

Untold Stories and Navigating the Just Transition of Informal Waste Pickers in Battambang's Landfills and Dumpsites

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Abstract

Landfills and open dumpsites in Cambodia are not simply viewed as final disposal sites for waste, but they also serve as workplaces and economic hubs where the poor and marginalized groups live and build their livelihoods. Informal waste pickers play a critical role in material recovery that reduce the waste burden on dumpsites and landfills while facing extreme socio-economic challenges, severe health risk and other forms of harsh conditions. However, they are often excluded from formal waste management frameworks. This research examines the social, economic, and institutional dynamics shaping the lives and livelihoods of informal waste pickers work and live in dumpsites and landfills. To explore these dynamics, this study utilized a qualitative approach, drawing on case studies from the Slaket dumpsite and Ta Kream landfill in Battambang to document the voices and lived experiences of informal waste pickers through employing focus group discussions, in-depth interviews and observation. The research also utilized semi-structured interviews with key informants from NGOs, provincial and municipal authorities, private collection companies, and waste depot owners in Battambang to understand their relationships with informal waste pickers. The study finds that many waste pickers ended up in landfill and dumpsite in Battambang due to rural poverty, indebtedness, the lack of agricultural land, and various economic hardships. However, working and living in hazardous environments such as landfills and dumpsites, waste pickers faced frequent injuries and chronic health issues. The women especially manage the burden of domestic care and are involved in picking waste in the hash environments. Economically, they earn a low income and struggle for everyday survival. This research concludes that a just transition of informal waste pickers in landfill and dumpsite in Battambang must be prioritized for the formal legal recognition and for other forms of social protection schemes.

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List of abbreviations

Abbreviation	Full Form
ADB	: Asia Development Bank
ANC	: Antenatal Care
COMPED	: Cambodian Education and Waste Management Organization
COMPOSTED	: Environmental Education and Recycling Organization
FGD	: Focus Group Discussion
GGI4CE	: Green Growth Initiative for Circular Economy
GGGI	: Global Green Growth Institute
GIZ	: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
HDPE	: High-Density Polyethylene
IDE	: International Development Enterprises
IDEA	: Independent Democratic Association of the Informal Economy
IGES	: Institute for Global Environment Strategies
ILO	: International Labor Organization
Lao PDR	: Lao People's Democratic Republic
MoE	: Ministry of Environment
MoI	: Ministry of Interior
MPWT	: Ministry of Public Work and Transport
MSW	: Municipal waste management
NCSD	: National Council for Sustainable Development
NGOs	: Non-governmental organizations
NSPC	: National Social Protection Council
NSSF	: National Social Security Fund
PNC	: Postnatal Care
TVET	: Technical and Vocational Education and Training
UNEP	: United Nations Environmental Programme
UNICEF	: United Nations International Children's Emergency Fund
WIEGO	: Women in Informal Employment: Globalizing and Organizing

1. Introduction

1.1. Background and Context

In Cambodia, rapid economic growth, urban expansion, population growth and rising consumption patterns have created immense pressure on municipal management systems, especially in major cities such as Battambang and Phnom Penh (Pheakdey et al., 2022, Visvanthan et al., 2025). Municipal solid waste (MSW) generation has raised significantly over the past decades, increasing from approximately 2.5 million tonnes in 1990 to 4.78 million tonnes in 2020, equivalent to 0.78 kg per capita per day, which is slightly higher than the global average of 0.74 kg (MoE, 2020; Pheakdey et al., 2022; GIZ, 2021). Projections indicate that MSW generation in Cambodia will increase by approximately 36% by 2050, with per capita waste generation rising from 1.16 kg per day in 2030 to 2.13 kg per day by 2050 (MoE, 2020). Large cities such as Phnom Penh, Sihanouk Ville, Siem Reap, and Battambang rely on limited capacities of landfills and open dumpsites. Around 44% of municipal waste is disposed of in sites, where many of which operate as uncontrolled or semi-controlled dumps lacking essential environmental protections such as proper soil cover, leachate treatment systems, or gas management infrastructure (Pheakdey et al., 2022).

Landfills and open dumpsites in Cambodia are not simply viewed as final disposal sites for waste, but they also serve as workplaces and economic hubs where the poor and marginalized groups live and build their livelihoods. It is estimated that around 3,000 waste pickers collect recyclable materials at dumpsites and landfills across Cambodia, and nearly half of these waste pickers are children (Visvanthan et al., 2025). These waste pickers consider landfills and dumpsites source of their income and livelihoods, a phenomenon commonly seen in many parts of the world (Schenck 2019; Sasaki et al., 2014). Landfill and dumpsite waste pickers operate at the very end of the waste value chain, and often receive the remaining choices of materials from street pickers who already selected high-value items (Michaels et al., 2020; World Bank, 2024).

The lives and working conditions of waste pickers in dumpsites and landfills are described as extreme difficulties and physical hazards. In Cambodia, they often work long hours in hot and humid climates with limited protective equipment, resulting in frequent injuries and exposure to toxic smoke and fumes from the dumpsites (Visvanthan et al., 2025; Koy and Serey, 2025; Schroeder, 2023). Their livelihoods from waste material are linked to very volatile markets and prices, leading to them receiving low and unstable incomes, which make it hard to cover their everyday expenses (Visvanthan et al., 2025). Landfills and dumpsites are places for daily survival but also lock informal waste pickers in chronic health risks (Ito and Igano, 2023).

Gender disparities are embedded in the informal waste-picking sector. Women engaged in labor-intensive roles such as waste picking and sorting, and they also face domestic burden of caregiving (Visvanthan et al., 2025; Koy and Serey, 2025). Putting their earnings as a priority, women often choose to have their children at the sites (Visvanthan et al., 2025). These informal waste pickers also face social stigma, as they are often considered by the public as dirty (Visvanthan et al., 2025).

While informal waste workers play an essential role in reducing the volume of waste and the environmental burden on landfills and dumpsites, they remain largely unrecognized within formal waste management systems and excluded from strategic planning (Visvanthan et al., 2025). The Cambodian government has introduced and formulated the Sustainable City Strategic Plan 2020-2030 as a roadmap for promoting green growth and sustainable development in seven secondary cities across Cambodia (NCSD et al., 2020). This strategic plan has shifted some cities such as Battambang to employ modern sanitary landfills for replacing open dumpsites (MPWT and ABD 2021). In this way, their critical role for environmental services remains unrecognized, and the upgrade of the waste management system also poses threats to livelihoods of many informal waste pickers. This raises a question of a just transition, prioritizing inclusive and social equity, legal recognition of informal waste pickers, and formalization of the informal waste sector.

1.2. Objectives and research questions

The primary purpose of this research is to examine the social, economic, and institutional dynamics shaping the lives and livelihoods of informal waste pickers work and live in dumpsites and landfills. The research also aims to generate evidence and draw policy insights to support an inclusive and just transition in the waste management system in Cambodia. To explore these dynamics, this study utilized a qualitative approach, drawing on case studies from the Slaket dumpsite and Ta Kream landfill in Battambang province to document the voices and lived experiences of informal waste pickers (see research method in section 3).

The study is guided by three specific questions:

- What social, economic, and gender dynamics shape waste pickers' participation in Cambodia's informal waste sector?
- How do women, men, and marginalized groups experience risks, livelihoods, and working conditions within dumpsites and landfill systems?
- What policy and institutional actions are needed to enable safer livelihoods and support an inclusive, just transition in waste management?

2. The informal and vulnerable waste picker landscape

The following sections review key literature on informal waste pickers, their socio-economic vulnerabilities, gender dynamics within the waste-picking sector, as well as the living conditions, health risks, and livelihoods. The relationship between informal waste pickers and government institutions and authorities, and NGOs also reviewed.

2.1. Socio-economic and gender dynamics of waste pickers

The World Bank defines informal waste pickers as an ecosystem of workers operating outside formally recognized solid waste management systems (the World Bank, 2024). Waste pickers usually engaged individually or collectively in collecting, sorting, transportation, and sale of reusable materials, including plastic, paper, metal and other recyclable items (Shekar and

Sharma, 2024; Thodukayil et al., 2024). Globally, the International Alliance of Waste Pickers reports that informal waste pickers handle almost 60% of the global plastic waste collected for recycling; however, they remain marginalized due to the stigmatization of waste and poverty (Shekar and Sharma, 2024). In Cambodia, these informal waste pickers are locally referred to as “Ed Jai” and provide the essential foundation of the country’s material recovery system. These informal groups include street pickers, door-to-door collectors, and landfill and dumpsite pickers (Visvanthan et al., 2025).

