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# COUNTED & VISIBLE TOOLKIT

to Better Utilize Existing Data from Household Surveys to Generate Disaggregated Gender Statistics

**November 2021**

THE INTER-SECRETARIAT
**WORKING GROUP ON HOUSEHOLD SURVEYS**

**ABOUT THIS PUBLICATION:**

**ACKNOWLEDGEMENTS:**

# ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| **2030 Agenda** | 2030 Agenda for Sustainable Development |
| **ADAPT** | Advanced Data Planning Tool |
| **AGSFIV** | 4th Annual Gender Statistics Forum |
| **ANSD** | National Agency of Statistics and Demography of Senegal |
| **BPfA** | Beijing Platform for Action |
| **CEDAW** | Convention on the Elimination of All Forms of Discrimination against Women |
| **CI** | Confidence Interval |
| **CPEM** | Presidential Council for Women's Equality (Colombia's Ministry of Women) |
| **CSO** | Civil Society Organization |
| **CV** | Coefficient of Variation |
| **DANE** | National Administrative Department of Statistics of Colombia |
| **DHS** | Demographic and Health Survey |
| **ELL** | Elbers, Lanjouw and Lanjouw methodology |
| **FAO** | Food and Agriculture Organization of the United Nations |
| **FIES** | Family Income and Expenditure Survey |
| **GEWE** | Gender Equality and Women's Empowerment |
| **GEOSTAT** | National Statistics Office of Georgia |
| **GIS** | Geographic Information System |
| **GSFP** | Gender Statistics Focal Point |

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| **GSS** | Gender Statistical System |
| **GSU** | Gender Statistics Unit |
| **HCP** | High Commission for Planning (Morocco's national statistical office) |
| **HIES** | Household Income and Expenditure Survey |
| **IAC-GS** | Inter-Agency Committee on Gender Statistics |
| **IAWG-GD** | Inter-Agency Working Group on Gender Data |
| **IAWG-GE** | Inter-Agency Working Group on Gender Equality |
| **IAEG-GS** | Inter-Agency and Expert Group on Gender Statistics |
| **IAEG-SDGs** | Inter-Agency Expert Group on Sustainable Development Goal Indicators |
| **IDP** | Internally Displaced Persons |
| **ILO** | International Labour Organization |
| **ISWGHS** | Intersecretariat Working Group on Household Surveys |
| **KNBS** | Kenya National Bureau of Statistics |
| **LFS** | Labour Force Survey |
| **LNOB** | Leave No One Behind principle |
| **M&E** | Monitoring and Evaluation |
| **MICS** | Multiple Indicators Cluster Survey |
| **MKUZA** | Zanzibar Strategy for Growth and Reduction of Poverty |
| **MOU** | Memorandum of Understanding |
| **NDP** | National Development Plan |
| **NESDB** | National Economic and Social Development Board |
| **NGO** | Non-governmental Organization |
| **NIPS** | National Institute of Population Studies (Pakistan) |
| **NIS** | National Institute of Statistics (Cameroon) |
| **NPGEI** | National Priority Gender Equality Indicators |

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|---|---|
| **NQAF** | National Quality Assurance Frameworks |
| **NSCB** | National Statistical Coordination Board |
| **NSDS** | National Strategy for the Development of Statistics |
| **NSO** | National Statistical Office |
| **NSS** | National Statistical System |
| **OCGS** | Office of the Chief Government Statistician (Zanzibar) |
| **PSA** | Philippine Statistics Authority |
| **PSE** | Plan Sénégal Émergent (Senegal's national development plan) |
| **RCI** | Resilience Capacity Index |
| **RGA** | Rapid Gender Assessment |
| **RIMA** | Resilience Index Measurement and Analysis |
| **ROAS** | UN Women Regional Office for Arab States |
| **SAC** | Statistical Advisory Council |
| **SAE** | Small Area Estimation |
| **SE** | Standard Error |
| **SDGs** | Sustainable Development Goals |
| **SHS** | Survey of Household Spending |
| **UBOS** | Uganda Bureau of Statistics |
| **UN** | United Nations |
| **UN DESA** | United Nations Department of Economic and Social Affairs |
| **UN ECA** | United Nations Economic Commission for Africa |
| **UNECE** | United Nations Economic Commission for Europe |
| **UN ECLAC** | United Nations Economic Commission for Latin America and Caribbean |
| **UN ESCAP** | United Nations Economic and Social Commission for Asia and the Pacific |
| **UN ESCWA** | United Nations Economic and Social Commission for Western Asia |

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|---|---|
| **UN Women** | United Nations Entity for Gender Equality and the Empowerment of Women |
| **UNITAR** | United Nations Institute for Training and Research |
| **UNSC** | United Nations Statistical Commission |
| **UNSD** | United Nations Statistics Division |
| **VNR** | Voluntary National Review |
| **WAGEM** | STATA variable code used for the indicator 'age at first cohabitation' |
| **WBI** | World Bank Institute |
| **WEE** | Women's Economic Empowerment |
| **WEI** | Women's Empowerment Index |
| **Women Count** | Making Every Woman and Girl Count programme |
| **Z-GEWEIs** | Zanzibar Minimum Set of Gender Equality and Women's Empowerment Indicators |
| **ZSDS** | Zanzibar Strategy for the Development of Statistics |

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# EXECUTIVE SUMMARY

Disaggregated gender statistics are critical for putting the spotlight on inequality and underscoring the need to realize the rights of poor and marginalized women and girls whose rights are not always prioritized in policy-making processes.[1] The 2030 Agenda pledges to leave no one behind (LNOB) and to ensure that the Sustainable Development Goals (SDGs) and targets are met for all nations and peoples and for all segments of society.[2] To identify those who are left behind, high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics are necessary. Thus, producing disaggregated gender statistics using an intersectional lens will provide a credible evidence base that can inform gender-responsive policies and catalyse actions towards leaving no one behind.[3]

To generate disaggregated gender statistics, solid data sources are needed. Most of the countries rely on their national survey data, with household surveys considered the main data source for almost one third of all SDGs indicators. Realizing the need for the coordination and harmonization of household survey activities, the United Nations Statistical Commission (UNSC) established the Intersecretariat Working Group on Household Surveys (ISWGHS) in 2015 with a mandate of fostering improvement in the scope and quality of social statistics as delivered through national, regional and international household survey programmes.[4]

Cognizant of the urgent and critical need for disaggregated gender statistics, UN Women's global gender data programme, Women Count, in collaboration with the ISWGHS, has produced this Counted and Visible: Toolkit to Better Utilize Existing Data from Household Surveys to Generate Disaggregated Gender Statistics (Counted and Visible Toolkit). The Toolkit provides recommendations and practical country examples on how to utilize existing data to generate disaggregated gender statistics.

The Counted and Visible Toolkit is a collection of good practices and lessons learned from select countries, each focusing on a particular aspect of producing disaggregated gender statistics from existing household surveys. Country-specific cases are used to illustrate the process for ease of reference and to assist the application of the Toolkit by national statistical systems (NSSs). The Counted and Visible Toolkit uses these examples to explore innovative approaches towards achieving the full potential of existing household surveys and producing disaggregated gender statistics. Specifically, it covers five main stages implemented by countries as part of this initiative under the Women Count programme.

Stage 1 is NSS leadership's commitment to appropriate normative frameworks and increasing the amount and quality of disaggregated gender statistics produced. Household surveys can provide disaggregated gender statistics for a wide range of research efforts that inform the design and evaluation of development policies on gender issues.[5] Multi-level disaggregation (that is, beyond disaggregation by sex) is needed to ensure that there is adequate policy-relevant information to reach the women and girls furthest behind.[6] To produce this information from existing household survey data requires a shared objective developed and agreed among stakeholders and consulted within the NSS, that is, among users and producers of disaggregated gender statistics.[7]

NSS leadership's commitment is also required to create strong political will to promote the use of disaggregated gender statistics and ensure that resources are committed and allocated. Engaging stakeholders is key to generating commitment and ensuring active participation. Co-leadership of the national statistical office (NSO) and national women's machinery is another important factor, as is cooperation between users and stakeholders.[8] Establishing the following mechanisms and tools for efficient statistical coordination is also critical:

- Designation of gender statistics focal points or establishment of a gender statistics unit within the NSO or other key actor of the NSS
- Formation of an inter-agency group or task force on gender statistics within the NSS
- Legislation, statistical policies and agreements on the utilization of existing household surveys to generate disaggregated gender statistics
- Development of a multi-year work programme for the generation of disaggregated gender statistics
- A web portal for disaggregated gender statistics

The country case studies for Stage 1 include the use of some of these mechanisms and tools in Albania, Cameroon and Georgia. Albania drafted an official statistical programme, which explicitly refers to gender statistics as one of the cross-cutting priorities, and established an inter-agency working group on gender equality. In Cameroon, a working group on gender statistics in the NSO and an inter-agency working group were formed to identify the disaggregated gender indicators. Georgia developed a national strategy for production of disaggregated gender statistics and created an inter-agency working group on gender data.

Stage 2 is about the development of national priority gender equality indicators (NPGEIs) for disaggregation. The compilation of these indicators relies on monitoring initiatives and considers the existing demand for statistical information in this field at national and international levels. Guided by the global and regional frameworks, each country's NSS must identify their NPGEI framework. This process calls for prioritizing which indicators must be disaggregated and by which dimensions, considering resources available (e.g., existing data sources, human resources, funding and lifespan of the project) and national priorities. The framework should be developed and owned by the country and used to improve monitoring of national progress on gender equality. When developing the NPGEIs framework, it is necessary to prioritize the indicators that have to be urgently disaggregated based on the country's gender equality and women's empowerment (GEWE) programmatic priorities and requirements. There are the tools developed by international organizations to assist in identifying the priority gender indicators that need to be disaggregated.

Senegal, United Republic of Tanzania and Viet Nam are the country case studies for Stage 2. Senegal followed a participatory and inclusive approach in the process of identifying its NPGEIs. Viet Nam, under the leadership of the General Statistics Office (GSO), identified its NPGEIs by assessing the coverage of national policy documents for action and mapping national indicators and global-regional indicators, among others. Tanzania equally adopted a participatory approach in the identification of its minimum set of gender indicators.

Stage 3 is the development of methodology(ies) and production of disaggregated statistics of select NPGEIs. As highlighted above, the Counted and Visible Toolkit focuses on existing data from national household surveys. These are designed with specific domains of estimation that have a sufficient number of observations to produce relatively reliable estimates. In producing disaggregated gender statistics, the estimates will be obtained from 'smaller' domains or subdomains. Sampling weights should be included in the estimation process, as the estimates should reflect the achieved weighted values in accordance with the sample survey sampling procedure used in the conduct of the national survey. The country case studies for Stage 3 include Iraq, Mongolia and Pakistan. For the Iraq case, UN Women collaborated with the Food and Agriculture Organization of the United Nations (FAO) to produce a gender-sensitive resilience capacity index based on FAO's Resilience Index Measurement and Analysis (RIMA) model. The index measures change in programme beneficiaries' resilience and whether they are the same for all women across communities: host communities, refugees and internally displaced persons (IDPs). NSO Mongolia and UN Women jointly analysed the indicator 'Proportion of people who did not complete more than six years of education (or those who are education-poor)' using Mongolia's Multiple Indicators Cluster Survey (MICS) 2014–2015. The country case in Pakistan illustrates how Geographic Information System (GIS) information can give an overview of the relationship between gender-based deprivations and other forms of inequality related to geographic location and the intersection of geography with other group-based inequalities.

Stage 4 is about the assessment and publication of results. Statistical data and outputs should be assessed and validated according to *the United Nations' National Quality Assurance Frameworks Manual for Official Statistics*.[9] While in many cases disaggregated gender statistics can be directly estimated using existing data from household surveys, measures of precision and reliability should be obtained, guided by the manual, to assess the statistical soundness of the estimates. Stage 4 thus covers mainly quantitative assessment as well as qualitative assessment when disaggregated gender statistics are produced and how these should inform publication of results. Quantitative assessment involves evaluating the statistical properties of the estimates. There are many properties to consider in the assessment process. Considering practicality and existing common practices, the Counted and Visible Toolkit emphasises that the disaggregated gender statistics produced must be:

- Sufficiently *accurate*, as measured by the bias
- Sufficiently *precise*, as measured by the standard error (SE)
- Sufficiently *reliable*, as measured by the coefficient of variation (CV), in estimating the true value of the indicator

Mongolia and the Philippines are two of the Stage 4 country case studies. Disaggregated gender statistics were generated for nine gender indicators using Mongolia's MICS 2018: one indicator used only one disaggregation variable; four indicators used two variables; and the remaining four used three variables. The Philippines employed small area estimation (SAE) techniques based on the Elbers, Lanjouw and Lanjouw (ELL) methodology developed by the World Bank. This generated intercensal small area estimates of poverty of all 1,622[10] cities and municipalities. Given the nature of drilling down to very low levels of geographic disaggregation, the SAE exercise called for the examination of the reliability of these small area estimates. Coefficients of variation as well as standard errors and confidence intervals were made available to all users, published along with the release of the estimates.

Stage 5 examines components of dissemination, advocacy and use of the disaggregated gender statistics produced. These data will only be valuable to users if they are "easily found and accessible, and if users find them relevant and easy to understand".[11] A dissemination plan specific to gender statistics with disaggregation should be developed as gender issues occupy a unique place in policymaking[12] and gender concepts require in-depth clarification to avoid confusion and misrepresentation. The plan should ideally feature important components such as the dissemination team, target users, what disaggregated gender statistics will be disseminated, how they will be disseminated and a timeline. Communication activities do not only include the promotion of dissemination materials and events related to it but also the overall improvement of awareness, understanding and usage. The promotion of statistical products and events will increase the awareness of users on the availability of these data. Several activities can be done to ensure understanding and use of disaggregated gender statistics, such as preparing key messages to target users, conducting training courses for statistics literacy and making use of social media for promotion.

Stage 5 country case studies include the experiences of Colombia, Kenya and Uganda. In November 2020, Colombia released its first edition of Women and Men: Gender Gaps in Colombia. This publication includes a strategic selection of themes and disaggregated indicators describing and analysing the current situation of women and men in the country. In 2020, Kenya launched its first-ever Women's Empowerment Index (WEI). Various visual products, including infographics with disaggregated gender statistics, were produced and media and institutional partnerships helped garner widespread media coverage and use of the WEIs. Uganda has seen similar success in the use of infographics, social media and media partnerships, which have helped increase coverage of its gender statistics. In updating its NPGEIs in 2019, the Uganda Bureau of Statistics (UBOS)—in collaboration with other ministries, departments and agencies—embarked on reprocessing existing census, survey and administrative data to provide disaggregated statistics on select NPGEIs, particularly those related to SDG Tier 1 indicators.

The Counted and Visible Toolkit is a collection of good practices as well as learnings of select country studies, each focusing on specific aspects of the statistical process aimed at ensuring a holistic, sustainable and institutionalized approach of producing disaggregated gender statistics using existing data from household surveys. The stages were also guided by the overarching aims Women Count of ensuring an enabling environment, increasing data production and increasing access and use to inform policies.

The Toolkit is envisioned as a living document that is not intended to be the final word on the better utilization of household surveys to produce disaggregated gender statistics. While efforts have been made to present country experiences as comprehensively as possible, they are not all-encompassing. Thus, UN Women and the ISWGHS consider this a dynamic document that should be periodically updated as other countries use and adapt it to their country-specific needs.

# INTRODUCTION

## Gender statistics for gender-responsive decision-making

Statistics are an essential part of decision-making. Policy- and decision-makers in the public and private sector, non-State actors, and the general public make use of statistics when making decisions—whether intentionally or not. And decisions should be informed by statistics to ensure that real evidence is used in the process. The same holds true when it comes to making gender-responsive decisions: Enter the need for gender statistics.

Gender statistics (See Box 1. for a definition) are indispensable tools for devising evidence-based policies to achieve gender equality and women's empowerment (GEWE). Comprehensive and periodic statistics on the status of women, men, girls and boys, including data disaggregated by sex, socioeconomic characteristics and context (such as humanitarian context), are important for setting priorities, developing policies and strategies, planning interventions and assessing their gendered impacts. They are also critical for putting the spotlight on inequality and underscoring the need to realize the rights of poor and marginalized women and girls who are left behind and whose rights are not always prioritized in policy-making processes.

Gender statistics are also used to develop and monitor policies that specifically relate to gender—such as, for example, the reduction of violence against women, time use, unpaid domestic and care work, programmes oriented towards increased investments in the labour force, as well as to support gender mainstreaming in development and poverty-reduction policies. When used for advocacy and awareness-raising, gender statistics can stimulate democratic debate on gender equality and women's empowerment, therefore ensuring accountability for the realization of women's human rights. The general public, on the other hand, uses gender statistics to better understand society—particularly the actual situation of women and men. The media,[13] researchers and analysts also contribute to sharing information about gender issues in different ways.

## Definition of gender statistics and its distinction with sex-disaggregated statistics

Gender statistics are defined by the sum of the following characteristics:

• Data are collected and presented by sex as a primary and overall classification

• Data reflect gender issues

• Data are based on concepts and definitions that adequately reflect the diversity of women and men and capture all aspects of their lives

• Data collection methods take into account stereotypes and social and cultural factors that may induce gender bias in the data.

Gender statistics are more than data disaggregated by sex. The characteristics listed above are useful in differentiating between sex-disaggregated statistics (the first requirement in the list above) and gender statistics (which incorporate all four requirements). Sex-disaggregated statistics are simply data collected and tabulated separately for women and men. However, disaggregating data by sex alone does not guarantee, for example, that the data-collection instruments involved in the data production were conceived to reflect gender roles, relations and inequalities in society. Furthermore, some statistics that incorporate a gender perspective are not necessarily disaggregated by sex. For example, statistics on violence against women and girls, maternal mortality rate, fertility rate, among others.

*Source: UNSD 2016.*

## Disaggregated gender statistics are key to achieving the 2030 Agenda

The 2030 Agenda for Sustainable Development (2030 Agenda) recognizes that "realizing gender equality and the empowerment of women and girls will make a crucial contribution to progress across all the Goals and targets". The Sustainable Development Goals (SDGs) represent a significant step towards achieving gender equality and women's empowerment, covering core areas of the feminist agenda, including a commitment to eliminate all forms of violence against women and girls, to eradicate discriminatory laws and constraints on sexual and reproductive health and reproductive rights, to recognize and value unpaid care and domestic work and to increase women's participation in decision-making.[14]

Thus, gender statistics are indispensable for monitoring progress of United Nations (UN) Member States in meeting the targets of the 2030 Agenda. The historic and unprecedented ambition of the 2030 Agenda must be matched by an equally ambitious drive to ensure its implementation. This will require an adequately resourced and authoritative monitoring and accountability framework. Robust indicators and quality data are of critical importance and will to a large extent determine whether policy efforts are marshalled, and the goals and targets are achieved or missed.[15]

Importantly, the 2030 Agenda pledges to "leave no one behind" and ensure that its goals and targets are met for all nations and peoples and for all segments of society, including to reach those furthest behind. To identify those who are left behind, high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics are necessary. Beyond data disaggregation, issues of importance to the most vulnerable—including those likely to be left behind in surveys and other data sources—should be debated, identified, measured, analysed and acted upon.[16] For example, a country seeing itself lagging on meeting the target of eradicating poverty among women and girls could trigger proactive country responses to meet the said target. But such actions or strategies should focus on the right beneficiaries—those women and girls who are furthest behind. Thus, it is essential to produce disaggregated gender statistics that are analysed through an intersectional approach[17] that takes into account

the compounding effects of different types of inequalities faced by women, including on the basis of race, social class, religion, ethnicity, sexual orientation and age, among others. This approach will provide a credible evidence base that can inform gender-responsive policies and catalyse actions towards leaving no one behind.

Moreover, the 2030 Agenda's pledge "to reach the furthest behind first" also raises a fundamental question about whether data systems and data collection mechanisms are currently set up to prioritize the measurement and reporting of challenges that marginalized groups face, including ensuring their participation in decisions about what is measured, setting of priorities, allocation of resources, among others. Attention to intersecting inequalities (i.e., that gender inequalities intersect with

other inequalities, including those based on class, race/ethnicity and ability) has also been a long-standing feature of feminist scholarship.[18]

During the 50th Session of the United Nations Statistical Commission (UNSC), the Inter-Agency Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs) presented a paper on Data Disaggregation and SDG Indicators: Policy Priorities and Current and Future Disaggregation Plans.[19] Consulting with major groups and international organizations working on gender equality and with expertise in disaggregation, the IAEG-SDGs presented five policy priorities for disaggregation from a gender perspective: (i) poverty eradication; (ii) food security and health; (iii) education; (iv) access to economic resources and decent work for all; and (v) gendered impacts of climate change. Examples of multiple disaggregation priorities are included in Table 1.

**TABLE 1.**
## Examples of multiple disaggregation priorities

| SDG indicator | Recommended multiple disaggregation priority | Activities |
|---|---|---|
| 1.1.1 | Simultaneous disaggregation by sex and age, where age is in 5-year intervals. As well as simultaneously by sex, age (15–24, 25–54 and 55+) and marital status | • To assess number and services of existing ward tribunals.<br>• To advertise through media and religious institutions fliers, leaflets, posters opinion leader, drama, traditional dances, songs and music |
| 4.4.1 | Disaggregation by sex, age group of students, location, income/wealth, and by the intersection of sex, location and income/wealth | • To conduct gender training and seminars, workshops and session to Police Officers, health Officers and Social Welfare workers.<br>• To establish and strengthen gender specialized unit in police force |

*Source: IAEG-SDGs. 2019*

## UN Women's strategy for change: The Women Count programme

Responding to these challenges, but also harnessing the current momentum and support for the SDGs and for gender statistics more broadly, the global gender data programme of the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women), Making Every Woman and Girl Count: Supporting the

monitoring and implementation of the SDGs through better production and use of gender statistics (Women Count),[20] is affecting a radical shift in the production, availability, accessibility and use of quality data and statistics on key aspects of gender equality.

Working with partner governments, international agencies, civil society organizations and others, and building on existing initiatives, the programme is achieving results along three pillars of work:

- **Putting in place an enabling environment** for a gender-responsive localization and effective monitoring of national and international policy commitments

- **Filling gender data gaps** by ensuring that quality and comparable gender statistics are produced regularly

- **Ensuring that gender statistics are accessible and used** to inform policy and advocacy.

As part of the initiative, UN Women is working closely with at least 15 national statistical systems (NSSs), and in coordination with other international agencies and all relevant actors, providing technical support to countries to improve the regular production and use of gender statistics. This includes the production of disaggregated gender statistics while ensuring the capacity-development of NSSs in the process.[21]

## Use of household surveys for SDG monitoring

In generating disaggregated gender statistics, solid data sources are needed. Most countries rely on nationwide survey data sets. Realizing the need for the coordination and harmonization of household survey activities, the UNSC established the Intersecretariat Working Group on Household Surveys (ISWGHS) in 2015 with a mandate to foster improvement in the scope and quality of social statistics as delivered through national, regional and international household survey programmes.[22]

In 2017, ISWGHS did an exercise to map the SDG indicators for which data could be derived from household surveys with the objective of supporting countries to effectively deliver household survey-based data for SDG indicators. The mapping exercise, which was conducted before the 2020 comprehensive review of the SDG indicators, revealed the following:

- Household surveys are the main data source for around one third of all SDG indicators. In particular, for 80 of the 232 SDG indicators, household surveys are considered a primary/common source.

- Approximately 70 per cent (55 of 80) of the SDG indicators generated through household surveys have both established standards and questionnaires to measure the indicators.

- Around 70 per cent of the indicators calculated from household survey data have a requirement for at least one level of disaggregation, supporting the overall goal of "Leaving No One Behind".[23]

Recognizing the importance and primary role of existing household surveys in generating statistics for monitoring the SDGs, statistical systems at national, regional and global levels have focused their attention on improving the tools and methodologies for collecting household survey data. Advanced sampling methods are being used to provide data for a larger variety of disaggregation levels to meet particular information needs within a country. This move seeks to provide better utilization of existing survey data in the generation of disaggregated gender statistics. However, there are still challenges faced by different countries in producing the required data to be able to generate disaggregated gender statistics on identified policy priorities on a regular and institutionalized basis.

# OBJECTIVES

The Counted and Visible: Toolkit to Better Utilize Existing Data from Household Surveys to Generate Disaggregated Gender Statistics (the Counted and Visible Toolkit) was developed in response to the call from UN Member States in recent sessions of the Security Council to develop tools and methodologies for data disaggregation.[24] UN Women, in collaboration with the Intersecretariat Working Group on Household Surveys (ISWGHS), developed the Toolkit with the following objectives:

- to provide guidance on mechanisms and tools to better utilize household surveys to produce disaggregated gender statistics based on select country experiences,[25] with support from the Women Count programme

- to present methodologies used as well as assessment exercises undertaken in select country studies to produce disaggregated gender statistics using existing household surveys

- to present statistical management and coordination mechanisms, including those undertaken by select countries to ensure a consultative and inclusive process in the production of select disaggregated gender statistics

- to provide guidance or insights on country experiences included in the Counted and Visible Toolkit, underscoring good practices, challenges and learnings, as well as highlight possible risks/threats; and

- to offer recommendations for improving initiatives to produce disaggregated gender statistics using existing household surveys towards enhanced gender data production and use.

The Toolkit is meant to promote and advocate for country-led and implemented activities that should not merely be computational/statistical exercises but, rather, institutionalized and systemic changes to better utilize household surveys to produce disaggregated gender statistics.

## Country case studies

The Counted and Visible Toolkit is a collection of good practices and lessons learned from select countries, each focusing on a particular aspect of producing disaggregated gender statistics from existing household surveys. Country-specific cases are used to illustrate the process for ease of reference and to assist the application of the Counted and Visible Toolkit by NSSs.

Country initiatives have been implemented in two ways:

- where the NSSs, particularly national statistical offices (NSOs), of partner/implementing countries played the most significant roles in implementation; and

- where the initiative has mostly been directly implemented by international agencies and development partners.

While both are deemed critical and important to the production of disaggregated gender statistics, the Counted and Visible Toolkit will only focus on the former—the main reason being that UN Women and the ISWGHS would like to focus on communicating the first-hand experiences of NSSs (and of NSOs in particular) to other NSSs/NSOs, who are the main target audience of the Counted and Visible Toolkit. Including the direct and practical experiences of countries themselves will ensure that the document speaks to countries facing similar situations, needs and resources.

In the selection of countries, UN Women's Women Count programme is strategically placed to contribute to the gender data disaggregation initiative, given that there are at least 10 countries implementing projects within their NSSs. The Counted and Visible Toolkit thus builds on these initiatives and explores innovative approaches towards achieving the full potential of existing household surveys and producing disaggregated gender statistics (see Table 2.).

**TABLE 2.**

**Country case studies included in the Counted and Visible Toolkit, with Women Count support**

| Region | Country cases |
|---|---|
| Africa | Cameroon, Kenya, Senegal, Uganda and Tanzania |
| Asia and the Pacific | Mongolia and Viet Nam |
| Europe and Central Asia | Albania and Georgia |
| Latin America and the Caribbean | Colombia |

In addition to these country cases, the Toolkit also highlights country case studies from Canada, Iraq, Pakistan, the Philippines and the United States, and along with examples from international organizations.

## Data sources: Existing national household surveys

Various data sources can be used to generate disaggregated gender statistics. The Counted and Visible Toolkit focuses on existing household surveys, considering the resources available for this study (i.e., financial, time, and human) as well as the scope of work of the co-collaborator (the ISWGHS), which is focused on household survey data. Select country case studies using different data sources will nonetheless be featured in select sections of the Counted and Visible Toolkit (e.g., Iraq and Pakistan).

## The toolkit as a living document

The Counted and Visible Toolkit is envisioned as a living document that is not intended to be the final word on the better utilization of household surveys to produce disaggregated gender statistics. While efforts have been made to present country experiences as comprehensively as possible, they are not all-encompassing. Thus, UN Women and the ISWGHS consider this a dynamic document that should be periodically updated, as other countries use and adapt it to their country-specific needs. It is the hope of UN Women and the ISWGHS that in the process of using the Counted and Visible Toolkit, producers and users of gender statistics will discover and learn better and/or new ways of approaching data disaggregation.

## Toolkit stages

The Counted and Visible Toolkit focuses on key aspects of the process of producing disaggregated gender statistics from existing household surveys. Specifically, it covers five main stages implemented by countries as part of this initiative, under the Women Count programme. The major stages are as follows:

- Stage 1: NSS leadership's commitment to appropriate normative frameworks and increasing the amount and quality of disaggregated gender statistics produced

- Stage 2: Development of national priority gender equality indicators (NPGEIs) for disaggregation

- Stage 3: Development of methodologies and data production of select NPGEIs

- Stage 4: Assessment and publication of results

- Stage 5: Dissemination, advocacy and use of disaggregated gender statistics produced.

It is important to stress that the stages outlined above are in no way prescriptive. They are intended to serve as guidance to countries to ensure that the initiative is not merely regarded as a one-off statistical exercise but rather—and more importantly—as a capacity-development initiative for NSSs to ensure sustainable development in the production of disaggregated gender statistics using existing data from household surveys. The Counted and Visible Toolkit will provide key actors in NSSs, particularly NSOs, not only with guidance on planning, organizing and implementing each stage of the process

but also regarding institutional arrangements and mechanisms, communications, collaboration and coordination.

The stages above have been identified by the project with the intention to provide a holistic capacity-development approach for NSS development of gender statistics. The stages were also guided by the three pillars of UN Women's global gender data programme, Women Count (see page 13).

The following sections outline each of these five stages, illustrating them with country case studies for ease of reference, followed by recommendations on how to better utilize household surveys to produce disaggregated gender statistics.

# STAGE 1: COMMITMENT

## The role of NSS leadership in producing quality disaggregated gender statistics

Household surveys provide disaggregated data for a wide range of research efforts that inform the design and evaluation of development policies.[26] Some examples of major internationally comparable household surveys are the Demographic Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS), Living Standards Measurement Study (LSMS) and Labour Force Surveys (LFS). They help meet the minimum disaggregation requirements of the SDG global indicator framework, including disaggregation by sex.[27] However, multi-level disaggregation (that is, beyond disaggregation by sex) is needed to ensure that adequate policy-relevant information is produced to reach the women and girls furthest behind.[28] To produce this information from existing household survey data requires a shared objective developed and agreed among stakeholders and the NSS—that is, among users and producers of disaggregated gender statistics. [29]

To achieve this shared objective requires a strong enabling environment. First and foremost, NSS leadership's commitment is required to produce the needed disaggregated gender statistics, create strong political will to promote their use and ensure that resources are committed and allocated. This means that:

- Leaders of NSOs need to invest resources, particularly human resources, towards: (1) coordinating the Gender Statistical System (GSS)[30] to seek advice from stakeholders on priority gender indicators requiring multi-level disaggregation to inform government policies and programmes; and (2) better utilizing existing household survey data to go beyond the gender statistics traditionally produced, which are often focused on averages.

- Leaders of national women's machineries need to take a co-leadership role, together with the NSO, particularly in: (1) ensuring that the disaggregated gender statistics to be produced will be used; and (2) obtaining the buy-in and commitment of other ministries, departments and agencies in using these statistics for effective gender-responsive interventions.

- The government in general needs to ensure that financial and human resources for the production of disaggregated gender statistics using existing household survey data are allocated and used.[31]

## Improving household survey programmes to promote the production of disaggregated gender statistics

Household survey programmes are an integral part of countries' overall data collection programmes to better inform policy and research. To ensure the programmes' efficiency, countries need to design a coordinated system to produce disaggregated gender data that respond to policy needs.[32] This coordination usually involves two fields:

- Conceptual harmonization, which consists of the methodologies to disaggregate gender data from the household surveys, the selection of disaggregation variables—such as women with disabilities, migrants, refugees and displaced persons—and the assessment of analysis results at the NSS.

- Institutional management, which refers to coordination among household survey programmes to generate more disaggregated gender statistics,[33] given that multiple NSS members[34] are involved in gender data collection via household surveys, analysis and use.

- Comprehensive plans for household surveys at the national level are needed for an efficient and well-coordinated national household survey system.[35] Better utilization of these surveys to produce disaggregated gender statistics requires a clear strategy, which is developed and agreed among stakeholders, and efficient coordination within the NSS between the users and producers of gender data.[36]

## Engaging gender statistics stakeholders within the national statistical system

Engaging stakeholders is key to generating commitment and ensuring active participation for the production and use of disaggregated gender statistics from existing household survey data.

To produce such disaggregated gender statistics, NSO and national women's machineries need to engage sectoral ministries and other major data producers of NSS. This process includes the engagement of researchers and other analysts in the analysis of existing household survey data to generate the disaggregated gender statistics.[37] Engagement also helps build co-ownership of produced disaggregated gender data from the household surveys with the stakeholders.[38]

Since different stakeholders working in gender equality and the empowerment of women and girls need varying levels of disaggregation, it requires engaging a broad range of core political and public actors to identify disaggregated gender statistics. It is important to involve these stakeholders and identify whose data needs can be addressed

most efficiently by analyzing the data from household surveys through consultations.[39] The consultations help to come up with consensus on what disaggregated data are needed, the form in which disaggregated data are required and levels of disaggregation.[40]

When engaging stakeholders in the production and use of disaggregated gender statistics, a participatory approach needs to be adopted. In this context, NSS-wide consultations for disaggregated gender statistics should involve different sectors and local governments as well as users and producers of gender statistics beyond those in government institutions considering that an NSS is not limited to data producers[41] according to the approach of the Counted and Visible Toolkit and the Women Count Programme. In this respect, disaggregated gender data use should involve policymakers, parliamentarians, government ministries focused on women's issues, other government bodies that need disaggregated gender data to make evidence-based decisions, gender equality institutes or non-governmental organizations (NGOs) promoting women's empowerment, civil society organizations (CSOs) and labour unions as well as academic institutions, think-tanks and research institutions, international

organizations and development organizations that use gender data to conduct further research or to design development programmes, private sector entities that use gender data for business processes or corporate social responsibility purposes, media professionals that utilize gender data to convey impactful messages, and the general public (which in some cases use disaggregated gender data to make personal decisions such as where to live, where to send children to school, and what kind of jobs offer good pay).[42]

## Co-leadership role of the NSO and national women's machinery

Engaging key stakeholders in the GSS throughout the process of producing disaggregated gender statistics from existing household survey data is essential to ensuring the commitment and buy-in of the GSS. Both the NSO and the national women's machinery play and share critical roles to produce disaggregated gender statistics through efficient and effective coordination of the GSS.[43]

The co-leadership of the NSO and the national women's machinery will foster dialogue between various users and producers of disaggregated gender statistics. This dialogue can: enable data producers to understand the needs of users with respect to disaggregated gender statistics; help them identify gender statistics and indicators with disaggregation levels and present this data in line with the expectations of users; and help data users understand, gain access to and use disaggregated gender statistics more effectively. Such dialogue should extend to all methodological issues for analyzing existing household survey data.[44] Moreover, the process of identifying the priority gender indicators to be disaggregated is usually performed and co-led by the NSO and the national women's machinery. Both institutions should play an active role in new capacity- development and new approaches for production of disaggregated gender statistics to utilize the existing data from household surveys in a sustainable way. Successful examples of this co-leadership of NSO and national women's machinery include the prioritizing of activities related to gender statistics with disaggregation levels as well as facilitating the required resources in Cameroon (see page 26), and ensuring

the integration of gender statistics and disaggregated data in the national legislative documents in the Philippines (see Box 3.).

