

data2x^o

Mapping Gender Data Gaps in the Environment and Climate Change

A 2023 UPDATE



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Introduction

A growing body of evidence demonstrates that environment and climate change issues are not gender neutral.¹ In many contexts, women, girls, and gender-diverse people have less access to and control over environmental resources, and are disproportionately affected by climate change due to social, political, and economic inequalities.² At the same time, they play important roles in helping to prepare for and weather the most adverse consequences of climate change for households and communities.³ Gender data can help to illuminate the disparate impacts of climate change for women, girls, and gender-diverse groups, as well as their contributions to climate change mitigation, adaptation, and resilience. However, for many key environment and climate change issues gender data remains widely unavailable.

“Gender data” is data that captures information on the different lived experiences of women, men, and gender-diverse people. It includes data that is disaggregated by sex or gender; data that pertains to women, girls, and gender-diverse people exclusively or primarily; and data that reflects gender issues, including roles, relations, and inequalities. It can be both quantitative and qualitative, and collection methods account for stereotypes, social norms, and other factors that may introduce gender biases.

Data2X’s 2019 report on [Mapping Gender Data Gaps in the Area of Environment](#) highlighted the lack of high-quality, regularly collected, and internationally comparable gender data for many aspects of the environment. Since then, the impacts of climate change are being increasingly felt by communities around the globe. Engaging with and understanding the ways that gender equality and environmental issues intersect is critical to responding effectively and leaving no one behind in the global response to climate change.

2023 marks the midpoint in the implementation period of the Sustainable Development Goals (SDGs) and the Sendai Framework for Disaster Risk Reduction, as well as the penultimate year of the United Nations Framework Convention on Climate Change (UNFCCC) Enhanced Lima Work Programme on Gender and its Gender Action Plan. At this pivotal moment, Data2X is updating our analysis of the state of gender data in the area of environment.

This report highlights where progress has been made toward filling gender and environment data gaps since 2019, what new data gaps have emerged as new issues have assumed greater attention or importance, and where key sources of gender and environment data can be found. Compared to Data2X’s 2019 report, we adopt a more focused view of the

1 OECD. (2021). Gender and the Environment: Building Evidence and Policies to Achieve the SDGs. https://www.oecd-ilibrary.org/environment/gender-and-the-environment_3d32ca39-en

2 Rao, N., Lawson, E.T., Raditloaneng, W.N., Solomon, D. & M.N. Angula. (2019). Gendered Vulnerabilities to Climate Change: Insights from the Semi-Arid Regions of Africa and Asia. *Climate and Development* (11)1: 14–26. 10.1080/17565529.2017.137226

3 Data2X, Grantham, K., & S. Eissler, S. (2022). Resilient Communities Need Gender Data. Data2X. <https://data2x.org/resource-center/resilient-communities-need-gender-data-for-gender-equality/>

environment that explicitly centers climate change. The gender data gaps presented below explore different aspects of the environment and climate change, including: access to and control over environmental resources; responses to climate change; and the gendered impacts of climate change.

GENDER DATA IN INTERNATIONAL ENVIRONMENTAL COMMITMENTS

Numerous international commitments recognize the linkages between the environment, climate change, and gender equality. Yet, targeted measures that support gender data collection are not consistently included across these commitments or their monitoring frameworks. For example:

- Despite efforts to mainstream gender across the [Sustainable Development Goals](#), it continues to be mostly siloed from the environment within its monitoring framework. Of the 114 SDG indicators that include an environmental lens, only 20 (or 9 percent) require gender-specific and/or sex-disaggregated reporting.⁴
- The [Sendai Framework for Disaster Risk Reduction](#) draws attention to the unique ways in which women experience disasters, and highlights their increased vulnerability in certain disaster situations. For some indicators in the Sendai monitoring framework, countries are recommended, but not required, to disaggregate data by sex, age, and disability. As of the latest available reporting, most member states have opted not to report disaggregated data.⁵
- The [Gender Action Plan \(GAP\)](#) of the UNFCCC [Enhanced Lima Work Programme on Gender](#) reflects the necessity of gender data for gender-responsive action.⁶ However, the GAP's corresponding framework is exceedingly broad, leaving Parties with little direction on priority areas for increased gender data collection and analysis, and failing to hold Parties accountable for using gender data to inform national climate action plans, strategies, and policies.

4 OECD. (2021). Gender and the Environment: Building Evidence and Policies to Achieve the SDGs. https://www.oecd-ilibrary.org/environment/gender-and-the-environment_3d32ca39-en

5 UNDRR. (2020). Monitoring the Implementation of Sendai Framework for Disaster Risk Reduction 2015-2030: A Snapshot of Reporting for 2018. <https://www.undrr.org/publication/monitoring-implementation-sendai-framework-disaster-risk-reduction-2015-2030-snapshot>

6 For example, activity D.7 focuses on enhancing the availability of sex-disaggregated data for gender analysis, and activity A.3 calls for enhanced capacity-building on the same.

2023 Gender Data Gaps in the Environment and Climate Change

Compared to 2019, we now have more (though incomplete) data on women in environmental decision-making, women's land ownership and security, and access to safe drinking water, sanitation, and hygiene (WASH). Other gender data gaps persist, and new ones have been identified in areas such as clean energy and climate-induced migration and displacement. There is also greater awareness and recognition of the ways that the environment and climate change impacts gender equality issues such as sexual and reproductive health and rights, gender-based violence, and unpaid care work. However, this awareness has not necessarily translated into more or better gender data, especially data that is high-quality, regularly collected, and internationally comparable. We know particularly little about the experiences of women, girls, and gender-diverse people who are most marginalized due to their age, race, disability, sexual orientation, migration status, poverty, or other characteristics.

