

POLICY BRIEF

WOMEN'S CONTRIBUTION TO GREENHOUSE GASES EMISSIONS & REDUCTION IN WASTE SECTION



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INTRODUCTION

Over the past year, Vietnam has signed number of international commitments on gender equality, empowering women as well as commitments to combat climate change.

Accordingly, Vietnam is considered as one of the countries that actively participate in promoting gender equality actions, proactively adapting to climate change and reducing greenhouse gas (GHG) emissions. However, gender issues have not been systematically and clearly integrated into climate change policies. This is a big challenge for sectors and localities in translating climate change policy orientations into specific climate actions that consider gendered impacts and gender equality.

Waste management is one of the five areas with large GHG emissions and mitigation measures are needed to achieve the target set out in Vietnam's Nationally Determined Contribution (NDC) submitted to UNFCCC in September 2020. Compared to other sectors, GHG emission reduction in waste management involves a large number of informal workers - those who perform domestic waste segregation at source, those involved in solid waste collection and classification, recycling facilities, etc. have contributed to providing input materials for many production activities, reducing resource exploitation and GHG emissions.

Source: nangluongsachvietnam.vn



The majority of the workforce involved in the waste value chain are women. Therefore, it is necessary to understand more about their role as well as the challenges and obstacles that they encountered when participating in the waste value chain. This policy brief, in addition to providing the linkage between gender and climate change, particularly with waste management sector, and on gender issues and women's challenges and obstacles in waste value chain, the report will also introduce a toolkit to calculate women's contribution to GHG emission reduction in waste management sector, which was developed by the Center for Environment and Community Research (CECR) under the financial support from The United Nations Entity for Gender Equality and the Empowerment of Women (UN Women). The results obtained from the application of the toolkit are expected to contribute to providing information and data for policy makers and local authorities in promoting gender mainstreaming in the waste management. In addition, the toolkit can also be used to assess the potential of GHG emission reductions from different waste management solutions, in order to promote the development and implementation of waste management policies in localities more appropriately and effectively.

& WASTE MANAGEMENT CLIMATE CHANGE

Waste is one of the five major GHG emission sectors in Vietnam. According to the 3rd Biennial Update Report (BUR3), in 2016 Vietnam's total GHG emissions from the waste sector was 20.74 million tons of CO₂eq, an increase of 13.7% compared to the data of the 2014 (equivalent to an increase of 1.49 million tons of CO₂eq), accounting for 6.55% of total GHG emissions of Vietnam's total GHG emission (1-Energy, 2-Industrial processes, 3- Agriculture, forestry and land use; 4-Waste). In the 2020 updated Nationally Determined Contribution (NDC), the Government of Vietnam commits that with domestic resources, by 2030, total GHG emissions will be reduced by 9% compared to the BAU- equivalent to 83.9 million tons of CO₂eq. The reduction of GHG emissions from the waste sector is 9.1 million tons of CO₂eq, accounting for 1.0% of the total national GHG emissions. If there are international supports, the GHG emission reduction can reach 27% compared to BAU (equivalent to 250.8 million tons of CO₂eq). Accordingly, it is estimated that the reduction of GHG emissions from the waste sector is 33.2 million tons of CO₂eq, accounting for 3.6% of the total national emissions¹. The amount of domestic solid waste generated is expected to increase to 24.85 million tons (scenario 1) or 35.76 million tons (scenario 2) by 2030. The amount of solid wastes increasing rapidly, exceeding the treatment capacity will cause significant increase in GHG emissions. Total GHG emissions from household waste increased respectively from 2.28 million tons of CO₂eq in 2010 to 3.45 million tons of CO₂eq in 2015 (an average increase of 8.8%/year). It is forecasted that GHG emissions from domestic solid wastes will increase to 6.89 million tons of CO₂eq (scenario 1) or 7.99 million tons (scenario 2) by 2030².

