Findings of the WOW! Global Survey II
Mapping the status of women in the global waste management sector

2023
ISWA WOW! Task Force

The International Solid Waste Association is an international network of waste professionals and experts with the aim: “To Promote and Develop Sustainable and Professional Waste Management Worldwide and the transition to a circular economy.” Women of Waste (WOW!) began as a members’ initiative in 2016 and was mandated as an Ad Hoc Task Force Internal Group by the ISWA Board in 2020.

For more information, please visit our webpage at www.iswa.org/women-of-waste-new or contact WOW@iswa.org.

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Disclaimer
The ISWA Women of Waste (WOW!) Task Force has initiated this work and the report was reviewed and endorsed by the ISWA Scientific Technical Committee. Nevertheless, the findings, interpretations and conclusions expressed in this version of the report do not necessarily reflect the views and position of all ISWA bodies or ISWA members.

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Preface

The ISWA WOW! Task Force promotes the role and visibility of women in the solid waste sector globally. WOW! explores the link between gender and waste management and resource recovery systems to improve sustainability and circularity. We advocate for inclusivity and gender equality at all levels. Led by a technically and geographically diverse group of women experts, WOW! activities are based on scientific evidence and best practice solutions.

Towards a more gender-inclusive circular economy

The current transition to a circular economy presents the solid waste management (SWM) sector both an enormous challenge and a profound opportunity to effect social change. With its aim to reduce the demand for raw materials, energy, and the production of greenhouse gasses, the SWM sector plays a key role in the collection and recycling of raw materials, particularly for plastics, metals, textiles, and electronics. All stakeholders in the sector need to galvanize efforts and work effectively to achieve these United Nations Sustainable Development Goals by 2030. This means not only guaranteeing the distribution of good governance, financing systems, and optimum technologies along every stage of the circle but also ensuring an enabling environment for the workforce. Unfortunately, this is not the experience for many women across all levels of the waste paradigm.

Extant research finds that women still face legal barriers and cultural bias working in the SWM sector. Women are both overrepresented in the lower-value of the waste flow as well as underrepresented in high-value activities such as design or management of advanced technologies. Female entrepreneurs report difficulties acquiring loans, and globally, women continue to juggle work and family responsibilities. Going forward into a radically different future, the SWM sector cannot deliver the capacity required to meet the change needed if the same futile and unfair practices continue.

So how can we promote women’s empowerment in the SWM sector? What sort of support do women need to thrive and advance in the circular economy transition? The lack of data on women in waste management, (gender-data in general), is problematic globally, impeding informed policymaking, programming, and planning at all levels of the sector – public, private, and informal.

Through this first-of-its kind global mapping survey – now in its second edition – we aim to help fill the data gap and build an evidence base to inform professionals in governments and private sector, as well as donors, policymakers, and associations in their efforts to support the advancement of women waste professionals.

This study provided a space for women to describe their work-life situation, what challenges they face, which support they want for their careers and what benefits they appreciate already. Women strongly reported a sense of purpose working in the waste sector, with the intention to stay and reach management levels as well. Women are looking for personal development and/or support and skills training and flexible working hours or location to support their development. In addition, better quality personal health insurance and/or pension or similar as well as access to networking activities, e.g., conferences, trade-fairs, collaboration projects would be appreciated.

WOW! hopes the results of this Global Survey II will encourage managers to reach out to their own female employees and start a new conversation: are all your colleagues equally supported and encouraged in your office? Do you have a safe working space policy in place? Organisations can respond to and break-down the gender gaps, not only to remain competitive, to better attract, and retain female talent in the workforce, but also as a form of social leadership, for a more just society.

WOW! plans to develop skills training and networking opportunities for the large community of females working in the waste sector. As the need for a just and equitable transition toward a circular economy becomes more urgent, we welcome the support and collaboration of like-minded partners to advance this important work. If you would like to know more about our aims and activities, please visit our webpage at www.iswa.org/women-of-waste-new or contact WOW@iswa.org.
Executive Summary

The WOW! Global Survey II, which aims to expand the waste sector’s understanding of women in the workplace, was conducted by the ISWA WOW! Task Force in 2022, four years after the first global survey of 2018. The overall findings of this second survey were relatively consistent with those of the first. Also, due to the limitations of online promotion, language, distribution, and self-administration of the survey, the study was designed largely to capture the responses of women professionals working in the formal waste management sector. Whilst the outreach was therefore limited, this does not necessarily disqualify the results: the study shows valuable information and insights into the work of women in this field and provides a further basis for addressing gender and career-related issues in the waste management sector.

Data from 607 women across 75 countries (comparable to 2018) were used to map the geographic coverage of respondents, their distribution in age and experience, family responsibility; education, the types of jobs they held, alignment with the waste hierarchy, job group, level of responsibility, and type of organisation. Women were also asked to consider their future job aspirations in the sector and what they would need to achieve that future. New questions introduced into the second survey focused on understanding women’s feelings towards working in the waste sector; challenges experienced entering the waste sector, supportive benefits and opportunities available to them, issues around sexual harassment and gender-based violence; and finally, their thoughts on their future in the waste sector.

As with the first survey, the new results showed that women are entering the waste sector at various stages along their careers, from young, new entrants to well established, highly experienced women. The majority of responses from the second survey, were received from high-income countries (51.2%), however. The majority of responses were received from Latin America & Caribbean (32.3%) and North America (25.4%), up from their representation in 2018. Reduced representation was evident from the Middle East & North Africa (1.6%), East Asia & Pacific (3.5%), and South Asia (3.6%) regions. While sub-Saharan Africa had a fairly good response (12.0%), these were concentrated in a few countries, resulting in poor representation over the African continent.

