



WOMEN WASTE WORKERS: SECTOR ASSESSMENT

Developed by Palladium for TRANSFORM, an impact accelerator led by Unilever, the UK Government's Foreign, Commonwealth and Development Office, and EY.

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Woman Waste Workers: Sector Assessment

Introduction

Content of the Assessment

This assessment has been developed in consultation with TRANSFORM staff with three main objectives:

- i. To assess gender trends in the current state of the sector.
- ii. To identify funding opportunities specifically targeting women entrepreneurs
- iii. To identify gender-focussed support organisations as potential partners for capacity building and mentorship programmes.

The assessment is comprised of three parts, focussed on three key sectors. This part of the assessment will focus on livelihoods through **plastics**.

Each year, the world produces more than 350 million tonnes of plastic waste. In much of the world, the recycling infrastructure is nascent and offers little to no economic incentive for producers to re-use plastic¹. As such, the burden of recycling falls to the waste management sector, and a thriving industry of waste workers has emerged across the global south.

Many waste workers are drawn from socio-economically excluded parts of society. The work is undesirable, precarious and often dangerous. The diversity of businesses operating in this sector ranges from sophisticated recycling plants, often buying waste from “middleman” companies, to individual, informal waste workers that live, work, and sell waste at the landfill or dumpsite. In many ways, waste workers are the people at the bottom of the plastics value chain. They are essential to recycling efforts, yet they see the smallest share of profits and much of the value in waste sales is extracted by middleman collector companies and not waste workers themselves². Many of the pervasive barriers to women’s inclusion in the formal sector are replicated among informal waste workers and some issues, such as the threat of gender-based violence and unsafe working conditions are heightened.

In the next section, this report outlines the current state of the plastics sector from a gender perspective. The report subsequently highlights some gender-specific trends and challenges in the sector with a focus on livelihoods of waste workers and reclaimers.

¹ <https://allianceforscience.org/blog/2024/01/developing-countries-victims-of-plastic-injustice-as-wealthier-nations-turn-them-into-dump-sites/>

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Sector Assessment

Gender Trends in the Sector

The informal nature of waste picking makes it challenging to estimate gender representation in the sector. In Kenya, estimates range from forty³ to over fifty percent of waste workers being women⁴, while in India, estimates range from 49%⁵ at national level, to as high as 72% in some cities⁶. Estimates in Ghana suggest that 39% of formal and informal workers in the plastic waste management sector in Ghana are women⁷. Research has indicated that in Nigeria, women's participation in the waste management sector is far greater, with women dominating the generation, storage, and collection of waste at 81%, 96%, a 91% of the workforce respectively⁸. Many of these figures are estimated and extrapolated, and the true gender-makeup of the sector remains unclear. In Indonesia, the National Plastics Action Partnership reported that there is no reliable gender data on either the formal or informal waste sector in Indonesia⁹.

What is clearer, is that women's involvement in the sector is often limited to the bottom of the sectoral hierarchy – picking waste from landfill, roadsides, and dumpsites¹⁰. The transactional and commercial elements of the supply chain, such as “middleman” garbage collectors that sell waste on to recycling operators, are more commonly men and take a larger share of profit¹¹. A study in Kenya found that male waste workers were more likely to be their family's sole earner, whereas female waste workers were more often supplementing other income through waste picking. Almost universally, female waste workers are expected to make less than male counterparts.

Gender Specific Challenges and Constraints

The constraints to women's profitable employment in the plastics value chain are multifaceted and interconnected. Below, this report outlines some of the most impactful constraints facing female waste workers working in plastics.