According to the technical report for the 2020 updated Nationally Determined Contribution (NDC) prepared by the Ministry of Natural Resources and Environment, the waste sector contributes to GHG emission reduction through a number of solutions such as: gas recovery from landfills, composting from organic waste, recycling, reuse and waste reduction, incineration to recover heat. The potential GHG emission reduction of 3 main groups of mitigation solutions are as follows³:

Applicable solution	Mitigation potential for the 2021-2030 period (Million tons of CO ₂ eq/year)	Mitigation potential in 2030 (Million tons of CO ₂ eq/year)
1. Composting from organic waste	20.99	3.58
2. Recovering energy from landfill for electricity generation and heating	2.10	0.33
3. Recycle, reuse and reduce waste	1.26	0.25
TOTAL	24.35	4.16

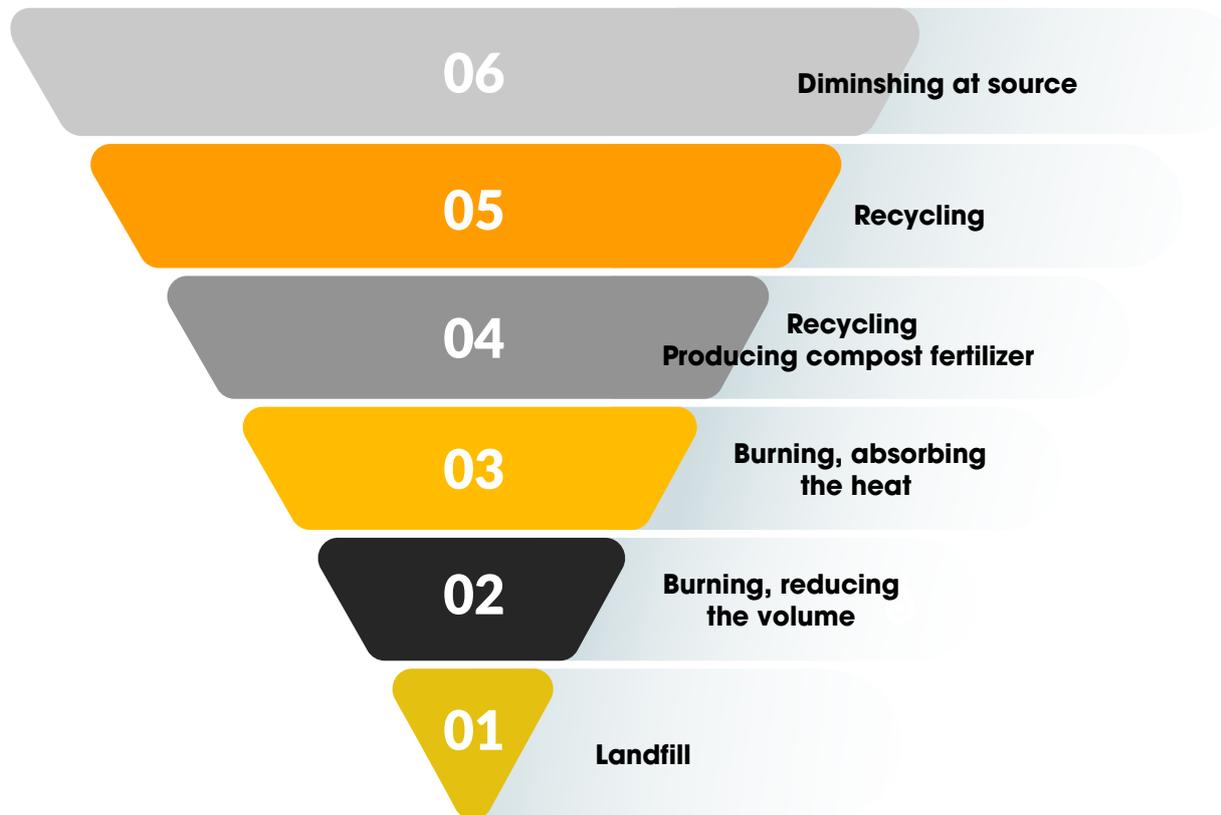
Source: NDC Technical report, MONRE 2020