Across the different gender data gaps explored in this report, some key findings emerge:

- Most environmental data is collected at the household level as opposed to the individual level, meaning that it is not possible to assess intra-household gender differences. Capturing intra-household differences in access is especially difficult.
- Data collection standards and methodologies are lacking for many gender-relevant environment and climate change issues. As a result, governments often define, collect, and report information differently, complicating efforts to generate internationally comparable statistics.
- Gender data collection efforts are further complicated by climate change due to the unique challenges and risks of data collection in insecure environments.
- A lot of gender data on the environment and climate change is not adequately disaggregated by age, race, disability, sexual orientation, migration status, etc., to enable intersectional analysis.
- Data needs are context-specific and sometimes dynamic depending on countries' own climate change impacts and priorities.

Access to and Control Over Environmental Resources

LAND OWNERSHIP AND SECURITY

Women's equal rights to land ownership, and their ability to exercise those rights and feel secure, is a fundamental component of gender equality and women's economic empowerment. Around the world there is limited (but growing) data available that tracks women's land ownership and security (SDG indicators 1.4.2 and 5.a.1) and women's equal rights to land ownership (SDG indicator 5.a.2). Definitions of "ownership" and "secure rights" are difficult to operationalize for the purposes of data collection, and differences in legal systems across countries pose challenges in providing internationally comparable statistics.⁷ As a result, limited data availability does not yet allow for producing regional and global aggregates.



Some gender data on land ownership, security, and use is available from the U.S. Agency for International Development (USAID)'s Demographic and Health Surveys (DHS), the United Nations International Children's Emergency Fund (UNICEF)'s Multiple Indicator Cluster Surveys (MICS), the World Bank's Living Standard Measurement Study Integrated Surveys on Agriculture (LSMS-ISA), and UN Women's Gender-Environment Survey. This data is compiled and published on the Food and Agriculture Organization of the United Nations (FAO) Gender and Land Rights Database. Questions regarding women's land rights and tenure are also included in the OECD's Social Institutions and Gender Index (SIGI). Beyond legal rights and ownership, data measuring women's self-perceived land tenure security/insecurity is also important for identifying gender inequalities and adopting preventive measures.

⁷ United Nations Statistics Division (UNSD). (2023). SDG Indicator 5.a.1 Metadata. <https://unstats.un.org/sdgs/metadata/files/Metadata-05-0a-01.pdf>

Where does gender data on land ownership and security come from?

- National agricultural surveys/censuses and household surveys (e.g. LSMS-ISA, DHS, and MICS) are the best source for data on women's land ownership, land use, access to natural resources, and agricultural practices.
- UN Women's [Gender-Environment Surveys](#) include questions on land ownership, rights, and decision-making, so countries are collecting data through this vehicle as well.
- The FAO's [Gender and Land Rights Database](#) and [Legal Assessment Tool](#) compile and publish available national data on gender and land rights in more than 80 countries. This includes data on women's land ownership and access, legal frameworks and policies, customary practices, and other factors that affect women's access to and control over land and other natural resources.
- [Prindex](#) is a promising global effort to gather sex-disaggregated data on perceptions of land tenure security/insecurity. It [recently found](#) that half of all women in sub-Saharan Africa fear that they would lose their land if they became divorced or widowed.

NATURAL RESOURCE MANAGEMENT

As the primary providers of water, food, and energy at the household and community levels, women are often highly dependent on natural resources for their livelihoods, and therefore particularly impacted by changes in the quality and availability of these resources due to climate change. Some countries collect data on women's roles in management of water, agriculture, livestock, forestry, and fishery within national censuses, agricultural surveys, and time use surveys. However, these surveys are limited by the fact that they occur at wide intervals (usually between three and five years apart) and are not designed to assess the impacts of climate change. Also, many of these surveys use proxy respondents, which we know does not result in accurate gender estimates depending on the topic.

Some labor force surveys collect sex-disaggregated data on employment in natural resources sectors like water management, fisheries, forestry, and biodiversity conservation. However, the level of detail and coverage of specific sectors can vary from one country to another, limiting the international comparability of data. Moreover, few countries collect detailed data on wages and working conditions within these sectors. Smaller qualitative studies are more likely to explore women's experiences as workers within specific sectors, including gender-specific inequalities, risks, and barriers. Data tracking women's representation and leadership within natural resource sector management bodies and governance institutions is also not tracked consistently by any international standard, methodology, or authority.

Where does gender data on natural resource management come from?

- National censuses, agricultural surveys, and time use surveys are key sources for data on women's roles and contributions to natural resource management. [UN Women's Gender-Environment Surveys](#) also include questions on these topics.

- Labor force surveys provide most of the available data on women's employment in natural resource sectors. However the level of detail and coverage can vary from one country to another.
- Smaller qualitative studies are more likely to explore women's experiences as workers within specific sectors. For example, research by the International Union for the Conservation of Nature (IUCN) and USAID on [Gender and Fisheries](#) shows that higher-paid, equipment-intensive tasks are predominantly assigned to men, whereas women often perform lower-paid, time-intensive tasks, and in some countries, women in fisheries are disproportionately vulnerable to gender-based violence, sexual exploitation, and other risks.

