

# Labour, Waste and the Circular Economy in Bangkok

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## Key Messages

- Waste management is a pressing environmental policy concern for Thailand, as it is one of the five countries responsible for the majority of plastic leakages into the world's oceans.
  - Waste pickers in Bangkok make significant contributions to the reduction of plastic waste leakages and therefore play a key role in advancing a 'circular economy' at the urban level. However, most of them are living below minimum wage conditions and face other threats to their livelihoods.
  - Even within this precarious labour group, some workers may be more vulnerable than others – such as street waste pickers (as opposed to salengs who buy waste from customers); waste pickers who work and live near dumpsites; women with limited access to public spaces and with lower asset ownership; the elderly; and migrant workers.
  - The transition to a circular economy will be equitable and sustainable only with a detailed understanding of the working conditions of waste workers, who perform the arduous labour of dealing with discards, and the identification of pathways for them to secure 'decent work' within the realm of green transitions.
  - There is a compelling need for improved awareness and stringent legislation to implement waste segregation at the source. Such moves would help secure 'decent jobs' and advance a circular economy in Thailand.
  - Further research could explore policy and market solutions that can improve the livelihoods of waste workers and environmental outcomes. These measures could include improving access to information for workers in the lowest level of the waste supply chain and shifting the market dynamics to incentivize collection of low-value plastics in recycling economies.
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## Introduction

Without the informal economy, there would be no waste recycling in most Asian cities. In many Asian countries, waste management systems are underdeveloped, with the informal economy dominating the processes of waste collection, sorting and recycling. In this short report, we present preliminary findings from our survey of 34 waste pickers in Bangkok. The report sheds light on their working conditions, health risks, gendered dimensions and the challenges they face in waste recycling, from a labor perspective. We also outline some solutions to the policy and societal barriers that waste pickers face in their working conditions. We emphasize the need for greater recognition and support for waste pickers in order to advance the circular economy in Thailand.

## The informal waste economy in Bangkok

Waste management is a pressing environmental policy concern for Thailand, as it is one of the five countries responsible for the majority of plastic leakages into the world's oceans (Ocean Conservancy, 2017). Waste collection and segregation are crucial elements of proper waste management, as they ensure a steady flow of waste for recycling and reuse. However, only 10,130 tonnes were collected out of the 11,534 tonnes of solid waste generated per day in Bangkok in 2016 (Johnson and Trang, 2019) and only 8% of the population is reported to segregate their waste (Jungrungrueng, 2014). In such a scenario, it is found that the informal waste economy plays a significant role in waste management, and subsidizes municipal waste collection at an estimated cost of 500 million THB or \$15.8 million USD per year (Johnson and Trang, 2019).

Informal waste collectors sort valuable plastic wastes from houses, streets and other public spaces, and landfills and sell them to small and medium-sized waste dealers or junk shops. Junk shops then aggregate and sell the plastics sorted by grade and type to recycling companies. Informal workers may also be employed at recycling plants, landfills or transfer stations that sort highly valued wastes, such as plastic bottles and plastic food containers from municipal waste streams. As such, they have strong links to the 'formal' economy. However, in this report we are primarily concerned with those who work outside of the municipal waste management system as they play a key role in

waste collection and segregation in Bangkok, like in many cities of the Global South (Kaza et al., 2018). Yet, as they belong to some of the most vulnerable and poor segments of the population, they often operate under precarious work conditions and receive little policy support. We argue that the transition to a circular economy will be equitable and sustainable only with a detailed understanding of the working conditions of waste workers and the identification of pathways for them to secure 'decent work' within the realm of green transitions.

## Methodology

We interviewed 34 waste pickers through purposive sampling in the districts of Bang Kapi and Khlong Toei. These two districts were selected because they generate high levels of city waste. Ethical approval was obtained from the ethics review committee of Thammasat University. The data was collected over a period of three months from mid-August to mid-November 2020. Two field enumerators collected data for the surveys in Thai using ODK Collect platforms on Android tablets. The waste pickers were chosen based on the criteria that they had lived in Bangkok for at least a year and were over the age of 18. The waste pickers were provided with face masks and hand sanitizers to compensate for their participation in our research.

