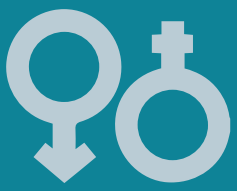
Embedding Gender Statistics in Decision Making in Uganda



A FACILITATOR'S GUIDE

EPRC ECONOMIC POLICY RESEARCH CENTRE
UN WOMEN
WOMEN COUNT

EMBEDDING GENDER STATISTICS IN DECISION-MAKING

A Facilitator Guide for Training of Users of Gender Statistics in Uganda

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Special thanks go to Simon Enamu, the consultant who meticulously led the consultative process of developing this manual, ensuring it meets the highest standards and addresses the specific needs of the Ugandan context. I also want to acknowledge the invaluable support from EPRC's management and the technical staff, especially Elizabeth Birabwa-Aliro (Programme Manager) and Florence Nakazi (Research Fellow), whose dedication and expertise have been instrumental throughout this process.

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This manual is a testament to the power of collaboration and shared vision. Together, we are making strides towards a more equitable and just society for all Ugandans.

ABBREVIATIONS

BDPfA	Beijing Declaration and Platform for Action
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CSOs	Civil Society Organisations
DHS	Demographic and Health Surveys
EPRC	Economic Policy Research Centre
ICATUS	International Standard Classification of Time Use Statistics (ICATUS).
LGs	Local Governments
MGLSD	Ministry of Gender, Labour, and Social Development
MOES	Ministry of Education and Sports
MOFPED	Ministry of Finance, Planning and Economic Development
NGOs	Non-governmental Organisations
NPA	National Planning Authority
NSO	National Statistical Offices
SDGs	Sustainable Development Goals
UBOS	Uganda Bureau of Statistics
UDHS	Demographic and Health Survey
UN Women	United Nations Entity for Gender Equality and the Empowerment of Women
UNHS	Uganda National Household Survey

INTRODUCTION TO THE MANUAL

BACKGROUND AND PURPOSE OF THE MANUAL

Uganda, like many countries, faces gender inequities that impede the full realization of human rights and development potential for all its citizens. While the country has made advancements in achievement of gender equality and empowerment of women and girls, gaps remain in economic participation and opportunity, and political empowerment contributing to an overall decline on the global gender gap index from 0.717 in 2020 to 0.706 in 2024.[1] Gender disparities persist in various spheres of life, including education, health, employment, and political participation. Recognizing the importance of addressing these disparities, therefore Uganda is party to numerous international and regional agreements. At the global level, Uganda is party to the Convention on Elimination of All Forms of Discrimination Against Women (CEDAW) 1979; Sustainable Development Goals, The Beijing Declaration and Platform for Action (1995); The Commonwealth Plan for Action on Gender and Development. In addition, Uganda has domesticated UN Security Council Resolutions 1325 and 1820 which guide States and non-state actors to address Sexual and Gender Based Violence against women in armed conflict. The Government of Uganda has also enacted several Laws to promote children and women's human rights at the national level and adopted the National Gender Policy in 2007 to guide all Government policies and programmes across sectors and at all levels to contribute to the elimination of existing gender inequalities. The demand for gender statistics has since increased over the years owing to these frameworks and gender mainstreaming in policies for enforcement and budget allocation for their implementation.

Gender statistics play a crucial role in identifying disparities, monitoring progress, and designing targeted interventions to address the specific needs of different gender groups. This closely follows the Beijing Platform for Action paragraph 206 (a) which recommends national, regional and international statistical services ensure that statistics related to individuals are collected, compiled, analyzed and presented by sex and age and reflect problems, issues and questions related to women and men in society. Uganda has made notable strides in producing sustainable development indicators at the national level, with a focus on disaggregation and the inclusion of Gender Equality and Women Empowerment (GEWE) issues. The country has significantly increased the number of gender-specific SDG indicators with available data, from 11 out of 54 in 2018, to 24 in 2020, and 32 in 2023.[2] However, despite these advancements, there remains substantial gaps in the uptake and utilization of available statistics for programming and reporting. These include the limited capacity for gender-sensitive data analysis, presentation, and interpretation and a lack of awareness about the importance of and available sources of gender statistics hinder efforts to address gender inequalities effectively.

It is for this reason that the EPRC collaborated with UN Women, Uganda Bureau of Statistics (UBOS), and the Ministry of Gender, Labour, and Social Development (MGLSD) to develop this facilitator manual on the production and use of gender statistics. This

1 Global Gender Gap Report, 2020 and 2024
2 https://africa.unwomen.org/en/digital-library/publications/2024/07/ugandas-3rd-voluntary-national-review-report-on-the-implementation-of-the-2030-agenda-for-sustainable-development

facilitator manual aims to address these challenges by providing trainers or facilitators with the necessary tools, resources, and methodologies to enhance the capacity of users to analyse, present, interpret and utilize gender statistics effectively. At the completion of training using this manual, participants are expected to have achieved the following learning outcomes:

1. Understood the key concepts and definitions related to gender and gender statistics, including sex, gender, data, information, gender statistics, gender equality, women empowerment, gender gap, and gender-responsive indicators.
2. Understood the process of undertaking an information needs assessment
3. Understood the importance of gender statistics in informing policies and programmes aimed at achieving gender equality and women's empowerment in Uganda.
4. Developed skills in sourcing, analysing, interpreting, and presenting gender-responsive data, using appropriate statistical methods and techniques.
5. Gained proficiency in data visualisation for effective communication of gender statistics.

TRAINEES TARGETED BY THE MANUAL

The training on gender statistics primarily targets middle level officers in government institutions who provide information input to policy and other decisionmakers. These officers usually support the research, planning, monitoring and evaluation, reporting, and communication functions of their institutions. The officers may include planners (including senior and principal planners), economists (including senior and principal economists), statisticians (including senior and principal statisticians), gender desk officers, policy analysts, and communication personnel. Many of these officers, excluding the communication personnel, are qualified in statistics or economics. They have basic to advanced statistical competencies, without adequate knowledge of gender concepts and methodologies. This training resource would help them to integrate a gender perspective in the statistics cycle. The secondary audiences of this manual are other influencers in the policy and other decision-making processes of government, including middle level and senior officers in research institutions, academic institutions, think-tanks, consulting firms, CSOs, media institutions, and international organisations. The secondary audiences are quite diverse, with some qualified in statistics or economics and others grounded in law, social sciences, or related fields. This training resource would help the policy influencers without statistics knowledge to understand how to apply their gender knowledge in the statistics process. Therefore, the trainees or participants will be from:

- Government authorities spearheading national and decentralized planning i.e. the National Planning Authority (NPA), Ministry of Finance, Planning and Economic Development (MOFPED), and Planning Units in Local Governments (LGs).
- Government authorities promoting equal opportunities e.g. Ministry of Gender, Labour, and Social Development (MGLSD) and the Equal Opportunities Commission (EOC).
- Government authorities responsible for monitoring, evaluation and reporting on the implementation of government programmes and international commitments

such as the SDGs.

- Other government authorities that offer services addressing gender equality directly and indirectly e.g. ministries of health, education, agriculture, justice, and local governments.
- Civil society organisations, including women's and/or feminist organizations.
- Research and academic institutions, including universities, think-tanks, research institutes, and consulting firms, with interest in equality, equal opportunities, feminism, and other gender-related topics.
- Public libraries, information centres, and media institutions.
- International organisations, including United Nations agencies.

THE PROCESS UNDERTAKEN TO DEVELOP THIS MANUAL

A participatory approach was used in the development of this Manual. The process was spearheaded by EPRC and supported by UBOS, UN women and MGLSD. It begun with a needs assessment and stakeholder consultation to identify the specific gaps and challenges related to gender statistics in Uganda. This involved 17 government agencies and CSOs, who were involved in individual interviews and a focus group discussion.

Building on the findings of the needs assessment, EPRC conducted a thorough review of existing manuals, research, and best practices in gender statistics and adult learning methodologies. This review helped to identify relevant resources, frameworks, and tools that informed the structure and content of the facilitator manual. Localization and contextualization of the manual was done to ensure that it is tailored to the specific needs and context of Uganda. This involved incorporating country-specific data, case studies, examples, and policy frameworks into the manual.

The draft manual was reviewed in a workshop of selected EPRC staff, and pilot tested in a training workshop with a diverse group of participants, including statisticians, economists, monitoring and evaluation experts and gender experts from NPA, MOFPED,CSBAG,OPM, CEDOVIP,PSFU, MOGLSD, UBOS and UNWomen. During the pilot workshop, participants had the opportunity to engage with the manual, provide feedback on its content and usability, and suggest revisions or improvements. The EPRC carefully documented the feedback and incorporated it into the final version of the manual.

This manual is available in physical and electronic copy to be used in in-person -instructor led training. The manual has been printed for wide dissemination through workshops, conferences, and online platforms, making it accessible to a broad audience of stakeholders in Uganda and beyond. EPRC will provide ongoing support and mentorship to facilitators, monitor the implementation of training activities, and collect feedback for continuous improvement of the manual.

STRUCTURE, SCOPE, AND HOW TO USE THE MANUAL

The facilitator manual is structured into five modules. A module is a main topic on gender statistics. This manual begins with an introduction and background section, providing an overview of the key concepts and the importance of gender statistics in Uganda. Following

this, the manual is divided into modules relating to the statistical processes of sourcing gender statistics, data analysis and interpretation, and data presentation. Each module is divided into sessions, with relevant subtopics. Each session contains:

- Learning objectives—describes what participants will know or can do by the end of the session. This relates to increased knowledge, improved skills, or changed attitudes. The facilitator should present the objectives at the beginning of each session. S/he can write the session objectives on a flipchart.
- Methods—are the ways (strategies and approaches) a facilitator uses to transfer knowledge, skills, or influence participants' attitudes (See training duration and methods).
- Duration—indicates the approximate length of a session. The allocated time for each session is only a guide to a facilitator. Each facilitator should determine the appropriate duration for a session, or activity based on the trainees' knowledge level, number of trainees and the selected training methods.
- Requirements—lists the items and conditions for the session, considering the needs of facilitators and participants. Other inherent venue requirements such as electricity are excluded from this list.
- Preparation—lists tasks the facilitator must do before the session.
- Activities/ exercises— are the specific tasks that participants engage in during the training session to acquire knowledge, skills, or changed attitudes.
- Notes/ Handouts—provides content to guide the facilitator but should also be reproduced for all participants. Handouts can be provided at the end of each training day.

The manual also includes appendices with additional resources and references for further exploration. The manual covers a broad range of topics related to gender statistics, catering for both beginners and more advanced users. It addresses the specific challenges and needs of users in Uganda. It covers both micro and macro data, and official and non-official statistics. It aims to create "gender statistics literacy", but not to produce statisticians or gender experts. By gender statistics literacy, we mean the ability to understand, interpret, analyse, and use gender-related statistics effectively. It involves having the knowledge and skills to navigate gender-disaggregated statistics, recognise gender biases and inequalities within datasets, and leverage gender statistics to inform policies, programmes, and decision-making processes. The manual does not cover learning how to perform statistical data analysis and visualization of micro datasets using packages such as STATA, SPSS, R, etc. The manual emphasizes practical application, providing hands-on exercises and real-life examples tailored to the Ugandan context.

HOW TO USE THE MANUAL:

To make the best use of the manual, the facilitators need to first acquaint themselves with its content and style. The Manual content is broad enough and can be adapted for various categories of trainees based on the results of the pre-training needs assessment and participants' expectations. A sample of a pre-training needs assessment tool is provided in Appendix 1. For gender equality practitioners without adequate statistical knowledge,

the facilitator can deepen the content on data cycle. Statisticians without adequate gender knowledge would need a deeper focus on gender concepts and terminologies and the importance of gender mainstreaming in the statistics cycle. Practitioners with adequate knowledge of both gender and statistics would not be the target for this training, but they can participate in experience sharing or short refresher sessions.

It is important to arrange separate training events for government officers with a background in economics and statistics and other trainees without a statistics or economics background. Both their competencies and uses of gender statistics differ. The training should last at most 6 days (for beginners) and three days for users who require skills upgrade. The planned schedule includes a four-day training workshop, with each day comprising eight hours of activities, including breaks for lunch and tea. Overall, the facilitators should keep the content as simple and context specific as possible. Where necessary, the facilitator(s)should further simplify the content to suit the target group.

It is also important for the facilitators to undertake further reading on the training topics as the information provided in this Manual is not exhaustive. The starting point is the list of resource materials provided in the Appendices of this Manual. Both facilitators and participants can provide feedback on the manual's content, structure, and usability to EPRC to help improve future versions.

PROPOSED TRAINING METHODS

Method	What it means and involves
Plenary brainstorming	Plenary brainstorming is a collaborative method where all members of a group come together to generate ideas, solve problems, or discuss topics, rather than in smaller subgroups. The term "plenary" indicates that the session includes all participants, ensuring that everyone can contribute and hear each other's thoughts. Plenary brainstorming should be particularly used at the start of sessions. During brainstorming sessions, participants should be encouraged to share their opinions freely without criticizing what others have shared. At the end of each activity, the debriefing discussions will identify common perceptions and conflicting opinions. Facilitators can utilize VIPP cards to encourage active participation from everyone.
Plenary discussion	Verbal exchange of ideas between facilitators and participants – usually undertaken as a brainstorm or after working on a common assignment in groups. To gain maximum results, the plenary should be limited to one topic addressing pre-defined issues/ questions. The feedback session should be facilitated by a moderator knowledgeable about the issue under discussion.

Method	What it means and involves
Work in pairs and work in groups	Participants discuss in pairs or groups. Working in pairs can be used in instances where there is insufficient time for group work, but you want to generate discussion among participants or prefer to break up the discussion into subtopics. Group work is ideal in discussing complex issues that require diverse perspectives. Encourage participants to respect other people's opinions as participants are more likely to share their feelings and ideas if they know they will not be judged or criticized for what they share
Case study	The group is presented with information on a real or realistic situation either through a presentation or documented piece of work. The participants discuss and analyse issues relevant to the topic of interest. The use of case studies is one of the primary methods employed to train adults. It is anticipated that case studies will create interest and motivate participants because they are realistic, relevant, and present challenging situations.
Presentation	Involves an expert or experienced trainer guiding participants through key concepts, methodologies, and applications related to gender statistics. This method combines direct instruction with interactive elements to enhance learning and engagement. This is suitable in technical areas such as categories of gender responsive indicators.
Video screening	Involves using video content to educate and train individuals on the analysis, interpretation, and application of gender-related data. This method leverages the power of visual and auditory learning to make complex statistical concepts more accessible and engaging. For example, videos featuring interviews with statisticians, policymakers, and beneficiaries who discuss the importance and impact of gender statistics.
Exercise/ assignment	Specific tasks are essential to help participants apply theoretical knowledge to practical situations. For example, analysis of gender statistics in the Police Annual Crime and Road Safety Report.
Demonstration	Involves showing participants how to perform specific tasks, use tools, or apply techniques related to the analysis, and interpretation of gender-related data. This method is highly effective for teaching practical skills and ensuring that participants can see the exact steps involved in various processes. For example, how to compute the measures of central tendency such as mean and median or statistical measures such as proportion and percentage.

TIPS FOR PLANNING A TRAINING EVENT.

A facilitator should directly or through the training organisers utilise the following tips:

Participants: Training organisers should map officers in the priority sectors targeted at increased use of gender statistics based on their roles. They should encourage agencies to consider both women and men when nominating participants. The facilitators should send the training programme to participants at least a week in advance to enable them to know the content to be covered and any pre-training preparation (such as advance reading) they need to make.

Training requirements: The requirements, including training materials, are listed in the outline for each session and these are guided by the proposed training methods. These suggestions are not exhaustive and so the facilitators should use other context and culturally appropriate training methods and materials within their reach. Facilitators can prepare PowerPoint Slides using the 'Notes' and can print the Notes as handouts for participants. Some exercises and training evaluations can be administered online.

Venue: The venue should be checked and set up a day before the training. All equipment should be tested. There are different ways of setting up the training room, depending on the intended learning environment and the nature of the participants. Consider fresh air; light; ease of movement; sight lines from different angles; and the display of materials while planning the venue set-up.

Co-facilitation: Facilitators of this course should possess training experience, strong statistical expertise, and either work experience or training specifically in gender statistics. A co-facilitator is recommended in delivering this training, due to its content, length, and facilitation style (a combination of experiential learning and participatory approaches). One facilitator may not necessarily have the mastery of all the Modules and alteration of facilitators exposes participants to new facilitation experiences. A combination of a statistician and a gender expert would be ideal to facilitate this training. It is good practice for facilitators to meet before - hand to plan sessions, divide sessions or topics and to have joint reflection at the end of each training day.

Introducing the Training: The Modules have been organised in chronological order. It is therefore recommended that the training follows the line-up of the Modules and Sessions. In instances where the target trainees do not need much detail on a given module or session, the facilitator should provide an overview. The start of the training should have an introduction or welcome remarks from the facilitator, an icebreaker, and participant introductions, setting ground rules and any other relevant issues, based on the context. This should be immediately followed by an overview of training objectives and programme/ agenda. The specific guidance on starting a training workshop includes:

Participants' introduction: Introductions should take between 15 and 20 minutes. The facilitator should allow a representative of the convening organisation to welcome the participants, make a few remarks to open the workshop and introduce the facilitator. The meeting convener should provide relevant information about arrangements for participants' meals, transport, accommodation, and allowances. After being introduced, the facilitator should greet the participants and re-introduce themselves and any other workshop staff. The facilitator should conduct an introductory activity so that all participants are aware

of themselves and the organisers. The participants should be requested to mention their names, workplace, and any other relevant information. Below are two proposed exercises for participants' introduction:

Exercise A: My name is…and I like...

Steps

i. Ask the participants to sit or stand in a circle.

ii. Divide the participants into groups of about five.

iii. Request the first participant to mention their name and the name of a favourite animal, fruit, colour, game, place, etcetera, that begins with the same letter as their first (most often religious) name. For example, "My name is Simon, and I like School." Ask the next participant to repeat this and to add their own name. For example, 'His name is Simon, and he likes School. My name is Jane, and I like Javelin.'

iv. Continue until all participants have introduced themselves in this way.

Remember…

- Participants should not feel embarrassed if they cannot remember the whole sequence. Instead, encourage the group members to help each other out by giving clues.
- If the participants cannot think of an animal, fruit, colour, game, or place that begins with the same letter as their name, do not let them feel embarrassed. Instead, encourage the group members to help. You may also suggest adjectives that describe the participant for example 'My name is Henry, and I am Happy.'

Exercise B: If I could be…

Steps

i. Ask the participants to stand or sit in a circle.

ii. Request them the participants to think about who they would like to be and why. You can suggest categories of famous people from history, politics, sports, music, movies, or respected personalities they know in their local community.

iii. Ask each participant to introduce themselves and say who they would like to be and why.

Remember…

This works best when done fast.

Seeking participants' expectations (10 – 15 minutes):

i. Ask the participants to take two minutes to think of the expectations they have for the workshop. Clarify that this should be something they want to learn about

gender statistics to avoid preoccupation with expressions about allowances, etc.

ii. In an anticlockwise direction, ask each participant to mention their expectations.

iii. Write the expectations on a Flip Chart paper and keep them on the wall for everyone to refer to during the training.

iv. Explain whether this training will address each of the expectations shared by the participants. If it will not, explain why and how interested participants can gain such knowledge.

Presentation of the workshop objectives (5 – 10 minutes): The Facilitator can either write out the objectives on a flip chart or print it out and give each participant a copy. Immediately following the expectations, the facilitator should read out the objectives of the workshop and check them against the expectations. Ensure that participants understand the workshop objectives or intended outcomes. Allow participants to raise any questions or concerns they may have about the objectives of the training event.
Setting ground rules/ workshop etiquette (5 – 10 minutes): Ask the participants to propose a list of rules that will guide the training sessions. These could include:

- Give everyone a chance to speak and participate.
- Put mobile phones on vibration or silent mode etc.
- Respect time—start on time, end on time.
- Be respectful to each other and the facilitators.
- When contributing, talk loud enough for everyone to hear.
- Let one person speak at a time.
- No side talks, etc.

✓ Discuss and agree on the rules/ etiquette that will guide the training sessions.
✓ Write these on another flip chart.
✓ Ask participants if they agree to abide by these ground rules.
✓ Post the ground rules list on the wall in the training room.

TRAINING EVALUATION AND REPORT

It is important that you plan how the training will be evaluated to gauge if the objectives have been achieved. Besides the general training evaluation, session specific assessment should be done before moving to the next session. Similarly, the structure of the training report should be developed in advance and important notes written down daily to ease the preparation of a report at the end of the training. Samples of evaluation form and report format are provided in Appendices II and III of this Manual.

MODULE

1

INTRODUCTION TO GENDER AND GENDER STATISTICS

MODULE ONE: INTRODUCTION TO GENDER AND GENDER STATISTICS

Learning Outcomes/Objectives

By the end of this module, participants are expected to have:

a. Become familiar with the key concepts in gender and gender statistics.

b. Appreciated the importance of gender statistics in advancing gender equality and women's empowerment.

c. Understood the foundation for integrating a gender perspective in statistics.

Overview of the Module

The modules cover definition of key gender and statistics concepts, examine gender statistics and its importance in achieving GEWE, examines how to integrate a gender perspective in statistics and the data value chain.

Note to Facilitator

Understanding the distinction between sex and gender is crucial for statistical analysis and policy development. In gender-focused research, data must be disaggregated by sex to analyze gender-related disparities effectively. However, sex-disaggregated data alone is not always sufficient; understanding broader gender dynamics provides a deeper context for gender-sensitive policymaking. Gender is not just about women; it also includes men, boys and girls, as their societal positioning influences gender relations and equity.

Gender equality and equity are distinct but interconnected concepts. The reality often highlights systemic inequalities where some groups have more advantages than others. Statistical analysis in gender studies involves assessing gender balance, gender parity, and gender norms, and understanding the roles of data users and producers. Therefore, there is need to emphasize how gender-sensitive data collection and analysis are essential for informed policy decisions, equitable resource allocation, and addressing systemic inequalities

TIME:
5 Hours 10 Minutes

SESSION 1.1: DEFINITION OF GENDER AND STATISTICS CONCEPTS

Session objective:	Enable participants to become familiar with key concepts in gender and statistics
Methods:	*Plenary brainstorming, a facilitator's presentation, video screening, and quizzes*
Requirements:	A projector, a computer, internet access for the facilitator & participants, an audio device, flipchart papers, and marker pens
Preparation:	*Before the session, the facilitator should produce printouts of Exercises 1.1.B, 1.1.C, and 1.1.E or design them as online quizzes.* *Identify a suitable video on gender equality when planning the training event.*
Duration	200 minutes
Activity	1.1A: Differentiating sex and gender 1.1B: Gender Equality Versus Equity 1.1C: Data, information, and statistics
Notes/Handouts	1.1A: Sex versus Gender 1.1B: Gender Equality Versus Gender Equity 1.1C: Concepts in Gender Statistics 1.1D: Data, Information, and Statistics
Exercises	1.1Aa: Sex vs Gender 1.1Ab: Sex vs Gender 1.1B: Gender Equality vs Gender Equity
Answers to exercises	1.1Aa: Sex vs Gender 1.1Ab: Sex vs Gender 1.1B: Gender Quality Vs Equity

Activity 1.1A: Differentiating sex and gender

Steps

i. Ask 3 to 5 participants to explain their understanding of the concepts of sex and gender. Prompt them to provide definitions and examples.

ii. Note participants' responses on a flipchart.

iii. Then use Notes 1.1Aa to summarise key differences, emphasising the main points and clarifying misconceptions. The main points are:

- ✓ Sex and gender are often confused, but do not mean the same thing.
- ✓ Sex refers to the biological and physiological difference between men and women and the biological characteristics that define humans as female or male. These differences do not change.
- ✓ Gender refers to socially constructed roles, behaviours, activities, and attributes that a given society considers appropriate for men and women. Gender is

learned and changes over time.

- ✓ The policy and research interest are always in gender, not sex, but examination of data by sex is one of the means to making gender-based analyses.

Activity 1.1B: Gender Equality Versus Equity

Steps

i. Using a projector screen, display Figure 1 to the participants

ii. Ask 3 to 5 participants to explain what the image means to them in the context gender equality and equity.

iii. Summarise the interpretation, emphasising that:

- **Equality and equity** are distinct concepts
- **Equality:** Means providing the same resources to everyone.
- **Equity:** Means adjusting resources based on individual needs to ensure fair opportunities.
- **Reality:** Reveals existing disparities that lead to significant inequalities in outcomes.
- **Implication:** Development efforts should focus on both gender equality and equity because of the differences in the needs and capacities of women and men.

iv. Ask participants to complete Exercise 1.1.B.

Activity 1.1C: Data, information, and statistics

Steps

I. Ask 3 to 5 participants to explain their understanding of the concepts of data, information, and statistics. Prompt them to provide definitions and examples.

II. Display an electronic dataset and analysed data (information) to illustrate the differences between the two concepts.

III. Then use Notes 1.1D to summarise the key differences, emphasising key points and clarifying misconceptions.

Notes/ Handout 1.1Aa: Sex versus Gender

Although the words 'sex' and 'gender' are often used interchangeably, they mean different things and it is important to choose the right word when discussing sex and/or gender in the context of statistics. According to the Uganda Gender Policy 2007, sex refers to the biological characteristics that make an individual male or female. Sex differences are God given, universal and unchangeable. The policy defines gender as the social and cultural construct of roles, responsibilities, attributes, opportunities, privileges, status, access to and control over resources and benefits between women and men, boys and girls in each society.

Gender determines what is expected, allowed, and valued in a woman or a man in each context (United Nations, 2013, p.2).