¹ Vietnam's Nationally Determined Contribution (2020 update)

² Tran Kieu Anh, 2020. Calculation of GHG emissions from solid waste treatment, challenges and contributions of women in solid waste management. Ministry of Construction, October 2020

³ UNEP- UN Women, 2021. State of Gender Equality and Climate Change Assessment Report in Viet Nam

Figure 1. Simulation of GHG emission mitigation model based on the source approach



Among waste management solutions, waste reduction and collection for recycling bring various benefits (reducing costs and pressures for collection, transportation and treatment of waste, contributing to environmental protection, GHG emission reduction, natural resource saving, etc.). According to the report on the current state of the environment in 2019, currently in Vietnam, about 71% of domestic waste collected is usually treated by landfilling, most of which are in unsanitary conditions, posing a high risk of environment pollution. Meanwhile, the rate of recycled waste is only 8-12%.

GHG emission reduction from the waste sector is effectively implemented through integrated solid waste management. In which, the most effective is the application of 3R measures (including Reduce waste generation from the source, Reuse and Recycle). This group of measures makes a significant contribution to reducing the amount of waste that needs to be collected and buried, treated at landfills and waste treatment plants, reduced pressure on investment in waste treatment infrastructure, and reduced land area for landfills construction as well as effectively contribute to reducing water pollution, soil pollution, air pollution (odor) and contribute to reducing plastic waste pollution in the ocean, protecting marine ecology and conserving biodiversity.

SOME

GENDER

ISSUES

IN WASTE MANAGEMENT



Source: freepik.com

Research documents show that women are vulnerable to the impacts of climate change, and at the same time, they also make an important contribution in mitigating GHG emissions and enhancing adaptive capacity to the negative impacts of climate change. Implementing the National Strategy on Gender Equality for the 2011-2020 period, Vietnam has achieved positive results such as: improving community awareness and promoting the completion of the legal framework on gender equality, disseminate models promoting gender equality. On March 3, 2021, the Government promulgated the National Strategy on Gender Equality for the 2021-2030 period (Resolution No. 28/NQ-CP) with the goal of further narrowing the gender gap, creating favorable conditions and opportunities for women and men to participate and enjoy equal benefits in all aspects of social life, contributing to the sustainable development of the country.