Initially, the survey developed and launched by the Stockholm Environment Institute team did not include questions on contributing family workers and low-value plastics, which were the focus areas of TIN. Therefore, for three added questions in our survey, we did not have the responses of seven waste pickers, and we subsequently report the summary findings for 27 waste pickers. The results presented in this report regarding quantities of waste collected, working hours or incomes are only rough estimates as many waste pickers expressed difficulties in recalling accurate information. We adopted a labour perspective to identify the barriers to and enablers of securing decent work for waste workers. Some of the open-ended questions were also analyzed after coding and categorizing, as reported below.

## Results

### General information on respondents

Out of the 34 waste pickers surveyed, 22 were from Khlong Toey District and 12 from Bang Kapi District in Bangkok. Twenty-three of the waste pickers surveyed are male and 11 are female. By the term waste pickers, we refer to salengs who are itinerant waste buyers (n=5), or street waste pickers (n=17), or both (n=12).

The median age of respondents was 58. Most of the respondents had only studied up to primary school education (67.6%) or had never received any schooling (14.7%). None of the respondents are registered as waste workers with the government, thereby indicating the informal nature of their occupation. They are also unorganized, with only 1 out of 32 waste pickers indicating their membership of a co-operative. Half of the waste pickers surveyed have worked in this occupation for less than 15 years. While most of them started this work on their own, some took their roles up due to the recommendation of friends, family or acquaintances, or as a way of continuing their family tradition.

Only five of the waste pickers surveyed were from Bangkok province, with the rest migrating from provinces such as Sakhon Nakhon, Nakhon Ratchasima, Udon Thani and Surin. More than half of the respondents (59%) have lived in their districts for less than 20 years, with the waste pickers in Khlong Toei District being relatively more settled (for an average of 29 years) than those in Bang Kapi (17 years on average). However, half the respondents have lived in Bangkok for more than 25 years.

Thirty of the respondents engaged in waste picking and sorting as their primary occupation, and for the rest it was only a supplementary source of income. Few of the workers who engaged in waste picking as a primary occupation also engaged in other part-time work such as cleaning, farming or delivery service (n=4).

### The working conditions of Bangkok's waste collectors

On average, respondents who engaged in waste picking as their main occupation earn 8,092 THB per month. This implies a daily income of 269.7 THB, which is lower than the minimum daily wage in Bangkok of 331 THB (Ministry of Labour, 2020). Twenty-eight out of 34 respondents work a seven-day week. Most of them work in the daytime. A respondent mentioned that “at night, it is hard to find things and the police will also be checking us.” The median number of working hours per day is eight. Most waste pickers start early in the morning and work with breaks until the evening. Some of them also break down their working day into a few trips. Other waste pickers only work based on the demand and at the request of their regular customers. Those doing waste picking as a supplementary job work for about 0.5 to 2 hours a day.

Waste pickers collect garbage from public trash bins (n=14); condominiums, houses and communities (n=14); shophouses and grocery stores (n=7); individual customers (n=6); the roadside (n=5) and other public spaces (n=4). Once collected, they sort the waste based not only on its type (i.e., separate paper boxes, bottles and types of plastics), but also grade (i.e., transparent and opaque plastics). They may have to clean or cut or shred plastics to add more value, but this is not done by many (62% of respondents do not clean and 41% do not cut or shred). The most common modes of transport used for work were the tricycle (n=13), by foot (n=10), pickup truck (n=3) and motor car (n=3).

Figure 1. Issues for waste pickers when collecting and sorting waste



The main issues experienced while collecting and sorting waste are the lack of temporary spaces or covered areas for storing wastes. But some respondents also indicated the health risks and high levels of competition due to the increasing number of waste pickers (see figure 1). Other responses included working in unfavorable weather conditions, such as too much sun or rain, and the cost of waste as their primary issue. When asked where waste pickers store their waste, half of them indicated the need to sell their waste every day owing to the lack of storage (n=17). Others store it inside or in front of their houses (n=8), at friends' houses (n=2), in rented properties (n=2), or in public spaces (n=3). Another reason to sell waste on a daily basis is the need for continuous capital to buy waste from customers. Other costs incurred include the purchase of gas for vehicles or equipment, such as gunny bags, cutters and tapes.

