



Waste management in Bosnia and Herzegovina: a gender equality, social equity and poverty reduction lens

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Key messages

- While waste collection coverage has expanded over the last decade in Bosnia and Herzegovina (BiH), gaps remain and some areas remain underserved, especially rural regions. Roma households are also more likely to lack access to waste services than non-Roma households.
- Waste disposal practices can be influenced by gender and age. Hence, it is important to recognize and challenge social norms that affect people's waste reduction and recycling behaviour.
- Due to the lack of alternative employment opportunities, many Roma communities rely on informal activities to make a living, especially collecting and selling garbage. As waste management systems are developed further in BiH, it is important to give informal waste collectors a stable role in this system.
- Waste management is a male-dominated industry. Introducing gender-based quotas and targeted training schemes can help diversify employment in the waste management sector.

Introduction

Gender inequality and social inequity – understood in terms of access to and control over assets, decision making and participation, and knowledge, which are all dimensions of poverty¹ – are deeply intertwined with environmental change (SEI, 2019). Socio-economic and political factors, such as education, income, political influence, access to legal resources, access to health care and adequate housing, affect people's exposure and vulnerability to environmental problems, with socially disadvantaged groups² being disproportionately affected (European

Environment Agency, 2018b; WHO, 2019). At the same time, solutions to environmental change are not socially neutral; they may benefit or disadvantage particular groups in society in different ways (Mackie and Haščić, 2018). Moreover, reducing poverty and strengthening social equity and gender equality can contribute to better environmental outcomes

¹ In this brief we rely on a multidimensional definition of poverty, which goes beyond income poverty and refers to the lack of resources, power, voice, opportunities and choice, and human security (Sida 2017).

² Social disadvantage relates to "socioeconomic aspects such as income, employment, education and socioeconomic status; to sociocultural aspects such as gender, ethnicity, religion, culture, migrant status and social capital; to socio-geographical aspects such as living in a deprived neighbourhood; and to age. SDG [socially disadvantaged groups] may actually be affected by more than one of these dimensions." (WHO Regional Office for Europe 2013, p. 2).

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(UNDP, 2010; UNEP, 2017). Thus, it is essential to incorporate gender equality, social equity and poverty considerations into environmental policy and vice versa.

This discussion brief outlines the main relationships between waste management, gender inequality, social inequity and poverty in Bosnia and Herzegovina (BiH).^{3,4} It summarises the findings from a review of secondary literature and publicly available databases on the environment, health, natural resources, gender equality, social equity and poverty, with a particular focus on Europe and BiH. A broader introduction to the interlinkages between gender equality, social equity, poverty and environmental issues in BiH is available in the SEI policy report “Strengthening environmental policy in BiH with a gender equality, social equity and poverty reduction approach” (Strambo et al., forthcoming).

The discussion brief first describes the state of waste management in BiH. It then explains how and why gender inequality, social inequity and poverty contribute to waste management issues and vice versa in BiH. The final section explores policy measures that can help address the challenges of gender inequality, social inequity, poverty, chemical safety and noise issues concomitantly.

It is important to recognize that men, women, persons with disabilities, the poor, the elderly, children and Roma persons do not have one-dimensional identities. They have multiple identities that intersect with each other. For example, a woman may be elderly or young, poor or affluent, and Roma or non-Roma. Therefore, to avoid generalisations, one needs to account for these multiple, intersecting identities. Unfortunately, available information on the interactions between gender equality, social equity, poverty and environmental challenges in BiH does not allow for such a detailed assessment. Hence, the analysis compiled below uses some generalisations, which further studies could help nuance.

3 The discussion brief is based on secondary sources, mainly grey literature (i.e., materials published by well-known organizations, such as organizations within the United Nations system, outside peer-reviewed academic journals). The analysis is limited by significant constraints, such as the lack of recent data on the state of the environment and environmental health impacts in BiH, and the fragmentation of relevant information across multiple sources. Therefore, it does not pretend to be exhaustive. Rather, it aims to highlight some of the main ways in which gender equality, social equity and poverty challenges are linked to climate change and natural hazards in the BiH context. Available information does not allow for a differentiated analysis at entity/district level.

4 BiH is a complex and decentralized country with two entities: the Federation of Bosnia and Herzegovina, which itself is composed of 10 cantons, and the Republika Srpska. The 1995 BiH Constitution also established the Brčko District, which falls under the responsibility of the institutions of Bosnia and Herzegovina and whose territory is jointly owned by the two entities.

Waste management challenges in BiH

Waste is one of the main environmental challenges in BiH. Key issues in the sector include high operational costs, insufficient financing for investments, low waste collection coverage, very low waste separation, waste disposal at non-sanitary landfills and low levels of public awareness with respect to solid waste management (Ionkova, 2019). Data collection, monitoring and reporting in the waste sector lag behind others, such as the water and air quality sectors. Landfilling is the predominant method of waste disposal in BiH, with three quarters of produced waste being disposed of in formalized landfills (BiH Statistics Agency, 2018). The quantity of municipal waste per capita amounted to about 350 kg/year in 2017, which was below the European Union (EU) average of 490kg (Agency for Statistics of Bosnia and Herzegovina, 2019; Eurostat, 2020). The rate of waste generation in urban areas is almost twice that of rural areas (Ionkova, 2019).