Similar patterns have been documented globally, demonstrating that extreme poverty, low education, and lack of alternative employment opportunities in the formal sector are the primary factors that drive many people to engage in the informal waste sector (Shekar and Sharma, 2024; Schroeder, 2023; Schenck et al., 2019). Waste collecting is typically a “last resort” means of subsistence for elderly, disabled and unskilled people who cannot participate in formal labor markets. In South Africa, the study revealed that landfill waste pickers often have very low levels of education (Schenck et al., 2019). Similarly, in Siem Reap, Cambodia, over 30 % of urban waste recyclers have no formal education, and many are forced to work at a young age to support their families (Schroeder, 2023). This survivalist strategy is also documented in the Philippines where the closure of a dumpsite left many waste pickers struggling to find other jobs due to their lack of skills (Ito and Igano, 2023).

Social marginalization and rural migration also push people into this informal waste sector. In India, most waste pickers are migrant workers displaced by rural distress, climate related issues and natural disasters (Alliance of Indian Wastepickers, 2019), as is the case in Siem Reap, where over 80 % of urban waste recyclers are migrants from rural Cambodia (Schroeder, 2023). These waste pickers often face social stigma, viewed as “dirty” due to their involvement in waste collection (Shekar and Sharma, 2024, Agamuthu and Babel, 2023; Jayasinghe et al., 2019). Social exclusion is also observed in countries such as India and Sri Lanka, where waste pickers are often associated with pollutants and denied recognition for their essential environmental contributions (Jayasinghe et al., 2019, Eitel, 2022a, Thodukayil et al., 2024).

Gender dynamics exacerbate these socio-economic factors because women are over-represented in the most dangerous and low-paying parts of the waste value chain. While men often hold higher-status roles such as transportation, women and children typically handle picking and sorting (ILO, 2019; Koy and Serey, 2025). In Cambodia, women represent about 70 % of waste pickers in Siem Reap province and 64 % of respondents in Battambang province, where they often bear the “double burden” of earning household income and taking care of children and domestic chores (Koy and Serey, 2025; Schroeder, 2023). Similar to South Africa, female waste pickers have more dependents and report that family responsibilities limit their income-earning time (Wilson et al., 2022). Due to the lack of social safety nets and the need for daily income, Cambodian female pickers typically work into the third trimester of pregnancy, or even before delivery (Schroeder, 2023).

2.2. Experience, health risks and livelihoods

Many people and households live on open dumpsites to be near their income source, but waste pickers face extreme physical and social difficulties. Many informal waste pickers reside on the dumpsite, inhaling dust and odors while children wander nearby (MPWT and ADB, 2021). This similar situation is documented in South Africa and Lao PDR, where landfill waste pickers usually lack clean water, sanitation and toilets (Schenck et al., 2019; the World Bank, 2024). Despite these challenges, pickers worldwide describe their work as a form of “freedom” because they determine their own schedules and avoid workplace hierarchies (Eitel, 2021; Schenck et al., 2019). However, this autonomy role is involved by dangerous conditions where pickers are at risk of being struck by heavy machinery or drug users (Schenck et al., 2019; ILO, 2019).

Landfill work can cause severe physical trauma and long-term chronic illness. Without using personal protective equipment (PPE), Cambodian waste pickers are vulnerable to repeated injuries and cuts from glass, metal, and needles, which lead to serious infections (Koy and Serey, 2025; Schroeder, 2023). Asthma and chronic bronchitis are especially widespread in Battambang and Phnom Penh due to dust and toxic smoke from spontaneous landfill and dumpsite fires (MPWT and ABD, 2021; Eitel, 2021, 2022). Informal waste pickers in Ethiopia and India report high rates of respiratory irritation, skins rashes, and musculoskeletal issues from heavy lifting (Thodukayil et al., 2024; Etea et al., 2021; Uhunamure et al., 2021). Landfill pickers face everyday dangers like landfill slides and collapses, which have killed workers in Indonesia and China (Agamuthu and Babel, 2023). Our study investigates health issues related to Battambang’s harsh and hazardous landfill and dumpsite.

Dumpsites and landfills function as important sources of livelihoods for marginalized groups. In Siem Reap, Cambodia, the average monthly income for many waste pickers ranges between USD 41 and USD 80, markedly indicating lower than the national average for formal workers (Schroeder, 2023). This economic vulnerability is intensified by significant reliance on deport waste owners or intermediaries who provide equipment such as pushcarts or daily loans, but resulting in long-term debt relationships (Schroeder, 2023; Eitel, 2021). The closure or relocation of landfills for the modernization of waste management systems can affect informal waste pickers’ livelihoods (Ito and Igano, 2023; Michaels et al., 2020). The closure of the Payatas dumpsite in the Philippines left thousands without alternative economic means, forcing some to work in other dangerous sites for survival (Ito and Igano, 2023). Similar patterns of vulnerability occur in Indonesia, where waste pickers lack the networks to cope with market shocks (Amin et al., 2026). The income of waste-picking households and their vulnerabilities is studied in our case studies.

2.3. Policy responses: Government and NGO initiatives

The establishment of legal frameworks for integration into waste management systems is crucial to formalizing the informal recycling sector in some countries. Columbia, Brazil and India have legislated waste pickers’ transition from informal workers to officially recognized public service providers (ILO, 2019). In Pune, India, waste pickers were able to receive

contracts with municipal authorities for door-to-door recyclable material collection due to the recognition of cooperative waste pickers (ILO, 2019). In 2010, Brazil's National Waste Solid Policy integrated waste pickers into reverse logistics systems, giving registered cooperatives priority for the collection and processing of packaging materials. A 2015 sectoral agreement allows a coalition of companies in India to provide infrastructure, equipment and capacity building, and direct recycled material purchases (WIEGO, 2022). The recognition and formalization of waste picker cooperatives leads to the issuance of occupational identity cards for social protections and health insurance schemes (ILO, 2019).

Cambodia faces structural challenges because waste pickers are not formally recognized by the government. Dumpsite waste pickers are crucial in reducing waste volume and prolonging the longevity of disposal sites; however, they often face inconsistent treatment during various modernization initiatives of the waste management system (IGES and UNEP, 2018; Eitel, 2021). Moreover, they are usually excluded from formal waste management planning. For example, the newly established sanitary landfill in Ta Kream commune, Battambang province, seems to have had no or little consultation with pickers at the open dumpsite in Slaket commune (MPWT and ADB, 2021; Michaels et al., 2020). Therefore, the upgrade of the sanitary landfill may result in job losses at the existing dumpsite if the provincial authorities or government fail to provide a transition plan for waste pickers. The implications of no national policies on informal waste pickers is further examined in the dumpsite and landfill in Battambang province.

In Cambodia, NGOs like COMPED and IDEA act as important intermediaries and advocates for the rights of informal waste pickers. For instance, IDEA works to promote legal recognition and helps in organizing waste pickers to collectively negotiate for rights and seek legibility for social protection schemes from the Cambodian government (Michaels et al., 2020). COMPED has worked in partnership with Battambang Municipality to bring the former waste pickers into formal roles at the composting facilities in the open dumpsite (IGES and UNEP, 2018). However, they remain unrecognized in formal waste management, facing social stigmatization, significant health risks, and exclusion from formal social protection systems (Visvanthan et al., 2025). This requires further research into a “Just Transition” aimed at identifying possible pathways for integrating waste pickers into the formal waste management.

3. Research methods and studied sties

The study was conducted in two separate waste disposal locations in Battambang province. The first site is an open dumpsite, located in Slaket commune, approximately 4 km from Battambang city. The second location is the new sanitary landfill situated in Ta Kream commune, Banan district (see Section 4). By choosing the two different sites (an uncontrolled open dumpsite and a modern controlled landfill), the study attempted to learn differences and similarities in the socio-economic vulnerabilities, health risks, and livelihood conditions of informal waste pickers.

The research employed a qualitative approach, drawing on a combination of focus group discussions (FGDs), interviews, and field observations to understand the circumstances and

experiences of waste pickers in both sites. The employment of qualitative methods to enable to capture the voices and nuanced perspectives of waste pickers.

The data collection was conducted in two separate phases. The first phase occurred in November 2024, mainly utilizing five FGDs both dumpsite and landfill. One FGD was implemented at the Ta Kream landfill with a mixed-gender group, while four FGDs were conducted at the Slaket dumpsite, comprising two FGDs with men and two FGDs with women. In this first phase, 26 waste pickers were included (10 men and 16 women), allowing for an assessment of gender dynamics at each disposal site. During this phase, key informant interviews were conducted with government institutions, development partners, and NGOs, including the Ministry of Environment, and Battambang municipal authorities, the World Bank, UNDP, GIZ, COMPOSTED. Waste collection companies (CINTRI and Leap Lim), recycling enterprises were also interviewed.

In the second phase of this research, the in-depth interviews were conducted with informal waste pickers at both disposal sites. This allowed us to obtain richer and detailed data on household livelihood security, living conditions and health risks, and other gender aspects. During the second phase, 16 waste pickers (8 women and 8 men) were interviewed at the Ta Kream landfill site, and 12 waste pickers (7 women and 5 men) were interviewed at the Slaket open dumpsite. Interviews with key informants were also carried out in this phase with provincial and municipal authorities, 4 waste depot owners in Battambang, and representatives from NGOs (IDEA, IDE, Action Aid, GIZ, COMEP and COMPOSTED).