### Sale of recyclables and relationships with junk shops

Most of the waste pickers (28 out of 33) specify that they sell their recyclables to the same shop every time. The factors determining the choice of junk shops include price offered (n=22), convenience (n=13) and the location of the waste dealer's shop being closer to their house (n=8). The junk shop selected for the sale of recyclables depends on the type of waste being sold by waste pickers.

A few waste pickers (n=4) mentioned that they use the carts provided by the junk shop for collection of waste and that they consequently have no choice but to sell their waste to this particular dealer. A waste picker interviewed mentions: "I use a three-wheeled motorcycle lent by the owner of the waste dealer shop in XX [name of shop], and I have to sell my wastes to this shop only. If I sell them to another shop, the motorcycle will be taken back." Junk shops also sometimes provide loans to waste pickers, in addition to equipment. These dynamics point to long-term and personalized exchanges in the informal waste economy where "mutuality of benefits may go hand in hand, however uncomfortably, with greater or lesser degrees of oppression and exploitation" (Gill 2007, p.1469).

Almost all the respondents (n=29) receive information on the price of recyclables from the junk shops. The shops either display prices or inform the waste dealers about prices when enquired. Some of them also state having no knowledge of prices or learning about prices only after looking at sale receipts.

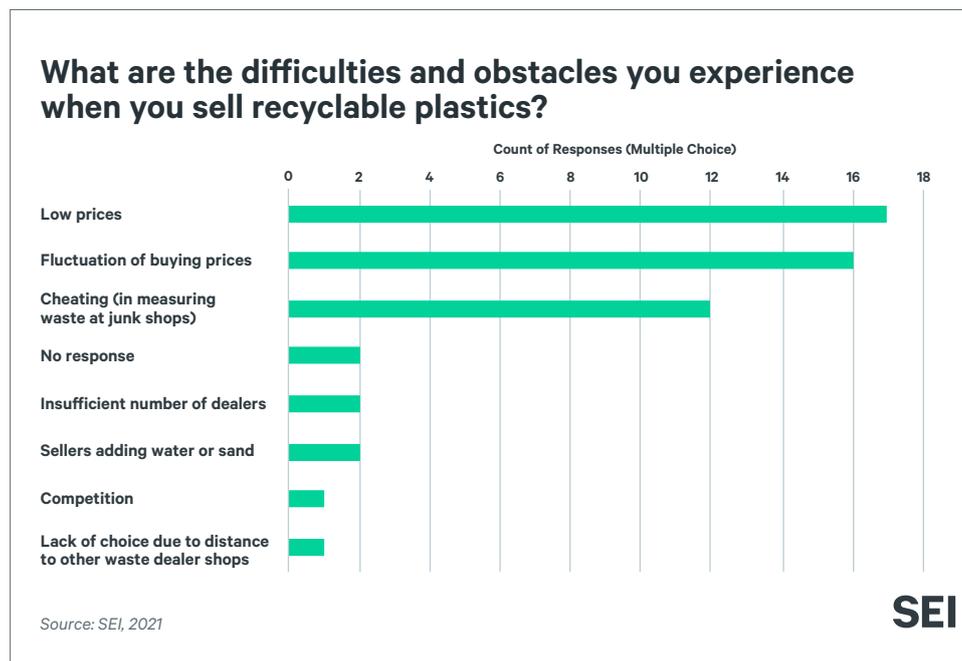
Nearly half of the respondents (n=15) were unaware of how the different types of recyclable wastes can be used in a beneficial way. Few of them point out how they "only know which is sellable and which is not." Some (n=13) indicate that they only have partial knowledge of how waste is recycled. Waste pickers often gain knowledge about waste separation from the waste dealers themselves, as they indicate what kind of wastes will or will not fetch them higher prices (n=17), or they hear information from friends or other waste pickers (n=14) which they must memorize. Some waste pickers (n=6) cite experience as a way to increase their knowledge of waste separation. One respondent spelled out how the information given by waste dealers is crucial, as some shops do not require waste to be separated for a higher price and therefore the waste pickers do not have to sort all types of waste.