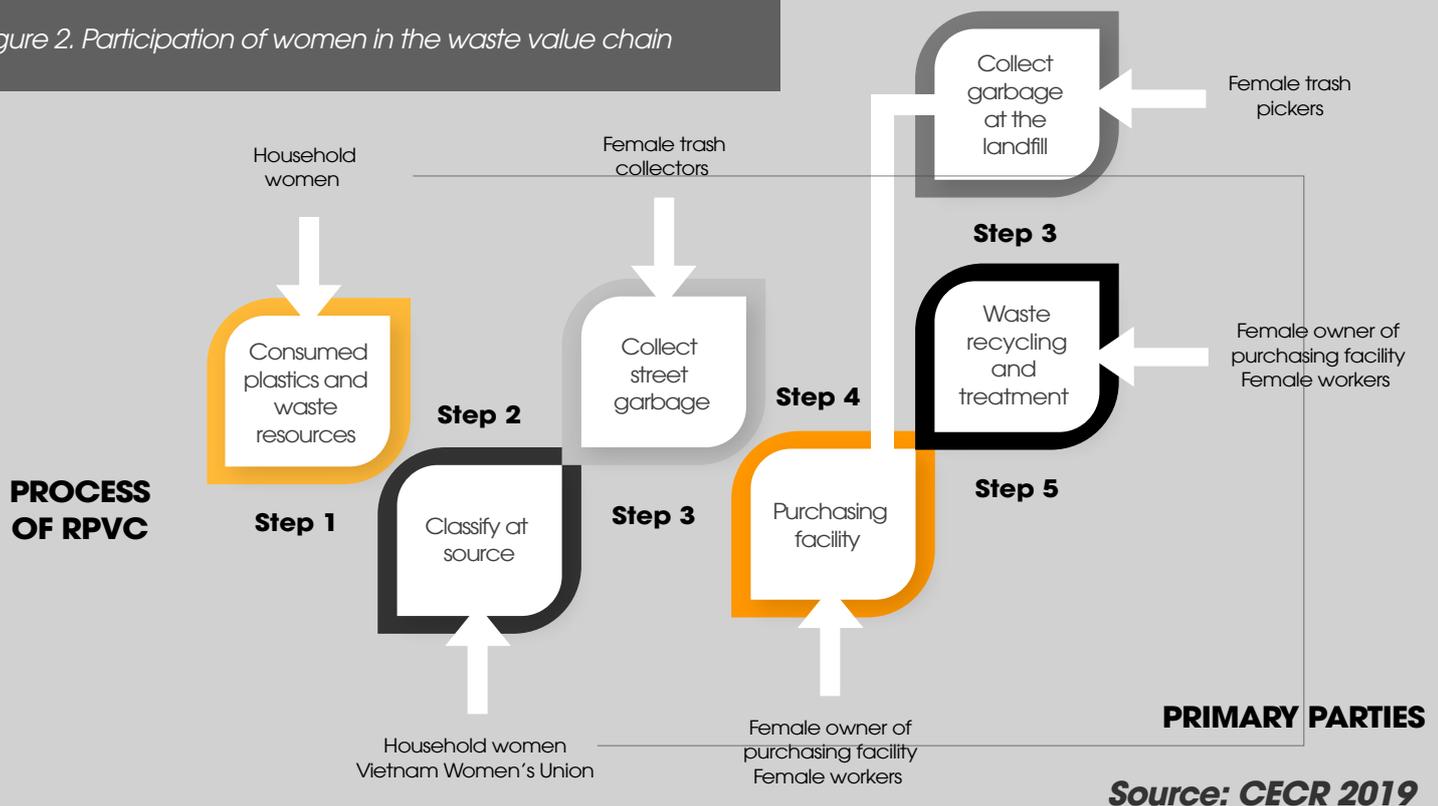
However, the role and capacity of women is not fully recognized, and their voice and influence in decision-making on climate change response and disaster risk reduction is generally still limited. This is evident in the practice of waste management - one of the 5 main areas of GHG emissions in Vietnam. Currently, women are carrying out pioneering and important tasks in the entire waste chain, but their role and contribution has not been officially recognized in the fight against climate change. In addition, there are still many barriers and challenges related to gender that have not been fully and properly assessed in order to have appropriate solutions to promote women's participation in developing and implementing policies to respond to climate change in general, measures to reduce GHG emissions in the waste sector in particular. Reviewing research reports and policy documents indicates that women play an important role in the waste value chain (from sorting, collection, to recycling). However, there are still challenges and obstacles in recognizing the role and importance of women in order to promote gender mainstreaming and the role of women in waste management policy in Vietnam.

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Women play a key role in waste management from consumption, segregation, collection and recycling, but their contributions are not fully and systematically recognized.

The report "Empowering women in waste management"⁴ shows the important role of women in the entire movement of plastic waste, from production - purchase - consumption - disposal - collection, sort-recycle and reuse. In which, women are both the main responsible factor in household activities that can generate waste and an active participant in the process of creating a green economy, a circular economy through the sorting, recovering waste and turning waste into valuable resources. Women's participation in the waste value chain can be summarized as Figure 2.