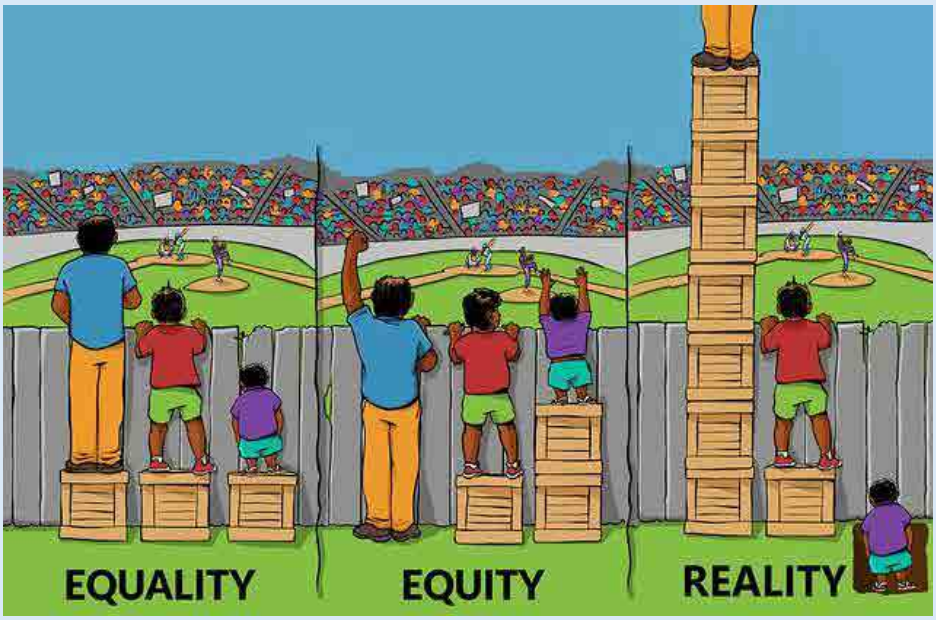
The policy and research interest are almost always in gender, not sex, but examination of data by sex is the means to making gender-based analyses. Sex-disaggregated data are needed to show the differences that exist between women and men in each society. Data must be disaggregated by sex to analyse gender issues. However, this alone is not always sufficient for gender analysis. A gender analysis includes examining the causes and implications of the differences or inequalities. For example, the disaggregation of victims of defilement by sex has some value, but information on the perpetrator and their relationship to the victim is also needed to understand if the act was committed in a family context or by someone unknown to the victim. Disaggregation of data using other factors bring out intersectionality i.e. how these factors combine with gender to compound differences and inequalities between women and men.

The concept of gender focuses not only on women and girls, but also on men and boys. This is important because policies and programmes affect women and men differently and because men's position in society is an important context for understanding women's position and vice versa. However, a focus on either men or women may also be appropriate in some cases. For example, some issues pertain to women but not to men, such as maternal mortality, while there are some health issues that are specific to men such as testicular cancer.

Notes/ Handout 1.1B: Gender Equality Versus Gender Equity

Gender equality is the ability of men and women, boys and girls to enjoy the same status and have equal opportunity to realise their potential to contribute to socio-cultural, economic and political development (The Uganda Gender Policy 2007). Gender equality means equal opportunities, rights and responsibilities for women and men, and girls and boys. Equality does not mean that women and men are the same, but that the opportunities, rights and responsibilities of women and men do not depend on whether they are born female or male (United Nations, 2002, as cited in United Nations, 2013, p.3). Gender equity is fairness and justice in the distribution of resources, benefits, and responsibilities between men and women, girls and boys in all spheres of life (The Uganda Gender Policy 2007).

Figure 1: Gender equality, equity, and reality



Interpretation

Equality

- **Illustration:** Three individuals of different heights are each standing on one crate to watch a baseball game over a fence.
- **Concept:** Equality means providing everyone with the same resources or opportunities. However, because everyone has different needs and starting points, equal treatment doesn't necessarily lead to fair outcomes. In this case, despite each person having a crate, not all can see over the fence due to their varying heights.

Equity

- **Illustration:** The individuals are given different numbers of crates according to their needs to ensure everyone can see over the fence. The shortest individual gets more crates, the tallest one gets none, and the middle one gets one crate.
- **Concept:** Equity involves allocating resources and opportunities based on individual needs, leading to fair outcomes. Here, the different crate distribution ensures that everyone, regardless of height, can see the game.

Reality

- **Illustration:** This panel shows the tallest individual standing on multiple crates, seeing the game comfortably, while the middle individual is still on one crate, and the shortest individual now has no crates and is completely unable to see.
- **Concept:** Reality often reflects a significant disparity where resources and opportunities are unevenly distributed, leading to an imbalance. The tallest

individual represents those who have excessive advantages, while the shortest represents those who are significantly disadvantaged.

Summary Gender Equality Interpretation

- **Equality vs. Equity:** In the context of gender equality, the image highlights that treating everyone the same (equality) doesn't address the different barriers that individuals might face due to their gender. Equity, however, recognizes these differences and seeks to provide support based on specific needs.
- **Reality Check:** The "reality" panel reflects the systemic inequalities that exist, where some groups (often men in the context of gender) have more opportunities and resources, while others (often women) have fewer resources and face more significant barriers, making it harder for them to achieve the same outcomes.

Other Gender Concepts

Gender analysis is a critical examination of how differences in gender roles, activities, needs, opportunities and rights/entitlements affect women, men, girls and boys in certain situations or contexts. Gender analysis examines the relationships between women and men and their access to and control of resources and the constraints they face relative to each other. It also incorporates assessing the implications of a proposed intervention on the status of women and men and the relative power balance. Gender analysis may be conducted based on qualitative information[1] and methods and/or based on quantitative[2] information provided by gender statistics.

Gender balance is commonly used in reference to human resources and the equal participation of women and men in all areas of work, projects, or programmes. In a scenario of gender equality, women and men are expected to participate in proportion to their shares in the population. In many areas, however, women participate less than what would be expected according to the sex distribution in the population (underrepresentation of women) while men participate more than expected (overrepresentation of men).

Gender parity (or more accurately, sex parity) is a numerical concept. Gender parity concerns relative equality in terms of numbers and proportions of women and men, girls, and boys. Gender parity is often calculated as the ratio of female-to-male values of a given indicator. When males-to-females ratios are calculated instead, the label "sex ratio" is used instead of gender parity". Gender (or sex) parity does not necessarily imply gender equality. For example, equal numbers of men and women in the workforce, either men or women might still face significant pay gaps, limited access to senior positions, discrimination, and biases in recruitment and promotion processes.

Gender blindness is an approach that does not recognize or address the different impacts policies or actions may have on women and men. For example, implementing a workplace policy that does not consider the different impacts it might have on men and

1 Refers to non-numerical data that describes characteristics, qualities, or attributes of a subject rather than measuring it with numbers. It focuses on descriptive aspects such as perceptions, experiences, behaviors, and meanings.

2 Quantitative data is numeric and used to quantify variables and phenomena. It allows for statistical analysis and aims to identify patterns, relationships, and generalizable results. This type of data is more objective and is used to test hypotheses and measure variables

women, such as ignoring the need for maternity or paternity leave.

Gender neutral recognizes the need to treat women and men equally without emphasizing differences. Aims to create a fair environment but may require additional measures to address specific gender-based needs or disparities. For example, implementing a workplace dress code that does not specify different rules for men and women but focuses on overall appropriateness.

Gender issue: is a point of gender inequality or inequity and results from discrimination or oppression of an individual or a group of people purely based on social expectations and attributes. Gender issues should be the centre of analyses and policy decisions, plans, programme budgets and institutional structures and processes. From a statistics perspective, gender issues should also be at the core of plans and programmes for developing gender statistics by national statistical systems.

Gender mainstreaming (general) is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes as well as in organisational structures and procedures in all political, economic, and societal spheres so that women and men benefit equally. The goal is to achieve gender equality.

Gender mainstreaming in national statistics means that gender issues and gender-based biases are considered, systematically, in the production of all official statistics and at all stages of data production.

Gender norms are the accepted attributes and characteristics of being a woman or a man (ideas of how men and women should be and act) at a particular point in time for a specific society or community. They are internalized early in life through the process of gender socialization, are used as standards and expectations to which women and men should conform and result in gender stereotypes.

Notes/ Handout 1.1C: Concepts in Gender Statistics

A variable

A variable is an element or factor that can vary or change and is not fixed (UN Women, 2020). In statistics, a variable is any factor that can have multiple values. For example, age, as someone can be, 1, 11, 33, 100 years old, etc. Other examples of variables are sex, marital status, and household size. A variable may also be called a data item. When working with survey data, each of the survey questions is typically a variable, although some variables are composites (combinations) of several questions.

Official versus non-official statistics

Official statistics are those statistics that are produced, disseminated, and used by government agencies to provide a reliable picture of society and the economy. They are fundamental to the development of evidence-based policies and decision-making processes. Official statistics are also important for the transparency and accountability of government actions and for the democratic process (UNECE, 2018). In Uganda's

context, official statistics are statistics produced either by the Uganda Bureau of Statistics or another government body in charge of data production (e.g. line ministries, Bank of Uganda, etc.). They are usually produced in accordance with the Uganda Bureau of Statistics Act 1998 and in line with the Fundamental Principles of Official Statistics (UBOS, 2021). In select cases, official statistics might also be produced by third-party organisations, such as private sector entities, civil society organisations or academic institutions, with the involvement of UBOS. It is important to note that, in these cases, UBOS' involvement and validation of such statistics is essential for the figures to be treated as 'official'. Some examples of official statistics include:

1. Figures derived from Census data.
2. Estimates derived from official surveys.
3. Aggregates calculated using administrative records compiled by government institutions (e.g. birth registration, crime statistics)
4. Increasingly, select official statistics are also starting to be produced using nonconventional sources (e.g. big data, citizen generated data, crowdsourcing, etc.). Although these data sources have great potential, it is important to complement them with other traditional forms of statistics to avoid bias and ensure comprehensive population coverage.
5. Expert assessments. These typically refer to professionals such as academics, lawyers or civil servants who answer a questionnaire in the area of interest (UNECE, 2016)

Non-official statistics are those produced without any involvement of the national statistics body or any other member of the National Statistical System (UNECE, 2018). Thus, any statistics produced without the involvement of UBOS or other mandated entities in Uganda are considered non-official statistics. These statistics are often narrower in coverage, as sample sizes tend to be larger in data collection exercises conducted by UBOS (due to availability of financial and human resources for data collection). While most official statistics tend to be produced periodically (e.g. the Census often takes place once a decade, demographic surveys often have a five-year periodicity), non-official statistics are more likely to be ad-hoc studies and one-off data collection exercises.

Data Users vs Data Producers

Data users

Any consumer of data is generally considered a data user. Data Users are individuals or organizations that utilize statistical data for programming, decision-making, policy development, research, and public information. They include policymakers, researchers, civil society organizations, and the public (UN Women, 2019). The most common users of gender data include policymakers and other forms of decision-makers, government bodies, civil society organisations, academics and researchers, private-sector institutions, and international organisations.

Data producers

Data Producers are entities responsible for collecting, processing, and disseminating statistical data. They primarily include national statistical offices, government agencies, and research institutions (UN Women, 2019). In Uganda, data producers include UBOS, line ministries, other government departments, some international organisations and, in rare instances, the private sector and civil society organisations that generate statistics.

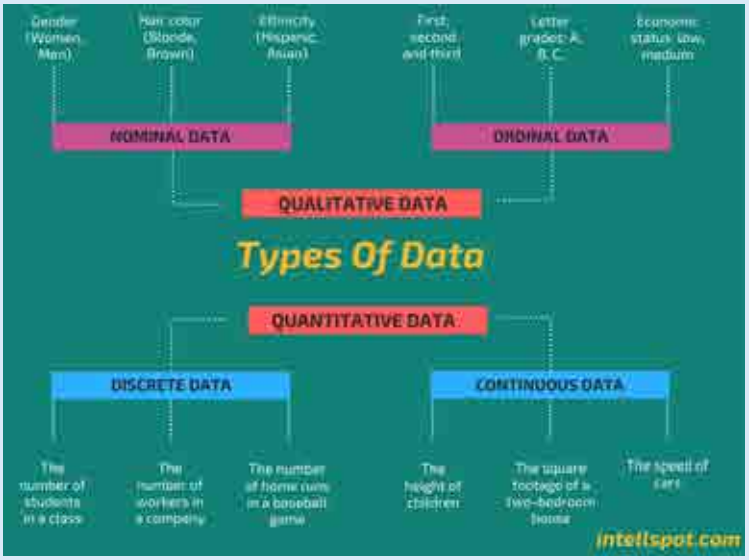
Drawing the line between data users and producers is not always easy, as many actors can both be users and producers. For instance, the Uganda Police force is a data user because it consumes statistics from the crime statistics system generated by different governance and security institutions including the judiciary, Office of the Directorate of Public Prosecution for instance to estimate the prevalence of a certain disease. However, it is also a data producer because it generates administrative crime data and compiles it through the Annual crime report. Institutions are therefore located along the continuum of data production and use, with some tending more towards production and others tending more towards consumption. There are also those actors in the middle-information brokers who repackage available information for users.

In this training manual, data users are officers who process information input for policy and other forms of decision-making in government and policy influencers outside government (See users of the manual in the Introduction Part).

Notes/ Handout 1.1D: Data, Information, and Statistics

Data are measurements, observations, or raw facts that have not been organised, processed, or analysed. There are various ways of classifying data as shown in Figure 2 below.

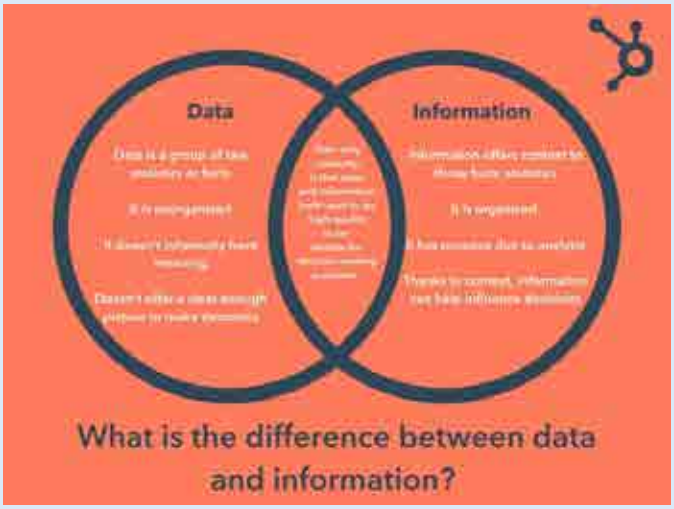
Figure 2: Types of Data



Source: Valcheva (n.d.)

Information is processed and organized data that has been given context, relevance, and meaning. It is the result of analysing, interpreting, and presenting data in a structured manner to make it meaningful and useful for decision-making or understanding. For instance, a summary of births by region, along with trends and analysis, transforms raw birth data into actionable information for government decisionmakers.

Figure 3: Difference between Data and Information



Source: Roddewig (2012)

Statistics is a branch of mathematics that deals with the collection, analysis, interpretation, presentation, and organization of data. It involves techniques for summarizing, describing, and drawing conclusions from data. Statistical methods are used to analyse data, identify patterns, make predictions, and infer relationships. In a broader sense, statistics also refer to numerical facts or data used for reference or comparison. For example, unemployment rate, average income, or population growth rate are all statistical measures derived from data collected through surveys or expert assessments/studies.

Exercise 1.1Aa: Sex vs Gender

i. To monitor participants' learning progress, ask them to complete Exercises 1.1Aa either individually or in pairs. The facilitator can also administer Exercise 1.1Aa as an online quiz on Mentimeter, Survey Monkey, Google Forms, or any other relevant online survey platform.

For each statement, indicate if they refer to sex or gender:

1. Women can become pregnant. Men can make them pregnant. **Sex** **Gender**
2. Childcare is the responsibility of women. Men should be concerned with paying school fees. **Sex** **Gender**
3. Women do most agricultural work in African countries. **Sex** **Gender**
4. Women make good leaders**. Sex** **Gender**
5. Women can breastfeed babies. Men can bottle-feed babies. **Sex** **Gender**

Exercise 1.1Ab: Sex vs Gender

i. To monitor participants' learning progress, ask them to complete Exercises 1.1Ab either individually or in pairs. The facilitator can also administer Exercise 1.1Ab as an online quiz on Mentimeter, Survey Monkey, Google Forms, or any other relevant online survey platform.

Fill in each blank space with the word 'sex' or 'gender', as relevant.

1. After delivery, the doctor will reveal to the mother the _____ of the child.
2. To understand the differences in enrolment rates between girls and boys, the data must be disaggregated by _____.
3. Data is typically disaggregated by binary definitions of _____, but some countries are starting to develop methodologies to capture _____ dimensions and apply these for disaggregation.
4. Women and men's _____ roles in society determine how much time they spend doing domestic work.
5. _____ statistics include _____-disaggregated statistics and other _____-specific indicators that capture the realities and the differences in the lives of women and men.

Exercise 1.1B: Gender Equality vs Gender Equity

For each scenario below, indicate if they refer to gender equality or gender equity:

1. In a company, men and women receive the same salary for the same position. ***Gender equality*** ***Gender equity.***
2. The Government of Uganda provides 1.5 top up points to women to enable more women access to university and tertiary education. ***Gender equality*** ***Gender equity.***
3. A healthcare campaign provides free screening for breast cancer, a disease predominantly affecting women. ***Gender equality*** ***Gender equity.***
4. The Government of Uganda reserves 30% of elective positions in the local government and national parliament for women to enable more women access to decision-making positions. ***Gender equality*** ***Gender equity.***
5. A company provides the same number of paid parental leave days for both mothers and fathers. ***Gender equality*** ***Gender equity.***
6. A microfinance initiative specifically targets women in rural areas to provide them with access to financial services. ***Gender equality*** ***Gender equity.***
7. The Gender and Equity Budget Guidelines requires Government ministries, agencies and departments to budget for activities and services that meet the diverse needs of women and men. ***Gender equality*** ***Gender equity.***
8. Establishing dedicated shelters, hotlines, and counseling services specifically for male victims of domestic violence. ***Gender equality*** ***Gender equity.***

Answers to Exercise 1.1Aa: Sex vs Gender

For each statement, indicate if they refer to sex or gender:

1. Women can become pregnant. Men can make them pregnant. **Sex**
2. Childcare is the responsibility of women. Men should be concerned with paying school fees. **Gender**
3. Women do most agricultural work in African countries. **Gender**
4. Women make good leaders**. Gender**
5. Women can breastfeed babies. Men can bottle-feed babies. **Sex**

Answers to Exercise 1.1Ab: Sex vs Gender (Answers)

Fill in each blank space with the word 'sex' or 'gender', as relevant.

1. After delivery, the doctor will reveal to the mother the __s**ex**_____ of the child.
2. To understand the differences in enrolment rates between girls and boys, the data must be disaggregated by **__sex____.**
3. Data is typically disaggregated by binary definitions of **__sex____**, but some countries are starting to develop methodologies to capture **__gender_____** dimensions and apply these for disaggregation.
4. Women and men's **__gender_____** roles in society determine how much time they spend doing domestic work.
5. **Gender_____** statistics include **__sex_____**-disaggregated statistics and other **__gender_____**-specific indicators that capture the realities and the differences in the lives of women and men.

Answers to Exercise 1.1B: Gender Quality Vs Equity (Answers)

For each scenario below, indicate if they refer to gender equality or gender equity:

1. In a company, men and women receive the same salary for the same position. ***Gender equality because scenario addresses equal treatment regardless of gender.***
2. The Government of Uganda provides 1.5 top up points to women enable more women access to university and tertiary education. ***Gender equity because this "affirmative action" initiative aims to address the specific needs and barriers faced by women to achieve parity in education.***
3. A healthcare campaign provides free screening for breast cancer, a disease predominantly affecting women. ***Gender Equity because this campaign focuses on addressing the specific health needs of women, aiming for fairness in healthcare access.***

4. The Government of Uganda reserves 30% of elective positions in the local government and national parliament for women to enable more women access to decision-making positions. ***Gender equity because this "affirmative action" initiative aims to address the specific needs and barriers women's participation in representative politics.***
5. A company provides the same number of paid parental leave days for both mothers and fathers. ***Gender Equality because both parents receive the same benefits, reflecting equal treatment regardless of gender.***
6. A microfinance initiative specifically targets women in rural areas to provide them with access to financial services. ***Gender Equity because this initiative aims to address the specific economic needs and challenges faced by women, aiming for fair access to financial resources.***
7. The Gender and Equity Budget Guidelines requires Government ministries, agencies and depart5ments to budget for activities and services that meet the diverse needs of women and men. ***Gender Equity because these guidelines aim to provide services to both women and men, based on their needs.***
8. Establishing dedicated shelters, hotlines, and counseling services specifically for male victims of domestic violence***. Gender equity because these programmes are designed to provide a safe space and the necessary support for men who experience abuse, recognizing that they face unique challenges and stigma.***

SESSION 1.2 GENDER STATISTICS AND ITS IMPORTANCE

Session objective:	Enable participants to understand, • The concept of gender statistics. • How gender statistics is important in achieving gender equality and women's empowerment.
Methods:	Video screening and plenary brainstorming
Requirements:	A projector, a computer, internet access for the facilitator & participants, an audio device, flipchart papers, and marker pens.
Preparation:	Before the session, identify a suitable video on gender statistics when planning the training event.
Duration	60 minutes
Activity	1.2 Definition and importance of gender Statistics
Notes/Handouts	1.2A: Definition of gender statistics 1.2B: Importance of gender statistics

Activity 1.2 Definition and importance of Gender Statistics

Steps

i. Request the participants to watch a video. A sample video is here provided: ***Definition and importance of Gender Statistics: https://youtu.be/wT5nAjpVQjw***

ii. Then ask them to mention what they heard regarding the definition of gender statistics.

iii. Finally, ask the participants to list how gender statistics are used, as narrated in the video. You may capture these on a flipchart.

iv. Conclude the Q&A, referring to the guidance Notes 1.2.A and 1.2.B

Notes/ Handout 1.2A: Definition of Gender Statistics

Gender statistics are defined as statistics that adequately reflect differences and inequalities in the situation of women and men in all areas of life (United Nations, 2006, as cited in United Nations, 2013, p.1). It is a field of statistics which cuts across the traditional fields to identify, produce and disseminate statistics that reflect the realities of the lives of women and men, and help in raising policy issues related to gender equality.

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

a) Data are collected and presented with disaggregation by sex as a primary and overall classification. Sex-disaggregated statistics are data collected and tabulated separately for women and for men.

b) Data collected reflects gender issues.

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

d) Data collection methods consider stereotypes and social and cultural factors that may induce gender biases.

Therefore, gender statistics go well beyond just being statistics about women, or sex-disaggregated data.

Gender sensitive concepts and methods of data collection consider the diversity of various groups of women and men and their specific activities and challenges and aim to reduce sex and gender bias in data collection, such as the underreporting of women's economic activity, the underreporting of violence against women and the undercounting of girls, their births, or their deaths.

Notes/ Handout 1.2B: Importance of gender statistics

Gender statistics are essential in making informed decisions across the phase of planning, implementation, monitoring, and evaluation. Gender statistics are therefore necessary to:

a) Identify critical gender issues and inequalities to inform advocacy for inclusive and effective policies that meet the needs of all women and men.

b) Develop programmes/ projects to promote gender equality and women's empowerment for example through mainstreaming of gender equality and womens empowerment in National Development Plans (NDP).

c) Hold the government accountable for her commitments, including the achievement of the Sustainable Development Goals (SDGs) and the National Development Plan (NDP).

d) Conduct analysis and academic research on the differentiated characteristics of the lives of women and men to increase knowledge base of gender issues to inform policy and programming at the country level

e) Report at the institutional and national level (e.g. reports submitted to sector ministries and donors) and report on regional and international human rights instruments e.g. SDGs and African Union Agenda 2063.

f) Monitor and evaluate performance of policies, plans, or programmes, regardless of their focus on gender.

g) Inform capacity strengthening on gender equality and women's empowerment.

SESSION 1.3: FOUNDATION: INTEGRATING A GENDER PERSPECTIVE IN STATISTICS

Session objective:	Enable participants to understand the data value-chain.
Methods:	Lecture, Q&A
Requirements:	A projector
Preparation:	Before the session, the facilitator should prepare a PPT on integrating a gender perspective in statistics.
Duration	**50 minutes**
Activity	1.3 Integrating a gender perspective in Statistics
Notes/Handouts	1.3 The Data Value-Chain

Activity 1.3: Integrating a gender perspective in Statistics

Steps

i. Deliver a lecture on integrating a gender perspective in statistics, using a prepared PPT.

ii. You can make the presentation interactive, by allowing Q&A during the delivery.

iii. After the presentation, ask participants for any additional questions they may have.

Notes/ Handout 1.3: The Data Value-Chain

Official gender statistics produced at the country level draw on three main data-collection instruments: administrative records or registries, household surveys and population census. Increasingly, new, and emerging data sources – such as Big Data sources, citizen generated data and geospatial information – are also being utilized to produce official statistics but these are beyond the scope of this manual.

Although this manual focuses on data use, it is important to note that mainstreaming requires integrating a gender perspective at all stages of the statistical cycle/ data value chain from data collection to analysis and use. This addresses and minimizes the scope for any form of gender bias in the data. Hedman, et al (1996) and United Nations, Economic Commission for Europe, and World Bank Institute (2010) suggest the following steps of the data cycle:

a) Selection of topics to be investigated.

b) Identification of statistics to be collected to reflect the gender issues e.g. Violence against women, FGM, etc.

c) Evaluation of existing concepts, definitions, and methods to produce unbiased gender relevant information.

