Gender Data Compass Issue Brief:

Understanding the Gender-Climate Nexus

Prepared by Open Data Watch

KEY MESSAGES

- Many of the indicators needed to design inclusive policies for tackling the challenge of climate change are not disaggregated by sex or other individual characteristics nor are they available as open data from national statistical systems.

- Data on the immediate effects of climate change on people's lives as measured by mortality data are the least available and open across 185 countries, followed by data on health and nutrition. Access to financial resources and agricultural holdings of women are also among the least available.

- The Caribbean and Pacific Islands in particular need more support for building robust gender data systems. They are most susceptible to climate change and have the worst availability of gender data.

- Climate change and gender are not well integrated in national statistical plans, and coordination among producers of gender and climate data is weak.

- Traditional methods of gathering gender data such as censuses and surveys are threatened by climate change, endangering the regular production of gender data. In many countries, administrative systems that produce data needed to make real-time decisions are also weak.

- There is little coherence between funding for gender data and gender equality programs. The same is true of funding for environment statistics and environment projects.

INTRODUCTION

This note reviews the availability and openness of gender data that are pertinent to measuring and monitoring the impact of climate change on women as reported in the **2023 Gender Data Compass** (GDC). Although both men and women are affected by climate change, how they are affected and the consequences for their lives can be quite different. If unrecorded in official statistics, these differences may be ignored. That is why it is important to have robust and reliable gender data—data that are disaggregated by sex and other relevant characteristics –to prepare and implement policies to adapt to or mitigate the impacts of climate change.

The Gender Data Compass assesses the availability and openness of 53 gender-relevant indicators in national databases, many of which reflect the direct or indirect effects of climate change. The GDC supplements this analysis with an evaluation of the institutional foundations, capacity, and financing ecosystem for gender data. The resulting findings reveal the capacity of national statistical systems to provide gender data to their citizens and how those systems can be improved. Data gaps revealed by the GDC are beacons, signaling the need for countries to work together with national and international partners to build robust, inclusive, and effective gender data systems.

By measuring the availability and openness of gender data, the GDC covers the entire data value chain from production to impact. Availability scores measure the capacity to produce gender data, including climate-relevant indicators. Openness scores measure the capacity to disseminate gender data effectively from data producers to data users. This is important for climate data, which requires cross-cutting indicators from ministries of environment, social protection, and economy. Open gender data can be used to inform national adaptation plans and citizens can use open gender data to advocate for better planning in their own communities.

The GDC goes beyond data gaps by contextualizing the production and publication of gender data within a country's institutional foundations, meaning its statistical laws and policies, statistical capacity, meaning the frequency of censuses, surveys, and administrative data, and financing for gender data. The evaluation of the ecosystem within which gender data are produced and used further hones the ability of partners to develop better solutions for closing gender data gaps.

AVAILABILITY AND OPENNESS OF GENDER AND CLIMATE DATA

The GDC groups indicators in ten topical categories, all of which contain information relevant to assessing the impacts of climate change on women and their families. In this brief, we focus on the categories and indicators for which the gaps in availability and openness of gender data are most limiting of our ability to respond to the challenges of climate change. A full discussion of the GDC and its findings is available in the **2023 GDC Report** and in its **Methodology Guide**. As shown in Figure 1, the availability and openness of gender data in all ten categories is low. Among a sea of low scores, the Environment category stands out.
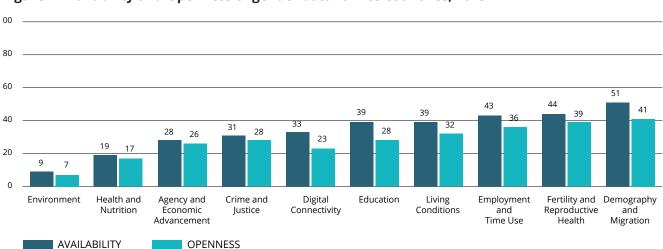
Figure 1 Availability and Openness of gender data for 185 countries, 2023

The **Environment category** in the GDC includes four indicators of mortality linked to environmental factors: food and water borne illnesses, vector borne illnesses, natural disasters, and pollution. These indicators capture direct and immediate public health effects of climate change. Women are likely to experience different degrees of exposure to these effects and, hence, different rates of mortality. These indicators rely on strong health administrative systems and vital statistics systems to record causes of illnesses and deaths—systems that are particularly weak in low and middle-income countries. Some bright spots include Ecuador, second only to Australia in the availability of Environment data, which has high availability of sex-disaggregated and subnational data.