A validation workshop was organized 10 February 2026 to present some key preliminary findings to key stakeholders. These include provincial and municipal authorities, the Ministry of Environment (MoE), the Ministry of Interior (MoI), NGOs (COMPOSTED, COMPED, and IDEA and IDE) and informal waste pickers from Ta Kream landfill and Slaket dumpsite. Given the sensitivity related to waste management issues in Cambodia, research participants are identified with pseudonyms for this research.

4. Overview of Municipal Solid Waste, Collection and Disposal in Battambang Municipality

Battambang Municipality, the third-largest urban center in Cambodia, is widely regarded as a “model city” for its dedication to environmental cleanliness and participatory waste governance (IGES and UNEP, 2018; Michaels et al., 2020; Lord et al., 2024). Despite holding this esteemed status, the city faces significant technical and financial challenges in the management of municipal solid waste (Lord et al., 2024; IGES and UNEP, 2018). Historically, the waste management system has depended on private sector contracts paid through user and household fees, which has often led to insufficient service coverage and uncontrolled disposal practices (IGES and UNEP, 2018; COMPED, 2011). To address these challenges, Battambang Municipality is converting from a conventional open dumpsite to a modern and sanitary landfill facility.

Waste collection is primarily handled by the private company, CINTRI, which services eight of the ten administrative Sangkats, while a smaller collecting firm, Leap Lim, covers the remaining two Sangkats (IGES and UNEP, 2018). The latest data indicates that the city produces approximately 130 to 200 tonnes of waste per day. The physical composition of the waste consists of around 60% to 73% organic material, with plastic accounting for about 12% to 13.5% (IGES and UNEP, 2018; Michaels et al., 2020; MPWT and ADB, 2021). The current

collection services cover only about 57% of the population, frequently excluding peri-urban areas (Michaels et al., 2020; MPWT and ADB, 2021).

Battambang city has two waste disposal sites. A significant open dumpsite is located in Sangkat Slaket. The Slaket dumpsite has served as Battambang's primary waste disposal facility since 2010 (Michaels et al., 2020). The location is situated between 4 and 6 km northwest of the city center, covering an area of about 8 hectares, with 6 hectares owned by CINTRI and 2 hectares held by the municipality). Since its establishment, the Slaket Dumpsite has been managed by the private waste collection company, CINTRI under a contract that extended to 2027 (MPWT and ADB, 2021).

Technically, the Slaket Dumpsite facility has been defined as an uncontrolled open dump, characterized by poor disposal practices and methods. This means a lack of modern environmental safeguards, including waste compaction, cell staging, leachate management system, and gas control, and soil covering (MPWT and ADB, 2021). A critical concern at this site is the occurrence of waste burns, with estimates indicating that up to 80% of the waste is burned on-site, resulting in significant socio-environmental and public health consequences; especially for nearby residents and informal waste pickers.

In 2023, municipal waste began to transition to a new landfill in Ta Kream commune; however, the Skaket Dumpsite remains in operation, receiving about 2–3 loads per day from small compactor vehicles, primarily transporting waste from districts outside the municipal boundary. The site also features complementary facilities, including a Material Recovery Facility (MRF) occupying approximately 1,350 m², where recyclable materials are manually sorted using basic equipment such as payloaders and balers. In addition, a composting facility operated by the NGO COMPOSTED processes around 4 tonnes of organic waste per day, mainly derived from local markets, especially Pum Puy Market. Currently, the Skaket Dumpsite is being used by informal waste pickers for collecting recyclable materials, which will be discussed in the below sections.

A new controlled landfill was established as a modern standard or facility for replacing the overloaded Slaket Dumpsite and improving urban sanitation. The newly established sanitary landfill is located in Poar Svay Village, Ta Kream commune, Banan district (MPWT and ADB, 2021), approximately 22 to 25 km from the center of Battambang city. The project was approved by the Ministry of Environment (MoE) in 2020, which was funded by the Asian Development Bank (ADB) (MPWT and ADB, 2021), and it was completed and officially inaugurated on March 21, 2023. The Ta Kream Landfill is under the management of the Battambang Provincial Administration.

The Ta Kream site, as a controlled engineered landfill, incorporates sophisticated and advanced features to mitigate negative environmental impacts, including the contamination of groundwater, soil and air, while also minimizing human health risks associated with waste disposal. The Landfill covers nearly 21 hectares and contains impermeable layers (compacted clay and HDPE liners) along with a leachate treatment system that utilizes a series of stabilization ponds. It also regulates greenhouse gas emissions by using passive vertical gas vents, which can be subsequently retrofitted with active flaring systems (MPWT and ADB, 2021).

The Ta Kream Landfill is anticipated to have a lifespan of 20 years, extending until 2040, and a storage capacity of approximately 313,703 cubic meters. The site facility is also equipped

with a new 1,800-square-meter Material Recovery Facility (MPWT and ADB, 2021). This landfill aims to benefit an estimated 126,000 people in Battambang city and its surrounding districts (MPWT and ADB, 2021), significantly enhancing hygiene and environmental safeguards in the region.

5. Transition into informal waste pickers in Ta Kream landfill and Slaket dumpsite

Both Ta Tream landfill and Slaket dumpsite serve as important workplaces for many informal waste pickers. In Slaket, waste picking has been an unofficial practice since the open dump was originally established in 2010. Waste pickers at the Slaket dumpsite are predominantly local residents of Andoung Chenh village, Ou Char Sangkat, located approximately 5–6 km from the site. Many pickers reported that their involvement in waste picking began at a young age, often accompanying parents or relatives, illustrating intergenerational engagement in this work. Prior to 2010, some people initially collected recyclable materials at informal open dumpsites near Andoung Chenh village before moving to the current dumpsite in Slaket commune. In 2023, the dumpsite accommodated about 38 families who lived and worked at the site. During our fieldwork in 2025, about 16 families remained at the site, consisting of men, women, and children, building small temporary houses and tents, thereby forming a small community.

The history of informal waste collection at the Ta Kream landfill began in 2023 following its opening. The first group of waste pickers comprised 10 families, totalling about 25 people, from Siem Reap province. They had previously worked at the Siem Reap opened dumpsite, but due to the site's overcrowding with many waste pickers, they struggled to maintain their steady earnings. The early waste pickers first learned of the Ta Kream landfill through the owner of the Romsay Sak depot, who operates waste depots in both Siem Reap and Battambang. The Romsay Sak waste depot owner arranged for these waste pickers to live and collect recyclable materials at the Ta Kream landfill using his connections with landfill management authority. The depot owner later negotiated to buy all recyclables from landfill waste pickers.

Similar to the Slaket dumpsite, the number of the waste pickers at Ta Kream is always changing as new people come and then decide to leave. The majority of early families from Siem Reap left Ta Kream, with only one family remaining. Two main factors made their return to their original locations in Siem Reap. The remaining family said that the early families saw low amounts of recyclables at the landfill, limiting their earnings. The landfill manager said these people had outstanding loans to local grocery stores and food sellers that they were unable to repay. Our fieldwork in October 2025 found 32 waste pickers at the Ta Kream landfill, including migrants from different regions of Cambodia, returned migrants from Thailand, and local residents. Our validation workshop in Battambang in February 2026 showed that waste pickers had dropped to 15. Those waste pickers who left the landfill become entangled in a circle of struggle, choosing to search for alternative means of livelihoods elsewhere. The remaining folks may have little options, and therefore continue collecting waste materials. The next sections illustrate the common patterns of socio-economic vulnerability and instability that force people to engage in waste collection in both Ta Kream landfill and Slaket dumpsite.

5.1. From multiple rounds of economic failure to waste pickers

Waste pickers in Ta Kream and Slaket had many similar economic and social situations. At the Slaket dumpsite, a married woman shared her story of how she got involved in waste collecting.

Nearly 18 years ago, following her marriage, she moved to live with her parents-in-law in Andoung Chenh village, in Battambang city due to landlessness. While she remained at home to take care of her young children, her husband worked as a *rot motodup* (motorbike taxi driver), yet his earnings were insufficient to cover the household's basic needs. With no land to farm and no alternative income sources, the family faced persistent economic difficulty. She recalled hearing from other villagers that waste collection at the dumpsite could provide supplementary cash income. Given her lack of experience with waste collecting and her aversion to strong odors, she was first unsure if she could do this waste-picking job. Her family has made their home and livelihoods at this open dumpsite up to the present¹. Hence, landlessness, extreme poverty and limited available livelihood options push people to become urban waste recyclers.