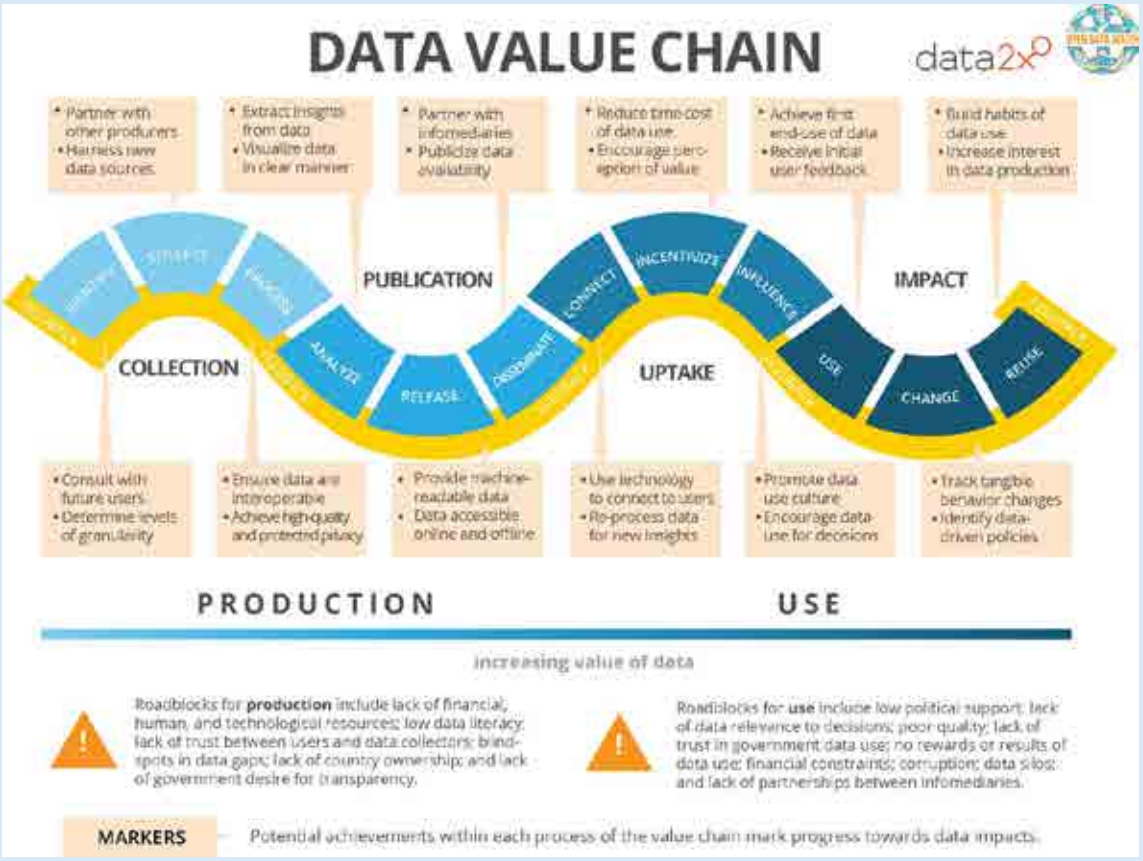
d) Formulation of new concepts and definitions that adequately reflect the diversities of women and men in society.

e) Development of data collection methods that consider stereotypes and social and cultural factors that might produce gender-based biases.

f) Collection and processing of data using practices that will deliver reliable results and presentation of statistics in easy-to-use formats; dissemination of statistical products to a wide range of users including policymakers and planners.

The statistical process can be represented by the data value chain and is illustrated below:

Figure 4: Data Value Chain



Source: Open Data Watch (n.d.)

The above image underscores the importance of integrating gender considerations at every stage of the data cycle—from collection to impact—organizations can ensure that data not only reflects gender differences but also contributes to informed decision-making and policy development that supports gender equality.

Users are mainly interested in the step of uptake, which encompasses disseminating, connecting, incentivizing, and influencing the use of data. This is followed by the Impact phase, entailing the use, change, and reuse of data, which includes promoting data culture, tracking behaviour changes, and identifying data-driven policies.

MODULE

2

ANALYSING MACRODATA SOURCES FOR GENDER STATISTICS

MODULE TWO: ANALYSING MACRODATA SOURCES FOR GENDER STATISTICS

LEARNING OBJECTIVES/OUTCOMES

After completing this Module, the participants are expected to have:

- Gained familiarity with the concepts of macrodata, microdata, and metadata.
- Become familiar with the concepts of good-quality data and good sources of global and national gender data.
- Understood how to conduct basic analysis of gender data from secondary sources.
- Understood how to access the available interactive data portals and how they can conduct basic data analysis and visualization.
- Appreciated the importance of using metadata when analysing and interpreting secondary data accurately.

OVERVIEW OF THE MODULE

The module covers the concepts of Macrodata, Microdata and Metadata, existing data sources in Uganda including their type and data collection methods, how to identify sources of good quality gender statistics, how to extract gender statistics from processed microdata including reports and how to analyze pre-processed datasets to generate gender statistics

NOTE TO FACILITATOR

In statistical analysis, data is categorized into two main types: macrodata and microdata. Macrodata consists of aggregated statistics representing a larger population.This data is typically compiled by national statistical offices like the Uganda Bureau of Statistics (UBOS) and is readily available through reports, surveys, and online databases. Sources of macrodata include national censuses, household surveys, statistical abstracts, and administrative records from various government ministries and agencies. Additionally, international platforms such as the UN Women Data Portal, World Development Indicators, and SDG Global Indicators Database provide globally comparable macrodata.

Microdata, on the other hand, consists of individual-level records where each row in a dataset represents a person, household, or organization, and each column captures attributes like age, gender, or employment status. However, accessing microdata often requires formal requests and adherence to confidentiality agreements. Both macrodata and microdata rely on metadata, which provides essential contextual information about how data is collected, defined, and classified. Understanding these concepts is crucial for effective statistical analysis and informed decision-making in various fields, including gender statistics, health, and economic planning

TIME:
9 HOURS

SESSION 2.1: THE CONCEPTS OF MACRODATA, MICRODATA AND METADATA

Session objective:	Enable participants to: a) Understand and differentiate the concepts of macrodata, micro data, and metadata. b) Identify the key sources of datasets and metadata.
Methods:	Plenary brainstorming and a facilitator's presentation.
Requirements:	A projector, a computer, internet access for the facilitator & participants, and an audio device.
Preparation:	Before the session the facilitator should: • Prepare a PPT on the concepts of macrodata, micro data, and metadata • Prepare online links or extracts of examples of macro, micro and meta data
Duration	60 minutes
Activity	2.1: Macro versus micro data
Notes/Handouts	2.1A Macro vs Microdata 2.1B: Metadata

Activity 2.1: Macro versus micro data

Steps

i. Ask 3 to 4 participants to define the concepts of macro and micro data.

ii. Deliver a presentation on the concepts of macro and micro data, guided by Notes 2.1A

iii. Ask participants to raise questions and address them.

Notes/ Handout 2.1A Macro vs Microdata

In statistical contexts, two primary types of data are used to describe data granularity—the level of detail or precision in a dataset—macrodata and microdata. Macrodata is aggregated data usually obtained from aggregating individual-level records into a figure that is representative of a population group. Some of the most widely used statistics are macrodata. For instance, figures about on proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions, 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, proportion of time spent on unpaid domestic and care work, by sex, age and location, Uganda's total fertility rate, unemployment rate, or mortality rates are all macrodata, as a single value is representative of the country (e.g. individual values have been aggregated to come up with a single value that is nationally representative). Simply put macro are national level while micro is sub-national.

Table 1: Examples of macrodata in Uganda's Statistical System

Indicator	Year and Source	Value (Women)	Value (Men)
Total Fertility Rate	2022 (UDHS)	4.1	N/A
Under-five Mortality	2022 (UDHS)	50/1000	57/1000
Life Expectancy at Birth	2022 (UDHS)	65.7	61.2
Unemployment rate	2021/2 (NLFS)	14.1	10.4
Multi-dimensional poverty rate	Multi poverty Dimensional Index Report 2022	50 % for female headed households	39 % for male headed households
Proportion of time spent on unpaid domestic and care work, by sex, age and location	Time Use Survey 2019	6.6 hours	5.1 hours
The proportion of women and men that experience physical and sexual violence	UDHS 2022	48%	40%

When national estimates are disaggregated by sex, location, geographical unit, or other variables, this is still macrodata. Macrodata aggregates are often prepared by a country's National Statistics Office (UBOS in Uganda) or other members of the National Statistical System. You should choose macro data when you are looking for readily available estimates, representative of a country or select groups within the country.

Data sources in Uganda

- Printed and electronic reports of national censuses and nationally representative surveys conducted by UBOS. These include:
    - Uganda National Population and Housing Census (UNPHC)- carried out every 10 years.

- Uganda National Household Survey (UNHS). This survey collects data on household demographics, living conditions, employment, education, health, and other socio-economic indicators. It's typically conducted every three to four years.
- Uganda Demographic and Health Survey (UDHS). Gathers data on fertility, family planning, maternal and child health, nutrition, and other health-related indicators. It's conducted every five years.
- The Uganda National Panel Survey (UNPS). This longitudinal survey follows the same households over time to track changes in various socio-economic indicators, including poverty, employment, education, and health.
- Other irregular census/surveys: National Livestock Census; Uganda National Service Delivery Survey (UNSDS); Uganda National Labour Force Survey, Agricultural Censuses, critical gender statistics needed since our economic base is largely still agriculture. For example, one would be interested in what is happening with the coffee boom! If they are irregular, then how do we establish trends? Or it is because of limited resources that we are not able to undertake them regularly
- Targeted surveys: Targeted for specific issues that affect women OR men that are not captured in traditional surveys e.g. Uganda has so far conducted the time use survey 2019 on care work, National Survey on Violence in Uganda 2021 Module one on Violence Against Women and Girls,, National Governance, Peace, security survey I in 2017 and II in 2024 on access to justice, political participation and women economic empowerment

- Statistical abstracts and reports
  - UBOS Statistical Abstract. This abstract provides a comprehensive overview of key statistics across various sectors including demographics, economy, health, education, agriculture, and more.
  - MOES Education Statistical Abstract
  - The Police Annual Crime and Road Safety Report
  - Annual Report of the Uganda Human Rights Commission to the Parliament of Uganda
  - Annual Education and Sports Sector Performance Report
  - Annual Health Sector Performance Report
  - Annual JLOS Performance Report
  - National Development Plan Performance Reports
- Administrative data systems

A) Online databases/ Management Information Systems of Government - Ministries Departments and Agencies and Local Governments including

- Health Management Information System (HMIS)
- Education Management Information System (EMIS)
- Integrated Financial Management Information System (IFMS)
- Gender-based Violence Management Information System (GBV MIS)
- Orphans and other Vulnerable Children Management Information System (OVC MIS)
- National Identity Card System
- Land Information System (LIS)
- National Agricultural Management Information System (NAMIS)
- Crime Statistics System
- Refugee Information Management System

B) Administrative data from non-state actors through innovative sources such as citizen generated data from Civil Society Organizations and private sector

- Expert assessments. These typically refer to professionals such as academics, lawyers or civil servants who answer a questionnaire in the area of interest. The resort to experts is thought to be advantageous because they can assess complex topics related to gender equality and women empowerment. Examples include the
- Compliance with planning and budget tools for tracking public allocations for gender equality and women's empowerment: Uganda's case 2020

Through the UBOS website, data users can directly download estimates for various gender statistic-related indicators, as well as many other thematic indicators based on their sources and data from other official producers, such as line ministries. Some of the databases include:

- Gender Statistics Portal (ubos.org)
- Gender Based Violence Incidence Dashboard - till 2021 (ubos.org)
- NSO Open Data: nso.uganda.opendataforafrica.org
- National Summary Data Page: nso.uganda.opendataforafrica.org

The UBOS website also serves as a communication channel through which audiences are informed of new data releases, publications, and other knowledge products.

The Statistical Resource Center (SRC)[1] at UBOS houses information materials for both the Uganda Bureau of Statistics (UBOS) and National Population Council. Its opening hours (Monday to Friday only): morning: 9am to 1pm; afternoon: 2pm to 5pm.

International sources

1 Resource Center - Uganda Bureau of Statistics (ubos.org)

Some links to online repositories for internationally comparable macrodata that comprises gender statistics include:

1. UN Women's data portal: https://data.unwomen.org/data-portal
2. Official SDG Global Indicators Database: https://unstats.un.org/sdgs/indicators/database/
3. World Development Indicators: https://data.worldbank.org/
4. DHS STATcompiler https://www.statcompiler.com/en/
5. Websites of specialized UN agencies: (e.g. UNICEF for children, UNESCO for education, WHO for health, etc.)

Micro data are data on individual study units. The unit could be an individual person, population group, or a company. For example, on an individual person in a typical survey dataset, each row represents the person and each column an attribute such as age, gender, or job type. Microdata is an option when the aggregated data of interest is not available from official statistics or if one is interested in further statistical analysis.

Both macrodata and microdata are stored in databases, online repositories, and data servers. While macrodata is often openly available online, accessing microdata might entail submitting a formal request to the data custodians and signing a confidentiality agreement.

Notes/ Handout 2.1B: Metadata

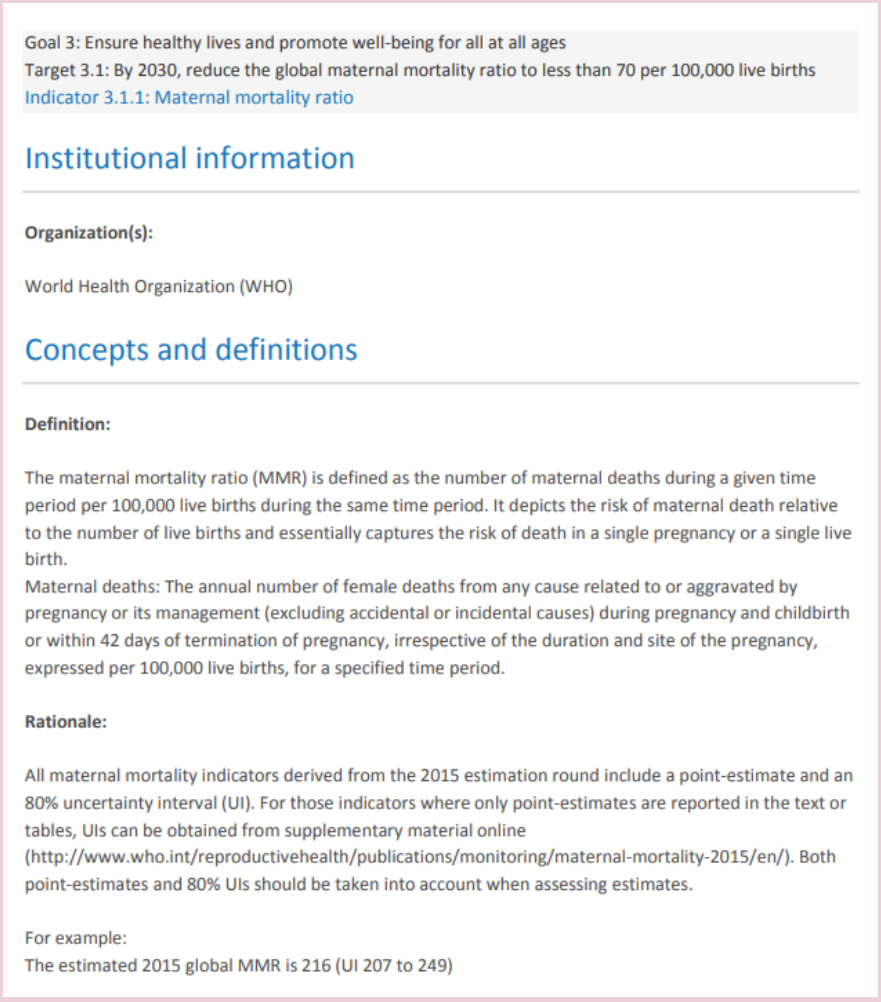
Metadata refers to the range of information, generally textual, that fosters understanding of the context in which statistical data have been collected, processed, and analysed with the objective of creating statistical information. It is the legal and regulatory texts, methods and concepts used at all levels of information processing, definitions, and nomenclatures, etc.). In other words, metadata is information about data. Metadata might provide information about an indicator, a data series, or a data point. The Uganda Bureau of Statistics produces metadata handbooks including for Sustainable Development Goals in 2022 and the National Gender Equality Priority Indicators of Uganda 2016 and 2019. These handbooks includes information on the data compiler, production timeliness, definitions, computation methods, quality assurance, and any statistical limitations. Metadata allows comparability across different datasets and overtime

Indicator metadata: What does it usually include?

1. Official indicator name
2. Definitions
3. Rationale
4. Methods of computation / Formulas

5. Information about exceptions, methodological concerns and limitations
6. Information about usual data sources utilized to derive the indicator.
7. If the metadata refers to an SDG indicator, it often also includes information about custodian agencies and methodology for producing regional aggregates.

Figure 5: Sample 1 for Indicator Metadata



Goal 3: Ensure healthy lives and promote well-being for all at all ages
Target 3.1: By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births
Indicator 3.1.1: Maternal mortality ratio

Institutional information

Organization(s):

World Health Organization (WHO)

Concepts and definitions

Definition:

The maternal mortality ratio (MMR) is defined as the number of maternal deaths during a given time period per 100,000 live births during the same time period. It depicts the risk of maternal death relative to the number of live births and essentially captures the risk of death in a single pregnancy or a single live birth.
Maternal deaths: The annual number of female deaths from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, expressed per 100,000 live births, for a specified time period.

Rationale:

All maternal mortality indicators derived from the 2015 estimation round include a point-estimate and an 80% uncertainty interval (UI). For those indicators where only point-estimates are reported in the text or tables, UIs can be obtained from supplementary material online (http://www.who.int/reproductivehealth/publications/monitoring/maternal-mortality-2015/en/). Both point-estimates and 80% UIs should be taken into account when assessing estimates.

For example:
The estimated 2015 global MMR is 216 (UI 207 to 249)

Source: UN WOMEN (2022). Curriculum on Gender Statistics Training; Module 9, Finding the Right Gender Data and Conducting Basic Analysis

Sample 2 for Indicator Metadata

Source: Uganda Bureau of Statistics (2022): Metadata Handbook for Sustainable Development Goals (p. 124-125)

SDG INDICATOR 5.1.1: whether or not legal frameworks are in place to promote, enforce and monitor equality and non-discrimination on the basis of sex.
0.a. Goal 5: Achieve gender equality and empower all women and girls
0.b. Target 5.1: End all forms of discrimination against all women and girls everywhere
0.c. Indicator 5.1.1: Whether or not legal frameworks are in place to promote, enforce

and monitor equality and non-discrimination on the basis of sex
0.d.Data Series: Year
2015 12
2016 12
2017 12
2018 12
2019 12
2020 12
Metadata update December 2021
0.f. Related indicators Indicator 5.a.2 and 5.6.2
0.g. international organization(s) responsible for global monitoring UN Women, World Bank Group, OECD Development Centre

2. Definition, concepts, and classifications

2.a. Definition and concepts Definitions: Indicator 5.1.1 measures Government efforts to put in place legal frameworks that promote enforce and monitor gender equality. The indicator is based on an assessment of legal frameworks that promote, enforce and monitor gender equality. The assessment is carried out by national counterparts, including UBOS and/or National Women's Machinery (NWMs), and legal practitioners/ researchers on gender equality. Concepts: Article 1 of CEDAW provides a comprehensive definition of discrimination against women covering direct and indirect discrimination and article 2 sets out general obligations for States, on required legal frameworks, to eliminate discrimination against women. Article 1 of CEDAW states: " the term ""discrimination against women" shall mean any distinction, exclusion or restriction made on the basis of sex which has the effect or purpose of impairing or nullifying the recognition, enjoyment or exercise by women, irrespective of their marital status, on a basis of equality of men and women, of human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field". The term "legal frameworks" is defined broadly to encompass laws, mechanisms and policies/plans to 'promote, enforce and monitor' gender equality.

Legal frameworks that "promote" are those that establish women's equal rights with men and enshrine nondiscrimination based on sex. Legal frameworks that "enforce and monitor' are directed to the realization of equality and non-discrimination and implementation of laws, such as policies/plans, establishment of enforcement and monitoring mechanisms, and allocation of financial resources. This measures whether or not: 1) national laws exist to promote gender equality and non-discrimination against women and girls 2) there exist mechanisms to 'enforce and monitor' the implementation of legal frameworks for each area of law.
2.b. Unit of measure Number
2.c. Classifications Not Applicable

3. Data source, type and data collection method

3.a. Data sources: The data for the indicator are derived from expert assessments of legal frameworks using primary sources/official government documents, in particular laws, policies/action plans on gender equality. The areas of law and questions are drawn

from the international legal and policy framework on gender equality, in particular the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), which has 189 States parties, and the Beijing Platform for Action.

3.b. Data Collection method Countries are asked to designate a focal point to undertake the coordination at the country level necessary for the collection and validation of the data. Most designated focal points are within the NWMs, a number are within the NSOs and some are within both the NWMs and the NSOs. After verification, the data with relevant laws, polices and other sources included, is sent to the designated focal points/country counterparts to review and validate. Final answers are arrived at after the process of validation with country counterparts.

3.c. Data collection calendar Annual

3.d. Data release calendar First quarter of the next financial year.

3.e. Data providers UN Agencies, NGOs, other MDA and LGs 3.f. Data compilers Ministry of Gender, Labour and Social Development

3.g. Institutional mandate The Ministry of Gender Labour and Social Development is responsible for empowering communities to harness their potential through cultural growth, skills development and labour productivity for sustainable and gender responsive development.

SDG INDICATOR 3.6.1: DEATH RATE DUE TO ROAD TRAFFIC

0. Indicator information

- 0.a. Goal 3: Ensure healthy lives and promote well-being for all ages
- 0.b. Target 3.6: Target 3.6: By 2020, halve the number of global deaths and injuries from road traffic accidents
- 0.c. Indicator 3.6.1: Indicator 3.6.1: Death rate due to road traffic
- 0.d. Data Series:
- Year 2016
- Male 46
- Female 7
- Total 53
- 0.e. Metadata update November 2021
- 0.f. Related indicators 3.5, 11.2
- 0.g. International Organisations (s) responsible for global monitoring: World Health Organization (WHO)

2. Definition, concepts, and classifications

- 2.a. Definition and concepts Definition: Death rate due to road traffic injuries is the number of road traffic fatal injury deaths per 100,000 populations. Concepts: Road fatality means any person killed immediately or dying within 30 days as a result of a road injury accident.
- 2.b. Unit of measure Rate per 100 000 population
- 2.c. Classifications None

3. Data source, type, and data collection method

- 3.a. Data sources The Uganda Demography and Health Survey (UDHS)
- 3.b. Data Collection method Sample Design. Out of the 20,880 selected households (30 households per EA), 18,506 women aged 15-49 were successfully interviewed.
- 3.c. Data collection calendar Every 5 years
- 3.d. Data release calendar 2022
- 3.e. Data providers Uganda Bureau of Statistics
- 3.f. Data compilers Uganda Bureau of Statistics, ICF

1. Other methodological considerations

4.a. Rationale Road traffic injuries remain an important public health problem, particularly for low-income and middle-income countries.

4.b. Comment and limitations Calculated per 100,000 population Data on vital registration is not comprehensive in terms of coverage to make comparison against the data received from the survey.

4.c. Method of computation Absolute figure indicating the number of people who die as a result of a road traffic crash per 100,000 population. Death rate due to road traffic = (Total number of deaths due to road traffic crashes) (Total Population) ×100, 000

4.d. Validation A wide consultative process is undertaken to compile, assess and validate data on the indicator. The consultation process solicited feedback directly from other Government Agencies responsible for official statistics, on the compilation of the indicators, including the data sources used, and the application of internationally agreed definitions, classification and methodologies to the data from that source. The results of this Indicator consultation are reviewed by the Ministry of Health and UNICEF.

4.e. Adjustments N/A.

4.f. Treatment of missing values (i) at country level and (ii) at regional level None

4.g. Regional aggregations: Not applicable

4.h. Methods and guidance available to countries for the compilation of the data at the

national level: None

2. Data availability and disaggregation

- Data Availability: Data available every 5 years
- Time Series: 2016
- Disaggregation: By age-group, sex, location (Rural-Urban), 15 sub regions

3. Comparability/deviation from international standards

- None

4. References and documentation

- URL: Uganda Demographic and Health Survey 2016 [FR333] (ubos.org)

Sources of Indicator Metadata

a) In on-line repositories (e.g. https://unstats.un.org/sdgs/metadata/)

b) In indicator handbooks, normally developed to accompany indicator sets. For example, an excerpt of the metadata for indicator 5.4.1 is given below. It elaborates on the method of calculating the estimates.

Sources of Data point Metadata

1. Information about specific data points
2. Explanation about exceptions
3. Information about coverage
4. Methodological limitations
5. Specific details about a data point

Data point metadata where can you find it?

a) In the form of footnotes

b) Alongside data tables or in data cells

c) In survey reports

d) Example: data point metadata the proportion of time spent on unpaid domestic and care work, by sex,age and location is 6.6 hours for women and 5.1 hours for men.

e) Source: Time Use Survey 2019.

f) proportion of people living in extreme poverty, disaggregated by sex and age, for the years 2009-2013

Source: UNESCO Institute for Statistics 2017a.