The impacts of climate change are also felt through adverse health outcomes short of death. But sex-disaggregated data on **Health and Nutrition** of populations are often unavailable or, when available, lack other important disaggregations such as age, ethnicity, and subnational location, or they may be available only as sporadic observations. For example, sex-disaggregated data on food insecurity, which may be a consequence of climate change or contribute to adverse outcomes of climate-related crises, are generally unavailable in the GDC's 185 countries, as are data on adult immunization, which has become ever more important to public health, particularly considering the COVID-19 pandemic. Rwanda stands out as a low-income country that nevertheless ranks third highest globally for Health and Nutrition with wide availability of sex-disaggregated data and other disaggregations like age.

Agency and Economic Advancement is another climate-relevant gender data category. Its indicators describe the ability of women to control resources and make financial decisions for themselves and their families. Data on agricultural land holdings, marriage registration, access to financial services, and representation of women in leadership positions in and out of government are evidence of how vulnerable women are to economic and climate-driven shocks. Yet very little sex-disaggregated data exist with other disaggregations or in timeseries, particularly for Agricultural Land Holdings and Access to Financial Resources. But countries like Jordan buck this trend; the country ranks highest in the world for the availability of Agency and Economic Advancement, driven by wide availability of sex-disaggregated data and other disaggregations like age.
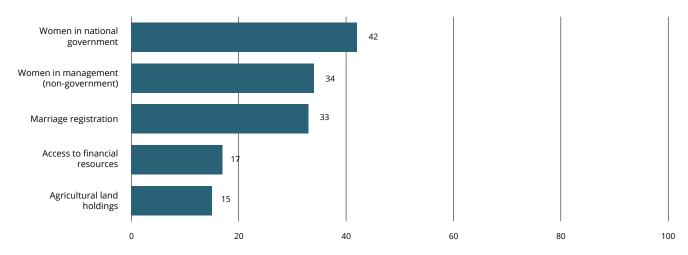
Figure 2 Average indicator availability scores for Agency and Economic Advancement, 2023

The indicators within the **Living Conditions** category describe an individual's poverty status and access to essential services like water, sanitation, and electricity that are endangered by climate change-related disasters such as storms and flooding or extreme heat and drought. The latter three indicators are not commonly collected at the household level and rarely include differences in men's and women's exposure. Likewise, poverty rates are rarely available on a sex-disaggregated basis. One of the strong recommendations of the GDC report is that household surveys should collect and report individual-level data. South Africa is leading on this issue resulting in a second rank globally, driven by high levels of sex-disaggregated data, other data disaggregations, subnational data, and the availability of data over time.

Migration driven by climate change is increasing and the risks to women require special attention. Although basic demographic indicators such as population size, births, and deaths are relatively well reported, sex-disaggregated migration data are available in only 53 percent of all countries and 47 percent of low-income countries.

Regional availability and openness of gender data

Just as countries are not equally responsible for the emissions that drive climate change, the impacts of climate change will not affect all countries equally. Small island developing states, mostly found in the Caribbean and among the Pacific Islands, are particularly vulnerable to storms or long-term sea-level rise. Even as they are uniquely threatened by climate change, they have the lowest availability scores and low openness scores. Their scores are especially low in categories like Environment, Health and Nutrition, Agency and Economic Advancement, and the Caribbean scores very low in Living Conditions.

In Africa the average availability score at 33.4 is slightly higher than the world average of 31.5, but there is considerable variation within the continent. Rwanda at 56.9 has the second highest score among all countries, while Cote d'Ivoire at 6.5 is second lowest. The highest scoring Gates focus countries, Kenya and Nigeria, are above the 85th percentile globally, South Africa is at the 75th percentile, while Ethiopia, a conflict-affected state, falls in the 28th percentile. Across the continent, openness scores trail availability scores in almost all countries.

Like small island developing states, fragile and conflict-affected states[1] are particularly vulnerable to the impacts of climate change as such instability threatens state capacity to adapt to or mitigate climate change. Preparation and implementation of equitable policies are further hampered by the lack of gender data. The average availability score for institutionally and socially fragile states is 25, for conflict-affected states is 32, and is 34 for all other countries. Similarly, the average openness score for institutionally and socially fragile states is 15, for conflict-affected states is 23, and 30 for all other countries, which underscores especially how little capacity fragile and conflict-affected states have for making data available and open to inform national adaption plans.