As with the first global survey, a wide range in women’s ages and years of experience working in the sector was evident, with a very similar age distribution pattern between the two surveys. Most respondents (36.4%) fell into the 31-40 years age group, consistent across the two surveys.

A comparison of 2018 and 2022 survey results also shows a very similar pattern in terms of experience, with a large number of new entrants (34.5% with <5 years’ experience), dropping off significantly towards the established and experienced professionals (>20 years’ experience) (13.1%). 87.7% of respondents in this second survey had a tertiary education.

A new question introduced in this survey, showed that 62.1% of respondents spend up to 4 hours in a typical day on family responsibility. Respondents in the 36-40-year-old category spent the most time taking care of family, with 50.5% of respondents in this age group spending >5 hours per day on family responsibilities. This filtered through into their feelings about working in the waste sector, with 21.1% of women aged between 36-40 and 25.0% of women between 31-35, feeling “frequently stressed due to difficult working conditions and/or long working hours”. The results suggest that women in lower-middle income countries (54.7%) spend more time (>5 hrs) on family responsibility compared to respondents in high-income countries (28.9%).

Respondents in the 21-25 age group had the highest percentage (15.0%) of any of the age groups experiencing “harassment by disrespectful or unwanted sexual attention at work” and feeling “uneasy or self-conscious to work in the waste sector” (20.0%). This was further compounded by 20.0% of 21–25-year-old respondents feeling “frustrated due to limited access to resources and/or opportunities.” These issues (amongst others) resulted in the 21–25-year-old respondents having the highest percentage of any age group (30.0%) “feeling uncertain about my future in the waste sector.”

Most respondents (53.1%) were found to be working in jobs across the waste hierarchy, having introduced a new category into this second survey ‘More than one of these areas’, highlighting the often cross-cutting nature of work in the waste sector. For those women that selected one response, most (33.3%) were working in ‘waste recycling’, followed by ‘waste collection or transfer’ (19.4%). However, in terms of expected future area of work, we see a shift up the
waste hierarchy, with more women selecting careers in ‘waste prevention / cleaner production’, ‘waste re-use, repair or refurbishment’, and ‘waste recovery.’

61.0% of respondents indicated that they currently work in a management role – at various levels from team leader, project/department manager up to CEO or company director. 24.9% of respondents work as a ‘Specialist (typically specific theoretical and practical knowledge in science, technology, engineering, and / or mathematics)’. The majority of respondents (31.2%) were working in a ‘private / commercial waste company’, with a noticeable decrease in the number of respondents from ‘local government, municipalities or similar’, which was the dominant employer in 2018. Local government still remains a significant employer in the 2022 survey with 17.4% of respondents.

What is exciting to see, is that the majority of respondents are very positive with regards to working in the waste sector, noting that “I feel proud or satisfied with positive challenges and/or business opportunities” (66.4% of respondents), and having a “sense of purpose to keep the environment clean or to produce new resources” (67.9%). This feeling may contribute to more women wanting to work in jobs situated further up the waste hierarchy, with the potential for greater impact.

While women, and especially young women, do still experience challenges entering the work force and the waste sector, it was very encouraging to see that 24.4% of respondents reported experiencing none of the presented challenges when getting into the waste sector. The biggest challenges were around ‘finding relevant information and/or training on waste management’ (27.9%), and ‘finding suitable waste management opportunities’ (23.7%).

Despite many women highlighting stress due to difficult working conditions and/or long working hours; as well as frustration due to limited access to resources and/or opportunities, more women highlighted the supportive benefits provided in flexible working hours or location (57.8%), and personal development/support/training (54.5%).

The results of the WOW! Global Survey II suggest that women are finding career opportunities in the waste sector – across regions, across the waste hierarchy, across organisation types, and at various levels of responsibility. However, there are signs that more needs to be done by employers and sector associations to retain and support young women and new female entrants to the sector, given the unique set of skills that they bring. This includes, amongst others, creating opportunities for women to gain experience through inclusion on projects; working as part of experienced teams; mentorship; and access to quality information and training.

**Gender Data**

Of the total 657 responses to the survey (complete and incomplete), 599 respondents identified “as a woman working in waste management” in Q1 of the survey and 11 respondents identified as “Other”, suggesting that the waste sector is accessible to diverse genders, some of whom are willing to share this information in surveys.

It is interesting to note that 47 respondents did not identify as a woman working in the waste sector and the survey was then closed to these respondents. It is not clear if these were respondents working in other sectors or identifying as other genders. One explanation is that men have attempted to participate in the survey which shows interest in the topic and indicates that some would be willing to share their own perspectives, given the opportunity.
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Introduction

Background

At the ISWA World Congress held in Kuala Lumpur in 2018, the Women of Waste (WOW!) Task Force presented the results of the first WOW! Global Survey ‘Mapping the status of women in the global waste management sector’, in a joint session with the CSIR (South Africa), UNEP IETC (Japan) and GRID-Arendal (Norway) (Godfrey et al., 2018a). The findings were further discussed during the conference and culminated in the WOW! Briefing Note, entitled “Gender and Waste: Harsh Impacts – New Opportunities” (Godfrey et al., 2018b).

The first WOW! Global Survey, conducted in early 2018, showed that women contribute significantly to the global waste sector, bringing their knowledge and experience to a variety of roles across the waste management hierarchy, and through a diversity of organisations in both the public and private sectors. Data from 626 women across 73 countries showed that women are entering the sector at various stages along their careers, from young, new entrants to well established, highly experienced women. The majority of responses were received from upper-middle and high-income countries; however, many highly qualified and experienced women were active in low- and lower-middle income countries. While landfilling remains the predominant technology choice for managing waste globally, it was found not to be the career preference for women, with only 12.5% of respondents working in landfill management. The majority of women responding to the WOW! Global Survey I, worked in waste prevention; reuse / repair / refurbishment; and recycling, reflecting the paradigm shift happening in the sector. While the largest number of responses in the first survey were from women working in teams or project / department managers, women have broken into higher management positions, managing regional operations, and serving as company directors, chief executive officers and elected representatives in political office. Promotion of the WOW! Global Survey I result led to more visibility for women and sparked further interest from the sector, including the media and research and development organisations.