Notes: Data refer to latest available from 143 countries. Data are based on headcounts (HC), except for Congo, India and Israel, which are based on full-time equivalents (FTE). Data for China are based on total research and development (R&D) personnel instead of researchers. Data for Brazil are based on estimations.

g) Institutional reports on administrative data

h) Gender assessment and research reports

Why is metadata important?

a) Metadata goves data meaningful: Without it, understanding data would be impossible. Metadata such as the indicator's name, definition, and unit of measurement is essential—without it, data becomes meaningless.

b) Metadata improves comparability of data: Differences in data and their interpretation can arise due to the use of different definitions, concepts, units, and classifications.

c) Metadata can provide information about inconsistencies in computation methods: For instance, the SDG indicator on adolescent birth rates is defined as the annual number of births to women and girls aged 15 to 19, per 1,000 women and girls in the respective age group. The metadata for this SDG indicator, however, clarifies that depending on the type of data source used to calculate this indicator, the method of computation differs. E.g. the type may differ in age-grouping

SESSION 2.2: IDENTIFYING SOURCES OF GOOD QUALITY GENDER STATISTICS

Session objective:	Enable participants to appreciate the indicators of good quality data and how to apply them.
Methods:	Group work and a quiz
Requirements:	Internet access, flip charts papers, marker pens, and masking tape.
Preparation:	Before the session, the facilitator should prepare: • a list of indicators/ characteristics of good data on a flipchart. • Print outs of Exercise 2.2 for each participant or design it as an online quiz.
Duration	120 minutes
Activity	2.2 Good quality data
Notes/Handouts	2.2: Finding the 'right' gender data
Exercises	2.2 Indicators of data quality
Answers to exercises	2.2 Indicators of data quality

Activity 2.2: Good quality data

Steps

i. Divide the participants into groups of 5-8 and ask them to discuss the questions, "What are the indicators or characteristics of good quality data?"

ii. Provide time for each group to present in plenary and to receive feedback from other groups and the facilitator.

iii. Instruct participants to note their comments while each group presents, and to offer feedback after all presentations.

iv. To assess participants' learning, administer Exercise 2.2. Participants can individually fill-in the answers on prepared sheets or discuss in pairs. Alternatively, the Exercise can be administered online as a quiz on mentimeter, Google Forms, survey monkey, or any relevant application.

Notes/ Handout 2.2: Finding the 'right' gender data

Given the important role of gender data (Module One), it is imperative that the data used by policymakers, advocates, scientists, and journalists is of good quality. It is also important that the user is aware that not all data is good data. While data quality is assessed in a case-to-case considering the research question, the type of research, scope of research and one's level of statistical literacy, all data users must prioritize official statistics over non-official statistics whenever available. (Refer to Module One to understand the differences between official and non-official statistics). Official statistics are generally preferable because:

- They are more likely to be more representative of a country's total population because the National Statistics Offices and other official data producers have direct access to Census data, which can be used as a sampling frame, and thus their sampling methods return more accurate results. Units of enumeration and the units of data collection are also adequately chosen to support the production of data that would show meaningful gender differences by the statistical office making closeness of statistical estimates to true values possible
- The collection of data is at the core of the National Statistics Offices' (and some line ministries') mandates. This means that financial resources are often allocated to support these exercises. The collection of gender data across large population samples is generally quite expensive and National Statistical Offices having substantial financial resources allocated to this endeavour is likely to result in more representative results improving the quality of data produced.
- National Statistics Offices and other official producers engage large teams of enumerators trained in data collection methods. This ensures that gender issues and gender based biases are systematically taken into account in the production of the statistics and at all stages of data production enhancing the quality of the data
- Trained enumerators are best placed to obtain accurate answers from

respondents and more trained enumerators (including enumerators of different ethnic and linguistic backgrounds) means questionnaires can be rolled out among larger population groups of different backgrounds and can yield more accurate responses.

- Most official statistics tend to be produced periodically, as funds are allocated accordingly by national governments.

When official statistics are not available (for example for new and emerging areas), or there is a conflict of interest, you can turn to non-official statistics. For instance, when a user wishes to find estimates about corruption within the public service, non-official statistics are more likely to be available and reliable on this topic.

For every data source, a user should be concerned that such data meets specific quality parameters. According to key sources, including the UN Statistical Quality Assurance Framework (SQAF)[1] and IFAD (2022)[2], a good statistical output should be:

Relevant: The relevance of a statistical product (such as a dataset) is measured in terms of whether it meets users' needs. Relevant data should speak to your need as a user and take into account the gender issues that you want to address. For users of gender data, the first step in finding the 'right' data is to identify specific figures that help answer research questions. For instance, if a data user wishes to know whether female genital cutting is currently a common practice in Uganda, he/she should look for a data point that speaks to the 'proportion of girls and women aged 15–49 years who have undergone female genital mutilation/cutting in Uganda as of 2023" is a relevant data point. This further emphasizes the need to impart skills on undertaking Information needs Assessments and Producer-User dialogues)

Coherent: The coherence of a statistical output reflects the degree to which it is logically connected and mutually consistent with other statistical outputs. It means that the dataset that has been produced is based on compatible concepts, definitions, and classifications. The international statistical community has agreed definitions and classifications for numerous statistical concepts to ensure that gender data is internationally comparable. For instance, when working with time-use data, the statistical community has agreed to use the International Standard Classification of Time Use Statistics (ICATUS). Therefore, if a data user is faced with two competing data points regarding the average time a woman spends on domestic /unpaid care work for a certain country and year, the preferable data point would be the one that aligns with ICATUS based on the metadata for such data points.

Comparable: Data should ideally be comparable over time and across space. To compare data over time, it is important that the definition of a concept is the same over time and across countries. If the concept has changed or varies across countries, then it must be explained, typically utilizing a metadata document. For instance, to calculate the proportion of women living in households utilizing cooking fuels that might be harmful for their health, traditionally the international statistical community only classified 'solid fuels' as unclean, and therefore harmful. In recent years, however, fuels like liquid kerosene have been reclassified into the 'unclean' category. Estimates of disability in

1 See UNSD https://unstats.un.org/unsd/unsystem/documents/UNSQAF-2018.pdf
2 IFAD Data Governance Policy (2022). EB-2022-137-R-8.pdf (ifad.org)

Uganda have changed from asking if a person has a disability to asking about their level of functioning in specific domains. Therefore, revised statistical definitions and calculations reflect this change. To ensure the current estimates for women living in households using unclean cooking fuels are comparable with those produced in previous years, statisticians might recalculate old estimates or might include a note in the indicator metadata. It is important that data users read metadata carefully to assess whether comparisons over time and space are possible and whether methodology and definitions have been consistent.

Accurate: The accuracy of a statistical output is measured in terms of how correctly it estimates or describes the quantities or characteristics they are designed to measure. It is the closeness between the values provided and the true values. Assessing accuracy might require different measures, depending on the type of data-collection instrument.

In the case of survey data, major sources of error are coverage, sampling, non-response, and processing errors in addition to biased responses. For example, interviewing the household head (generally the male) about women's lives in that household might yield inaccurate results.

Due to inconsistencies in definitions, classifications and administrative concepts, statistical products from administrative sources may be erroneous. In addition, there is need to use multiple sources of data to complement each other as one may not reflect the true story. For example administrative data may have underreported data on violence and crime incidents since some women may not report cases of GBV for various reasons. Survey data and data from expert assessments can therefore be used to complement this data during analysis. Information on data sources can also be gathered from metadata files.

Reliable: It is the closeness of the initially released values of a statistical output to the values that are subsequently released for the same reference period. The closer the two sets of values are, the more reliable the data is. For instance, a data user might wish to know about whether school enrollment has increased or decreased in the last year in Uganda. A review of the school census data might give quick impressions of the changes being observed.

Timely/ punctual: It is the length of time between the availability of data and the phenomenon it describes. Timeliness is assessed in terms of a time scale that depends upon the period for which the data are of value, i.e., are sufficiently timely to be acted upon. For instance, the timeliness of labour market indicators might be different from that of violence indicators. School enrolment data should be available quickly, for example to inform allocation of school capitation grants. Violence patterns tend to change slowly, two-year-old violence data might still be considered timely for decision-making.

Accessible: The physical conditions in which users can obtain data: where to go, how to order, delivery time, clear pricing policy, convenient marketing conditions (copyright, etc.), availability of micro or macro data, various formats (paper, files, CD-ROM, Internet…), etc. The data produced should be readily accessible by users. Depending on the type of user (statisticians, policymakers, researchers, journalists, NGOs, academics,

etc.), multiple dissemination and communication formats should be used by the data production agency.

Depending on the data producer and the type of data, gender data might exist but may not always be readily accessible in online databases and reports. Data users are encouraged to reach out to producers to request sex-disaggregated estimates in cases when these aren't readily available online.

Interpretable/ clear: It is the ease with which users can understand and properly use the data. Metadata, which is a document comprising definitions, key concepts, coverage, etc., plays a major role in making data interpretable by users. It is important to read the metadata before using gender data.

Summary of the Data Quality Criteria

Table 2: Summary of the Data Quality Criteria

Quality Aspect	Description
Relevant	Data relevance ensures that statistical products meet user needs by producing necessary statistics and using concepts that reflect user requirements.
Coherent	Coherence means that statistical outputs are logically connected and consistent with established concepts, definitions, and classifications.
Comparable	Data comparability ensures that statistics can be compared over time and across regions by maintaining consistent definitions and methodologies.
Accurate	Accuracy refers to how closely statistical outputs estimate or describe the quantities they are intended to measure.
Reliable	Data reliability reflects consistency between initially released and subsequent values for the same reference period, indicating dependable statistical outputs.
Timely/Punctual	Timeliness measures how quickly data becomes available relative to their relevance for decision-making.
Accessible	Accessibility ensures that users can obtain data easily through various formats and channels.
Interpretable/Clear	Data interpretability hinges on metadata clarity, providing definitions, coverage details, and key concepts that aid users in understanding and utilizing the data effectively

Exercise 2.2: Indicators of data quality

1. What does "accuracy" refer to in the context of data quality?

a) The extent to which data is free from errors or mistakes

b) The relevance of the data to the research question

c) The consistency of the data over time

d) The ability to access the data easily

2. Which of the following is an indicator of data completeness?

a) Consistency of data values

b) Timeliness of data collection

c) Presence of missing or incomplete records

d) Accuracy of data entry

3. What does "timeliness" indicate about data quality?

a) The degree to which data is relevant to current circumstances

b) The extent to which data is consistent across different sources

c) The accuracy of data compared to a known standard

d) The speed at which data is collected and processed

4. Which of the following is NOT an indicator of data consistency?

a) Uniformity of data formats and structures

b) Absence of outliers or anomalies in the data

c) Agreement between different data sources or versions

d) Stability of data values over time

5. Why is "relevance" an important indicator of data quality?

a) It ensures that data is collected from a representative sample

b) It allows for comparisons between different datasets

c) It ensures that data meets the specific needs of the intended users

d) It facilitates data sharing and collaboration between organizations

6. Which of the following is an indicator of data reliability?

a) The availability of metadata describing the data source and collection methods

b) The degree of agreement between independent measurements or observations

c) The ability to trace data back to its original source or origin

d) The absence of systematic bias or distortion in the data

7. What does "validity" refer to in the context of data quality?

a) The consistency of data values over time

b) The extent to which data accurately represents the concept or phenomenon it intends to measure

c) The availability of additional information or context about the data

d) The ease with which data can be accessed and retrieved

8. Which of the following is NOT an indicator of data accessibility?

a) Availability of data in multiple formats or languages

b) Ease of data retrieval through standardized queries or interfaces

c) The extent to which data is protected from unauthorized access or modification

d) Consistency of data values across different sources or versions

9. What does "integrity" refer to in the context of data quality?

a) The degree to which data is consistent with a known standard or benchmark

b) The ability to ensure the security and privacy of sensitive data

c) The prevention of unauthorized access, alteration, or deletion of data

d) The accuracy and reliability of data values over time

10. Why is it important to consider "auditability" as an indicator of data quality?

a) It allows tracking changes made to the data over time

b) It ensures that data is collected from a diverse and representative sample

c) It facilitates data integration and interoperability between different systems

d) It helps ensure compliance with legal and regulatory requirements

Answers to Exercise 2.2: Indicators of data quality

1. What does "accuracy" refer to in the context of data quality?

a) The extent to which data is free from errors or mistakes ✓

b) The relevance of the data to the research question

c) The consistency of the data over time

d) The ability to access the data easily

2. Which of the following is an indicator of data completeness?

a) Consistency of data values

b) Timeliness of data collection

c) Presence of missing or incomplete records ✓

d) Accuracy of data entry

3. What does "timeliness" indicate about data quality?

a) The degree to which data is relevant to current circumstances

b) The extent to which data is consistent across different sources

c) The accuracy of data compared to a known standard

d) The speed at which data is collected and processed ✓

4. Which of the following is NOT an indicator of data consistency?

a) Uniformity of data formats and structures

b) Absence of outliers or anomalies in the data ✓

c) Agreement between different data sources or versions

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a) The consistency of data values over time

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a) Availability of data in multiple formats or languages

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c) The extent to which data is protected from unauthorized access or modification

d) Consistency of data values across different sources or versions

9. What does "integrity" refer to in the context of data quality?

a) The degree to which data is consistent with a known standard or benchmark

b) The ability to ensure the security and privacy of sensitive data

c) The prevention of unauthorized access, alteration, or deletion of data ✓

d) The accuracy and reliability of data values over time

10. Why is it important to consider "auditability" as an indicator of data quality?

a) It allows for tracking changes made to the data over time ✓

b) It ensures that data is collected from a diverse and representative sample

c) It facilitates data integration and interoperability between different systems

d) It helps ensure compliance with legal and regulatory requirements

SESSION 2.3: EXTRACTING GENDER STATISTICS FROM FULLY PROCESSED MACRODATA

Session objective:	Enable participants to understand how to access and review reports to extract gender statistics
Methods:	A facilitator's presentation, demonstration, and take-home assignment.
Requirements:	Computers, internet access, printouts of a report extract
Preparation:	a). Before the session, the facilitator shoud b). Prepare a printout of the steps for accessing and retrieving gender data from reports. Prepare printouts of a report extract or electronic copies to be provided to participants.
Duration	180 minutes
Activity	2.3: Identifying and Extracting Gender Statistics from a Report
Notes/Handouts	2.3: How to access and use Macrodata

Activity 2.3: Identifying and Extracting Gender Statistics from a Report

Steps

i. Introduce the session by explaining the recommended steps for accessing and reviewing reports for gender statistics (Refer to Notes 2.3).

ii. Using a report, demonstrate how you would typically apply the steps presented.

iii. Administer Exercise 2.3.

Notes/ Handout 2.3: How to access and use Macrodata

Various United Nations documents guide the process of accessing macrodata/ gender statistics from reports. These include Budlender, D. (2015), United Nations Economic Commission for Europe (UNECE), (2010), and United Nations Statistics Division (UNSD), (2015). The steps include:

a) Based on your knowledge of the available resources, identify the most probable source.

b) For both printed and digital/digitised versions of reports, you can browse through the Table of Contents and the Executive Summary to identify the topic or subtopic that might have the gender statistic of interest.

c) To search for gender-specific findings, scan the main body of the report for gender-specific findings, results, or analysis. Look for sections, subsections, or paragraphs that discuss gender-related topics. For digitized versions of reports, you can conduct a word search. You may try alternative words before accessing the right gender statistics in the report. Look for keywords or sections related to

gender, women, men, or gender-specific issues.

d) Check data tables, charts, graphs, or figures that present gender statistics or disaggregated data by gender. These visual representations can provide a quick overview of gender patterns, differences, or distributions in the research findings.

e) Consider cross-references and citations, and footnotes, within the report that may lead to additional sources of gender statistics, related studies, or data sources for further exploration.

f) Examine appendices or supplementary materials that may contain additional gender statistics, datasets, or detailed analysis not included in the main text.

g) Evaluate the quality, reliability, and interpretation of the gender statistics presented in the research report. Consider factors such as sample size, representativeness, data collection methods, measurement tools, and potential biases.

h) Document the gender statistics extracted from the research report, along with proper citations and references to comply with research integrity standards. Although there is no agreed citation style for Government of Uganda, some agencies use the APA (put in full) citation style.

Exercise 2.3: How to Identify and Extract Gender Statistics from a Report

Steps

i. Provide copies of the executive summary of the Uganda Police Annual Crime Report 2021 (Inserted below).

Executive Summary

2021 Annual Crime Report

In 2021, there was 0.1% general increase in the volume of crimes reported to Police from 195,931 cases reported in 2020 to 196,081 cases reported in 2021. Below is a breakdown of the details;

Assaults
In 2021, 29,317 cases of assault were reported, representing 14.9% of all the cases reported compared to 30,712 cases reported in 2020, indicating a 4.5% decrease. Common Assaults: a total of 23,167 cases of Common Assaults were reported to Police compared to 24,799 cases reported in 2020, showing a decrease of 6.5%.

Domestic Violence
A total of 17,533 cases of Domestic Violence were reported to Police compared to 17,664 reported in 2020, marking a 0.74% decrease. 17,553 people were victims of Domestic Violence of whom 3,103 were adult males, 12,877 were adult females and 871 were male juveniles while 702 were female juveniles.

Rape
1,486 cases of rape were registered compared to 1,519 cases reported in 2020, showing a decrease of 2.1%. A total of 1,396 adult females and 90 female juveniles were victims of rape.

Threatening Violence
By the end of 2021, a total of 10,408 cases of threatening violence were reported compared to 10,844 cases in 2020, showing a 4% decrease.

Burglaries
A total of 4,882 cases of burglaries were reported to Police in 2020 compared to 4,991 cases in 2020, marking a decrease of 2.1%.

Child-Related Offences
In 2021, 8,681 child-related cases constituting 4.2% of the total cases were reported compared to 9,225 cases reported in 2020, thus marking a 5.8% decrease. Child Desertion had a 12.2% decrease, Child abuse and Torture had a 16.6% decrease and Child Kidnap decreased by 23.8%.

Damage to Property
3.5% of all crimes reported were a result of Malicious Damage to Property. In 2021, a total of 6,980 cases were reported compared to 7,370 cases reported in 2020, indicating a 5.2% decrease.

Robbery
In 2021, 5,275 cases of Robbery were reported compared to 5,302 cases reported in 2020, showing a 0.5% decrease.

Aggravated Robbery of Motorcycles
A total of 258 cases of aggravated robbery of motorcycles were reported to Police compared to 349 cases reported in 2020 leading to a 25.7% decrease.

Homicide
A total of 3,912 cases of homicide were reported to Police by the end of 2021 compared to 4,460 cases in 2020, marking a 12.2% decrease. Murder by assault decreased by 19.3%, Murder by blunt objects decreased by 38%, Murder as a result of domestic violence decreased by 10%, Murder by strangulation decreased by 14.4%, Murder by Stabbing decreased by 37.1% and Murder by Hacking decreased by 40%.

Narcotics
By the end of 2021, a total of 1,668 Narcotic -related cases were reported compared to 1,714 cases reported in 2020, indicating a decrease of 2.6%. A total of 23,887.83 gs of assorted narcotics were seized at Entebbe International Airport in 2021 compared to 41.94 gs seized in 2020 and 132.012 gs seized in 2019.

CRIMES THAT INCREASED

Theft
By the end of 2021, 43,583 cases (22.2%) of theft were reported compared to 41,950 cases reported in 2020 marking a 3.8% increase. Theft of mobile phones increased by 2.4%, theft of motor vehicles increased by 7% while theft of motorcycles increased by 22.8% and cattle theft also increased by 3.4%.

Sex-Related Offences
In 2021, 16,373 sex-related crimes representing 8.2% of the crimes were reported compared to 16,144 cases reported in 2020, indicating an increase of 1.4%. A total of 16,545 persons were victims of sex-related crimes, out of whom; 14,482 were female juveniles, 378 were male juveniles, 1,636 were adult females and 49 were adult males.

Defilement
14,570 cases of Defilement were reported in 2021 compared to 14,230 cases reported in 2020. Aggravated Defilement increased by 1.6% while Defilement increased by 2.3%.

Breakings
Of all the crimes reported in 2021, breakings contributed to 5.1% with 10,148 cases compared to 10,113 cases reported in 2020, giving a 0.3% increase. House breaking increased by 4.3% while Shop breaking increased by 12.2%.

Economic Crimes (Private Sector Fraud)
In the period under review, a total of 10,966 cases representing 5.59% of the total crimes were a result of Economic crimes. In 2020, 10,057 cases were reported indicating a 9% increase. Cases under Obtaining money by False Pretense increased by 6.6%.

Child Neglect
A total of 4,961 cases of Child Neglect were reported in 2021 compared to 4,785 cases in 2020, marking a 3.6% increase.

Criminal Trespass
3.8% of all the crimes reported in 2021 were a result of criminal trespass with 7,636 cases registered. In 2020, 7,505 cases were reported showing a 1.7% increase.

Aggravated Robbery (General)
A total of 1,956 cases of Aggravated Robbery were reported in 2021 compared to 1,844 cases reported in 2020, marking a 06% increase.

Aggravated Robbery of Cash
A total of 436 cases of robbery of cash were registered in 2021 compared to 364 cases reported in 2020, marking a 19.7% increase

Murder by Mob Action
By the end of 2021, a total of 759 cases of murder by mob action were reported compared to 540 cases reported in 2020, indicating an increase of 40.5%. 762 persons were lynched.

Murder by Shooting
303 cases were reported during the period under review compared to 249 cases reported in 2020, showing a 21.6% increase.

Arson
1,803 cases of arson were reported in 2021 compared to 1,614 cases reported in 2020, showing an 11.7% increase.

Cyber Crimes
A total of 258 cases were reported during the period under review compared to 256 cases reported in 2020, indicating a 0.78% increase. Cybercrimes led to a loss of Ugx. 4,710,393,000 of which Ugx. 110,140,000 was recovered.

Terrorism
In 2021, 21 cases of terrorism were reported compared to 02 cases reported in 2020. The increase is attributed to resurgence of terrorist activities by suspected ADF operatives which led to bombings in Kampala.

Trafficking In Persons
A total of 421 cases were registered in 2021 compared to 214 cases registered in 2020. 1,149 persons were victims of Trafficking in Persons in 2021 compared to 666 victims recorded in 2020.

Land Fraud Cases
A total of 332 cases of very serious land -related crimes were reported in 2021 at CID Headquarters alone compared to those reported in 2020, indicating a 4% increase.

FIRE AND RESCUE SERVICES

Fire emergencies
A total of 1,258 fire emergencies were handled in 2021 compared to 1,015 in 2020 marking a 23.9% increase. Fire incidents were mainly attributed to negligence, electrical short circuits and charcoal stoves and candle wax among others. In 2021, a total of 589 rescue emergencies were handled compared to 269 cases in 2020. 168 persons were rescued during the emergencies handled compared to 151 lives rescued in 2020. Of these, 156 were males while 112 were females.

TRAFFIC AND ROAD SAFETY

There was a 42% increase in the number of crashes from 12,249 in 2020 to 17,443 in 2021. During the period under review, 3,757 crashes were fatal, and 4,616 were minor. There were 18,308 casualties from crashes in 2021, a reduction of 11%. Persons killed reduced by 6%, persons seriously injured reduced by 13% and those that sustained minor injuries reduced by 17%.

ACTIVITIES CARRIED OUT BY SUPPORT DEPARTMENTS

i. **Medical Examinations**
A total of 64,733 medical examinations were carried out compared to 61,383 carried out in 2020. This was to help in the investigation of cases.

ii. **Canine Unit**
A total of 10,935 incidents involving K9 tracking were carried out in 2021 compared to 9,185 incidents involving tracking conducted in 2020. 8,154 arrests were made of whom; 5,265 were adults (4,714 males, 913 females) and 527 juveniles (448 males, 79 females).

ii. Ask each group to read the Executive Summary as a take-home assignment.

iii. Ask each participant to identify gender statistics captured in the report extract.

iv. On the following day, allow 3 to 5 members to present their findings in plenary.

v. Wrap up the exercise, highlighting both sex-disaggregated data and gender issues/ topics as covered in the report extract.

Answers to Exercise 2.3: How to Identify and Extract Gender Statistics from a Report

Summary of Gender Statistics from the Annual Crime and Road Safety Report 2021

- Domestic Violence: Significantly higher impact on females (80.6% of the 15,980 reported adult victims in 2021).
- Rape: Overwhelmingly affects females (100% of reported victims).
- Sex-Related Offenses: Females are the majority victims (87.5% of total adult victims).
- Male Adults Arrested with K9 assistance were: 7,614 (93.4% of adult arrests) and 448 male Juveniles (85% of juvenile arrests)

These statistics highlight the persistent gender disparities in crime victimization, with females being disproportionately affected by domestic violence, rape, and sex-related offenses. There are various crimes and road safety issues for which data was not sex-disaggregated, such as defilement, child neglect, child-related offences, trafficking in persons, assault, homicide, and road traffic casualties.

The perpetrators of the various crimes are also not indicated. However,

- Men are more frequently both perpetrators and victims of assaults, homicides, and robberies.
- Men are more likely to be victims of specific theft like motorcycles and mobile phones impacts men more as owners.
- Men are more often involved in narcotic-related offences, both as offenders and victims.

SESSION 2.4: ANALYSING PRE-PROCESSED DATASETS FOR GENDER STATISTICS

Session objective:	Enable participants to understand how to access and review datasets to extract gender statistics
Methods:	A facilitator's presentation, demonstration, and group work
Requirements:	Computers and internet access for facilitators and participants.
Preparation:	The facilitator should confirm the availability of the online repositories by testing the links in this manual
Duration	180 minutes
Activity	2.4 Obtaining estimates for SDG Indicator from the SDG Global Database
Notes/Handouts	2.4: Analysing Pre-processed datasets for Gender Statistics

Activity 2.4: Activity on Obtaining estimates for SDG Indicator from the SDG Global Database

Steps

i. Introduce the session by informing the participants about the availability of the SDG Global Database. Inform them that this database provides gender statistics for the SDG indicators.

ii. Using the Notes (Handout 2.4), demonstrate how you would typically apply the steps presented.

Note: *At the time of developing this manual, attempts to generate pivot tables from the data downloaded from the portal were not possible. Thus, users are encouraged to construct bar charts and graphs using the usual Excel visualization process*

Notes/ Handout 2.4: Analysing Pre-processed datasets for Gender Statistics

As already covered in Module One, there are both macro and micro data databases at both national and global level. Then, we have Database of Databases (DoD). Data producers who coordinate data dissemination from different sources (such as UBOS) can benefit from hosting a Database of Databases (DoD). In other words, centralizing existing databases in an organized manner can help users access the most relevant data whenever they wish, for a given project. An example of a DoD is Eurostat's[1] list of databases by thematic areas. When each theme is expanded, a list of sub-themes and relevant databases appears. As databases are live platforms, i.e. they are regularly updated, changes to URLs must be monitored to ensure the DoD remains up to date.