Figure 2. Participation of women in the waste value chain



Note:

- * Female trash pickers: people who work unofficially at a landfill
- * Female trash collectors: people who work unofficially on the streets
- * Purchasing facility: A facility that buys and sells plastics and waste resources

Women in Vietnam often play a major role in housework, making 85% of decisions about household purchases. They also often establish and maintain hygiene habits and routines within the household space, on the street and in the community. The results of interviews with several groups of women in Da Nang showed that 100% of women are responsible for the housework of the family and are responsible for collecting and disposing of waste. Survey data show that about 90% of people participating in projects and activities of waste separation at source are women, while men often participate in community meetings.

For domestic waste collection activities carried out by the system of environmental companies or cooperatives, the number of female workers accounts for 60-80%. The activities of purchasing and collecting recycled waste from households, on the street and in landfills, which are carried out by informal labor groups (waste collector), up to 90% are women. For example, out of 300 informal garbage collectors who regularly work at Khanh Son landfill, in Da Nang city, about 270 are female (accounting for 90%).

⁴ Analysis Report: Women Empowerment in Plastic Waste Management, CECR, March 2019

Women also play a significant role in recycling. Surveys at some scrap collection and recycling facilities in Da Nang city indicate that 50% of recycling business owners are women; Female workers also account for 85-90% of the workforce of these facilities. Women are hired to do meticulous, time-consuming work such as sorting, preliminary processing, washing and packing scrap, while men usually do the loading and unloading work, and transporting.



In addition, most projects and programs related to waste management such as 3R, waste segregation at sources, “5 no, 3 clean”, or reduction of plastic wastes, are initiated and directed by Women’s Unions at all levels. Women’s Union members are those who spread and guide the implementation in the community, school, agency and family. With more than 19 million members across the country, including 105,000 officials from central to village levels, the Women’s Union is an important agent for enhancing the status and capacity of women in the efforts to reduce wastes, especially domestic wastes.

Women have an initiating, committed and dedicated role at all levels, from Women’s union to households, in projects of segregation and reduction of waste at source, combined with the work of women working in the informal sector have contributed significantly to reducing consumption, increasing collection and sorting of domestic waste. As a result, a large amount of resource waste can be recovered for recycling and reuse, significantly reducing the amount of waste and waste collection and treatment costs, reducing pressure on landfills, waste treatment facilities and environmental protection work.

Box 1

The role of women in wastesegregation, collection and recycling in Da Nang

The project “Ocean without plastic”, implemented by CECR in collaboration with Danang Women’s Union, focuses on reducing the use of plastic bags and segregating waste at source. The results show that each month a household in Da Nang can collect 2-3 kg of waste for recycling and 17 kg of organic waste for composting. With 600 households participating in the project, every month 1,600 kg of waste is collected and classified for recycling and reuse purposes (resource waste). Each day, a waste collector can collect an average of about 30 kg of resource waste. Thus, with the number of 300 people working as waste collectors in the city, it is possible to collect and segregate more than 250 tons of natural waste per month.

Source: CECR, 2019

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The female workforce is engaged in the main activities of collecting, sorting and transporting waste, but they face many challenges such as discrimination, hazardous working conditions, limited access to with social insurance, unstable income; Although 50% of business owners and garbage collectors are women, they have not been trained to improve their corporate governance and management capacity.



Women who participate in the freelance collection and recycling of waste are considered informal labor market participants who often work in dangerous and unhealthy conditions as well as experience discrimination.

The collection and classification of waste by women is often not recognized and protected by legal regulations. Specifically, they do not have official access to health insurance and social insurance due to no labor contract, no agency-organization representing and sponsoring. The Law on Labor, the Law on Social Insurance and the Health Insurance all lack specific provisions for informal sector workers to be able to benefit from social security policies and regulations instead of having to buy voluntary insurance - an option that is sometimes unaffordable to them.