Gender bias and lack of access to networks at dumpsites

Waste picking can be extremely hierarchical. The potential to collect valuable waste is determined by dump type (dumpsite, landfill, roadside etc), location within the dumpsite, and time of access (based on hour of delivery of waste). Access to specific areas of dumpsites and the timetable is

³ <https://www.the-star.co.ke/climate-change/2024-11-26-call-to-reduce-plastics-protect-kenyan-women-waste-workers>

⁴ <https://ke.boell.org/en/2024/04/03/gender-equitable-employment-amidst-kenyas-plastic-predicament>

⁵ <https://timesofindia.indiatimes.com/india/cash-from-trash-women-waste-workers-are-upcycling-their-lives/articleshow/97464752.cms>

⁶ <https://globalrec.org/law-report/india/>

⁷ Ghana National Plastic Action Partnership. 2022. *An Intersectional Gender Equality Strategy for the Ghana National Plastic Action Partnership*.

⁸ <https://www.iiste.org/Journals/index.php/JEES/article/viewFile/2739/2764>

⁹ Indonesia National Plastic Action Partnership. 2022. *Indonesian Plastics Sector Social Context Assessment Report*.

¹⁰ Shankar, V Kalyan and Rohini Sahni. 2017. 'The inheritance of precarious labor: Three generations in waste picking in an Indian city'. *Women's Studies Quarterly* 45(3/4): 245–62.

¹¹ <https://businessfightspoverty.org/plastic-waste-is-hurting-women-in-developing-countries/>



often determined by longstanding, informal hierarchies, based on years of working the site and the networks held by individuals. Often, these individuals know which waste will be deposited where and when and use this to enable them and their connections to access the most valuable waste. These networks, and the dumpsites themselves, are typically run by men to favour their own access and access of friends and acquaintances¹². As such, many women find themselves competing with entrenched hierarchies and even organised gangs that dominate the local waste picking ecosystem¹³. In some cases, male-led groups have mobilised to prevent women from working at lucrative dumpsites, driving women to pick at landfill and by roadsides. This can be compounded by men's typically greater physical strength, enabling them to claim larger waste products or steal them from women¹⁴.

These barriers are inherently intersectional. In India, caste-patriarchy shapes access to waste, as women from lower caste backgrounds are excluded from waste picking operations¹⁵. Similarly, South African female waste workers have been observed to earn far more from waste picking than migrant Zimbabwean women at the same waste sites. This was achieved both by sales networks of the South African women, but also through organised blocking of Zimbabwean women's access to the dump during the longer, more lucrative morning shift¹⁶.

Time poverty and care burden

Many women working in plastics are also impacted by a care burden and resulting time poverty. Whilst waste picking offers flexible working hours, the earning potential is determined by accessing lucrative sites at optimal times¹⁷. Household and parental responsibilities limit the hours at which women can be present at dumpsites and waste collection centres, meaning that their access to the most lucrative waste is limited. This can result in women missing opportunities to earn, leaving children with family members, neighbours, or paid services, or taking children with them to the dumpsite¹⁸.

In many contexts, the burden of care is placed almost exclusively on women, and male waste workers are not expected to make the same choices on childcare and access to work. Daycare is

¹² https://fundforyouthemployment.nl/wp-content/uploads/2024/07/Youth-Magazine-6_pagenumber_compressed.pdf

¹³ https://fundforyouthemployment.nl/wp-content/uploads/2024/07/Youth-Magazine-6_pagenumber_compressed.pdf

¹⁴ <https://wastepickerintegration.org/wp-content/uploads/2022/09/Reclaimers-Reclaiming-Gender-and-wastepicking.pdf>

¹⁵ *Pandemic policy responses and embodied realities among 'waste-workers' in India*. Surekha Garimella, Shrutika Murthy, Lana Whittaker, Rachel Tolhurst. *Viral Loads: Anthropologies of urgency in the time of COVID-19*, 2021, pp. 201-221 (23 pages). <https://doi.org/10.2307/j.ctv1j13zb3.17>
<https://www.jstor.org/stable/j.ctv1j13zb3.17>

¹⁶ <https://wastepickerintegration.org/wp-content/uploads/2022/09/Reclaimers-Reclaiming-Gender-and-wastepicking.pdf>

¹⁷ <https://wastepickerintegration.org/wp-content/uploads/2022/09/Reclaimers-Reclaiming-Gender-and-wastepicking.pdf>