The Global Survey I, created a space for the ISWA WOW! Task Force to engage women waste practitioners and hear more about their personal stories, including how many faces challenging hurdles and somewhat systematic bias in their working lives. From limiting social norms, to hostile workplaces and lack of access to resources, some women are held back in a sector that provides vital services towards clean, healthy habitats and resource management. At a time when those services are critical in our efforts to combat climate change and move to a more circular economy, it makes no sense for any part of the workforce’s talents and energies to be stunted.

Global Survey II

Target group

The WOW! Global Survey II aimed to reach women working across the waste sector and was open to both the informal and formal sectors. However, the authors recognise that being an online survey, the responses were expected to reach mainly the formal waste sector. The survey was also open to anyone identifying as a woman.

Objectives

The objective of the WOW! Global Survey II was to expand and enhance the waste sector’s understanding of women in the workplace. Who these women are, what they think about the work culture they work in, and what they want in order to develop their careers, i.e., to gather, enumerate and compare respondents’ perspectives on their status, challenges, opportunities as well as their needs and wishes for support. Recognising that respondents’ perspectives in this survey means their own individual opinions, actions, attitudes and wishes, and not necessarily the social norms or social expectations in their context.

By better understanding the women working in the waste sector, their opportunities, and constraints, it allows employers and various organisations working towards the empowerment of women, including ISWA and the ISWA WOW! Task Force, to create the necessary conditions, systems, and services to support the careers of women; develop their potential and exercise their capabilities; and to retain these women, with the unique set of skills that they bring, in the waste sector. Ultimately, this will contribute to the overall improvement of the waste sector globally, and the way in which waste is managed.
Survey preparation

The WOW! Global Survey II was deliberately designed around the first global survey, in the hope that we could compare, or compound data collected in 2018. The findings of the first global survey, however, did raise new questions, which we were able to incorporate into this second survey. Questions around how women feel about working in the waste sector; the supportive benefits and opportunities available to them (or not); and protection against sexual harassment and gender-based violence (GBV) in the workplace were added.

Recognising the diversity of the target audience, the survey was prepared by an international research team. Furthermore, given that the survey would be run globally, and that some statements may not be relevant to all women or to women in all countries, the WOW! Task Force has tried to use broad language reflecting a wide range of experience which is neither too leading nor encourages social desirability bias. For the actual style and wording of the questions the Task Force consulted the resource and platform: EMERGE (Evidence-based Measures of Empowerment for Research on Gender Equality), a project focused on gender equality and empowerment measures to monitor and evaluate health programs and to track progress on UN Sustainable Development Goal (SDG) 5: To Achieve Gender Equality and Empower All Girls. The resource provided guidance on how best to formulate questions and provided sample survey questions and measurement scales that have been stringently reviewed.

The self-administered WOW! Global Survey II, was conducted by means of an online survey, hosted by ISWA on a Google survey platform. Unlike the first survey which was only published in English, the second survey was released in English, Spanish and Portuguese to support a wider reach. The intention was for the survey to be short and brief, using simple language and familiar terms, both for quick apprehension for non-native speakers and to encourage as many respondents as possible to complete the survey in a short period of time. Respondents were able to take the survey anonymously, with the intention of increasing the number of responses. Promotion of the survey was carried out through the ISWA WOW! Task Force website, professional networks, and various social media platforms.

WOW! would like to use this opportunity to thank the members of their international Advisors for their technical assistance in reviewing the survey questions, and the translation talents of ISWA National Members and WIEGO in South America. WOW! gratefully acknowledge their support in the preparation and promotion of the survey through their online networks.

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Questions

The WOW! Global Survey II, consisted of two sections, with both discrete responses required and others where respondents indicated agreement with one or multiple statements.

To allow for statistical analysis of the data, most questions were formulated as closed questions. These included:

Section 1 – Please tell us a little bit about yourself.

- Which country are you based in now?
- Which age group are you in now?
- How many years have you worked in the waste sector?
- On a typical day, how many hours do you take care of family members?
- Which is your highest completed level of education?
- What is your main area of work now?
- In the future, what area of waste management would you like to be in, if you had the opportunity?
- Which job group do you work in now?
- What is your highest level of responsibility now?
- In the future, what level of responsibility would you like to be in, if you had the opportunity?
- Which type of organization do you work in?

Section 2 – Please tell us about your experiences working in the waste sector as a woman.

- How do you feel about working in the waste management sector in general?
- Did you experience any of these challenges getting into the waste management sector?
- How many women do you think (estimate) work in your workplace or company?
- What supportive benefits and opportunities are available to you through your work?
- What supportive benefits and opportunities do you need, through your work or a third-party?
- Does your workplace have a formal policy in place to prevent and protect employees from sexual harassment or other forms of Gender-Based Violence (GBV) being implemented?
- Do you see a future for yourself in the waste management sector?

Respondents were also provided with the following open-ended question:

- Tell us a little more about your answer – What do you need to achieve the desired level (in response to the question on future desired level of responsibility)

Despite all measures being taken to address issues of diversity, inclusion of the target audience, and the correctness and ease of application of the questionnaire, it is acknowledged that there may remain potential weaknesses, such as the number of options to choose from (1-5 is best, 6-10 is medium according to EMERGE), there is no scale to measure strength of agreement, bar one question with Likert scale of 1-5, for example. The language being in English and Spanish may also be a barrier to uptake.