### Contributions to plastic recycling

Most respondents sell the plastics that they collect on a daily basis (n=24) or on six days of the week except on Sunday when the junk shop is closed (n=4). According to respondents, the factors that determine the types of plastics being collected include their availability (n=24), market prices (n=25) and how easy they are to sell (n=16). A survey respondent indicated that "If the price is not good, I will not collect the wastes because it will not be worth it." On average, the respondents collect 190 kgs of plastic per week, earning nearly 1370 THB a week from the sale of plastics. However, it is worth flagging that many of the respondents were unable to give precise numbers regarding their weekly collection of plastic, so this average is a rough estimate.

The price offered for plastics, the location of waste dealer shops and the relationships between the junk shops and the waste pickers help waste pickers to decide where to sell the plastics. Some of the difficulties in selling recyclable plastics include low prices and fluctuation in prices for plastics (see figure 2). Other issues include the sellers contaminating plastics with sand or water (to increase their weight) and the lack of transparent methods used in junk shops to measure the weight of waste.

Figure 2. Issues for waste pickers when selling plastics



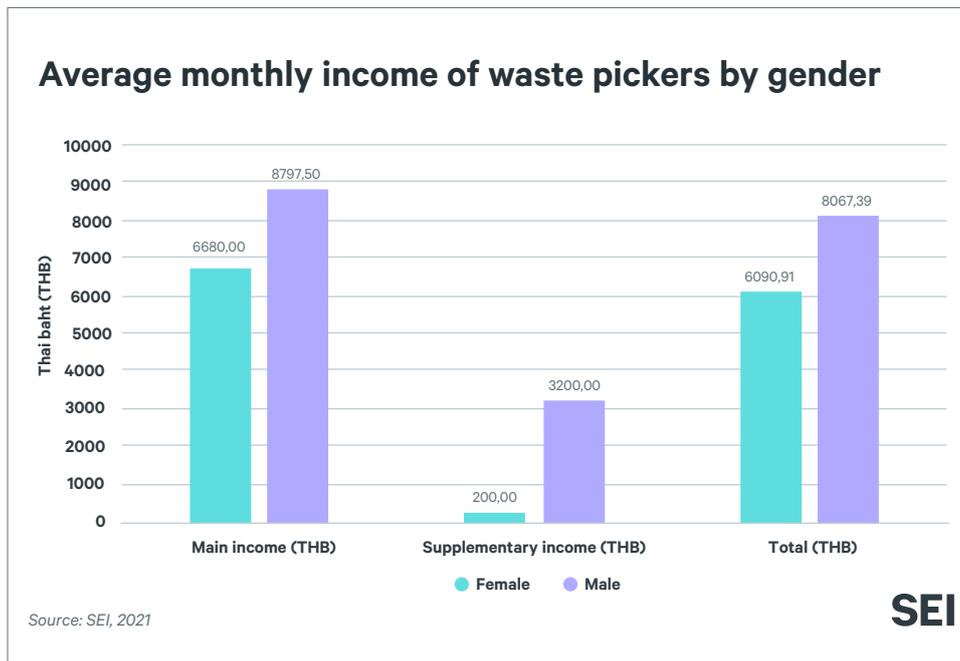
When asked about the low-value plastics collected, respondents said that all plastics are now valued at a low rate, pointing to the drop in prices for clear plastic bottles (from 10 THB per kg to 4 THB per kg). However, most of them remarked how they still collect whichever plastic is sellable in order to make a living. Regarding the issues faced in collecting low-value plastics, such as plastic bags or straws, a few waste pickers mentioned that they prefer high-value plastics that can be sorted easily, offer a higher price and can be sold right away. A waste picker reported that, when collecting low-value plastics, “it is light, so I have to collect a lot to have many kilograms of waste.” Therefore, markets and governments will have to create incentives for collecting, recycling and reusing lower value plastics to prevent leakage.

### Gender dynamics of waste economies

Based on our analysis of 11 female and 23 male respondents, we note that the average income is lower for women than men in groups engaged in waste picking as both their main and supplementary occupation (see figure 3). These differences may be due to a number of gendered constraints. For instance, it was more common for women in our sample to walk on foot or use a pickup truck to collect and sell waste, rather than use a tricycle like the majority of male waste pickers. Moreover, 81.8% of female respondents worked “during the daylight”, as opposed to 56.5% of the male respondents. Men could work outside of the daylight hours, such as early mornings or night hours.