Many families went through many economic crises and hardships, creating a cycle of vulnerability. For example, Khan and his family have suffered various family economic crises. Khan's parents were originally from Banteay Meanchey province, but moved to Sampov Laun district, Battambang in search of agricultural land. In the 1990s, the government granted 5 hectares of degraded forestland, which they later cleared for agricultural land. Khan was sick as a child, so his parents sold some portion of farmland to pay for his medical care. His parents used the remaining farmland and rented other villagers' land to cultivate maize. Due to low maize prices, they generated losses. They could not afford to pay off debts they used to invest in agricultural inputs. Khan's parents then went to work in Thailand as construction workers, and brought him there. When turning 16 years old, he was at the construction site with his parents. While his parents left for Cambodia, he continued working in Thailand. Khan struggled to save while working in Thailand; especially after the construction contractors stopped paying during the Cambodia-Thailand border dispute in July 2025. After deciding to return to Battambang in September 2025, Khan, his mother and his younger brother became waste pickers at the suggestion of a relative who owns Romsay Sok depot.

The stories of Khan and his family illustrate various dimensions of hardships and struggles related to family economic issues, moving from Banteay Meachey to Sampov Loun, to Thailand and ending in finding a job as waste pickers at the Ta Kream landfill. In other words, waste picking has become a desperate survival strategy for poor families. During our fieldwork at the landfill, we met other waste pickers who similarly have experienced numerous difficulties and have explored various options and manual labours in construction, manufacturing and agricultural sectors, yet they remain trapped in a cycle of economic crisis and continuous vulnerability.

Waste pickers' journeys to the Slaket dumpsite also emerged from multiple unsuccessful livelihood attempts rather than a single economic shock. Dina's story indicates this point clearly. Before entering waste picking, he explored several forms of informal employment, beginning with construction work in Battambang. While construction provided an entry point into paid work, its viability was limited by delayed and reliable wages, leading him to seek alternative jobs. Hoping for greater stability and more regular income, Dina then worked as a security guard for about two years. While this job appeared to be more stable, it involved long working hours and significant physical exhaustion and the income remained insufficient and irregular to support his family. Eventually, these conditions led him to leave the job. In 2016, with few remaining options, he entered waste picking at the dumpsite. Although the work was initially extremely demanding, worked under intense heat and in unhygienic conditions, the

¹ Female waste picker, dumpsite, 31 October 2025.

income was comparable to his previous jobs prior to the COVID-19 pandemic. He also claimed that the work offered a degree of flexibility². Many people had diverse difficulties in their lives before becoming waste pickers at the Ta Kream landfill and Slaket dumpsites.

The COVID-19 pandemic intensified the socio-economic vulnerabilities of informal waste pickers, causing already marginalized people to face more difficult situations and extreme poverty. For example, Chun and Kunthea, a couple of waste pickers, had been working in collecting recyclable materials in Siem Reap before their arrival to the Ta Kream landfill. They obtained a loan of USD7,000, from a micro-financial institution (MFI) to upgrade their house in Siem Reap province before the COVID-19 outbreak. Their family relied on the income from construction work and waste picking to repay the loan. Chun and Kunthea could not earn money from both construction work and collecting waste materials during the lockdown periods. In 2022, they were forced to sell their residential land and house to settle MFI debts³. Their stories demonstrate that the COVID-19 pandemic was a critical point, leading them to lose their property and forcing them to depend on waste collection for income. As a result, they are facing prolonged economic instability, which is making them more vulnerable and uncertain.

5.2. Former workers in Thailand and internal migrants

In the Ta Kream landfill, some former construction workers from Thailand ended up picking waste for their earnings. The story of Khan in the above section showed different dimensions of struggles in himself and his family, but also demonstrated the shift from many years of working in building the modern infrastructure of Thailand to the informal waste-picking sector. The shift is not about the willingness to change in occupation, but a strategic choice for survival after being affected by the border conflict between Cambodia and Thailand. When interviewing Khan at the end of October 2025, he had recently spent nearly one month working as a waste picker at the landfill. He had not sold any of his recyclable materials yet, as the buyer purchased waste products at the end of each month. Khan seemed to motivate himself to continue collecting waste at the landfill, stressing his determination to never work in Thailand again.

“If I sleep at home, I will have no food to eat. We are in debt; therefore, we have to come to the landfill to pick up the garbage....I do not want to work in Thailand anymore....I will remain patient and diligently strive to work here for at least one to two years.”⁴

This demonstrates Khan’s goal at the landfill is to generate income for survival. By engaging in the informal waste-picking sector at the Ta Kream landfill, Khan and his family had to change the discipline from that they used to work in the construction sites in Thailand. They had to adapt to the new routine of being ready to collect waste with other fellow waste pickers. For example, they have to be aware of the schedules of the trucks for unloading the trash to the

² Male waste picker, dumpsite, 31 October 2025.

³ A couple waste pickers, landfill, 29 October 2025.

⁴ Male waste picker, landfill, 29 October 2025

site. We learned that several people worked in the landfill as a result of the border dispute with Thailand.

Waste pickers at the Ta Kream consist of two distinct groups of returnees from Thailand who settled at the landfill at different times. Some early waste pickers are former migrant workers who returned to Cambodia before the border conflict with Thailand, and they have recently been joined by another wave of families displaced by the fighting. For example, a man in his late twenties, an early migrant from Thailand, has worked in the construction sector and occasionally in Eucalyptus plantations. In 2022, he came home to marry and later took a waste collection job due to his wife's family living near the landfill⁵. Even though some waste pickers have a shared history of employment in Thailand, these two groups arrived at the landfill at separate times under different conditions. This indicates that both early and newly returning migrants depend on waste picking in Tak Kream as their main source of survival at the current stage.

Since the majority of the waste pickers at the Slaket dumpsite are local residents, they have no experience working in low-skilled jobs in Thailand. One respondent previously worked on longang fruit farms in Thailand near the Pailin border for a short period. He later returned to Cambodia to sell his labour across different sectors, including construction, agriculture, and as a driver for a waste transport company. Finally, he has engaged in a waste picking job at the dumpsite⁶.

The internal and rural migration into the informal waste sector was observed at the Ta Kream landfill. As shown earlier, the first group of early waste pickers were from Siem Reap. During our fieldwork, the waste pickers at the landfill were predominantly made up of migrants. They came from different parts of Cambodia such as Siem Reap, Kampot, Takeo, Banteay Meanchey provinces. The influx of local migrants into the landfill is driven by rural poverty, debts and the lack of agricultural land. This pattern is also documented by Schenck (et al., 2019), showing that the majority of urban recyclers in Siem Reap have migrated from Cambodia's rural areas due to a lack of specialized skills necessary for employment in the formal labor market.

6. Living and working conditions within landfill and dumpsite

6.1. Living conditions and accommodation

At Ta Kream landfill, the accommodation for waste pickers provision was provided through a collaborative effort between public and private actors. The Battambang Provincial Administration, the landfill manager, Leap Lim Waste Collecting Company, and the Romsay Sak depot owner jointly supported the construction of basic accommodation in 2024 for an initial group of 10 waste picker families relocated from Siem Reap. Approximately 15 waste pickers resided in this accommodation during our visit in October 2026. From the perspective of social standpoint, the accommodation provides waste pickers a crucial safety net and improves the quality of life by addressing their basic needs for shelter and safety. As one

⁵ Male waste picker, landfill, 29 October 2025

⁶ Male waste picker, dumpsite, 31 October 2025

woman waste picker explained that *“Staying here means we don’t have to pay for the room, electricity, or water; we can save some money to help out my elderly mother back in our hometown.”*⁷ The accommodation, located outside the landfill compound, mitigates direct exposure to waste-related hazards. This separation functions as a protective measure, limiting contact with pollutants and reducing the likelihood of respiratory and other health issues commonly linked with landfill environments.

In contrast, the Slaket dumpsite is characterized by the absence of any housing provision or planned settlement. Waste pickers construct their own shelters directly on-site using bamboo, scrap wood as the structure, with plastic sheets serving as roofing, sourced from discarded materials and assembled through their own effort⁸.

Over time, these individual housing structures have merged into a small but relatively stable informal settlement within the Slaket dumpsite. This settlement operates simultaneously as a site of residence, labor, and social interaction, blurring conventional distinctions between living and working spaces. Observations during the fieldwork show the ways in which everyday life is embedded within this environment. Children were observed playing within the settlement, often using toys retrieved from waste materials, while adults engaged in social interactions after working hours. Groups of men were seen gathering, conversing, and listening to music within the settlement space. In addition to residential and social functions, the dumpsite also supports small-scale economic activities; for instance, a female waste picker operates a small grocery stall selling food and basic items to fellow waste pickers in the community⁹. These observations point to the formation of a small community with interconnected social and economic activities within the dumpsite, where family and community life, including caregiving and daily routines, are closely intertwined with livelihood activities.

Living within such environments also shapes the patterns of participation in waste picking over time. The case of a 19-year-old woman living at the Slaket dumpsite, provides insight into these dynamics. Having accompanied her mother to the dumpsite from an early age, she discontinued her education and gradually transitioned into waste picking as her primary source of income. Now married with a young child, she continues to live and work at the site alongside her husband¹⁰. Her experience illustrates how early exposure to waste picking, combined with residence within an environment where livelihood and living spaces overlap, can influence individual livelihood patterns across generations.