Data analysis

All data were analysed in Microsoft Excel. The first step involved data cleaning. This included removing all responses marked as “No, I am not” in response to the question “Confirm that you identify as a woman working in this area” and all duplicate data entries. The response time taken to complete the questionnaire was also considered to see if the dataset included any “speeders”. Following data clean-up, a total of 607 useable data points were subjected to further statistical analysis.

In terms of statistical confidence, the authors acknowledge that online purposive samples may contain biases (Barrat et al. 2015). Furthermore, since the population size in this case is unknown, it is recognised that the results presented in this paper cannot be used to draw inferences about the wider population of women working in the global waste management sector. However, we do believe that the findings of the second global survey provide insights into where opportunities exist and where more work needs to be done to support and build the careers of women working in the waste sector.
Section 1: Tell us about yourself
Results and discussion

Geographic coverage

The WOW! Global Survey II saw a slight increase in the geographic coverage of respondents compared to the first survey, with responses received from 75 countries. The top regions in terms of number of responses included Latin America & Caribbean, North America, and Europe & Central Asia (Table 1). While the majority of respondents (51.2%) were from high-income countries, the recent survey saw a significant increase in the number of respondents from upper-middle income countries, increasing from 16.1% in 2018 to 35.6% in 2022 (Table 1, Figure 1). The recent survey also garnered a greater number of responses from the Latin America & Caribbean region, up from 6.9% in 2018 to 32.3% in 2022. While the number of responses received from African countries was fair, these responses were concentrated in only a handful of countries, with generally very poor coverage of African countries (Figure 2).

Table 1. Geographic coverage of responses

<table>
<thead>
<tr>
<th>Geographic region</th>
<th>% of responses</th>
<th>Geographic region</th>
<th>% of responses</th>
</tr>
</thead>
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<tr>
<td>East Asia &amp; Pacific</td>
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<td>North America</td>
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<td>Europe &amp; Central Asia</td>
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<td>Middle East &amp; North Africa</td>
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<th>World Bank country income level</th>
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<tr>
<td>Upper-middle income</td>
<td>35.6</td>
</tr>
<tr>
<td>High-income</td>
<td>51.2</td>
</tr>
</tbody>
</table>

Figure 1(a). Distribution of respondents by country income level

(b). Distribution of respondents by geographic region

Figure 2. Geographic coverage of responses received for the WOW! Global Survey II
Age and experience

As with the first global survey, a wide range in women’s ages and years of experience working in the waste sector was evident from the WOW! Global Survey II (Figure 3, 4). The majority of respondents (28.0%) fell within the 41-50 years age group (Figure 3a). A slightly different set of age categories were used for the 2018 survey, and when applied to the recent 2022 survey data, showed a very similar age distribution pattern between the two surveys, with most respondents (36.4%) falling into the 31-40 years age group (Figure 3b).

Of the responses received, 34.5% were from women starting their careers in the waste sector (<5 years’ experience) (Figure 4). A comparison of 2018 and 2022 survey results shows a very similar pattern in terms of experience, with a large number of new entrants, dropping off significantly towards the established, experienced professionals (> 20 years’ experience). This drop-off in the number of respondents (Figure 4) may suggest both a growing interest by women in the waste sector, thereby attracting many new women, but also, an inability to retain women in the sector (for various reasons).

The WOW! Global Survey II showed a high percentage of young women starting out their working careers in the waste sector. The highest percentage of respondents with <5 years’ experience in the waste sector, was in the 26-30 years, followed by the 31-35 years age groups (Figure 5). However, the results also show that women are moving into the waste sector at later stages in their careers.
Consistent with the findings of the 2018 survey, the recent 2022 survey shows a higher median value for years of experience in upper-middle and high-income countries, compared to lower-middle and low-income countries. This may suggest weaker waste management sectors in lower income countries, with less employment opportunities, especially for women. The outliers of experienced women (>15 years) working in lower income countries, where the waste management sector is typically a recent development, deserve further investigation.

**Family responsibility**

The results of the 2022 survey show that 62.1% of respondents spend up to 4 hours in a typical day on family responsibility (Figure 7). The 36–40-year-old category spent the most time in a typical day taking care of family, with 50.5% of respondents in this age group spending more than 5 hours per day on family responsibilities (Figure 8) – compared to only 20.0% of respondents in the 21–25-year-old age group.

Time spent on family responsibility then starts to decline after 40 years, presumably as children become older and more independent. The disaggregation of age group and hours of family responsibility (Figure 8 and Table 2) show a wide range, suggesting broad differences in family situation even within each age group.

The pattern is still less clear when comparing family responsibility time with level of education (Figure 9). While respondents with a primary and secondary school education appear to spend more time in a day on family responsibility, the number of respondents with a ‘primary school’ education is relatively small, and so the results should be treated with caution. The results also suggest that women in lower-middle income countries spend more hours in a day on family responsibility (54.7% of...
respondents in this group spending >5 hrs per day), compared to 44.9% of respondents in upper-middle income countries (>5 hrs per day) and 28.9% of respondents in high-income countries spending >5 hrs per day on family responsibility (Figure 10). There may be various reasons for this trend of increasing time spent on family responsibility with declining economic status of the country. This may include larger family sizes, and more children to take care of in lower income countries, or weaker support systems in lower income countries for child and elderly care. The sample size was too small for low-income countries to fully assess.