Women also contribute to the waste economy as family workers. Some of our male respondents mentioned that they work with their wife every day, or with the support of other family members such as their sister or aunt (n=5).

Figure 3. Monthly income of waste pickers disaggregated by gender



Some of the female waste pickers indicated working with their children, who sometimes help them with sorting wastes. Women's choice of junk shops may be linked to caring responsibilities. One female waste picker mentioned that "convenience is my priority as we have many children – five children." These results offer some insights into how gender norms and discrimination can further disempower female waste pickers, which is in line with the evidence from other studies on the Global South (Dias and Fernandez, 2013; Ogando et al., 2017).

### Health risks and protection

Waste pickers mentioned how the precarious nature of their work and working under unfavorable working conditions in outdoor spaces (for example, when there is too much sun) has resulted in undesirable health conditions. Back sores, knee and back pains, kidney issues due to chemical wastes and throwing up blood while coughing are some of the common health risks reported by waste pickers. Even those that currently do not experience any symptoms described their anxiety regarding their health and safety and expressed a desire to leave the job if their health becomes affected. They described concerns of contracting Covid-19 and their exposure to sun, rain and air pollution. They also explained how they must keep working to survive despite pre-existing health issues, such as disability, ageing, blood pressure and diabetes.

Unfortunately, half of the respondents do not use any protective equipment when working. The reasons for this cited by respondents include a perception that protection is not necessary for the kind of wastes they pick up (like bottles), that they are not comfortable wearing masks or gloves, or that they are used to doing this kind of work. The rest of the respondents may use masks (n=13), gloves (n=6) and hats (n=3) as and when required.

### The impacts of the Covid-19 pandemic on waste workers

Most respondents (n=25) did not find that their work patterns, working hours (n=23) or waste composition (n=19) changed due to Covid-19. Only a couple of waste pickers stopped working for the first two months of Covid-19's spread in Thailand. The curfew hindered them from working nights and early mornings, but a few of them worked until they had a sufficient amount of waste to sell. One notable impact of the pandemic on waste pickers is that it has forced them to take greater safety precautions. Eleven of respondents pointed to having worn gloves or masks due to fear of contracting the flu and said that they followed hand sanitizing and hand washing practices more religiously than before.

A large number of respondents indicated that the amount of plastics available has decreased due to the pandemic. However, some respondents add that the waste produced has not decreased, but that it has become harder to find waste due to an increase in their competition over this period. "I'm not sure whether the waste decreased or the number of waste collectors increased because a number of people were laid off," said a waste picker. As a result, most of them point to decreased earnings in this period. One interviewee stated that "Before the outbreak of Covid-19, I could sometimes make more than 1000 THB. The income is not stable. But after Covid-19, I don't feel the money situation will be good. Some days, it is really difficult to earn 200-300 THB. Now the situation is improving."

### Social acceptance

In the survey responses, waste pickers described instances of harassment and discrimination: they mentioned occasions when the police warned them for blocking the traffic (n=5) and for over-loading their truck (n=1) and issued fines for offences (n=2). House-owners or the public often hurry waste pickers on after they have sold their waste. They also accuse waste pickers of dirtying their shops or public spaces by rummaging through garbage (n=3). Security guards often do not allow waste pickers inside condominiums or communities (n=2). Some waste pickers get suspected of theft in the community if items go missing (n=2).

When asked about their response to these issues, some waste pickers reported accepting the blame (n=7), as they feel that they lack the social or financial status to respond convincingly to accusers. Some waste pickers commented that they work independently without the support of anyone. They can usually enter condominiums by mentioning the house numbers of the customers to security guards (n=2). When chased away, waste pickers respond by telling the people or the police that they are moving away soon from the public space (such as from the streets or near public bins), after sorting their wastes (n=4). Some of them must pay a bribe or tell the police that they don't have any money (n=3). Other coping strategies used by waste pickers include giving the customers their privacy, avoiding collecting from mansions and collecting waste from public areas only.