WATER, SANITATION, AND HYGIENE

Understanding gender differences in access to safe drinking water, sanitation, and hygiene (WASH) is critical to promote the health and well-being of women and girls, as well as their equal access to and control over water resources. Data tracking the proportion of the population using safe drinking water (SDG indicator 6.1.1) and safe sanitation and hygiene services (SDG indicator 6.2.1) is now regularly produced by most countries (59 percent and 60 percent, respectively).⁸ However, these indicators are measured at the household level rather than the individual level so it is not possible to assess intra-household gender differences (it is very difficult to measure intra-household differences in access). The household-level focus also means that access to WASH for women and girls who are homeless or displaced due to conflict or climate change is often overlooked. Moreover, while data is abundant on types of drinking water sources used by households and accessibility on premises, significant data gaps remain on water quality, especially for rural areas and populations using non-piped supplies.⁹



8 UN Women. (2023). Spotlight on SDG 6: From Commodity to Common Good: A Feminist Agenda to Tackle the World's Water Crisis. <https://www.unwomen.org/en/digital-library/publications/2023/07/from-commodity-to-common-good-a-feminist-agenda-to-tackle-the-worlds-water-crisis>

9 Ibid.

Internationally comparable data on the menstrual hygiene management (MHM) component of WASH is particularly scarce due to the persistence of social stigma and cultural taboos. Starting in 2017, MICS became one of the first global household survey programs to collect comparable information on the use of menstrual hygiene materials, access to a private place to wash and change, and exclusion from school, work, or social activities during menstruation. However, less than 50 countries collected comparable data on MHM as part of MICS6, which ran from 2016 to 2021.¹⁰ Other aspects of gender and WASH are not monitored consistently by any international standard, methodology, or authority. This includes data tracking women’s decision-making power related to household water management, and their participation and leadership in the water sector and in local, national, and international water governance institutions.

Where does gender data on WASH come from?

- Household-level data on water sources and sanitation facilities are collected from government and non-governmental administrative sources engaged in the delivery or oversight of water services.
- National censuses and population-based surveys including MICS and DHS collect data on household WASH, as well as some sex-disaggregated data on water collection roles and time spent on water collection. MICS now includes questions on MHM.
- The World Health Organization and UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) produces internationally comparable estimates of progress on WASH. The [JMP 2023 update](#) has a special focus on gender that analyzes available national statistics related to gender and WASH and highlights opportunities for enhanced national and global monitoring.
- The United Nations Educational, Scientific, and Cultural Organization (UNESCO)’s World Water Assessment Programme [Toolkit on Water and Gender](#) provides [105 gender-responsive water indicators](#) on different topics including WASH, water resources management, and water governance, among others. The toolkit also includes a reference [methodology](#), [guidelines](#), and a model [questionnaire](#) for countries to collect and analyze disaggregated water data. Since 2015, it has been implemented by countries in West Africa, Central and South America, Central Asia, and the Pacific.
- The UN Water Integrated Monitoring Initiative for SDG 6 is currently developing approaches for the [gender contextualization of the SDG 6 water indicators](#) to support gender-relevant data collection and analysis. The recommended indicators, methods, and tools are currently being pilot tested in countries to assess their feasibility and value.

¹⁰ Anton, B., Kim, W., Nair, A. & E. Wang. (2021). Menstrual Hygiene Management – Evidence from the 6th Round of MICS. MICS Methodological Papers, No. 11, Data and Analytics Section, Division of Data, Analytics, Planning and Monitoring. UNICEF.

CLEAN ENERGY

A sustainable and inclusive clean energy transition will require addressing gender inequalities across the sector to ensure that women are equal agents of change as energy users, producers, entrepreneurs, and decision makers. Unfortunately, gaps in data can make inequalities challenging to identify and address.¹¹ For example, data tracking women's access to and control over clean energy resources is not widely available because governments typically do not collect detailed data on household energy usage, let alone intra-household allocations.¹² Household-level data on the primary fuels and technologies used for cooking, lighting, and heating is routinely collected in most countries through national censuses and household surveys including the DHS, MICS, and WHO-supported World Health Surveys (WHS). While new guidance and survey questions have been developed to collect individual level data through these household surveys, there is still limited information on which household members are the primary users or collectors of household fuels and technologies.¹³

Information on employment in the clean energy sector is also difficult to come across. This is primarily because jobs in clean energy tend to be scattered across different sectors and areas of employment such as manufacturing, construction, sales, installation, operations, and maintenance, and are seldom captured in labor force surveys.¹⁴ Sex-disaggregated employment data is especially hard to find. There are also no national data sets available that provide exact or even approximate numbers of women employed in informal jobs or activities related to the clean energy sector.¹⁵ Beyond job numbers, only limited information is available regarding the nature and quality of women's (or men's) employment in clean energy, including with respect to wages and working conditions.¹⁶

Where does gender data on clean energy come from?

- Household data on cooking, lighting, and heating fuels and technologies is collected through national censuses and household surveys including the DHS, MICS, and WHS. Some time use surveys also include data on women's and men's time spent collecting firewood or other household fuels as part of their activity classifications.
- Some labor force surveys provide sex-disaggregated data on employment in clean energy. However the level of detail and coverage can vary from one country to another.