Figure 9. Hours spent taking care of family by education level

Figure 10. Hours spent taking care of family by country income level

**Education**

A 54.3% of respondents have a post-graduate degree (Master’s or Doctorate), while 87.7% of respondents have a tertiary education (Bachelor’s, Master’s or Doctorate) highlighting a very high level of education of respondents (Figure 11a). This is exciting in terms of the knowledge and skills these women bring to their respective organisations and to the broader waste sector. Having said that, this may represent a sampling bias in response to the distribution of this survey through professional networks. Future surveys should look to additional mechanisms to distribute the survey and to raise broader awareness.

Interestingly, the results of the 2022 survey show an inverse relationship between highest level of education and country income level, with 100% of respondents from low-income countries having a tertiary qualification, decreasing to 92.0% in lower-middle income countries, 87.3% in upper-middle income countries, and 86.8% in high-income countries. This may again highlight a sampling bias and the small sample size for low-income countries.

A comparison with the 2018 survey results shows a very similar distribution pattern, skewed towards tertiary degrees (Figure 11b).
Alignment with waste hierarchy

In terms of alignment between the field of work and the waste hierarchy, the WOW! Global Survey II provided a new response category, that of ‘More than one of these areas’, to accommodate women who are working across multiple fields. The results showed that 53.1% of respondents selected this category (Figure 12a), highlighting the cross-cutting nature of work within the waste sector. Of those women who selected only one field (Figure 12b), most (33.3%) were working in ‘waste recycling’, followed by ‘waste collection or transfer’ (19.4%). As with the 2018 survey, no significant difference in age and years’ experience was evident across the different areas of work. The results highlight the opportunities for women, of all ages, in building careers across the waste management hierarchy.

In terms of expected future area of work (Figure 12a), we see a shift away from ‘More than one of these areas’ to clear activities higher up in the waste hierarchy, including ‘Waste prevention / cleaner production’ and ‘Waste re-use, repair or refurbishment’ as well as in ‘Waste recovery - (typically energy recovery)’ which included biogas and anaerobic digestion (identified by a number of respondents).

Job group

In terms of the job group that respondents currently work in, 61.0% of respondents indicated that they work in ‘Management (typically leadership, oversight, policy, strategy, operations, evaluation)’, followed by 24.9% in a ‘Specialist (typically specific theoretical and practical knowledge in science, technology, engineering, and/or mathematics (STEM) at any level) role’ (Figure 13a). Again, highlighting the formal, professional audience that the WOW! Global Survey II has targeted. The results also showed that 80.3% of respondents working in management had a bachelor’s or master’s degree. Respondents working in a specialist (STEM) role had a higher percentage of Master and Doctorate degrees (68.7%), while respondents working in manual areas had a higher percentage of diploma/certificate, technical and bachelor’s degrees (90.9%). Noting that women with various qualifications were working across all job groups, highlighting the opportunities of the waste sector. The sample size was too small for ‘Services’
Responsibility

With regards to their highest level of responsibility in the workplace, the majority of respondents indicated that they ‘Manage projects / departments’ (32.5%), followed by ‘Team member’ (21.9%). (Figure 14a).

When asked about the future level of responsibility they would like to be in, there was a clear shift away from ‘Team member’ towards more senior management and leadership roles, as women grow their careers and take on more responsibilities (Figure 14b).

Figure 14(a). Highest level of responsibility (2018 and 2022)

Figure 14(b). Highest level of responsibility (current and future)
Needs

When asked what they would need to achieve their future desired level of responsibility in their careers (open-ended question), themes emerged in the responses around being provided with various ‘opportunities’ (see generated word cloud below). This included opportunities to gain ‘experience’, opportunities for ‘work’, support and access to ‘training’ opportunities, and opportunities to work in a ‘team’.

“I am the founder of my own social enterprise so I would like to encourage other women to be at the helm of their own businesses in waste management.”

“I need a mentor, and opportunities to associate with and to learn from experienced professionals in order to broaden my knowledge.”

“I need more experience, but also I don’t want to take on the extra responsibility while my son is at home.”

“I believe the world can benefit from more diverse leaders from other ethnic groups. Leaders reflecting the society and the future.”

“Time on the job. You can’t short-circuit the experience gleaned by showing up and doing the work each day. I’m also reading books on leadership and management and working with a leadership coach that is provided by my employer. I’m receiving the support I need.”

Type of organisation

The results of the WOW! Global Survey II showed a big shift in the percentage of women working in ‘local government, municipalities or similar’, highlighted in the 2018 survey, towards women working in a ‘private/commercial waste company’ (Figure 15a).

Private and commercial waste management companies stood out as the single largest employer organisation type in 2022, with 31.2% of respondents working for the private waste sector.

Local government was still a significant employer, with 17.4% of respondents working for this type of organisation, followed by consulting/engineering companies (11.6%). The survey had good responses from ‘associations, NGOs, voluntary groups, or similar’ (9.6%), as well as from the academic/research community (7.8%) (Figure 15b).

The smallest representation was from ‘cooperative/collective enterprises’ at only 1.5% of respondents, despite much activity happening in this space internationally.

Figure 15(a). Comparison of 2018 and 2022 results

(b). Type of organisation respondents work in
Section 2: Tell us about working in the waste sector
Working in the waste sector

The majority of respondents were positive with regards to their experience working in the waste sector, noting that “I feel proud or satisfied with positive challenges and/or business opportunities” (66.4% of respondents), and having a “sense of purpose to keep the environment clean or to produce new resources” (67.9% of respondents) (where respondents were able to select multiple answers). An additional 35.1% of respondents particularly noted the “friendliness of co-workers, business partners and/or associates in my networks” (Figure 16).