¹⁸ https://fundforyouthemployment.nl/wp-content/uploads/2024/07/Youth-Magazine-6_pagenumber_compressed.pdf



often prohibitively expensive or affordable and low-quality. In Kenya, daycare is available for as little as 50KSH per day per child¹⁹ - against a mean income of 5000KSH per month for waste workers, not accounting for a gender pay gap²⁰ – yet many women reported being unhappy with the service provided for that cost point²¹. This drives female waste workers to take children to the dump with them or leave them with friends and family. This drives further challenges. Women leaving children with neighbours must work locally in case of emergencies and cannot travel to more lucrative dumpsites or are dependent on public transport. Public transport rarely allows waste workers to board, which curtails women’s potential to travel to more profitable sites²². As such, female waste workers find themselves with long walks to dumpsites, which exacerbate their time poverty²³. Women heads of household and single parents are particularly impacted by the care burden.

The challenges in taking children to a dumpsite are many. It means subjecting children to unsafe working conditions, inadequate facilities, and the threat of violence – all discussed below. It further limits women’s options of a working location, as it ties women to child or baby-appropriate bathroom facilities and locations of relative safety.

Inadequate working conditions

Women are further impacted by inadequate facilities. Few dumpsites have bathroom facilities with privacy or available menstrual products²⁴. Furthermore, public bathroom infrastructure is not widespread in many contexts and racism, classism and discrimination against waste workers mean that few residents and businesses will let waste workers use their toilets²⁵. This is hard for all reclaimers, but worse for women, who cannot relieve themselves in public. The situation is even harder when they are menstruating, which negatively affects their health and dignity²⁶.

Many waste workers also have to contend with unsafe working conditions. Open dumpsites often burn waste, releasing harmful toxic fumes into the air. The solid waste from households containing hazardous articles is not sorted, and many dumpsites also receive waste from industries and

¹⁹ https://fundforyouthemployment.nl/wp-content/uploads/2024/07/Youth-Magazine-6_pagenumber_compressed.pdf

²⁰ <https://www.wiego.org/wp-content/uploads/2019/09/IEMS-Nakuru-Waste-Workers-Executive-Summary.pdf>

²¹ https://fundforyouthemployment.nl/wp-content/uploads/2024/07/Youth-Magazine-6_pagenumber_compressed.pdf

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²⁴ https://fundforyouthemployment.nl/wp-content/uploads/2024/07/Youth-Magazine-6_pagenumber_compressed.pdf

²⁵ <https://wastepickerintegration.org/wp-content/uploads/2022/09/Reclaimers-Reclaiming-Gender-and-wastepicking.pdf>

²⁶ <https://wastepickerintegration.org/wp-content/uploads/2022/09/Reclaimers-Reclaiming-Gender-and-wastepicking.pdf>



medical facilities²⁷. The health risks involved in managing such waste range from physical injuries, infections, chemical injuries, respiratory problems due to inhalation of toxic fumes as well as long terms effects associated with use of ground water contaminated by chemicals especially the heavy metals²⁸. Whilst these risks threaten anyone living and working at the dumpsites, women are disproportionately impacted.

Fewer women own protective footwear, gloves, and overall garments compared to male counterparts – whether due to unaffordability or not understanding the importance of these precautions²⁹. In India, one study found this led to an increased risk of frostbite and fungal infection among female rag workers that did not wear shoes³⁰. In Kenya, women working at dumpsites were found to have higher rates of hepatitis B and anaemia compared to male waste workers – which was attributed to inadequate clothing³¹. This was mirrored in a study in Nigeria, finding that female waste workers suffered significantly rates of hypertension and HIV than male counterparts³². In Brazil, a study found that female waste workers were also typically behind on their vaccine regimen – placing them at higher risk³³. These risks further underline the risks female waste workers take when bringing children to work.

