore", and co-conducted a study for the Revenue Department, Government of India on "Temple Waste Management in Bangalore Case Study of 10 temples in Bangalore ". She has been instrumental in co-promoting the concept of Dry Waste Collection centers in Bangalore, and has spent over two years with her colleagues documenting the operations of the pilot center in HSR Layout. The 2011 Recyclathon Awards was her brainchild. She has also co-authored the study on "Informal Waste Workers Contribution in Bangalore" and developed the Waste-pickers Training Manual. She is also a Trustee of the Hasiru Dala Trust and Co-founder of two other initiatives Ondede and Stray Pals.

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