## Ways to obtain stakeholder cooperation

Stakeholder cooperation is one of the important dimensions for the sustainable and effective production of disaggregated gender statistics from existing household survey data.

Stakeholders should come together to discuss disaggregated gender data needs and priorities. This dialogue can promote understanding between gender data producers and users[45] and improve the production of disaggregated gender statistics using existing data from household surveys. For example, discussions could consider the perspectives of CSOs working with women in informal employment in urban cities, women with disabilities or refugee women, support centres for women and girls, universities and researchers. Dialogue can enable these stakeholders to ensure that disaggregated gender data demands can be anticipated and met in a timely manner. Additionally, organizing frequent gender data user-producer dialogues that include CSOs ensures that the supply and demand of disaggregated gender statistics are aligned.[46]

Multi-stakeholder consultations can identify disaggregated gender data needs in the NSS and create dialogue on how household survey data can meet the expectations of users.[47] Data producers need to work with international and regional organizations, as well as academic and research institutions, to generate disaggregated gender statistics when upgrading analytical methods for existing household survey data and developing appropriate disaggregated indicators.[48]

Involving stakeholders in processes to generate disaggregated gender statistics as well as in capacity-development activities in the GSS will increase cooperation, coordination and communication. This can foster a good working environment and improve relationships among stakeholders working on disaggregated gender statistics. A cooperative approach will ensure the necessary participation in the generation of disaggregated gender data (as stakeholders should be involved in decision-

making), communication (stakeholders will get information on the context and importance of their effort), and recognition (stakeholders will be motivated to work harder).[49]

## Establishing mechanisms and tools for efficient statistical coordination

Mechanisms should be put in place within the GSS to ensure the commitment of stakeholders, including investments in innovative analysis methodologies for working with existing household survey data, and developing capacities and ownership of household survey data analysis.[50] These mechanisms will greatly depend on the existing governance structure and reporting framework as well as the politics within the NSS. Thus, it should be emphasized that it is the country itself that should formulate the appropriate mechanism or tool for managing disaggregated gender statistics. The identified mechanism and degree of the institutionalization of a coordination mechanism can differ depending on the readiness of a country's GSS to engage with new actors.

### Designation of gender statistics focal points or the establishment of a gender statistics unit

In the production of disaggregated gender statistics, the presence of designated gender statistics focal points (GSFPs) is important for coordination with other partners. GSFPs are expected to coordinate and monitor linkages across household surveys and different fields of statistics where a gender perspective should be integrated within the respective NSO or ministry focusing on disaggregated gender statistics.

Gender statistics units (GSUs) can be ideal to facilitate the coordination of the NSO, national women's machineries or other key actors of the GSS and to increase expertise on the analysis of existing household survey data in the generation of disaggregated gender statistics.[51] Such units also provide mechanisms for:

- advocacy
- increased consistency and adherence to standards in the production of disaggregated gender statistics

- improvement of gender statistics, outlining the need for disaggregation, both internally within NSOs and with ministries
- substantive and technical support to other ministries, departments and agencies dealing with gender statistics
- training of NSO and non-NSO staff

In most cases, the formal establishment of a GSU will require the reorganization of an NSO or ministry. Thus, this would entail approval from appropriate government agencies, such as the ministry of budget and management (considering it would have implications for government spending/appropriations), or the Civil Service Commission (as it would entail the creation of positions as well as corresponding duties and responsibilities of concerned civil servant/s). Considering that these constraints may make it difficult to establish a GSU, the designation of GSFPs by the Chief Statistician in an NSO or the Cabinet Secretary in a ministry is sometimes employed as an alternative.

### Formation of an inter-agency group or task force on gender statistics within the NSS[52]

Data producers and users need to meet to plan disaggregated gender statistics production. An inter-agency coordination mechanism is critical to adopt a road map and discuss the process to generate more disaggregated gender statistics from existing household survey data. Given the decentralized nature of a GSS, such a mechanism becomes an indispensable element for a well-coordinated and supportive GSS. Coordination mechanisms can include inter-agency committees on gender statistics (IAC-GS) or statistical advisory councils (SAC). These structures can also provide a wider government audience.[53]

An IAC-GS, SAC or task force can be formed within the GSS to lead the development, implementation, and monitoring of the country's gender statistics programme including disaggregated gender statistics and utilization of household surveys. The directions/thrusts of the group should be aligned with the country's gender statistics programme, as may be outlined in the National Strategy for the Development of Statistics (NSDS), National Development Plan (NDP), Statistics Act, among others. This then ensures that the group will consider earlier agreed

and identified programmes on statistical coordination and management, data production, subnational statistics, data dissemination and communication, research and development, national and international cooperation.

This committee or task force can thus focus on the priorities and needs for disaggregated gender statistics and indicators, critical gaps, resources and capacity of the institutional machinery, data access and use through engagement with stakeholders in the public and private sector, NGOs and other actors in the GSS. This structure can also include gender focal points or gender specialists in the GSS, which provide different perspectives regarding the information needs for gender-responsive policies and programmes.[54]

With regard to the organization, suggested co-chairs would be the senior leadership in charge of gender statistics in the NSO and the national women's machinery. The shared responsibility indicates not only their leadership but more importantly, a sense of ownership of the inter-agency group's thrust and priorities. Members may include representatives of other key implementing/partner government and non-governmental agencies, representatives from selected key stakeholders, and gender statistics experts or representatives from other agencies.

On the composition of the IAC-GS, SAC or Task Force, it is important to consider its profile and size. Since discussions in the group will not only focus on data production, representatives from the user side (aside from ministries) should also be deliberately considered (e.g., representatives from crisis centres, academia, research institutions, etc.). In terms of size, the NSO and the national women's machinery need to consider the possible challenges of managing and coordinating a very big group (e.g., majority rules when decisions are needed, quorum, competing priorities, etc.). Thus, one option may be to identify key institutions as members of the group (e.g., a maximum of 15) and identify on-call agencies depending on the theme or topic of discussion.

Concerning coordination, secretariat support should be provided by the NSO (together with the national women's machinery, if needed). Thus, this role of the NSO should also be reflected in the GSFP functions.

## Legislation and agreements on the generation of disaggregated gender statistics

Producing disaggregated gender statistics and analysing them with an intersectional lens provides a credible evidence base that can inform gender-responsive policies and catalyse actions to reach the goal of gender equality and women's empowerment, while leaving no one behind.

Capturing intersecting inequalities requires careful deliberation, asking questions about how different groups of people may experience multiple inequalities. In this context, the legal basis for the generation of disaggregated gender statistics can be established. Some countries have shown their commitment to integrating a gender perspective into their NSS by enshrining this requirement within a legal framework (see Box 3 for an example from the Philippines). Specific laws and ministerial decrees may also be developed with specific requirements for disaggregated gender statistics in different areas as well as the general requirement for gender considerations in all official statistics. The distribution of work and responsibilities among the different actors of the GSS, as well as the corresponding budget, can also be included.

In broader terms, the development of gender statistics with disaggregation levels should be specified within the legal framework of official statistical systems.[55] The specification of formal requirements for the incorporation of a gender perspective within the national statistical legislation that regulates the production and dissemination of official statistics, could be a key way to increase the availability of disaggregated gender statistics.[56]

Memoranda of Understanding (MoU) between data producers and users in the GSS are another option for ensuring more disaggregated gender statistics and determining common standards and principles in line with international definitions, classifications and methodologies.

## Integrating gender statistics development in the Philippines Magna Carta of Women

The Philippines Republic Act No. 9710, known as the Magna Carta of Women, provides specific legal provisions on the generation and review of sex-disaggregated data. Specifically, Chapter VI on Institutional Mechanisms, Section 36 on Gender Mainstreaming as a Strategy for Implementing the Magna Carta of Women, para. (c) focuses on the generation and maintenance of a gender and development database:

• "All departments, including their attached agencies, offices, bureaus, state universities and colleges, government-owned and controlled corporations, local government units (LGUs), and other government instrumentalities shall develop and maintain a gender and development (GAD) database containing gender statistics and sex-disaggregated data that have been systematically gathered, regularly updated, and subjected to gender analysis for planning, programming, and policy formulation."

Meanwhile, Section 37, para. D further adds that:

• "The National Statistical Coordination Board (NSCB), upon the recommendation of the Inter-Agency Committee on Gender Statistics (IACGS), shall issue statistical policies on the generation of data support on gender issues and improve the system of collection and dissemination of gender statistics at the national and local levels."

One of the factors that ensured the integration of gender statistics and disaggregated data in the Philippines Magna Carta of Women was the strong coordination and partnership of the national women's machinery (that is, the Philippine Commission on Women) and the lead statistical coordinating agency in the Philippines' statistical system (at the time, the NSCB). This was also further strengthened by the regular dialogue of member agencies of the IACGS with the aforementioned agencies.

*Source: Philippine Commission on Women 2008.*

## Development of a multi-year work programme for the generation of disaggregated gender statistics

There is high demand for disaggregated gender statistics to provide a sound evidence base for policies to leave no one behind (LNOB). Thus, national strategies for the development of statistics need to support the production of disaggregated gender statistics within national statistical systems. LNOB principles should be integrated into these strategies so that they will include the required disaggregation levels, production methods, responsible institutions, needed capacities, etc.[57]

Generally, countries have been following short- or medium-term work programmes similar to an NSDS for their official statistics. Ideally, disaggregated gender statistics and utilization possibilities from household surveys should be discussed in the design of the NSDS and included in the strategy by integrating a gender perspective into statistical planning. If an NSDS already exists, the inclusion of activities for the generation of disaggregated gender statistics is a step towards achieving the goal of having more and better gender statistics. (See Box 4 on the UN Women-PARIS21 project on integrating a gender perspective in NSDSs).

In some cases, countries may develop gender statistics strategies independently of the NSDS, namely a National Strategy on Gender Statistics (NSGS). The NSGS could be a key driver for the production of disaggregated gender statistics. The specific actions on reprocessing existing household survey data to generate gender indicators with required level of disaggregation should be determined under the strategic objectives of NSGS.[58]

**BOX 4.**

## Integrating a gender statistics module within PARIS21's NSDS guidelines

As part of PARIS21's partnership with UN Women under the framework of the Women Count programme, a gender statistics module has been developed within PARIS21's NSDS guidelines. The module complements the NSDS lifecycle and seeks to help its readers, NSOs, national women's machineries, line ministries and gender equality advocates (e.g., civil society, NGOs and other prospective gender data users) to understand the importance of addressing challenges related to gender statistics and disaggregated gender data during statistical planning processes. The approaches in the module include envisioning a human rights-based approach to data and disaggregation of data which allows data users to analyse and compare different population groups, and to understand the situations of specific groups.

Integrating a gender perspective into statistical planning implies that all data producers and users recognize that the design and implementation of data collection—as well as the production, dissemination and use of statistics—are all gender-sensitive processes. The cross-cutting nature of gender statistics makes them ideal for identifying capacity shortfalls in NSSs that affect the ambition to leave no one behind in sustainable development. Multiple aspects of statistical capacity development can be addressed when looking through the lens of gender statistics. For example, data disaggregation generates more granular data, broken down by sex, age, geography, migratory status, or other characteristics, and as a result provides a more detailed picture of the activities and characteristics of the population. Through its intrinsic granularity, disaggregated data can be combined with other variables to shed light on the experiences of different populations as well as their socio-economic conditions through intersectional analysis (for instance, female poverty during reproductive ages is derived through the intersection of sex, age and income level). In this context, the module helps to identify opportunities and entry points to improve gender statistics in the NSDS.

The module:

- Outlines the business case for gender statistics in improving the overall efficiency of the NSS through strengthened coordination as well as intra- and inter-institutional exchange and dialogue.

- Calls for increased awareness-raising and promotion of gender statistics in statistical planning, and as a key element of advocacy for gender equality.

- Puts gender statistics users at the heart of statistical planning to build rewarding partnerships along the data-value chain: when designing data collection, filling data gaps, increasing uptake and use and ultimately strengthening trust in official statistics and other gender data produced by government agencies.

*Source: PARIS21 forthcoming.*

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The work programme or NSDS can outline the activities as well as the different stakeholders of the GSS and their involvement in the generation of disaggregated gender statistics over several years (See Box 5. Mainstreaming a gender and intersectional approach in Colombia's NDP and NSDS for an example from Colombia). In developing this, it is important to be clear as to the nature and extent of the programme. The schedule and frequency of release of disaggregated gender statistics are also included. This work programme has to be agreed upon by the members of the GSS for the approval of the broader NSS.[59]

## Mainstreaming a gender and intersectional approach in Colombia's NDP and NSDS

The Government of Colombia recently cemented two important commitments—on gender equality and women's empowerment, as well as on the development of disaggregated gender statistics . For the first time, a chapter specific to the gender agenda was included in the NDP 2018–2022—that is, the "Pact for women's equality". This development represents an opportunity to make progress in closing gender gaps and complying with national and international commitments, such as the 2030 Agenda. Moreover, two courses of action specific to statistics were added to the NDP 2018–2022:

- Strengthening the production and accessibility of statistical information, including information systems that shed light on the status of the population in different areas, with sufficient disaggregation and intersectionality ; and

- Strengthening the use of statistics to inform decision-making processes in public policy matters in a timely way.

In addition to NDP 2018-2022, in Colombia's current NSDS (PEN 2017–2022), strategy five (out of nine[60]) focus on "promoting the inclusion of a differential and intersectional approach in the production and dissemination of statistics". Its inclusion is critical to ensure incorporation of intersectional approach in official statistics and to increase quality statistical information with disaggregation levels. To this end, a Differential and Intersectional Focus Group (GEDI) was formed and it is now being consolidated within the National Administrative Department of Statistics of Colombia (DANE), to strengthen its human resources and operational capacity. The GEDI's functions are likewise being adjusted to promote more collaboration with inter-institutional coordination mechanisms focusing on the disaggregated gender statistics.

Moreover, Colombia seeks to respond to recommendation Number 52 of the ninth periodical report on Colombia's implementation of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) and to comply with the Belém do Pará Convention. In 2019, the CEDAW Committee recommended that the "State must scale up its efforts with the National Statistical System (DANE) to improve the collection of data related with women's rights and to disaggregate the data by sex, race, ethnicity, geographical location, disability and socioeconomic context in all areas, especially regarding marginalized groups of women..."[61]

*Source: UN Women 2019a.*

## Gender data portals

A web portal for disaggregated gender statistics can be designed for the NSS. It can serve as a common portal for the GSS and as a coordination tool and/or information service to present research, disaggregated gender statistics and analysis on gender issues to users. Platforms help centralize disaggregated gender statistics and ease coordination of the GSS by providing detailed information on gender statistics programmes, household surveys, action plans, relevant policy documents, legislation, and updates on working groups and meetings.

There are specific portals that present disaggregated gender statistics. At the international level, examples include the OECD Family Database[62] and DHS Program STATcompiler.[63] Examples from NSOs include Gender in Norway[64] and the Gender Statistics Portal of Uganda.[65]

It cannot be overemphasized that the mechanisms or tools described in this section are suggestions that a country can use, after taking its own specific conditions and needs into consideration.

## Country case studies

### Cameroon[66]

As one of the pathfinder countries implementing the Women Count programme, part of Cameroon's country project focuses on the production of disaggregated gender statistics that are relevant to informing policies. Cameroon has a decentralized statistical system, with many structures involved in the production of official statistics that are all coordinated by the National Institute of Statistics (NIS). The NIS acts as the permanent secretariat of the National Council of Statistics and ensures the coordination of the NSDS. As a major step for engendering statistical processes in the country, the Chief Statistician of Cameroon's NIS agreed to create a Gender Statistics Unit within the Institute—a clear demonstration of leadership's commitment.

However, given the time-consuming, bureaucratic processes necessary for such a reform, and considering the urgency of engendering the NSS and its products within the period of implementation of the Women Count project in Cameroon (2019–2021), they opted for an alternative approach—creating a Permanent Working Group on Gender Statistics within the NIS, led by the Chief Statistician. The Permanent Working Group serves as a gender statistics think-tank that is also tasked with coordinating gender-sensitive statistical activities within the NIS as well as the NSS (See Box 6). Its key achievements thus far have included the identification and adoption of a minimum set of gender indicators deemed priorities in Cameroon and the production of three data-driven policy briefs related on:

1. Women's entrepreneurship[67]

2. Gender and health indicators[68]

3. Gender, financial inclusion and poverty[69]

National legislation[70] was passed in Cameroon in 2020, updating a similar 1991 law regulating the country's statistical activities. The legislation implicitly provides a basis for the collection of data needed for disaggregated gender statistics by the NIS. The same law also calls for the national government to provide the necessary budget for the country's statistical operations.

Additionally, the National Council of Statistics adopted a normative framework governing the production and use of gender data in the country—a process led by the Interministerial Committee on Gender Statistics and the Permanent Working Group on Gender Statistics created within the NIS in 2019.

## Devising a coordination mechanism to enhance the production of disaggregated gender statistics in Cameroon

Through three high-level and technical working groups on gender statistics established within the NSS in 2019, Cameroon has developed a coordination mechanism to generate disaggregated gender statistics. These working groups, co-chaired by the NIS and the Ministry of Women's Empowerment and Family, are a good example of co-leadership in the NSS and play a key role within the governance structure for the development of gender statistics in Cameroon to prioritise the activities related to gender statistics with disaggregation levels and facilitate the required resources. In addition to improving the efficiency of coordination and cooperation between the NIS and the Ministry of Women's Empowerment and Family, the NIS has intensified its collaboration with civil society working on gender issues. Moreover, the NIS has included gender-related issues within its strategy and action plan with the establishment of a coordination mechanism on gender between data producers and users in order to fill existing gender data gaps within the NSS.

The coordination mechanism for gender statistics in Cameroon is composed of:

• The Interministerial Committee on Gender Statistics,[71] chaired by the Secretary-General of the Ministry of Women's Empowerment and Family and co-chaired by the Chief Statistician of the NIS. The Interministerial Committee meets two or three times a year to provide

strategic orientation on gender statistics. It also conducts advocacy activities on gender issues with the National Council of Statistics, which is the highest level of decision-making on statistics in the country.

• The Interministerial Committee is supported by a Technical Committee on Gender Statistics, which is composed of gender statistics focal persons from 13 social ministries. The Technical Committee is co-chaired by the Head of the Statistics Department of the Ministry of Women's Empowerment and Family and by the Head of the Social Statistics Department at the NIS. The Technical Committee is composed of gender statisticians who carry out all technical work on gender-disaggregated data in their respective sectors. It serves as de facto national think-tank that provides technical advice to the Interministerial Committee on Gender Statistics and also ensures gender statistics quality within the framework of the NSDS.

• The Permanent Working Group on Gender Statistics,[72] created within the NIS in 2019, is chaired by the Statistician General and co-chaired by the Gender Focal Point of the NIS. The role of this group is to ensure gender statistics quality in all statistical operations conducted by the NIS and to analyse and disseminate survey data on gender issues, as well as related recommendations.

## Georgia

Led by the National Statistics Office of Georgia (Geostat), Georgia has been building a gender-responsive statistical system by developing a National Strategy on Gender Statistics and establishing an Inter-Agency Working Group on Gender Data (IAWG-GD) under the Inter-Agency Commission on Gender Equality, Violence against Women and Domestic Violence.[73] The Inter-Agency Commission was established in 2017 with advocacy and technical

support from UN agencies, including UN Women. This Commission is composed of representatives of line ministries and other related institutions, such as the Gender Equality Council of Parliament and the Supreme Court. It supports the collection and analysis of gender statistics and is authorized to create thematic working groups. In 2020, this Commission created nine working groups on various gender-related topics, one of which was the IAWG-GD.

The Inter-Agency Working Group on Gender Data consists of members of various State agencies: Geostat, relevant line ministries, the Civil Service Bureau, Legal Aid Service, Supreme Court, Parliament of Georgia and the State Fund for Protection and Assistance of (Statutory) Victims of Human Trafficking. The IAWG-GD serves as a mechanism for cooperation and national coordination on gender statistics. It is also facilitating the identification of Georgia's NPGEIs, which involved mapping policy priorities and identifying the most vulnerable population groups. The NPGEIs will inform the level of disaggregation of those gender statistics that will be compiled on a regular basis using existing data from household surveys and other data sources. More concretely, they will contribute to the assessment and development of new policies, such as National Action Plans on combating violence against women and domestic violence, on human rights and on implementing Security Council resolutions on women, peace and security. The NPGEIs are also expected to increase the data available for formulating such policies and lay the framework for a national gender data ecosystem.

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**BOX 7.**

## Establishing priorities and a strategy to enhance the production of disaggregated gender statistics in Georgia

Geostat and the national women's machinery, which comprises line ministries and relevant institutions in the IAWG-GD, have co-leadership role in the NSS. This co-leadership established the following priorities to produce more disaggregated gender statistics:

- Develop a national set of gender indicators, including those used for reporting on national and international commitments to gender

- Integrate gender-data-related issues into the new Human Rights Action Plan's chapter on gender equality and women's empowerment

- Support responsible State agencies to develop a unified statistical standard on ending violence against women and to ensure the accessibility of this data

- Facilitate the development of a National Strategy for Gender Statistics by Geostat.

Prior to the formation of the IAWG-GD, Geostat elaborated Georgia's NSDS for 2020–2023,[74] which covers the development of gender statistics in the country from the household surveys, including the development of gender-disaggregated indicators as one of the priority issues for the NSS. The situation analysis was performed using information from a Eurostat global assessment[75] of Georgia's statistical system, as well as a gender assessment of the NSS in Georgia that was developed with the support of UN Women. Gender statistics is a key cross-cutting topic in Georgia's NSDS 2020–2023, particularly within Strategic Objective 1, which is devoted to the production of statistics. The National Strategy for Gender Statistics builds on the NSDS and its sections devoted specifically to gender statistics in Georgia. The NSDS's Action Plan[76] further outlines several activities related to gender statistics. The NSDS results framework explicitly identifies activities and targets regarding the production of disaggregated gender statistics by 2023, as follows:

- The Statistical System of Georgia will aim to expand its statistical reach, producing new indicators and developing disaggregation components to existing key indicators (by regions and gender)

- A time-use survey will be conducted and published, and at least 20 new gender-disaggregated indicators disaggregated will be developed by 2023.

- At least two new indicators on labour market statistics will be developed and published, including on median earnings and the gender pay gap by 2023.

- Geostat will invest in analysis of gender statistics and will elaborate and publish this information in its regular publication "Women and Men in Georgia".

*Source: Geostat 2019a.*

**Albania**

In Albania, the Inter-Agency Working Group on Gender Equality (IAWG-GE),[77] established by the Ministry of Health and Social Protection to work on the National Strategy of Gender Equality 2021–2030, plays an important role in improving access to—as well as the dissemination and communication of—gender data. The Institute of Statistics (INSTAT) is one of the members of this Working Group composed of 20 members from various ministries and institutions. Key achievements of the group include updating the country's NPGEIs, as defined in the statistical publication Women and Men in Albania 2020,[78] using existing data from household surveys, censuses and administrative data. This annual publication aims to describe the current social and economic situation based on gender indicators—making it an important source of statistics to be used by students, academics, researchers and policymakers.

As coordinator of the NSS as well as the GSS, INSTAT has been liaising and enhancing cooperation within the IAWG-GE and leading initiatives to improve technical capacities for data production together with the national women's machinery in the IAWG-GE, as well as to increase awareness and statistical literacy of gender data. This includes the integration of new indicators from administrative data sources in INSTAT's gender data dashboard.

INSTAT's Official Statistical Programme 2017–2021[79] is the national statistical strategy that was drafted in collaboration with all public institutions in Albania. Cross-institutional communication was enabled through the contact persons appointed by each institution, and through technical working groups established in specific statistical areas. The Official Statistics Programme includes gender statistics as one of its cross-cutting priorities. It also explicitly references the calculation of 26 new gender indicators, on employment, education, health, population, time use, and political and economic empowerment. Based on the Official Statistical Programme, INSTAT's annual workplan details activities to be undertaken, including on gender statistics.

The next Official Statistical Programme (for 2022–2027) will be designed to further specify actions to improve gender statistics and to update the minimum set of gender indicators for Albania with disaggregation levels, although INSTAT publishes this set of indicators in the publication of Women and Men in Albania every year since 2016.

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**BOX 8.**

**Creating coordination mechanisms to enhance the production of disaggregated gender statistics in Albania**

With the establishment of the IAWG-GE in 2020, the creation of this inter-agency coordination mechanisms boosted user-producer dialogue, resulting in concrete actions and the production of more and better gender statistics. In particular, it has spurred a new partnership between INSTAT and Albania's National Human Rights Institution, also known as the Office of the Ombudsperson.

In 2020, INSTAT signed a Memorandum of Understanding (MoU)[80] with the Office of Ombudsperson that specifies gender statistics as part of the human rights data that are to be developed as a concrete product. The MoU specifically covers gender statistics to be produced by the Office of Ombudsperson under the supervision of INSTAT, in terms of ensuring standardization and quality control of the data.

Under this MoU, a gender statistics training workshop was organized for the staff of the Office of Ombudsperson, with the support of the Women Count programme. The training focused on the revision of data collection tools for gender statistics and the integration of gender related questions in these tools to make them more appropriate for capturing relevant gender indicators as part of human rights data. Consequently, eight new indicators have been produced and published in the annual publication of Women and Men in Albania.

## Key take-aways

The key take-aways from Stage 1 on NSSs leadership's commitment are as follows:

- Being able to have disaggregated gender statistics requires strong commitments from the institutions and actors in NSS who work on gender equality and women's empowerment (that is, the GSS).

- Leadership and commitment by the NSO and/or national women's machinery are indispensable elements to ensure stakeholders' engagement and cooperation throughout the process.

- Disaggregated gender data production processes should be user-oriented rather than product-oriented.

# STAGE 2: DEVELOPMENT OF NATIONAL PRIORITY GENDER EQUALITY INDICATORS

Using existing household survey data can promote GSS efficiencies that reduce effort, time, and human and financial resources needed to generate disaggregated gender data and to produce household-based national priority gender indicators.[81] Household survey data provide numerous disaggregation possibilities, of which many are not yet fully exploited. Apart from basic disaggregates such as location, sex, wealth status, and age, household survey data can provide additional disaggregates and outcomes. Innovative approaches such as combinations of these (e.g. urban-poor, young women) or the ability to generate disaggregated gender indicators for specific subgroups across many dimensions (e.g. multidimensional poverty) lend more analytical power to the data.[82]

Within a country, the NSO, national women's machinery and stakeholders should agree on which indicators and disaggregation dimensions are most important to cover in the household survey operations. Moreover, the NSO and national women's machinery need to identify priorities for disaggregation from a gender perspective. They should focus on identifying priority gender indicators for disaggregation through a participatory and inclusive approach across the NSS.

Data gaps represent one of the most common challenges for measuring gender-specific indicators in monitoring progress on achieving the gender-sensitive targets of the 2030 Agenda. For example, globally, there are data available on poverty; however, these not available with the needed disaggregation by sex, age, employment status and geographic location for SDG indicator 1.1.1. There have been no credible global estimates of the number of people living in extreme poverty disaggregated other than the UN Women-UNDP initiative[83] in collaboration with the Pardee Center. Further, disaggregation by sex alone is insufficient. Identifying those furthest behind requires simultaneous disaggregation by multiple dimensions, including income, sex, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant to national contexts.[84]

Another example is filling data gaps regarding the labour market, such as the gender data gaps heightened by the pandemic, which requires a range of actions.[85] These data gaps become even wider if the required disaggregation, as called for in the LNOB principle of the 2030 Agenda,[86] is considered. Further difficulty arises in acquiring the data for some indicators that should cover specific groups (e.g., migrant workers living in highly urbanized cities). These dimensions should be distinctly captured in gender-specific indicators with disaggregation where these groups are directly referenced in the SDGs and their targets. The responses to these data challenges are usually country-specific. A country's NSS responds to these challenges according to their country practices, beliefs and socioeconomic conditions.

### Definition of indicators and the SDG indicator framework

Indicators are measures against which changes can be assessed and they have a wide range of applications.[87] They are quantitative or qualitative factors or variables that provide a simple and reliable means to reflect on the changes connected to an intervention. Indicators enable users to detect differences and developments relating to a desired change within a particular context.[88]

In this respect, the Global Indicator Framework for the Sustainable Development Goals was developed to monitor and assess countries' performance in attaining these set goals.

The framework comprises 231 (as of the 2020 IAEG-SDGs Comprehensive Review[89]) unique indicators formulated to provide the necessary measures. This set of indicators includes 51 gender-specific indicators and covers areas such as unpaid care and domestic work, and violence against women and girls. These gender-specific indicators explicitly refer to gender equality as the underlying objective and they measure gender-related changes over time.[90] In fact, 14 of these gender-specific indicators belong to SDG 5 (on gender equality) while the rest are covered under various other goals and targets across the 2030 Agenda.

## Gender equality indicator frameworks

International monitoring initiatives require gender equality indicators. The compilation of these indicators considers the demand for statistical information at national, regional and international levels accordingly. In line with the Beijing Platform for Action (BPfA) recommendations, the IAEG-GS has established a minimum set of gender indicators for international compilation worldwide, to provide a framework for monitoring gender issues at the global level. For example, the Global Minimum Set of Gender Indicators[91] prepared by IAEG-GS have an indicator on 'Average number of hours spent on unpaid domestic and care work, by sex, age and location', corresponding to SDG 5.4.1: 'Proportion of time spent on unpaid domestic and care work, by sex, age and location'.[92] Further disaggregation is required for this indicator.

Similarly, the IAEG-SDGs have identified five policy priority areas for disaggregation from a gender perspective. The following policy priority areas are mapped against the relevant SDGs and their indicators. For each area, one example of a relevant SDG indicator and additional recommendations for disaggregation are outlined below:

- Poverty eradication (SDG1): Simultaneous disaggregation by sex and age, where age is in 5-year intervals for SDG 1.1.1. Besides, simultaneously by sex, age (15-24, 25 54 and 55+) and marital status.

- Food security and health (SDG2, SDG3): Simultaneous disaggregation by location, wealth/income, and race/ethnicity, compare results with national average for SDG 3.7.2.

- Education (SDG4): Disaggregation by sex, age group of students, location and income/wealth and by the intersection of sex, location and income/wealth for SDG 4.4.1.

- Access to economic resources and decent work for all (SDG1, SDG5, SDG8): Simultaneous disaggregation by sex and migration status for SDG 8.5.1.

- Gendered impacts of climate change (SDG13): Disaggregation by sex and simultaneous disaggregation of sex and age for SDG 13.1.1.[93]

The Global Minimum Set includes the minimum common denominators for statistics on gender equality and women's empowerment. The set is envisioned to be the basis for regional and national exercises to develop gender indicators and select the priority gender indicators to be disaggregated.[94] The Global Minimum Set was further articulated in the development of a region-

specific core set of gender indicators to serve as a response to the repeated calls for new and improved gender data, which are necessary for the fulfilment of national commitments on gender equality at national, regional and global levels:

- In Asia and the Pacific, at the 4th Session of the Committee on Statistics of the United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP) held in March 2015, the Committee endorsed the core set of gender indicators for Asia and the Pacific and adopted it as a guide to improve gender statistics.

- In Europe, the Bureau of the Conference of European Statisticians developed a core set of gender equality indicators that incorporates the majority of the global minimum set, while substituting certain indicators for more precise ones that are available in the region.

- The Arab States developed a framework for a core set of gender statistics that links the Millennium Development Goal indicators with the 12 areas of the BPfA through quantitative and qualitative indicators, on the basis of regional priority issues.[95]

- The Statistical Commission for Africa, hosted by the United Nations Economic Commission for Africa (UNECA), endorsed the Minimum Set of Gender Indicators for Africa at their 7th meeting held in October 2020.

These initiatives to develop region-specific core sets of gender indicators represent an important resource for member countries developing their own minimum sets of gender indicators, with disaggregation as part of their gender statistics frameworks and plans. They facilitate the harmonization of current regional and subregional indicator initiatives. These sets will guide priority-setting by national, regional and international entities in support of the sustainable production and use of disaggregated gender statistics in regions. They also provide strategic direction and scope for actors in the gender data ecosystem to strengthen institutions, improve coordination mechanisms, update legislation, ensure adequate budgetary allocations, advance research and methodological development, and improve staff competencies and data sources.[96]

Considering the definition of the indicator given in the global and regional frameworks, the definition can be adopted in line with the national context. The resulting set of defined gender equality indicators to be disaggregated is referred to as the National Priority Gender Equality Indicators (NPGEIs). The NPGEIs are not only about adjusting SDG indicators, but about determining new indicators that are specific to the country's needs. In this respect, the NPGEIs' definition process integrates countries' GEWE indicator framework with the adapted SDG indicators framework. The NPGEIs of Australia,[97] Brazil[98] and Kazakhstan[99] serve as just a few examples of national frameworks.