1 https://ec.europa.eu/eurostat/data/database?p_p_id=NavTreeportletprod_WAR_NavTreeportletprod_INSTANCE_nPqeVbPXRmWQ&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-2&p_p_col_pos=1&p_p_col_count=2

General comments on the international data databases

- The data available does not cover all the spheres and indicators of women and men's lives. There are large gaps in gender data because:
    - Recent data has not been uploaded because they have not been provided by UBOS.
    - The government has not invested enough in collecting gender statistics.
    - Data on issues facing women and girls are not collected frequently.
    - There is a gap in collecting data on new and emerging issues.
    - The information available from various sources is not mutually exclusive.

UN Women's data portal (https://data.unwomen.org/data-portal)

UN Women's 'Women Count Data Hub' provides free access to gender data that can be used to monitor progress on the SDGs and other gender indicators. The Women Count Data Hub brings together gender data, stories, and analysis about the lives of women and girls.

Once on the website, you follow the steps below:

i. Select "Data" feature on the top right corner of the homepage.

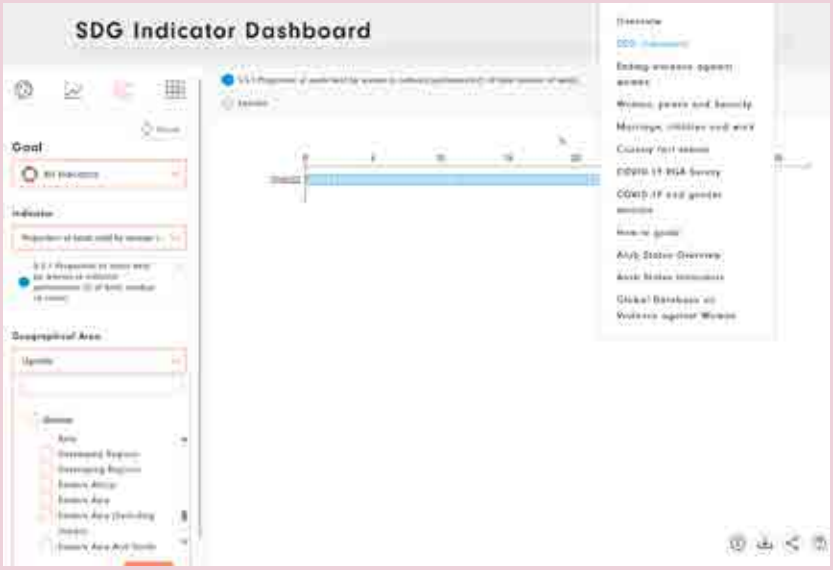
ii. Select the group of indicators of interest[2], such as "SDG Indicators" from the list.

2 How to use the dashboards | UN Women Data Hub can help a user navigate through the data.

iii. Pick your preferred form of visualization from the icons on the left - you have many choices! map, line graph, bar graph, or table. If the visualisation icon is invisible, reduce the page zoom by clicking Ctrl and – buttons at the same time.

iv. Select the goal and indicator(s) to measure. In this case, Goal 5, indicator 5.5.1 and series, proportion of seats held by women held women in national parliaments (% of total number of seats). Then choose 'Done'

v. Select the parameters i.e. geographical area(s), year(s) and compare by sex. You can optionally select years or latest available data point. Countries are listed under regions – Uganda is listed under Eastern Africa.



vi. Download the data output in the preferred format (pdf or csv) by clicking the icon at the bottom right corner of the computer screen.

Some examples of the levels of presentation of data that can be downloaded from the Women Count Data Hub include:

- Regional aggregates for any of the world's regions (according to SDG regional groupings) for any SDG indicator, provided data availability is sufficient to allow for reliable aggregations.
- National estimates for any number of countries and relevant years. The user can either select specific years, a certain period, or the latest available data point.

Once a user has found the desired data in UN Women's data hub, relevant metadata to assess the quality of the data can be found by selecting the **(i)** information icon at the bottom right corner of the screen to explore the relevant metadata.

Comment on UN Women Data portal: The strength of this portal is the easy navigation and the opportunity to retrieve data for a specific year or the latest available year. However, one cannot compare values for different years.

Macrodata data from the Global SDG database (https://unstats.un.org/sdgs/indicators/database/)

The Global SDG Indicators Database is a data dissemination platform that provides access to data compiled through the UN system to monitor the SDGs. It allows users to study data for the SDG indicators, over time and across regions and countries.

To demonstrate the steps involved in conducting gender analysis utilizing this data, let's suppose the research question is: How much time do women and men spend on unpaid domestic chores and care work in Uganda?

To undertake the analysis, follow these steps:

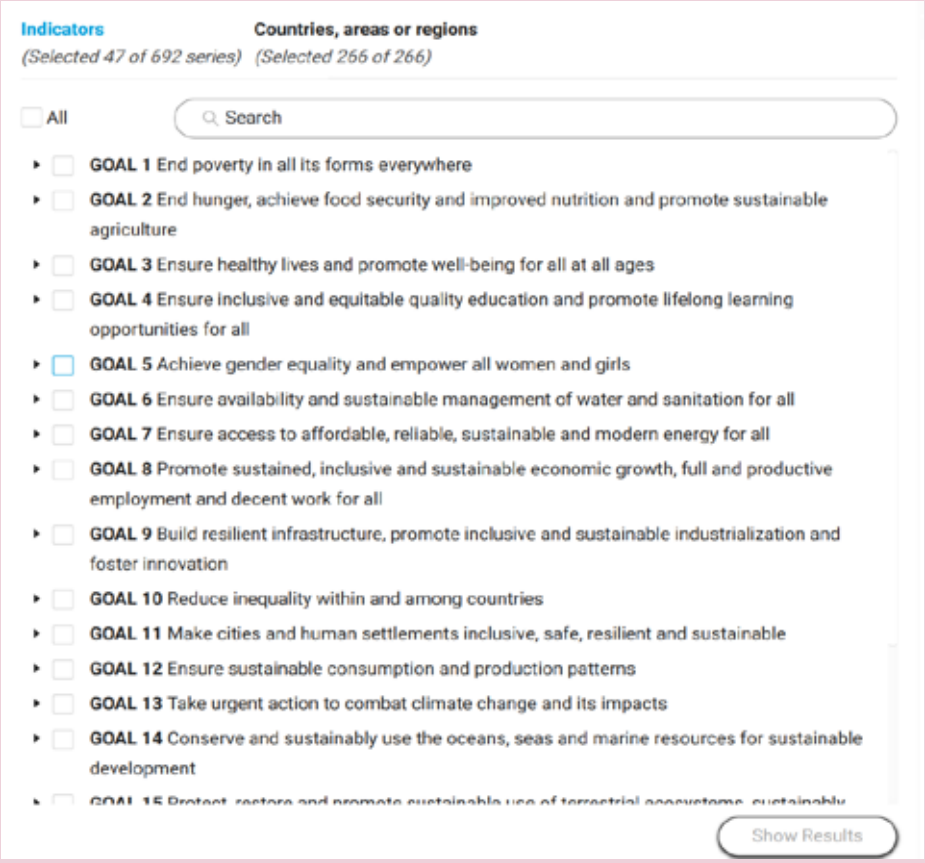
Step 1: Log onto the Global SDG Indicators Database

Once the user opens the database site, it will be important to select the right indicator and series, the desired country or region, the year of interest.

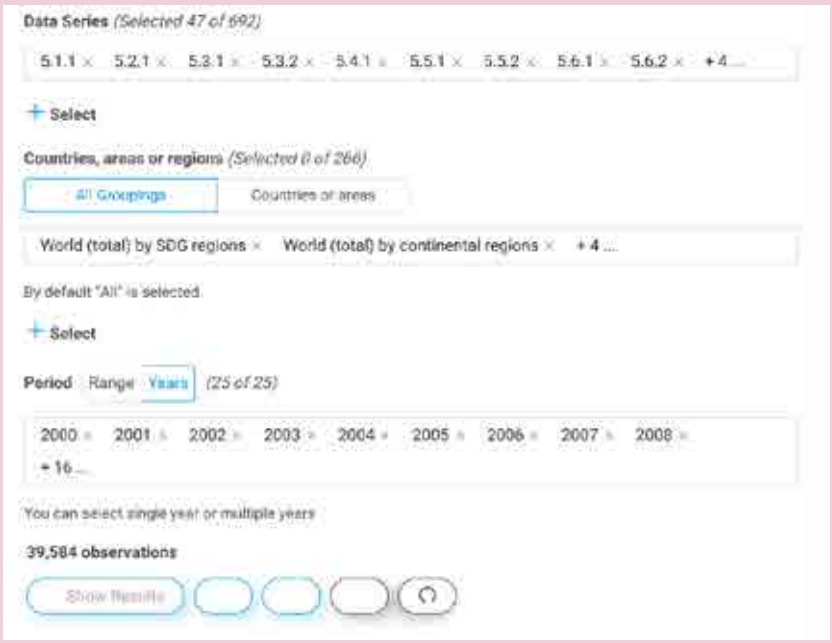
Step 2: Select the data series

Click the active bar with the words, **'Select indicators, and countries, areas or regions'**

Select the Goal of interest, in this case Goal 5 (Gender equality) by clicking the before the text. Then, click 'Show Results' at the bottom of the screen.



Under the Data Series tool bar, click the (x) symbol on the extreme right to remove all the indicators populated on the tool bar. Then, place the mouse on the Data Series tool bar and scroll to the drop-down list to select your indicator of interest. You can choose multiple indicators, one at a time. Or type the indicator(s) of interest, which in our case is 5.5.1 in the Data Series tool bar. This picks indicator 5.5.5 i.e. **Proportion of seats held by women in a) national parliaments and b) local governments** (%). Each indicator name is displayed once you hover the mouse over the indicator number.



Step 3: Select the country of interest - For this example, select Uganda

Click 'countries or areas.' Under the 'Countries, areas or regions' tool bar, click the (x) symbol on the extreme right to remove all the entries on the tool bar. Then, place the mouse on the Countries, areas or regions' tool bar and scroll to the drop-down list to select your country of interest. You can choose multiple countries, one at a time. Or type the country of interest, which in our case is Uganda.

Step 4: Select the period

Under period, choose Range if interested in statistics for a specific period/ range of years (e.g. 2017-2024). In this case, you choose the start and end of the year in the next step from the calendar that pops up. If interested in selected years, choose Years. Here, you can choose several years of interest, one after another. Then click, 'Show Results'

In the Global SDG Indicators Database, more than 200 indicators can be found under a "tree" structure that mirrors the structure of the SDG monitoring framework. That is, there are 17 goals, each of which is divided into several targets, and there are several indicators to monitor progress against each target

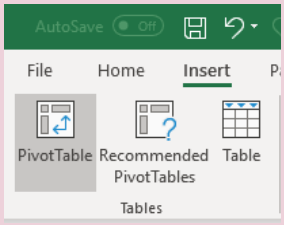
Step 4: Select the download option

Click on the 'download' button to view the results on an Excel sheet. This option is preferable to just viewing the table if you wish to further analyse the data, create graphs, or run pivot tables. After downloading, a data file will open in two sheets – Code Descriptions (metadata) and the Goal.

Step 5: Create a pivot table[3]

Select 'Insert' and then 'PivotTable', which can be found on the top left-hand side of the Excel sheet. A pivot table is a data summary tool used for data processing. Pivot tables are used to summarize, sort, reorganize, group, count, total or average data stored in a database. They also allow users to transpose information; that is, transform columns into rows and rows into columns.

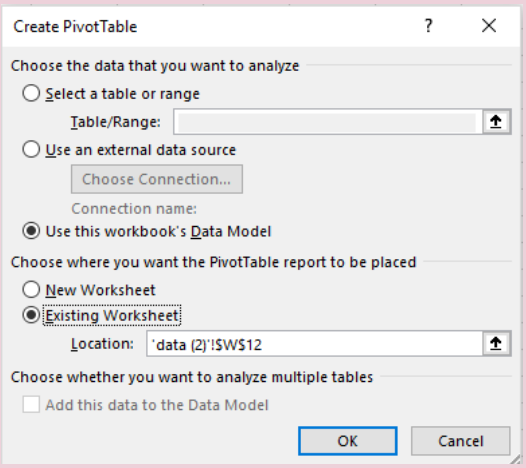
Figure 6: Icon for Pivot Table



After inserting a 'Pivot table', a new dialogue box appears, as follows. This box allows the user to decide whether the new table should be inserted in the existing worksheet or in a new sheet. Make your selection and click OK. It is recommended to choose 'New Worksheet'

3 See https://www.kohezion.com/blog/what-is-a-pivot-table-examples-and-uses/

Figure 7: Dialogue box with additional options



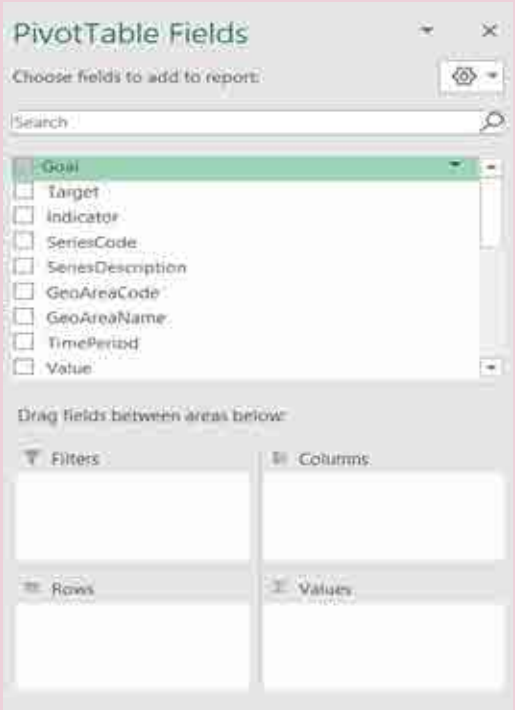
Step 6: Customise the data on the Pivot Table

A new table has now been created, and a new dialogue box appears containing the Pivot Table's fields. Depending on the table the user wants to create, the various fields can be dragged and dropped into filters, columns, rows, and values. To calculate the proportion of time that men and women spend on unpaid care and domestic work in urban and rural areas, drag and drop the fields as follows:

o Drag 'SeriesDescription' to 'Filters'

o Drag 'Value' to 'Sum of Values'

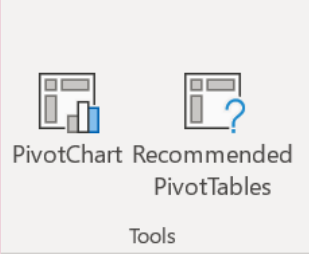
Figure 8: Pivot table fields to create customized table



Step 7: Create a 'pivot chart' for graphical representation of this data

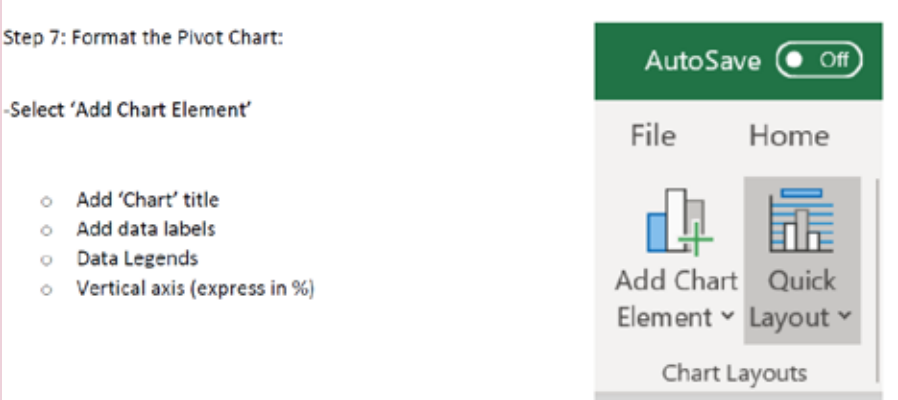
To create a graphical representation of the data, select the data with your mouse, and click on insert 'PivotChart'.

Figure 9: Dialogue box showing Pivot chart options



A list of charts will appear, and the user can choose the type that suits the data best. For more information on how to choose the right chart for your data, refer to Module Five on Visualising gender statistics. For this example, choose the simple 'column' chart option.

Step 8: Format the Pivot Chart 7&8 are the same



UBOS Gender Data Portal (Gender Statistics Portal (ubos.org)

The Gender Statistcis Portal under the Uganda Bureau of Statistcis is a one stop center for Gender Statistical Data for Uganda.

UBOS Gender Based Violence Incidence Dashboard (Gender Based Violence Incidence Dashboard - till 2021 (ubos.org)

The UBOS Gender Based Violence Incidence Dashboard provides detailed information on the incidence rates, types, demographics, and geographical distribution of gender-based violence (GBV) in Uganda. The dashboard aggregates data from police (2012-2017) and MOH (2018-2019) records and reports. This resource helps visualize and analyze the prevalence and characteristics of GBV across different regions and demographics.

UBOS National Statistics Office Open Data Portal (https://nso-uganda.opendataforafrica.org/)

The UBOS National Statistics Office Open Data Portal provides a comprehensive collection of data on various socioeconomic topics in Uganda. The portal includes information on

demographics, economy, health, education, environment, and infrastructure. It offers datasets, predefined dashboards, and visualizations. Data on some specific indicators are covered https://nso-uganda.opendataforafrica.org/data/#topic=Gender in addition to gender data embedded in other topics.

UBOS UgStats mobile app

According to UBOS (https://www.ubos.org/data-portals-2/ugstats-mobile-app/), The UBOS UgStats mobile app provides access to over 100 frequently requested statistics from various categories, including population, prices, labour, agriculture, education, trade, and GDP. The data are updated regularly, and users receive notifications for updates on their preferred indicators. The app displays data in tables and bar charts, which can be shared on social media, and allows toggling between different formats. It covers a five-year period and provides links to more data on the UBOS website. The app is available for free on Android devices.

World Bank DataBank (Data | DataBank (worldbank.org))

The World Bank's DataBank provides a comprehensive collection of time series data on global development indicators, covering topics such as economics, health, education, and the environment. It includes access to over 20 databases, including gender statistics on key themes such as demographics, education, health, labor force, and political participation. Users can create customized reports, visualize data through charts and graphs, and download datasets in various formats.

OECD Statistics Portal (https://data-explorer.oecd.org/)

includes data and metadata for OECD countries and selected non-member economies, including Uganda. It covers topics such as agriculture and fisheries; development; economy; education and skills; environment and climate change; finance and investment; public governance; health; industry, business and entrepreneurship; science, technology and innovation; employment; society; regional, rural and urban development; trade; transport; and taxation,

UBOS Sustainable Development Goals Data Portal (https://uganda.opendataforafrica.org/addin/sdg)

The UBOS Sustainable Development Goals (SDG) Data Portal provides a comprehensive overview of Uganda's progress towards achieving the SDGs. The portal includes time series data and metadata on various indicators across all 17 SDGs, covering areas such as poverty reduction, education, gender equality, and economic growth.

2.4: Exercise on Computing median age from DHS STATcompiler

Using pre-processed data from DHS STATcompiler, obtain the estimates for median years of education completed in Uganda by women and men in the years 1995-2019.

Step 1: Go to DHS STATcompiler https://www.statcompiler.com/en/

Step 2: Select Uganda from the list of countries

Step 3: Select 'Median years of schooling completed' for both men and women (selected separately from the comprehensive list of indicators).

		Median years of education completed [Women]	Median years of education completed [Men]	
Country	Survey	Total 15-49	Total	Total 15-49
Uganda	2016 DHS	5.7	6.3	6.3
Uganda	2014-15 MIS	5.6		
Uganda	2011 AIS	5.0	6.1	6.1
Uganda	2011 DHS	5.2	5.7	5.8
Uganda	2009 MIS	5.1		
Uganda	2006 DHS	4.4	5.5	5.5
Uganda	2004-05 AIS	3.9	5.6	5.6
Uganda	2000-01 DHS	3.9	5.5	5.6
Uganda	1995 DHS	3.0	5.1	5.1

Step 4: Export the table in 'Table Format'.

		Median years of ec	Median years of ec		
Country	Survey	Total 15-49	Total	Total 15-49	
Uganda	2018-19 MIS	5.9			
Uganda	2016 DHS	5.7	6.3	6.3	
Uganda	2014-15 MIS	5.6			
Uganda	2011 AIS	5	6.1	6.1	
Uganda	2011 DHS	5.2	5.7	5.8	
Uganda	2009 MIS	5.1			
Uganda	2006 DHS	4.4	5.5	5.5	
Uganda	2004-05 AIS	3.9	5.6	5.6	
Uganda	2000-01 DHS	3.9	5.5	5.6	
Uganda	1995 DHS	3	5.1	5.1	
Median years of ec	Median number of years of education completed by men				
Median years of ec	Median number of years of education completed by women				
ICF, 2015. The DHS Program STATcompiler. Funded by USAID. http://www.statcompiler.com. May 19 2024					

Step 5: Clean the data by deleting rows or columns with missing data (in this case none)

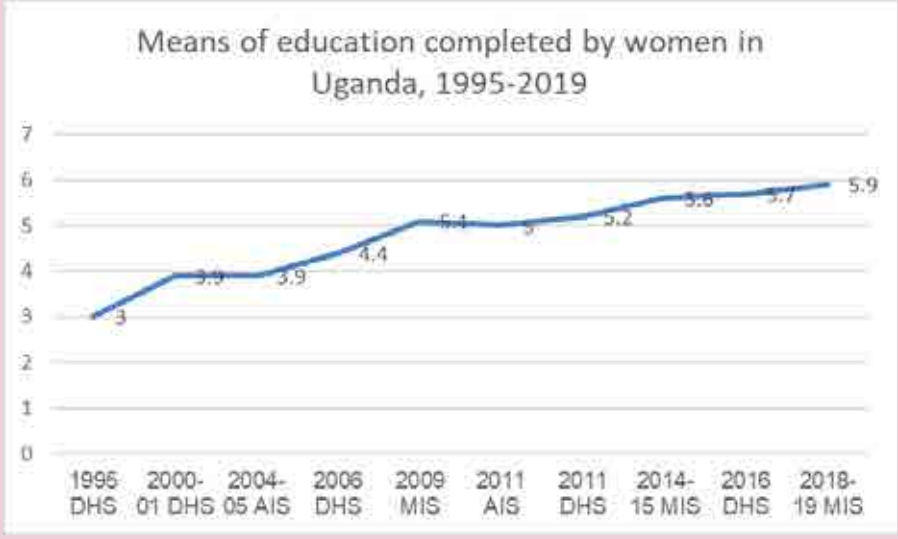
a) Rename column C as 'Women', column E as 'Men' and column F as 'Overall'

Step 6: Visualize the data and format the chart:

a) Choose a line graph because we want to show change over time.

b) Arrange the data in ascending order to see the change since 1995.

Figure 10: Line graph showing mean years of education completed by women in Uganda



<u>Note:</u> We have inserted a line graph for women only as some sources lacked statistics for men.

MODULE

3

ANALYSING SELECTED MICRO DATA SOURCES FOR GENDER STATISTICS

MODULE THREE: ANALYSING SELECTED MICRO DATA SOURCES FOR GENDER STATISTICS

LEARNING OUTCOMES/OBJECTIVES

After completing this Module, the learner is expected to have understood

How to access the available interactive data portals and how they can conduct basic gender data analysis and visualization

Interpret statistical outputs related to gender data.

OVERVIEW OF THE MODULE

This module will cover the key concepts of macrodata and microdata, highlighting their differences and applications in statistical analysis. Participants will explore national and international data sources, including UBOS and DHS STATcompiler, and learn when to use macrodata versus microdata for research and decision-making. The session will provide a step-by-step guide on accessing and analyzing data using DHS STATcompiler, including selecting indicators, disaggregating data, and exporting results. The session will conclude with key takeaways on leveraging data for evidence-based policymaking and research.

NOTE TO FACILITATOR

Microdata is essential for calculating gender indicators and specific estimates for smaller, targeted population groups. The DHS STATcompiler is a valuable tool for accessing pre-processed microdata and summary statistics, allowing users to explore demographic and health indicators without conducting complex statistical analysis. Users can select specific countries, indicators, and disaggregation variables such as residence (urban/rural) and wealth quintile to generate relevant estimates. However, if users require a more specific combination of variables, they will need to access and analyze the DHS microdata directly. The STATcompiler simplifies the process of retrieving pre-processed statistics but has limitations when it comes to highly customized analyses.

To utilize DHS STATcompiler, users should follow a simple step-by-step process: selecting the country and indicator of interest, applying disaggregation variables, and visualizing data through available graphing tools. The platform also allows users to export data in multiple formats for further analysis or reporting. Beyond DHS STATcompiler, additional microdata sets for Uganda can be accessed through international organizations such as the International Labour Organization (ILO) for National Labour Force Survey data and the Uganda National Panel Survey (UNPS).

TIME:
11 HOURS

SESSION 3.1: DATA ANALYSIS USING THE DHS (DEMOGRAPHIC AND HEALTH SURVEYS) STATCOMPILER

Session objective:	Enable participants understand how to access DHS STATcompiler and how they can conduct basic gender data analysis and visualization
Methods:	A facilitator's presentation, demonstration, and individual exercise
Requirements:	A projector, a computer, and internet access for the facilitator & participants
Preparation:	Before the session, the facilitator should; a) confirm the availability of the online repositories by testing the links in this manual. b) Inform each participant to carry a computer to the workshop room.
Duration	60 minutes
Activity	3.1: Activity on Sources of Micro Datasets
Notes/Handouts	3.1A: Sources of Micro Datasets 3.1B: DHS (Demographic and Health Surveys) STATcompiler

3.1: Activity on Sources of Micro Datasets

Steps

- Divide participants into small groups.
- Assign each group a specific theme (e.g., health, labor force, education, poverty, gender).
- Ask each group to list potential sources of microdata for their theme, considering both national and international sources.
- Each group will use available resources (internet access, provided handouts, or prior knowledge) to identify where relevant microdata can be accessed.
- Each group will present their findings in 5 minutes.
- Facilitator will summarize key points, clarify differences between sources, and discuss challenges in accessing microdata.