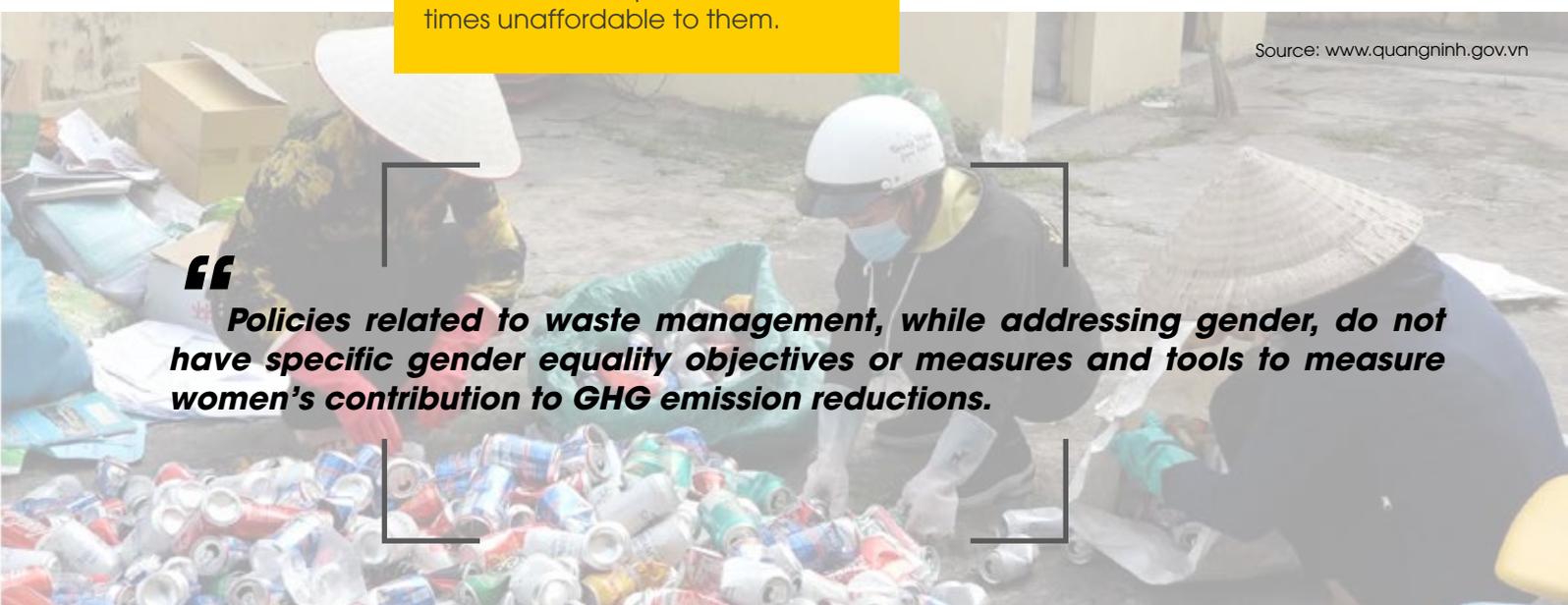
Despite taking on most of the work in the waste value chain, women are often disadvantaged/weaker in terms of income than men.

Gender equality, the role and contribution of women in waste reduction, collection and recycling have not been fully recognized or reflected in current legal documents. For example, the Law on Labor or Law on Environmental Protection 2014 - Chapter 9 Waste Management has not mentioned this issue.

Source: www.quangninh.gov.vn

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Policies related to waste management, while addressing gender, do not have specific gender equality objectives or measures and tools to measure women's contribution to GHG emission reductions.



Although there are a number of programs and projects that mention policies to encourage women or propose gender mainstreaming in the implementation process, there are still gaps in implementation in waste management, specifically (i) gender mainstreaming, which has only been introduced at the level of general principles, but has not been concretized by specific implementation activities and budget flows and resources; (ii) There is no specific target for monitoring and evaluating gender mainstreaming; (iii) Lack of gender mainstreaming guidelines and monitoring and evaluation mechanisms.