## Priority gender equality indicators to be disaggregated

GSS stakeholders working on generating disaggregated gender statistics need to formulate their NPGEIs framework based on the global as well as regional gender equality indicators frameworks, and decide which indicators must be disaggregated.

In case there is no NPGEI framework in a country, the exercise of identifying which priority indicators must be disaggregated should involve the development of a broader NPGEI framework. This will serve as foundation to facilitate the national monitoring of progress on the achievement of GEWE and national policy priorities.

Countries that already have NPGEIs can use the framework as the basis for selecting the priority gender indicators to be disaggregated, and as a guide for the production of gender-specific indicators in various thematic areas.[100] This set of priority gender equality indicators with disaggregation has to consider country-specific characteristics, such as political structure, living standards, and culture, as well as the countries' GEWE indicator framework and adapted SDG indicator framework.

The process of determining the priority gender indicators to be disaggregated is usually performed by GSS stakeholders. Ideally, the NSO and national women's machinery will take co-leadership on this activity. A description of the process, stakeholders, the resulting definitions and the basis of prioritization as well as the interrelationship of these components makes up the framework of the country's NPGEIs. Disaggregation should be developed by countries themselves and hence, should be owned and used by countries to improve their respective monitoring of progress on gender equality.

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**BOX 10.**

**Uganda's experience with operationalizing its NPGEI framework with disaggregated gender indicators**

Uganda developed its NPGEI framework in 2016 and used it as the basis for selecting its priority gender indicators to be disaggregated. To this end, UBOS, in collaboration with other ministries, departments and agencies, embarked on the reprocessing existing census, survey and administrative data to provide the required level of disaggregation for reporting on the NPGEIs, particularly SDG Tier 1 indicators.

Among Women Count pathfinder countries, Uganda was the first to develop its NPGEI framework, through a collaborative process was that also involved the harmonization of indicators from the country's National Development Plan (NDP II), Sector Development Plans and the SDGs.

Operationalizing the NPGEI framework involved compiling and reprocessing survey and administrative data by strategic institutions, including: the Uganda Bureau of Statistics (UBOS); Ministry of Gender, Labour and Social Development; the Ministry of Finance, Planning and Economic Development; the School of Women and Gender Studies Makerere; and UN Women. The goal of reprocessing existing data from various government data sources was to increase the overall production and subsequent use of gender statistics in policy, planning and decision-making processes, as well as in measuring progress towards GEWE. The reprocessed indicators contain information on the following thematic areas: economy, education, health, leadership and governance, human rights, information and communications technology, and indices.

Uganda published the updated NPGEIs in 2019 with the required disaggregated gender indicators. They have since been used in the review of the National Gender Policy, CEDAW report and country reports for the review of the BPfA, NDP, National Standard Indicator framework and the SDG Indicator framework. Specifically, with the identification and production of the NPGEIs, the reporting of gender indicators in Uganda's Voluntary National Reviews (VNRs) has nearly tripled, rising from 11 in 2016 to 28 in 2020.

*Source: UBOS 2016.*

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## The importance of having priority gender indicators

Having an agreed set of priority gender indicators for disaggregation that reflects country-specific statistical priorities and needs on GEWE is of utmost importance. The development of this set is crucial since the framework will serve as the basis for measuring indicators and thus, their prioritization. Determining priority gender indicators for disaggregation is necessary for the following reasons:

- It clearly specifies all disaggregated gender indicator requirements for the country

- It can guide the development needs of disaggregated gender statistics in terms of capacity development, production and use at the NSS

- It can help the country guide development partners on areas of support required for disaggregated gender statistics

- It can assist with meeting countries' global and regional reporting requirements in terms of disaggregated gender data.[101]

Additionally, this set can provide guidance on what, when, where and how to measure the priority gender indicators with needed disaggregation. With this framework, all stakeholders involved can move in the same direction and work with a shared objective to attain the measurements needed.

This framework with disaggregation levels can also serve as the basis for the development of integrated information systems that the country can use to address gender equality issues. The disaggregated gender statistics needed for monitoring are more accessible with the use of such information systems. As this framework is anchored in the Global Minimum Set of Gender Indicators, the integration of the country's information system with global information systems will also be easier to achieve. An integrated information system provides a more complete set of gender statistics that could be used for monitoring purposes. Comparative analysis among the different countries in relation to their performance in meeting SDG goals and targets could then be more easily achieved.

## Identification of priority gender indicators for disaggregation

When developing the NPGEI framework, it is necessary to prioritize which indicators need to be urgently disaggregated, considering available resources (e.g., existing data sources, human resources, funding and lifespan of the project) and the country's gender equality programmatic priorities and requirements. This process of identification and prioritization should be done by and with stakeholders in the GSS and should aim for measurement of indicators at lower levels of disaggregation. For instance, geographical disaggregation aims at getting to the most local level, (such as district, province, state, county) in a country, and disaggregation by age involves measuring at lower age ranges, such as five-year intervals.[102]

One of the primary uses of indicators is policy formulation, so the process of identifying gender equality indicators to be disaggregated needs to be anchored in their relevance to policies. Hence, the formulation of gender equality indicators at the desired level of disaggregation is important when monitoring progress on attaining the goals and targets of the 2030 Agenda as well as national gender equality agendas.

## 'Every Policy is Connected' tool developed by UN ESCAP

UN ESCAP developed a generic tool known as the 'Every Policy is Connected' or EPIC tool.[103] This tool is used by several NSOs around the region to identify priority gender indicators that need to be disaggregated. There are a number of NPGEIs that need to be disaggregated, not only by sex or age group or geographical division, but also by overlapping domains. The EPIC tool provides stakeholders (data producers and data users) with a way to prioritize the gender equality indicators that need to be disaggregated. The tool provides guidance in examining national policies for the identification of target groups, priority thematic areas and the development indicators to monitor progress for these priority areas and target groups. This participatory process not only helps in identifying and streamlining data gaps and needs, particularly at the level of disaggregation, but also in reviewing and reformulating national and sectoral plans by engaging all relevant stakeholders at the national level.[104] In broader terms, the same process can be applied to the identification of countries' NPGEI frameworks.

EPIC guidelines include two stages and the following steps:

- Stage I: Preparing for the analysis

    - Step 1: Identify EPIC team members or potential members to form a team for analysis

    - Step 2: Identify a policy document for the analysis

    - Step 3: Identifying sections of policy to analyse

    - Step 4: Read and familiarize definition of issues, target groups, core concepts, and key questions

- Stage II: Carrying out the analysis

    - Step 5: List issues and target groups reflected in the policy document

    - Step 6: Associate 'issues' and 'target groups' with core concepts

- Step 7: List issues and target groups not included in the policy

- Step 8: Identify a list of indicators for the issues identified in the policy

- Step 9: Map the indicators to the existing regional/international indicator set(s)

- Step 10: Develop a matrix illustrating policy as well as indicator strengths and gaps[105]

## Advanced Data Planning Tool developed by PARIS21

Another tool available for NSSs to identify the priority gender indicators that need to be disaggregated, particularly for NSOs is the Advanced Data Planning Tool (ADAPT) developed by PARIS21. ADAPT enables NSOs and other data producers in the country to plan policy and programmatic data requirements effectively and to continuously monitor progress. It promotes the reuse of data and the quality assessment of data sources. ADAPT enables detailed data demand and supply analysis. The mismatch between required and available indicators is reflected as data gaps in ADAPT.[106] In a UN Women-PARIS21 project on integrating gender in the development of NSDSs, which is being implemented in nine pilot countries,[107] ADAPT is/was being used to identify gaps, plan for data needs (particularly in the NSDS process), organize inputs, processes and relations in the gender data ecosystem and align data production with countries' priorities and the NSDS process. The exercise, when implemented by a country, would produce a report on the availability and applicability of selected indicators in the country, including national priority gender indicators (for example, resulting from the current National Development Plan) and gender-specific SDG indicators.[108]

Measuring gender indicators at the desired level of disaggregation will demand more resources such as additional data, state-of-the art statistical or computing infrastructure and human resources, among others. However, investment in this process results in more disaggregated gender statistics that will contribute towards achieving GEWE in the country.

## StaTact developed by UNITAR and UNSD

StaTact[109] was developed by the United Nations Institute for Training and Research (UNITAR) and the UNSD. It provides an analytical framework and a multi-stakeholder methodology for the identification of priority gender indicators with disaggregation. The methodology facilitates commitment and collaboration from the NSO and NSS representatives. It enables countries to address measurement gaps that impede the monitoring of national policies and leverage the 2030 Agenda to support them in problem-solving. StaTact aims to provide cost-effective solutions for resolving data gaps to address urgent policy need goals within one year. It is considered a quick-fix solution that complements ADAPT, which is a longer-term strategic tool. After having been used by 15 pilot countries in Africa, Asia and one Small Island Developing State in 2018, StaTact moved online in early 2019.[110]

# Country case studies

## Viet Nam

Viet Nam made progress on integrating the SDGs in national planning and upholding its commitments to other global and regional frameworks in the context of GEWE by identifying its NPGEIs. As a critical step for the latter, the following questions were considered to improve and increase the relevance of the country's national statistical indicators on gender development:

- What other thematic areas should have been covered?

- Which indicators should be added and why?

- Which indicators should be dropped and why?

- What additional subgroups should be covered?

Viet Nam followed a structured approach based on all the steps recommended by EPIC for identifying data needs and selecting indicators. As part of the process, the NSS undertook steps to:

- Assess the coverage of policy documents for action, associating them with core concepts and identifying population groups and target groups

- Assess and prioritize global SDG targets and indicators in the context of GEWE

- Translate relevant SDGs in national plans and monitoring systems with a focus on GEWE and women's economic empowerment (WEE)

- Map national indicators and global-regional indicators on issues for action to identify suitable indicators for monitoring

- Compare identified national indicators with identified global/regional indicators for consistency.

It is important to underscore that in all of these activities to identify the NPGEIs of Viet Nam, an inclusive and participatory approach was adopted in the decision-making process for the selection of policy/sectoral priorities. A capacity-development workshop was delivered to strengthen gender indicators and their production and use in response to policy demands in Viet Nam. It also ensured the involvement of stakeholders in the GSS in identifying the indicators.

Through these abovementioned mechanisms and activities, priorities for gender data production and use were identified from the perspectives of both gender data producers and users. Moreover, available data sources and planned collection exercises were discussed with the aim of filling data gaps to monitor progress using the indicators selected, including these additional indicators.

The final set of Viet Nam's NPGEIs (outlined in Annex 1) was identified and endorsed in 2019. The NPGEIs have 69 targets across six thematic groups - population and demographics; labour, employment and access to resources; leadership and management; education and training; health and related services; and the protection, social security and human rights of women and girls. These thematic areas and indicators also reflect the goals and indicators of Viet Nam's national strategy on gender equality. The set is currently being used to produce gender statistics that inform the biannual publication Women and Men in Viet Nam, with support from UN Women.

### Senegal[m]

Senegal sought to contextualize the 2030 Agenda by adapting SDG targets and indicators to its national context. It was equally deemed essential that disaggregated data be available to ensure the reliability of planning, monitoring and evaluation processes for policies at the local level. This was seen as even more necessary given existing legal frameworks on decentralization, under which the Government has decided to grant greater responsibilities to local authorities to promote better economic and social development. Presently, the country is using the same gender-relevant SDG indicators framework for Senegal in updating and replicating the process and has focused on three policy-relevant indicators—education, informal work and violence against women—under the leadership and coordination of the National Agency of Statistics and Demography of Senegal (ANSD, Agence Nationale de Statistique et de la Démographie).

ANSD decided to give impetus to the production of SDG indicators in 2016. In this context, it carried out a data-mapping exercise to monitor the SDG indicators with the dual objective of assessing the baseline situation and ensuring adequate monitoring of the SDGs. ANSD's mapping study of available data sources showed that more than two-thirds of the indicators can be completed, with data available for 69 per cent of the SDG indicators. In other words, 54 gender-specific indicators are transposed in the Senegalese context, of which 14 are not contextualized and eight are not disaggregated or broken down by sex. Likewise, four of the indicators are not covered by the national public policy monitoring framework. Finally, 17 indicators have not been provided by the national public policy monitoring system. Economic and social indicators are the most favoured in terms of available data, while governance and environmental indicators are the least favoured.

Despite ongoing decentralization efforts in Senegal, it is still difficult to find disaggregated data at the local level. Data are often disaggregated by gender, age and subnational levels, such as region and county, but are less disaggregated at other levels. This low availability of disaggregated and mapped data is partly due to the absence of comprehensive information systems at the local level to facilitate regular reporting on indicators and to the relatively limited technical and financial capacity of data-collection structures. It is essential that

disaggregated data are available to ensure the re-liability of planning, monitoring and evaluation processes of policies at the local level. It is therefore necessary to strengthen the technical and financial capacities of regional statistical and demographic offices under the supervision of the ANSD, to col-lect, analyse and publish detailed disaggregated data, by site and by gender. The objective is to strengthen the coherence of the process of local-izing the SDGs within a harmonized framework.[112] Considering these data gaps, it has been necessary to update the NSDS to consider the new data needs for monitoring the SDGs. An evaluation of gender statistics in Senegal was carried out by the Secre-tariat of PARIS21 for Senegal's NSDS 2019–2023,[113] which included gender statistics as a pillar for the first time. As the first strategic pillar of the Sene-gal's NSDS, it is stressed that the goal is to make

official gender statistics more responsive to in-creasing demand.[114] Additionally, it includes specific plans on gender statistics, as follows:

- development and implementation of a specific strategy for the development of gender-based statistics and for better consideration of gender in the production and analysis of statistics

- development of gender institutionalization plans

- production of a methodological guide for the promotion of gender equality

- capacity-building of sectors in the production and use of gender-sensitive statistics

- and the creation of a gender statistics unit within ANSD, to ensure the reliable production of disag-gregated gender data.

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**BOX 11.**

## Senegal's experience with identifying NPGEIs

In its NPGEIs identification process, the Gov-ernment of Senegal sought to contextualize the SDGs by adapting target indicators to the country context. An inclusive and participa-tory approach was followed, guided by coordi-nation mechanisms. The process had various components,[115] such as a workshop of the Com-mittee for gender statistics production, to con-solidate the indicators, discuss the relevance of priorities for respective sectors and validate the indicator set. Focal points from each sectoral ministry attended the workshop, which gath-ered institutional and non-institutional actors and was led by ANSD.

The process started in October 2017 with a scop-ing meeting of the advocacy group for the local-ization of the SDGs. A methodological plan cov-ering the following steps was prepared:

- a review of relevant documentation and data

- a collective feedback and validation workshop that enabled the framework to be amended and validated

- consultation with the coordinator and country experts, which made it possible to validate the methodology and enrich the provisional report.[116]

More recently, the country is using the same gender-relevant SDG indicators framework to update and replicate the process. The exercise is focused on three policy-relevant indicators above (education, informal work and violence against women) in Senegal's NPGEIs. The in-dicator framework is a good example since it includes priority disaggregated gender indica-tors which should be focused on updating and further developing NPGEIs of the countries. For example, this framework covers priority gender indicators to be disaggregated, including '8.5.2 Unemployment rate, by sex, age and persons with disabilities' under SDG 8 and '4.6.1 Propor-tion of population in a given age group achiev-ing at least a fixed level of proficiency in func-tional (a) literacy and (b) numeracy skills, by sex' under SDG 4.

## Tanzania[117]

In Tanzania, the Department of Social and Demographic Statistics of the Office of the Chief Government Statistician (OCGS) in Zanzibar developed, for the first time, the Zanzibar Minimum Set of Gender Equality and Women's Empowerment Indicators (Z-GEWEIs),[118] in collaboration with the Zanzibar Planning Commission and with support from the Women Count programme. The report covers detailed disaggregated gender statistics—such as the unemployment rate, by sex and persons with disability, and the basic needs poverty line by sex, residence and district—using existing data from household surveys as well as censuses and administrative records to derive disaggregated priority GEWE indicators. These indicators include 54 international (SDG) and 25 localized GEWE indicators. The report provides valuable evidence-based information that is instrumental for gender-responsive decision-making in Zanzibar.

The development of local-level gender equality indicators aims to focus on areas with significant gaps where policy interventions are needed in Zanzibar. These indicators are critical to putting the spotlight on inequality and underscoring the need to realize the rights of poor and marginalized women and girls to leave no one behind in policymaking processes. Considering this requirement, the Zanzibar Strategy for the Development of Statistics (ZSDS), 2020/21–2024/25[119] and the previous national development strategy also defined gender indicators and relevant institutions to identify the gender indicators framework. In this context, as members of the Inter-agency Committee on Gender Statistics of Zanzibar, OCGS, the Zanzibar Planning Commission, the Ministry of Labour, Empowerment, Elders, Women and Children as well as all other relevant institutions finalized the set of 79 gender equality and women's empowerment indicators (54 international SDG and 25 localized GEWE indicators). Although some indicators in this framework are available in the NSS, most of them require further disaggregation (see Box 12).

The OCGS Gender Statistics Technical Working Group (Terms of Reference included in Annex 2) validated the list of indicators. This Technical Working Group is a good example of a participatory approach to the development of NPGEIs, where, by engaging all relevant stakeholders, data gaps and needs are identified through reviewing and reformulating national plans. The ToR of the Working Group clearly indicates the NSS's commitment and the co-leadership of the NSO and national women's machinery, and outlines the membership, responsibilities, objectives and expected results. Additionally, OCGS, the Zanzibar Planning Commission, the Ministry of Labour, Empowerment, Elders, Women and Children and other stakeholders realized a mapping study with the SDGs and other international gender frameworks, such as CEDAW and BPfA.

Gender will also be included in Zanzibar's five-year development plan (Zanzibar Strategy for Growth and the Reduction of Poverty-ZSGRP or MKUZA IV, 2021–2025) in line with a comprehensive gender-based review of MKUZA III and policy recommendations on integrated approaches to gender equality,[120] under the initiative of the Ministry of Gender. The Z-GEWEIs framework is the main input for the results framework of the five-year plan. In addition, the OCGS action plan on improving gender statistics (2020–2023)[121] focuses on monitoring the progress and improvement of disaggregated gender statistics in three areas, namely: vital, migration and crime statistics. It also stresses the importance of supporting data producers to produce disaggregated data by age, sex, location, disability, migratory status, location, economic status, etc.

UN Women and partners produced the Zanzibar Sustainable Development Goals Gender Indicators report to influence the planning, decision-making and resource allocation activities of all stakeholders, including planners, decision-makers, researchers, civil society organizations, development partners and private sector actors. The report also aims to guide the mainstreaming of gender in statistical processes in the NSS.

## Tanzania's experience with identifying Z-GEWEIs

In the process of developing and adopting a minimum set of gender indicators, a participatory approach was followed in Zanzibar. A comprehensive SDG localization process was adopted, using three indicator frameworks:

- Set 1: Global Gender Equality and Women's Empowerment Indicators (54 SDG indicators)
- Set 2: Results framework of the Zanzibar Strategy for Growth and Reduction of Poverty III, 2016–2020 (MKUZA III, 2016–2020)[122]
- Set 3: Sectoral indicators, Zanzibar

The Inter-agency Committee on Gender Statistics realized several sessions led by OCGS and the Zanzibar Planning Commission, where all relevant stakeholders were present to identify the localized set of GEWE indicators. The participants were gender focal points from all relevant ministries, departments and agencies, including the Ministry of Finance and Planning and the ministry responsible for gender (Ministry of Labour, Empowerment, Elders, Women and Children). Representatives from academia, development partners, and civil society organizations were also involved in the consultations. Moreover, senior government policy analysts, planners, gender experts, and statisticians participated in the process as the critical actors. As a result of these meetings, the Inter-agency

Committee identified the set of 79 gender equality and women's empowerment indicators.

Monitoring progress on the indicators is guided by the three-tier criteria[123] defined by the IAEG-SDGs. The Z-GEWEIs consist of 20 indicators in Tier I, 53 in Tier II and 6 in Tier III. However, where indicators in Tier 1 are regularly available but lack disaggregated data as required in the SDGs, the following steps need to be taken:

- Tier I: Mining or further analysis of existing data from surveys, censuses and administrative sources to obtain the various levels of disaggregation.
- Tier II: Negotiation among the key users and producers to provide data based on recent evidence for reporting. The methodology of data collection should be developed and forms of data collection should be revised or standardized to reduce challenges with comparability.
- Tier III: Liaison with international statistical bodies and national stakeholders to develop the methodology and production of relevant data.

The Z-GEWEIs consist of 79 indicators, categorized in seven thematic areas: economy, health, education, human rights, political participation, ICTs and 'other'.

## Key take-aways

Stage 2 on development of NPGEIs for disaggregation have the following key take-aways:

- The basis for the selection of gender statistics to be disaggregated should be guided by the country's NPGEIs framework, which should reflect the expressed needs and priorities of the country as well

as its prevailing characteristics, such as political structure, living standards and culture.

- For greater ownership, the framework and gender indicators to be disaggregated should be developed by countries themselves—by both gender data producers and users. Ideally, the NSO and national women's machinery will take co-leadership and shared roles throughout this activity.

# STAGE 3:
# DATA PRODUCTION

This stage focuses on the methodologies that can be used to generate disaggregated gender statistics based on existing data from household surveys, as well as where computation and data analysis can be done to leave no one behind (LNOB).

## Curriculum on Gender Statistics Training

With support from the Women Count programme, a number of NSOs have been guided by material prepared under a programme entitled 'Analysing Gender Data from a LNOB Perspective'.[124] The material is meant to enable data producers and users (both generalists and specialists) to apply the LNOB principle to generate disaggregated gender statistics. Specifically, a training syllabus,[125] which forms part of the Curriculum on Gender Statistics Training, was developed on multi-level disaggregation analysis to monitor the SDGs from a LNOB perspective, composed of four steps:

1. Get the right data. This refers to nationally representative household surveys with large enough sample sizes, which enables statistically reliable subdomain analysis. The technical notes of surveys can be checked to ascertain what levels of disaggregation are available. The right data set should also have the necessary variables to enable disaggregation as per the LNOB requirements and be available as microdata to make it possible to generate aggregates for target groups of interest.

2. Select disaggregation variables. Content analysis of an identified policy indicator can help to determine the variables that can be used for disaggregation. This can also be achieved using the EPIC tool to identify the target groups or groups that are more likely to be lagging behind. Some examples of disaggregation variables include:
   - Women with disabilities
   - Age and gender

   - Migrants, refugees, and displaced persons
   - Multidimensional poverty

3. Conduct analysis. Compute the SDG indicator or something that is equivalent and relevant to the policy being analysed, or to planning, strategy development, programme monitoring and evaluation, intervention targeting or advocacy. The computation will be done at the disaggregated level in order to monitor the target groups of interest.

4. Use the results. Prior to using the results, an assessment should be made (this is further discussed in Stage 4 of this toolkit). The computed disaggregated statistics must be interpreted in order to make policies and decisions, develop strategies, and implement programmes or advocacy activities for the target groups. In this context, evidence-based decision-making is applied to benefit the target groups (this is further discussed in Stage 5).

## Main concepts and tools for analysis

Microdata, metadata and statistical software are needed before applying the LNOB analysis.

- **Microdata:** Microdata are information that are collected on a certain statistical unit. The required microdata depends on the indicator to be measured but in general individual-level data on women and men are needed, whenever relevant. The microdata should include the parameters of the sampling design structure of the survey.

- **Metadata:** Metadata provides the definition and method of computations, recommended data sources and potential limitations. The conceptual definitions and methodologies are usually obtained from the NPGEI framework discussed in the previous section. With regards to the operationalization of the indicator, on the other hand, metadata are generally available from the documentation of the survey operation or statistical exercises undertaken to reprocess existing household survey data.

- **Software for statistical computing:** Various software may be used to handle and analyse survey data to facilitate the generation of the required disaggregated gender statistics. Among the most used statistical software packages are STATA, SPSS and SAS. These software packages are considered well-developed and well-tested to handle and analyse survey data. All three are licensed software that have fees for usage. There is also an open-source package called R, which contains applets coded in R programming language. The open-source code provides algorithms that are useful in generating disaggregated gender statistics using survey data if users lack access to licensed packages.

Additional concepts will be provided in the following subsections to further enhance understanding of various methodologies used to generate disaggregated gender statistics based on existing national household survey data sets. Basic concepts of the estimation procedure will be presented in the Counted and Visible Toolkit.

## Data sources for the generation of disaggregated NPGEIs

In generating disaggregated statistics, there are traditional data sources—such as censuses, surveys, administrative records or registries—as well as non-traditional data sources, including 'Big Data'.

### Census data

A census involves a process of data collection on all units of the population,[126] which can be categorized depending on the unit of observation. Different types include a Population Census, Housing Census or Establishment Census. A census data set contains information at the unit level, obtained from all units of the target population. These data can be aggregated to produce summary statistics. Since the census is a complete enumeration, it provides the true value of the indicator when computed using this data source.

### Administrative data

Administrative data[127] is a set of units and data derived from an administrative source. A registry is a form of administrative data that is stored for querying purposes. As data sources, administrative data sets and registries provide unit-level data. However, the accuracy of the data provided by these sources depends on the process used for data collection. Issues related to completeness (data coverage) and accuracy (validity) are common challenges encountered when using this kind of data source. This is also true for 'Big Data' or other alternative/non-traditional data sources such as social media, satellite imagery, mobile phone providers, and business transaction details. Although these data sets can provide much-needed data for generating more disaggregated statistics, challenges around the quality and representativity of this kind of data prevail, especially in developing countries. Another equally important problem associated with this kind of data involves ethical concerns around privacy and data confidentiality.[128]

### National sample survey data

National sample surveys are often used as a data source for generating statistics. Sample surveys are conducted to gather information from a representative group of units of the population, obtained by using a sampling method.[129] In particular, national household surveys—such as the Demographic and Health Survey (DHS), Labour Force Survey (LFS), Multiple Indicators Cluster Survey (MICS) and Household Income and Expenditure Survey (HIES), which provide data at the individual level (as in LFS, DHS and MICS) or household level (as in HIES)—are commonly used in computing disaggregated statistics since these cover topics of interest in policy formulation.

Regarding the data sources discussed above, each has advantages and disadvantages. This Toolkit specifies that existing household survey data should be preferred. Questions may include when existing household surveys should be used over other data sources, how to know which existing household survey to use and which variables are needed for existing surveys. In response to these questions, a tool created by the International Household Survey Network (IHSN), the Gender Data Navigator,[130] is suggested. It is a searchable database that filters surveys based on the gender-related indicators they can provide.

For disaggregated gender equality indicators, the aforementioned national sample surveys are commonly used as they have several modules for specific subgroups of the population, particularly women. In accordance with the objectives and scope of the Counted and Visible Toolkit, the focus of the succeeding discussion on the generation of more disaggregated gender statistics is on direct estimation procedures using existing national sample survey data.

## Identification of the subdomain of estimation

National household surveys are designed with specific domains of estimation at their core (i.e., ensuring that there are a sufficient number of observations to produce reliable estimates for those specific domains). In designing nationwide surveys, a common choice for the domain of estimation is geographical divisions. These domains are generally classified as 'large' domains in terms of their number of observations.

In estimating gender statistics with multiple levels of disaggregation, estimates in a 'smaller' domain or subdomain need to be identified. These subdomains can be geographical in nature or formed by a cross-classification of certain population attributes. Generally, subdomains are identified depending on the purpose of estimation, such as an indicator or a policy for which the disaggregated gender equality statistics will be used.

As mentioned in Stage 2, there are tools such as ADAPT (which is used to identify data gaps, plan for data needs and organize inputs and processes in the gender data ecosystem) and EPIC (which was developed to guide the identification of the level of disaggregation needed in applying the LNOB analysis).[131] Variables that are used for disaggregating or grouping observations are identified in this analysis. The subdomains of interest are also usually identified, as a result of overlapping groupings of observations. In the training module prepared by the UN Women Asia and the Pacific Regional Office on 'Multilevel Disaggregation Analysis to Monitor SDGs from a Leave No One Behind Perspective',[132] three country cases (India, Bangladesh and Mongolia) were used to illustrate how to identify the disaggregation variable from the country's NPGEIs using the LNOB analysis.

### Illustration of subdomain identification for SDG 4

In the case of SDG 4 'Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all'—an indicator on the 'Proportion of women and girls aged 15–49 with primary or less years of education'—can be used to illustrate subdomain identification. For this indicator, there is a need to disaggregate observations by sex, to separate those of women from those of men. The observations must also be disaggregated by age group, as only those of women (including girls) aged 15–49 years are needed. This subgrouping or disaggregation of observations can be represented in the following two-way table where the column classification refers to the disaggregation by sex and the row classification is the disaggregation by age group.

**TABLE 3.**

**Examples of multiple disaggregation by recommended priority groups**

| Age Group | Sex | |
|---|---|---|
| | Women | Men |
| 15 to 49 years old | A | B |
| Below 15 or above 49 years of age | C | D |

Each of the four cells formed by the intersection of columns and rows in this table represents a subdomain in the target population—namely, all residents of the country. The subdomain of interest is found in cell A for the indicator, 'Proportion of women and girls aged 15–49 with primary or less years of education'. In many cases, this disaggregation is unplanned before the survey is conducted, but becomes necessary for the estimation of the indicator. This can also be viewed as a form of post-stratification[133] and the subdomain may not have a sufficient number of observations that can be used to obtain reliable estimates. In extreme cases, there is no observation collected for a particular subdomain.

## Direct estimation of disaggregated gender equality indicators

In the direct estimation approach, only the collected or observed data in the subdomain are used in the computation. This approach can be described as area-specific or subdomain-specific. Mathematically, a direct estimator of the population total in a subdomain *(i)*, usually denoted as $\hat{Y}_i$, is defined as:

$$\sum_{j \varepsilon S} w_{ij} y_{ij}$$

Where the summation takes over all sample units *(j)* in the subdomain, *i*, and *wij* is the survey sampling weight associated with the *jth* observation in the subdomain *(i)*, which is denoted by *yij*. In other words, the direct estimator is a weighted total of the observations from all sampling units in the subdomain collected or obtained through a nationwide survey. The survey sampling weight is the reciprocal of the probability of inclusion of an observational unit in a nationwide survey and is computed based on the sampling design of the survey.[134]

In the abovementioned indicator, 'Proportion of women and girls aged 15–49 with primary or less years of education', the numerator is the total count of women and girls aged 15–49 years with primary or less years of education. To get the direct estimate of the total count, it is defined as *yij* in the earlier expression as an indicator variable where *yij* takes the value 1 in case the *jth* observation in

the subdomain A is a woman or a girl between the age of 15 and 49 and who has primary education at most—or the value of 0, otherwise. The resulting sum or $\hat{Y}_A$, is the total count of women and girls aged 15–49 years with primary or less years of education.

## Integration of sampling weights in the estimation

There is existing software that can provide estimates of the total count once the data have been input. Sampling weights should be included in the estimation process as the estimates should reflect achieved weighted values in accordance with the sampling procedure used to conduct the national survey. The incorporation of sampling weights ensures the accuracy of the estimates calculated. However, the estimator does not guarantee that the estimates will be precise, which can only be established using the observations gathered for the variable of interest.

### Estimation procedures for disaggregated gender statistics: Nepal case example

In the aforementioned Gender Statistics Training Curriculum, three country cases used nationwide survey data to estimate disaggregated gender statistics. STATA software was used for estimation. One illustrative example notes the use of data from Nepal's DHS 2016 to generate a national estimate of the proportion of women and girls aged 15 to 49 years who were underweight. Specifically, the command Tabulate with an option of using item weights was applied. Tabulate generates a one-way frequency table using the categories of the variable for classifying the observations. Weighted frequency counts are generated if an option on item weights is used in the command. Likewise, the number of the observations belonging to each category is included in the output table.

### Estimation procedures for disaggregated gender statistics: Bangladesh and Mongolia case examples

Disaggregated gender statistics were also generated in the training module by using the same command, but with two variables to cross-tabulate and with an additional 'By' command. These commands in STATA were able to generate

disaggregated gender statistics, such as the 'Proportion of women and girls aged 15 to 49 years in the richest quintile and residing in urban places who were underweight'. Estimates of other SDG indicators using the Bangladesh DHS 2014 and Mongolia MICS 2013–2014 data sets were likewise generated. These were used to make a comparative analysis of the two countries' performances on several SDG gender-related indicators.

Recently, the National Statistical Office of Mongolia (NSO Mongolia) used MICS 2018 to estimate the indicator 'Proportion of women who married as children'. The specific data file used is named 'wm', whose unit of analysis are women aged 15–49 years. In total, there are 10,794 completed interviews. The variables used are described in Table 4 below:

**TABLE 4.**
## List of variables used in MICS 2018 data file

| Variable Name | Description | Values | Number of non-missing | Notes |
|---|---|---|---|---|
| WB4 | Age of woman | 15–49 | 10,794 | |
| MSTATUS | Marital/union status of women | 1 – Currently married/in union<br>2 – Formerly married/in union<br>3 – Never married/in union | 10,794 | |
| WAGEM[135] | Age at first marriage/union of woman | 10 – 48 | 8,751 | Only asked of women who are currently or formerly married/in union |
| HH6 | Area | 1 – Urban<br>2 – Rural | 10,794 | |
| windex5 | Wealth index quintile | 1 – Poorest<br>2 – Second<br>3 – Middle<br>4 – Fourth<br>5 – Richest | 10,794 | |
| wmweight | Women's sample weight | | 10,794 | |

Concerning the steps in NSO Mongolia's estimation procedure, first, only women whose current age is at least 18 years old were kept in the data set. The STATA command drop will delete cases for the relevant set. Thus, to only keep women aged 18 and above, the syntax below will delete observations whose value for variable WB4 is less than 18.

*drop* if **WB4** < 18

Then, to keep only women aged 18 and above who are currently or formerly married/in union, the syntax below will delete cases whose value for variable

MSTATUS is not 1 or 2.

*drop* if **MSTATUS** != 1 | MSTATUS != 2

Using WAGEM as a variable of interest, values less than 18 are categorized as 'child marriage.' This was produced using the following codes where the generate command creates new variable 'childm', with a value set to 1 when a woman's age at first marriage/union is less than 18 years, and 0, otherwise:

*generate* **childm** = 1 if **WAGEM** < 18
*replace* **childm** = 0 if **childm** != 1

A national estimate of the proportion was obtained using the tabulate (tab) command with the sampling weight attached to a woman respondent (wmweight) as an item weight option of the command. Running this produces Table 5.