11 K. Grantham. (2022). Mapping the Intersection of Women's Economic Empowerment, Care Work, and Clean Energy. International Development Research Centre. <https://idrc-crdi.ca/en/news/new-report-examines-links-between-womens-care-work-and-clean-energy>

12 Sustainable Energy for All. (2018). Levers of Change: How Global Trends Impact Gender Equality and Social Inclusion in Access to Sustainable Energy. https://www.seforall.org/sites/default/files/18_SEforall_SETrendsReport_0.pdf

13 World Health Organization. (2019). Core questions on household energy use. <https://www.who.int/tools/core-questions-for-household-energy-use>

14 Baruah, B. (2017). Renewable Inequity? Women's Employment in Clean Energy in Industrialized, Emerging and Developing Economies. *Natural Resources Forum* 41(1): 18-29.

15 ENERGIA. (2019). Women's Energy Entrepreneurship: A Guiding Framework and Systematic Literature Review. <https://www.energia.org/assets/2020/02/RA7-Womens-Energy-Entrepreneurship-Evidence-Report-Final.pdf>

16 IRENA and ILO. (2021). Renewable Energy and Jobs – Annual Review 2021. https://www.ilo.org/global/publications/books/WCMS_823807/lang--en/index.htm

- The International Renewable Energy Agency (IRENA) is one of the best and only available sources for global data tracking women's employment in clean energy. Through dedicated online global surveys, IRENA has produced new data and insights on women's representation in the [renewable energy sector](#) (2019), the [wind sector](#) (2020), and the [solar sector](#) (2022), including trends, challenges, and opportunities.
- A recent report by UN Women brings together available data on [Gender Equality and Sustainable Energy from Pacific Island Countries and Territories](#) (2022) to shed new light on the barriers women face to entering the energy workforce, completing energy-related education, and accessing different forms of clean energy.
- The IUCN has published some analysis of [gender mainstreaming in national energy frameworks](#), including more in-depth research in [sub-Saharan Africa](#).

Responses To Climate Change

ENVIRONMENTAL DECISION-MAKING

Tracking women's participation in environmental decision-making processes and forums is important to promote gender-responsive policies, strategies, and initiatives, and to ensure that women have equal input into the environmental decisions that affect them. Increasingly, national governments and international organizations are collecting this data. For instance, the UNFCCC now regularly reports the gender and age composition of COP delegations and constituted bodies. Other aspects of women's participation in environmental decision-making are more challenging to monitor. For example, data tracking women's representation in environmental ministries is complicated by the fact that ministries tasked with environmental protection vary widely from one country to the next, and governments may define, collect, and report information differently.¹⁷ To help address this gap, some organizations—including the IUCN and the United Nations Development Programme (UNDP)—have started to compile and harmonize available national data on women's participation and leadership in environmental ministries to render it comparable across countries.

UN Women's Gender-Environment Surveys include some questions on women in environmental decision-making (e.g., women's involvement in water management committees, forest committees, disaster management bodies, etc.). Other relevant information on this topic is not tracked consistently by any international standard, methodology, or authority. This includes data on women's participation and leadership within local, national, and international environmental organizations, and data on the participation of women and girls in environment and climate justice movements.

Where does data on women in environmental decision-making come from?

- The UNFCCC Secretariat publishes data on the gender and age composition of COP Party delegations and constituted bodies in their annual [Gender Composition Report](#). The [previous report](#) included an analysis of women's (versus men's) speaking time during COP26 plenaries and meetings, which was also disaggregated by age. However, this analysis was not repeated during COP27.
- Since 2009, the Women's Environment and Development Organization (WEDO) has tracked women's participation in UNFCCC processes as national delegates, heads of delegations, and members of constituted bodies. This data and analysis is published regularly on WEDO's [Gender Climate Tracker](#) platform.
- Data on women's representation in environmental ministries is publicly available through government and political party websites and databases. The UNDP tracks the proportion of women overall and in decision-making positions within environmental ministries

¹⁷ Hughes, M.M. & M.K. Finkel. (2020). Women's Inclusion in Public Administration Decision-Making Worldwide: Facing Down the Challenges to Measurement and Data Harmonization. <https://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/CSW/65/EGM/FinkelHughesData%20Public%20AdminEP2EGMCSW65.pdf>

through its [Gender Equality in Public Administration Initiative](#). The IUCN also reports data on women's leadership in environment ministries [as recently as 2020](#), with an update planned in 2023.

- UN Women's [Gender-Environment Surveys](#) include some questions tracking women's involvement in environmental decision-making bodies and committees.

DISASTER RISK MANAGEMENT

Understanding the gender dimensions of disaster risk management is important to promote inclusive decision-making, gender-responsive planning and approaches, and the resilience of households and communities. Yet, this is an area where gender data is lacking. The Sendai Framework makes some acknowledgement of the need to consider the gender aspects of disaster risk reduction, calling for "a gender, age, disability and cultural perspective in all policies and practices" and the promotion of "women and youth leadership."¹⁸ However, none of the indicators in the Sendai monitoring framework require disaggregation by sex or other characteristics. For example, many studies have highlighted the elevated levels of discrimination and abuse faced by LGBTQI+ people in disaster contexts, yet the Sendai Framework remains silent on this.¹⁹



There is also no international standard or authority for collecting data on women's participation in national disaster risk management processes or for monitoring national disaster risk reduction strategies or policies to track whether or not they are gender-responsive. While data on the number of countries with national disaster risk reduction strategies is now regularly produced by countries through both the SDGs (indicator 11.b.1) and the Sendai Framework (indicator E1), no international framework monitors whether or not country strategies are gender-responsive. The [Women's Resilience to Disasters Policy Tracker](#) is a recent initiative by UN Women that monitors which countries have developed

18 UNDRR. (2015). Sendai Framework for Disaster Risk Reduction 2015-2030. <https://www.preventionweb.net/publication/sendai-framework-disaster-risk-reduction-2015-2030>

19 Zaidi, R.Z. & M. Fordham. (2021). The Missing Half of the Sendai Framework: Gender and Women in the Implementation of Global Disaster Risk Reduction Policy. *Progress in Disaster Science* 10. <https://doi.org/10.1016/j.pdisas.2021.100170>

gender-responsive and inclusive disaster frameworks (i.e., laws, policies, strategies, plans), as well as the number of frameworks that explicitly involved women and/or women's organizations in their development.