Risk of gender-based violence

Waste picking entails a serious risk of violence. Women working at dumpsites are more likely than men to be talked down to, intimidated or hurt, including suffering sexual violence. Violence can be committed to limit women's access to profitable waste and enforce existing hierarchies or as opportunistic violence against women in unsafe, unregulated environments, such as the dump. Research led by the Challenge Fund for Youth Employment identified that women waste workers in Kenya identified safety concerns as a major limiting factor of women's earning potential at dumpsites. The threat of violence limits women's access to the most lucrative areas of the dump and the delivery hours³⁴. There is also risk of sexual harassment and sextortion at dumpsites³⁵. In

²⁷ Mberu, Blessing, et al. *Impact of Solid Waste Management on Health: A Biomedical Study of Solid Waste Workers at Dandora Dumpsite, Nairobi, Kenya*. African Population and Health Research Center, 2019. JSTOR, <http://www.jstor.org/stable/resrep23858>. Accessed 3 Dec. 2024.

²⁸ Mberu, Blessing, et al. *Impact of Solid Waste Management on Health: A Biomedical Study of Solid Waste Workers at Dandora Dumpsite, Nairobi, Kenya*. African Population and Health Research Center, 2019. JSTOR, <http://www.jstor.org/stable/resrep23858>. Accessed 3 Dec. 2024.

²⁹ Mberu, Blessing, et al. *Impact of Solid Waste Management on Health: A Biomedical Study of Solid Waste Workers at Dandora Dumpsite, Nairobi, Kenya*. African Population and Health Research Center, 2019. JSTOR, <http://www.jstor.org/stable/resrep23858>. Accessed 3 Dec. 2024.

³⁰ Santoshi Kumari, U.V. Kiran, Prevalence of health problems of rag workers due to various hazards at Lucknow city, *Human Factors in Healthcare*, Volume 2, 2022, 100023, ISSN 2772-5014, <https://doi.org/10.1016/j.hfh.2022.100023>.

³¹ Mberu, Blessing, et al. *Impact of Solid Waste Management on Health: A Biomedical Study of Solid Waste Workers at Dandora Dumpsite, Nairobi, Kenya*. African Population and Health Research Center, 2019. JSTOR, <http://www.jstor.org/stable/resrep23858>. Accessed 3 Dec. 2024.

³² Wilson K, Kootbodien T, Ntlebi V, et al O4C.1 Female landfill waste workers and their healthOccupational and Environmental Medicine 2019;76:A36.

³³ <https://www.scielo.br/j/rqenf/a/jVVqQ8dPQdCKLwQ4VqTDdcf/?lang=en>

³⁴ https://fundforyouthemployment.nl/wp-content/uploads/2024/07/Youth-Magazine-6_pagenumber_compressed.pdf



South Africa, one waste picker reported dressing up as a man in order to safely access the dump in early morning hours³⁶. In Ghana, the National Plastic Action Partnership found that there was also reluctance to report violence at dumpsites³⁷.

Gender pay gap

A significant gender pay gap exists among informal waste workers. Waste picking is not highly profitable, and payments of less than four pence per kilogram of plastic bottles collected are normal³⁸. As such, it remains the norm, in Kenya at least, that waste workers live on less than two dollars per day³⁹. Many waste workers must supplement their waste collection income with additional employment, and expenditure that requires significant saving, such as shelter, is often impossible on waste picker incomes.

Women suffer the brunt of these financial difficulties. Payment for waste is often “pay by weight”, and female waste workers cannot typically carry as much as male counterparts. Similarly, the aforementioned limitations in accessing the most lucrative waste – whether by location, operating hours, or professional networks – mean that women often collect less valuable waste and sell it for a smaller profit. A gender pay gap in the informal waste and recycling sector has been reported in Ghana⁴⁰, Brazil⁴¹, Bhutan, Mongolia, Nepal⁴², and globally.

This not only impacts women’s day-to-day survival, including paying for food, water, shelter, and household bills – but also the ability to save money to invest in their work. This furthers the insecurity imposed on women by inadequate equipment and workwear– as they cannot invest in expensive, high-quality, protective equipment without significant savings.