*tab* **childm** [iw=wmweight]

TABLE 5.
**STATA output for generating 'proportion of women (18–49 years old) who married as children'**

| childm | Freq. | Percent | Cum. |
|--------|-------|---------|------|
| 0 | 7,828.0166 | 90.62 | 90.62 |
| 1 | 810.320921 | 9.38 | 100.00 |
| Total | 8,638.3375 | 100.00 | |

NSO Mongolia was then able to estimate that the 'Proportion of women who married as children' was equal to 9.38 per cent—meaning that around 9 out of every 100 married women aged at least 18 in Mongolia had her first marriage/union earlier than the age of 18. This estimate was generated as a ratio of two weighted counts; that is, the numerator is a weighted count of Mongolian women who married as children while the denominator is a weighted count of married Mongolian women aged at least 18. The estimate of 9.38 per cent is based on 787 out of 8,751 unweighted observations as seen in Table 6 below.

**TABLE 6.**
**STATA output for generating 'number of women (18–49 years old) who married as children' without weights**

| childm | Freq. | Percent | Cum. |
|--------|-------|---------|------|
| 0 | 7,964 | 91.01 | 91.01 |
| 1 | 787 | 8.99 | 100.00 |
| Total | 8,751 | 100.00 | |

With regards to NSO Mongolia practice, the Table 5 illustrates how to determine whether to use 'column' or 'row' percentage. NSO Mongolia created smaller subdomains and estimated the indicators for each subdomain. The following syntax generates a cross-tabulation shown in the second row (childm=1) on the estimates of percentage of women who married as children by wealth index quintile (variable: windex5). A further disaggregation on wealth index was applied to the data set through the use of a 'by' statement. Thus, each column in the cross-tabulation creates another set of subdomains—that is, the subdomain of the poorest women in the population is represented by the first column and the last column indicates the subdomain of the richest women in the population. Based on the definition of the indicators, these are the two subdomains of interest. The option 'column' in the tab command provides the column percentages.

*tab* **childm windex5** [iw=wmweight], column

| childm | Wealth index quintile | | | | | |
|---|---|---|---|---|---|---|
| | Poorest | Second | Middle | Fourth | Richest | Total |
| 0 | 1,489.932 88.58 | 1,428.031 89.38 | 1,574.048 89.21 | 1,571.754 90.39 | 1,764.251 95.09 | 7,828.017 90.62 |
| 1 | 192.14909 11.49 | 169.62166 10.62 | 190.299802 10.79 | 167.08083 9.61 | 91.169544 4.91 | 810.32092 9.38 |
| Total | 1,682.081 100.00 | 1,597.6525 100.00 | 1,764.348 100.00 | 1,738.835 100.00 | 1,855.421 100.00 | 8,638.338 100.00 |

Based on Table 7, the estimated proportion of child marriage among the poorest women aged at least 18 years (11.42 per cent) is more than double the estimated proportion among the richest women aged 18 years (4.91 per cent). As shown in Table 8, these two estimates were based on the observations of 280 women who belong to the poorest 20 per cent of the population and 45 women who belong to the richest 20 per cent of the population in Mongolia.

| childm | Wealth index quintile | | | | | |
|---|---|---|---|---|---|---|
| | Poorest | Second | Middle | Fourth | Richest | Total |
| 0 | 2,302 | 1,824 | 1,506 | 1,361 | 971 | 7,964 |
| 1 | 280 | 213 | 145 | 104 | 45 | 787 |
| Total | 2,582 | 2,037 | 1,651 | 1,465 | 1,016 | 8,751 |

Another disaggregation done is by type of residence, or whether the women reside in urban or rural areas (variable: HH6). The syntax results are shown in Table 9.

*tab* **childm HH6** [iw=wmweight], column

TABLE 9.

**STATA output for generating 'proportion of women (18-49 years old) who married as children, by type of residence'**

| childm | Area | | Total |
| --- | --- | --- | --- |
| | Urban | Rural | |
| 0 | 5,315.694<br>90.94 | 2,512.323<br>89.94 | 7,828.017<br>90.62 |
| 1 | 529.35811<br>9.06 | 280.96281<br>10.06 | 810.32092<br>9.38 |
| Total | 5,845.052<br>100.00 | 2,793.286<br>100.00 | 8,638.388<br>100.00 |

An estimate of the proportion (in terms of the percentage) of child marriage of married women aged at least 18 years residing in urban areas is 9.06 per cent, while an estimate of the proportion of those residing in rural areas is 10.06 per cent. Thus, it can be said that the ratio of child marriage of women at least 18 years of age in urban areas to that of those in rural areas is almost 1:1. That is, on average, the occurrence of 1 child marriage of women currently aged at least 18 in urban areas corresponds to another one in rural areas. These estimates were all generated from MICS 2018 using 388 and 399 unweighted observations of women at least 18 years of age from urban and rural areas, respectively as shown in Table 10.

**TABLE 10.**

**STATA output for generating 'number of women (18–49 years old) who married as children by type of residence' without weights**

| childm | Area | | Total |
| --- | --- | --- | --- |
| | Urban | Rural | |
| 0 | 4,066 | 3,898 | 7,964 |
| 1 | 388 | 399 | 787 |
| Total | 4,454 | 4,297 | 8,751 |

To produce gender statistics with multiple disaggregation, one can combine key variables, and in the process, smaller subdomains are formed. For example, to produce estimates of the proportion in the smaller subdomains generated by combining the wealth index quintile and type of residence (urban/rural) by using the STATA command by in combination with tabulate and the weights option as shown below. The by command allows the cross-tabulation of two variables (childm and windex5) for each value of a third variable (HH6).

> *by* **HH6**, sort: *tab* c**hildm windex5** [iw=wmweight], column

The syntax above generated two output tables among those living in urban areas (Table 11) and those living in rural areas (Table 13).

**TABLE 11.**

**STATA output for generating 'number of women (18-49 years old) in urban areas who married as children by wealth index', without weights**

| childm | Wealth index quintile | | | | | |
|--------|---------|--------|---------|---------|---------|---------|
| | Poorest | Second | Middle | Fourth | Richest | Total |
| 0 | 58.078485<br>88.59 | 1,008.69<br>89.69 | 1,240.367<br>87.91 | 1,246.858<br>89.64 | 1,761.7<br>95.08 | 5,315.694<br>90.94 |
| 1 | 7.4821319<br>11.41 | 170.58361<br>12.09 | 170.58361<br>12.09 | 144.12934<br>10.36 | 91.169544<br>4.92 | 529.35811<br>9.06 |
| Total | 65.560617<br>100.00 | 1,124.684<br>100.00 | 1,410.95<br>100.00 | 1,390.987<br>100.00 | 1,852.87<br>100.00 | 5,845.052<br>100.00 |

Notice that the 9.06 per cent estimate of the proportion of child marriage among women aged at least 18 years residing in urban areas generated earlier for the disaggregation by location was further disaggregated using wealth index quintiles. From Table 11, among the poorest women aged at least 18 years residing in urban areas, 11.41 per cent reported child marriage. On the other hand, among the richest women aged at least 18 years residing in urban areas, 4.92 per cent reported child marriage. The estimates at the urban level are almost the same as the national estimates. Also, these estimates were generated from 388 observations coming from women aged at least 18 who are residing in urban areas. Among these women, 14 were reported to be in the poorest quintile and 45 are in the richest quintile (see Table 12 below).

**TABLE 12.**

**STATA output for generating 'number of women (18–49 years old) in urban areas who married as children by wealth index' without weights**

| childm | Wealth index quintile | | | | | |
|--------|---------|--------|---------|---------|---------|---------|
| | Poorest | Second | Middle | Fourth | Richest | Total |
| 0 | 88 | 1,113 | 989 | 908 | 968 | 4,066 |
| 1 | 14 | 139 | 116 | 74 | 45 | 388 |
| Total | 102 | 1,252 | 1,105 | 982 | 1,013 | 4,454 |

TABLE 13.

## STATA output for generating 'proportion of women (18–49 years old) in rural areas who married as children by wealth index'

| childm | Wealth index quintile | | | | | |
|---|---|---|---|---|---|---|
| | Poorest | Second | Middle | Fourth | Richest | Total |
| 0 | 1,431.854 88.58 | 419.34064 88.66 | 33.68176 94.42 | 324.89618 93.40 | 2.5506279 100.00 | 2,512.323 89.94 |
| 1 | 184.66696 11.42 | 53.62818 11.34 | 19.71619 5.58 | 22.951486 6.60 | 0 0.00 | 280.96281 10.06 |
| Total | 1,616.521 100.00 | 472.96882 100.00 | 353.39795 100.00 | 347.84767 100.00 | 2.5506279 100.00 | 2,793.286 100.00 |

Similar to the case in urban areas, the earlier 10.06 per cent estimate for the 'Proportion of child marriage among women aged at least 18 years residing in rural areas' disaggregated by location was further disaggregated using the wealth index quintile variable. From Table 13 above, among the poorest women aged at least 18 years residing in rural areas, 11.42 per cent reported child marriage. On the other hand, there were no observations obtained among the richest women aged at least 18 residing in rural areas that reported child marriage. These estimates were generated from 399 observations coming from women aged at least 18 who are residing in rural areas. Among these women, 266 of them were reported to be in poorest quintile and none are in the richest quintile, as mentioned earlier (see Table 14 below).

**TABLE 14.**

## STATA output for generating 'number of women (18-49 years old) in rural areas who married as children by wealth index', without weights

| childm | Wealth index quintile | | | | | |
|---|---|---|---|---|---|---|
| | Poorest | Second | Middle | Fourth | Richest | Total |
| 0 | 2,214 | 711 | 517 | 453 | 3 | 3,898 |
| 1 | 266 | 74 | 29 | 30 | 0 | 399 |
| Total | 2,480 | 785 | 546 | 483 | 3 | 4,297 |

Thus, gender statistics with multiple disaggregation can be generated using direct estimation applied to existing nationwide household surveys. These can be very helpful in monitoring country's gender programmes. However, it should be noted that in these tables, there is no indication of how good the estimates are as no measures of reliability were obtained using the tabulate command of STATA.

A recommended way of estimating indicators in the form of a proportion directly from survey results using STATA is with svy commands. This set of commands is useful when generating estimates from national sample survey data. Setting the parameters of the survey through the svyset command provides for the identification of the primary sampling units, sampling weight (individual or household weight) and the stratification variable.

Afterwards, the STATA command proportion will give a direct estimate of the indicator and its corresponding standard error, which is to be discussed in the next subsection.

## Country case studies

The country case studies from Mongolia, Pakistan and Iraq provide examples of the production of disaggregated gender statistics using existing survey data to highlight inequalities. Additional illustration on producing SDG 5.2.1, on violence against women, in Tajikistan is provided in Annex 3; this serves as a practical how-to guide on statistical computing. The indicator was also disaggregated by wealth index, type of location (whether urban or rural), and the intersection of both. This is produced using existing country data from the Demographic and Health Survey 2017 and illustrated through three statistical software packages – Stata, R, and SPSS – to assist data producers, particularly NSOs, depending on their familiarity and use of these statistical programs. A comprehensive compilation of these illustrations covering 13 indicators – one disaggregated gender-specific SDG indicator for each Goal and target of SDG 5, data permitting – and across the three software statistical packages are provided as a separate accompaniment of the Toolkit.

### Mongolia

NSO Mongolia and UN Women jointly analysed the indicator, 'Proportion of people who did not complete more than six years of education (or those who are education-poor)' using Mongolia's Multiple Indicator Cluster Survey (MICS) 2014–15.

Computations show that the likelihood of being education-poor increases if women and girls identify as being ethnic minorities, religious minorities and live in a poor household. These factors compound to create substantially deprived groups of women.

Regarding the stages of disaggregation, Mongolia used other variables to identify the specific group of women who were deprived:

- 1st stage disaggregation 15–49-year-old women

- 2nd stage disaggregation Women disaggregated by wealth, location, region, religion and ethnicity

- 3rd stage disaggregation 15–49-year-old women disaggregated by livelihood-location, and region-location

- 4th stage disaggregation Using MICS data, 15–49-year-old women disaggregated by region-location-livelihood to find 'most deprived' women.

Further, NSO Mongolia used its MICS 2018 to estimate the 'Proportion of women who married as children' (see p45). Undertaking a gender and intersectionality analysis, smaller subdomains were also considered in estimating the indicator, such as the 'Proportion of child marriage among women aged at least 18 residing in urban areas by wealth index quintile'. Data were first disaggregated by sex and current age to create a subdomain of women whose current age is at least 18. Then, using 'age at first cohabitation' (WAGEM) as the variable of interest, values less than age 18 are categorized as 'child marriage'.

**TABLE 15.**

**Proportion of women who married as children in Mongolia, by wealth index and type of location, 2018**

| Indicators | Estimates |
|---|---|
| 1. Proportion of child marriage among women aged 18–49 | 9.38 |
| 2. Proportion of child marriage among poorest women aged 18–49 | 11.42 |
| 3. Proportion of child marriage among richest women aged 18–49 | 4.91 |
| 4. Proportion of child marriage among women residing in urban areas aged 18–49 | 9.06 |
| 5. Proportion of child marriage among women residing in rural areas aged 18–49 | 10.06 |
| 6. Proportion of child marriage among poorest women residing in urban areas aged 18–49 | 11.41 |
| 7. Proportion of child marriage among richest women residing in urban areas aged 18–49 | 4.92 |
| 8. Proportion of child marriage among poorest women residing in rural areas aged 18–49 | 11.42 |
| 9. Proportion of child marriage among richest women residing in rural areas aged 18–49 | - |

## Pakistan

The case of Pakistan illustrates how Geographic Information System (GIS) data can shed light on the relationship between gender-based deprivations and other forms of inequality related to geographic location. The GIS modules of Pakistan's Demographic and Health Survey (DHS) 2017 were used to capture the spatially segregated socioeconomic disadvantage of women and girls. The study indicates how overlapping inequalities—for example, those based on gender, ethnicity, geography and wealth—can produce a form of disadvantage that leaves women and girls who face these forms of discrimination worse off than other groups in society.

There are some challenges in implementing a methodological approach that captures the intersection of geography and different group-based forms of discrimination. While one of them is the availability of data on different forms of discrimination, another challenge is data imitations related to sampling for subgroups. Wealth and income-based discrimination are common stratifiers in society. For instance, geography and living in rural versus urban areas, can be a strong predictor of well-being in some contexts, and less relevant in others.[136]

GIS techniques can be combined with other disaggregation techniques. In this context, Azcona and Bhatt demonstrate how to undertake a 'Gender, Inequality and Sustainable Development' analysis and how GIS information can provide an overview of the relationship between gender-based deprivations and other forms of inequality related to geographic location.[137] The latest 2017 DHS from Pakistan is also used for their case study.

The following table and figure show the inequalities in SDG-related outcomes between different groups of women aged 18–49 years in Pakistan and disaggregated gender statistics that Pakistan generated using their 2017 DHS.

**TABLE 16.**

## Inequalities in SDG-related outcomes between different groups of women aged 18–49, Pakistan, 2017

| Indicator | Relevant SDG | Poorest rural Saraiki | Poorest rural Sindhi | Poorest rural Pashtun | Poorest rural | Poorest | Rural | National aggregate | Urban | Richest | Richest urban | Richest urban Punjabi | Richest urban Urdu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| under-weight (BMI less than 18.5 kg/m2) | SDG 2 | 25.29 | 34.48 | | 24.23 | 23.81 | 11.36 | 9.05 | 5.41 | 3.94 | 4.56 | 5.14 | 4.42 |
| do not have an independent/joint say in own health care | SDG 3 | 50.02 | 51.87 | 83.04 | 55 | 54.79 | 53.84 | 49.01 | 40.79 | 40.05 | 38.45 | 37.7 | 34.74 |
| proportion of births not attended by skilled health personnel (births in last five years) | SDG 3 | 60.69 | 45.52 | 58.34 | 54.31 | 53.96 | 37.44 | 30.65 | 16.17 | 6.82 | 7.65 | 8.87 | 0.57 |
| six or less years of education | SDG 4 | 99.1 | 98.4 | 99.38 | 98.07 | 97.97 | 79.07 | 66.81 | 45.98 | 23.34 | 21.84 | 19.6 | 9.68 |
| married before age 18 | SDG 5 | 49.35 | 52.58 | 55.5 | 51.61 | 52.13 | 38.81 | 34.32 | 26.68 | 17.53 | 17.5 | 14.82 | 11.19 |
| no access to basic drinking water services | SDG 6 | 13.12 | 20.7 | 39.96 | 26.24 | 26.21 | 15.49 | 13.86 | 11.04 | 8.83 | 10.1 | 15.34 | 3.6 |
| no access to basic sanitation facilities | SDG 6 | 62.18 | 59.78 | 48.78 | 52.88 | 52.64 | 25.51 | 19.36 | 10.59 | 2.09 | 2.13 | 1.98 | 1.55 |

| Indicator | Relevant SDG | Poorest rural Saraiki | Poorest rural Sindhi | Poorest rural Pashtun | Poorest rural | Poorest | Rural | National aggregate | Urban | Richest | Richest urban | Richest urban Punjabi | Richest urban Urdu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| no access to clean cooking fuel | SDG 7 | 98.35 | 97.38 | 97.89 | 97.94 | 97.79 | 73.44 | 50.69 | 11.5 | 4.41 | 0.63 | 0.06 | 0.17 |
| currently not employed | SDG 8 | 65.98 | 68.36 | 94.14 | 72.22 | 72.41 | 80.79 | 82.55 | 85.54 | 88.45 | 88.09 | 88.69 | 87.01 |
| living in over-crowded housing | SDG 11 | 94.58 | 91.63 | 84.65 | 90.13 | 90.3 | 75.26 | 72.02 | 66.51 | 49.12 | 50.87 | 50.16 | 43.03 |
| reporting that they cannot access health care due to distance from health facility | SDG 3 | 66.42 | 41.66 | 81.33 | 61.32 | 60.14 | 51.66 | 41.99 | 25.53 | 18.47 | 16.23 | 20.32 | 10.65 |

Note: Only select groups are shown, given space limitations. Urdu is used as shorthand for Urdu-speaking. Pashtuns reside mostly in the Khyber Pakhtunkhwa region, where reliance on unprotected wells and springs is particularly high. The 2005 earthquake and 2010 floods have further raised concerns about water quality for residents of this region. These and other factors contribute to much higher rates of no access to clean drinking water for Pashtuns overall, but especially those from the poorest rural households. Data for BMI are not shown for poorest rural Pashtuns due to insufficient sample size. Based on survey characteristics, 'married' is defined as married and/or cohabiting.[138]

Figure 1[139] illustrates disaggregated gender statistics generated using the GIS modules of Pakistan's DHS 2017 for a gender inequality analysis.

FIGURE 1.

## Disaggregated gender statistics using GIS modules of Pakistan's 2017 DHS



All women 42.2 million

Simultaneously deprived (SD) 5.6 million 13.2%

Breakdown by wealth — All women — Compared to SD

| Richest | 0.3x | 6.1% |
| Fourth | 0.6x | 11.8% |
| Middle | 1.1x | 22.5% |
| Second | 1.4x | 28.0% |
| Poorest | 1.6x | 31.6% |

Breakdown by location — All women — Compared to SD

| Urban 37.8% | 0.6x | 21.6% |
| Rural 63.0% | 1.2x | 78.4% |

Breakdown by ethnicity — All women — Compared to SD

| Sindhi 10.7% | 1.4x | 14.5% |
| Other 10.6% | 1.2x | 14.5% |
| Saraiki 13.9% | 1.1x | 15.3% |
| Panjabi 38.0% | 0.4x | 16.6% |
| Urdu 10.1% | 0.2x | 2.3% |
| Pashtun 16.8% | 2.3x | 38.9% |

Factor by which a subgroup is disproportionately represented among those who are simultaneously deprived

Legend:
- Poorest
- Second
- Middle
- Rural
- Urban
- Fourth
- Richest
- Pashtun
- Panjabi
- Other
- Urdu
- Saraiki
- Sindhi

## Iraq

In 2019, UN Women implemented a programme entitled 'Strengthening the Resilience of Syrian Women and Girls and Host Communities in Iraq, Jordan and Turkey', funded primarily by the EU Regional Trust Fund for the Syria Response. Building on its programme implementation experience, UN Women collaborated with the Food and Agriculture Organization of the United Nations (FAO) to produce a gender-sensitive resilience index based on FAO's Resilience Index Measurement and Analysis (RIMA) Model.[140]

The gender-sensitive RIMA is constructed using a multidimensional approach using four critical pillars:

- Access to basic services
- Adaptive capacity
- Access to assets
- Social safety nets

This gender-sensitive Resilience Capacity Index (RCI) measures changes in programme beneficiaries' resilience and whether this is the same for all women across communities of origin—that is, host communities, refugees and internally displaced persons (IDPs). These were generated through repeated surveys with the same group of women at different points in time.

Considering that resilience cannot be directly measured, by its very nature, statistical modelling techniques such as structural equation modelling,[141] have been used to determine it. More specifically, the Multiple Indicator Multiple Causes model has been adopted in the construction of the index (please see Figure 2). The model is composed of two components:

- Structural component: It specifies in theory how the different factors come together to represent

resilience and how the pillars also relate to one another.

- Measurement component: It showcases how, through the index, the four pillars relate to the following four outcomes: improved livelihoods, women's empowerment, reduced tolerance to gender-based violence and mental health and well-being.

**FIGURE 2.**
**Gender-sensitive resilience capacity index pillars**



Source: UN Women 2020b.
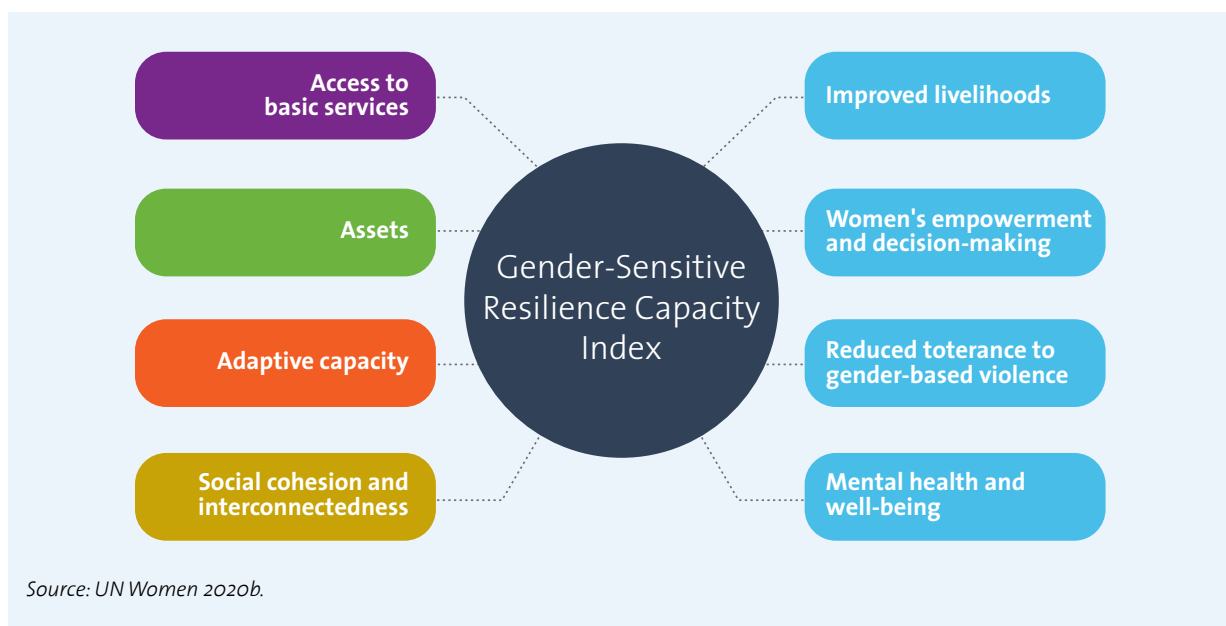
Each pillar is a composite index on its own and is developed based on a set of direct and proxy indicators. Each composite index contributes to an aggregate gender-sensitive RCI and is identified by a value.

In Iraq, where the gender-sensitive RCI structure was analysed by community of origin, there are

three different groups: Syrian refugees, IDPs and host communities, as stated above. This essentially signifies that the approach used to strengthen resilience can carry a different meaning for each of the groups and focus on the specific needs of these groups according to their challenges. It also helps setting of priorities and allocation of resources for these different groups.

FIGURE 3.

**Resilience Capacity Index of women programme beneficiaries in Iraq, by select disaggregation variables, May 2020**

### Resilience Capacity Index, baseline survey

| | Host community | IDPs | Refugees |
|---|---|---|---|
| Value | 38.27873 | 41.88904 | 32.17047 |

### Resilience Capacity Index, by age community of origin

| | Host community | IDPs | Refugees |
|---|---|---|---|
| Between 18 and 30 | 35.69 | 36.44 | 30.77 |
| Between 30 and 49 | 35.80 | 41.05 | 32.08 |
| Between 50 and 59 | 35.88 | 44.57 | 21.11 |

### Resilience Capacity Index, by marital status and community of origin

| | Host community | IDPs | Refugees |
|---|---|---|---|
| Married | 37.2 | 42.0 | 32.6 |
| Widowed | 34.3 | 41.6 | 41.2 |
| Divorced | 31.7 | 35.0 | 33.8 |
| Single | 37.6 | 46.7 | 24.6 |

*Source: UN Women 2020b.*

When the gender-sensitive RCI value was compared over time in Iraq, and disaggregated by type of intervention and community of origin, it was noted that the programme increased resilience for all beneficiaries in both the short and the long term. At the start of the programme, the least-resilient women were divorced women. When the gender-sensitive RCI results were disaggregated by marital status and monitored over time, it was found that the programme had the greatest impact on single women in the short term. However, in the longer term, the programme had the greatest impact on divorced women.

# Some international agency examples

## Toolkit on small area estimation for the SDGs

The Inter-Secretariat Working Group on Household Surveys (ISWGHS), in collaboration with the Inter-Agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs), is producing a Toolkit on Small Area Estimation (SAE) for the SDGs, which will contribute to the production of disaggregated gender statistics. The SAE Toolkit follows the production framework suggested by Tzavidis et al. (2018) and covers steps from assessing user needs and input data availability to the iterative process of producing estimates through analysis, adaptation and evaluation. The Toolkit also provides guidance on communicating SAE methods and results with practical examples. Whenever available, case studies are presented for indicators under each of the 17 SDGs.

The SAE Toolkit targets practitioners and technical staff at NSOs and other institutions within the NSS that are interested in using SAE for monitoring the SDGs. In addition to information on small area estimation models and the process around building these models, it also offers discussions on elements that help countries make the transition from SAE experimentation to production. The Toolkit is an evolving project that will continue to incorporate newly available methods, case studies and discussions in future versions.

## Small area estimation manual published by ADB

Disaggregation could require bigger samples when the statistical indicators are collected through sample surveys. Since this is not feasible for all NSOs or other data producers, given the additional administrative, financial and technical resources required, these agencies need to explore other cost-effective strategies to enhance the granularity of statistics. Small area estimation (SAE) is one of the cost-effective methods that can be used to generate disaggregated gender statistics. If a sample survey cannot give a precise and reliable disaggregated estimate, SAE combines the survey data with other data types, such as administrative and census data, that have wider coverage to enhance the survey estimator.

NSOs use surveys to collect detailed information on various topics, such as household income, expenditures and working conditions, etc. (see Box 13). Survey estimates are subject to margins of error, since surveys cannot get information from every unit of the target population. However, even though a census can completely enumerate all units of its target population, it may not cover all details on the characteristic of interest. In SAE, a survey offers the advantage of the wide coverage of a census while yielding estimates that remain reliable even when disaggregated at 'small areas' for which the survey was not originally designed.

**Several studies illustrating the utilization of SAE to generate disaggregated poverty statistics**

The objective of a US study was to estimate poverty and housing unit characteristics in small areas. In this study, survey data were used to develop a hierarchical logistic model that included housing units and personal information.

In the Philippines, a growing number of studies are investigating SAE applications to poverty. In response to demands for more geographically disaggregated poverty statistics, the National Statistical Coordination

Board (now part of the Philippine Statistics Authority) generated municipal- and city-level poverty statistics, using the World Bank methodology commonly known as the Elbers, Lanjouw and Lanjouw (ELL) methodology.

Thailand also uses the ELL methodology to generate district- and subdistrict-level poverty indicators using the Census of Population and Housing (CPH) and the Household Socio-Economic Survey.

SAE offers a good example of a method to combine multiple data sources and to get more reliable granular data. With regards to poverty statistics, the sample sizes of survey data sets used for poverty estimation are rarely large enough to generate reliable estimates for highly disaggregated analysis.[142]

## ISWGHS guidelines on leaving no one behind: Sampling strategies to reach vulnerable populations

Another reference for disaggregated gender statistics is the ISWGHS guidelines on leaving no one behind (LNOB). To improve the availability of disaggregated data for the full implementation of the 2030 Agenda, the ISWGHS is producing a set of guidance notes on sampling for household surveys to help countries produce more disaggregated survey data for vulnerable population groups. The guidance notes focus specifically on sampling vulnerable population groups that were identified by the 2030 Agenda—that is, those disaggregated by income, sex, age, race, ethnicity, migratory status, disability and geographic location; and those that were prioritized by the IAEG-SDGs' indicators in its consultations with major groups and international organizations with expertise in the disaggregation areas.[143]

For each population group, the discussion covers the policy relevance of disaggregated SDG data, concepts and definitions, sampling methods that

have been used by NSOs and challenges in sampling this population group. Discussions on each population group also point to the need for further work to achieve better coverage of particular groups of population.

The preparation of guidance notes is led by the ISWGHS with technical contributions from members of the UNSD Study Group on Survey Sampling and with financial support from UN Women's Women Count programme.

## ILO and UN Women efforts to present SDG 8 with further disaggregation

The ILO and UN Women realized a joint study to produce a global data set with new indicators that allow for the analysis of labour market outcomes from a gender and family perspective to explore gender gaps in SDG 8. The analysis, based on data from 84 countries, focuses on ways in which the labour market participation of women aged 25 to 54 years varies by marital status, household type and the presence and age of children. It deals with the gender gap in labour force participation across different categories and subcategories.

This study revealed persistent gender gaps in labour force participation, both globally and across regions. The data disaggregated by marital status and by the presence of children indicate that marriage and childbearing often dampen women's la-

bour force participation, while having the opposite effect for men. The specific vulnerability faced by women is driven by discriminatory social norms and gender stereotypes that reinforce their role as caregivers. The data and analysis presented in the study point to the need for an integrated gender perspective in the analysis and evaluation of labour market outcomes, including greater efforts to understand the role that unpaid care and domestic responsibilities play in restricting women's participation in the labour force.[144]

### UN-Habitat and UN Women efforts to present SDG 11 with further disaggregation

When multiple and intersecting forms of discrimination converge, women and girls tend to fare worse across various well-being outcomes. A woman who gets married at a young age is burdened early with care responsibilities, deprived of education and access to a livelihood and faces the risk of many other forms of deprivation. Disaggregation by geographic location, although a strong correlate of poverty and deprivation, remains restricted to the binary rural-urban classification in the global indicator framework for the SDGs, omitting slums and slum-like settings. The focus on slum-dwellers only becomes evident in target 11.1 of the SDG framework, which seeks to upgrade slums.

Targeted interventions and policymaking require greater availability and understanding of the gender profiles of slum settlements, which are increasingly inhabited by women and girls. This requires strengthened national capacity to generate, analyse and disseminate data on SDG indicator 11.1.1, and to incorporate intra-urban disaggregation in individual, gender-specific outcome indicators moving beyond the binary rural-urban classification. There is also a need to improve and adopt methodologies that produce urban land tenure security estimates disaggregated by sex.

Cognizant of the above, UN-Habitat and UN Women conducted an analysis using data from 59 low- and middle-income countries in Latin America and the Caribbean, Central and Southern Asia, and sub-Saharan Africa. The analysis revealed that women and their families bear the brunt of growing income inequality and failures to adequately plan for and respond to rapid urbanization. The data also show that in 80 per cent of countries analysed, women are overrepresented in urban slums among those aged 15 to 49. At the root of this phenomenon are gender-based inequalities that limit women's access to education, rights to housing and asset ownership. Gender inequalities also make it more difficult for women to engage in paid work, largely because they bear a greater responsibility than men for unpaid care and domestic work.[145]

### FAO Guidelines on Data Disaggregation for SDG Indicators Using Survey Data

The FAO Guidelines on Data Disaggregation for SDG Indicators Using Survey Data offer methodological and practical guidance for the production of direct and indirect disaggregated estimates of SDG indicators that have surveys as their main data source. It mainly focuses on traditional surveys that allow for the regular production of disaggregated data

The publication classifies the actions useful for data disaggregation into four main pillars, which range from those engaging a higher strategic level to those having a more in-depth technical intensity, and illustrates the actions intended to define sample strategies for direct domain sampling estimates. It also provides tools to assess the accuracy of these estimates and presents strategies for the improvement of output quality, including small area estimation (SAE) methods. In addition, it lists the FAO-relevant SDG indicators and their disaggregation dimensions reflected in the IAEG-SDGs disaggregation matrix. The other FAO-relevant SDG indicators have spatial relevance, and the indicators related to forestry and water especially can benefit, directly or indirectly, from geospatial information for disaggregation.[146]

### ADB Practical Guidebook on Data Disaggregation for the Sustainable Development Goals

The Practical Guidebook on Data Disaggregation for the Sustainable Development Goals was developed by Asian Development Bank (ADB) from various sources, including its other publications, work of the various task teams of the IAEG-SDGs

and publications of the United Nations and other development partners to share knowledge that can improve the capacity to produce, analyse and communicate disaggregated data for the SDGs.