WOMEN'S IN

CONTRIBUTION

GHG EMISSION REDUCTION - WASTE MANAGEMENT

Currently, in Vietnam, there is no tool to measure women's contribution to GHG emission reduction in waste management. In order to provide specific evidences and data to recognize the contributions of women, as a basis for the formulation of specific policies and actions to implement the climate change response program (including GHG emissions reduction) under lens of gender equality. This quantification will also help provide inputs for policy advocacy and promote the legitimate rights of women working in the waste value chain. Therefore, the Center for Environment and Community Research (CECR) with funding from the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) has developed a toolkit for *Calculation and Quantification of women's contribution to reducing greenhouse gas emissions, through segregation at sources.*

The toolkit was built on two main criteria: (i) Simple, easy to use, suitable for practical conditions; (ii) Quantify the contribution of women in waste reduction and segregation projects at source for GHG emission reduction.

The toolkit is built on the following steps: (i) Survey of waste reduction, segregation, collection and recycling projects; (ii) Refer to domestic and international sources to select appropriate GHG emission factors; (iii) Formulating calculation formulas and designing tool interfaces, using Microsoft Excel; (iv) Testing based on actual project data; (v) Correction and finalization.

The toolkit consists of 4 main worksheets to calculate amount of GHG emission reductions in consumption, households (actual data), households (emissions coefficient) and collection groups (waste collector). The usage function of each worksheet is shown in Table 1.

WORKSHEET

FUNCTION

	WORKSHEET	FUNCTION
1	Reducing GHG emissions from consumption	<ul style="list-style-type: none"> - Calculate the amount of GHG emission reduction for a group of people/household that reduces consumption of 4 product groups once (plastic bags, drinking glasses, water bottles, straws). - Estimate GHG mitigation potential during project implementation.
2	Reducing Household GHG Emissions – Actual data	<ul style="list-style-type: none"> - Calculate the amount of GHG emission reduction and waste management cost for the agency or organization that segregate waste at source, collecting actual segregation data is doable.
3	Reducing Household GHG Emissions – Coefficient	<ul style="list-style-type: none"> - Calculate the amount of GHG emission reduction for agency/organization that segregate waste at source, collecting actual segregation data is undoable. - Estimate GHG mitigation potential during project implementation.
4	Reducing GHG emissions – Waste collectors	<ul style="list-style-type: none"> - Calculate the amount of GHG emission reduction and waste management cost reduction from the contribution of waste collector groups in a specific area

Bảng 1:
Cấu trúc bảng tính và mục đích sử dụng

This simple toolkit can be used by agencies and organizations implementing waste segregation projects/activities at source; local authorities, policy makers, research agencies or project developers in estimating the potential for GHG emission reductions. For example, CECR has shared and applied the toolkit in some provinces (Details in Box 2). Actual implementation shows that using the toolkit helps:

- * Calculate performance results, measuring the contribution of projects or implementing agencies to GHG emission reduction for the waste management sector.
- * Provide evidence-based data, enabling rapid assessment and fair recognition of women's contributions to GHG emission reductions from activities related to waste management.
- * Assess GHG emission reduction potential of projects, programs on waste segregation.
- * Identify waste groups with great potential for reduction, to develop plans, select priorities when proposing to implement measures to solve the waste problem.
- * Provide input data and information for policy formulation, planning and communication activities, awareness raising, related to gender mainstreaming and promoting the role of women in management waste, responding to climate change - especially GHG emission reduction.
- * Help strengthen the monitoring and reporting system at the grassroots level.

Box 2

Information on application of the toolkit in Hai Phong

The toolkit has been used by the Women's Union to measure women's contribution to household waste management in Hai Phong city. Specifically, the tool is applied to:

- Calculation of reducing plastic bags at Tan Phong market, Kien Thuy district, Hai Phong city in November 2020.
- The results showed that 493 plastic bags used were reduced, equivalent to a reduction of 15 kg of CO₂eq/day (implemented by the Hai Phong Women's Union).