About 77% of BiH's population has access to waste collection services (BiH Statistics Agency, 2018). The collection coverage is around 90% in urban areas but remains around 40% in rural areas (Ionkova, 2019). Some households in rural areas without coverage organize their own collection and transport and dispose of the waste in illegal dumpsites (European Environment Agency, 2018a). There are about 2300 illegal dumpsites across BiH, which account for approximately 23% of the total waste disposed in BiH (BiH Statistics Agency, 2018). There is, however, no data on the impact of illegal or uncontrolled dumpsites on human health and the environment (UNECE, 2018). Approximately only a third of the population in BiH is covered by a sewage system (UNECE, 2018).

The waste recovery rate⁵ in the country is around 7% (BiH Statistics Agency, 2018). Barriers to recycling include high transportation costs, lack of separation at source⁶, lack of collection systems and an adequate nation-wide recycling market, lack of subsidies and incentives, and limited public awareness (UNEP, 2013). Organic waste is not separated, as there is no demand for compost (Ionkova, 2019) and biogas is incipient (Energy Community, 2021). An association of system operators for the recycling and use of packing waste was set up in the Federation of Bosnia and Herzegovina in 2011 and in Republika Srpska in 2018 to promote the separate collection, reuse and recycling of waste.

5 The recycling rate refers to the proportion of waste recycled within the overall waste stream, while the recovery rate is the proportion of waste recycled among all the recyclable materials in the waste stream.

6 Source separation is the segregation of different types of solid waste at the location where they are generated (a household or business).



Workers at a recycling plant. Photo: Halfpoint Images/GettyImages

The management of medical waste suffers from significant shortcomings, such as the absence of a system for registering the medical waste produced and the lack of treatment infrastructure, including the means to safely dispose of bio-hazardous waste (Kühling, 2015; Institute of Public Health of FBiH, 2019). This results in medical waste being disposed of untreated on the, often unsecured, dumpsites which creates public health risks (FBiH Institute of Public Health, 2018). Moreover, research by the Institute of Public Health of the Federation of Bosnia and Herzegovina (FBiH) shows that only 42% of health care institutions in the Federation have developed a Medical Waste Management Plan, in accordance with the Rulebook on Medical Waste Management of the FBiH (Institute for Public Health of FBiH, 2018).

Interactions between gender equality, social equity, poverty and waste challenges in BiH

While public service delivery has expanded over the last decade in BiH, coverage gaps remain and some areas remain underserved (Robayo-Abril and Millán, 2019). Rural inhabitants, for instance, are more likely to lack access to waste collection services (European Environment Agency, 2018a). The primary social equity aspects we cover here relate to poverty and the Roma population. Gender and age are also relevant when it comes to waste generation and recycling.

Poverty might play a role in waste management issues in BiH as it can limit the capacity of households to pay the tariff for waste management, which is approximately 0.5% of the household spendable income – international practices specify 1-1.5% (lonkova, 2019). On average, the tariff collection coverage is around 80-90% (Doychinov et al., 2018). At the same time, low disposal costs also prevent the implementation of the hierarchy principle⁷ (European Environment Agency, 2018a).

⁷ This principle from the EU Waste Directive ranks waste management options according to what is best for the environment. It prioritizes solutions that prevent waste, followed by those that prepare waste for re-use, after that recycling, then recovery, and lastly disposal, for instance in landfills (European Parliament 2008).

A recent study of Roma households' access to essential services, including waste collection, showed that their overall levels of access to these services have increased in BiH since 2011 (Robayo-Abril and Millán, 2019). Nevertheless, even if waste collection coverage has improved for Roma households, where the head of the household is in employment, similar levels of unequal access remain between Roma and non-Roma neighbouring households. For many Roma communities, poor sewage systems, proximity to landfills and unclean spaces where children play constitute significant health concerns, especially children's health (Nikoloski and Marnie, 2018).

The lack of economic opportunities for Roma persons means that they often turn to informal activities to make a living, especially garbage collecting and selling (Ministry for Human Rights and Refugees of BiH, 2017). A study of the Roma community in Zavidovici, a town in central BiH, shows that about 50% of the community's members are actively involved in, and dependent on, the informal solid waste sector as a main source of household income (Vaccari and Perteghella, 2016). The study also highlights the importance of Roma waste collectors in the value chain of recyclables, since they contribute more than 50% of the market to the middle dealers in the Zenica-Doboj Canton (Vaccari and Perteghella, 2016). During the Covid-19 pandemic, waste management employees and informal waste collectors in BiH and other Balkan countries, many of whom are Roma, have been particularly at risk from contamination through waste materials (Bajrović, 2020; Mrkić, 2020).