This guidebook is intended to provide information on existing statistical sources, methods, tools, and initiatives that address some of the key issues that need to be considered in the production and analysis of data needed for generating disaggregated statistics and indicators and their reporting and communication.[147]

## Key take-aways

The key take-aways for the production of development of methodology(ies) and production of disaggregated statistics of select NPGEIs are:

- Existing data from household surveys can be further tapped to produce disaggregated NPGEIs. These go beyond traditional gender statistics based on standard statistical tables with limited disaggregation specifications.

- Extraction of new disaggregated gender statistics using existing data from household surveys also calls for capacity-development activities within NSOs and NSSs to ensure the institutionalization, transfer as well as sharing of knowledge across key actors.

# STAGE 4: ASSESSMENT AND PUBLICATION OF RESULTS

Stage 4 covers quantitative as well as qualitative assessment methods when disaggregated gender statistics are produced and how these should inform the publication of results.

Beyond the call for increased availability of timely disaggregated data in the SDGs, their generation should likewise be statistically sound and of high-quality. Under Principle 15 of the United Nations' National Quality Assurance Frameworks (NQAF) Manual for Official Statistics,[148] statistical data and outputs should be assessed and validated and systems allowing this to be done regularly should be developed and managed. The UN NQAF manual aims to address quality assurance, thereby supporting countries in safeguarding the role of official statistics as a trusted source of information in a changing environment. While in many cases disaggregated gender statistics can be directly estimated using existing data from household surveys, measures of precision and reliability should be obtained to ensure the statistical soundness of the estimates.

While the UN NQAF Manual is directed at ensuring the quality of official statistics throughout the entire NSS, it does not provide international standards or practical recommendations as to how to determine the reliability, accuracy and precision of statistics—from a scientific, technical and statistical point of view (e.g., 'acceptable' levels of standard errors or coefficients of variation). Yet sampling and non-sampling errors are inherent in household surveys; therefore, the household surveys need to be assessed according to the following assumptions:

- Existing surveys are easily accessible, but the availability of indicators is limited to data that have been collected. What data were intended to be studied might not actually be collected or they may be defined differently in the existing surveys. For example, SDG indicator 5.6.1 measures the proportion of women aged 15–49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care; however, an existing survey might only have collected data for women aged 18 years or older, thus excluding women aged 15–17, which are required for the indicator.

- Accessing existing surveys already assumes that data collection methodologies are implemented uniformly by all enumerators and understood similarly by respondents. Collecting information on violence against women requires protocols due to the sensitivity of the topic; however, it is difficult to assess whether a survey follows these protocols.

- Surveys are designed specifically to give estimates for a certain population. When existing samples were designed, they only planned for disaggregation down to a certain level. Further disaggregation of certain domains (e.g., by basic sectors such as farmers, fisherfolk, migrant workers, etc.) may not be possible as these were not included when the survey was being planned and designed.

- The latest surveys might have been conducted a long time ago; hence, the information available may not be relevant to more recent/current contexts. Taking a hypothetical example, a survey on Internet access among women and men, which can be disaggregated down to the lowest geographical location, may have been conducted 10 years ago. However, since the Internet was not yet widespread

in the country at that time it would not reflect the current situation of Internet access of the current population.

This section will discuss two ways of assessing or evaluating the generated disaggregated gender statistics—either quantitative or qualitative—and how they can be incorporated in the publication of results.

# Quantitative assessment

Quantitative assessment involves evaluating the statistical properties of estimates. Multiple disaggregation may be conducted to identify the most vulnerable groups of women. However, as discussed in the previous section, as more domains are identified, the number of observations become smaller, which can lead to less precise and less reliable estimates.

There are many properties to consider in the assessment process of disaggregated gender statistics, but this toolkit focuses on three of the most common properties, namely: 1) accuracy; 2) precision; and 3) reliability.

## Accuracy

Accuracy refers to the closeness of estimates to the true value of the indicator. The generated gender statistics are estimates that may or may not give the true value of the indicator. However, if all possible estimates using a particular estimator were considered, then the average value provides an idea of the true value of the indicator. Mathematically, the expected value or the long-run average value of the estimator is equal to the parameter or indicator being estimated, that is:

Expected Value of the Estimates=True Value of the Indicator being Measured

Being accurate means having an estimator that is unbiased. The difference between the average value of the estimates and the true value is called bias. Bias is equal to zero when the estimator is unbiased. Mathematically, it is expressed as:

Bias=Expected Value of the Estimates - True Value of the Indicator being Measured

There is an overestimation when Bias is positive or Bias > 0. This means that the Expected Value of the Estimates is greater than the True Value of the Indicator being Measured. There is an underestimation when Bias is negative or Bias < 0. This means that the Expected Value of the Estimates is less than the True Value of the Indicator being Measured.

A large bias may be due to sampling error, non-sampling-error, or both. Non-sampling errors cover all types of errors from all sources, such as response errors, coverage errors, and errors linked to data collection and processing.

Accuracy or Unbiasedness is a property of the estimator itself. In the formulation of the estimator based on the sampling design of the survey, accuracy or unbiasedness should have already been considered. Generally, the estimators formulated during the design stage of a survey are expected to generate unbiased or accurate estimates. Applying this to the generation of disaggregated gender statistics, the direct estimation approach will lead to accurate or unbiased estimates.[149]

## Precision

Like accuracy, precision is a measure of closeness. Unlike accuracy, precision is a measure of closeness of the estimates to each other. In the image below, the 'centre' of the circles represents the true value of the indicator being measured while the wider 'marks' represent the estimates. In Figure 4 below, (a) shows estimates close to each other but far from the true value. In (b), estimates are close to the true value but far from each other. Disaggregated gender statistics should aim to be both precise and accurate as shown in (d).
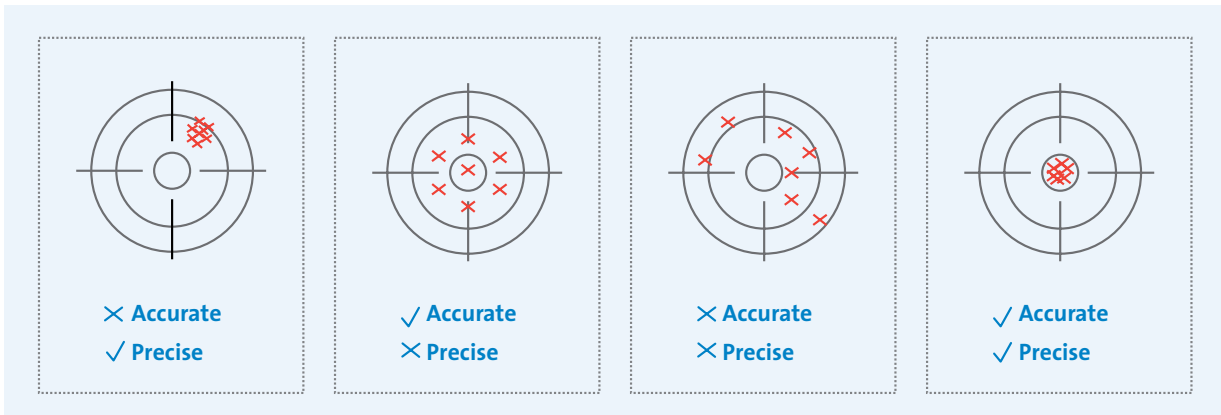
The precision of the estimator is measured through its standard error, which is a function of the square root of the ratio of the variance of the estimates and the number of observations used in the estimation. Since the standard error is a measure of error in estimation, it can be expressed that, on average, the larger the value of standard error, the larger the error in estimation. On the other hand, the smaller the value, the smaller the margin of error.

Standard error is inversely related to the number of observations used in an estimation. Thus, a greater number of observations used in the estimation would mean a smaller standard error of the estimate, which means it is more precise. In the generation of disaggregated gender statistics, the estimates are expected to be less precise as more disaggregation is applied in the data. The lower level of disaggregation results in a smaller subdomain with fewer observations or, in extreme cases, in no observations at all. This usually happens in direct estimation since the sample size was computed for a large domain of estimation, such as a national or at least regional level.

### Estimation of the variance/standard error of the estimates

Theoretically, direct subdomain estimates are said to be unbiased or accurate, but these estimates are expected to have large standard errors due to the limited observations that can be obtained for that particular subdomain. As the disaggregation level becomes deeper, it is to be expected that the standard error of the estimates will increase, because of the decreasing number of observations in the subdomain (due to the disaggregation). This can be seen in the following relationship between the standard error and the number of observations:

The standard error of the estimates is computed in order to assess the precision of the generated disaggregated gender statistics, as explained further in the next section.

$$standard\ error = \sqrt{\frac{variance}{number\ of\ observations}}$$

Most nationwide surveys follow a stratified multi-stage sampling design. Under this design, the expansion estimator for a total,[150] when applied in the direct estimation of a subdomain total, $\hat{Y}_i$, can be expressed as:

$$\sum_{j\varepsilon S} w_{ihlk}\, y_{ihlk}$$

where $w_{ihlk}$ is the design weight associated with the kth secondary sampling unit in the lth primary sampling unit (cluster) belonging to the hth stratum, $y_{ihlk}$ is the associated y-value, and $\sum_{j\varepsilon S}$ is the summation over all elements $j = (hlk)\ \hat{I}\ s(h=1,2,...L;$ $l=1,2,...n(ih);\ k=1,2,...n(ihk)).$ $n(ih)$ and $n(ihk)$ represent the total number of primary sampling units and secondary sampling units, respectively, that are included in the subdomain of interest. It was also

reported that the sample is commonly treated as if the clusters are sampled with replacement, and subsampling is done independently each time a cluster is selected. Such action leads to overestimation of the variance, but this makes the variance estimator greatly simplified as shown in the following expression:

$$v(\hat{Y}_i) = \sum_{h=1}^{L} \frac{1}{n_{(ih)}(n_{(ih)}-1)} \sum_{l}^{n_{(ih)}} (y_{ihl} - \bar{y}_{ih})^2$$

Where

$$y_{ihl} = \sum_{k=1}^{n_{(ihk)}} (n_{(ih)} w_{ihlk}) \, y_{ihlk}$$

are weighted sample cluster totals and

$$\bar{y}_{ih} = \sum_{l=1}^{n_{(ihk)}} y_{ihl} \Big/ n_{(ih)}$$

Statistical software can automatically generate the standard error along with the production estimates. STATA usually generates the variance or standard error of the estimates through its proportion command.[151] As discussed in the previous section, NSO Mongolia was able to estimate that 9.38 per cent of married women (variable **childm** = 1) ages 18–49 had her first marriage/union at age less than 18. To determine the standard error, the following syntax can be used:

proportion **childm** [iw=wmweight]

However, one must be careful in this computation as the sample design might not be fully accounted for in the estimation procedure. To fully take into consideration the sampling design of a survey, the use of the command proportion should be used along with svy commands of STATA. The svyset identifies the variables that were used as parameters in the sampling. In the syntax below, **WM1** (Cluster number) refers to the primary sampling unit while **HH7** (region) refers to the stratified sampling basis strata.

*svyset* **WM1** [weight= wmweight], str**(HH7)**

svy: proportion **childm**

The command proportion implemented under the set of svy commands takes the Taylor linearized[152] standard error computation as default procedure. Thus, the STATA command 'svy: proportion childm' will have the following output table with the estimate and its standard error (SE) based on the specified survey design parameters.

**TABLE 17.**

**STATA output for generating SE and CI for 'proportion of women (18–49 years old) who married as children'**

| childm | Proportion | Std. Err. | Linearized (95% Conf. Interval) | |
|---|---|---|---|---|
| 0 | 0.9062 | 0.0053 | 0.8953 | 0.9160 |
| 1 | 0.0938 | 0.0053 | 0.0840 | 0.1047 |

The national estimate of child marriage among women aged at least 18 in Mongolia (9.38 per cent) that was obtained using the tabulate command in the previous section has a standard error of 0.0053 computed from 846 observations.

Doing the same for the disaggregated statistics on the 'Proportion of poorest women (18–49 years old) who married as children' in Mongolia, which was estimated previously to be 11.4 per cent (0.1142 on the table above), the standard error of this estimate is 0.0094 based on 280 observations. The standard error was generated using the STATA command

svy: proportion **childm_poorest**[153]

(see Table 18).

TABLE 18.

**STATA output for generating SE and CI for 'proportion of poorest women (18–49 years old) who married as children'**

| childm | Linearized | | | |
| --- | --- | --- | --- | --- |
| | Proportion | Std.Err. | (95% Conf. Interval) | |
| 0 | 0.8858 | 0.0093 | 0.8662 | 0.9028 |
| 1 | 0.1142 | 0.0093 | 0.0972 | 0.1338 |

For the estimate of 4.9 per cent (.0491 in Table 19) proportion of child marriage among the richest women aged at least 18 in Mongolia, the estimated standard error is 0.0096 based on 45 observations. This was obtained from the following output table using the STATA® command:

svy: proportion **childm_richest.**[154]

**TABLE 19.**

**STATA output for generating SE and CI for 'proportion of richest women (18–49 years old) who married as children'**

| childm | Linearized | | | |
| --- | --- | --- | --- | --- |
| | Proportion | Std.Err. | (95% Conf. Interval) | |
| 0 | 0.9509 | 0.0096 | 0.9282 | 0.9667 |
| 1 | 0.0491 | 0.0096 | 0.0333 | 0.0719 |

The estimates of the proportions did not change whether one uses the tabulate command or proportion command under the svy set of commands. It is the generated standard error that differs when one uses the proportion command under the svy set of commands compared to an ordinary proportion command.

**TABLE 20.**

**Comparison of generated SEs of estimates using ordinary 'proportion' command and svy 'proportion' command**

| INDICATOR | STANDARD ERROR (ordinary 'proportion' command) | STANDARD ERROR (svy 'proportion' command) |
|---|---|---|
| 1. Proportion of women aged 18–49 who married as children | 0.0031 | 0.0053 |
| 2. Proportion of poorest women aged 18–49 who married as children | 0.0078 | 0.0093 |
| 3. Proportion of richest women aged 18–49 who married as children | 0.0050 | 0.0096 |
| 4. Proportion of women residing in urban areas aged 18–49 who married as children | 0.0038 | 0.0070 |
| 5. Proportion of women residing in rural areas aged 18–49 who married as children | 0.0057 | 0.0067 |
| 6. Proportion of poorest women residing in urban areas aged 18–49 who married as children | 0.0396 | 0.0346 |
| 7. Proportion of richest women residing in urban areas aged 18–49 who married as children | 0.0050 | 0.0096 |
| 8. Proportion of poorest women residing in rural areas aged 18–49 who married as children | 0.0079 | 0.0095 |
| 9. Proportion of richest women residing in rural areas aged 18–49 who married as children | - | - |

With regards to the assessment of the values of generated standard error, smaller standard error refers to less spread of estimates, which means that the sample proportion is close to true value.

There should be advocacy for the release of official statistics with some measures of standard error in the estimation process as these measures provide us with guidance on assessing the quality of the generated official statistics. More detailed discussion on this assessment process is provided in the following subsections.

**Disaggregated gender statistics must be reliable enough in estimating the true value of the indicator**

Reliability of the estimates is measured using the coefficient of variation (CV). It is a measure of variability relative to the value of the estimates. Mathematically, it is expressed in per cent and computed as ratio of the standard error of the estimate and value of the estimate, as seen in the following formula for computing the CV of an estimate for a subdomain total:

$$CV(\hat{Y}_i) = 100\% \times \frac{\sqrt{v(\hat{Y}_i)}}{(\hat{Y}_i)}$$

Relative to the value of the estimate, CV measures the spread of the estimates, so that the bigger the value of the CV, the less reliable the estimate is.

In STATA, CV can be automatically computed alongside the standard error by adding the command estat cv after the proportion command.

For example, in computing for the proportion of women who married before age 18, the following commands should be used:

svy: proportion **childm**

estat cv

**TABLE 21.**

## STATA output for generating CV for 'proportion of women who married before age 18'

| childm | Linearized | | |
|--------|------------|---------|--------|
| | **Proportion** | **Std.Err.** | **CV (%)** |
| 0 | .9061948 | .0052603 | .580487 |
| 1 | .0938052 | .0052603 | 5.60773 |

In principle, preferred estimates are those with relatively small values of CV. It is important to note that there are no internationally agreed standards or recommendations as to the 'acceptable' values of CV for a certain type of estimator. In practice, CV thresholds vary country to country and in some cases, from surveys to surveys. Some literature regards a measure of CV less than 10 per cent as highly acceptable[155] while a CV with value between 10 and 20 per cent as still acceptable. For CV values ranging between 20 and 33 per cent, estimates are regarded as less but still sufficiently reliable but should be used with caution. For those greater than 33 per cent, caveats should be provided in terms of the level of reliability of these estimates. More detailed discussion on the practical application of this general principle as well as the empirical basis of the cut-offs used is provided in pages 70-75, presenting the Philippines', Mongolia's and Canada's experiences, respectively.

**FIGURE 5.**

## Suggested 'rule of thumb' of the Counted and Visible Toolkit in classifying CVs

| Value of CV | Suggested classification of estimates |
|-------------|---------------------------------------|
| CV less than 10% | Highly reliable |
| Between 10% and 20% | Sufficiently reliable |
| Between 20% and 33% | Still acceptable but should be used with caution |
| Greater than 33% | Caveats should be provided in terms of the level of reliability of the estimate |

In summary, generally, it is possible to generate disaggregated gender statistics from existing household surveys. However, given the nature of the statistical exercise of producing statistics with multiple disaggregation—that is, effectively decreasing the number of observations—quantitative assessment of these disaggregated estimates is an imperative. In this light, measures of accuracy, precision and reliability should be promoted, observed and institutionalized as a best practice of NSOs and other data producers.

## Qualitative assessment

A qualitative assessment seeks to assess how estimates are perceived, mainly by users and stakeholders of the estimates generated, to provide the true picture of reality. While quantitative assessments are usually done by data producers, they often also involve groups of prospective users and people who are the most knowledgeable on the focus of the study.

For example, an assessment of disaggregated survey results on local-level estimates of poverty among women calls for the involvement of local officials (e.g., planning and development officers, county or village leaders) who know the local area. An assessment of disaggregated survey results for indigenous women should involve members of that group. The insights and feedback of subject matter specialists will also be useful in identifying and promoting the use of estimates (from a users' perspective) and the accuracy, precision and reliability of the estimates (from a producers' perspective).

In some cases, qualitative assessments are done through workshops and focus group discussions. In others, consultations with colleagues familiar with the sub-population group of interest are conducted (e.g., the NSO Head Office that conducted the study consults with concerned colleagues at provincial offices; or Head Office consults with policy specialists working on the topic at Head Office and across the field). They are generally asked to give their assessment of whether the results of the study match the situation on the ground.

## Publication of results

Data producers (particularly NSOs) are strongly encouraged to present estimates along with corresponding CVs, as a good practice. The use of CVs is helpful in determining whether these statistics are statistically sound and thus should be published. Standard errors and confidence intervals may also be presented as supplemental indicators.

In cases where CVs are greater than 33 per cent, caveats should be provided to increase the awareness of users in terms of the level of reliability of these estimates. Relevant information on the sampling design and explanations on why certain estimates do not meet criteria must be available to users. These should be identified, documented and evaluated. All this information will be useful to data producers in planning and designing future surveys to generate disaggregated gender statistics.

FIGURE 6.
**Flowchart of the publication of results**
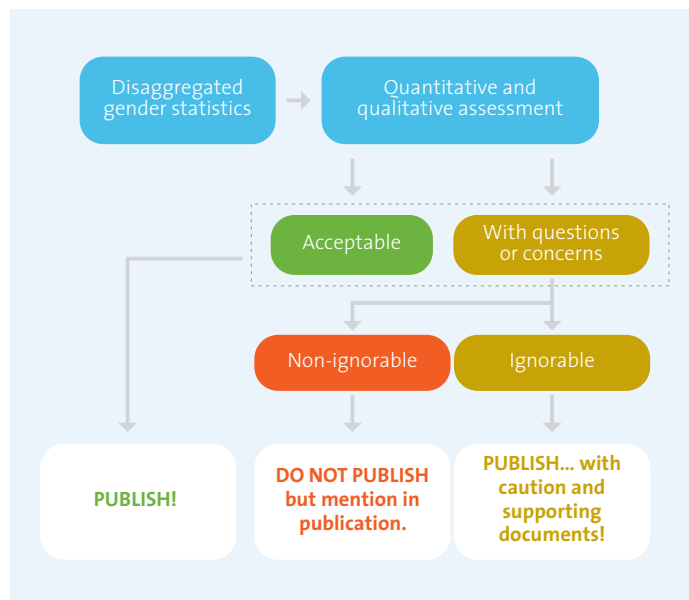
Quantitative measures should likewise be supplemented with qualitative feedback gathered from gender data users and stakeholders. These assessment exercises—quantitative and qualitative—increase statistical appreciation, literacy and the capacities of both data users and producers, and the statistical system as a whole.

## Country case studies

The country case studies from Philippines, Mongolia, USA and Canada present the examples on application of the measures discussed above to disaggregated gender statistics and assessment of these statistics using existing survey data. Additional guidance on producing SDG 5.2.1, on violence against women, in Tajikistan (presented in the previous section) is provided in Annex 3; this serves as a practical how-to guide on statistical computing using three statistical software programmes (STATA, R, and SPSS).

### Philippines' Small Area Poverty Estimates

*Quantitative assessment of poverty SAE*

Poverty estimates at lower-level geographic areas (that is, provinces, municipalities and cities) have long been available in the Philippines. For almost two decades, model-based small area estimates were generated using combined census and survey data from the Census of Population and Housing (CPH) 2000 and the Family Income and Expenditure Survey (FIES) 2000. The latter is conducted every three years. To date, the generated small area poverty estimates have been useful in policy formulation, planning and monitoring; and in targeting the beneficiaries of projects and programmes.[156]

The former Philippines National Statistical Coordination Board (NSCB) employed SAE techniques based on the ELL methodology developed by the World Bank. This generated—for the first time—inter-censal small area estimates of poverty for all 1,622[157] cities and municipalities. Given the nature of drilling down to very low levels of geographic disaggregation, the SAE exercise called for an examination of the reliability of these small area estimates. Coefficients of variation as well as standard errors and confidence intervals were made available to all users, published along with the release of the small area estimates. Moreover, this practice was institutionalized in all succeeding SAE exercises undertaken by the Philippines Statistics Authority (PSA) since the NSCB was merged into it in 2013 (see Table 22 for an illustration of measures of precision and reliability).

## Illustration of the Philippines' publication of measures of precision and reliability of poverty SAE

City- and municipal-level small area poverty estimates, 2003

| Region | Province | Municipality | Poverty incidence | Standard error (SE) | Coefficient of variation (CV) | Rank (Poorest =1) | Magnitude of poor population | Poverty Gap | SE | Severity of poverty | SE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NCR | 1st district | Tondo | 6.73 | 1.09 | 16.2 | 1557 | 45,300 | 1.25 | 0.30 | 0.37 | 0.12 |
| | | Binondo | 1.14 | 0.98 | 86.0 | 1622 | 147 | 0.19 | 0.26 | 0.06 | 0.13 |
| | | Quapo | 4.18 | 1.89 | 45.2 | 1582 | 1,032 | 0.77 | 0.51 | 0.22 | 0.19 |
| | | San Nicolas | 8.93 | 4.78 | 53.5 | 1523 | 4,120 | 1,71 | 1.24 | 0.52 | 0.47 |
| | | Santa Cruz | 3.35 | 0.88 | 26.3 | 1599 | 4,247 | 0.59 | 0.23 | 0.17 | 0.10 |
| | | Samploc | 1.93 | 0.48 | 23.8 | 1615 | 7,303 | 0.32 | 0.11 | 0.09 | 0.04 |
| | | San Miguel | 4.37 | 2.76 | 63.2 | 1590 | 752 | 0.80 | 0.69 | 0.22 | 0.24 |
| | | Ermita | 2.40 | 1.58 | 65.8 | 1611 | 159 | 0.41 | 0.39 | 0.11 | 0.15 |
| | | Intramuros | 7.97 | 4.26 | 53.5 | 1535 | 427 | 1.47 | 1.08 | 0.42 | 0.40 |
| | | Malate | 3.90 | 1.07 | 27.4 | 1587 | 3,253 | 0.69 | 0.25 | 0.20 | 0.10 |
| | | Paco | 3.07 | 0.87 | 28.3 | 1602 | 2,271 | 0.51 | 0.19 | 0.13 | 0.06 |
| | | Pandacan | 3.66 | 0.96 | 26.2 | 1592 | 2,974 | 0.62 | 0.23 | 0.17 | 0.09 |
| | | Port Area | 13.17 | 9.99 | 75.9 | 1463 | 6,844 | 2.71 | 3.11 | 0.86 | 1.43 |
| | | Santa Ana | 3.79 | 0.93 | 24.5 | 1590 | 7,232 | 0.67 | 0.25 | 0.19 | 0.11 |
| NCR | 2nd district | Mandaluyong City | 2.96 | 1.77 | 59.8 | 1605 | 9,073 | 0.52 | 0.44 | 0.15 | 0.16 |
| | | City of Marikina | 2.62 | 1.91 | 70.2 | 1609 | 10,727 | 0.47 | 0.50 | 0.14 | 0.22 |
| | | City of Pasig | 3.62 | 1.67 | 46.1 | 1593 | 20,928 | 0.63 | 0.39 | 0.17 | 0.14 |
| | | Quezon City | 3.03 | 0.88 | 29.0 | 1604 | 78,710 | 0.55 | 0.26 | 0.16 | 0.11 |
| | | San Juan | 1,50 | 1.03 | 68.7 | 1619 | 2,024 | 0.26 | 0.30 | 0.08 | 0.14 |
| | 3rd district | Kalockan City | 5.16 | 1.70 | 32.9 | 1575 | 65,183 | 0.91 | 0.39 | 0.26 | 0.15 |
| | | Malabon | 5.10 | 1.82 | 35.7 | 1576 | 17,575 | 0.90 | 0.48 | 0.26 | 0.20 |
| | | Navotas | 7.41 | 3.12 | 42.1 | 1543 | 17,484 | 1.37 | 0.80 | 0.39 | 0.30 |
| | | City of Venezuela | 4.40 | 1.52 | 34.5 | 1579 | 22,676 | 0.73 | 0.35 | 0.20 | 0.13 |

*Source: NSCB 2009*

City- and municipal-level small area poverty estimates, 2003

| Region /Prov-ince | Municipality /City | Poverty Incidence | | | Coefficient of Variation | | | 90% Confidence Interval | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 2006 | | 2009 | | 2012 | |
| | | 2006 | 2009 | 2012 | 2006 | 2009 | 2012 | Lower Limit | Upper Limit | Lower Limit | Upper Limit | Lower Limit | Upper Limit |
| NCR 1st district | Tondo | 4.1 | 2.9 | 3.1 | 12.6 | 27.5 | 20.4 | 3.3 | 5.0 | 1.6 | 4.2 | 2.1 | 4.2 |
| | Binondo | 1.8 | 1.0 | 1.5 | 18.1 | 68.0 | 41.9 | 1.2 | 2.3 | 0.0 | 2.2 | 0.5 | 2.5 |
| | Quapo | 5.3 | 2.1 | 2.1 | 7.9 | 42.4 | 28.1 | 4.6 | 6.0 | 0.6 | 3.5 | 1.1 | 3.1 |
| | San Nicolas | 4.9 | 2.4 | 3.0 | 9.6 | 57.0 | 53.6 | 4.1 | 5.7 | 0.1 | 4.7 | 0.4 | 5.5 |
| | Santa Cruz | 4.3 | 1.7 | 1.5 | 14.3 | 32.5 | 19.5 | 3.3 | 5.3 | 0.8 | 2.5 | 1.0 | 2.0 |
| | Samploc | 5.8 | 1.3 | 0.8 | 11.9 | 23.6 | 24.7 | 4.7 | 6.9 | 0.8 | 1.8 | 0.5 | 1.1 |
| | San Miguel | 3.1 | 1.4 | 1.2 | 47.2 | 67.4 | 73.1 | 0.7 | 5.5 | 0.0 | 2.9 | 0.0 | 2.6 |
| | Ermita | 4.4 | 1.5 | 0.9 | 56.4 | 68.7 | 47.8 | 0.3 | 8.5 | 0.0 | 3.1 | 0.2 | 1.6 |
| | Intramuros | 3.0 | 2.5 | 2.5 | 20.9 | 48.0 | 49.6 | 2.0 | 4.1 | 0.5 | 4.5 | 0.5 | 4.5 |
| | Malate | 6.4 | 1.8 | 1.3 | 8.9 | 29.1 | 26.7 | 5.5 | 7.3 | 0.9 | 2.6 | 0.7 | 1.9 |
| | Paco | 6.0 | 1.8 | 0.9 | 5.8 | 31.3 | 31.1 | 5.5 | 6.6 | 0.9 | 2.8 | 0.4 | 1.4 |
| | Pandacan | 6.0 | 1.9 | 1.6 | 7.8 | 33.0 | 25.6 | 5.2 | 6.8 | 0.9 | 2.9 | 0.9 | 2.2 |
| | Port Area | 13.2 | 11.9 | 10.0 | 15.2 | 57.5 | 45.2 | 9.9 | 16.5 | 0.6 | 23.1 | 2.6 | 17.5 |
| | Santa Ana | 4.7 | 2.2 | 1.3 | 17.8 | 29.0 | 27.6 | 3.3 | 6.0 | 1.1 | 3.2 | 0.7 | 1.8 |
| 2nd district | Mandaluyong City | 6.1 | 1.8 | 1.3 | 17.6 | 45.1 | 32.8 | 4.3 | 7.9 | 0.5 | 3.2 | 0.6 | 2.0 |
| | City of Marikina | 6.0 | 2.2 | 1.4 | 11.9 | 41.1 | 30.5 | 4.9 | 7.2 | 0.7 | 3.8 | 0.7 | 2.1 |
| | City of Pasig | 5.0 | 2.2 | 1.8 | 9.5 | 37.3 | 24.6 | 4.2 | 5.7 | 0.9 | 3.5 | 1.1 | 2.6 |
| | Quezon City | 4.1 | 2.4 | 1.6 | 16.0 | 25.3 | 18.5 | 3.0 | 5.1 | 1.4 | 3.4 | 1.1 | 2.1 |
| | San Juan | 2.9 | 1.5 | 0.3 | 67.0 | 42.5 | 60.7 | 0.0 | 6.2 | 0.4 | 2.5 | 0.0 | 0.6 |
| 3rd district | Kalockan City | 5.0 | 3.1 | 2.8 | 19.1 | 28.2 | 19.4 | 3.5 | 6.6 | 1,7 | 4.5 | 1.9 | 3.7 |
| | Malabon | 6.1 | 4.0 | 3.8 | 15.8 | 41.4 | 22.9 | 4.5 | 7.7 | 1.3 | 6.7 | 2.4 | 5.3 |
| | Navotas | 6.2 | 3.8 | 6.0 | 22.6 | 48.4 | 27.2 | 3.9 | 8.6 | 0.8 | 6.8 | 3.3 | 8.7 |
| | City of Venezuela | 5.1 | 3.7 | 2.3 | 21.1 | 33.4 | 23.1 | 3.3 | 6.9 | 1.7 | 5.8 | 1.4 | 3.2 |

*Source: PSA 2016. 2012*

This good practice of integrating and institutionalizing the publication of measures of precision and reliability of estimates did not only apply to the model-based SAE of poverty generated by the NSCB and the PSA. This was also institutionalized in the release of official estimates of poverty, directly generated from results of the FIES. To illustrate, in a press release in 2015, the PSA presented the confidence intervals of the country's official poverty incidence among the population for the first semesters of 2013 and 2014. In addition, statistical tables include measures of precision and reliability such as standard errors, confidence intervals and coefficients of variation.

Additionally, instead of ranking geographic areas, which may have overlapping confidence intervals, they were grouped by clusters according to level of poverty incidence.[158] In this case, areas that are more likely to have the same level of poverty status will belong in one group, and for monitoring purposes, a shift from one lower group to a higher group will signal an improved poverty status.[159]

In 2018, 16.7 per cent (or 17.7 million) residents were poor and had insufficient income to meet their basic food and non-food needs.[160] In addition, in response to demands to generate lower-level and sectoral poverty statistics, the poverty of subgroups of the population was also examined. Poverty statistics of basic sectors, as defined by Republic Act 8425 or the Social Reform and Poverty Alleviation Act,[161] were first generated by the NSCB in 2007. This was integrated as part of the official poverty statistics of the PSA. The latest reports show that in 2018, almost 16.6 per cent women (almost 9 million) were estimated to be income poor.[162]

### Qualitative assessment of small area estimates of poverty

In the Philippines' SAE experience, aside from a quantitative assessment of small area estimates through the generation of CVs, SEs and CIs, qualitative assessments were also conducted through validation workshops since 2012. These exercises were done to evaluate how well the estimates related to the assessment of local government units, academia, civil society organizations, as well as local communities in the region or province.

Both a validation workshop and assessment were conducted for each locality where estimates were being assessed. In the workshop, participants were asked to provide their best estimates of selected poverty-related characteristics of households and information on the average number of poor residents. Assessments were also done in three communities to validate whether the variables were truly reflective of the actual extent of poverty in the municipalities. These validation exercises help teach participants how to conduct such assessments in areas with large increases in poverty to directly assess conditions on the ground.

### Mongolia's estimates using MICS 2018

Disaggregated gender statistics were generated for nine gender indicators using Mongolia's MICS 2018. For example, child marriage estimates were obtained using the wealth index and type of residence as disaggregating variables.