Where does gender data on disaster risk management come from?

- National and local government agencies collect and maintain data on disasters, including information on hazard mapping, vulnerability assessments, and disaster impact. They may also compile statistics on past disasters, emergency response efforts, and recovery activities.
- International organizations involved in disaster response and risk management such as United Nations Office for Disaster Risk Reduction (UNDRR), WHO, and the International Federation of Red Cross and Red Crescent Societies (IFRC) gather some data during relief efforts and work with governments to collect and analyze data at a global or regional scale.
- UN Women's [Resilience to Disasters Knowledge Hub](#) provides gender-related disaster risk information and resources, including the [Women's Resilience to Disasters Policy Tracker](#) and other tools.

Gendered Impacts of Climate Change

DISASTER-RELATED MORTALITY AND MORBIDITY

Monitoring gender differences in disaster-related mortality and morbidity can shed light on women's specific vulnerabilities and help to inform gender-responsive policies for disaster management. However, recent analysis by UN Women and UNICEF found "a near total absence" of sex-disaggregated data on the impact of disasters in global databases.²⁰ Additionally, many databases do not disaggregate data by type of disaster. This is important because not all natural disasters are climate-related, such as earthquakes and volcano eruptions, but normally the data tends not to be differentiated.

Data on mortality and morbidity are generally challenging to collect in countries with inadequate civil registration and vital statistics (CRVS) systems. Just one-third of countries have functioning death registration systems that record cause-of-death data.²¹ Monitoring disaster-related mortality and morbidity is further complicated by the unique challenges of data collection in insecure environments. In the aftermath of disasters, a large share of injuries, illnesses, and fatalities may not be reported because normal CRVS systems are disrupted. When populations are internally or externally displaced by disasters, it is more difficult to reach them and record their experiences through data collection. Likewise, mobility constraints can prevent individuals (especially women and girls) from accessing emergency services like police and hospitals, leading to the underreporting of administrative data on disaster-related mortality and morbidity. In-person data collection can also pose health and safety risks in areas impacted by damaged infrastructure and environmental hazards.

Despite these challenges, data on the number of disaster-related deaths and affected persons is now regularly produced by countries as part of both the SDGs (through indicator 1.5.1/11.5.1/13.1.1) and the Sendai Framework for Disaster Risk Reduction (through indicators A1 and B1). Countries are recommended, but not required, to disaggregate data for these indicators by sex, age, and disability, and as of the latest available reporting "most member states have opted not to report disaggregated data."²² As a result, it is not currently possible to monitor differences in vulnerability based on sex, age, disability status, or other characteristics.

Where does gender data on disaster-related mortality and morbidity come from?

- Administrative data reported by government agencies responsible for death registration, disaster management, and public health is the key source of data on disaster-related mortality and morbidity. Medical facilities in disaster-affected areas may also record and report administrative data on injuries, illnesses, and fatalities resulting from disasters.

20 UN Women & UNICEF. (2019). Gender and Age Inequality of Disaster Risk. https://wrd.unwomen.org/sites/default/files/2021-11/72229_bls19312unwdisasterriskreport003web%283%29.pdf

21 WHO. (2021). WHO Civil Registration and Vital Statistics Strategic Implementation Plan 2021-2025. <https://apps.who.int/iris/handle/10665/342847>

22 UNDRR. (2020). Monitoring the Implementation of Sendai Framework for Disaster Risk Reduction 2015-2030: A Snapshot of Reporting for 2018. <https://www.undrr.org/publication/monitoring-implementation-sendai-framework-disaster-risk-reduction-2015-2030-snapshot>

- Organizations like the WHO, the United National Office for the Coordination of Humanitarian Affairs (OCHA), and the IFRC play a crucial role in compiling and disseminating data on disaster impact globally.
- The [DesInventar database](#) is a free, open source information management system that helps collect, manage, and analyze data related to disasters and their impacts, including available sex-disaggregated data. A [review of this database by UN Women and UNICEF](#) revealed that only 11 out of 85 countries disaggregated disaster-related mortality data by sex, and out of those 11 only 0.65 percent of recorded deaths were disaggregated.

CLIMATE MIGRATION AND DISPLACEMENT

More data is needed to understand both the immediate and longer-term gender dynamics and impacts of climate-induced migration and displacement. Broader research on migration and displacement has shown that women and girls face gender-specific challenges and protection risks both during migration and at destination, including lack of access to resources, increased care work, sexual and reproductive health complications (particularly for pregnant women), and heightened risk of kidnapping, sexual exploitation, and gender-based violence.²³ However, very few studies examine gender dynamics in the context of climate-induced migration and displacement specifically, or examine women's roles and experiences through a lens other than vulnerability (e.g., as leaders in their families and communities, helping to ensure better outcomes for displaced persons).