Access to basic utilities remains a critical constraint across both sites, but with differences in the form and degree of these limitations. At Ta Kream landfill, waste pickers residing in the provided accommodation have access to electricity at no cost. However, access to clean and reliable water remains limited. Attempts by local authorities, in collaboration with private sector actors, to install a groundwater pumping system were unsuccessful due to the area’s deep water table and rocky soil conditions, which complicate drilling. Consequently, waste picker residents rely on water transported from within the landfill area for their daily needs, while many also bathe at the site after finishing waste collection. Some must carry water manually in 30-litre plastic containers, as they lack access to transport means, including bicycles. This

⁷ Female waste picker, landfill, 29 October 2025.

⁸ Field observation, 31 October 2025.

⁹ Field observation, 31 October 2025.

¹⁰ Female waste picker, the Slaket dumpsite, 31 October 2025.

situation constrains the quantity of water available for daily use and raises concerns regarding hygiene and sanitation.

Conditions at the Slaket dumpsite are more constrained. Waste pickers live on an unregulated site with no access to both electricity and running water within the settlement. Water for daily consumption is provided through the support from the Cambodian Education and Waste Management Organization (COMPED), a local non-governmental organization operating near the site. This reliance on intermittent external provision highlights the marginal position of this dumpsite community in relation to formal service delivery systems.

In summary, the housing and living arrangements for waste pickers at the Ta Kream landfill and the Slaket dumpsite reveal significant disparities in institutional support, infrastructure provision, and spatial organization of everyday life. These differences shape not only material conditions but also the broader environment in which waste pickers live and work.

6.2. Working arrangement and conditions

At both the landfill and dumpsite, waste picking primarily involves informal labor arrangements. However, waste pickers must negotiate with the right network and actors in order to be able to work at the sites. At the Ta Kream landfill, the majority of waste pickers are allowed to collect recyclable materials by the landfill authority with the assistance from the Romsay Sak waste depot owner. As noted earlier, many migrant waste pickers from Siem Reap work in the landfill due to his close connection with the landfill officials. In addition, several local villagers reported that they obtained permission to work in the landfill by directly communicating with the landfill supervisor. The entry into this work requires only minimal administrative steps. Workers typically provide basic personal information, such as a copy of an ID card, and can begin work immediately without paying any fees. As one of the waste pickers explained that *“they collected only a copy of my ID card, and I could work here . No need to pay money”*.¹¹ This information was only collected by the landfill supervisor, and no formal contracts were established.

Despite the overall informality, the landfill, particularly at Ta Kream shows aspects of a minimal structured organization. A landfill supervisor oversees site operations, and waste pickers often gain access through informal referrals, such as through depot owners who liaise with site management. There are Internal rules at landfill, including operating hours (typically from 7:00 am to 5:00 pm.), with flexibility for waste pickers to enter and exit throughout this timeframe. A security guard controls site access for both trucks and waste pickers. These arrangements suggest a degree of structured coordination. Compared to other settings, this indicates that labor conditions are relatively more organized, yet still informal.

However, at the Slaket dumpsite, working arrangements are even more informal and loosely governed. Access to the site requires no registration, documentation, or payments, enabling immediate entry to work, often facilitated through personal contacts and connections, especially with the CENTRI worker who is standby at the site. A group of women waste pickers stated that they come to work at the site without requiring any document for registration or paying any fees¹². A male waste picker said, *“I have a friend... he works and lives here. I just told him I want to work here and he allowed me to stay at the dumpsite.”* Although the municipal authority and the waste collection company CINTRI hold official management roles, they do not directly supervise waste pickers' daily activities. Instead, waste pickers rely on

¹¹ Waste picker, Ta Kream landfill, 29 October.

¹² FGD, Slaket dumpsite, 21 November 2024

informal negotiations with actors such as bulldozer drivers, who control the spreading of waste and thus access to recyclable materials. One man waste picker explained: “If we want to work here, we have to ask CINTRI, but really we ask the driver who stays here”¹³. Hence, governance at the dumpsite is primarily informal.

Work at the dumpsite is largely self-directed, with a strong emphasis on individual effort. The operating hours and work routines are determined by the arrival of waste collection trucks. Waste pickers typically begin their work when the trucks arrive in the morning, often around 8:00 am and take a short break at midday and stop when the last loads are delivered in the afternoon. One man said that “*We live here so when the trucks come, we can go out immediately and collect waste.*” Many women and men engaged in waste collecting at the dumpsites often perceived this arrangement positively in terms of autonomy and reduced pressure, despite the absence of structure and formal protections.

None of the waste pickers involved in this study reported participating in any organization, association, or labor union, as most were not aware of the existence of such groups to which they can join. Furthermore, although the Independent Democracy of Informal Economy Association (IDEA) is working to advocate the informal waste sector within Battambang, it seems they do not implement substantial activities at this moment to promote the rights of waste pickers at both dumpsite and landfill.

6.3. Gender Roles, Care Responsibilities, and Household Dynamics

Waste picking at both sites is primarily carried out by families or households; however, a distinct gendered division of labor is evident across specific tasks. Responses from waste pickers at both Slaket dumpsite and Ta Kream landfill reveal a consistent pattern regarding the gender dynamics of labor division. Women are more likely to undertake sorting, organizing, managing daily activities, while men typically are tasked for transporting and storing. At the Slaket dumpsite, women often clean collected materials, including plastics, to reduce odor before selling them to junk shops or depots¹⁴. Male waste pickers at the dumpsite also manage transactions outside the immediate worksites. Unlike male waste pickers at Slaket, Ta Kream male workers do not need to transport waste outside the site for selling because the buyer usually buys materials onsite. However, male waste pickers at Ta Kream are still responsible for transporting collected materials for storage places. In this context, men mainly engage in physical tasks related to waste collection activities.

The involvement of women in waste collection often intensifies their workloads, as it is undertaken alongside childcare and domestic responsibilities such as food preparation and various household tasks. In November 2024, during a discussion with a group of migrant waste pickers from Siem Reap, we observed a female waste picker at the Ta Kream, breastfeeding her child while collecting materials on the site¹⁵. In addition, the flexible rescheduling of waste collection jobs had gendered implications. For example, a female waste picker at Ta Kream stated that she had to work in the landfill during the intervals between dropping off and picking up her children from school. She then needed to make time for food preparation and manage household chores through the day.¹⁶ In this sense, flexibility does not necessarily reduce women's workload but rather it allows them to accommodate and absorb multiple roles simultaneously. This reinforces the expectation that care responsibility primarily remains

¹³ Male waste picker, dumpsite, 31 October 2025.

¹⁴ FGD with female waste pickers, Slaket dumpsite, 21 November 2024

¹⁵ Field observation, Ta Kream landfill, 22, November 2024.

¹⁶ A female waste picker, Ta Kream landfill, 29 October, 2025.

within their roles. Hence, women share responsibilities in waste collection with men, but they have a greater burden of family chores and caregiving.

In terms of financial management across the two sites, women are responsible for managing budgets, allocating daily expenditures, managing debt repayment and prioritizing spending on food, education and healthcare. A woman at Ta Kream landfill said that *“I am responsible for managing all income and family expenses. My husband doesn't care... because he trusts me.”* A male waste picker at the dumpsite said “My wife oversees all income... for the daily expenses, we discuss together...”. This role may show a level of trust within households, it more often reflects the transfer of scarcity management, as women must continuously navigate unstable and limited income. Their financial status does not necessarily translate into increased decision-making power, especially with discretionary expenditures.

Care responsibilities, particularly the lack of accessible childcare, play a central role in shaping household dynamics and contribute to children's presence in or near waste-picking sites. In the Ta Kream landfill contexts, younger children are often brought to the worksite due to the absence of alternative care arrangements. As one couple explained, “We bring them with us... Our 3-year-old stays with us for the whole day because there is no one to take care of them.” During our fieldwork in 2024 and 2025, we witnessed some children following their parents to the landfill. Some children, approximately 10 years old, have already dropped out of school and they assisted their parents for waste collection. Thus, the presence of children at the collecting site is driven by poverty and lack of schooling and available childcare centers near the site.

In dumpsite areas, waste pickers have comparatively better access to childcare and educational support through COMPED, which provides services for children aged 3 to 6, along with scholarships and programs in English, life skills, and waste management. We observed children playing at a resisting area and playground, designed especially for children of waste pickers and their families. Parents often attempt to limit their small children for direct involvement at the collecting site. A female waste picker claimed that she often avoided taking her little son to the waste picking areas. However, her children still exposed to the dumpsite environment because they have to eat and sleep at night at the dumpsite¹⁷. Some children worked with their parents at the collecting sites during the school holidays, but this affected their health (see below section). Hence, the children of Slaket waste pickers receive better educational service, but they are still living in the dumpsite environment.

Overall, across both landfill and dumpsite contexts, a consistent pattern emerges in which gender roles, care responsibilities, and household dynamics are shaped by intersecting conditions of informality, economic precarity, and limited access to basic services. While the organization of the two sites differs, gendered divisions of labour, caregiving, and intra-household responsibilities remain largely similar.

