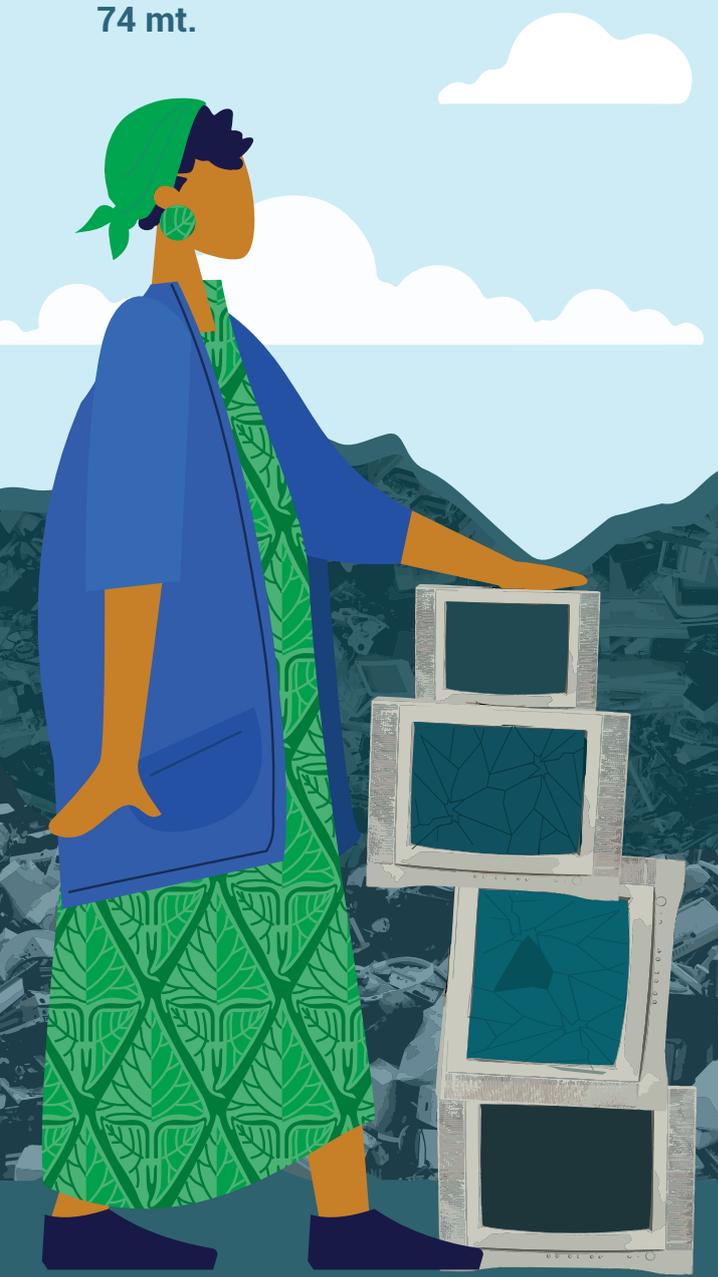


The role and experience of women in e-waste management

In 2019, the world produced 53.6 million metric tons (mt) of electronic waste – a 21 per cent increase from 2014 and making it one of the fastest growing waste streams worldwide. It is expected that by 2030, global e-waste generation may be as high as 74 mt.

Formal regulatory frameworks for overseeing e-waste management are still emerging in most countries. Even the oldest systems – such as in the European Union – are only two decades old. However, in the absence of regulatory frameworks, thriving informal businesses have grown in most countries to tackle the issue. These systems either refurbish used electrical equipment for a second sale, or dismantle and process for valuable fractions, often using rudimentary tools and techniques. Extracting metals using hazardous processes and chemicals puts workers at risk of exposure from improper use, toxic fumes, and other harmful substances. Existing evidence indicates that chronic exposure to such practices might disproportionately impact women and children by affecting neonatal development, impacting hormonal levels and immune function.



- E-waste is one of the fastest growing waste streams
- In many countries formal e-waste management systems are either nascent or non-existent
- Women participate in the informal sector, often at the lowest tiers of the hierarchy
- Evidences indicate that chronic exposure to e-waste is especially dangerous for women



Women working at an e-waste recycler without adequate working conditions and exposed to potential harm to their health

How does gender influence e-waste management?