Applying the measures discussed in the previous section to the nine disaggregated gender statistics generated using Mongolia's MICS 2018, the computed estimates and corresponding characteristics are summarized in Table 23.:

**TABLE 23.**

**Measures of precision and reliability of select disaggregated statistics using Mongolia's MICS 2018**

| Indicator | Estimate | Disaggregation Variable/S | Number Of Observations | Standard Error | CV (%) |
|---|---|---|---|---|---|
| 1. Proportion of women aged 18–49 who married as children | 0.0938 | 1: Age | 846 | 0.0053 | 5.61 |
| 2. Proportion of poorest women aged 18–49 who married as children | 0.1142 | 2: Age; Wealth Index | 280 | 0.0093 | 8.14 |
| 3. Proportion of richest women aged 18–49 who married as children | 0.0491 | 2: Age; Wealth Index | 45 | 0.0096 | 19.51 |
| 4. Proportion of women residing in urban areas aged 18–49 who married as children | 0.0906 | 2: Age; Location (Urban/ Rural) | 388 | 0.0070 | 7.78 |

| Indicator | Estimate | Disaggregation Variable/S | Number Of Observations | Standard Error | CV (%) |
|---|---|---|---|---|---|
| 5. Proportion of women residing in rural areas aged 18–49 who married as children | 0.1006 | 2: Age; Location (Urban/Rural) | 399 | 0.0067 | 6.69 |
| 6. Proportion of poorest women residing in urban areas aged 18–49 who married as children | 0.1141 | 3: Age; Wealth Index; Location (Urban/Rural) | 14 | 0.0346 | 30.36 |
| 7. Proportion of richest women residing in urban areas aged 18–49 who married as children | 0.0492 | 3: Age; Wealth Index; Location (Urban/Rural) | 45 | 0.0096 | 19.51 |
| 8. Proportion of poorest women residing in rural areas aged 18–49 who married as children | 0.1142 | 3: Age; Wealth Index; Location (Urban/Rural) | 266 | 0.0095 | 8.34 |
| 9. Proportion of richest women residing in rural areas aged 18–49 who married as children | - | 3: Age; Wealth Index; Location (Urban/Rural) | 0 | - | - |

Of these nine indicators, the first one makes use of only one disaggregation variable, while the next four have two disaggregation variables and the remaining four have three disaggregation variables. As can be expected, indicator 1, which has the most observations, has the most precise estimate. On the other hand, indicator 6, which has the lowest number of observations—due to multiple disaggregation—would produce the least precise estimates. There is no estimate for indicator 9 as the small subdomain formed captured no observations in the disaggregation process.

In terms of reliability, as measured by the CV of the estimates, only five of eight estimates are relatively reliable (indicators 1, 2, 4, 5 and 8 above). Two estimates are of CVs greater than 10 but less than 20 per cent are sufficiently reliable but should be used with caution (indicators 3 and 7 above). Moreover, a caveat should be provided when publishing indicator 6, given its CV of 30 per cent.

## Canada's Survey of Household Spending 2008: Data quality indicators

Canada conducts the Survey of Household Spending (SHS) twice a year. It is a national survey to gather information on household and dwelling characteristics, household spending by category (such as food, clothing, shelter, transportation, health care), household income and household equipment. As of 2017, 48,570 households were being surveyed across the 10 provinces and three territorial capitals in Canada. The results of the survey are used to:

• Update the calculation of the basket weights of the Consumer Price Index (CPI)

• Assist in the calculation of the Gross Domestic Product (GDP)

• Measure trends and compare household spending

• Help government agencies identify the needs of specific population groups

• Monitoring purposes.

Sample errors for the SHS were computed for estimates using the bootstrap method. CVs are available in geographic estimates (national and provincial) and for certain indicators such as household type, age of reference person, household income quintile, household tenure and size of the area of residence. Statistics Canada set CV values greater than or equal to 33 per cent as inaccurate and thus suppressed.

**TABLE 24.**

**Illustration of Canada's publication of CVs (%) by province and national level for the estimation of average household expenditures for several categories**

| Summary level expenditure categories | Cana-da | Newfound-land and labrador | Prince Edward Island | Nova Scotia | New Bruns-wick | Que-bec | Ontario | Mani-toba | Saskatch-ewan | Alberta | British Colum-bia |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total expenditure | 0.7 | 1.5 | 1.8 | 1.4 | 1.3 | 1.3 | 1.4 | 1.9 | 1.4 | 1.6 | 1.7 |
| Total current consumption | 0.6 | 1.5 | 1.8 | 1.3 | 1.3 | 1.1 | 1.2 | 1.6 | 1.3 | 1.8 | 1.5 |
| Food | 0.6 | 1.4 | 2.3 | 1.3 | 1.4 | 1.1 | 1.2 | 1.5 | 1.4 | 1.3 | 1.4 |
| Shelter | 0.8 | 2.1 | 2.7 | 1.6 | 1.8 | 1.5 | 1.5 | 2.0 | 1.7 | 2.0 | 1.9 |
| Household operation | 0.9 | 2.0 | 3.0 | 2.3 | 2.0 | 1.7 | 1.8 | 1.7 | 1.8 | 2.3 | 2.3 |

*Source: Statistics Canada 2018.*

To further ensure that the SHS produces quality estimates, data certification and analysis processes were implemented for four main aspects:

- Expenditure certification – examination of year-to-year changes and historical trends for major expenditure categories at the national level as well as for the provinces and territorial capitals.

- Income certification – analysis of income statistics derived from tax and survey data at the national level as well as for the provinces and territorial capitals.

- Data confrontation – comparison of selected expenditure categories to the CPI and System of National Accounts (SNA) for Canada, the provinces and the territorial capitals, when applicable.

- Methodology and quality indicators – evaluation of data quality, through historical information on sample size, response rates, slippage rates, imputation rates and CVs.[163]

**United States' Healthy People 2010 criteria for data suppression**

In the United States, "Healthy People"[164] presents quantitative assessments of indicators deemed to measure the health of the nation. More than half of these measures are population-based and disaggregated for certain population groups, based on characteristics such as race, gender, socioeconomic status and for certain categories such as age, disability status, urban/rural classification, specific health conditions and sexual orientation. For Health People 2010, criteria for data suppression were published in order to facilitate comparisons among population groups.

Data that do not meet the criteria for statistical reliability, data quality or confidentiality were suppressed from the produced tables. The cell value, where the estimates are supposed to be located, are denoted with the abbreviation DSU.[165] USA Healthy People 2010's statistical notes illustrate data suppression.[166] The general criteria used for suppression are the following:

- Number of events is too small to produce reliable estimates or may violate confidentiality.

- Sample design does not produce representative estimates for a particular group.

- High item non-response or large number of unknown entries.

The specific criteria for suppression differ by the type of data system used in the measures. There are data systems that suppressed data for less than four cases while others are suppressed for less than 100 cases. Some data are being suppressed for relative standard error > 30 per cent while others are for a 17.5 per cent SE. Lastly, data are not always available for certain population groups because they are not able to show reliable estimates, such as for race. [167]

## Key take-aways

The following key take-aways can be provided under the Stage 4 on assessment and publication of results:

- Estimates of 'smaller' domains or subdomains (e.g., geography or specific sub-population group) may not necessarily have been considered when the household survey was designed. Hence, there is a need to examine whether the disaggregated gender statistics produced are sufficiently precise and reliable, as measured by the standard error and CV in estimating the true value of the indicator. As there are currently no internationally agreed standards regarding sufficient levels of precision and reliability, these vary across countries and may reflect their level of statistical development.

- To increase the statistical appreciation and capabilities of gender data users, data producers are also encouraged to present data quality measures along with other relevant information that will be helpful for users to understand and evaluate the estimates.

- In line with the principle "nothing about us without us", qualitative assessments should involve the specific population of interest itself as well as other prospective users as well as those knowledgeable about the type of disaggregation being studied.

# STAGE 5: DISSEMINATION, ADVOCACY AND USE

If statistics are not communicated, it is almost as if they did not exist. The goal of applying a gender lens to all aspects of statistical processes is to provide evidence of inequalities and gaps in the social, economic, environmental and political lives of women and men. Disaggregated gender statistics produced and validated by NSSs can be used by policymakers, research analysts, CSOs and the general public to leave no one behind and to make informed decisions about achieving gender equality and empowering all women and girls.

However, disaggregated gender statistics will only be valuable to users if they are "easily found and accessible, and if users find them relevant and easy to understand."[168] In order to operationalize this, one must first recognize some of the challenges in accessibility, relevance and the understanding of disaggregated gender statistics from users' perspectives. These include, among others:

- Users who do not exactly know the disaggregated gender statistics they need. A project manager might want to implement activities aiming to increase access to sexual and reproductive health services of women but might not know the best indicators to use to justify their project proposal.

- Users who know what kind of gender statistics they need but do not know where to find them. A policymaker might want to propose a bill on preventing violence against women and know which statistics are needed but might not know which NSS actors publish the needed indicators with disaggregation.

- Users who know which disaggregated gender statistics to use and where to find them but do not know how to access or maximize the utilization of tools or data platforms. A researcher studying access to information technology among women and men might know that an NSS database has statistics on

the proportion of women using the Internet but might not know how to access that database.

- Users who know what kind of gender statistics they need, where to find them, and how to use data tools but do not know how to interpret data in different ways. A journalist might want to write a piece about disaggregated gender statistics, such as the proportion of women and girls living in the poorest rural households who fail to complete more than six years of education, by ethnicity, but may miss caveats in the statistics that are needed to accurately interpret the data.

Proper and targeted dissemination and communication are key to overcoming these challenges. Dissemination is a phase of statistical processes, in which data collected and compiled by statistical agencies are released to the public.[169] It focuses largely on making sure that the message reaches the target audience and maximum number of users, through tools they can easily utilize and methods they can easily understand. Meanwhile, communication goes beyond that and includes activities that improve the overall awareness and appreciation of users for disaggregated gender statistics. Dissemination is a passive and often one-way process of making data available, while communication is a two-way exchange. And after it has taken place, both producers and users should be informed and aware. Ideally, they will also walk away empowered and inspired.

This final stage examines important components of disseminating, communicating and advocating for the use of disaggregated gender statistics. It also presents select country cases that successfully demonstrated these efforts, which were undertaken with Women Count programme support.

## Disseminating disaggregated gender statistics

The dissemination of official statistics should be an integral part of the design and implementation of an NSDS. Building on this, a dissemination plan specific to gender statistics should be developed, given that gender issues occupy a unique place in policymaking[170] and gender concepts require in-depth clarification to avoid confusion and misrepresentation. For example, in 2015, the Pacific Community published a *Guide to Gender Statistics and Their Presentation* with a template on "Gender statistics dissemination and communication strategy" to guide countries in the region in devising clear plans for how to reach target users effectively.[171] However, when it comes to disaggregated gender statistics, there is a need for a separate plan.

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**BOX 15.**

### Challenges to disseminating and communicating statistics on gender-based violence

SDG Target 5.2 seeks to eliminate all forms of violence against women and girls. SDG Indicators 5.2.1 and 5.2.2 under this target are both classified as Tier II – that is, indicators are considered "conceptually clear" and have "internationally established methodology and standards are available", but according to the UNSD, these indicators have yet to be regularly produced by countries.

To add to challenges of data availability, the Task Force established by the Conference of European Statisticians Bureau identified "communicating statistics on gender-based violence" as one of the challenges for gender statistics because:

- The topic may trigger distress for people who have experienced it.

- The topic is multi-faceted in nature and there is a need to take into account intersectionality while not sacrificing the robustness of the statistics.

- There is potential for the stigmatization of men, since most perpetrators of violence are men.

- Comparability within the country across time and across the country in the same time period is difficult because the level of reporting and unit of observation may change over time.

Additionally, disaggregated data have an additional challenge in terms of confidentiality as there may be a higher risk of identifying subjects based on their characteristics when the number of observations become smaller.

*Sources: UNECE 2020; UNSD 2020.*

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A gender statistics dissemination plan should ideally specify the following components:

- dissemination team
- target users
- what message will be disseminated
- how gender statistics will be presented
- timing.

### Dissemination team

To easily implement the plan, the key people who will be involved in the dissemination process should be identified early on and the tasks for each actor should be clearly specified. It is important that team members come from different areas of expertise to ensure a holistic approach and incorporate a wide and inclusive skillset and perspective throughout the process. It is important to stress, however, that the relationships between and among these

actors are not and should not be hierarchical, but collaborative.

An effective dissemination team should include, among others:

- Statistics specialists, who are primarily responsible for the production and validation of disaggregated gender statistics and who can best explain the interpretation and limitations of generated values

- Gender specialists, who know the relevant gender issues and needs for disaggregated gender statistics in the country and can suggest which areas and groups to focus on for data-driven policy recommendations

- Communication specialists, who are experienced in designing cost-effective gender data communication strategies and who can effectively communicate gender-sensitive statistical products to target users.

## Target users

Gender statistics cut across all aspects of women's and men's lives. Thus, there are different user groups with varying knowledge of socioeconomic affairs and data analysis methods that should be considered in creating the dissemination plan.[172] There are government bodies that use disaggregated gender statistics in policymaking for equal opportunities of women and men, women's organizations and groups that put advocate around women's issues, researchers that support their analyses, media that feature gender stories, as well as international organizations and the general public that may have various uses (see Box 16).

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**BOX 16.**

## Core users and needs for gender statistics

Underscoring the importance of identifying different target groups when communicating gender statistics, the following target users have been identified by UNECE and the World Bank Institute:

- Government bodies promoting equal opportunities

- Other government bodies (ministries of labour, social protection, education, etc.)

- Women's organizations and/or feminist organizations as separate non-governmental organizations, or within political parties, trade unions, parliaments, regional and municipal decision-making bodies

- Networks, faculties and libraries in universities and other parts of research environments

focusing on questions of equality, equal opportunities, feminism and other gender-related issues

- Public libraries

- Women's magazines, publications and information centres

- Support centres fighting against harassment or violence against women, centres for young mothers and other gender-oriented social institutions

- Media

- International organizations.

*Source: UNECE and World Bank Institute 2010.*

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Vale (2008) categorizes data users according to how they use the data: 'Tourists' are infrequent majority users who primarily use data out of curiosity or for informed personal decisions; 'Harvesters' are frequent users who primarily use data for basic research or economic decisions; and 'Miners' are frequent but few users who primarily use data for detailed research or analysis.[173] These data users have different preferred data access tools and statistical languages.

## Civil society 'listeners' team up with enumerators to track violence against women in Morocco

UN Women worked closely with Morocco's national statistical office – the High Commission for Planning (HCP) – to design the country's second violence against women and girls prevalence survey. UN Women's Women Count programme in Morocco began in 2019 with a national assessment and workshops to engage statistical users and producers at the earliest stages.

This early engagement cultivated relationships and allowed CSOs to "have their voices heard on the challenges they face", which "built momentum that involved them in the whole process of data production," according to Leila Rhiwi, UN Women Country Representative in Morocco.

Consultations sought to expand the survey's scope beyond areas covered in the first survey in 2009. As a result, new areas – such as estimating the social and economic costs of violence against women, for both victims and their relatives – were added.

When HCP conducted the country's first violence against women survey in 2009 – with support from UN Women's predecessor, UNIFEM – women's networks and CSOs were involved. Recognizing that collecting data on this sensitive subject would be particularly difficult in traditional villages, HCP incorporated women "listeners" from CSOs that provide services to victims of violence in those regions. The listeners worked alongside HCP teams collecting the data.

This innovative approach allowed both groups to learn from each other's expertise, and resulted in more sensitive survey tools, while increasing trust in the resulting data. The second survey, in 2019, deepened engagement between CSOs and HCP, bringing them in earlier to discuss tools, concepts and approaches for interviewing victims, and to develop the questions.

"When users know the data, as they participated in data collection, they are more willing to trust these data," says Najat Razi, President of the Association Marocaine des Droits des Femmes (Moroccan Association for Women's Rights).

*Source:* https://data.unwomen.org/features/civil-society-listeners-team-enumerators-track-violence-against-women-morocco

An effective dissemination strategy requires engaging with various target user groups to identify their needs.[174] Engagement can start as early as planning for data collection. User dialogues can be done through workshops, consultations, focus group discussions and involvement in working groups. For example, in designing household questionnaires, comments from target users are sought to identify the questions and data items that are most relevant to them and that will feed into the policies or programmes planned or already in place. Some users who are experts in specific fields can also suggest the ways to best capture certain sensitive information, such as fertility and sexuality questions for adolescents and violence against women statistics. Box. 17 details a good example of how civil society 'listeners' teamed up with enumerators to track violence against women in Morocco.

With regards to users' role when it comes to existing household survey data, Stage 2 (users' involvement in the identification of NPGEIs) and Stage 4 (users' part in qualitative validation) are of relevance.

## What message will be disseminated?

Dissemination is more than just releasing the available gender statistics. A big part of it involves choosing (and in essence, leaving out) which specific indicators to focus on.

In some cases, the decision can be survey-centric. There are surveys conducted to directly produce

indicators relevant to women's issues, such as time-use surveys, Demographic and Health Surveys (DHS), and surveys on violence against women. Other surveys that are regularly or periodically conducted by NSOs/NSSs—such as Labour Force Surveys (LFS), Household Income and Expenditure Surveys (HIES), and Agricultural Surveys—can further feature gaps and inequalities between the lives of women and men when more disaggregated gender statistics are generated.

The decision on what statistics to disseminate can also be monitoring-centric. In 2013, during the 44th Session of the UNSC, Member States agreed on the compilation of the Minimum Set of Gender Indicators, which consists of 52 quantitative indicators that are fully aligned with the SDGs and 11 qualitative indicators addressing relevant issues related to GEWE.[175] This set is intended to serve as a guide for the national production as well as the international compilation of gender statistics. It contributed to several countries' efforts to adapt the minimum set and identify their NPGEIs for monitoring their progress on GEWE. The latter reflect country-specific priority gender data needs with respect to the social, economic, environmental and political situation of its population. This is discussed in detail in the previous section.

In disseminating either type of content, users' needs and demands should always be put first. In addition, it is important to not simply disaggregate data by sex. There is a need for a deeper conversation on gender and intersecting inequalities to start teasing out in practice what needs to be done to better imbed the concept in statistical and policy work. It is thus critical to pay particular attention to how to address gender and intersectionality and ensure that it is a default approach rather than an afterthought, as is often the case.[176] Inequalities determined by sex-based differences should be analysed and populations where these inequalities are most pronounced should be highlighted.[177]

## How will gender statistics be presented?

Similar to other types of statistics, gender statistics can be disseminated through different statistical products and forms, depending on who the target audience is and on their level of statistical literacy. However, gender statistics differ from other types of statistics such that they are primarily disaggregated by sex and usually present women's and men's statistics side by side. In addition, as we look towards disaggregated gender statistics, multiple disaggregations[178] (e.g., sex, location, income/wealth, among others) should be presented, which are not always easy to visualize.

### *Statistical products*

Gender statistical products differ by the level of information they contain. Microdata include information collected on a certain statistical unit. Macrodata are the aggregation of microdata conforming to statistical methodology—such as counts, means or frequencies. Macrodata are usually used in disseminating statistical products to majority users.

Reports document information in an organized format, through a collection of texts, tables and visuals. Gender statistics stemming from surveys can be part of reports consisting of sex-disaggregated discussions and analysis or in specialized chapters focusing on gender analysis. Some countries also have gender-specific reports such as a "Women and Men" publication and thematic reports relevant to gender issues and disaggregated gender statistics.

Articles, data stories, briefs, infographics and social media content, etc. are short, simplified and user-friendly products that summarize and highlight key gender statistics with disaggregation from the main findings of a survey or on a certain gender issue. Factsheets and infographics also present disaggregated gender statistics using visual aids, making them more accessible. A collection of tables on gender statistics can also be disseminated.

In many cases, microdata are also available for release to some users who prefer more in-depth information for customized presentation. However, the microdata will be subject to strict confidentiality and anonymity as some data contain personal information. Microdata can be released as public-use files but are usually restricted in access or only available upon request. Dupriez and Boyko provide a comprehensive guide on disseminating microdata.[179]

## Modes of dissemination

Statistical products are disseminated in different ways. There are printed materials, electronic and web-based, and face-to-face presentations. In this digital age, electronic and web-based dissemination is preferred because it is more efficient than other means. It reaches a broader variety of users, both within and outside the country, at a lower cost. Electronic statistical products can also be easily and quickly accessed by users whenever they need them. These products can also be easily reused and further redistributed by users.

However, some users still prefer printed materials. These products come 'as is' and can be accessed without using other devices. Printed materials are distributed to different target users.[180]

Most statistical products can be disseminated using both printed and electronic means. However, because of their size, microdata are solely disseminated through electronic and web-based formats. In electronic dissemination, microdata are given to users in storage devices such as USB or hard drives, or emails. They can also be downloaded directly from the websites of NSS actors or international agencies/development partners that provided support to the statistical activity.

Face-to-face presentations are another way of disseminating gender statistics. They can be in the form of launches, press briefings, dialogues or conferences. This method allows specific target groups of users for disaggregated gender statistics to be reached and allows producers to personally address any immediate questions or concerns they may have about the information within the statistical products.

## Visualization and language

Visual representation and using the right language affect the clarity and speed with which information is received.[181] Visual representations such as charts, maps and infographics can enhance the dissemination of important gender statistics. However, it must be noted that different types of charts and maps serve different purposes. Likewise, proper use of gender statistics terminologies can help users become more familiar with them.

**TABLE 24.**

## Basic rules in gender statistics visualization and language

| Do's | Don'ts |
|---|---|
| Use women and men in statistical products. | Don't use females and males as these terms merely cover biological aspects. |
| Statistics for women and men should be presented side-by-side for BOTH women and men to easily allow comparison. Break the reporting tendency by putting women first, followed by men in tables and graphs! | Don't put men first. Most questionnaires use the codes 1 for men and 2 for women. This means that statistical tables are automatically generated with men first, followed by women. |
| Select icons that are relevant to the gender statistics being presented and that take into consideration the cultural and political underpinnings of the report. | Don't forget to add labels, titles, notes and sources for tables and graphs. Titles should be a complete description of the data being presented. |

| Do's | Don'ts |
|---|---|
| Properly keep metadata (information about the data) and documentation for easier reference. While some indicators have commonly agreed international definitions, they can still be collected in different ways and there may be important considerations that should be known to users. | Never assume that all users understand the metadata, same definitions and terminologies. Some statistical findings should be translated using layperson's language. |
| Make sure that databases are user-friendly and that the steps for accessing data are clearly explained. | Don't keep gender statistics in different webpages. If it is not possible to house them on the same platform, a webpage summarizing links to where they can be found would be helpful. |
| In charts and graphs, consistently use the same different colours for women and men, for easier identification. | Avoid stereotypical colour use, such as pink for women and blue for men. Also avoid using colours and images that impose gender stereotypes. |

UN Women and SIAP[182] and SPC[183] provide comprehensive directions on data visualization. Meanwhile, UNECE makes specific recommendations on the language used in relation to gender in statistical communication and on maintaining impartiality when communicating gender statistics.[184]

## Timing

It is important that gender statistics are utilized in a timely manner, in order to be responsive and relevant to gender data users' and stakeholders' needs. The timeline of a release/launch should be part of the dissemination and communications plan. This should give enough time to the processing of gender statistics and be added to an NSS unit's statistical calendar, either in addition to, or complementary to other statistics being produced.

Survey-centric statistical products are released at the end of survey implementation. Meanwhile, some have institutionalized dissemination and are conducted at regular intervals. UNECE and the World Bank Institute note that the timing of statistical products' release can affect the extent to which they are used.[185] For example, arguably, greater effect can be achieved if gender statistics with disaggregation will be released to coincide with women-relevant national events such as International Women's Day, Girl Child Day or even Mother's Day, or in line with relevant current events.

## Advocacy for data use

Communication activities do not only include disseminating materials and events but contributing to the overall improvement of awareness, understanding and use of disaggregated gender statistics are also important elements. The promotion of statistical products and events will help increase users' awareness of the availability of disaggregated gender statistics, but capacity-building efforts are also needed to improve statistical literacy. Effective communication can also allow for easier interpretation of complex disaggregated gender indicators and understand what these numbers represent, such as the gender pay gap, for instance. Disaggregating the pay gap by occupation or industry provides policymakers with more granular data on where the pay gap is widest, to then allow for more targeted reforms.[186]

## Promotion of statistical products and events

There are several ways to inform users of the availability of new gender statistics with disaggregation levels. Each of the NSS units' official websites is a good start, where updates and new data can be shared. When new data, including new disaggregations are made available, targeted email blasts or newsletters can be disseminated to call attention to them. Social media messages can help further expand dissemination and reach new audiences.

Engaging media outlets can give broader exposure and ensure more effective dissemination. Press releases can be prepared by the dissemination team to highlight key findings and messages. The media play a unique role in disseminating disaggregated gender statistics—both as a channel for dissemination but also as target users themselves who can benefit from access to disaggregated gender statistics and incorporate them into their stories. UN Women and PARIS21 teamed up to design an e-learning course to guide journalists and statisticians to use statistics to report on the unique situation and needs of women and men. The course also identifies points of cooperation and collaboration between journalists and statisticians.[187]

To ensure optimal gender statistics dissemination, it is important to monitor the effectiveness of dissemination and communication materials—that is, whether they have reached the target audiences and if these materials were used so that the data they present can ultimately contribute to positive changes that will impact women's and men's lives. It is important that dissemination plans also clearly identify the key staff who will be involved in monitoring, how often the monitoring is done, and the agreed measures of success.

The reach of statistical products that were released electronically is easier to measure. Webpage visits and number of downloads can easily be tallied. In some cases, the location of those who accessed a certain webpage can also be determined. These tallies cannot, however, identify which gender statistics were sourced or referenced and which users accessed them.

Information on how disaggregated gender statistics are actually used, which is hard to find, can be checked by tracking the specific requests of users through website forms, email or phone requests. Face-to-face dissemination can make it easier to check which types of users are attending launch events and from which organizations. During these events, the questions asked during the discussions can also help producers identify which topics are of most interest to users and which may represent a source of contention. Under the Women Count programme, a guidance tool[188] was also developed to systematically monitor the use of new gender data produced through 52 rapid gender assessments (RGAs) on the impact of COVID-19.[189] This is presented in Box 18.

## UN Women's guidance on monitoring use cases of rapid gender assessment surveys on the impacts of COVID-19

In line with its mandate and efforts to underpin the response to the pandemic, UN Women and its partners, through the Women Count programme, initiated primary data collection activities to provide up-to-date information on trends and analysis on a range of topics related to the gendered impacts of COVID-19. As a result, UN Women commissioned rapid gender assessments (RGAs) on the impacts of COVID-19 in various countries.

As a logical extension of the RGAs, and in line with its ambition to bridge the gap between data production and use of gender statistics, the Women Count programme is also exerting deliberate efforts to monitor and document use cases of RGA findings at country, regional and global levels. For this purpose, the Women Count programme has developed a guidance tool to intentionally document use cases of the data.

The guidance document provides support for UN Women colleagues in Regional and Country Offices (ROs and COs) and others seeking to compile use cases or impact stories. It explains why monitoring use cases is important and offers a reference questionnaire to be administered to target respondent organizations, including tips and guidance. The tool provides simple, straightforward questions regarding: 1) information about the survey and the responding user or stakeholder; 2) specific uses of the RGA; and 3) users' feedback and needs. UN Women ROs and COs may opt to modify the questionnaire, depending on what they deem practical, and with due consideration of their existing priorities.

*Source:* UN Women 2021b

## Promotion of the use of gender statistics and sustainability

Several activities can also be undertaken to ensure or improve the understanding and use of gender statistics, such as preparing key messages, maintaining good relationships with users, conducting training courses for statistical literacy, making use of social media for promotion, and institutionalizing dissemination team members and plans. These will be illustrated in some of the good practices of select country case studies.

## Country case studies

Building on UN Women's unique normative, policy, programmatic and coordination mandates, the Women Count programme is addressing one of the key challenges for the production of disaggregated gender statistics—that is, the lack of access and limited capacity among users to analyse gender statistics to inform policies. At the global, regional and particularly at the national level, the

programme is promoting greater access to and analysis of gender data by users, including through open access platforms, dissemination tools, user-producer dialogues, and strengthened capacities of all relevant actors to use gender statistics in policy, programmes and advocacy.

This subsection presents specific examples of good practices as well as challenges and lessons learned in the dissemination and communication of gender statistics in select countries, with direct support from the Women Count programme.

### Colombia's statistical handbook on Women and Men: Gender Gaps in Colombia[190]

Colombia is committed to and is continuously accelerating substantive equality between women and men in different dimensions, such as economic empowerment, political representation, and the elimination of all forms of discrimination and violence against women.

Within the framework of this commitment and the implementation of the Women Count project in Colombia, UN Women has established an alliance with Colombia's National Statistical Office (DANE) and with the Presidential Council for Women's Equality (CPEM) to improve the availability, access and use of gender statistics in the development of public policies by the public sector, academia and civil society. Under this alliance, on 10 November 2020, Colombia released the first edition of Women and Men: Gender Gaps in Colombia. This publication includes a strategic selection of themes and indicators describing and analysing the current situation of women and men in Colombia in different aspects and is the flagship publication of UN Women Colombia for 2020. The information presented, and the way in which it is examined, make it possible to identify progress and setbacks, providing guidance for reflection and the design of relevant and efficient policy actions focused on promoting gender equality and women's empowerment.

Concerning the release of disaggregated gender statistics, in the report, the indicators are presented to the extent that the available statistical information allows; they are also disaggregated by other characteristics in addition to sex—such as age, place of residence, ethnic self-identification, income level, educational level, among others—addressing a gender-sensitive approach and taking intersectionality into account.[191]

*High-level launch opened by the female Vice-President of Colombia*

As a clear demonstration of the strong and high-level support of the national Government for this initiative, none less than the Vice-President of Colombia, Martha the publication Lucía Ramírez, opened the launch event of the report. The first edition of Women and Men: Gender Gaps in Colombia was launched to present the results as well as the recommendations to accelerate closing gender gaps, and to promote the publication's use as a reference tool for national and local consultation to guide public policy decision-making.

**Colombia's first-ever Women and Men statistical report and high-level launch**
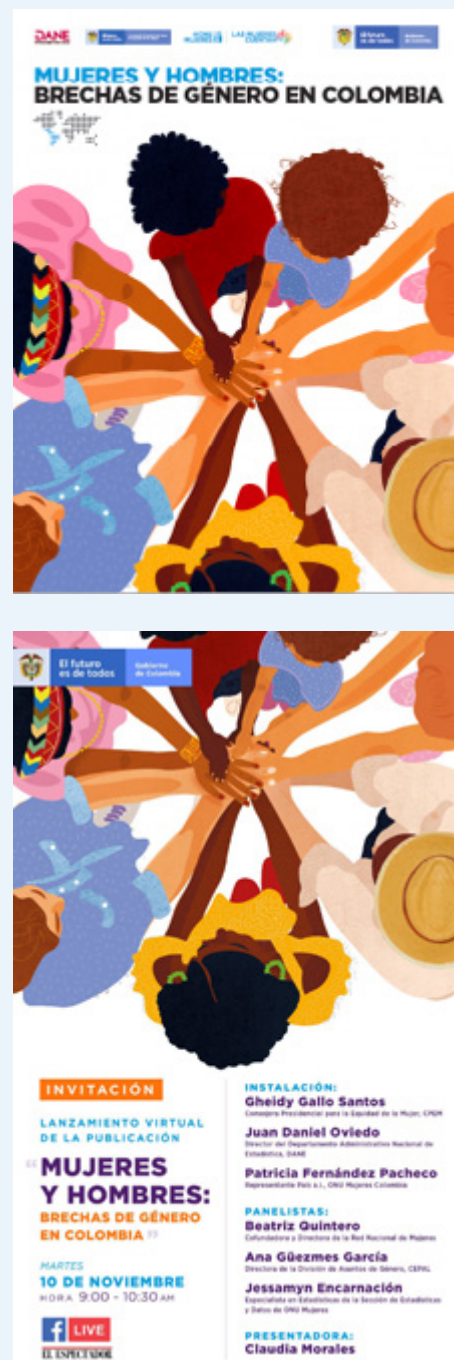


*Source: UN Women, DANE and CPEM 2020a.*

The Vice-President's statement was followed by an introduction by UN Women Colombia's Country Representative a.i., Patricia Fernández-Pacheco, and a presentation of the main findings of the publication by DANE's Director, Juan Daniel Oviedo. Providing commentary on the publication, a panel representing different groups of users and stakeholders featured: Beatriz Garcia Quintero, Cofounder and Coordinator at Women's National Network, a Colombian women-based social organization; Ana Güezmes Garcia, Director of the Gender Affairs Division at the United Nations Economic Commission for Latin America and Caribbean (UN ECLAC); and Jessamyn Encarnacion, Inter-Regional Advisor on Gender Statistics of the Women Count programme at UN Women Headquarters. Representatives from various sectors participated in the launch event: from national and local government and from organizations that use statistics, including: UN agencies in Colombia, other international NGOs with a country presence, academia, civil society and women's organizations.

To amplify the dissemination of the launch event, as well as the results of the publication, an alliance was established with the national newspaper El Espectador, which has been a fundamental ally in advancing the positioning of the gender equality agenda in Colombia.[192]

Beyond the launch, there were initiatives to ensure the sustainability and institutionalization of the continuous production of disaggregated gender statistics. Less than a month after the report's launch, DANE committed to two positive and institutionalized changes:

1. Regular publication of the report

- DANE pledged to produce the publication every two years, citing the significant contribution of the publication in revealing gender gaps and informing new national gender policies through statistical evidence with an intersectionality approach. For example, the 2020 report will be used to inform the formulation of the country's new national gender policy.

2. Further geographical disaggregation.

- Following the publication's launch at the national level, regional gender observatories in Antioquia, Nariño, Cauca and Meta are launching similar publications to inform local decision- and policymaking in their regions. In Cauca, the publication was launched on 25 November, and in Nariño on 2 December 2020. The publication, now available on the web portal of the Nariño Gender Observatory, was developed with support from the Women Count programme.