6.3. Health risks and safety concerns

Headaches, respiratory problems, and discomfort from decomposing waste fumes and gases are common health concerns reported at both Ta Kream landfill and Slaket dumpsite. Many also described physical injuries, particularly cuts from sharp objects, including broken glass, metal shards, and needles. Moreover, prolonged exposure to polluted water and unsanitary conditions has been associated with skin and leg-related health concerns, especially during the rainy season. The rainy season increases health hazards as the rainwater led to the increase the

¹⁷ Female waste picker, Slaket dumpsite, 31 October 2025

concentration of toxic leachate and odors from decaying waste. As a waste picker at the dumpsite noted, “*Working here has affected our health such as lung disease, and I had leg disease from dirty water*”.¹⁸ Exposure to heat and direct sunlight has led some waste pickers to complain of fatigue and physical discomfort. Some waste pickers at Ta Kream mitigate this by building temporary shaded rest areas under nearby trees¹⁹.

These risks are not experienced uniformly. Women often face compounded exposure due to their dual burden in productive work, and unpaid care and domestic work. At the Slaket dumpsite, women were primarily responsible for sorting, cleaning, and preparing recyclable materials. Their tasks involved extended contact with dirty and contaminated waste, especially the cleaning of plastics to reduce odour before sale. As shown earlier (see section 6.2), these activities are carried out alongside childcare and domestic responsibilities, intensifying physical exhaustion and limiting opportunities for rest and recovery for female waste pickers. In this sense, gendered divisions of labour further intensify these health risks for women. In addition, for women who bring young children to the site due to lack of childcare could risk the children’s health and safety.

Despite widespread awareness of these risks, the use of protective equipment remains limited and inconsistent. Basic items such as gloves, waste clippers, and boots are commonly used but are often self-financed and not always worn consistently. Masks, in particular, are frequently avoided due to discomfort and breathing difficulties in already polluted environments. As a female waste picker stated, “We use fabric gloves, a waste clipper, and a cart-motorbike. I paid for everything with my own money...”²⁰. This shows the absence of systematic occupational safety support.

Health and safety risks are generally recognized among waste pickers in both locations; however, they prioritize maintaining livelihoods. For many waste pickers, engagement in this work is not a matter of choice but necessity, reinforcing a cycle where exposure to hazardous conditions is tolerated as part of everyday survival. Interviews at both Ta Kream and Slaket about health risks, some waste pickers initially felt uncomfortable touching and handling unclean and foul-smelling materials. Many eventually became accustomed to these conditions, indicating a gradual normalization of risk as livelihoods need to be merged. In this context, income generation is often prioritized over personal health and safety. As one respondent explained, “*Sometimes I get injured by a piece of glass, but I stay here as usual...*”²¹. This illustrates how minor injuries are absorbed into everyday routines rather than seen as exceptional risks.

Waste pickers across both dumpsite and landfill settings reported experiencing stigma and social marginalization in various forms. In both cases, the surrounding communities still have negative perceptions of waste picking, which is generally viewed as low-status employment. For example, some of the waste pickers at Ta Kream landfill reported that some nearby neighbors looked down on them and suggested they find alternative employment. In addition, another woman also stated that some villagers perceive her as dirty and believe she carries

¹⁸ Male waste picker, Slake dumpsite, 31 October 2025.

¹⁹ Field observation, Ta Kream landfill, 22 November 2024.

²⁰ FDG with women, Slaket dumpsite, 21 November 2024.

²¹ Female waste picker, Slaket dumpsite, 31 October 2025.

bacteria from the landfill²². As a result, they avoid close contact with her, and she therefore avoids participating in community events.

The waste picker community at the dumpsite is not only experiencing stigmatization but also faces heightened threats linked to drug use and more adversarial relations with authorities. A municipal official in Battambang claimed that waste pickers at the Slaket dumpsite associate with drug use and actively oppose their presence onsite²³. This results in more hostile treatment and negative attitude towards waste pickers at the dumpsite and explains the weaker institutional support. In contrast, in the Ta Kream landfill, provincial authorities provide accommodation for waste pickers (see above section).

Some waste pickers seem to acknowledge that certain people among them at the dumpsite engage in drug use. A woman expressed feelings of fear and insecurity while staying alone in her tent at night, particularly when her husband returned late from work as a truck loader with CENTRI²⁴. Sometimes, she chose to stay with other fellow waste pickers until her husband arrived. Another woman was concerned about the loss of her collected waste materials. Some pickers were suspicious of some people in the same settlement area using drugs, leading to limited communication and daily social interaction with those people.

7. Income and selling arrangements with waste depots

The income earned by waste pickers at the Ta Kream landfill varies considerably depending on the household participation, accessibility of waste recyclable materials, and the duration of engagement in waste picking activities. The reported earnings of those interviewed range from as low as 160,000 riel (40 USD) to up to 900,000 riel (225 USD) per selling cycle, typically over a period of three to four weeks. Waste pickers who are newly engaged in this work tend to earn less, as they are still learning to identify valuable materials, sort waste effectively, and adapt to the working environment. When they become familiar with the types of recyclable materials, and adjust to the physical conditions of the landfill, especially strong odor, their earnings gradually improve. Most of the land waste pickers who were interviewed complained that the materials disposed of at the landfill are generally of lower value, since they could largely collect plastic bags. The higher-value recyclables are generally collected at the CINTRI transfer stations before reaching the landfill.

The earnings from waste picking are tied to the number of family members participating in the labor force. A male waste picker had been working at the Ta Kream landfill for four months. In his first two months, he reported earning 900,000 Riels (about 225 USD) and 600,000 Riels (150 USD) respectively while working with three family members. In the last two months, Dara shifted to collecting waste materials only with his wife. His monthly income dropped to 400,000 Riels (100 USD) and 470,000 Riels (117.5 USD). Thus, the more family members could help collect waste, the more money from waste pickers' families could generate from the waste materials.

The earnings from waste materials are not sufficient to provide a stable quality of life. The income that Dara earned above could not support his family, forcing him to borrow the money in advance from the waste depot owner. Each month, he owed the money to the grocery shop, and he usually paid it back when receiving the money from the sale of recyclable materials.

²² Female waste picker, Ta Kream landfill, 29 October 2025.

²³ Municipal official, 31 October 2025.

²⁴ Female waste picker, Slaket dumpsite, 31 October 2025.

“This month, I borrowed 150,000 Riels (37.5 USD) from the waste buyer in advance because I owed money 100,000 Riels (25 USD) to a grocery shop in the village.....I have to borrow money from the waste depot every month to cover the daily expenses”. This indicates that he and his family are living in extreme economic instability, as the earnings from waste picking are not sufficient to cover their daily expenses. In this case, Dara was forced to enter a cycle of debts with grocery and waste depot owners.

Some waste pickers had to do other jobs to supplement their income. A female waste picker in Ta Kream landfill worked together with her husband who recently joined her after returning from Thailand as a construction worker. She said that she could earn around 500,000 to 600,000 riels (approximately USD 125–150) with her husband. However, she noted that her husband did not collect waste regularly, as he was sometimes asked to help neighbors with agricultural work, which provides additional income for the household. These earnings were not enough to support her family so she had to borrow the money from the waste depot owner ahead of time. In some cases, some families even managed to earn up to 1 million Riels (250USD) per month, but it was still difficult to survive with this amount. All interviewed waste pickers at the Ta Kream landfill reported that they took loans from the waste depot owner to support their living. They then repay the waste buyers after selling materials.

The Romsay Sak waste depot received exclusive purchasing permission to buy recyclable materials from the Ta Kream landfill, granted by the landfill management authority. Ta Kream is approximately 25 km away from the central provincial town of Battambang, and therefore the Romsay Sak depot offers collecting the waste materials on-site. They collect once every three to four weeks. A landfill staff reported that this arrangement was intended to support waste pickers so that waste pickers did not go to the depots themselves. Waste pickers stored their materials inside the storage plots provided by the landfill management authority. Thus, waste pickers can save transportation cost and time while some waste pickers do not have any means of transportation.

All interviewed waste pickers in Ta Kream showed positive reactions towards the Romsay Sak depot. This is due to their provision for waste pickers to borrow or receive cash advance. Waste pickers reported that cash advance is useful for meeting their daily needs; especially for food and other family expenses. The repayment to the depot owner is made when recyclable materials are sold at the end of each month, followed by new cash advances after the sale. In addition, some waste pickers claimed that the prices are no different from other waste depots in this region. Interviewing with some waste depots at the Battambang provincial town, we also learned that they offered similar prices. Given his own poor background and many struggles, the Romsay Sak depot owner sympathized with waste pickers. He had worked as a construction worker in Thailand, and then returned home to work as a waste picker. He has eventually become the waste depot owner. Hence, waste pickers and Romsay Sak depot create dependable relationships.