Recent research by the UN Economic Commission for Latin America and the Caribbean (ECLAC) finds “limited information available on the drivers, trends, and patterns of migration and their relation to environmental degradation and climate change” which is “amplified further when it comes to the gender dimensions of environmental migration.”²⁴ One of the main reasons why climate-induced migration and displacement data is not widely available,

²³ UN Women. (2021). From Evidence to Action: Tackling Gender-Based Violence Against Migrant Women and Girls. <https://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/Library/Publications/2021/Policy-brief-From-evidence-to-action-Tackling-GBV-against-migrant-women-and-girls-en.pdf>

²⁴ Bleeker, A., Escribano, P., Gonzales, C., Liberati, C. & B. Mawby. (2021). Advancing Gender Equality In Environmental Migration And Disaster Displacement in the Caribbean. Economic Commission for Latin America and the Caribbean (ECLAC). <https://www.cepal.org/en/publications/46737-advancing-gender-equality-environmental-migration-and-disaster-displacement>

much less disaggregated by sex or other characteristics, is because of a lack of standardized definitions and measurements for “displaced” persons.²⁵ Other factors impacting the quality and availability of data include the difficulty of data collection on mobile populations, and the challenges of attributing migration and displacement solely to climate change as opposed to other factors. Isolating the climate drivers of migration related to slow onset events (e.g., sea level rise, soil salinization, and desertification) is especially challenging.

Where does gender data on climate migration and displacement come from?

- Administrative data reported by government agencies responsible for national statistics, disaster management, and public health is the key source of data on migration and displacement.
- Organizations like the United Nations High Commissioner for Refugees (UNHCR), the International Organization for Migration (IOM), and the Internal Displacement Monitoring Centre (IDMC) play a critical role in compiling and disseminating data on migration globally, which is sometimes disaggregated by sex, age, or other characteristics. In the UNHCR’s *2022 Global Trends Report*, sex and age disaggregated data was available for 76 percent of refugees, asylum-seekers, internally displaced, and stateless people worldwide.
- Research studies like *Promoting Gender Equality in the Environment, Migration and Disaster Displacement in the Caribbean* (2020), by the IOM and ECLAC, have provided significant advances in knowledge about the role of gender in climate migration and displacement.

SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS

Climate change and sexual and reproductive health and rights (SRHR) are increasingly understood as being interlinked, but these linkages are not often measured. Most available data at the intersection of these issues comes from research studies on specific countries or topics. This includes, for example, research on disruptions in sexual and reproductive health services caused by climate change and extreme weather events;²⁶ the impacts of climate-sensitive infectious diseases,²⁷ heat stress, and food insecurity on maternal health;²⁸ and increased risks of sexual violence, sex trafficking, and child marriage due to climate-induced displacement, migration, and loss of livelihoods.²⁹ These impacts are understood to affect people who already face barriers to realizing their SRHR more significantly than others—in particular, adolescent girls, individuals with disabilities, LGBTQI+ individuals, migrants, and refugees—but a lack of disaggregated data and intersectional analysis hinders

25 Ibid.

26 IPAS. (2022). Climate Change Impacts Women’s Sexual and Reproductive Health. <https://www.ipas.org/our-work/climate-justice/climate-change-impacts-womens-sexual-and-reproductive-health/>

27 Climate-sensitive infectious diseases are influenced by changes in climate patterns and environmental conditions. For example, the spread of mosquito- and tick-borne diseases like malaria and Lyme disease are influenced by temperature and rainfall conditions.

28 Blakstad, M. & E. Smith. (2020). Climate Change Worsens Global Inequity in Maternal Nutrition. *Lancet* 4(12): 547–48.

29 Ahmed, K., Atiqul Haq, S.M. & F. Bartiaux. (2019). The Nexus Between Extreme Weather Events, Sexual Violence, and Early Marriage: A Study of Vulnerable Populations in Bangladesh. *Population and Environment* (1)40: 303–24.

available evidence on the experiences of specific groups.³⁰ Beyond this, collecting accurate and comprehensive data on climate and SRHR can be inherently challenging due to cultural sensitivities, social stigma, privacy concerns, and the difficulty of data collection in the aftermath of climate change and extreme weather events.



Where does data on climate and SRHR come from?

- Most data directly examining the intersection of climate and SRHR comes from research studies conducted by academics, research institutes, think tanks, and non-governmental and multilateral organizations.
- Population-based surveys providing data on SRHR include the DHS, MICS, Reproductive Health Surveys (RHS), and World Bank Living Standards and Measurement Study (LSMS). However, these surveys are limited by the fact that they occur at wide intervals (usually between three and five years apart) and are not designed to assess the impacts of climate change.
- Women Deliver’s recent evidence review on [The Link Between Climate Change and Sexual and Reproductive Health and Rights](#) (2021) provides a foundational understanding of the linkages between climate change, environment, and SRHR.
- Analysis of the ways that SRHR is addressed in countries’ [Nationally Determined Contributions \(NDCs\)](#) and [National Action Plan \(NAPs\)](#) is available from UNFPA and the NAP Global Network, respectively.
- The [SRHR and Climate Justice Coalition](#) is a promising new initiative committed to collective action and advocacy to advance SRHR in the context of climate change. One of the goals of this coalition is to generate and disseminate new data and evidence on the impact of climate change on access to SRHR.