Social exclusion impacting waste workers

Waste workers’ challenges at the dumpsite are compounded by social exclusion and ostracization outside of it. Waste workers are perceived as social outcasts in many contexts. This perception stems from the unsanitary nature of their work environment, leading to the labelling of waste

³⁵ <https://fundforyouthemployment.nl/wp-content/uploads/2024/02/Include-Report-22.02.pdf>

³⁶ <https://wastepickerintegration.org/wp-content/uploads/2022/09/Reclaimers-Reclaiming-Gender-and-wastepicking.pdf>

³⁷ Ghana National Plastic Action Partnership. 2022. *An Intersectional Gender Equality Strategy for the Ghana National Plastic Action Partnership*.

³⁸ <https://theintercept.com/2020/04/19/africa-plastic-waste-kenya-ethiopia/>

³⁹ <https://www.wiego.org/wp-content/uploads/2019/09/IEMS-Nakuru-Waste-Workers-Executive-Summary.pdf>

⁴⁰ <https://www.weforum.org/stories/2021/05/gender-women-plastics-ghana/>

⁴¹ <https://www.packaginginsights.com/news/women-in-informal-employment-fights-gender-pay-gap-in-global-waste-picking-amid-female-disease-concerns.html>

⁴² UNEP. 2019. *Gender and Waste Nexus: Experience from Bhutan, Mongolia, and Nepal*.



workers as 'dirty' due to handling waste⁴³. Additionally, local authorities associate waste workers with criminal activity or even drug abuse⁴⁴.

Research by the Challenge Fund for Youth Employment found that female waste workers were perceived as “not suitable” partners. These perceptions erode the self-esteem of waste workers, which influences the quality of their work⁴⁵. The prevalent social stigma ascribed to informal waste workers contributes to ongoing economic exploitation and discrimination. This remains a barrier to improving the quality of their work as it significantly hampers waste workers' capacity to expand their businesses and enhance their livelihoods or advocate for better working conditions⁴⁶.

⁴³ Morais, J., et al. (2022). Global review of human waste-picking and its contribution to poverty alleviation and a circular economy. *Environmental Research Letters*, 17(6). DOI 10.1088/1748-9326/ac6b49

⁴⁴ <https://fundforyouthemployment.nl/wp-content/uploads/2024/02/Include-Report-22.02.pdf>

⁴⁵ https://fundforyouthemployment.nl/wp-content/uploads/2024/07/Youth-Magazine-6_pagenumber_compressed.pdf

⁴⁶ https://fundforyouthemployment.nl/wp-content/uploads/2024/07/Youth-Magazine-6_pagenumber_compressed.pdf



Funding Opportunities

The following table provides a short typology of funding and investment models that may be available to women-led and women-owned businesses in the plastics sector, as well as some examples in relevant contexts.

Funding Model	Description	Examples
Accelerators	Accelerators are short-to-medium-term programmes that help early-stage businesses expand quickly and increase their returns. They target early stage, but established, businesses and provide financial investment alongside capacity building. Accelerators are typically competitive and selective in their intake. Accelerators can be funded by donors, private enterprise, multilaterals or some combination.	Locally led NGOs in Southern Africa: Spring Impact Scale accelerator East Africa: develoPPP Across Africa: P4G
Incubators	Like Accelerators, incubators support emerging businesses and start-ups, however they typically intervene earlier in the business cycle. Incubators can provide financial support, alongside capacity building in goal setting, product definition, and development of business models.	Southern Africa: Razicorp , SeedEngine East Africa: WIDU Across Africa: 54 Collective Global: Right Sharing of World Resources
Research and Development Funding	Research and development funding in lower- and middle-income countries is often supported by international donors and delivered in partnership with academic and financial institutions. In the plastics sector, it can be deployed to invest in recycling and waste management technologies, as well as strengthening the infrastructure around plastics waste management.	
Donor Investment funding	<p>International bilateral and multilateral donors may fund the creation of financial products, loans and investment funds. The channels for these investments can include grant funding, challenge funds, or collaborative investment with local financial institutions.</p> <p>To support donor goals, many of these products have provisions to improve uptake among WSMEs or marginalised groups – for example, partial credit guarantees, preferential leasing and lending operations, and selective lines of credit models.</p>	East Africa: Africa Enterprise Challenge Fund , DOB Equity , DOB Local and Female Founders AGlobal: Financial Inclusion Fund
Savings and Loan Cooperatives	SLCs are owned and operated by members, and provide communities an opportunity to pool funding for larger scale investments.	