“I feel like there are unlimited career opportunities in the waste sector.” [Specialist with >10 years of experience in sector]

“There is a great sense of purpose, but it does at times make one wonder about the real impact being made for citizens.” [Experienced professional working at state / regional government level]

“I am concerned about safety at industry events, after having been raped at a conference.” [Young professional woman]

However, the results did flag some concerns, particularly among the younger respondents. Respondents in the 21–25 age group had the highest percentage (15.0%) of any of the age groups experiencing “harassment by disrespectful or unwanted sexual attention at work” and feeling “uneasy or self-conscious to work in the waste sector” (20.0%). This was further compounded by 20.0% of 21–25-year-old respondents feeling “frustrated due to limited access to resources and/or opportunities.” These issues (amongst others) resulted in the 21–25-year-old respondents having the highest percentage of any age group (30.0%) “feeling uncertain about my future in the waste sector” (Table 3). These responses highlight the important role that sector associations and employers have in working with young women to support their career development, and to create opportunities for growth and development to retain these young, qualified women in the waste sector.

Women in the 31–35 (25.0%) and 36–40 (21.1%) age groups noted feeling most “frequently stressed due to difficult working conditions and/or long working hours” (Table 3). This correlates with the age groups having to commit more time to family responsibility (previously discussed), with 34.8% of the 31-35 age group, and 50.5% of 36-40 age group spending >5 hrs on family responsibility per day, which may be a contributing factor to this feeling (Table 2). Women across all age groups voiced a level of “frustration due to limited access to resources and/or opportunities”. The percentage of women feeling “concerned for my health and safety”, was quite similar across all age groups (Table 3).

Table 3. Experience of respondents, as a percentage of respondents age group

<table>
<thead>
<tr>
<th>Responses per age group, as a percentage (% of respondents)</th>
<th>21-25</th>
<th>26-30</th>
<th>31-35</th>
<th>36-40</th>
<th>41-60</th>
<th>51-60</th>
<th>&gt;60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proud or satisfied</td>
<td>65.0%</td>
<td>72.0%</td>
<td>56.3%</td>
<td>67.9%</td>
<td>68.8%</td>
<td>68.4%</td>
<td>65.2%</td>
</tr>
<tr>
<td>Sense of purpose</td>
<td>80.0%</td>
<td>70.7%</td>
<td>66.1%</td>
<td>72.5%</td>
<td>70.6%</td>
<td>58.2%</td>
<td>56.5%</td>
</tr>
<tr>
<td>Friendly co-workers, business partners</td>
<td>55.0%</td>
<td>49.3%</td>
<td>30.4%</td>
<td>35.8%</td>
<td>35.9%</td>
<td>20.4%</td>
<td>47.8%</td>
</tr>
<tr>
<td>Uneasy or self-conscious</td>
<td>20.0%</td>
<td>1.3%</td>
<td>5.4%</td>
<td>0.0%</td>
<td>1.8%</td>
<td>1.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Concerned for health and safety</td>
<td>5.0%</td>
<td>6.7%</td>
<td>3.6%</td>
<td>6.4%</td>
<td>3.5%</td>
<td>4.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Frequently stressed working conditions, hours</td>
<td>15.0%</td>
<td>9.3%</td>
<td>13.4%</td>
<td>13.8%</td>
<td>9.4%</td>
<td>8.2%</td>
<td>8.7%</td>
</tr>
<tr>
<td>Frustrated due to limited access to resources</td>
<td>20.0%</td>
<td>17.3%</td>
<td>25.0%</td>
<td>21.1%</td>
<td>14.1%</td>
<td>22.4%</td>
<td>8.7%</td>
</tr>
<tr>
<td>Harassed disrespectful / unwanted sexual attention</td>
<td>15.0%</td>
<td>2.7%</td>
<td>6.3%</td>
<td>3.7%</td>
<td>2.9%</td>
<td>1.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Uncertain about my future</td>
<td>30.0%</td>
<td>17.3%</td>
<td>12.5%</td>
<td>9.2%</td>
<td>4.1%</td>
<td>10.2%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Not particularly interested</td>
<td>0.0%</td>
<td>0.0%</td>
<td>2.7%</td>
<td>0.9%</td>
<td>0.0%</td>
<td>2.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

† Respondents were able to select more than one response to this question, so the total per age group does not add up to 100%
Challenges experienced

When asked, “did you experience any of these challenges getting into the waste sector?”, the biggest challenges were around ‘finding relevant information and/or training on waste management’ (27.9% of respondents), and ‘finding suitable waste management opportunities’ (23.7%) (Figure 17). Nearly a quarter of all respondents (24.4%) reported experiencing none of the presented challenges.

What was encouraging, although still prevalent in the waste sector, was the generally lower response for ‘discrimination – harder for me as an equally able woman to get a job, access to loans, funding, services to start my own business’ (11.2%), and the ‘non-acceptance – disapproval or abuse from others, needing permission from someone in the family to work’ (4.0%).

The results again highlight the important role that sector associations and employers can play in linking young professionals and new professionals to the sector (not only women) to relevant waste management information and training, and in creating ‘platforms’ to showcase opportunities and to broker opportunities, e.g., employment opportunities between companies and graduates or professionals, as well as platforms to showcase business opportunities, technology opportunities, etc.

Supportive benefits and opportunities

Despite many women highlighting stress due to difficult working conditions and/or long working hours; as well as frustration due to limited access to resources and/or opportunities, more women highlighted the supportive benefits provided in flexible working hours or location (57.8% of respondents), and personal development / support / skills training (54.5%) (Figure 18a).

More than half (51.4%) of respondents noted having “networking activities, e.g., conferences, trade-fairs, collaboration projects”, available to them.

The two fields generally scoring low by respondents was “diversity, equity and inclusion (DEI) activities” (23.1% of respondents) and “economic benefits e.g., bonuses, share options, loans, or similar perks” (22.7% of respondents).