³⁰ Women Deliver. (2021). *The Link Between Climate Change and Sexual and Reproductive Health and Rights*. <https://womendeliver.org/wp-content/uploads/2021/02/Climate-Change-Report.pdf>

GENDER-BASED VIOLENCE

There is growing awareness of the linkages between the environment, climate change, and gender-based violence. For example, gender-based violence may be used as a means to limit or control women's access to land and natural resources, their employment in conservation and natural resource sectors, and their participation in climate justice movements, including as land and environmental defenders. However, data measuring these specific linkages remains insufficient and inconsistent across sectors and regions.³¹ A key reason for this is that gender-based violence is often underreported due to stigma, shame, fear of retaliation, and social norms that discourage victims from coming forward. These challenges are compounded when gender-based violence is linked to environmental factors (e.g., sexual extortion for access to land or natural resources) because victims may prioritize immediate survival over reporting. Moreover, the relationship between gender-based violence and environmental issues is multifaceted and often context specific, requiring dedicated surveys or other data collection tools in order to measure accurately.

Collecting data on gender-based violence is especially challenging during disasters. Mobility constraints can prevent individuals (especially women and girls) from accessing emergency services like police and hospitals, leading to the underreporting of administrative data on gender-based violence. If populations are internally or externally displaced, it is more difficult to reach them and record their perspectives and experiences through data collection. Likewise, in-person data collection can pose health and safety risks in areas impacted by damaged infrastructure and environmental hazards. Promising new research by Duerto Valero et al. (2022) suggests that big data analysis can be a solution to overcome this challenge.³² Using search engine data, the authors found that peak periods of searches and posts related to violence against women overlapped with times when climate crises occurred.

Where does data on the environment, climate change, and gender-based violence come from?

- Most data directly examining the intersection of the environment, climate change, and gender-based violence comes from research studies conducted by academics, research institutes, think tanks, and non-governmental and multilateral organizations.
- The IUCN's comprehensive study on [Gender-Based Violence and Environment Linkages: The Violence of Inequality](#) (2020) is widely credited as being the first to bring widespread attention and awareness to this topic. It found that gender-based violence is used across environmental sectors and contexts as a way to control women's access to and control over land and natural resources, and limit their roles in relation to environmental and climate action.

31 Castañeda Camey, I., Sabater, L., Owren, C. & Boyer, A.E. (2020). Gender-Based Violence and Environment Linkages: The Violence of Inequality. IUCN. <https://portals.iucn.org/library/sites/library/files/documents/2020-002-En.pdf>

32 Duerto Valero, S., Emandi, R., Encarnacion, J., Kaul, S. & P. Seck. (2022). Utilizing Big Data to Measure Key Connections Between Gender and Climate Change. *Statistical Journal of the IAOS* (38): 973–94.

- The [Gender-Based Violence and Environmental Linkages \(GBV-ENV\) Center](#) is a platform providing curated resources and information, and supporting environmental initiatives to incorporate measures to identify and prevent gender-based violence risks.
- Since 2012, Global Witness has published data on the number of killings of environmental activists in its annual [Land and Environmental Defenders](#) reports, including disaggregated data on the number of recorded individuals killed who are women and Indigenous people.

UNPAID CARE WORK

Climate change is increasingly understood to impact the amount, distribution, and conditions of unpaid care work that is disproportionately carried out by women and girls globally.³³ For example, climate-induced resource scarcity increases the time required for activities like household water and fuel collection, while extreme weather events such as floods and wildfires cause widespread injury, disability, and damage to public care infrastructure and services. Unfortunately, only limited data is available that directly measures this impact. A key reason for this is that measuring women's unpaid care activities can be a challenge, even in time use surveys and modules specifically designed for this purpose. Different types of unpaid work can be performed simultaneously and often overlap with leisure activities or even market-based work, and most time use surveys do not collect data on activities undertaken at the same time.³⁴ These challenges are compounded by the difficulties of carrying out time use surveys in extremely insecure environments, and attributing any changes in unpaid care work solely to climate change as opposed to other factors.



As women are increasingly being engaged to participate in climate change mitigation and adaptation interventions, it is important to track any resulting increases to their unpaid care workloads. Otherwise, it is possible that these interventions may exacerbate existing gender

³³ MacGregor, S., Arora-Jonsson, S. & M. Cohen. (2022). Caring in a Changing Climate: Centering Care Work in Climate Action. <https://policy-practice.oxfam.org/resources/caring-in-a-changing-climate-centering-care-work-in-climate-action-621353/>

³⁴ Although this is slowly changing. With support from Data2X, the International Labour Organization (ILO) produced a new light time use module for Labour Force Surveys that will be able to capture multi-tasking, and new guidance from the UNSD expert working group on time use includes capturing simultaneity.

inequalities in unpaid care work and time use. This data would need to come from project-level reporting, which is often not made publicly available and is difficult to harmonize across contexts.

Where does data on climate and unpaid care work come from?

- Dedicated time use surveys and time use modules integrated within multi-purpose households surveys are a key source for data on unpaid care work at the national level. However, these surveys are limited by the fact that they occur at wide intervals and are not designed to assess the impacts of climate change.
- Most data directly measuring the impact of climate change on unpaid care work comes from small-scale research studies conducted by academics, research institutes, think tanks, and non-governmental and multilateral organizations.
- Oxfam's recent report [Caring in a Changing Climate: Centering Care Work in Climate Action](#) (2022) provides a comprehensive exploration of the interaction between climate change impacts and unpaid care work.