*The launch increased awareness and fostered interactions among gender data users and stakeholders*

The launch event was livestreamed on Facebook, garnering more than 25,000 views and 1,239 interactions.[193] During the event, Women and Men: Gender Gaps in Colombia was made publicly available for download on the DANE[194] and CPEM[195] websites. It is worth noting that within a month of its release, it has already collectively achieved 87,300 impressions.[196]

## Factors behind the success of Colombia's Women and Men: Gender Gaps in Colombia outreach

### High-level commitment of UN Women Colombia leadership

In the implementation of Colombia's Women Count project, which started in 2019, then Country Representative Ana Güezmes Garcia steadfastly championed the development of gender statistics together with national partners. She has also been a staunch advocate of outreach and communication activities to promote the GEWE, including by raising the visibility and impact of the handbook as the 2020 flagship publication of the Office. The UN Women Colombian Country Office has even developed its own strategy to launch flagship publications. This strategy addresses five key aspects:

1. development of the publication by an interdisciplinary team composed of officials from both UN Women and partner institutions;

2. the review and curation of the publication by external professionals who are experts in the subject matter;

3. professionalization of the publication by the technical team responsible, which will incorporate the adjustments;

4. definition and implementation of the dissemination and communications strategy, including a national launch, by a team focused on strengthening the articulation between communications and technical teams, innovating in formats and in alliances with media outlets to ensure technical, political and strategic attention, and defining key messages using simplified and accessible language; and

5. establishment of monitoring and coordination spaces with participation from different entities linked to the publication, to facilitate decision-making and the establishment of agreements throughout the process.

The combination of these actions coordinated among different parties significantly contributed to the success of the launch of the *Women and Men: Gender Gaps in Colombia* handbook. Working together, the Planning and Monitoring and Evaluation (M&E) Unit, where the Statistics/Women Count Team is housed, and the Communications Team leveraged a collaborative strategy in the implementation of the event, facilitating the development of a workplan, outlining the roles and responsibilities of concerned team members, and drafting a concept note and run-of-show of the launch.

### Partnerships and collaborations beyond the developers of the publication

The publication and the launch event were planned and carried out by three partner institutions: DANE, CPEM and UN Women Colombia. Partnerships were likewise established with other key stakeholders to improve the quality of the report, strengthen its impact, and reach a wider audience. For example, an interdisciplinary team of officials from relevant institutions was formed to review and improve the publication's content and messages.

### Partnership with media

The launch event organized done in partnership with El Espectador, a national media outlet in Colombia, with 4 million Facebook followers. The event was covered in at least 47 publications in national, regional and local media.[197] The hashtag associated with the event, #GeneraciónIgualdad, also trended in the country during the event.

This strong media support, including of the gender data agenda, was the product of curated coordination with the media. Multiple meetings were held between the team and media partner to prepare for the November 2020 event. The moderator was a renowned journalist with a list of high-impact allies. Lastly, the embargoed publication was shared with journalists prior to the event, with clear terms of use, to facilitate their coverage of the key messages highlighted during the online event.

## Kenya's first-ever Women's Empowerment Index[198]

In August 2020, Kenya launched its first-ever Women's Empowerment Index (WEI). Its production and launch was co-led by UN Women, through the Women Count programme, in partnership with the Kenya National Bureau of Statistics (KNBS) and UNICEF. WEI is a major milestone in the country's monitoring of SDG 5, as the first comprehensive and systematic measure of women's and girls' empowerment in Kenya. The analysis uses data from Kenya's Demographic and Health Survey 2014, which contains significantly more relevant variables and indicators compared to any other dataset available, and includes information at the individual level. The WEI report presented disaggregated statistics for women's empowerment at the national level, by area of residence and other socio-economic characteristics including age, marital status, sex, educational attainment of household head and and wealth quintiles.

The WEI report is a first step towards meeting the need for a more comprehensive and robust measure of women's empowerment for Kenya. In the future the measure should also be disaggregated at the subnational (county) level.[199]

Recognizing that empowerment is a multidimensional concept, WEI identified women's status in the following domains:

- attitudes towards wife-beating
- human and social resources
- household decision-making
- control over sexual relations
- economic domains

### A highly publicized high-level joint launch

The launch of the WEI was realized in collaboration with strategic partners and stakeholders, including the Gender Sector Working Group, county governments, CSOs and development partners. The launch received significant and positive mainstream media coverage, such as:

1. A video interview on CNBC Africa[200]
2. An editorial from a leading regional media outlet[201]
3. A video interview and the feature on Devex[202]
4. Leading columnist opinions[203]
5. Other articles[204] in national print and broadcast media outlets[205]

The media coverage contributed to the public discourse around gender equality within the country. Key messages and WEI data were turned into a variety of information and communication products, which were customized and repackaged—such as media material, infographics, and a popular version for diverse audiences, including media, industry actors and the general public.

**FIGURE 8.**

**A sample news feature with coverage of Kenya's Women's Empowerment Index**



*Source: Akumu 2020.*

Women Count developed a set of infographics including disaggregated gender statistics to help visualize and synthesize complex data from these statistical products for use by diverse audiences and for continued promotion on UN Women social media and other channels.[206] Social media were actively used, before, during and post-launch. As of March 2021, posts about the WEI achieved 46,808 impressions and 683 engagements according to Country Office analytics for social media engagement.

Beyond stakeholders' support in disseminating the WEI within their circles and on social media, Women Count Kenya has a partnership with GROOTS Kenya[207] which is a national movement of grass-roots women-led community-based groups and self-help groups in Kenya. GROOTS Kenya disseminates various data products, including the WEI, to county government planners to support their planning and to CSOs to support their advocacy. This partnership has helped drive demand for the use of gender statistics in county annual plans, budgets and implementation reports by county and sectoral departments.

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**BOX 20.**

## Factors behind the success of Kenya's outreach and advocacy to promote its first-ever WEI

With support from partners, particularly from the Bill and Melinda Gates Foundation, the Women Count programme has a strong presence in the East and Southern Africa region. It is presently implementing a regional project as well as projects underway in three pathfinder countries: Kenya, Uganda and Tanzania. Given the strong results emerging from programme implementation in these regional and country projects, a Reporting and Communications Consultant was recruited to capture, package and share results with key stakeholders as part of the reporting process, and to disseminate them as stories and messages for the general public.

In this respect, the success of the WEI uptake was the result of targeted communications to a broad audience:

- **Dedicated communications capacity:** A Communications Consultant recruited by the Women Count programme in East and Southern Africa provided expertise in developing key messages and packaging the WEI findings to target broader audiences. This tailoring of the product made it more accessible for media as well as for target users. To capture and enhance stories of progress, the consultant assisted in adapting

and tailoring key messages for different users, with particular attention to mainstream and social media. Through this practice, it was easier for users to get the information they needed through messaging that they could understand. This is demonstrated by the diverse array of media coverage of the launch of the first-ever estimates of WEI in Kenya.

- **Companion assets:** Women Count developed a set of infographics including disaggregated gender statistics to help visualize and summarize complex data. These infographics were used for promotion on UN Women social media, such as Twitter, and other channels, which resulted in a wider uptake.

- **Stakeholder engagement:** Stakeholder involvement in the development, planning and dissemination process ensured their ownership of the initiative. Stakeholders included the KNBS, UNICEF, the State Department for Gender, the Council of Governors, the National Gender and Equality Commission, the SDG Forum and GROOTS Kenya. The production of general-public-friendly information packs based on the gender data products was key, as was the strategic dissemination of these gender products to and by pre-identified stakeholders.

**FIGURE 9.**
**Infographics on disaggregated gender statistics**



*Source: UN Women Kenya 2020.*

In addition to launching the WEI, another good example of harnessing partnerships in public dissemination in Kenya has been publicity of the University of Nairobi students' use of KNBS data to develop policy recommendations (see Box 21).

**BOX 21.**

**University of Nairobi students' use KNBS data to develop policy recommendations**

A compendium has been prepared to showcase the results of student research grants undertaken as a result of collaborative efforts and support by the University of Nairobi, State Department for Gender, KNBS and UN Women. This has had a ripple effect, giving rise to more opportunities for the students to showcase and advance their work with national and global stakeholders. The University of Nairobi, as a KNBS partner, accessed data sets on gender statistics, which were deeply analysed by selected graduate students, with the ultimate goal to inform policy and decision-makers. This compendium has been created through the graduate student research programme, in response to public demand. The graduating former students were invited to prepare a research paper in collaboration with their former supervisors in this peer-reviewed research compendium. The research is organized in three sections:

- Women's economic empowerment (five papers)
- Women's reproductive health (seven papers)
- Gender-based violence (two papers)

Each section begins with a brief introduction, a summary of the papers in that section, as well as the key policy recommendations derived from the research papers in the section.

*Source: University of Nairobi and UN Women forthcoming.*

## Uganda's National Priority Gender Equality Indicators

In promoting the use of NPGEIs, Women Count has carried out gender statistics reporting and communications work for Uganda. In relation with this, UBOS has demonstrated a high utilization of infographics and social media in disseminating Uganda's NPGEIs.

**Communication resources of Uganda's NPGEIs**
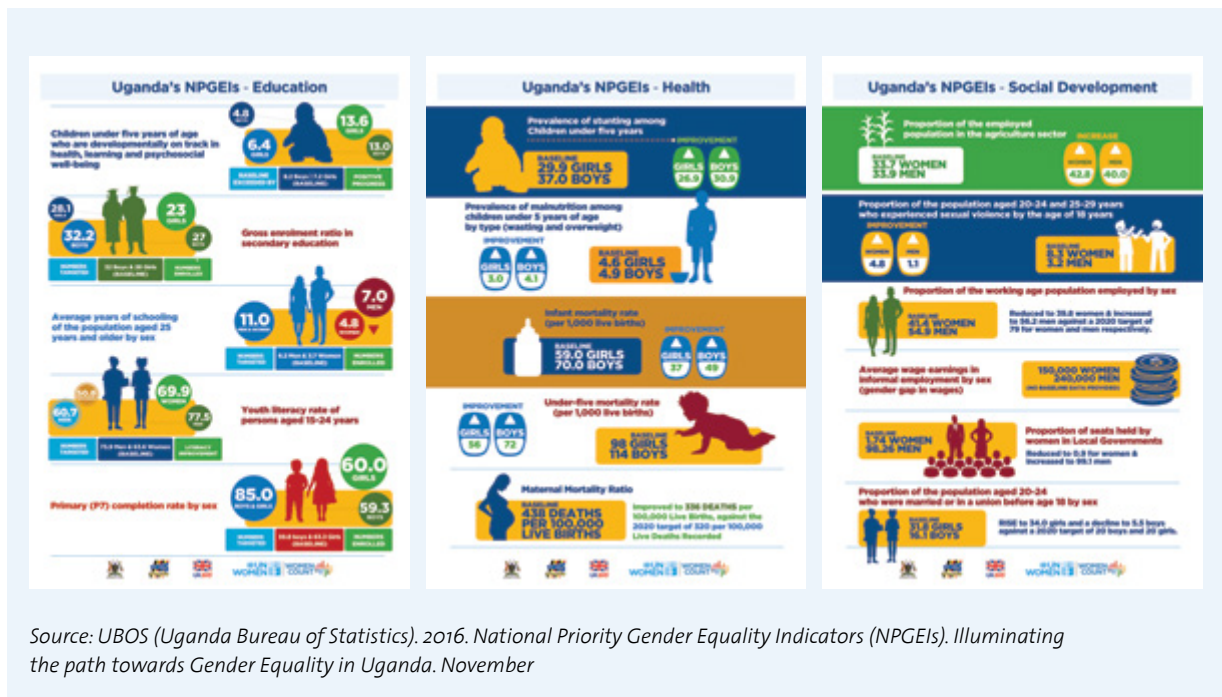


*Source: UBOS (Uganda Bureau of Statistics). 2016. National Priority Gender Equality Indicators (NPGEIs). Illuminating the path towards Gender Equality in Uganda. November*

Communications materials were also presented in the 4th Annual Gender Statistics Forum (AGSFIV) in November 2020. The AGSFIV provided a platform to launch the Gender Statistics Web Portal[208] and share gender data work on the national priority gender equality indicators (NPGEIs). The forum attracted the participation of multiple stakeholders, including data producers and users from government ministries, departments and agencies, higher local governments, civil society, private sector actors, academia and researchers, development partners and the media. Further, the policy brief on SDG Indicator 5.c.1 and Uganda's performance towards tracking budget allocations for gender equality and women's empowerment was prepared and published.[209] This document is considered an important milestone in supporting efforts to ensure public allocations for gender and equity interventions.

## Factors behind Uganda's success in increasing the availability of and access to its NPGEIs

### Advocacy and Dissemination Strategy

UBOS developed the "Advocacy and Dissemination Strategy for Gender Statistics" in 2018. It presents guidelines and strategic objectives to be achieved towards the institutionalization of gender statistics in Uganda. The document outlines strategies and compatible actions to be undertaken for improved advocacy and dissemination to promote the use of gender statistics in planning, programme implementation and decision-making.

### Social media presence and engagements

Uganda's dissemination plan includes expanded social media presence to increase awareness of UBOS data. Its social media toolkit outlines tools and platforms, particularly Twitter, and plans for live tweeting at events and providing links to reports. The target audiences for this particular activity are researchers/academics, civil society and women's groups, youth, development partners, donors, and male champions. Established in 2011, UBOS' official Twitter page

(@StatisticsUg) has more than 3,000 followers.[210] UBOS has been actively posting news and updates of the organization's statistical products and activities as well as events. During the AGSFIV, the Twitter page featured updates *about the event and shared the link for the live presentation*.

### Creation of URL shortcuts to facilitate access

UN Women also created a URL shortener to generate simple and accessible links to NPGEI publications.[211]

### Gender Statistics Portal

UBOS maintains a Gender Statistics Portal, which is a one-stop centre for gender statistics. It includes access to gender statistics under different themes, as well as gender news and upcoming events. It is accessible to the general public for increased uptake and use of gender statistics for policy, programming, reporting and decision-making. Gender statistical publications will be added as it further develops.

## Key take-aways

The key take-aways for Stage 5 on dissemination, advocacy and use of disaggregated gender statistics produced are below:

- There is no single formula to preparing and disseminating disaggregated gender statistics that are relevant to users, easy to find, easy to understand, and that ensure uptake and use.

Rather, dissemination strategies and statistical products should be tailored to target key users, including media, influencers and movers of the GEWE agenda in the country.

- Lastly but not least, in order to achieve effective dissemination investments are needed—in human resources, information and communications technology and financial.

# CONCLUSION AND THE WAY FORWARD

The Counted and Visible Toolkit goes beyond estimation exercises to providing detailed insights on how to produce disaggregated gender statistics using existing data from household surveys. It features a collection of good practices as well as lessons learned from select country studies, each focusing on specific aspects of the statistical process aimed at ensuring a holistic, sustainable and institutionalized approach to producing disaggregated gender statistics using existing data from household surveys. This aims to promote NSS-wide capacity-development and strengthening.

The stages outlined herein were also guided by the overarching aims of UN Women's global gender data programme, Women Count, of ensuring an enabling environment, increasing data production, and increasing access and use to inform policies. Guided by the above principles, NSSs are encouraged to intentionally consider the following issues throughout the five stages in the generation of disaggregated gender statistics using existing data from household surveys:

*Stage 1: NSS leadership's commitment to appropriate normative frameworks and increasing the amount and quality of disaggregated gender statistics produced*

There is a need to ensure the development of a GSS within an NSS to produce disaggregated gender statistics. The production of more disaggregated gender statistics requires strong commitments from institutions and actors in the GSS as well. The key means to ensure this commitment is through engaging stakeholders. The roles of NSOs and national women's machineries to coordinate the GSS and to identify priority gender indicators to be disaggregated should be stressed.

Another critical component is users of disaggregated gender statistics. In this context, relations with users, institutionalized user-producer dialogues and multi-stakeholder consultations should be cultivated in order to meet users' needs for disaggregated gender statistics.

The GSS can adopt and use several mechanisms and tools to encourage effective coordination among stakeholders, such as the designation of gender statistics focal points, the formation of an inter-agency group on gender statistics, legal frameworks, the development of a multi-year work programne and a web portal. The country case studies indicate achievements through the use of such tools to produce disaggregated gender statistics using existing data from national household surveys in various countries.

In cases where countries are having difficulty establishing a gender statistics unit, due to limited resources as well as the legal and bureaucratic processes required, countries may instead consider:

- Establishing a Working Group on Gender Statistics within the NSO and/or an Inter-ministerial Working Group on Gender Statistics (see Cameroon example in Box 6).

- Developing a National Strategy for Gender Statistics and creating an Inter-Agency Working Group on Gender Data (see Georgia example in Box 7).

- Drafting the Official Statistical Programme, which explicitly refers to gender statistics as one of the cross-cutting priorities, and establishing an Inter-Agency Working Group on Gender Equality, led and coordinated by the national women's machinery (see Albania example in Box 8).

## Stage 2: Development of national priority gender equality indicators for disaggregation

National priority gender equality indicators (NPGEIs) for disaggregation should be developed with the involvement of various stakeholders in the GSSs of countries. This is a critical factor, both in the process of developing NPGEIs and of generating disaggregated gender statistics. Another factor is a prioritization study about the indicators, in line with each country's needs and the goals/targets of national policy documents. Further, global and regional indicators need to be considered in identifying NPGEIs. The use of specific tools developed by international organizations to identify this framework with disaggregation levels can be promoted in the GSS.

When developing NPGEIs for disaggregation, countries can focus on integrating the SDGs in national planning and commitments to other global and regional frameworks in the context of GEWE. A methodology based on all the steps recommended by EPIC can be followed for the process of indicator selection. Meanwhile, identifying data needs and indicators with an inclusive and participatory approach is also recommended.

Senegal also followed a participatory and inclusive approach in the process of identifying its NPGEIs. It included the committee for gender statistics production in a workshop to consolidate the indicators, discussions on the relevance of priorities for respective sectors and the validation of the indicators through the participation of focal points from each sectoral ministry under the leadership of the NSO (see Senegal example in Box 11).

Tanzania equally adopted a participatory approach in the identification of its minimum set of gender indicators. Through a comprehensive localization process of the SDGs in Zanzibar, the Inter-agency Committee on Gender Statistics had the critical role of identifying the localized set of GEWE indicators under the leadership of OCGS and the Zanzibar Planning Commission, with the involvement of all relevant stakeholders (see the country example in Box 12).

## Stage 3: Development of methodologies and the production of statistics on select NPGEIs

Producing disaggregated gender statistics and analysing them with an intersectionality approach will provide a credible evidence base that can inform gender-responsive policies. In this respect, existing data from national household surveys need to be designed with specific subdomains of estimation. Once the subdomain of estimation is identified, a direct estimation methodology can be followed, integrating sampling weights for the survey data set used in the estimation. After the generation of the direct estimates, the focus should be on how to estimate the variance and standard error of the estimates.

Direct estimation is one of several methods that can be used to produce disaggregated gender statistics. Using methods to generate disaggregated gender statistics from existing data from national household surveys may require capacity-development. Hence, there is a need to conduct trainings for GSS staff. Moreover, countries can learn from each other by sharing their experiences in workshops or study visits. .

NSO Mongolia and UN Women jointly analysed the indicator, 'Proportion of people who did not complete more than six years of education (or those who are education-poor)' using Mongolia's Multiple Indicators Cluster Survey (MICS) 2014–15. Computations showed that the likelihood of being education-poor increases if women and girls identify with ethnic minorities, religious minorities and live in a poor household. These factors compound to create substantially deprived groups of women. NSO Mongolia also used its MICS 2018 to estimate the indicator, 'Proportion of women who married as children'. By undertaking a gender and intersectionality analysis, smaller subdomains were also considered in estimating the indicator, such as the proportion of child marriage among women aged at least 18 residing in urban areas by wealth index quintile (see Mongolia example on page 51).

The country case in Pakistan illustrates how GIS information can give an overview of the relationship between gender-based deprivations and other forms of inequality related to geographic location and the intersection of geography with other group-based inequalities. The Pakistan examples indicates that overlapping inequalities—for example, those based on gender, ethnicity, geography and wealth—can and often do produce a form of disadvantage that is acute and distinct, leaving women and girls facing these overlapping forms of discrimination worse off than other groups in society. Multi-level disaggregation of data to capture the confluence of gender-based discrimination and other forms of groups-based inequality brings out these inequalities, making it critical to identifying those furthest behind (see Pakistan example on page 52).

Building on its 'Strengthening the Resilience of Syrian Women and Girls and Host Communities in Iraq, Jordan and Turkey' programme, UN Women collaborated with FAO to produce a gender-sensitive resilience capacity index based on FAO's Resilience Measurement Analysis (RIMA) Model. The index measures changes in programme beneficiaries' resilience and whether they are the same for all women across communities—host communities, refugees and IDPs. The index was generated based on data from repeated surveys with the same group of women at different points in time (see Iraq example on page 56).

## Stage 4: Assessment and publication of results

There are currently no internationally agreed standards or recommendations of how to 'measure' the quality of estimates although there are international guidelines on the reporting of quality such as UN NQAF. However, data producers can start establishing and institutionalizing the practices outlined in this toolkit to further enrich the disaggregated gender statistics they produce. The Philippines was able to compare estimates for groups not only between each other but also over time (see country example of Philippines on page 71).

There are several advantages to utilizing existing household survey data to generate disaggregated gender statistics. However, there are also several limitations, specifically in terms of the quality of data. For example, in the case of Mongolia, while the 'Proportion of women married under 18' is a relevant and timely gender equality indicator, only five of the eight lower-level disaggregation were found to have high quality. Two estimates with a coefficient variation (CV) greater than 10 but less than 20 per cent were relatively sufficiently reliable but should be used with caution, and a caveat should be provided when publishing the remaining indicator, given its CV of 30 per cent (see country example of Mongolia on page 74).

Data producers should aim to publish estimates that are accurate, precise and reliable. Data producers are also encouraged to present these estimates along with the measures of data quality used (CVs at a minimum) and other relevant information that can help users understand and evaluate the estimates themselves.

But statistical soundness is just one part of the equation. Data producers should also aim to publish estimates that paint a true picture of the reality. There are women and girls behind these numbers who are living this reality. They can best validate and even substantiate the statistics produced, with help from experts.

## Stage 5: Dissemination, advocacy and use of gender statistics

Data producers are encouraged to create a gender statistics dissemination plan that is separate from the general statistics dissemination plan.

The country case studies detailed under Stage 5 illustrate different good practices, not just for disseminating statistical products but also for communicating and advocating for the use of disaggregated gender statistics. A common thread involves taking users' needs into consideration in the overall process and tailor-fitting products to their needs. For Colombia, partnering with a national newspaper ensured wider reach of the

launch of their first-ever Women and Men publication (see Colombia example on page 92).

The Toolkit cited many countries from UN Women's East and Southern Africa Regional Office, where a Communications Specialist was in place. In 2020, Kenya launched its first-ever Women's Empowerment Index (WEI). Its production and launch was co-led by UN Women, through the Women Count programme and in partnership with the KNBS and UNICEF. Various visual products, including infographics were produced and media and institutional partnerships helped garner widespread media coverage and use of the WEIs (see country example of Kenya on page 95).

Uganda has seen similar success in the use of infographics, social media and media partnerships, which have helped increase coverage of its gender statistics. The reporting of gender indicators in Uganda's latest Voluntary National Review (VNR) in 2020 had also increased by 150 per cent since the last one in 2016. The creation of a dedicated Advocacy and Dissemination Strategy has also been instrumental in its success (see country example of Uganda on page 94).

# ANNEX 1:
## THE FINAL SET OF VIETNAM'S NPGEIS

### List Of Country Development Statistics Indicators

(Issued together with Circular No. /2019/TT-BKHDT dated 2019 of the Minister of Planning and Investment)

| No. | Code | Code in NSIS | Group, indicator |
|---|---|---|---|
| **01. Population and demographics** | | | |
| 1 | 0101 | 0102 | Population |
| 2 | 0102 | 0102 | Sex ratio of population |
| 3 | 0103 | 0103 | Sex ratio at birth |
| 4 | 0104 | 1602 | Ratio of maternal deaths to 100,000 live births |
| 5 | 0105 | 0109 | Life expectancy at birth |
| 6 | 0106 | | The rate of women aged 15–49 who need contraception and are using modern contraceptive methods |
| 7 | 0107 | 0111 | Singulate mean age at marriage[212] |
| 8 | 0108 | | Household structure |
| 9 | 0109 | | Dependency ratio of population |
| 10 | 0110 | 0108 | Rate of in-migration, out-migration and net migration |
| 11 | 0111 | | The ratio of women/men among documented migrants. |
| 12 | 0112 | 0110 | Disability rate |
| **02. Labour, employment and access to resources** | | | |
| 13 | 0201 | | Labour force participation rate |
| 14 | 0202 | 0202 | Number of people employed in the economy |
| 15 | 0203 | | The labour structure with job positions in the economic sector |
| 16 | 0204 | 0203 | Percentage of trained employees |
| 17 | 0205 | 0204 | Unemployment rate |
| 18 | 0206 | | The number of employed workers increased |
| 19 | 0207 | | Number of employees going to work abroad for a certain period of time in the year under the contract |
| 20 | 0208 | 0207 | Average income for an employed person |
| 21 | 0209 | | The rate of the population of retirement age that is entitled to retirement benefits |
| 22 | 0210 | | Proportion of the population of retirement age participating in the labour force |

| No. | Code | Code in NSIS | Group, indicator |
|---|---|---|---|
| 23 | 0211 | | The average hours of unpaid care and domestic work |
| 24 | 0212 | | The proportion of time spent in unpaid care and domestic work |
| 25 | 0213 | | The rate of workers with informal jobs |
| 26 | 0214 | | Proportion of people aged 15 and over having payment accounts at banks, including foreign bank branches |
| 27 | 0215 | | Percentage of households using agricultural land with land use right certificates |
| 28 | 0216 | | Proportion of part-time workers |
| 29 | 0217 | | Proportion of workers aged 25–49 with children under 3 years of age living in the household |
| 30 | 0218 | 1306 | Internet penetration rate |
| 31 | 0219 | 1305 | Mobile phone penetration rate |
| 32 | 0220 | | Multidimensional poverty rate |
| 33 | 0221 | | Rate of the population with an average daily income of less than USD $ 1.90. |
| 34 | 0222 | | Income gap, by gender |
| **03. Leadership-Management** | | | |
| 35 | 0301 | | Rate of women directors/business-owners and participation in cooperatives |
| 36 | 0302 | | Proportion of women farm-owners |
| 37 | 0303 | 0208 | Rate of women participating in local-level party committees |
| 38 | 0304 | 0209 | Rate of National Assembly deputies who are women |
| 39 | 0305 | 0210 | Rate of People's Council deputies who are women |
| 40 | 0306 | 0211 | Rate of government leaders who are women |
| 41 | 0307 | | Rate of ministries, ministerial-level agencies and government-attached agencies with women leaders |
| 42 | 0308 | | Rate of People's Committees at all levels with women leaders |
| 43 | 0309 | | Proportion of women police |
| 44 | 0310 | | Proportion of women judges |
| 45 | 0311 | | Percentage of women prosecutors |
| **04. Education and training** | | | |
| 46 | 0401 | | Rate of female teachers and lecturers |
| 47 | 0402 | | Participation rate of children from 3 to 36 months old to kindergarten |
| 48 | 0403 | | Admission rate in first grade |
| 49 | 0404 | 1503 | Percentage of students attending general education schools |
| 50 | 0405 | | Percentage of high school graduates |

| No. | Code | Code in NSIS | Group, indicator |
|---|---|---|---|
| 51 | 0406 | | Percentage of students transferring |
| 52 | 0407 | | The proportion of the population aged 15 and over that is literate |
| 53 | 0408 | | The proportion of the population aged 25 and over by the highest educational level achieved |
| 54 | 0409 | | Gender equality index in education at all levels |
| 55 | 0410 | | Proportion of female masters and doctoral graduates |
| 56 | 0411 | | Percentage of women graduating from secondary schools, colleges and universities |
| **05. Health and related services** | | | |
| 57 | 0501 | | Incidence, death from 10 diseases/group of diseases with highest incidence and mortality in hospitals |
| 58 | 0502 | 1606 | Percentage of infants under 5 years old with malnutrition |
| 59 | 0503 | 1603 | Mortality rate of infants under 1 year of age |
| 60 | 0504 | 1604 | Under-5 infant mortality rate |
| 61 | 0505 | | Birth rates at the ages of 10–19 |
| 62 | 0506 | | Number of abortions at public health facilities |
| 63 | 0507 | | Proportion of women giving birth for antenatal care |
| 64 | 0508 | | The rate of HIV-infected pregnant women specifically treated to reduce the risk of mother-to-child transmission of HIV |
| 65 | 0509 | | The number of annual newly detected HIV infections per 100,000 people |
| 66 | 0510 | | Percentage of people with HIV infections receiving treatment with HIV antiviral medication |
| 67 | 0511 | | Rate of births supported by skilled medical staff |
| 68 | 0512 | | The proportion of people aged 15+ who use tobacco |
| 69 | 0513 | | The percentage of the population aged 15 and over with a body mass index (BMI) of less than 18.5 or above 30 |
| **06. Gender-based violence and social safety** | | | |
| 70 | 0601 | | Proportion of women aged 20–24 who married or were living as first-time spouses before age 15, and before age 18 |
| 71 | 0602 | | The number of victims of human trafficking detected per 100,000 people |
| 72 | 0603 | | Proportion of women and girls aged 15 and over who have experienced violence by their current/previous husband or partner in the last 12 months |

| No. | Code | Code in NSIS | Group, indicator |
|---|---|---|---|
| 73 | 0604 | | Proportion of women and girls aged 15 and over who have experienced sexual violence by non-husbands or partners in the last 12 months |
| 74 | 0605 | | Percentage of victims of domestic violence supported by psychological, legal, health care and counselling at domestic violence victim support facilities |
| 75 | 0606 | | Percentage of perpetuators of domestic violence who have not been criminally prosecuted or advised at counselling centres on domestic violence prevention and control |
| 76 | 0607 | 1903 | Number of criminal cases and suspects referred for criminal investigation |
| 77 | 0608 | 1904 | Number of criminal cases and defendants who have been criminally prosecuted |
| 78 | 0609 | 1905 | Number of criminal cases that ended in convictions and number of criminal defendants convicted |

# ANNEX 2:
# TERMS OF REFERENCE FOR GENDER STATISTICS TECHNICAL COMMITTEE OF ZANZIBAR



**OFFICE OF THE CHIEF GOVERNMENT STATISTICIAN IN ZANZIBAR**
Terms of reference for gender statistics technical committee Zanzibar strategy for the development of gender statistics Gender Statistics Technical Committee (GSTC)

December 2018

## Introduction

Office of the Chief Government Statistician (OCGS) Zanzibar and the Ministry of Labour Empowerment, Elders, Women and Children (MLEEWC) in collaboration with UN Women are in the process of Strengthen the production of gender statistics to enable the monitoring of national policies and programme such as Zanzibar Vision 2020, MKUZA III and reporting commitments under the Sustainable Development Goals (SDGs), Agenda 2063 for Africa and other agreements including the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and the Beijing Platform for Action.

In achieving the above-mentioned commitments, OCGS and MLEEWC formed a technical committee on Gender Statistics which will be the top management to monitor gender statistics and related issues in all level. The chairperson of the committee will be the Chief Government Statistician and the Secretary is the Director of Planning, Policy and Research from Ministry of Labour, Empowerment, Elders, Women and Children.

## Objective of the Gender Statistics Technical Committee (GSTC)

The main objective of the GSTC is to guide and support the data collection, analysis, dissemination and use of gender statistics and related statistics in all sectors including Ministries, Departments and Agencies, LGAs, Non-Government Organizations, Civil Society and Private Sectors.

## Roles and Responsibilities of the GSTC

The main responsibilities are

- Participating in GSTC Meeting
- Ensure and identify all gender issues are mainstreamed in routine data collection and national surveys (HBS, ILFS, TDHS, THPC) and others research.
- To harmonize institution to establish network, partnerships and Special tool of linking gender statistic issues for data accessing.
- Arrange seminars/workshops with all stakeholders where necessary, to look for the gender indicators and disseminate results thereof.
- Promote the use of gender statistics in all MDA, LGAs and Civil Society.
- Facilitate the availability of gender statistic to inform planning and budgeting;
- Be responsible for resource mobilization; and
- Perform any other duty related to above in fulfilling the requirements of Gender statistics.

## Structure of GSTC

The structure of GSTC includes the following members

- Chief Government Statistician Chairperson
- Directors of Planning, Policy and Research,
- Ministry of Labour, Empowerment Elders, Women
- and Children Zanzibar Secretary

## Secretariat

- Office of the Chief Government Statistician
- Ministry of Labour, Empowerment, Elders Women and Children and
- Zanzibar Planning Commission.

## Members

- Ministries - Director of Planning, Policy and Research, Commissioners
- Agencies
- Research institution - Deputy Councilors
- CSOs and NGOs - Directors, Chairperson and Secretary
- Members from OSGC - Directors and Officers
- Local Government Authority-

The main task of the secretariat is to organize GSTC meetings and to write a report.

## Expected Output

Gender Statistics are identified and mainstreamed in planning and budgeting

## Outcome

Quality data on gender will be collected, analysed, disseminated on time and used in all level and used in planning and budgeting.