When asked what supportive benefits and opportunities they would need, 22.1% of respondents indicated “personal development and/or support and skills training” and 19.8% “flexible working hours or location” (Figure 18b), corresponding to some of the more negative feelings to working in the waste sector (previous section).
Sexual harassment and gender based violence

When asked whether your workplace has a formal policy in place to prevent and protect employees from sexual harassment or other forms of gender-based violence (GBV), 57.8% of respondents responded positively, while 18.1% were uncertain as to whether such a policy was in place (Figure 19). Of those who confirmed that there was a policy in place, 76.9% confirmed that the policy was being implemented.

There was a direct correlation between the percentage respondents reporting that a formal policy against sexual harassment and GBV was in place, and the economic status of the country. Only 40.0% of respondents from low-income countries reported having such a policy in place, 46.7% from lower-middle income countries, 56.0% from upper-middle income countries, and 62.1% from high-income countries (Table 4).

This is reflected in the north-south distribution of responses, for example 79.2% of respondents from North America reported having a policy in place, while only 58.9% of respondents from Sub-Saharan Africa were aware of such a policy.

Future in the sector

Most respondents were very positive about their future in the waste sector, with 71.5% of respondents indicating that they were ‘very likely’ to remain in the waste sector and 18.5% ‘somewhat likely’ to remain working in the waste sector (Figure 20).

Previous sections of this report have provided clues to where work needs to be done to improve the supportive benefits and opportunities provided to women working in the sector, across age groups, professions, and geographies.

The likelihood of staying in the waste sector was highest amongst respondents with a “Trade, technical, vocational training qualification, or two-year associate degree or similar” (81.3%), lowest amongst those women with a bachelor’s degree (65.3%).

As noted in the earlier section, ‘Working in the waste sector’, 21–25-year-old respondents had the highest percentage of any age group (30.0%) “feeling uncertain about my future in the waste sector”. These findings were echoed in this question, where the 21–25-year-old group had the highest percentage of respondents (5.0%) across all age groups, indicating that they were ‘very unlikely’ to see a future for themselves in the waste sector. Respondents over the age of 60 had the highest percentage indicating that they were ‘very likely’ to have a future in the waste sector, possibly reflecting a more secure and settled position closer to retirement age.
Conclusions

The findings of the WOW! Global Survey II, conducted in 2022, were quite similar to those from the first Global Survey conducted in 2018. Due to the nature of promotion and distribution of the survey, and the self-administered online completion of the survey, the study largely captured the responses of employed or self-employed women working in sector rather than those women working informally.

Data from 607 women across 75 countries (comparable to 2018), showed that women are entering the waste sector at various stages along their careers, from young, new entrants to well established, highly experienced women. The results showed a very similar age distribution pattern between the two surveys, with most respondents falling into the 31-40 years age group.

While the majority of responses were received from high-income countries, many highly qualified and experienced women were active in low- and lower-middle income countries. Broad geographic coverage was also obtained, with the majority of responses coming from Latin America & Caribbean and North America.

A new question introduced in this recent survey, showed that respondents in the 36–40-year-old age group spent the most time in a typical day taking care of family, with more than half of respondents in this age group spending >5 hours per day on family responsibilities. This filtered through into their feelings about working in the waste sector, with the 31-35 and 36-40 age groups feeling “frequently stressed due to difficult working conditions and/or long working hours”.

Respondents in the 21-25 age group reported higher levels of “harassment by disrespectful or unwanted sexual attention at work”, feeling “uneasy or self-conscious to work in the waste sector”, and “frustrated due to limited access to resources and/or opportunities.” These issues (amongst others) resulted in this age group having the highest response regarding “feeling uncertain about their future in the waste sector”.

The results of the second global survey suggest that women are finding career opportunities in the waste sector – across regions, across the waste hierarchy, across organisation types, and across levels of responsibility. However, there are signs that more needs to be done by employers and sector associations, to retain and support young women in the waste sector, given the unique set of skills that they bring. This includes creating opportunities to build their experience through inclusion in practical on-the-job training, working with mentors and as part of teams; improved access to information on jobs in the sector; and access to quality information and training.

Overall, most respondents felt quite “proud or satisfied with positive challenges and/or business opportunities” and having a “sense of purpose to keep the environment clean or to produce new resources”, working in the waste sector. This may contribute to the desire of many women to shift their future careers to higher stages of the waste hierarchy and more diverse roles across the sector.

References


Annexure 1: WOW! Global Survey II Questionnaire

1. Before you start, do you consider yourself as a woman working in waste management?
   - Yes, I am
   - No, I am not
   - Other

2. Which country are you based in now? (type one country, add comments if needed) ________________

3. Which age group are you in now?
   - Under 20 years old
   - 21-25
   - 26-30
   - 31-35
   - 36-40
   - 41-50
   - 51-60
   - Over 60 years old

4. How many years have you worked in the waste sector? ______________

5. On a typical day, how many hours do you take care of family?
   - Under 2 hours
   - 3-4
   - 5-6
   - 7-8
   - 9-10
   - More than 10 hours

6. What is your highest completed level of education? (Choose on option)
   - No formal education
   - Primary School
   - Secondary School: High school graduate, diploma, certificate or similar
   - Trade, technical, vocational training qualification, or two-year associates degree or similar
   - Bachelor's degree
   - Master's degree
   - Doctorate degree
   - Other

7. What is your main area of work now? (Choose one option)
   - Waste prevention / cleaner production
   - Waste re-use, repair or refurbishment
   - Waste reclaiming or waste picking
   - Waste collection or transfer
   - Waste sorting
   - Waste recycling
   - Waste recovery - (typically energy recovery)
   - Waste landfilling
   - More than one of these areas
   - Other