What Efforts are Underway to Improve Gender Data in Environment and Climate Change?

Key actors providing guidance on gender data in the area of environment and climate change:

- [Gender and Environment Statistics](#) (2019) from IUCN and the United Nations Environment Programme (UNEP) supports an enabling environment for gender-environment statistics and proposes a list of 19 gender-environment indicators for inclusion in national action plans and the Inter-Agency and Expert Group on Gender Statistics (IAEG-GS) Minimum Set of Gender Indicators. Many of these are recommendations that the Sustainable Development Goal framework add sex-disaggregation to the methodologies of existing gender-relevant environmental indicators.
- Countries can look to the [UNSD Global Set of Climate Change Indicators](#), or to regional guidance like the [Environment-Gender Indicator Set for Asia and the Pacific](#) developed by United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), UN Women, UNEP, and the IUCN to help develop their own sets of gender-relevant climate indicators according to their individual priorities and resources.
- To support the collection of official statistics, UN Women developed a [Model Questionnaire: Measuring the Nexus Between Gender and Environment](#) in close consultation with FAO, ILO, IUCN, The Pacific Community (SPC), UNEP, UNDRR and UNESCAP. The questionnaire can be implemented in full or some modules can be attached to other multipurpose surveys. The model questionnaire is accompanied by technical guidance on [sampling](#) and [methodology](#).

Some significant large-scale efforts are under way to collect, analyze, and disseminate gender data on the environment and climate change, among them:

- WEDO's [Gender Climate Tracker](#) is a hub for data and information relating to gender mandates within climate policy, the participation of women in climate negotiations, and tracking of gender-specific progress within countries.
- IUCN's [Environment and Gender Information \(EGI\) Platform](#) is a key source of global data and knowledge products on gender and the environment. Originally launched in 2013 as a gender-environment index, the EGI has evolved into an umbrella gender-environment knowledge platform.
- The World Bank's [Gender Data Portal](#) compiles available gender data on the environment and uses compelling narratives and data visualization to promote users' accessibility, understanding, and analysis.

- The [NAP Global Network](#) (hosted by the International Institute for Sustainable Development) has been tracking progress on the integration of gender considerations in NAP processes and documents since 2018, resulting in a [series of reports](#) that provide a synthesis of progress at the global level. They have also published a [toolkit](#) to support country efforts to pursue a gender-responsive NAP process.
- The UNDP [monitors](#) the extent to which countries are integrating gender considerations within their NDCs, and provides [guidance](#) (including gender-responsive [indicators](#) and [checklists](#)) to improve their efforts.

Other actors and initiatives are supporting or advocating for more and better gender data on the environment and climate change:

- [Feminist Action for Climate Justice \(FACJ\) Action Coalition](#) is a global multi-stakeholder partnership under the Generation Equality Forum that brings together governments, civil society, youth-led organizations, international organizations, philanthropy, and the private sector. A key objective of this coalition is to create an enabling environment and increase the collection and use of data on the gender-environment nexus.
- One of the ways that FACJ coalition members are realizing their objectives is through the creation of the [Gender and Environment Data Alliance](#) (GEDA). This dynamic coalition (co-convened by IUCN and WEDO) is dedicated to advancing gender-just climate action. Through its membership, GEDA mobilizes diverse stakeholders to curate, communicate, amplify, and learn from gender and environment data.

The Way Forward

Make better use of existing gender data from international databases, research studies, environmental and disaster impact assessments, and project data. Too often, raw data sits unused within national statistical offices, international organizations, and academic institutions, or not analyzed using a gender lens. Improving awareness, dissemination, and analysis of existing data is paramount. These sources should be mined alongside investments in new data collection efforts.

Leverage the potential of digital data to fill knowledge gaps related to gender, the environment, and climate change. Several types of digital data are relevant, including [big data](#) (e.g., geospatial data drawn from satellite imagery and financial transaction data) and data collected through social media, mobile phone applications, and other sources. These technologies can support real-time insights during crises when in-person data collection poses risks, and foster greater participation of women and girls in data collection efforts by enabling them to self-report their perspectives and experiences.

More broadly, it is important to **ensure that women, girls, and gender-diverse people are meaningfully included** and represented within data collection on the environment and climate change issues. A key strategy and priority is to **partner with local women's organizations and movements** to design locally relevant and appropriate gender data collection efforts engaging women and girls.

Develop methodologies to **conduct national gender and environment/climate assessments**, or apply a gender lens to vulnerability and risk assessments or other studies that are being carried out. This will help to establish a baseline context within countries against which future changes can be measured. Likewise, **include more sex-disaggregated data** within national censuses, administrative sources, labor force surveys, and other relevant household surveys to produce gender data on different aspects of the environment and climate change. **Combine this with smaller, more qualitative data collection efforts** to get at intra-household gender issues and inequalities.

As emphasized throughout this report, some women, girls, and gender-diverse people are more vulnerable than others to the impacts of climate change due to poverty, disability, or other factors. Wherever possible, gender data collection and analysis should **adopt an intersectional approach** and disaggregate data by multiple dimensions to capture differences based on age, disability, race, sexual orientation, location (urban/rural), indigenous status, migration status, and other relevant characteristics.

Once collected, governments must **put gender data to use** in developing inclusive environmental policies, strategies, and initiatives, and for designing gender-responsive climate change mitigation, adaptation, and resilience plans. Investments in gender data should **target national statistical offices** with financial assistance, technical assistance, and training to understand the issues raised in this report.