The Slaket dumpsite waste pickers could make similar earnings to those of the Ta Kream waste pickers. Most reported that they sold recyclable materials every two to three weeks, but this often depends on their immediate financial needs. Some explained that they sold certain materials weekly to cover daily household expenses. Plastic bags are typically sold less frequently, as depot buyers usually bought on-site only every three to four weeks. They also noted that income varies depending on the level of family involvement in waste collection, commonly involving two to three household members. Some reported earnings around 260,000 riels (USD 65) to 500,000 riels (USD 125) per month, while others earned between 400,000 riels (USD 100) and 800,000 riels (USD 200). However, many emphasized that their earnings

have declined following the establishment and operation of the landfill in Ta Kream. They said that fewer waste trucks took the waste to the dumpsite, reducing the availability of valuable materials. Several claimed that their current income has dropped to nearly half of their past earnings.

Waste pickers at the Slaket dumpsite have flexible selling options and engage in diverse selling arrangements with waste depots due to being located within Battambang city. They may sell recycled materials to any waste depots. However, the majority of pickers rely on some nearby buyers. The Romsay Sak depot also bought waste materials directly from the dumpsite, especially plastic bags, as they specialize in buying and recycling of used plastic bags. Some waste pickers reported that some depots refused to buy waste materials from the dumpsite, considering items with odor or without cleaning²⁵. With the exception of buying plastic bags, one waste depot owner with her facility close to the dumpsite claimed that she purchased all recyclable times. She also emphasized that she did not discriminate against waste pickers from the Slaket dumpsite. She could organize her workers to collect materials at the dumpsite when waste pickers are ready to sell their items²⁶. Interviewed waste pickers also confirmed their good relations with this particular depot.

8. Access to social protection schemes, training, and financial resources

Most waste pickers at both sites claimed that they hold an Equity Card (commonly referred to as IDPoor), either classified as IDPoor 1 (very poor) or IDPoor 2 (poor). They explained that this allows their families to access free public health services, with some mentioning that their visits to local health centers or hospitals, helping to reduce out-of-pocket healthcare costs. Only a few waste pickers at both the landfill and dumpsite reported being aware of other available benefits related to access to technical and vocational education and training (TVET). According to the Guidelines on the National Social Assistance Programs under the Family Package developed by the National Social Protection Council (NSPC, 2023), Equity Card households receive 34,000 riel (USD 8.5) per month for up to 12 months, with an additional 28,000 riel (7 USD) per month for each vulnerable household member, including older persons, persons with disabilities, and people living with HIV/AIDS. The program also provides monthly education support for children, ranging from 20,000 riel (USD 5) for primary and lower secondary students to 30,000 riel (USD 7.5) for upper secondary students, although in practice the transfers are made quarterly (UNICEF, 2025). Pregnant women and children under two years old receive additional maternal and child health benefits, including ANC and PNC incentives of 80,000 riel (USD 20) per visit for up to four and three check-ups respectively, as well as childbirth delivery bonuses. The household members are also eligible for other state support, including TVET programs.

Some waste pickers at both the landfill and dumpsite also reported that they have heard about the National Social Security Fund (NSSF), mainly through others working in factories, government institutions, or organizations. However, most noted that they are not fully aware of whether their work is covered, how to access the scheme, or what specific benefits it provides. IDEA, a local NGO, advocating for the rights of waste pickers claimed that informal waste pickers are unable to access the NSSF due to the lack of formal employment contracts²⁷.

²⁵ FGD, Slaket dumpsite, 22 November 2024

²⁶ Waste depot owner, 30 October 2025.

²⁷ IDEA, 11 October 2025

A few waste pickers have made preparations to leave the informal waste-picking sector. Champa, a female waste picker at the Ta Kream claimed that she enrolled in a six-month weekend training course on food and drink processing at the commune hall, where she learned how to make cakes and beverages such as soybean milk. Champa was enthusiastic to learn new skills as she wanted to open up new ways to make a living. Champa stated that she did not want to work as waste pickers permanently. Once she has saved enough money, she wishes to open a small drink shop at her village, which is not far from the landfill. Champa is a dreamer, and thus she also expressed interest in becoming a middle person who could buy recyclable materials directly from households. Champa was not sure that she could take loans from financial institutions because it would require some investments to buy a motorbike for transportation and require some money to start up this business²⁸. Champa's story shows her ambition to start her own business and prepare her with new livelihood options.

At the dumpsite, many waste pickers said they had not received any formal skills training. Some younger women mentioned that they had learned about vocational training opportunities at Battambang town. Some had registered for the training related to hairdressing, and beauty salon, food processing and baking, but had not yet received further information on when the training would begin. During the validation workshop in February 2026 conducted as part of this study, participants were introduced to an initiative by iDE Cambodia working with informal waste pickers in Kampong Chhnang on entrepreneurship. Several young female waste pickers expressed their interests in developing their skills and knowledge, particularly in relation to the startup of small business development. A representative from the Provincial Department of Labor and Vocational Training²⁹ explained during the consultation workshop that vocational training programs cover a wide range of practical skills designed to respond to local labor market demands. These include both short-term and long-term certificate programs in areas such as agriculture, information and digital technology, small enterprise and service sectors, and technical skills delivered through training institutions in Battambang, as well as mobile training initiatives reaching selected communities. However, there appears to be limited or no vocational training specifically focused on recycling, waste management, or other green jobs linked to the circular economy.

9. Waste Management Initiatives in Battambang

Donors and NGOs have targeted Battambang municipality to implement various projects and initiatives aimed at improving municipal solid waste management. For example, the Global Green Growth Institute (GGGI) was a key actor in establishing the Sustainable City Strategic Plan for 2020-2030 for Battambang city. With this strategic plan, Battambang prioritizes its city to adopt green growth goals, putting their focus on improving waste collection, infrastructure and increasing awareness among households. However, the informal waste pickers were not included during the development of this formal strategy. In 2019, GGGI conducted a study exploring possible ways for improving recycling activities in Battambang and suggested the establishment of waste picker associations to help them access social protection programs from the government. At this point, the Battambang municipal authority has not taken actions regarding the establishment of cooperatives.

Battambang city has been also working closely with support from GIZ through various projects, including the project helping to improve governance, planning, operational efficiency

²⁸ Female waste picker, Ta Kream landfill, 29 October 2025.

²⁹ Female participant in the consultation workshop on 10 February 2026.

of the municipal waste management at national and sub-national levels in Cambodia. Battambang city is one among 5 target provinces supported by GIZ's project called GGI4CE which is a waste management initiative focusing on separating waste at the source. In early 2025, this project commenced with a three-year timeframe, aiming especially to support the separation collection, composting, and value-added recycling of organic materials, fostering partnerships with the private sector for recycling and integrating the informal sector into the formal waste management system. Overall, the project intends to raise public awareness about waste separation and to reduce waste disposal at the landfill. GIZ and Battambang municipal authorities expect that this project will contribute to the cleanliness of the city and increase more jobs for informal door-to-door waste collectors. However, the question remains for informal waste pickers at dumpsite and landfill who would lose their income from the initiative of waste separation at source.

Some initiatives have played essential roles in fostering an inclusive approach, moving informal waste pickers from invisibility towards some forms of recognition. For example, NGOs such as COMPED and COMPOSTED have established composting and organic waste processing initiatives at the Slaket dumpsite. As the operation of the composting plant is still on a small scale, only few waste pickers are employed. In addition, the COMPOSTED through the collaboration with the Institute for Global Environmental Strategies have worked to focus on strengthening the capacity and agency of informal waste pickers through training on occupational health and safety (OHS), financial literacy, and improved understanding of their roles within the broader waste management system. COMPED, especially, has provided basic services for informal waste at the Slaket dumpsite to water, sanitation, childcare, and temporary support, with education and skills development. Another local NGO, IDEA, has worked with waste pickers to organize for collective bargaining and to enroll them in the National Social Security Fund (NSSF). However, these initiatives often struggle to make state authorities adopt these NGOs' ad-hoc pilots for integrating informal waste pickers into formal waste management frameworks.

Currently, there are two Material Recovery Facilities (MRFs) in Battambang. A newly constructed and larger MRF, supported by the Asian Development Bank through landfill development initiatives, is located adjacent to the landfill site. Another smaller MRF is located at the Slaket dumpsite. At present, the landfill-based MRF is primarily used by informal waste pickers for sorting and temporarily storing collected recyclable materials, while the MRF at the Slaket dumpsite is being utilized through collaboration with a private recycling company to clean and process plastic bags into smaller recyclable pieces. However, these activities remain small-scale and currently provide employment opportunities for only a limited number of waste pickers. Overall, the MRFs have not yet been fully operationalized beyond basic sorting, storage, and limited processing functions. Local authorities in Battambang indicated that discussions are underway regarding potential waste-to-energy initiatives at the landfill site. Nevertheless, it remains unclear how the MRFs will be integrated into these future waste management systems to enhance value addition, expand income-generating opportunities, and promote more inclusive and decent employment for informal waste pickers, who are likely to be significantly affected by ongoing waste management modernization efforts.