8. In the future, what area of waste management would you like to be in, if you had the opportunity?
   - Waste prevention / cleaner production
   - Waste re-use, repair or refurbishment
   - Waste reclaiming or waste picking
   - Waste collection or transfer
   - Waste sorting
   - Waste recycling
   - Waste recovery - (typically energy recovery)
   - Waste landfilling
   - More than one of these areas
   - Other
9. Which job group do you work in now? (Choose one option)

1. Management (typically leadership, oversight, policy, strategy, operations, evaluation)
2. Specialized (typically specific theoretical and practical knowledge in science, technology, engineering, and/or mathematics (STEM) at any level)
3. Manual (typically physical work or operating machines e.g., driving, sorting, shredding at any level)
4. Support (typically administrative, accounting, Press, Marketing, IT support at any level)
5. Service (typically maintenance, cleaning, safety and security, monitoring)
6. Socio-Cultural (typically promoting equality, empowerment, integration, wellbeing)
7. Other

10. What is your highest level of responsibility now? (Choose one option)

1. Team member
2. Team Leader
3. Manage project / department
4. Manage regional operations or similar
5. Chief Executive Officer or similar C-suite
6. Company Director / Owner / Board Member
7. Elected Representative
8. Independent
9. Other

11. In the future, what level of responsibility would you like to be in, if you had the opportunity? (Choose one option)

1. Team member
2. Team Leader
3. Manage project / department
4. Manage regional operations or similar
5. Chief Executive Officer or similar C-suite
6. Company Director / Owner / Board Member
7. Elected Representative
8. Independent
9. Other

12. Voluntary question: Tell us a little more about your answer – What do you need to achieve the desired level? __________

13. Which type of organisation do you work in? (Choose one option)

1. Local government, municipality or similar
2. Regional / Provincial / State level government or similar
3. National / Federal government
4. Government owned waste management company
5. Private / Commercial waste management company
6. Consulting / Engineering company
7. Cooperative / Collective enterprise
8. Independent / Self-employed or Freelancer
9. Academia / Research and Development
10. International Organization (UNEP, UNDP, World Bank or similar)
11. Associations, NGOs, voluntary groups, or similar
12. Other

14. How do you feel about working in the waste management sector in general? (Choose one or more options)

1. Proud or satisfied with positive challenges and/or business opportunities
2. Sense of purpose to keep the environment clean and/or produce new resources
3. Friendly co-workers, business partners and/or associates in my networks
4. Uneasy or self-conscious to work in the waste sector
5. Concerned for my health and safety
6. Frequently stressed due to difficult working conditions and/or long working hours
7. Frustrated due to limited access to resources and/or opportunities
8. Harassed by disrespectful or unwanted sexual attention at work
9. Uncertain about my future in the waste sector
10. Not particularly interested – it's just a job to me
11. Other

15. Did you experience any of these challenges getting into the waste management sector? (Choose one or more options)

1. Finding relevant information and/or training on waste management;
2. Finding suitable waste management opportunities;
3. Acceptance – disapproval or abuse from others, needing permission from someone in the family to work
4. Accreditation by an appropriate authority (typically a professional association, municipal license, technical qualification);
5. Discrimination – harder for me as an equally able woman to get a job, access to loans, funding, services to start my own business
6. None of the above;
7. Other

16. How many women do you think (estimate) work in your workplace or company? (Choose one option)
   1. All are women
   2. More than half (50%-99%) are women
   3. About a quarter or more (25%-49%) are women
   4. Less than a quarter (0-25%) are women
   5. I don’t know

17. What supportive benefits and opportunities are available to you through your work? (Choose one or more options)
   1. Health and safety measures
   2. Personal health insurance and/or pension or similar
   3. Flexible working hours or location
   4. Personal development and/or support and skills training
   5. Diversity, Equity and Inclusion (DEI) activities
   6. Networking activities, e.g., conferences, trade-fairs, collaboration projects
   7. Economic benefits e.g., bonuses, share options, loans, or similar perks
   8. Other

18. What supportive benefits and opportunities do you need, either through your work or a third-party? (Choose one or more options)
   1. Improved health and safety measures
   2. Personal health insurance and/or pension or similar
   3. Flexible working hours or location
   4. Personal development and/or support and skills training
   5. Diversity, Equity and Inclusion (DEI) activities
   6. Networking activities, e.g., conferences, trade-fairs, collaboration projects
   7. Economic benefits e.g., bonuses, share options, loans, or similar perks
   8. Reliable and affordable internet access
   9. Better access to digital technologies e.g., computer, apps, data management systems
   10. Better access to technical equipment or machinery
   11. Family-friendly work-life-balance benefits e.g., maternity leave, child-care support
   12. Personal empowerment e.g., self-confidence or motivation building
   13. Access to support networks and/or mentoring
   14. Access to a reliable reporting system and legal support, if necessary, e.g., HR department, trade union, police or ombudsman
   15. None of the above

19. Does your workplace have a formal policy in place to prevent and protect employees from sexual harassment or other forms of gender-based violence (GBV)?
   1. Yes
   2. No
   3. I don’t know
   4. Other

20. If yes, is the policy for preventing and protecting employees from sexual harassment or other forms of GBV being implemented?
   1. Yes
   2. No
   3. I don’t know
   4. Other

21. Do you see a future for yourself in the waste management sector? (Choose one option)
   1. Very likely
   2. Somewhat likely
   3. I don’t know / neutral
   4. Somewhat unlikely
   5. Very unlikely

22. Voluntary information – Name: ____________________________

23. Voluntary information – Email address: ____________________