Members of the GSTC

| No | Participant | Position |
|---|---|---|
| 1 | Chief Government Statistician | Chairperson |
| 2 | Director of Planning, Policy and Research, Ministry of Labour, Empowerment Elders, Women and Children, Zanzibar | Secretary |
| 3 | Director, Planning, Policy and Research, Ministry of Health, Zanzibar | Member |
| 4 | Director, Planning, Policy and Research, Ministry of Education and Vocational Training, Zanzibar | Member |
| 5 | Director, Planning, Policy and Research, Ministry of State, President Office, Regional Administration, and Special Department, Zanzibar | Member |
| 6 | Director, Planning, Policy and Research, President Office Public Service and Good Governance, Zanzibar | Member |
| 7 | Director of Public Prosecution, Zanzibar | Member |
| 8 | Director, Zanzibar Female Lawyers Association (ZAFELA) | Member |
| 9 | Director, Tanzania Media Women Association (TAMWA), Zanzibar | Member |

| | | |
|---|---|---|
| 10 | Chairperson Association of Non-Governmental Organizations of Zanzibar (ANGOZA) | Member |
| 11 | Director, Department of Disability Affairs, Zanzibar | Member |
| 12 | Commissioner, Monitoring and Evaluation, Planning Commission, Zanzibar | Member |
| 13 | Commissioner of Budget, Ministry of Finance and Planning, Zanzibar | Member |
| 14 | Commissioner, Police Headquarter, Zanzibar | Member |
| 15 | Registrar, High Court, Zanzibar | Member |
| 16 | Chairperson, Umoja wa Wawakilishi Wanawake Zanzibar | Member |
| 17 | Secretary, Chamber of Commerce | Member |
| 18 | Research institution (SUZA –research department) | Member |
| 19 | Director of Economic Statistics | Member |
| 20 | Director of Demographic and Social Statistics | Member |
| 21 | Director of Statistical and Technical Support Service | Member |
| 22 | Director of Finance, Planning and Administration | Member |
| 23 | Representative Gender Unit From  Office of the Chief Government Statistician-Unguja (2 participants) | Members |
| 24 | SDG team work from Office of the Chief Government Statistician (2 participants) | Members |
| 25 | Secretariat from Office of the Chief Government Statistician | Member |
| 26 | Officer in charge from Ministry of Labour, Empowerment Elders, Women and Children, Pemba | Member |
| 27 | Secretariat from Ministry of Labour, Empowerment, Elders Women and Children | Member |
| 28 | Secretariat from Zanzibar Planning Commission | Member |
| 29 | Representative Gender Unit From Ministry of Labour, Empowerment Elders, Women and Children, Zanzibar | Member |
| 30 | Representative Gender Unit From Office of the Chief Government Statistician-Pemba | Member |
| 31 | Member From Office of the Chief Government Statistician-Pemba | Member |
| 32 | Member from Association Non-Government Organization (ANGOZA) - Pemba | Member |
| 33 | Local Government Authority | Member |
| | Total 35 member | |

# ANNEX 3:
## STEP-BY-STEP GUIDE FOR PRODUCING DISAGGREGATED GENDER STATISTICS

### Guidance note

The codes provided in this exemplary step-by-step guide, using Tajikistan's Demographic and Health Survey 2017, will provide estimates, standard error (SE), and coefficient of variation (CV) for SDG Target 5.2.1 "Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner in the previous 12 months, by form of violence and by age" using three statistical software: STATA, R, and SPSS. Complementary, additional codes are provided to generate the indicator by wealth index and by type of location (urban/rural).

### STATA

**\*\*\*\* Step 1: Import Data**

```
clear all
set maxvar 12000
use "D:\OneDrive - UN Women\SPSS\Data\TJ_2017_DHS_07222021_1046_156523\TJIR71DT\TJIR71FL.
dta", clear
```

**\*\*\*\* Step 2: Limit dataset to the denominator of the indicator**

```
keep if v012>=15  // we are interested in women aged 15 and over
keep if v015==1 // keep only completed interviews
// NOTE: all women in the dataset are ever-married

replace d005 = d005/1000000 // the domestic violence has a different weights than other variables
```

**\*\*\*\* Step 3: Compute the estimates of ever-partnered women and girls subjected to violence of any form by a current or former intimate partner**

```
** Recode variables d111 (physical), d104 (emotional), and d108 (sexual)
generate vaw = 0
replace vaw = 1 if (d111 == 1 | d104 == 1 | d108 == 1)
replace vaw = . if (d111 == . & d104 == . & d108 == .)

label define l 1 "Yes" 0 "No"
label val vaw l
```

```
tabulate vaw [iw=d005]
** Compute CV and SE
svyset vo21 [weight= d005], str(vo23)
svy: proportion vaw
estat cv
```

**** **Step 4: Compute the estimates by type of violence**

```
generate vaw_type_phy = d111
generate vaw_type_sex = d108
generate vaw_type_emo = d104

tab1 vaw_type* [iw=d005]

** Compute CV and SE
svyset vo21 [weight= d005], str(vo23)
svy: proportion vaw_type*
estat cv
```

**** **Step 5: Compute the estimates by age group**

```
** vo13 - grouping by age groups
tab vaw vo13 [iw=d005], column

tabulate vo13, generate(ag)
replace ag1 = . if ag1 == 0
replace ag2 = . if ag2 == 0
replace ag3 = . if ag3 == 0
replace ag4 = . if ag4 == 0
replace ag5 = . if ag5 == 0
replace ag6 = . if ag6 == 0
replace ag7 = . if ag7 == 0

generate vaw_ag_15to19 = vaw*ag1
generate vaw_ag_20to24 = vaw*ag2
generate vaw_ag_25to29 = vaw*ag3
generate vaw_ag_30to34 = vaw*ag4
generate vaw_ag_35to39 = vaw*ag5
generate vaw_ag_40to44 = vaw*ag6
generate vaw_ag_45to49 = vaw*ag7

** Compute CV and SE
svyset vo21 [weight= d005], str(vo23)
foreach v of varlist vaw_ag* {
    svy: proportion `v'
    estat cv
    }
```

**\*\*\*\* Step 6: Compute the estimates by wealth index and type of location**

```
tab vaw v025 [iw=d005], column
tab vaw v190 [iw=d005], column
by v025, sort: tab vaw v190 [iw=d005], column

generate urban=1 if v025 == 1
generate rural=1 if v025 == 2
generate poorest=1 if v190 == 1
generate richest=1 if v190 == 5
generate vaw_wl_poorest=vaw*poorest
generate vaw_wl_richest=vaw*richest
generate vaw_wl_urban=vaw*urban
generate vaw_wl_rural=vaw*rural
generate vaw_wl_poorest_urban=vaw*poorest*urban
generate vaw_wl_richest_urban=vaw*richest*urban
generate vaw_wl_poorest_rural=vaw*poorest*rural
generate vaw_wl_richest_rural=vaw*richest*rural

** Compute CV and SE
svyset v021 [weight= d005], str(v023)
foreach v of varlist vaw_wl* {
    svy: proportion `v'
    estat cv
    }
```

# R

**\*\*\*\* Step 1: Import Data**

```
#####################Use required library packages
library(haven)
library(dplyr)
library(sjlabelled)
library(questionr)
library(pollster)
library(kableExtra)
library(knitr)
library(survey)

####################Import DHS Dataset
Tajikistan <- read_dta("C:/Users/HP/OneDrive - UN Women/SDG gender indicators/DHS
Downloads/TJ_2017_DHS_07222021_1046_156523/TJIR71DT/TJIR71FL.DTA")
Tajikistan$d005 <- Tajikistan$d005/1000000
Tajikistan$d005[is.na(Tajikistan$d005)] = 0
#View(Tajikistan)
```

**\*\*\*\* Step 2: Limit dataset to the denominator of the indicator**

```
#####################Filtering variables of interest
Tajikistan_SDG5 <- subset(Tajikistan, v015==1) #choosing the completed surveys only
Tajikistan_SDG5 <- subset(Tajikistan_SDG5, v012>=15) # women aged 15+ years
#View(Tajikistan_SDG5)
```

**\*\*\*\* Step 3: Compute the estimates of ever-partnered women and girls subjected to violence of any form by a current or former intimate partner**

```
#####################create an index of VAW using d111 (physical), d104 (emotional),
and d108 (sexual)
Tajikistan_SDG5$Index <- if_else(Tajikistan_SDG5$d111 == 1 | Tajikistan_SDG5$d104 == 1 | Tajikistan_
SDG5$d108 == 1, "Yes", "No")
#####################code variables of interest
attach(Tajikistan_SDG5)
Tajikistan_SDG5$rural_Index[v025==2 & Index=="Yes"] <- 1
Tajikistan_SDG5$rural_Index[v025==2 & Index=="No"] <- 0
detach(Tajikistan_SDG5)

attach(Tajikistan_SDG5)
Tajikistan_SDG5$urban_Index[v025==1 & Index=="Yes"] <- 1
Tajikistan_SDG5$urban_Index[v025==1 & Index=="No"] <- 0
detach(Tajikistan_SDG5)

Tajikistan_SDG5$poorest <- if_else(Tajikistan_SDG5$v190==1,1,0)
attach(Tajikistan_SDG5)
Tajikistan_SDG5$poorest_Index[poorest==1 & Index=="Yes"] <- 1
Tajikistan_SDG5$poorest_Index[poorest==1 & Index=="No"] <- 0
detach(Tajikistan_SDG5)

Tajikistan_SDG5$richest <- if_else(Tajikistan_SDG5$v190==5,1,0)
attach(Tajikistan_SDG5)
Tajikistan_SDG5$richest_Index[richest==1 & Index=="Yes"] <- 1
Tajikistan_SDG5$richest_Index[richest==1 & Index=="No"] <- 0
detach(Tajikistan_SDG5)

Tajikistan_SDG5$age1 <- if_else(Tajikistan_SDG5$v013==1,1,0)
attach(Tajikistan_SDG5)
Tajikistan_SDG5$age1_Index[age1==1 & Index=="Yes"] <- 1
Tajikistan_SDG5$age1_Index[age1==1 & Index=="No"] <- 0
detach(Tajikistan_SDG5)

Tajikistan_SDG5$age2 <- if_else(Tajikistan_SDG5$v013==2,1,0)
attach(Tajikistan_SDG5)
Tajikistan_SDG5$age2_Index[age2==1 & Index=="Yes"] <- 1
Tajikistan_SDG5$age2_Index[age2==1 & Index=="No"] <- 0
detach(Tajikistan_SDG5)
```

```
Tajikistan_SDG5$age3 <- if_else(Tajikistan_SDG5$vo13==3,1,0)
attach(Tajikistan_SDG5)
Tajikistan_SDG5$age3_Index[age3==1 & Index=="Yes"] <- 1
Tajikistan_SDG5$age3_Index[age3==1 & Index=="No"] <- 0
detach(Tajikistan_SDG5)

Tajikistan_SDG5$age4 <- if_else(Tajikistan_SDG5$vo13==4,1,0)
attach(Tajikistan_SDG5)
Tajikistan_SDG5$age4_Index[age4==1 & Index=="Yes"] <- 1
Tajikistan_SDG5$age4_Index[age4==1 & Index=="No"] <- 0
detach(Tajikistan_SDG5)

Tajikistan_SDG5$age5 <- if_else(Tajikistan_SDG5$vo13==5,1,0)
attach(Tajikistan_SDG5)
Tajikistan_SDG5$age5_Index[age5==1 & Index=="Yes"] <- 1
Tajikistan_SDG5$age5_Index[age5==1 & Index=="No"] <- 0
detach(Tajikistan_SDG5)
Tajikistan_SDG5$age6 <- if_else(Tajikistan_SDG5$vo13==6,1,0)
attach(Tajikistan_SDG5)
Tajikistan_SDG5$age6_Index[age6==1 & Index=="Yes"] <- 1
Tajikistan_SDG5$age6_Index[age6==1 & Index=="No"] <- 0
detach(Tajikistan_SDG5)

Tajikistan_SDG5$age7 <- if_else(Tajikistan_SDG5$vo13==7,1,0)
attach(Tajikistan_SDG5)
Tajikistan_SDG5$age7_Index[age7==1 & Index=="Yes"] <- 1
Tajikistan_SDG5$age7_Index[age7==1 & Index=="No"] <- 0
detach(Tajikistan_SDG5)

#############################tabulate proportion of women ever experienced
violence by their partner
topline(df = Tajikistan_SDG5, variable = Index, weight = do05, pct = FALSE, remove = c("(Missing)"))
%>%
  kable(digits = 2, "simple") #proportion that ever experienced violence of any form by partner/
husband
```

**\*\*\*\* Step 4: Compute the estimates by type of violence**

```
#############################tabulation by the form of violence
topline(df = Tajikistan_SDG5, variable = violence, weight = do05, pct = FALSE, remove =
c("(Missing)")) %>%
  kable(digits = 2, "simple") #physical violence type

topline(df = Tajikistan_SDG5, variable = sexualviolence, weight = do05, pct = FALSE, remove =
c("(Missing)")) %>%
  kable(digits = 2, "simple") #sexual violence type
```

```
topline(df = Tajikistan_SDG5, variable = emotionalviolence, weight = d005, pct = FALSE, remove =
c("(Missing)")) %>%
  kable(digits = 2, "simple") #emotional violence type
```

**\*\*\*\* Step 5: Compute the estimates by wealth index, type of location and age groups**

```
############################crosstabulation of violence by wealth, locality, age
pollster::crosstab(df = Tajikistan_SDG5, x = poorest, y = Index, weight = d005, format = "long")%>%
  kable(digits = 2, "simple")

pollster::crosstab(df = Tajikistan_SDG5, x = richest, y = Index, weight = d005, format = "long")%>%
  kable(digits = 2, "simple")

pollster::crosstab(df = Tajikistan_SDG5, x = vo25, y = Index, weight = d005, format = "long")%>%
  kable(digits = 2, "simple")

pollster::crosstab(df = Tajikistan_SDG5, x = vo13, y = Index, weight = d005, n = FALSE, format =
"long")%>%
  kable(digits = 2, "simple")
```

**\*\*\*\* Step 6: Calculation of SE and CV**

```
##############################set survey design
sample <- svydesign(ids = ~vo21, weights = ~d005, strata = ~vo23, data = Tajikistan_SDG5, na.rm=T)
#ids = specifying cluster ids from largest level to smallest level

##############################mean and standard errors
mean_VAW <- svymean(~factor(Index), sample, na.rm=T)
mean_urban_vaw <- svymean(~factor(urban_Index), sample, na.rm=T)
mean_rural_vaw <- svymean(~factor(rural_Index), sample, na.rm=T)
mean_poorest_vaw <- svymean(~factor(poorest_Index), sample, na.rm=T)
mean_richest_vaw <- svymean(~factor(richest_Index), sample, na.rm=T)

mean_age1 <- svymean(~factor(age1_Index), sample, na.rm=T)
mean_age2 <- svymean(~factor(age2_Index), sample, na.rm=T)
mean_age3 <- svymean(~factor(age3_Index), sample, na.rm=T)
mean_age4 <- svymean(~factor(age4_Index), sample, na.rm=T)
mean_age5 <- svymean(~factor(age5_Index), sample, na.rm=T)
mean_age6 <- svymean(~factor(age6_Index), sample, na.rm=T)
mean_age7 <- svymean(~factor(age7_Index), sample, na.rm=T)

print("mean and standard errors are")
mean_VAW
mean_urban_vaw
mean_rural_vaw
mean_poorest_vaw
mean_richest_vaw

mean_age1
mean_age2
```

```
mean_age3
mean_age4
mean_age5
mean_age6
mean_age7

###############################coefficient of variation
print("coefficient of variation is")
cv(mean_VAW)*100
cv(mean_urban_vaw)*100
cv(mean_rural_vaw)*100
cv(mean_poorest_vaw)*100
cv(mean_richest_vaw)*100

cv(mean_age1)*100
cv(mean_age2)*100
cv(mean_age3)*100
cv(mean_age4)*100
cv(mean_age5)*100
cv(mean_age6)*100
cv(mean_age7)*100
#https://dhsprogram.com/pubs/pdf/FR341/FR341.pdf SPSS
```

# SPSS

**\*\*\*\* Step 1: Import Data**

```
GET FILE='D:\OneDrive - UN Women\SPSS\Data\TJ_2017_DHS_07222021_1046_156523\TJIR71SV\
TJIR71FL.SAV'.
```

**\*\*\*\* Step 2: Limit dataset to the denominator of the indicator**

```
SELECT IF(V012 >= 15).
/* we are interested in women aged 15 and over

SELECT IF(V015 = 1).
/* keep only completed interviews
/* NOTE: all women in the dataset are ever-married

COMPUTE wt=D005 / 1000000.
/* the domestic violence has a different weights than other variables
COMPUTE stratum = v023.
WEIGHT by wt.
```

**\*\*\*\* Step 3: Compute the estimates of ever-partnered women and girls subjected to violence of any form by a current or former intimate partner**

```
/* Recode variables d111 (physical), d104 (emotional), and d108 (sexual)

COMPUTE vaw = 0.
if (D111 = 1 | D104 = 1 | D108 = 1) vaw = 1.
if (SYSMIS(D111) & SYSMIS(D104) & SYSMIS(D108)) vaw = $SYSMIS.

VARIABLE LABELS vaw 'Experienced any form of VAW'.
VALUE LABELS vaw 1 'Yes' 0 'No'.

FREQUENCY vaw.

csplan analysis
/plan file='D:\DHS_IR.csplan'
/planvars analysisweight=wt
/design strata=stratum CLUSTER=v021
/estimator type=wr.
```

**\*\*\*\* Step 4: Compute the estimates by type of violence**

```
COMPUTE vaw_type_phy = d111.
COMPUTE vaw_type_sex = d108.
COMPUTE vaw_type_emo = d104.

FREQUENCY vaw_type_phy vaw_type_sex vaw_type_emo.

/* Note: CV that will be generated should be multiplied by 100.
csdescriptives
/plan file='D:\DHS_IR.csplan'
/summary variables=vaw_type_phy vaw_type_sex vaw_type_emo
/mean
/statistics se cv
/missing scope=analysis classmissing=exclude.
```

**\*\*\*\* Step 5: Compute the estimates by age**

```
/* V013 is age group of respondents

CROSSTABS vaw by v013
/cells count column.

COMPUTE vaw_ag_15to19 = $SYSMIS.
IF (vaw = 1 & v013 = 1) vaw_ag_15to19 = 1.
IF (vaw = 0 & v013 = 1) vaw_ag_15to19 = 0.
COMPUTE vaw_ag_20to24 = $SYSMIS.
IF (vaw = 1 & v013 = 2) vaw_ag_20to24 = 1.
IF (vaw = 0 & v013 = 2) vaw_ag_20to24 = 0.
```

```
COMPUTE vaw_ag_25to29 = $SYSMIS.
IF (vaw = 1 & vo13 = 3) vaw_ag_25to29 = 1.
IF (vaw = 0 & vo13 = 3) vaw_ag_25to29 = 0.
COMPUTE vaw_ag_30to34 = $SYSMIS.
IF (vaw = 1 & vo13 = 4) vaw_ag_30to34 = 1.
IF (vaw = 0 & vo13 = 4) vaw_ag_30to34 = 0.
COMPUTE vaw_ag_35to39 = $SYSMIS.
IF (vaw = 1 & vo13 = 5) vaw_ag_35to39 = 1.
IF (vaw = 0 & vo13 = 5) vaw_ag_35to39 = 0.
COMPUTE vaw_ag_40to44 = $SYSMIS.
IF (vaw = 1 & vo13 = 6) vaw_ag_40to44 = 1.
IF (vaw = 0 & vo13 = 6) vaw_ag_40to44 = 0.
COMPUTE vaw_ag_45to49 = $SYSMIS.
IF (vaw = 1 & vo13 = 7) vaw_ag_45to49 = 1.
IF (vaw = 0 & vo13 = 7) vaw_ag_45to49 = 0.

/* Note: CV that will be generated should be multiplied by 100.

csdescriptives
/plan file='D:\DHS_IR.csplan'
/summary variables=vaw_ag_15to19 vaw_ag_20to24 vaw_ag_25to29 vaw_ag_30to34 vaw_
ag_35to39 vaw_ag_40to44 vaw_ag_45to49
/mean
/statistics se cv
/missing scope=analysis classmissing=exclude.
```

**** Step 6: Compute the estimates by wealth index and type of location**

```
CROSSTABS vaw by v190
/cells count column.

CROSSTABS vaw by vo25
/cells count column.

CROSSTABS vaw by v190 by vo25
/cells count column.

COMPUTE vaw_wl_poorest = $SYSMIS.
IF (vaw = 1 & v190 = 1) vaw_wl_poorest = 1.
IF (vaw = 0 & v190 = 1) vaw_wl_poorest = 0.
COMPUTE vaw_wl_richest = $SYSMIS.
IF (vaw = 1 & v190 = 5) vaw_wl_richest = 1.
IF (vaw = 0 & v190 = 5) vaw_wl_richest = 0.
COMPUTE vaw_wl_urban = $SYSMIS.
IF (vaw = 1 & vo25 = 1) vaw_wl_urban = 1.
IF (vaw = 0 & vo25 = 1) vaw_wl_urban = 0.
COMPUTE vaw_wl_rural = $SYSMIS.
IF (vaw = 1 & vo25 = 2) vaw_wl_rural = 1.
```

IF (vaw = 0 & v025 = 2) vaw_wl_rural = 0.
COMPUTE vaw_wl_poorest_urban = $SYSMIS.
IF (vaw = 1 & v190 = 1 & v025 = 1) vaw_wl_poorest_urban = 1.
IF (vaw = 0 & v190 = 1 & v025 = 1) vaw_wl_poorest_urban = 0.
COMPUTE vaw_wl_poorest_rural = $SYSMIS.
IF (vaw = 1 & v190 = 1 & v025 = 2) vaw_wl_poorest_rural = 1.
IF (vaw = 0 & v190 = 1 & v025 = 2) vaw_wl_poorest_rural = 0.
COMPUTE vaw_wl_richest_urban = $SYSMIS.
IF (vaw = 1 & v190 = 5 & v025 = 1) vaw_wl_richest_urban = 1.
IF (vaw = 0 & v190 = 5 & v025 = 1) vaw_wl_richest_urban = 0.
COMPUTE vaw_wl_richest_rural = $SYSMIS.
IF (vaw = 1 & v190 = 5 & v025 = 2) vaw_wl_richest_rural = 1.
IF (vaw = 0 & v190 = 5 & v025 = 2) vaw_wl_richest_rural = 0.

/* Note: CV that will be generated should be multiplied by 100.

csdescriptives
/plan file='D:\DHS_IR.csplan'
/summary variables=vaw_wl_poorest vaw_wl_richest vaw_wl_urban vaw_wl_rural vaw_wl_
poorest_urban vaw_wl_richest_urban vaw_wl_poorest_rural vaw_wl_richest_rural
/mean
/statistics se cv
/missing scope=analysis classmissing=exclude.

# ENDNOTES

1  UN Women 2018.

2  UN General Assembly 2015.

3  IAEG-SDGs 2019.

4  ISWGHS n.d.

5  ISWGHS 2021.

6  ISWGHS 2019.

7  PARIS21 2018.

8  Ibid.

9  United Nations 2019.

10  As of 2000.

11  UNECE Taskforce on Communicating Gender Statistics 2020.

12  Ibid.

13  It is important to note that media outlets are not only considered users of gender statistics but are also among the most important partners for disseminating gender statistics to the general public. This requires using and adapting different communication channels and tools, including making judicious and well-informed use of social networks, visualizations and interactive tools. See UNECE Task Force on Communicating Gender Statistics 2020 and Section 5 of this Toolkit.

14  UN General Assembly 2015.

15  UN DESA 2015.

16  UN Women 2020a.

17  "Intersectionality is a tool for analysis, advocacy and policy development that addresses intersecting inequalities An intersectional approach to gender equality acknowledges the fact that women have different experiences based on aspects of their identity including race, social class, ethnicity, sexual orientation, religion, age as well as other forms of identity." Kingdom of the Netherlands 2017.

18  UN DESA 2015.

19  IAEG-SDGs 2019.

20  UN Women n.d.

21  UN Women 2020a.

22  ISWGHS n.d.

23  ISWGHS 2019.

24  UN Women, UNSD and ISWGHS 2020; IAEG-SDGs 2019; UNSD and UN Women 2020.

25  Due to limited resources (financial, time, human), all references to select country experiences pertain to those that were directly supported by the Women Count programme.

26  ISWGHS 2021.

27  ADB 2021.

28  ISWGHS 2019.

29  PARIS21 2018.

30  Although there may not be a formally recognized GSS, a gender system in the NSS refers to the production of gender statistics, which involves stages such as planning, data collection, data analysis, dissemination and use through coordinators and various stakeholders. In some countries, the GSS is coordinated by the NSO while in others it is done by the Ministry of Women. See UNSD 2016.

31  ISWGHS 2021.

32  Ibid.

33  United Nations 2015.

34  NSS members in the country refer to the NSO as well as to all other producers of official statistics and users.

35  ISWGHS 2021.

36  PARIS21 2018.

37  UN DESA 2005a.

38  ISWGHS 2021.

39  ADB 2021.

40  UN DESA 2005b.

41  The OECD defines an NSS as an "ensemble of statistical organisations and units within a country that jointly collect, process and disseminate official statistics on behalf of national government." OECD 2004.

42  UN Women and SIAP 2020a.

43  PARIS21 2018.

44  UNSD 2016.

45  UNSD 2016.

46  UN Women and SIAP 2020a.

47  UNSD 2016.

48  UNSD 2016.

49  PARIS21 2018.

50  ISWGHS 2019

51  ISWGHS 2019

52  UN Women 2018c.

53  Philippine Statistics Authority n.d.

54  DAW 1997.

55  United Nations 2005.

56  UNSD 2016.

57  PARIS21 2018.

58  UBOS 2017.

59  UNSD 2016.

60  The nine strategies outlined in Colombia's PEN 2017–2022 are: (1) Define the supply of statistical projects operations that will be permanently produced; (2) Promote the dissemination of and access to statistical information; (3) Promote the improvement of official statistics; (4) Identify and promote the statistical use of administrative records; (5) Promote the inclusion of a differential and intersectional approach in the production and dissemination of statistics produced by the NSS; (6) Promote innovation, learning and knowledge management processes in statistical production; (7) Establish agreements to produce statistics that are required by the country; (8) Strengthen the integration of statistical and geospatial information; and (9) Strengthen statistical capacity at subnational levels.

61  UN CEDAW 2019.

62 OECD n.d.

63 USAID n.d.

64 Gender in Norway is an information service about the Government's gender equality work, gender research and gender statistics in Norway. See Gender in Norway n.d.

65 UBOS n.d.

66 Due acknowledgement is given to Uilrich Waffo, Gender Statistics Specialist for UN Women Cameroon and focal point of the Women Count Cameroon project. The information he directly provided greatly benefited this drafting of this subsection.

67 National Institute of Statistics, Cameroon 2020a.

68 National Institute of Statistics, Cameroon 2020b.

69 National Institute of Statistics, Cameroon 2020c.

70 Presidency of the Republic of Cameroon 2020.

71 Ministry of Women's Empowerment and Family, Cameroon 2019.

72 National Institute of Statistics of Cameroon 2019.

73 Government of Georgia 2017.

74 Geostat 2019a.

75 Eurostat et al. 2019.

76 Geostat 2019b.

77 Ministry of Social Protection and Health of Albania 2020.

78 INSTAT 2020.

79 INSTAT 2016.

80 INSTAT and the Office of the Ombudsperson 2020.

81 ISWGHS 2019.

82 Ibid.

83 Azcona et al. 2020.

84 IAEG-SDGs 2019.

85 Discenza and Walsh 2020.

86 IAEG-SDGs 2019.

87 Imp-Act Secretariat 2005.

88 UN ECOSOC 2020.

89 Church and Rogers 2006.

90 Demetriades 2009.

91 UNSD 2019.

92 UNSD n.d.

93 IAEG-SDG 2019.

94 UNECE Task Force on Indicators of Gender Equality 2014.

95 UNESCAP 2015.

96 UN Women, UNECA and the African Development Bank 2020.

97 ABS 2020.

98 IBGE n.d.

99 Bureau of National Statistics, Kazakhstan n.d.

100 UBOS 2016.

101 Ryan 2019.

102 UNSD 2017.

103 UN ESCAP 2019.

104 UN ESCAP n.d.

105 Ibid.

106 PARIS21 2017.

107 PARIS21 2019.

108 PARIS21 and UN Women 2020a.

109 StaTact 2019.

110 Asian Development Bank (ADB) and UNSD, with input from the IAEG-SDGs 2021.

111 Due acknowledgement is given to UN Women West and Central Africa Regional Office (WCARO) particularly to Ms. Michele Seroussi – Regional Gender Statistics Specialist and Mr. Mahmouth Diouf – Gender Statistics Specialist of UN Women Senegal Office focal point of the Women Count-Senegal project. The information provided in this sub-section greatly benefitted from the information they directly provided to the authors of the document.

112 ANSD 2018.

113 National Council of Statistics 2019.

114 PARIS21 2020.

115 Groupe de Plaidoyer 2017.

116 Ibid.

117 Due acknowledgement is given to Mr. Mitra Sadananda – Gender Statistics Specialist of UN Women United Republic of Tanzania Office and focal point of the Women Count-United Republic of Tanzania project. The information provided in this sub-section greatly benefitted from the information they directly provided to the authors of the document.

118 Office of the Chief Government Statistician 2020.

119 Government of the United Republic of Tanzania 2020.

120 UN Women 2021a.

121 OCGS n.d.

122 Government of the United Republic of Tanzania 2017.

123 UNSD 2020.

124 UN Women 2019b.

125 UN Women and SIAP 2020b.

126 ABS n.d.

127 Ibid.

128 Bishop, Libby 2017.

129 ABS n.d.

130 IHSN n.d.

131 UN Women and SIAP 2020b.

132 Ibid.

133 Post-stratification is a common technique in survey analysis for incorporating population distributions of variables into survey estimates. See Little 1993.

134 Rao and Molina 2015.

135 STATA variable code used for the indicator 'age at first cohabitation'.

136 Azcona and Bhatt forthcoming, Revealing the Gendered Impacts of COVID-19: Minding the Gap.

137 Ibid.

138 Azcona and Bhatt's calculations, based on microdata from the National Institute of Population Studies (NIPS) and ICF international 2017.

139 Ibid.

140 FAO n.d.

141 Structural Equation Modelling is a combination of factor analysis and multiple regression analysis. It is a quantitative research technique that incorporates qualitative methods that demonstrate causal relationships between variables.

142 Asian Development Bank 2020.

143 IAEG-SDGs 2019.

144 ILO and UN Women 2020.

145 UN-Habitat and UN Women

2020.

146  FAO 2021.

147  ADB 2021.

148  UN DESA 2019.

149  Computing the accuracy can be applied to disaggregated gender statistics. For example, the FAO Guidelines include a case study on SDG Indicator 2.1.2 – Prevalence of moderate or severe food insecurity in the population, based on the FIES about the accuracy. See FAO 2021, Chapter 4.

150  Rao and Molina 2015.

151  StataCorp 2017.

152  Taylor linearization is also known as the delta method or the Huber/White/robust sandwich variance estimator used to derive an approximation to the variance of a point estimator, such as a ratio or regression coefficient. UN Women 2019b.

153  The variable childm_poorest refers to poorest women (windex5 = 1) ages 18–49 years old who married as children (childm = 1).

154  The variable childm_richest refers to richest women (windex5 = 5) ages 18–49 years old who married as children (childm = 1).

155  See: https://www.researchgate.net/post/What_are_the_acceptable_values_for_the_percentage_deviation DEV_and_the_coefficient_of_variance_CV (accessed July 2021).

156  PSA 2016.

157  As of 2000.

158  PSA 2020a.

159  PSA 2016.

160  PSA 2020c.

161  Republic Act 8425 defined the basic sectors as disadvantaged or marginalized sectors of Philippine society, namely: (1) Farmer-peasant; (2) Artisanal fisherfolk; (3) Workers in the formal sector and migrant workers; (4) Workers in the informal sector; (5) Indigenous peoples and cultural communities; (6) Women; (7) Differently abled persons; (8) Senior citizens; (9) Victims of calamities and

disasters; (10) Youth and students; (11) Children; (12) Urban poor; (13) Cooperatives; and (14) Non-government organizations.

162  PSA 2015.

163  Text directly lifted from the source (Statistics Canada 2018).

164  The Healthy People initiative is designed to guide national health promotion and disease prevention efforts to improve the health of the nation. Released by the US Department of Health and Human Services every decade since 1980, Healthy People identifies science-based objectives with targets to monitor progress and motivate and focus action. Healthy People 2030 is the fifth iteration of the initiative and continues in this tradition with about 350 core objectives to be tracked over the decade. See CDC 2021.

165  Data do not meet the criteria for statistical reliability, data quality or confidentiality (data are suppressed).

166  Klein et al. 2002.

167  Ibid.

168  UNECE Taskforce on Communicating Gender Statistics 2020.

169  PARIS21 2018.

170  UNECE Taskforce on Communicating Gender Statistics 2020.

171  Gender, Culture and Youth Section, Social Development Division 2015.

172  UNDESA 2005.

173  UNDESA 2005.

173  Vale 2008

174  UN ESCAP et al. 2016.

175  UNSD n.d.

176  UN Women 2020d.

177  UNECE Taskforce on Communicating Gender Statistics 2020.

178  IAEG-SDG 2019.

179  Dupriez and Boyko 2010.

180  StataCorp 2017.

181  UNECE Taskforce on

Communicating Gender Statistics 2020.

182  UN Women and SIAP 2020b.

183  SPC 2015.

184  UNECE Taskforce on Communicating Gender Statistics 2020.

185  UNECE and World Bank Institute 2010.

186  UNECE 2016.

187  PARIS21 and UN Women 2020b.

188  UN Women 2021b.

189  By the time the guidance was published, there had been more than 50 RGAs.

190  Due acknowledgement is given to UN Women Colombia, particularly to Lucio Severo, Programme Manager; Karla Ramirez, Gender Statistics Specialist; and Rolando Crespo, Women Count Programme Specialist, who serve as focal points of the Women Count-Colombia project. This subsection greatly benefited from the information they directly provided to the authors of this document.

191  UN Women, DANE and CPEM 2020b.

192  UN Women, DANE and CPEM 2020c.

193  UN Women, DANE and CPEM 2020d.

194  https://www.dane.gov.co/files/investigaciones/genero/publicaciones/mujeres-y-hombre-brechas-de-genero-colombia-informe.pdf

195  https://observatoriomujeres.gov.co/en/home/index

196  For the purposes of this document, "impressions" should be understood as the number of queries and/or downloads of the publication registered on UN Women and partners' web portals. UN Women, DANE and CPEM 2020d.

197  As of January 2021.

198  Due acknowledgement is given to the UN Women East and Southern Africa Regional

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199  KNBS 2020.

200  CNBC Africa 2020.

201  Nation Africa 2020.

202  Cheney 2020.

203  Houghton and Kobuthi-Kuria 2020.

204  Muchangi 2020.

205  Capital News 2020.

206  UN Women Kenya 2020.

207  Groots Kenya n.d.

208  UBOS n.d.

209  UBOS et al. 2020.

210  As of April 2021.

211  bit.ly/UgandaNPGEI.

212  "The singulate mean age at marriage (SMAM) is the average length of single life expressed in years among those who marry before age 50. It is a synthetic indicator calculated from marital status categories of men and women aged 15 to 54 at the census or survey date." https://www. un.org/en/development/desa/ population/publications/dataset/ fertility/wfr2012/Metadata/ Metadata_MAFM-SMAM-EVER- MARRIED.pdf

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