10. Towards an inclusive and just transition for informal waste pickers

The lived experience of many waste pickers in the Ta Kream landfill and Slaket dumpsite may reflect a wider reality for many informal waste pickers across Cambodia. In line with prior research, people entered into the informal waste-picking sector due to socio-economic

vulnerability, poverty and other forms of struggles (Visvanthan et al., 2025; Schroeder, 2023). Many waste pickers from our case studies are committed to generating incomes for their families and survival strategies, despite being aware of the severe and long-term health issues and the harsh working conditions within the dumpsite and landfill settings. This similar trend also occurred in other regions of Cambodia. For example, many marginalized groups from the different rural settings in Cambodia are forced to work in the urban dumpsite in Siem Reap in order to earn income for their survival (Schroeder, 2023). Additionally, waste pickers from dumpsite and landfill face social stigma and injustice treatments from the formal waste management system. Therefore, this research raises some important implications regarding a just transition for informal waste pickers.

Despite undertaking essential environmental services within Battambang, especially for help to prolong the life times of disposal sites, waste pickers at Ta Kream landfill and Slaket dumpsite are not included in the formal waste management system. The World Bank's study calls the tasks that are performed by informal waste pickers as "unseen green jobs" even though they are driving in the global green growth agenda (World Bank, 2024). Battambang city has been considered as an "ASEAN eco-town" and a "model green city" for its commitments to cleanliness and sustainability (Lord et al., 2024). However, this environmental branding seems to disconnect and exclude informal waste pickers from official municipal planning. It is especially illogical to exclude the formal integration of waste pickers within Battambang city's sustainability and cleanliness framework, as they play an essential role in waste reduction in this city.

Environmental and social justice are not wisely considered when employing modern waste infrastructure. The studies on the improving sanitary landfills in some countries such as South Africa and the Philippines show that informal waste pickers often lose their jobs and reduce income for their families after upgrading landfill facilities and management (Schenck et al., 2019; Ito and Igano, 2023). At the current stage, the Slaket dumpsite is still operational so that waste pickers who live on-site could earn income from the waste materials. However, Battambang Municipality authorities intend to close down this dumpsite in the future, as a new landfill in Ta Kream has already been established and operated. There are no clear plans of how the authority will transit these waste pickers to new sectors or formalize them into a formal waste system. The comprehensive policy and action plan should be prioritized for a "just transition" for these waste pickers.

Some aspects from findings could be seen as the implementation of a just transition or inclusive approach. For example, the provision of accommodation for waste pickers at the Ta Kream landfill demonstrates a positive response on the living condition and health risks. However, the Battambang provincial administration must move from informal assistance and ad-hoc interventions to establishing more systematic and institutionalized support systems. In Brazil, organized waste pickers through associations and cooperatives are formally recognized by the state agencies. They then are eligible to receive social protection schemes and health insurance (WIEGO, 2022, ILO, 2019). The Battambang authorities and the national government should adopt a similar approach to recognize waste cooperatives that help them access the social

protection schemes, especially the National Social Security Fund (NSSF). A local NGO, IDEA has been trying to form waste pickers as groups or cooperatives to enable them to access social protection schemes. However, the commitment and efforts of formalization of these waste pickers should be integrated into the overall and formal waste management framework of Battambang provincial administration and the national government.

Social protection measures should be expanded to better support informal waste picker households, particularly women who bear the primary burden of childcare and caregiving responsibilities. This study shows that the limited availability and accessibility of affordable childcare services create significant challenges for women waste pickers in balancing income generation with caregiving responsibilities under unsafe and physically demanding conditions. Therefore, some women brought their children to landfill sites and dumpsites while working. Although NGO (COMPED) has provided some childcare support interventions, limited coverage and the lack of sustainable alternative care arrangements continue to expose both women and children to hazardous environments that may negatively affect children's health, safety, and development.

Parents involved in formal employment can access labor and social protection measures, including regulated working hours, parental leave, maternity benefits, health insurance, and employer-supported childcare services. This provides greater flexibility and security in managing childcare responsibilities and household wellbeing (ILO and WIEGO, 2019). In contrast, informal waste pickers, particularly women, often work without these protections and support mechanisms. The absence of social and labor protections, combined with limited public childcare services, increases women's economic insecurity, unpaid care burdens, occupational health risks, and constraints on their ability to engage in safe and stable livelihood activities. The formalization of informal waste pickers to access social protection schemes and essential social services is critical.

A "just transition" should be addressed through providing capacity building and vocational training for informal waste pickers. The studies conducted by the World Bank (2024) and Schroeder (2023) show that people engage in formal waste pickers due to the lack of necessary skills and limited education background, preventing them from searching for formal employment and alternative livelihoods. The Cambodian government has been implementing the Technical and Vocational Education Training (TVET) program. This existing system can be used to transit informal waste pickers to formal jobs. However, many poor and vulnerable groups are often unaware of this program (World Bank, 2025), and therefore many waste pickers in both Slaket dumpsite and Ta Kream claimed that they were unable to attend any vocational training sessions. Some waste pickers showed their desire to upgrade their livelihoods by strengthening entrepreneurship capacities, and enhancing recycling related skills similarly to iDE's initiative supporting informal waste pickers and collectors in Kampong Chhnang). Others hope to transition away from the informal waste-picking sector. In this sense, vocational training and new skills development can provide important pathways for waste pickers for livelihood diversification, economic mobility, and improved resilience among waste pickers.

11. Conclusion

This research underscores that landfills and open dumpsites in Battambang are not merely waste disposal sites, but also important economic spaces and workplaces for most marginalized populations. Waste pickers at the Slaket dumpsite mostly consist of urban poor people from the city, while the majority of Ta Kream landfill pickers are a mix of local residents and migrants from different parts of the country. Living and working in the dumpsite and landfill because they have no alternatives. This means that waste collection represents a last-resort livelihood, driven by extreme poverty, landlessness, debt, the lack of formal employment opportunities, and various other adversities. Despite providing essential, albeit often “unseen,” environmental services by reducing waste volumes, supporting recycling activities, and extending the lifespan of disposal sites, informal waste pickers remain largely invisible, under-recognized, and excluded from formal municipal waste management systems and urban sustainability planning.

The findings reveal a landscape of profound social, economic, and occupational vulnerability among waste pickers. Many work under hazardous and unhealthy conditions, exposing them to injuries, respiratory illness, unsafe waste materials, and social stigma. These challenges are experienced differently by women and men waste pickers. Women often face a double burden of income generation alongside unpaid caregiving and domestic responsibilities, frequently without access to safe childcare support. Women may also face greater exposure to gender-based violence, harassment, and reproductive health risks within landfill and dumpsite environments. At the same time, ongoing modernisation of the waste management systems, including sanitary landfill development, waste separation, recycling, composting initiatives, and potential waste-to-energy projects, may unintentionally threaten the livelihoods of dumpsite waste pickers if social inclusion and equity are not adequately addressed.

As Cambodia increasingly advances toward circular economy and green growth agendas, the modernization of waste management systems must go beyond infrastructure development alone. A just transition approach is needed to ensure that informal waste pickers are not excluded from emerging opportunities within the formal waste and recycling sector. This requires formal recognition of waste pickers as environmental service providers and stronger institutional support to integrate them into the overall national framework of formal waste governance structures. Provincial authorities and national ministries should work with development partners and NGOs to support the establishment of waste picker cooperatives or associations. This will particularly strengthen collective bargaining power, improve working conditions, increase representation of both female and male waste pickers, and facilitate access to formal partnerships and government support.

Strengthening social protection mechanisms is also critical for improving the wellbeing and resilience of waste picker communities. In particular, greater efforts are needed to support waste pickers’ access to the National Social Security Fund (NSSF) through more accessible and affordable enrollment mechanisms for self-employed and informal workers. Expanding access to healthcare, occupational injury protection, sanitation, childcare services, and other

welfare support is essential, especially for women waste pickers with caregiving responsibilities and those facing heightened occupational and gender-related risks.

Strengthening access to Technical and Vocational Education and Training (TVET), entrepreneurship support, and green skills development can also play an important role in creating alternative and more sustainable livelihood pathways. Existing initiatives, including entrepreneurship support by iDE Cambodia, demonstrate the potential for empowering waste pickers, especially women and youth, to diversify their livelihoods and participate in emerging green economy opportunities. Similarly, Material Recovery Facilities (MRFs) could become more inclusive employment hubs if fully operationalized beyond basic sorting and storage functions.

Ultimately, achieving a just transition for Battambang's informal waste sector will require stronger collaboration among government authorities, NGOs, development partners, the private sector, and waste picker communities themselves. Waste management reforms and circular economy policies should be designed not only to improve environmental sustainability, but also to promote social justice, decent work, and equitable livelihood opportunities. Ensuring that informal waste pickers are formally recognized, protected, organized, and included within Cambodia's evolving waste management system is essential for building a more inclusive and sustainable urban future.

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