A 2020 survey from the Brčko landfill site identified that, among Roma waste collectors, men and women were equally represented (Silajdzic, forthcoming). The waste collectors are originally from Brčko and currently live in the settlement of Suljagica Sokak with access to water, electricity, public schools and public hospitals. Their average monthly income from waste collection (200 BAM)⁸ – their main source of income – is about half of the national minimum wage. The survey also highlights the lack of alternative ways for waste collectors to generate an income if the landfill closes. Further, the survey discovered that waste collectors would be interested in doing other recycling or similar jobs (such as cleaning up public spaces), if they were given fixed wages and regular working conditions (Silajdzic, forthcoming).

Moreover, waste disposal practices can be influenced by gender and age. For instance, people of a certain gender and/or age tend to see something as waste, while others may see it as re-usable (Muller and Schienberg, 1997). In the EU, survey research shows that women are more likely to say that reducing

⁸ Approximately €100.



Woman organizes rubbish containers for recycling. Photo: Anton Petrus/GettyImages

waste and sorting recyclable waste at home would make the biggest difference in how efficiently resources are used. Women also appear to be slightly more inclined than men to take certain steps to decrease their household waste, such as not buying over-packaged goods, drinking tap water to avoid packaging waste from bottled water and donating or selling items for re-use (TNS Political & Social, 2014). A study on attitudes towards food waste in BiH discovered that women are more likely to feel guilty when discarding food and plan food purchasing to avoid waste (Djekic et al., 2019). However, gender roles are often reversed when it comes to paid work in the waste sector. Indeed, in Europe waste management remains a profession with a much higher proportion of men than women (OECD, 2019).

Policy considerations

Waste management in BiH can be improved by expanding waste collection service coverage, particularly in marginalised areas, while also tackling gender inequality, social inequity and poverty. For example, access to solid waste management has been identified as an important way to improve Roma communities' living conditions (see Nikoloski and Marnie, 2018). Other identified measures that can mitigate the impacts include removing illegal dumps and cleaning up the areas where they are located.

The introduction of incentives for recycling and implementing education and awareness campaigns would also be a step in the right direction. When undertaking such awareness campaigns, it is important that they recognize and challenge traditional gender roles. Indeed, research has shown that there is a risk of designing recycling strategies targeted at women only, thus relieving other stakeholders from their responsibilities (Sarmento dos Muchangos and Vaughter, 2019). Challenging stereotypes through campaign messaging is critical, since reforming the waste sector not only requires technological or structural changes but also shifting gender norms (UNEP-IETC and GRID-Arendal, 2019).

In terms of recycling, it is also necessary to account for the differences in people's needs and abilities across the population. The design of waste bins, and paper and bottle banks can create barriers for disabled and elderly persons, as well as people with limited strength (Jensen and Nielsen, 2001). For instance, in Nicosia, Cyprus, small bins with two wheels for recyclable glass were made available to tourist establishments to make their transfer and movement easier (Buckingham and Perello, 2019).

Policies designed to improve waste management systems in BiH have favoured regional or multi-municipal landfills over municipal ones. Yet, closing municipal dumpsites may impact Roma communities whose livelihood is largely dependent on collecting and selling the waste. It is thus important to improve social inclusion in new waste management systems so that formal employment opportunities in the waste management sector are available to those whose livelihoods depend on the current model of waste management, as well as to women. Indeed, waste management remains a profoundly masculinized employment sector across Europe (OECD, 2019). Roma women, in particular, require special attention because they are more likely to rely on the current waste management system for their livelihoods, while also being excluded from employment opportunities in the waste management sector.

Various waste management modernization projects in EU neighbouring countries have sought to increase social inclusion in the sector. For instance, a project by the German Corporation for International Cooperation (GIZ), focusing on the integration of informal collectors into formal solid waste management systems in Serbia, recommends taking steps to formalize informal waste collectors and stimulate local authorities to work with waste collector groups (GIZ, 2018a). In Georgia, the European Bank for Reconstruction and Development (EBRD) incorporated a gender perspective into a solid waste management project. Among other goals, the project aimed to support

an equal opportunities policy for men and women in the workplace and to design gender-targeted information campaigns for behavioural change in waste management (EBRD, 2011).

From a gender perspective, there are also some measures that can help establish incentives to include women in the waste supply chain. To start with, it is important to involve women in the decision-making process, both within the institutions and companies that plan and carry out waste management, as well as through public consultation processes (Buckingham and Perello, 2019). Gender-based quotas or affirmative action incentives⁹ can also help increase women's representation in specific jobs, such as truck drivers, waste management engineers and administrative staff (UNEP-IETC and GRID-Arendal, 2019). Several municipalities in Serbia and Kosovo have introduced gender quotas or other measures – such as targeted training, gender responsive budgeting and gender sensitive indicators – to improve women's inclusion in the waste management sector (Bacanovic, 2011; GIZ, 2018b). Another way to remove the barriers to women's professional involvement in the waste management sector is to ensure equipment can be managed by men and women equally (Buckingham and Perello, 2019). When implementing many of these measures it will also be important to include other disadvantaged groups, such as Roma or disabled persons, in the waste management sector.

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⁹ Progress in achieving equality is very slow across the world, and quotas and affirmative action incentives are a key tool to accelerate change in both political and business sectors (see Turan 2015).

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