Source: CECR, 2020

The tool to measure women's contribution to GHG emission reduction through waste management activities has been researched and developed, the application results have provided some initial evidence of women's contribution but not many organizations know of that, the application is still on a small scale and sporadically. Accordingly, we can conclude that:

- The tool was built and applied on a small scale by CECR in Da Nang and Hai Phong city therefore not many parties know and apply it.
- The lack of data at all levels, especially at the local level, on women's contribution to GHG emission reduction efforts is one of the reasons why gender issues have not been specifically mentioned in the policy document on waste management.
- Calculations of some projects show that the total amount of GHG/year that can be reduced by 1 household in Vietnam is 1 ton of CO₂eq through waste segregation at source and organic composting (For details see Box 3). Therefore, it is necessary to apply a tool to measure women's contribution in the effort to reduce GHG emissions on a national scale in order to build an emission coefficient or calculate the amount of GHG emissions that can be reduced by households.

Calculation results of women's contribution to GHG emission reduction through waste management in Da Nang

Box 3

Based on the monitoring and evaluation (M&E) data set of the project "Ocean without plastic", the Toolkit has calculated the specific contributions of the project to GHG reduction and climate change mitigation such as:

- Segregation at source, collected 1,610 kg of recyclable waste in 1 month, helping to reduce 9,649 kg of CO₂eq (with the participation of 616 households, an average monthly reduction of 15.67 kg of CO₂eq waste at source).
- On average, a household can reduce emissions by a total of 86.3kg CO₂eq per month from sorting organic waste for composting (73.34 kg CO₂eq) and segregating waste for recycling (13kg CO₂eq).
- Each waste collector can contribute to a reduction of 191 kg CO₂eq/day or 57 tons of CO₂eq/year from collecting and segregating recyclable waste.

Source: CECR, 2019

1. Expand the scope of application of the tool to calculate the amount of waste, reduction from waste collection, segregation, recycling activities through different programs and projects to provide information and empirical data for development and implementation of policies on waste management. Continue to promote the application of toolkits to collect information and data to establish monitoring and evaluation indicators of gender responsiveness and gender equality in waste management in particular, and to respond to climate change in general. Implementation of this requires the participation of waste management agencies, local authorities and donors.

2. Organizations and agencies implementing community projects in coordination with ministries and sectors to recognize women's contributions to GHG reduction through activities related to waste management. Accordingly, the role of women in implementing the GHG emission reduction target in the NDC that Vietnam has committed to should be recognized and evaluated so that there can be promotion solutions such as reasonable budget allocation for implementation activities on reduction, segregation at source, collection and recycling of waste in order to reduce GHG emissions.

POLICY RECOMMENDATIONS

Source: cleanipedia.com



3. Agencies and organizations give priority to using data obtained from the application of the GHG emission reduction calculation toolkit in the waste sector to propose gender indicators to integrate into the process of developing and implementing policies, programs and projects on the implementation of the updated NDC. Integrate the design, implementation and operation of waste segregation models at source, circular economy models, green urban development, etc. on the basis of promoting the potential and strengths of both women and men.

4. Recognize the role of women participating in the informal labor market such as collecting, sorting and recycling waste, helping them to access social security and occupational safety policies. Develop a roadmap to transform this informal work group into the formal recycling sector, following appropriate operating models to ensure the rights of workers, especially female workers. Provide technical support and improve management capacity for women-owned recycling businesses. In particular, focusing on capacity building activities, promoting the leadership role and voice of women in waste chain activities - as an important part of the action program to respond to climate change in localities, especially cities.

5. Prioritize the use of specific data on women's contribution to GHG emission reduction efforts in waste management to convey messages about the role of women in the fight against climate change as well as The relationship between climate change and gender effectively reaches all classes of society.

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