BUILDING STRONGER GENDER DATA SYSTEMS

The availability and openness scores are measures of revealed capacity of a national statistical system to produce and publish gender data. Yet they do not describe what informs this capacity. To fill this information gap, the GDC profiles countries' institutional foundations through its statistical laws, plans, and existing coordination between ministries. It also collects and publishes information on important components of statistical capacity such as the frequency of statistical instruments that constitute a core gender data system. Finally, transparency around funding for statistics is important to identify opportunities for financing partners to work together.

Institutional Foundations

The impacts of climate change operate on both fast and slow timelines, for example, a hurricane versus steadily increasing droughts. No matter the time horizon, coordination and regular collection of gender data will protect some of the most vulnerable in society. Gender data are not part of legal mandates for over 80 percent of NSOs, exposing a potential weak point for gender data collection amidst threats from climate change. This is particularly worrying as studies have shown that "fewer than one third of countries that have published their climate plans have committed to upholding the sexual and reproductive health and rights of women and girls."[2]

Climate change, like gender, is a cross-cutting theme that will need a system-wide approach to ensure data on its impacts are inclusive. But only 4 in 10 countries have a gender ministry with a dedicated data strategy, work program, or coordination mechanism. This is the same share of planning documents that champion gender mainstreaming or feature dedicated efforts to improve gender data collection and dissemination.

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[1] World Bank FY24 classification, 39 countries
[2] **UNFPA, Queen Mary University of London, and IDRC**

Climate change data are being slowly integrated into national statistical plans, with most low and lower-middle-income countries, like Burkina Faso, Ethiopia, and Kenya, still only collect a standard set of environmental data, rather than ramping up operations in the face of climate change. Some countries, such as Nigeria and Maldives, however, have put in place more ambitious plans for improving climate data in their statistical system, working with different producers of data across the statistical system to generate the needed data. Dominican Republic and Indonesia, meanwhile, have not put in place a plan for collecting more data, but rather put forth plans for improving resilience of statistical operations in the face of disruptions caused by climate change.

Capacity

Census information is a cornerstone of gender data systems and collects crucial information on the populations affected by disasters or living within risk zones for future planning. A census is a complicated, expensive, and time-intensive exercise, which makes it more susceptible to disruptions caused by climate change and conflicts. With only one year to go, nearly a quarter of countries have yet to conduct a census for the 2020 round. Missing a census can have ripple effects on other data collection efforts such as those that depend on samples from the population.

Surveys rely on information from censuses to adequately capture information for deeper study, including environmental effects on individuals and households. Of the 185 countries studied in the GDC, 109 countries have at least one household health and well-being survey, whereas 76 countries did not conduct a household health and well-being survey in the last 10 years. Only 56 countries have conducted two or more household health surveys in the last ten years. This low frequency means not enough data can be collected on crucial outcomes for women and girls, especially in crisis situations.

Often, household surveys do not capture individual data, which renders them ineffective for capturing gender differences. Work is ongoing to overcome these limitations. UN Women recently published **guidance** on survey operations between gender and the environment, but many surveys still face this challenge.

Time use surveys are a cornerstone of good gender data. But these surveys remain sparse: the majority of countries have not conducted one between 2013 and 2022. Attaching more time use surveys to **high-frequency phone surveys** may be a way to collect this vital information when it is difficult to conduct regular face-to-face surveys, for example during a pandemic or because of damage to physical infrastructure like roads.

A third of countries have no or only one labor force survey and another third of countries have nine or more labor force surveys. Regular and frequent labor force surveys are critical for understanding the employment situation of women and their economic empowerment, which is particularly relevant when livelihoods are disrupted because of climate change.

Gender data sourced from administrative data for education, health, and civil registration and vital statistics (CRVS) systems is more available than data from surveys (average GDC availability scores are all above 40), but there is much room for improvement, particularly since the standard for administrative data is continuous coverage, which few countries manage to achieve. Administrative data, particularly CRVS, form a foundational part of statistical systems together with censuses by providing demographic information that policymakers need to make risk assessments and providing near real-time data on public health, particularly during disasters.