	Savings cooperatives have been extensively used to support SMEs in lower income countries and to strengthen women's economic empowerment through providing greater financial independence.	
Microfinance Institutions	Microfinance institutions provide financial services to low-income actors to support inclusion within the formal commercial sector. Microfinance products can include savings accounts, small loans, or checking accounts that enable individuals to build a credit history and provide seed funding in cases that may not be of interest to a commercial bank.	Southern Africa: Triple Funds Global: Rodenberry Foundation
Commercial Banks	Commercial banks are the basis of the mainstream financial system and one of the primary channels of loans and investment for growing businesses. As discussed previously, there are barriers to women-owned businesses accessing finance from commercial banks.	

Support Organisations

The following table provides a short typology of support organisations that could provide capacity building and mentorship to women-owned businesses or may be supported by donor funding, as well as some examples in relevant contexts.

Organisation Type	Description	Examples
Accelerators & Incubators	Alongside financial support, accelerators and incubators often take a sectoral or gender focus – providing targeted mentorship and training to business owners.	General: African Women Entrepreneurship Cooperative , ShEquity Plastics: Ocean Plastics Innovation and Circularity Challenge , Oceanhub Africa Acceleration Programme , Mombasa Plastics Prize , Afriplastics Challenge .
Sector-focussed Think Tanks	Think Tanks provide research and expertise on key sectors, as well as inputting on global and international policy. Think Tanks can be formed of sectoral networks, linked to academic institutions, or emerge through political channels.	Women in Informal Employment: Globalizing and Organizing Global Plastic Action Partnership



<p>Business Development Service Providers</p>	<p>Business Development Service Providers (BDSPs) are entities that support firms to expand, improve their performance, and access new markets. They are often funded by governments, donors, or NGOs as a means of economic growth, although in some cases (such as Nigeria) institutions such as the national bank offer an accreditation scheme to consulting firms to offer these services.</p>	<p>Kenya: Small Business Development Centres</p> <p>Ghana: National Entrepreneurship Innovation Programme</p> <p>Pakistan: National Business Development Program</p>
<p>Transaction Advisory Service Providers</p>	<p>Transaction Advisory Service Providers (TASPs) are specialist businesses that help firms to undertake complex operations and transactions. In the development sector, TASPs can facilitate investment into public services and innovation funds, including targeting women-owned and led businesses.</p>	<p>Asian Development Bank: Transaction Advisory Services</p>
<p>Women's Entrepreneur Networks</p>	<p>Formal and informal networks among women entrepreneurs are an important forum for lesson sharing, learning and discussion. They emerge both organically and through the support of donors. They can be linked to professional or academic bodies,</p>	<p>African Women's Entrepreneurship Program</p> <p>Women In Business Kenya</p> <p>Emerq India</p> <p>Womenpreneurs4Plastic</p>
<p>Business Associations</p>	<p>Business associations are professional organisations that provide a shared forum to business owners and entrepreneurs from the same sector. In the development sector, they are widely donor supported, and many include sub-networks focussed on women's economic empowerment.</p>	<p>India Plastics Pact</p> <p>Kenya Plastics Pact</p> <p>South Africa Plastics Pact</p>

TRANSFORM is an impact accelerator that unites corporates, donors, investors and academics to support visionary enterprises across Africa and Asia. Together, we test and scale new market-based solutions that build inclusive, sustainable economies, empower marginalised communities, and drive climate-resilient growth.

Combining grant funding, business insight and research, TRANSFORM is advancing the development of innovative business models to help solve global challenges. It was established in 2015 and is led by Unilever, the UK's Foreign, Commonwealth and Development Office, and EY.

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