Notes/ Handout 3.1A: Sources of Micro Datasets

Most countries analyse and process their microdata to obtain national aggregates or microdata estimates. However, microdata can be useful for users to conduct further analysis, including assessing how strongly two different variables are associated through correlations or regressions. Microdata is also useful for modelling and forecasting. Finally, working with microdata is also key to calculate gender indicators for specific population groups. As most macrodata published is representative of a whole country, or large population groups within the country (e.g. men and women; urban and rural areas, etc.), microdata might be necessary to calculate estimates for specific population groups (e.g. women living in the poorest households of rural areas).

Examples of repositories of microdata that can be accessed free of charge, among many others, include:

- DHS STATcompiler: https://statcompiler.com/en/
- DHS datasets: https://www.dhsprogram.com/data/available-datasets.cfm
- MICS datasets: http://mics.unicef.org/surveys

These are databases based on microdata (e.g. survey or census data) but where some basic calculations have already been completed by developers. As opposed to microdata repositories, micro-databases have survey, and census estimates ready to use. Thus, the user can make selections – pertaining to population groups, age groups, variables, etc. – and cross-tabulate information as desired, without utilizing statistical software.

One such example is DHS STATcompiler, a tool that allows users to build custom tables, charts and maps from thousands of indicators extracted from Demographic and Health Surveys (DHS) across 90 countries[1].

1 https://www.statcompiler.com/en/

Notes/ Handout 3.1B: DHS (Demographic and Health Surveys) STATcompiler (https://statcompiler.com/en/)

DHS STATcompiler provides access to pre-processed microdata and simple summary statistics. This means that the user can specify the population groups and indicators of interest, and the specific aggregates for those combinations will be displayed for download, so the user does not need to conduct actual statistical analysis from the microdata itself.

For instance, if a data user would want to see the proportion of deliveries in health facilities in Uganda for the year 2018, in both urban and rural areas, as well as in the poorest and richest households, DHS STATcompiler provides flexibility for the user to select these disaggregation variables and download relevant estimates for these groups.

However, if the user wants to examine what this indicator would look like for the poorest women living in rural areas (a combination of the two disaggregation variables utilized above), this information is not pre-processed in STATcompiler, so the use of the DHS

microdata itself will be necessary.

- Step 1: Go to the DHS STATcompiler website (https://statcompiler.com/en/)

On the first page of the website, two options are possible: CHOOSE COUNTRY and CHOOSE INDICATOR.

- Step 2: Select the country and indicator of your choice.
- Step 3: Click NEXT
- Step 4: Disaggregate the data by variables of your choice (residence, age group, geographical area, wealth quintile etc.)
- Step 5: To visualize this data, select the graph option on the top left of the DHS website screen.
- Step 6: Export the data table or graph by selecting 'Export' and the desired format.

Other datasets
Microdata sets for Uganda are also housed at websites of international organisations, such as websites of the International Labour Organisation (ILO) for National Labour Force Survey and the Uganda National Panel survey (UNPS).

SESSION 3.2: DATA ANALYSIS USING MICRODATA FROM THE DEMOGRAPHIC AND HEALTH SURVEYS

Session objective:	Enable participants understand how to access DHS microdata and how they can conduct basic gender data analysis and visualization
Methods:	A facilitator's presentation, demonstration, and individual exercise.
Requirements:	A projector, a computer, and internet access for the facilitator & participants.
Preparation:	Before the session, the facilitator should: a) Confirm the availability of the online repositories by testing the links in this manual. b) Inform each participant to carry a computer to the workshop room.
Duration	60 minutes
Activity	3.2: Analysing Microdata from the Demographic and Health Surveys
Notes/Handouts	3.2: Microdata from the Demographic and Health Surveys

Activity 3.2: Activity on Analysing Microdata from the Demographic and Health Surveys

i. Introduce the session by informing the participants about the availability of Microdata from Demographic and Health Surveys. Inform them that this database provides gender statistics.

ii. Using the Notes (Handout 3.2), demonstrate how you would typically apply the steps presented.

Notes/ Handout 3.2: Microdata from the Demographic and Health Surveys (https://dhsprogram.com/)

Steps for Accessing Microdata from the DHS Program

1. Register and Request Access: First, you need to register for an account on the DHS Program website (https://dhsprogram.com/) and request access to the datasets. Depending on your purpose and affiliation, you may need to provide additional information to gain access.
2. Browse Datasets: Once you have access, you can browse the available datasets on the DHS Program website. Navigate to the "Surveys" section and select the country or countries you are interested in. Then, choose the specific survey(s) you want to explore.
3. Review Documentation: Before downloading microdata, it's essential to review the survey documentation provided on the DHS website. This includes information about the survey methodology, sampling design, questionnaire content, and variable definitions.
4. Download Data Files: After selecting the desired survey(s), you can proceed to download the microdata files. The DHS Program offers various data formats, including flat files (e.g., ASCII or CSV), SPSS, Stata, and SAS formats. Choose the format that is compatible with your statistical software.
5. Extract and Explore Microdata: Once you've downloaded the data files, extract them to your local machine and import them into your statistical software (e.g., SPSS, Stata, or R). The microdata files typically include information on individual survey respondents, with each row representing a respondent and columns representing variables.
6. Analyse and Export: You can now analyse the microdata using statistical techniques appropriate for your research questions. Depending on your analysis needs, you may conduct descriptive analyses, correlation analyses, or regression analyses. After analysing the data, you can export the results in various formats for further reporting or visualization.
7. Follow Terms of Use: It's crucial to adhere to the terms of use and data sharing guidelines outlined by the DHS Program. Ensure that you cite the DHS surveys appropriately in any publications or presentations based on the data.

To use microdata from the DHS program, one needs:

a) Expertise in using relevant statistical data analysis software e.g. STATA.

b) Statistical data analysis software e.g. STATA installed on a computer,

c) A basic understanding of variables and recode variables: https://dhsprogram.com/pubs/pdf/DHSG4/Recode7_DHS_10Sep2018_DHSG4.pdf

d) To be familiar with DHS Guide for data analysis: https://dhsprogram.com/data/Using-Datasets-for-Analysis.cfm

Note -National sources: The UBOS website does not contain microdata. However, microdata can be requested from UBOS.

MODULE

4

INTEGRATING A GENDER PERSPECTIVE IN DATA ANALYSIS AND INTERPRETATION

MODULE FOUR: INTEGRATING A GENDER PERSPECTIVE IN DATA ANALYSIS AND INTERPRETATION

LEARNING OUTCOMES/OBJECTIVES

After completing this Module, the learner is expected to have:

a. Understood the types and qualities of gender responsive indicators.

b. Understood some ways of integrating gender across the analysis process.

c. In the context of gender statistics, gained competence in presenting or interpreting statistical measures

OVERVIEW OF THE MODULE

This module focuses on integrating a gender perspective in data analysis by using gender-responsive indicators to measure gender disparities and track progress toward gender equality. It outlines the importance of defining clear research questions and objectives that focus on gender issues and explains how to analyze data using both pre-processed and microdata sources. The module covers various types of gender-responsive indicators and emphasizes the importance of selecting the right data sources. It also introduces the process of conducting descriptive and comparative analyses to identify gender disparities, and interpreting findings in the context of gender-related theories and socio-cultural factors

NOTE TO FACILITATOR

Facilitators should emphasize the importance of integrating a gender perspective throughout data analysis, from defining clear gender-focused research questions to selecting appropriate gender-responsive indicators. It's crucial to explain the different types of indicators, including sex-disaggregated and gender-specific indicators, and how they help track gender disparities. Facilitators should guide participants in identifying and accessing relevant data sources, including pre-processed data and microdata, and help them conduct both descriptive and comparative analyses to uncover patterns and trends in gender data. Additionally, facilitators should stress the significance of interpreting findings and effectively communicating these results to inform policy decisions that promote gender equality.

TIME:
8 HOURS

SESSION 4.1: GENDER RESPONSIVE INDICATORS

Session objective:	• Understood the types of gender responsive indicators. • Understood the qualities of gender responsive indicators
Methods:	Plenary brainstorming, group work, and a quiz.
Requirements:	A projector, a computer, flip chart papers, marker pens, and masking tape.
Preparation:	Prepare printouts of Exercise 4.1 or prepare it as an online quiz.
Duration	120 minutes
Activity	4.1A: Gender Responsive Indicators 4.1B: The Basics of Data Analysis
Notes/Handouts	4.1A: Gender Responsive Indicators 4.1B: Categories and Qualities of Indicators 4.1C: The basics of data analysis
Exercises	4.1: Gender Responsive Indicators
Answers to exercises	4.1: Gender Responsive Indicators

Activity 4.1A: Gender Responsive Indicators

Steps

i. Divide the participants into groups of 5-8 and ask them to discuss the following questions:
   a. What is an indicator in the context of development?
   b. What is a gender responsive or gender sensitive indicator?
   c. What are the types or categories of gender responsive or gender sensitive indicators?

ii. Provide time for each group to present in plenary and to receive feedback from other group and the facilitator.

iii. Instruct participants to note their comments while each group presents, and to offer feedback after all presentations.

iv. Conclude the Q&A guided by Notes 4.1A. Emphasise that although sex disaggregated indicators are the most used, there are other types of gender responsive indicators.

v. To assess participants' learning, administer Exercise 4.1. Participants can individually fill-in the answers on prepared sheets or discuss in pairs. Alternatively, the Exercise can be administered online as a quiz on mentimeter, Google Forms, survey monkey, or any relevant application.

Activity 4.1B: The Basics of Data Analysis

i. Ask 3 to 5 participants explain the meaning of data analysis. You can note the points mentioned on a flip chart.

ii. Then, ask a follow-up question on the steps/ phases in quantitative data analysis.

iii. Wrap up the discussion guided by Notes 4.1C. Emphasise the focus of the manual on retrieving fully processed or partially proceed gender statistics.

Notes / Handout 4.1A: Gender Responsive Indicators

According to the United Nations Statistics Division (2015), an indicator is a measure derived from observed facts, used to reveal relative positions, and in the context of gender statistics, it captures the different conditions of men and women in various aspects of life (p. 34). A gender-responsive indicator is defined as an indicator that measures changes related to gender in a society in a specific period. These indicators are represented as a single figure or a distribution. Figures can be expressed in numbers, percentages, rates, or ratios. The use of gender-sensitive indicators can help us to understand how changes in gender relations enable more effective planning and delivery of future policies, projects, or programmes. As indicators are closely tied to specific objectives, the first step in the development of appropriate gender-responsive indicators is to make sure that the objectives of any study have clearly defined gender-based goals. These may include measures to improve the status of women in society or a clear statement on how the programme will benefit women and men equally (OXFAM GB, 2014).

Gender-sensitive indicators (OXFAM GB, 2014) should be able to:

a) Show the gap between women and men.

b) Measure the various roles, responsibilities, and access to resources of various members of society.

c) Monitor the progress towards realising gender equality goals.

d) Demands data disaggregated by variables such as sex and age.

e) Enable gender analysis of data.

f) Assist the integration of issues related to gender equality across the various stages of formulation, implementation, monitoring, and evaluation of a policy, programme, or project.

g) Show the impact of variations on power relations between women and men.

Notes/ Handout 4.1B: Categories and Qualities of Indicators

Kabeer (1994) proposed four types or categories of gender responsive indicators as follows:

1. **Sex disaggregated:** The value of the indicator is calculated separately for women and women, and so allows comparisons to be made between the two groups. It is the most used category of gender responsive indicators. For example, SDG Indicator: NPGEI 2.1 Net enrollment rate for; Pre-primary, primary and Secondary by sex (Reprocessed NPGEI 2018)
2. **Gender specific:** Measures conditions or practices concerning either women or men. For example,
    - SDG NPGE Indicator 3.23: Proportion of women (aged 15-49) who make their own sexual and reproductive health decisions (Reprocessed NPGEI 2018)
    - Proportion of women in supported households who reported making joint decisions with their spouses regarding the use of household income.
    - Indicator 4.1a: Proportion of seats held by women in national Parliament-%- (Reprocessed NPGEI 2018)
3. **Implicitly gendered:** The indicator makes no explicit reference to gender. However, if it is interpreted within a broader context, the indicator is of relevance to women or men. E.g.

- Proportion (%) of targeted households using energy-efficient cooking stoves.
- Number of reported rape cases prosecuted in courts (victims almost exclusively women).

4. **Chosen by women or men:** Indicators that reflect differences in men's and women's preferences and priorities. For example, any indicator identified during consultations with either women or men.

Qualities of good indicators

A combination of the SMART[1] and CREAM[2] criteria lead to the following qualities:

1. Specific/ clear/ objective – unambiguous, operationally precise, uni-dimensional and consistent over time
2. Measurable/ monitorable.
3. Realistic/ practical –can provide timely and up-to-date data at a reasonable cost.
4. Relevant/ useful for decision making – and related to the results of the project and the period of interest.
5. Direct/ valid – exhibits readily understandable face validity, accepted by

1 Specific, measurable, achievable, realistic, and time bound.
2 Clear, relevant, economical, achievable, and monitorable.

specialists, supported by a body of technical research.

6. Disaggregated -
7. Attributable – links are clear and significant to the intended results. Would change happen without the intervention being measured?
8. Time-bound
9. Adequate – as a group to measure the desired results. 2-3 indicators per result.

Notes/ Handout 4.1C: The basics of data analysis

According to the United Nations Statistics Division (2015), analysing data involves investigating the behaviour of the data, which may include assessing trends, exploring associations between variables, or studying similarities and differences between groups. Analysing gender data can therefore be a complex process in which individual-level records are processed through statistical software, such as SPSS or STATA, to assess results from a gender perspective, or it can be a much simpler process through which macro data for gender relevant indicators is directly downloaded and comparisons are carried out across countries, between indicators and over time. Analysis of gender data is, all in all, the process used to obtain data-informed responses to relevant research questions.

Generally, the following steps should be followed to perform data analysis:

1. Define Objectives and Research Questions
    - Clearly articulate the specific objectives and research questions focusing on gender issues that the analysis aims to address. Objectives should be precise and align with the goal of understanding gender disparities in the context of the available secondary data.
    - According to UN Women (2018), defining clear research questions is essential for guiding the analysis towards relevant gender issues and ensuring that the data is used effectively to uncover disparities (p. 30).

Examples of research questions include:

- What is the unemployment rate of women in Uganda?
- What factors account for the unemployment rate of women in Uganda?

2. Determine if pre-processed data can be used

    Depending on the scope of the research question and complexity of analysis required, it might be possible to use data that is readily available and already pre-processed, such as international estimates available on global databases, national databases, or survey reports. If none of these sources provide the necessary data, one may need to turn to microdata to conduct customized analysis.

3. Identify and Access Relevant Data Sources

- Identify existing data sets or reports that contain gender-disaggregated data and are relevant to the research questions. Search for secondary data from sources such as national statistical offices, international organizations, and research institutions.
- As noted by Budlender (2015), it is crucial to identify and access relevant secondary data sources that provide detailed gender-disaggregated information to facilitate comprehensive analysis (p. 12).
- Evaluate the quality, reliability, and suitability of the data for the intended analysis. Check for data completeness, accuracy, and relevance to the specific gender-related questions.
- According to the United Nations Statistics Division (2015), assessing the quality and suitability of secondary data is fundamental to ensure that the analysis yields valid and reliable insights into gender disparities (p. 28).
- Refer to Module Two of this manual for detailed information on finding the right gender data.

4. Conduct Descriptive Analysis

4.1 Descriptive Analysis

- If using microdata, perform descriptive analysis to summarize the data and highlight key gender differences in the variables of interest.
- Calculate summary statistics such as means, medians, and percentages, and create visualizations like histograms and bar charts to present gender-disaggregated data.
- As described by the European Institute for Gender Equality (2017), descriptive analysis is an essential step in understanding the basic patterns and distributions in gender statistics (p. 15).

4.2 Perform Comparative Analysis

- Compare gender-disaggregated data across different groups or time periods to identify disparities and trends.
- If using microdata, carry out tests such as t-tests or chi-square tests to compare means or proportions between gender groups and analyse trends over time to detect changes in gender disparities.
- Comparative analysis is crucial for identifying significant gender disparities and trends, as noted by UN Women (2018, p. 35).

4.3 Analyze Relationships Between Variables

- Explore associations between gender and other variables to understand the factors contributing to observed disparities.

- If using microdata, carry out regression analysis or correlation analysis to examine the relationships between gender and other socio-economic or demographic variables.
- Analysing relationships between variables helps to uncover the underlying causes of gender disparities, as emphasized by Budlender (2015, p. 20).

5. Interpret Results in Context

- Interpret the findings in the context of existing gender theories, policies, plans and socio-cultural factors.
- Relate the results to the broader socio-economic context and existing literature.
- Interpretation of gender statistics should consider the broader socio-economic and cultural context, as outlined by the United Nations Statistics Division (2015, p. 34).

6. Report and Communicate Findings

- Communicate the results clearly to stakeholders and policymakers, emphasizing the implications for gender equality.
- Prepare comprehensive reports, use visual aids for clarity, and ensure that the findings are accessible to non-technical audiences.
- Effective reporting of gender statistics is crucial for informing policy and promoting gender equality, as highlighted by UNECE (2010, p. 40).

Example: "Reprocessed National Priority Gender Equality Indicators (NPGEIs) for Uganda, 2018." "Proportion of women aged 20-24 years who were married or in a union before age 18" as our example.

1. Define Objectives and Research Questions

Objective: To assess the prevalence of child marriage in Uganda and its implications on gender equality.

Research Questions:

- What proportion of women aged 20-24 years were married or in a union before the age of 18?
- Are there significant differences in child marriage rates across different regions of Uganda?
- What are the socioeconomic factors associated with higher rates of child marriage?

2. Determine if Pre-Processed Data Can Be Used

Pre-Processed Data:

- The "Reprocessed National Priority Gender Equality Indicators for Uganda,

2018" already provides the proportion of women aged 20-24 who were married before age 18.

- Demographic and Health Survey (DHS) data for Uganda includes detailed information on marriage age, demographics, and other related variables.

3. Identify and Access Relevant Data Sources

Relevant Data Sources:

- Uganda Demographic and Health Survey (DHS) 2016
- Uganda Bureau of Statistics (UBOS) reports
- The 2018 Reprocessed National Priority Gender Equality Indicators dataset
- United Nations Population Fund (UNFPA) reports on child marriage

4. Conduct Data Analysis

Data Analysis Steps:

- Extract relevant data from the DHS dataset on the age of first marriage for women aged 20-24.
- Calculate the proportion of women who were married or in a union before age 18.
- Disaggregate the data by regions, socioeconomic status, and education levels.
- Perform statistical tests to determine significant differences across various groups.

5. Interpret Results in Context

Results Interpretation:

- *Proportion of Child Marriage*: The analysis might show that 40% of women aged 20-24 were married before the age of 18.
- *Regional Differences*: Higher rates of child marriage might be observed in rural regions compared to urban areas.
- *Socioeconomic Factors*: Higher prevalence of child marriage could be associated with lower education levels and poorer households.

Contextual Interpretation:

- High rates of child marriage in rural and low-income areas indicate a need for targeted interventions.
- The relationship between education and child marriage suggests that increasing girls' access to education could reduce child marriage rates.

6. Report and Communicate Findings

Reporting:

- Prepare a comprehensive report detailing the methodology, findings, and interpretations.
- Include tables, charts, and graphs to visually represent the data.

Communication:

- Summarize key findings in policy briefs and presentations for stakeholders, including government agencies, NGOs, and community leaders.
- Use infographics and social media to raise public awareness about the issue of child marriage and its impact on gender equality.

Exercise 4.1: Gender Responsive Indicators

Would you consider the following indicators "gender responsive indicators"? Why or why not?

1. Literacy rate in English at P3, by sex.

2. Maternal mortality ratio, per 100,000 live births.

3. Incidence of prostate cancer in Sub-Saharan Africa.

4. Proportion of women that undergo female genital mutilation/ cutting (FGM/C).

5. Number of youths apprehended by the UPDF during cattle raids in Karamoja subregion.

6. Proportion of households in Uganda using clean fuels for cooking.

7. Number of corruption cases prosecuted by the Inspectorate of Government in Uganda.

8. Percentage of Ugandan who women agree that wife-beating can be justified in specific circumstances.

9. Proportion of Ugandan women who get married before 18 years.

10. Percentage of Ugandans who believe that women and men should not enjoy equal rights to inherit property.

Answers to Exercise 4.1: Gender Responsive Indicators

Would you consider the following indicators "gender responsive indicators"? Why or why not?

1. Literacy rate in English at P3, by sex. ***Yes, because the indicator name explicitly mentions 'by sex'.***
2. Maternal mortality ratio, per 100,000 live births. ***Yes, because maternal deaths concern women exclusively, and the indicator does not need sex disaggregation.***
3. Incidence of prostate cancer in Sub-Saharan Africa. ***Yes, because prostate cancer is an issue that concerns men exclusively.***
4. Proportion of women that undergo female genital mutilation/ cutting (FGM/C). ***Yes, because FGM/C concern women exclusively, and the indicator does not need sex disaggregation.***
5. Number of youths apprehended by the UPDF during cattle raids in Karamoja subregion. ***Yes, this is a gender indicator even though it does not mention sex, gender, or male youth. The reason is that it's mostly male youth who engage in cattle raids in Karamoja subregion.***
6. Proportion of households in Uganda using clean fuels for cooking. ***Yes, this is a gender indicator even though it does not mention sex, gender, or women. The reason is that more women are involved in cooking and tend to spend more time in the household in most developing countries.***
7. Number of corruption cases prosecuted by the Inspectorate of Government in Uganda. ***No, this is not a gender indicator. It does not pertain to men or women and there is no evidence of differentiated involvement of women and men in corruption.***
8. Percentage of Ugandan who women agree that wife-beating can be justified in specific circumstances. ***Yes, this is a gender indicator because of two reasons. The indicator is about women as victims of intimate partner violence. The indicator, as stated, is measured based on interview responses from women.***
9. Proportion of Ugandan women who get married before 18 years. ***Yes, this is a gender indicator because it explicitly mentions women.***
10. Percentage of Ugandans who believe that women and men should not enjoy equal rights to inherit property. ***No, this is not a gender indicator because 'Ugandans' is not sex-disaggregated.***

SESSION 4.2: PRESENTING GENDER STATISTICS USING PERCENTAGES, RATIOS AND RATES

Session objective:	• Understood how to define and differentiate between the various types of statistical measures. • Understood the formulae and steps for calculating each measure. • Understood how to interpret each measure. • Gained proficiency in presenting each measure in gender information products. • Appreciated the applicability and limitations of each measure.
Methods:	A facilitator's presentation, demonstration, and individual exercise
Requirements:	A projector, a computer, flip chart papers, marker pens, and masking tape
Preparation:	Practice the individual exercises to lead the demonstration exercises
Duration	180 minutes
Activity	4.2: Presenting Gender Statistics using Percentages and Related Measures
Notes/Handouts	4.2: Presenting Gender Statistics Using Rates, Ratios, Percentages, and Related Measures

Activity 4.2: Presenting Gender Statistics using Percentages and Related Measures

Steps

i. Introduce the session by informing the participants about the different statistical measures applicable in gender statistics.

ii. Guided by the Notes (Handout 4.2), demonstrate how each measure is computed in Microsoft Excel.

iii. You can begin by asking some participants to demonstrate how to calculate each measure

Notes/ Handout 4.2: Presenting Gender Statistics Using Rates, Ratios, Percentages, and Related Measures

Measures such as ratio, rate, proportion, percentage, and percentage points are statistically different. It is important to understand the differences and avoid using these words interchangeably.

Ratio

A ratio shows the magnitude of one quantity relative to another. In gender statistics, a ratio is used to measure differences in representation, participation, or outcomes between females and males.

Examples:

a) Pupil: senior teacher ratio (senior women teachers, senior men teachers)

b) Pupil: latrine stance ratio (girls, boys, total)

Rate

A rate compares the number of occurrences of an event to the total population at risk, usually expressed per 1,000 or 100,000 individuals, over a specific period.

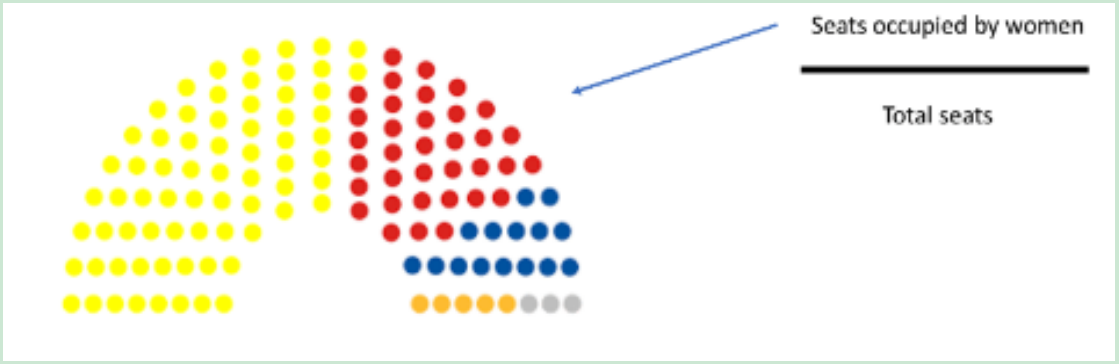
Examples:

c) Adolescent birth rate i.e. the number of births delivered by women aged 15–19 years per 1,000 women in that age group.

d) Average number of deaths per road accident (females, males)

Proportion

A proportion is a fraction or share of the total units. For example, the proportion of seats held by women in national parliaments is calculated by dividing the number of seats held by women in the national parliament by the total number of seats in the national parliament.