Women's participation in e-waste management is limited and deeply contextual

- Unlike in the plastic waste management sector, where women often form a sizeable portion of the workforce, there are great variations in the e-waste sector depending on the social context. Broadly, not only are women less present in the sector, but also the roles they have are non-specialized and low paying.
- For example in Nigeria, the predominantly informal e-waste sector is almost entirely staffed by men and young boys. The few women who interact with this sector mainly do so as collectors, by picking electronic items from households and dumpsites and then selling it to recyclers, with limited opportunity to negotiate terms.
- In the informal sector in India, women often work on specific tasks, like wire stripping, or as waste pickers/collectors at the bottom of the waste management system pyramid. There are examples of women employed in the formal e-waste recyclers, particularly as dismantlers, machinery operators, as well as administrative, management and leadership levels.
- Despite the growing evidence surrounding e-waste management and increasing concern of how it is handled, there is limited globally documented evidence of women's experience in the sector.

A typical e-waste system hierarchy in India

Women are more likely to participate at the lower tiers



Gender stereotypes regarding strength and technical know-how limit participation

- In interviews with e-waste sector players in different countries, a common theme was the perceived lack of technical skills among women.
- Experience from Austria indicated that the lack of women in the sector could be linked to the generally low participation of women in science, technology, engineering and mathematics (STEM) disciplines.
- In Ghana, the societal perception of technically-intensive work being a 'man's job' was noted as a deterrent for women.
- In Nigeria, the low participation of women was also linked to the lack of precedent, because women were not 'seen' as participants they were not encouraged to participate.

Further documented evidence of women participating in the e-waste sector is needed

- In the informal sector, the participation of women in e-waste management is not unheard of; however, there is limited quantified data available globally to provide insight of the roles they play, perspectives on gender etc. In some instances women may be a part of the informal workforce purely through their relationship with owners or employees in the sector (i.e. wives, sisters, mothers of e-waste collectors or aggregators may participate to support their male relatives) while in others it might be a sector where they seek employment.
- In the formal sector, there is a visible participation of women, many of whom play key roles in management of companies or organizations in the sector – such as recyclers, Producer Responsibility Organizations (PROs) etc. Anecdotal information indicates that there might be some skill-related bias (as noted above), but there isn't enough information to draw comparisons or derive patterns.

The e-waste management sector presents an untapped opportunity for women to excel

- Given that e-waste is a highly valuable secondary source of metals with steadily rising volumes, the reverse supply chain for e-waste management can be a lucrative space for individuals and businesses. The rising push to regulate and formalize the e-waste value chain is creating an enabling policy environment that can potentially provide entrepreneurial as well as job opportunities for women.
- Effort should focus on upskilling women by providing dedicated vocational training programs, access to financial incentives and support in the form of resources and mentorship that can trigger greater participation and unlock potential. Moreover, increasing the visibility of women (especially successful entrepreneurs) in the sector will help counter societal prejudices that discourage women from 'technical sectors', while providing role models to many.
- Providing adequate opportunity for mobilization is also important. For example, in the city of Bhavnagar, India, the Self-Employed Women's Association (SEWA) has organized over 3,500 female e-waste workers who buy and process smaller parts of e-waste (such as switch boards, microwaves, electric wires and machinery scrap) – defying stereotypes and providing opportunity to augment livelihoods.

Sources:

- [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(21\)00263-1/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(21)00263-1/fulltext)
- <https://www.who.int/news/item/15-06-2021-soaring-e-waste-affects-the-health-of-millions-of-children-who-warns>
- <http://www.brsmeas.org/Gender/GenderHeroes/GenderHeroesinAfrica/tabid/4762/language/en-US/Default.aspx>
- https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/publication/wcms_673662.pdf



International Environmental Technology Centre (IETC)

Economy Division

United Nations Environment Programme (UNEP)

2-110 Ryokuchi koen, Tsurumi-ku, Osaka 538-0036, Japan

Tel: +81-(0)6-6915-4581

Email: ietc@un.org

<https://www.unep.org/ietc/> • This material was prepared for IETC by Deepali Sinha Khetriwal as an independent consultant.