Capacity building efforts are needed to ensure gender data remain part of country plans for responding to climate change. The UN Statistics Division's **Global Set of Climate Change Statistics and Indicators** and associated self-assessment tools can be one way of connecting environment ministries to other parts of the statistical system to ensure comprehensive measurement of climate change drivers and effects. For planning within statistical systems specifically, PARIS21, Open Data Watch, and CODE are piloting a Climate Change Data Ecosystem approach in Senegal, emphasizing the importance of disaggregated and open data in national climate change plans. One of the primary users of climate data are other parts of the

national statistical system, like the NSO. Allowing users to access data on climate more easily requires better coordination between data producers and improved interoperability.

At the highest level of climate negotiations, the **Gender Action Plan** of the UNFCCC Enhanced Lima Work Programme on Gender aims to enhance availability of gender data on women in leadership positions and the implementation of gender-responsive climate policies. These efforts are to be paired with capacity building for better reporting.

Financing

Like **gender data**, the financing base of environment data is narrow. Only five donors provide nearly **80 percent of total ODA funding flows for environment statistics**: the World Bank, Food and Agriculture Organization, EU Institutions, Germany, and Norway. The small number of donors makes funding more vulnerable to future disruptions and stifles progress towards more sustainable funding streams.

Climate-vulnerable countries, often facing extreme weather events, rising sea levels, and other environmental challenges, require accurate and up-to-date data to effectively respond and adapt to these changes. Unfortunately, funding levels for environment data—and data more broadly—in highly vulnerable countries such as Bangladesh, Sudan, Somalia, Yemen, and others fail to meet the need to respond to current and future challenges.

There is little evidence of a link between funding for the environment sector leading to higher levels of funding for environment data. This mirrors an ODW finding that there is a low correlation between funding for gender equality projects and gender data projects. However, unlike funding for gender data, funding for environment statistics has significantly increased over the past ten years, effectively tripling.

Across 185 countries, only 20 percent of countries have budgets allocated for gender data. This underscores the importance of greater transparency of budgets, since only 30 percent of all countries even had detailed budgets to analyze. Better transparency will enable countries to build the long-term financing needed to acquire the capacity to be able to monitor and react to the impacts of climate change.

ANNEX: MAP OF GDC INDICATORS TO DATA2X BRIEF CATEGORIES

Data2X has recently published **Mapping Gender Data Gaps in the Environment and Climate Change** (MGDGECC), which examines the climate change-gender nexus using a conceptual framework of Access to and Control over Environmental Resources, Responses to Climate Change, and Gendered Impacts of Climate Change, further divided into eleven topical sub-categories. The report describes gender and climate data gaps in qualitative terms, the methods by which these gaps could be filled, and efforts currently underway to improve gender data on the environment and climate change.

Although the GDC employs a different framework to organize its quantitative measures of the availability and openness of gender data, its data categories are closely aligned with the MGDGECC. Table 1 maps the categories of the MGDGECC report and their sub-categories to equivalent GDC categories and representative indicators and provides the global availability and openness score for each indicator.

Table 1 Concordance between MGDGECC and GDC indicators

MGDG category	MGDG sub-category	Equivalent GDC indicator(s)	Global Availability score	Global Openness score
Access to and Control Over Environmental Resources	Land Ownership and Security	Agricultural Land Holdings (Category: Agency and Economic Advancement)	15	15
	Natural Resource Management	Sectoral Employment Rate (Category: Employment and Time Use)	44	39
	Water, Sanitation, and Hygiene	Access to Sanitation, Access to Water (Category: Living Conditions)	46	35
	Clean Energy	Access to Electricity (Category: Living Conditions)	37	31
Responses to Climate Change	Environmental Decision-Making	Women in National Government, Women in Management (Non-Government) (Category: Agency and Economic Advancement)	42	42
	Disaster Risk Management	Mortality Due to Natural Disasters, (Category: Environment)	7	4
Gendered Impacts of Climate Change	Disaster-related mortality and morbidity	Mortality Due to Natural Disasters, Food or Water Borne Illnesses, Vector Borne Illnesses, Pollution (Category: Environment)	11	10
	Climate Migration and Displacement	Migration (Category: Demography and Migration)	36	28
	Sexual and Reproductive Health and Rights	Maternal Mortality, Child Mortality, Fertility, Adolescent Births, Contraceptive Prevalence (Category: Fertility and Reproductive Health)	39	40
	Gender-based Violence	Homicides, Physical, Sexual, and Psychological Violence (Category: Crime and Justice)	36	33
	Unpaid Care Work	Time spent on Unpaid Domestic/Care Work (Category: Employment and Time Use)	11	14