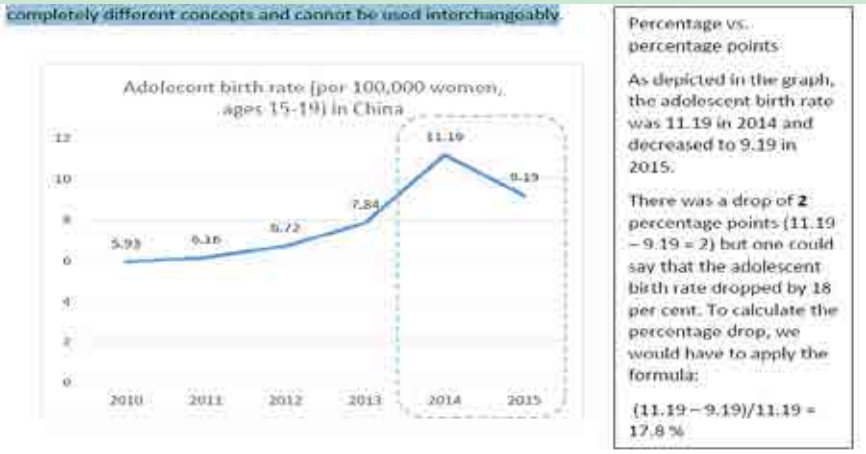
Percentage

A percentage is a proportion of the whole population multiplied by one hundred. Proportions are often expressed as percentages. E.g. 'Proportion of time spent on unpaid care and domestic work'. We could say that someone spends three out of 12 hours on unpaid care and domestic work.

Do not use percentages when the total size of your sample or population is small, as the results may be deceptive.

Percentage point change Versus Percentage change

A percentage point change is the absolute difference between two percentages. **A percentage change** measures the relative change compared to the original quantity. *It is very important to understand that percentage change and percentage difference are completely different concepts and cannot be used interchangeably.*

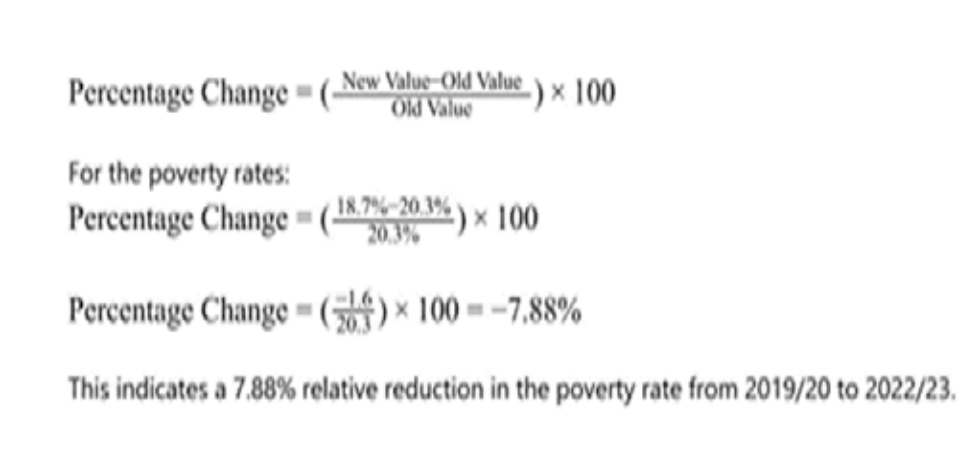


Sample Calculation Using UNHS Poverty Rate

Percentage Point Change
= New Rate–Old Rate
= 18.7%–20.3%
= –1.6 percentage points

This indicates a decrease of 1.6 percentage points in the poverty rate from 2019/20 to 2022/23.

Figure 13: Percentage Point Change



SESSION 4.3: PRESENTING GENDER STATISTICS USING THE COMMON MEASURES OF CENTRAL TENDENCY AND DISPERSION

Session objective:	• Understood how to define and differentiate between the various measures of central tendency and dispersion. • Understood the formulae and steps for calculating each measure of central tendency and dispersion. • Understood how to interpret each measure of central tendency and dispersion. • Gained proficiency in presenting each measure of central tendency and dispersion in gender information products. • Appreciated the applicability and limitations of each measure of central tendency and dispersion.
Methods:	A facilitator's presentation, demonstration, and individual exercise
Requirements:	A projector, a computer, flip chart papers, marker pens, and masking tape
Preparation:	Practice the individual exercises to lead the demonstration exercises, pre-arranged dataset
Duration	180 minutes
Activity	4.3: Presenting Gender Statistics using the Common Measures of Central Tendency and Dispersion

Notes/Handouts	4.3A: Presenting Gender Statistics Using the Common Measures of Central Tendency 4.3B: Presenting Gender Statistics Using the Common Measures of dispersion

Activity 4.3: Presenting Gender Statistics using the Common Measures of Central Tendency and Dispersion

Steps

i. Introduce the session by informing the participants about the different measures of central tendency applicable in gender statistics.

ii. Guided by the Notes (Handout 4.E), demonstrate how each measure is computed. You can begin by asking some participants to demonstrate how they calculate measures of central tendency (mean, median) and measures of dispersion (Range, interquartile range, Standard Deviation, Coefficient of variation)

   a. Mean

   b. Median

   c. Sum

   d. Standard Deviation

Notes/ Handout 4.3A: Presenting Gender Statistics Using the Common Measures of Central Tendency

Mean

Mean is the sum of all the values in a set, divided by the total number of values. It is the most used measure of central tendency. The mean is also referred to as "average" by some statisticians and statistical packages such as Excel and SPSS.

Usefulness of mean as a measure in gender statistics:

i. **Comparison of patterns for women and men**: For example, comparing the average income or educational attainment of men and women can highlight gender parity or disparity.

ii. **Identifying trends between women and men**: By analysing changes in the mean over time, researchers can identify trends and progress in gender equality. For example, tracking the mean years of schooling for men and women over several decades can show advancements or setbacks in educational attainment.

iii. **Aggregating data**: The mean is useful for summarizing large data sets into a single value, making it easier to understand the gender trend or pattern within the data.

iv. **Assessing and comparing the impact of interventions:** The mean can help in evaluating the effectiveness of interventions aimed at reducing gender disparities. For example, if a programme is implemented to increase female participation in the workforce, comparing the mean employment rates before and after the intervention can provide insights into its impact. Relative gender impact can be compared across interventions.

Weaknesses of mean as a measure in gender statistics:

The 'mean' is a good measure for normal distributions, but it is influenced by outliers[1]. An outlier will pull the value of the mean in its direction and away from the location of most of the observations.

For instance, in the dataset named 'Uganda Survey Sample EPRC Manual', the mean income for men is closer to the minimum than to the maximum income

SEX	Average of INCOME	Min of INCOME	Max of INCOME
F	541,832.99	271,800.00	984,640.00
M	725,938.39	351,118.18	1,600,000.00
Grand Total	655,364.66	271,800.00	1,600,000.00

Steps of computing the mean of continuous data using Excel Pivot Tables

1. **Insert a Pivot Table**
   - Highlight the entire data range including headers.
   - Go to the **Insert** tab and click **PivotTable**.
2. **Choose Data Source:**
   - Confirm the selected data range.
   - Choose where to place the Pivot Table (New Worksheet or Existing Worksheet).
   - **Click OK** to create the Pivot Table.
3. **Arrange Fields in the Pivot Table**

   a) Drag Fields:

   - In the PivotTable Field List, drag the field for which you want to calculate the mean (e.g., **Income**) to the **Values** area.
   - Drag the category field (e.g., **Sex**) to the **Rows** area.

   b) Set the Calculation to Average:

   - Click on the field in the Values area (it might default to "Sum of Value").
   - Select **Value Field Settings**.

1 Outliers are data points that significantly differ from other observations in a dataset.

- Choose **Average** from the list of calculations.
- Click **OK**.

4. **View the Results**

   Your Pivot Table will now display the mean values for each category. It automatically calculates and presents the average of the Value field for each unique Category.

5. **Customize and Format**

   a) Formatting:

   - Right-click on the numbers in the Pivot Table and choose **Number Format** to adjust the number of decimal places or apply other formatting options.

   b) Filtering and Sorting:

   - Use the drop-down menus on the row labels or values to filter or sort your data.

   c) Add More Fields:

   - You can add more fields to the Rows or Columns areas to further break down the data, if needed.

6. **Refresh Data**

   If you update the source data, you can refresh the Pivot Table by right-clicking it and selecting **Refresh** to update the mean calculations.

Example:

In the dataset named 'Uganda Survey Sample EPRC Manual', the mean, minimum, and maximum income for women, men and overall are as follows:

SEX	Average of INCOME	Min of INCOME	Max of INCOME
F	541,832.99	271,800.00	984,640.00
M	725,938.39	351,118.18	1,600,000.00
Grand Total	655,364.66	271,800.00	1,600,000.00

Median

The 'median' is the middle value of an ordered data. It is calculated by first arranging the data from smallest to largest, and then counting up to half the observations. The median is either the value at the center of the ordered data in the case of an odd number of observations or the simple average of the two middle observations if the total number is even.

Steps of computing the median of continuous data using Excel

i. The pivot calculation functions do not include the median.

ii. Therefore, use the MEDIAN function outside the Pivot Table to calculate the median of your data.

iii. If not displayed on the formula ribbon, use the Excel search box to locate the function for median.

iv. Using our dataset 'Uganda Survey Sample EPRC Manual': =MEDIAN(H2:H121) where H2:A121 represents our data range.

v. The median value in the dataset 'Uganda Survey Sample EPRC Manual' is UGX **546,550**.

Total/ Sum

The total/ sum value is the result of adding up all values in a data set.

Examples:

People living in poverty: For instance, when measuring poverty, we can say that roughly 730 million people lived below the poverty line in 2015, or about 10 percent of the world's population. The former value (730 million) is the total value.

Enrolment in school: This is the total number of learners admitted/re-admitted and fully recorded in the school's register at the beginning of the first term. It includes all those learners whose names appear on the school register (including repeaters and those temporarily absent).

Usefulness of total as a measure in gender statistics:

i. **Quantifying population size**: The total number of men and women in different categories (e.g., employment sectors, educational levels) provides a clear picture of the population distribution. This helps in understanding the scale of gender differences.

ii. **Resource allocation**: Totals are crucial for allocating resources and funding. For example, knowing the total number of women who need access to healthcare services can inform policy decisions and budget allocations.

iii. **Policy impact assessment**: Assessing the total impact of gender-focused policies and programmes often involves summing up individual outcomes. For example, the total number of women who received funds from the Parish Development Model (PDM) can indicate the reach and effectiveness of the programme.

iv. **Identifying gaps and needs**: Totals help in identifying gaps and needs in services or interventions. For instance, the total number of girls out of school compared to boys can highlight areas where educational interventions are needed.

v. **Trend analysis**: Totals can help track trends over time. For example, the total number of women in leadership positions across years can indicate progress or

stagnation in achieving gender equality in leadership.

Weaknesses of total/ sum as a measure in gender statistics:

i. **Hiding disparities**: Summarizing data with totals can mask underlying disparities. For instance, the total income of men and women might be similar, but the mean or median income could reveal significant gender wage gaps.

ii. **Sensitivity to population size**: Totals are heavily influenced by the size of the population. Larger populations will naturally have higher totals, which can make it difficult to compare data between groups of different sizes.

In our dataset 'Uganda Survey Sample EPRC Manual', the sum of income for women and men differs greatly, but this ignores the proportion of women and men in the sample, which is 38.3% and 61.7% respectively.

Sum of INCOME	
SEX	Total
F	24,924,317.62
M	53,719,441.06
Grand Tot	78,643,758.68

iii. **Overlooking variability**: Totals do not account for variability or diversity within groups. For example, the total number of women in higher education does not show variations in fields of study.

iv. **Ignores inter-group size**: For instance, a high total number of women in a certain profession might suggest gender equality, but without considering the proportion relative to men, it might not accurately reflect the true state of gender balance.

v. **Ignoring per capita differences**: Totals ignore per capita differences which are often more informative. For example, the total number of women in Science, Technology, Engineering, and Mathematics (STEM) fields is less informative than the proportion of women in STEM relative to the total population of women.

vi. **Not showing relative change:** For instance, if we only say, "the number of Ugandans living in poverty increased from 8.0 million in 2016/17 to 8.3 million in 2019/20 (UNHS)", it appears as a negative development. However, due to overall population increases, it is possible that the actual poverty rates might have dropped over time, which is a positive development. Indeed, the proportion of the population living in poverty reduced from 21.4 percent in 2016/17 to 20.3 percent in 2019/20.

Steps of Computing the Sum of Continuous Data using Excel

i. Insert a Pivot Table:

- Select any cell within your data range.
- Go to the "Insert" tab on the Ribbon.
- Click "PivotTable." The "Create PivotTable" dialog box will appear.

- Verify the data range and choose whether to place the PivotTable in a new worksheet or an existing worksheet. Click "OK."

ii. Configure the Pivot Table:

- In the "PivotTable Fields" pane on the right, drag the field that contains your continuous data (e.g., "Values") into the "Values" area.

iii. Change the Aggregation Function to Sum:

- By default, Excel might use the "Count" function. To change this to "Sum":
  - Click the drop-down arrow next to the field name in the "Values" area.
  - Select "Value Field Settings."
  - In the "Value Field Settings" dialog box, select "Sum" under the "Summarize Values By" tab.
  - Click "OK."

iv. View the Results:

- The Pivot Table will now display the sum of the continuous data.

Notes/ Handout 4.3B: Presenting Gender Statistics Using the Common Measures of dispersion

Range

The range is represented by the smallest and largest observations in a dataset, making it the simplest measure of variability. In statistics, the range is specified by these two values, not by the difference between them. This measure can be very useful for certain data, such as knowing the ages of the youngest and oldest participants in a sample. However, the presence of outliers can distort the impression of data variability, as the range only considers these two observations.

Quartiles and Interquartile Range

The quartiles, including the lower quartile, the median, and the upper quartile, divide the data into four equal parts, meaning there will be roughly equal numbers of observations in each section (exactly equal if the sample size is divisible by four and the measurements are distinct). Note that there are only three quartiles, and these are points, not proportions. It is a common misuse of language to say someone is 'in the top quartile'; instead, one should say 'in the top quarter' or 'above the top quartile'. Quartiles are calculated similarly to the median: first, arrange the data in ascending order and find the median. Then, split the data into two halves (lower and upper). The first quartile is the middle observation of the lower half, and the third quartile is the middle observation of the upper half. This process is illustrated in the example below.

The interquartile range (IQR) is a useful measure of variability, defined by the lower

and upper quartiles. The IQR is not affected by outliers, and regardless of the data distribution, 50% of the observations lie within this range.

Example on calculation of the quartiles

Suppose we had 18 birth weights arranged in increasing order.

1.51, 1.53. 1.55, 1.55, 1.79. 1.81, 2.10, 2.15, 2.18, 2.22, 2.35, 2.37, 2.40, 2.40, 2.45, 2.78. 2.81, 2.85.

The median is the average of the 9th and 10th observations (2.18+2.22)/2 = 2.20 kg. The first half of the data has 9 observations so the first quartile is the 5th observation, namely 1.79kg. Similarly, the 3rd quartile would be the 5th observation in the upper half of the data, or the 14th observation, namely 2.40 kg. Hence the interquartile range is 1.79 to 2.40 kg.

Variance

Variance measures the extent to which data points in a dataset differ from the mean. It is calculated as the average of the squared differences between each data point and the mean. This squaring amplifies the effect of outliers, making variance particularly sensitive to extreme values. Higher variance indicates that data points are more spread out from the mean, while lower variance signifies that they are closer to the mean. However, because variance is in squared units of the original data, it can sometimes be less intuitive to interpret directly.

Standard Deviation

Standard deviation (SD) measures how spread out or dispersed the values in a data set are from the mean. A low standard deviation indicates that the values tend to be close to the mean of the set, while a high standard deviation indicates that the values are spread far away from the mean. In practical terms, it helps to assess the consistency of the data.

In our dataset named '*Uganda Survey Sample EPRC Manual'*, the SD values are:

SEX	StdDev of INCOME	Average of INCOME
F	185,712.50	541,832.99
M	328,880.95	725,938.39
Grand Total	295,759.51	655,364.66

The relatively lower SD suggests that the incomes for females are more closely clustered around the average income. Whereas the higher SD for males indicates that the income for males is more spread out, with a wider range of values around the average. The overall SD reflects the combined variability for both sexes. It's higher than the standard deviation for females and lower than that for males.

Steps of Computing Standard Deviation of Continuous Data using Excel

i. Create a Pivot Table:

a) Select any cell within your data range.

b) Go to the "Insert" tab on the Ribbon.

c) Click on "PivotTable." This will open the "Create PivotTable" dialog box.

d) Verify the data range and choose where you want the PivotTable to be placed (either a new worksheet or an existing one). Click "OK."

ii. Configure the Pivot Table:

a) In the "PivotTable Fields" pane, drag the field with your continuous data (e.g., "Values") to the "Values" area.

iii. Change the Aggregation Function:

a) By default, the PivotTable will sum the values. To change this:

- Click on the dropdown arrow next to the field name in the "Values" area.
- Select "Value Field Settings."
- In the "Value Field Settings" dialog box, select the "Show Values As" tab.
- Choose "Standard Deviation" from the list of summary functions. You may need to select "Standard Deviation" (for a sample) or "Standard Deviationp" (for the entire population) depending on your data.

iv. Apply and Review:

a) Click "OK" to apply the changes.

b) Your PivotTable will now display the standard deviation of the sample data.

v. Format the PivotTable (Optional):

e) You can format the PivotTable to better display the results by adjusting column widths, applying number formatting, and customizing the layout as needed.

Coefficient of Variation (CV)

The coefficient of variation is the ratio of the standard deviation to the mean, expressed as a percentage. It is useful for comparing the relative dispersion of datasets with different units or means.

SESSION 4.4: DATA ANALYSIS WITH EXCEL

Session objective:	• Understood how to define and differentiate between a bivariate and multivariate • Understand how to conduct simple regression analysis in Excel. • Understood how to interpret each measure of central tendency. • How to activate the Toolpak tools to conduct analysis in excel
Methods:	A facilitator's presentation, demonstration, and individual exercise
Requirements:	A projector, a computer, dataset
Preparation:	Pre-arranged dataset
Duration	240 minutes
Activity	4.4 How to use own trainee data to conduct analysis in Excel
Notes/Handouts	**4**.4A: Bivariate and multivariate analysis 4.3B: Data management and generation of basic descriptive statistics with formulars
Exercises	To be generated during the sessions using sample datasets from trainees
Answers to exercises	To be generated during the sessions using sample datasets from trainees

Activity 4.4 How to use own trainee data to conduct analysis in Excel

Steps:

Each trainee shares a small dataset they frequently work with.

- Trainers review the datasets to ensure diversity in data types (numeric, categorical, time series, etc.).
- Trainees identify inconsistencies, missing values, and formatting issues.
- Use Excel to clean the data.
- Trainees generate basic statistics (mean, median, mode, standard deviation).
- Create summary tables
- They analyze trends, correlations, or patterns and create a short report.
- Present their findings in a 5-minute presentation to the group.
    - Trainers provide feedback on each presentation.

- Group discussion on key challenges and lessons learned.
- Summary of best practices in data handling.

Handout 4.4A: Bivariate and multivariate analysis

BIVARIATE ANALYSIS

Bivariate analysis measures the association of two variables to understand the relationship between them. This type of analysis is fundamental in statistics and helps in identifying patterns, correlations, and potential causal relationships. Bivariate analysis can be applied to both categorical and continuous variables, using different methods depending on the nature of the data.

Types of Bivariate Analysis

a) Scatter Plot: A scatter plot is a graphical representation of two continuous variables. Each point on the plot represents an observation. Scatter plots help in visualizing relationships, showing patterns, trends, and potential outliers.

b) Correlation: Correlation measures the strength and direction of the linear relationship between two continuous variables. The correlation coefficient, r. r, ranges from -1 to 1. A value close to 1 indicates a strong positive correlation, while a value close to -1 indicates a strong negative correlation. A value around 0 indicates no correlation.

c) Simple Linear Regression: Simple linear regression is used to model the relationship between two continuous variables by fitting a linear equation to observed data. The equation is of the form $y=mx+b$, where y is the dependent variable, x is the independent variable, m is the slope, and b is the intercept.

d) Crosstabulation (Contingency Table): For categorical data, a crosstabulation (or contingency table) displays the frequency distribution of the variables. It helps in understanding the association between two categorical variables by showing the number of observations that fall into each category.

e) Chi-Square Test: The chi-square test is used to determine if there is a significant association between two categorical variables. It compares the observed frequencies in the contingency table with the expected frequencies, assuming no association between the variables.

f) T-Test and ANOVA (Analysis of Variance): T-Test: For comparing the means of two groups, especially when one variable is categorical (with two levels) and the other is continuous. While ANOVA compares the means across more than two groups.

MULTIVARIABLE ANALYSIS

Multivariable analysis involves examining more than two variables simultaneously to understand the relationships between them and to control for the influence of multiple

factors. This type of analysis is crucial in complex data scenarios where multiple factors interact and contribute to the outcomes. For example, a multivariable analysis -multiple linear regression[1] may be used to examine the factors that influence the wage gap between men and women. This among other factors could be influenced by gender, education level, work experience, Occupation type, location among other factors.

Logistic Regressions:

Binary logistic regression is a statistical method used for modeling the relationship between a binary dependent variable and one or more independent variables. It is particularly useful when the outcome of interest is categorical with two possible values, such as success/failure, yes/no, or 0/1.

Ordered logistic regression, also known as ordinal logistic regression, is a statistical technique used to model the relationship between an ordinal dependent variable and one or more independent variables. An ordinal variable is a categorical variable where the categories have a meaningful order but the intervals between categories are not necessarily equal. Examples include satisfaction ratings (e.g., dissatisfied, neutral, satisfied) or education levels (e.g., high school, college, graduate).

Multinomial logistic regression is a statistical technique used to model the relationship between a categorical dependent variable with more than two levels and one or more independent variables. Unlike binary logistic regression, which is used for binary outcomes, multinomial logistic regression handles situations where the dependent variable has multiple categories with no inherent order.

Multivariate analysis.

Multivariate Analysis of Variance (MANOVA)

MANOVA extends ANOVA by examining multiple dependent variables simultaneously to determine if the means of the dependent variables differ significantly across groups. It assesses the effect of one or more independent variables on multiple dependent variables.

Principal Component Analysis (PCA):

PCA is a dimensionality reduction technique used to reduce the number of variables in a dataset while retaining most of the variance. It transforms the original variables into a new set of uncorrelated variables called principal components.

Factor Analysis:

Factor analysis identifies underlying relationships between variables by grouping them into factors. These factors represent latent constructions that influence the observed variables.

Cluster Analysis:

1 Multiple linear regression extends simple linear regression by modeling the relationship between a dependent variable and multiple independent variables.

Cluster analysis groups similar observations into clusters based on the characteristics of multiple variables. It is used for segmenting data into meaningful groups.

Hand out 4.4B: Data management and generation of basic descriptive statistics with formulars

Data Cleaning:

Removing Duplicates: Select the range or table, go to the "Data" tab, and click "*Remove Duplicates*." Choose the columns to check for duplicates and click "OK." This eliminates redundant records which might skew analysis results.

CONCATENATE or CONCAT:

Formulas: `=*CONCATENATE*(text1, text2, ...)` or `=CONCAT(text1, text2, ...)` this allows combining text from multiple cells into one.

TEXT TO COLUMNS:

How to Use: Select the column, go to "Data" > "Text to Columns," choose "*Delimited*" or "Fixed width," and follow the wizard to split text into columns. The purpose of this is to Splits data into multiple columns based on delimiters like commas or spaces.

Handle Missing Data:

Fill Missing Values: You can fill missing values using methods like mean imputation (e.g., `=AVERAGE (range)`) or forward/backward filling.

Remove Missing Values: Filter out rows with missing data or use the "Find & Select" > "Go To Special" > "Blanks" to identify and manage them. This ensures completeness of data for accurate analysis.

Organize Data:

Sort Data: Select the data range, go to the "Data" tab, and choose "Sort." You can sort by one or more columns, in ascending or descending order. One can even custom sort according to the variable of interest. This facilitates easier analysis and comparison by ordering data logically.

Filter Data: Select the data range, go to the "Data" tab, and click "Filter." Use dropdowns in column headers to filter data based on criteria. This focuses on specific subsets of data for detailed analysis.

How to generate basic descriptive statistics with formulars

Mean: Formula: `=AVERAGE(range)`

Median: Formula: `=MEDIAN(range)`

Mode: Formula: `=MODE.SNGL(range)` or `=MODE.MULT(range)` for multiple modes.