Regardless of these instances of harassment, a lot of waste pickers mentioned that they are "really proud of their profession" (n=22), as they see how their work and contributions make the city cleaner. Others also say they value their job for its independence and the contributions it makes to their family income. They feel more accepted in society than in the past as people are now more aware of the benefits of waste recycling, although prejudices still exist.

## Recommendations

We asked the waste pickers for their suggestions on how to improve waste recycling in the city. Many of them express their frustrations regarding the lack of waste sorting behavior amongst households (n=17). Sellers often contaminate bottles and valuable plastic items, thereby making their job difficult and unpleasant. They also point to the lack of distinct dustbins for waste segregation in public places to enable the public to separate wastes. As our respondents report:

*“If they sort the wastes for me, it would be good because I can sell them right away and collect more wastes. If I wander [to collect and buy wastes from other people], I have to sort them by myself, which wastes my time.”*

*“It is hard to ask people to sort the wastes. It’s up to them. I haven’t seen anyone sort them. Even big companies mix the wastes.”*

However, one respondent worries that source separation could end up harming waste pickers in the long run: “In fact, if people sorted wastes, they would sell the wastes [themselves]. Then we would be jobless.”

With regards to their suggestions for the recycling market, waste pickers demanded a better regulation of the price of plastics (n=13). As the prices of other goods increase, waste pickers demanded an increase in the price of plastics to sustain their living. A few of them pointed to how the import of waste from other countries has impacted the price of the plastics they collect and sell in Thailand. Most of them, however, didn’t have any suggestions (n=11).

Waste pickers do not indicate receiving any support from the government (n=22). Sometimes, the community helps them by providing waste for free. They report requesting help from the government in terms of monetary compensation (n=4) or price regulation (n=9). Some of them also require government support for housing, help paying utilities, a space for storing waste or training for waste pickers so that they understand how value can be added to waste. A waste picker indicated: “I would like them to help us the way they help farmers because we also contribute to the society.”

## Conclusion

Waste pickers in Bangkok make significant contributions to the reduction of plastic waste leakages and, therefore, play a key role in advancing a 'circular economy' at the urban level. However, most of them are living below minimum wage conditions and face other threats to their livelihoods, such as a lack of access to market information, occupational health hazards, societal discrimination and harassment, and a lack of organization and social security protections. Even within this group, some workers may be more vulnerable than others – such as street waste pickers (as opposed to salengs who buy waste from customers); waste pickers who work and live near landfills or dumpsites; women with physical safety concerns when they access public spaces and with lower asset ownership; the elderly; children; and migrant workers.

Through our work engaging with the working conditions of waste pickers, we find a compelling need for improved awareness and stringent legislation to implement waste segregation at the source. We argue that such a move would help secure 'decent jobs' and advance a circular economy. Greater awareness of the use of protective equipment and increased knowledge of the value added to different types of waste after collection are also identified as vital needs by waste pickers.

In terms of market solutions, further research could explore ways to improve access to information for workers in the lowest level of the waste supply chain and shift the market dynamics to incentivize collection of low-value plastics. Our preliminary analysis finds little organization and safety nets for waste workers. As such, more efforts should be dedicated to exploring the political and socio-economic conditions necessary for upward occupational mobility pathways for waste pickers and securing social security and labour protections for them.

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<sup>i</sup> For a detailed explanation and diagram of the flow of waste in Bangkok, see Johnson, O. and Trang, N. (2019). *Closing the Loop: Sai Mai District Bangkok Case Study*. United Nations Economic and Social Commission for Asia and the Pacific.

<sup>ii</sup> For the following three questions, we have the responses from 27 waste-pickers instead of a sample of 34: (1) Do your family members (husband / wife / children) work with you to collect, sort or sell waste? Please explain how frequently and in what aspects they contribute to your work. (2) What are the types of plastic items that sell for a low value? Do you collect these items? Why or why not? (3) If you collect low-value plastic items, do they pose any particular challenges in terms of collecting, sorting and selling them?

<sup>iii</sup> Saleng in Thai refers to the three-wheeled cycle with a cart that are used for workers for waste collection but also can be used to refer to the workers themselves.

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