Standard Deviation: Formula: `=STDEV.S(range)` (for sample) or `=STDEV.P(range)` (for population) or =STDEV(range)

Summary Statistics:

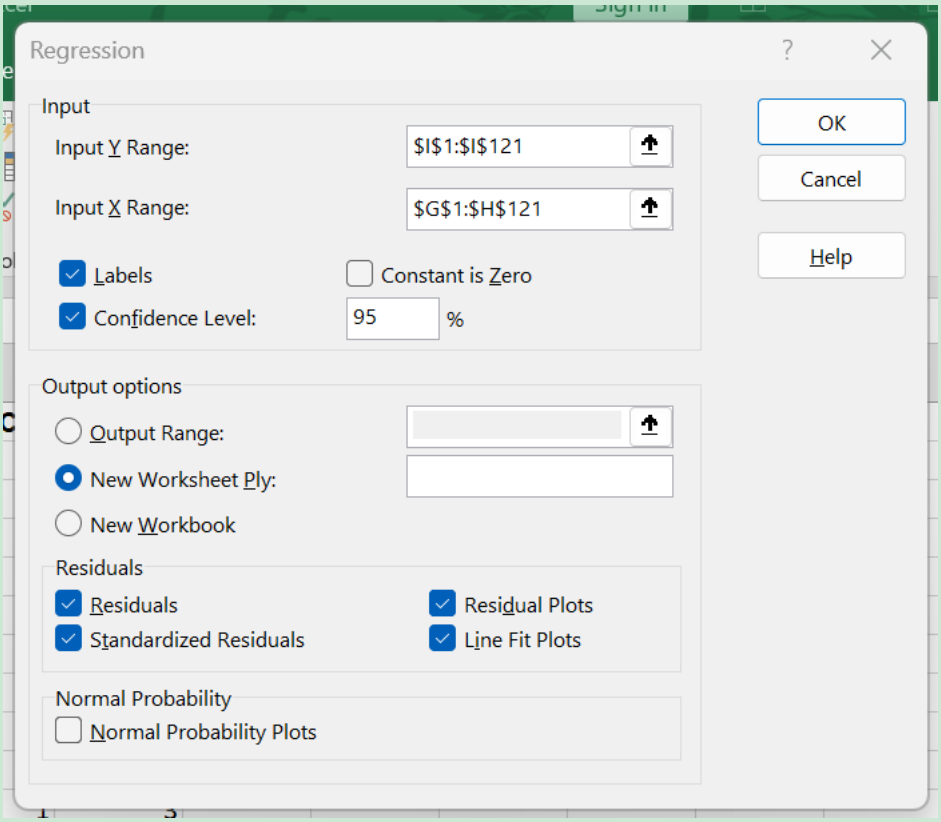
COUNT: Formula: `=COUNT(range)` it counts the number of numeric entries in a range.

COUNTA: Formula: `=COUNTA(range)` it counts all non-empty cells in a range, regardless of data type.

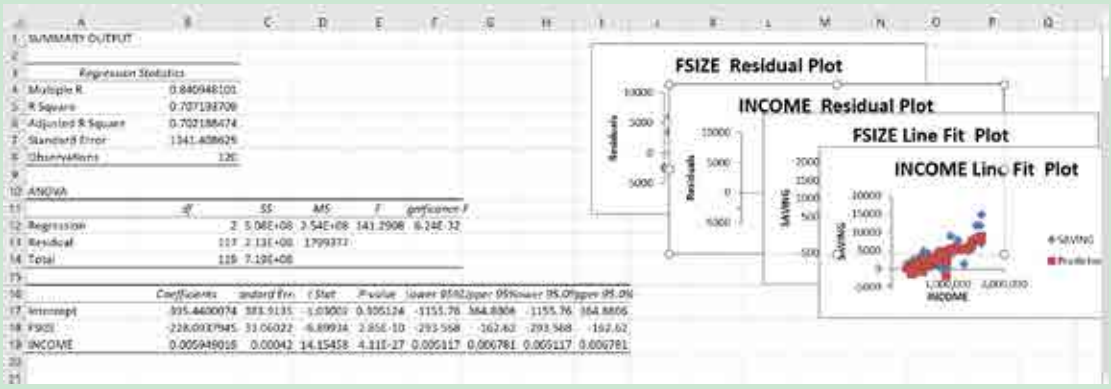
MAX/MIN: Formulas: `=MAX(range)` and `=MIN(range)` it identifies the highest and lowest values, which are useful for range and outlier detection.

Box ….How to perform a regression in Excel

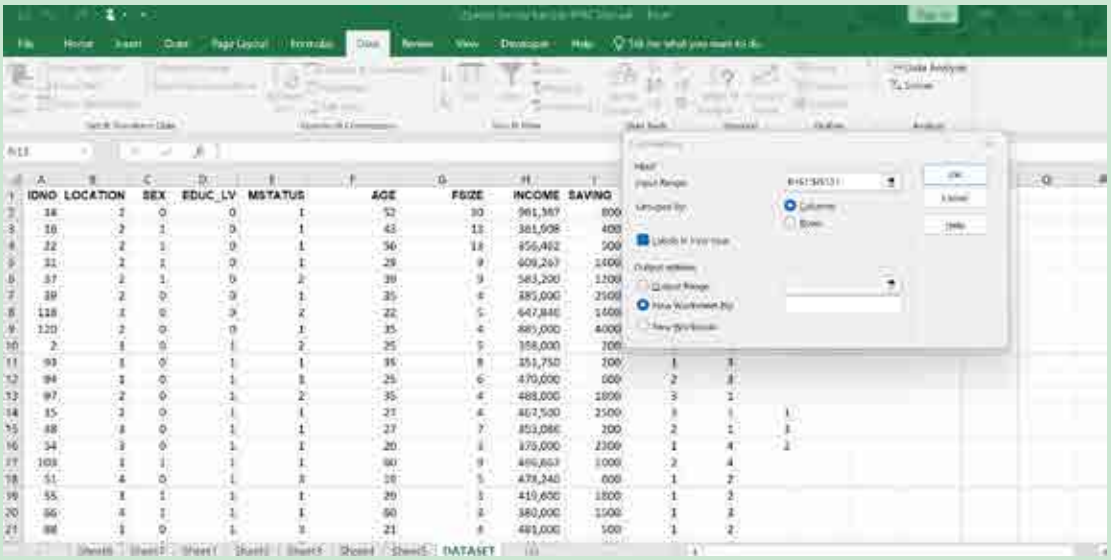
Go to "Data" > "Data Analysis" > "Regression." Input the Y Range (dependent variable) and X Range (independent variables). This models relationships between variables and predicts outcomes based on predictor variables. It displays coefficients, R-squared values (goodness of fit), p-values (statistical significance). The purpose is to understand the strength and significance of relationships between variables.



Results



How to perform a correlation analysis in Excel



Go to “Data” > “Data Analysis” > “*correlation*” Input the Range for two variables you want to measure association of. The purpose is to measure the strength and direction of the linear relationship between two variables.

Results.

	A	B	C
		INCOME	*SAVING*
2	INCOME	1	
3	SAVING	0.766855	1
4			

Advanced data analysis using pivot tables:

How to creating a pivot table:

➢ Go to “Insert” > “*PivotTable*,” select the data range, and choose where to place the PivotTable. Drag and drop fields into the Rows, Columns, Values, and Filters areas.

This summarizes, aggregates, and analyzes large data sets dynamically.

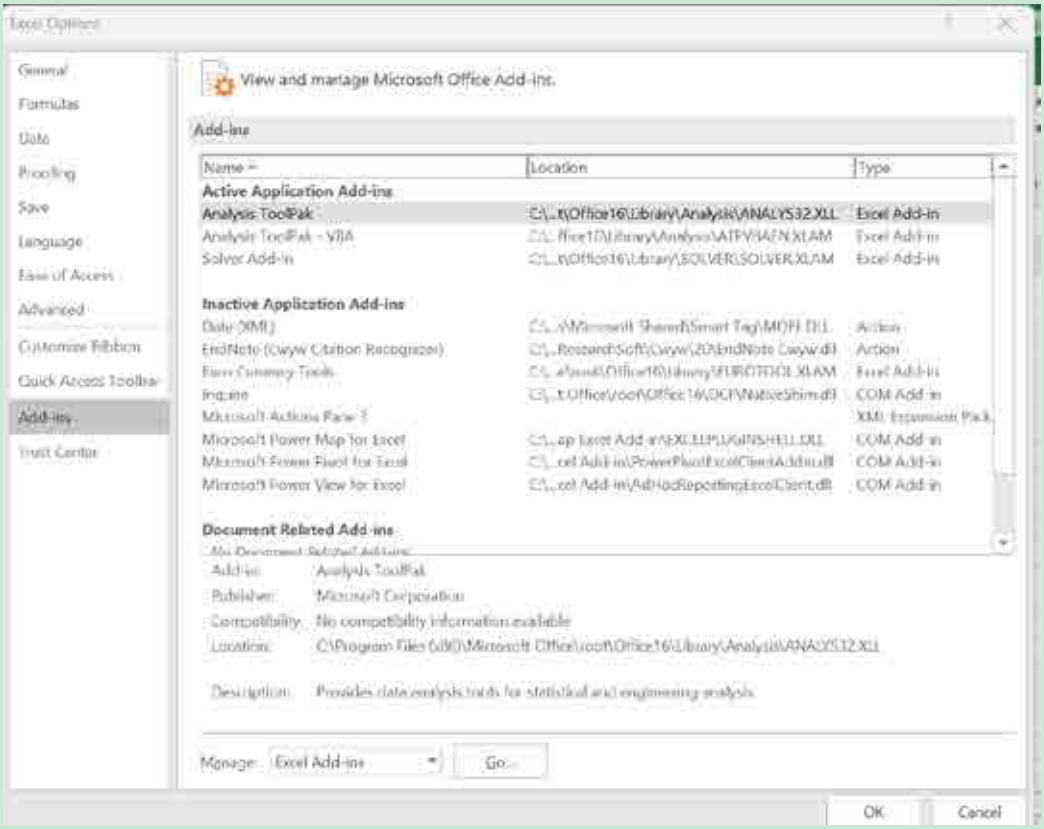
How to create pivot charts:

- Click inside the PivotTable, go to "*PivotTable Analyze*" > "PivotChart," and choose the chart type. This Creates charts based on PivotTables to visualize aggregated data.

Data Analysis Toolpak:

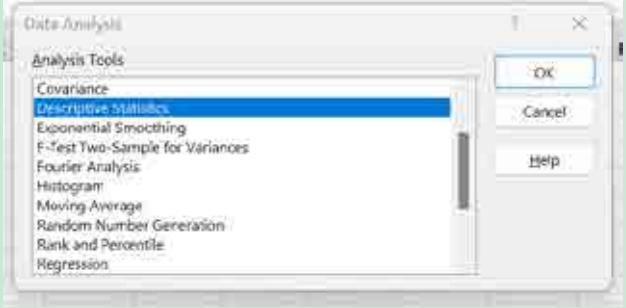
How to add or activate the Toolpak:

Go to "File" > "Options" > "Add-Ins" > "Excel Add-ins" > "Analysis Toolpak" and click "Go," then check "Analysis Toolpak" and click "OK." This allows advanced statistical analyses like regression, ANOVA, and histograms.



Using the Toolpak:

Go to "Data" > "Data Analysis," and select the analysis tool you need (e.g., "Regression," "Descriptive Statistics"). This performs detailed statistical analysis and hypothesis testing.



Formulas and functions:

IF function:

Formula: `=IF(logical_test, value_if_true, value_if_false)` This applies conditional logic to return different values based on criteria.

VLOOKUP/HLOOKUP/XLOOKUP:

Formulas:

`=VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])` for vertical lookups, `=HLOOKUP(lookup_value, table_array, row_index_num, [range_lookup])` for horizontal lookups.

=XLOOKUP(lookup_value, lookup_array, return_array, [if_not_found], [match_mode], [search_mode])

These lookup functions allow searches for a value in a table and returns a corresponding value from another column or row. It also aids merging two datasets.

INDEX/MATCH:

Formulas: `=INDEX(array, row_num, [column_num])` combined with `=MATCH(lookup_value, lookup_array, [match_type])` for flexible lookups. It provides more powerful lookups compared to VLOOKUP/HLOOKUP, especially for large data sets.

MODULE

5

VISUALIZING GENDER STATISTICS

MODULE FIVE: VISUALIZING GENDER STATISTICS

LEARNING OUTCOMES/OBJECTIVES

By the end of this module, participants are expected to have:

a. Understood the various options for visualizing gender statistics.

b. Learned the basic skills for visualizing gender statistics.

OVERVIEW OF THE MODULE

The modules cover how to generate visuals on gender issues using Microsoft Excel. It further explores infographics as one of the data visualization tools and associated qualities.

NOTE TO FACILITATOR

Facilitators should highlight the importance of visualizing gender statistics to simplify complex data. Emphasize how Microsoft Excel can be used effectively for data visualization to create bar charts and graphs among others. Facilitators should explain the benefits of replacing or complementing text with visuals in reports and publications,

TIME:
5 HOURS

SESSION 5.1: GENERAL GUIDANCE FOR DATA VISUALISATION

Session objective:	By the end of this session, participants are expected to have a) Learned the basic skills for generating charts and graphs using Microsoft excel b) Understand how data visualization enhances the interpretation of gender statistics through various visual formats such as charts, graphs, and infographics.
Methods:	PowerPoint presentation, demonstration, hands-on practical exercises, group discussions, Q&A
Requirements:	A projector, a computer, dataset in Excel
Preparation:	Before the session, the facilitator should print out examples of visuals to be used, generate a workable sample data set to be used generating visuals using Excel
Duration	300 minutes
Notes/Handouts	5.1A: General Guidance for Data Visualisation 5.1B: Examples of Data Visualization on Microsoft Excel
Exercises	5.1A: Creating a bar chart of a dataset in Microsoft Excel 5.1B: Qualities of a good infographic
Answers to exercises	5.1A: Creating a bar chart of a dataset in Microsoft Excel 5.1B: Qualities of a good infographic

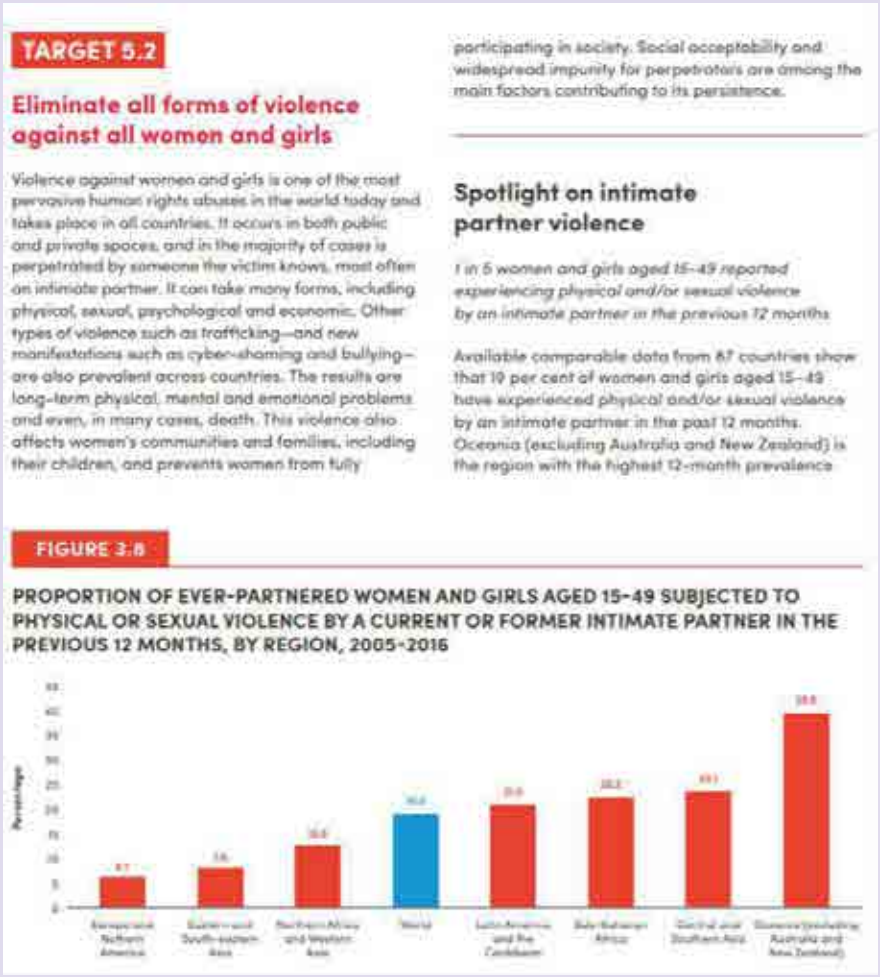
Notes/ Handout 5.1A: General Guidance for Data Visualisation

Data visualization is the presentation of data or information in a graph, chart, or other visual formats. Visualizing data makes massive datasets easier for people to understand. Excel is widely used for data visualization, owing to its excellent data visualization features.

While the approach to data visualization may depend on the topic, detail, and length of an information product, some guidelines for data presentation and visualization include:

1. Replace or complement text with visuals where possible and relevant: Long pieces of text can be boring and monotonous to readers. Adding relevant text in a box can also help break the monotony of the content and highlight a key message. Figure 14 shows an excerpt from a UN Women publication. Although much text has been included, a change in typography (colour of headlines, font style and size) as well as addition of a simple bar chart makes it engaging for the reader.

Figure 14: Example of visualization



TARGET 5.2

Eliminate all forms of violence against all women and girls

Violence against women and girls is one of the most pervasive human rights abuses in the world today and takes place in all countries. It occurs in both public and private spaces, and in the majority of cases is perpetrated by someone the victim knows, most often an intimate partner. It can take many forms, including physical, sexual, psychological and economic. Other types of violence such as trafficking—and new manifestations such as cyber-shaming and bullying—are also prevalent across countries. The results are long-term physical, mental and emotional problems and even, in many cases, death. This violence also affects women's communities and families, including their children, and prevents women from fully participating in society. Social acceptability and widespread impunity for perpetrators are among the main factors contributing to its persistence.

Spotlight on intimate partner violence

1 in 5 women and girls aged 15–49 reported experiencing physical and/or sexual violence by an intimate partner in the previous 12 months

Available comparable data from 87 countries show that 19 per cent of women and girls aged 15–49 have experienced physical and/or sexual violence by an intimate partner in the past 12 months. Oceania (excluding Australia and New Zealand) is the region with the highest 12-month prevalence

FIGURE 5.5

PROPORTION OF EVER-PARTNERED WOMEN AND GIRLS AGED 15–49 SUBJECTED TO PHYSICAL OR SEXUAL VIOLENCE BY A CURRENT OR FORMER INTIMATE PARTNER IN THE PREVIOUS 12 MONTHS, BY REGION, 2005–2016

2. Add complimentary elements and context to visuals: Ensure graph titles are comprehensive, accurate, and easily understandable. Use subtitles, footnotes, and short explanations to convey accurate messages.
3. Present women and men side by side in graphs for easy comparison. Always use "women" and "men" instead of "female" and "male" to avoid social connotations.
4. Round numbers appropriately for broader audience understanding; round to 1,000, 100, or 10 for numbers, and round percentages to whole numbers (integers).
5. Select culturally and politically appropriate icons for gender statistics presentations.
6. Align alphabetic text left and numeric values right in tables.
7. Prefer clear visual charts over tables whenever possible.
8. Avoid excessive categories in pie charts and stack bar charts.
9. Use consistent colours for women and men across all charts.

10. Simplify chart layouts to enhance clarity.
11. Understand print size limits when designing visuals.
12. Utilize gender statistics effectively in non-statistical reports.
13. Provide insights and context for gender data, discussing data limitations.
14. Balance text and graphs to engage readers effectively. Use text to explain the key messages in the visuals without explaining every data point.
15. Footnote all data sources and references for transparency and additional information access.

Notes/ Handout 5.1B: Examples of Data Visualization on Microsoft Excel

Your Excel data could probably look like the data in Figure 15, but it can be difficult for numbers to communicate data-related trends. Using Excel, data can be transformed into charts Figure 16 and graphs to communicate relevant gender statistical trends

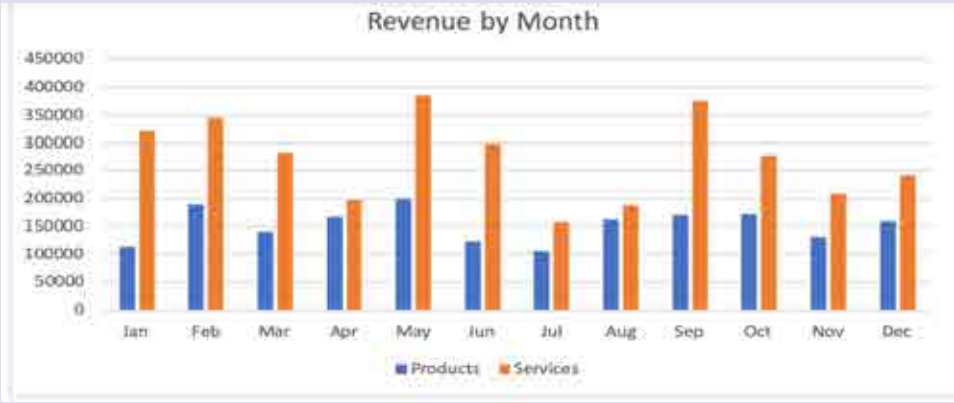
Figure 15: Data table that does not communicate trends

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2	Products	113824	188986	140691	167417	199789	122998	104406	162634	170378	171745	130481	158238
3	Services	320651	345882	282953	197752	385273	298660	156515	188593	374634	278056	208716	240923
4	Total revenue	434475	534868	423644	365169	585062	421658	260921	351227	545012	449801	339197	399161
5	Sales count	155	255	195	205	218	122	286	291	119	184	120	178

Source: Opio (2022)

Charts/ graphs

Figure 16: Sample bar chart



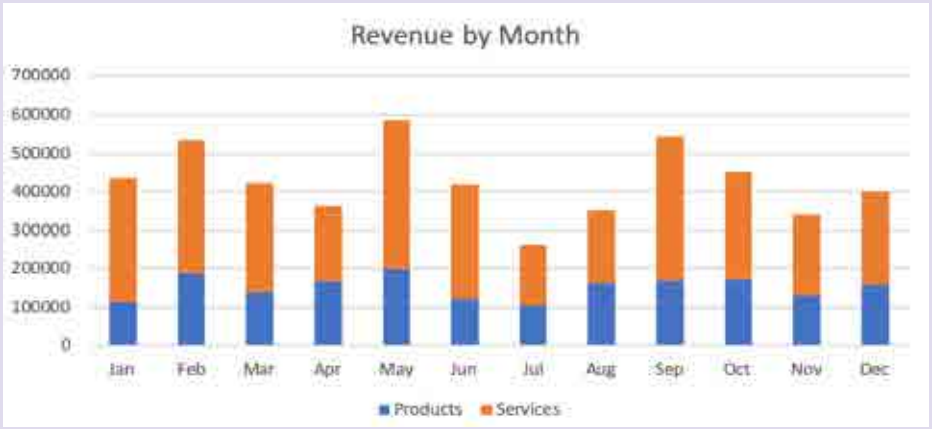
Source: Opio (2022)

Figure 16 above on products and services revenue by month shows that services are always higher than products, but more volatile. This information would be hard to understand from numbers alone! The same data can also be turned into a bar chart, line graph, or other graphs.

How to create a chart or graph:

1. If already analysed into a table of say mean income, open the Excel data table. If not analysed, use pivot table process for generating charts.
2. Select the data with your mouse.
3. Select Insert from the menu bar.
4. Select Chart.
5. Select Bar chart.
6. Select "Data" from the menu bar.
7. Select "Sort". Select to sort by value, and smallest to largest.
8. Select the "Chart Design" option on the right side of the menu bar and add "Chart elements".
9. Select chart title and name it appropriately.
11. Add data labels.

Figure 17: Sample stacked bar chart

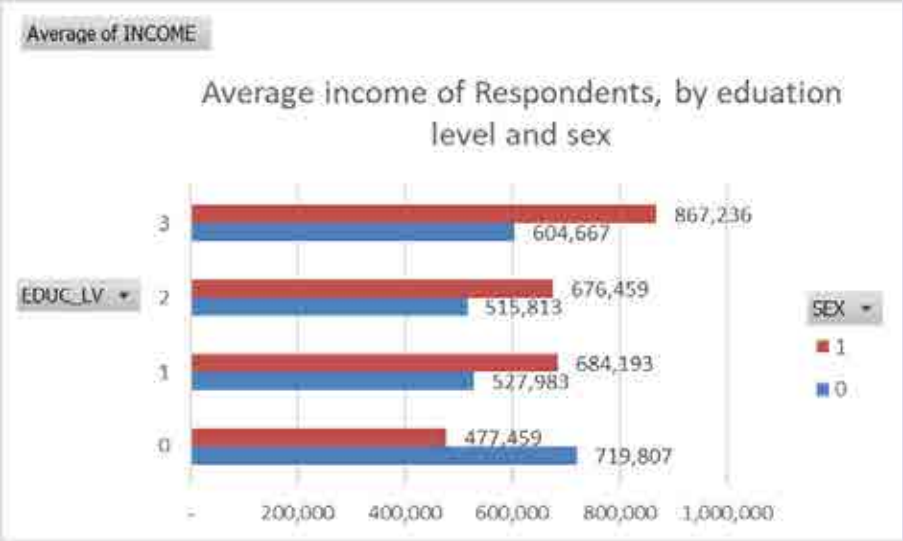


Source: Opio (2022)

The above steps can be followed to create other types of charts, such as a line graph, area Chart, scatter plots, etcetera.

Exercise 5.1A: Creating a bar chart of a dataset in Microsoft Excel

Using our dataset 'Uganda Survey Sample EPRC Manual', build a clustered bar chart, showing the average income by educational level and sex. Add the chart title, data labels and axis title to complete the visualization.



Source: EPRC (2023)

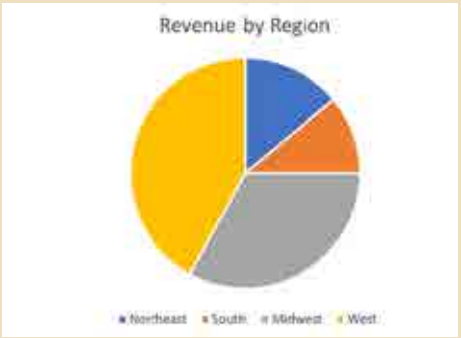
Answers to Exercise 5.1A: Creating a bar chart of a dataset in Microsoft Excel

Check the outputs created by 3 to 5 participants and provide general comments in plenary.

Pie Chart

A pie chart gives the contribution of a category within the same variable. Pie charts are circular depictions of statistical proportions, using divisions. The bigger the slice of the pie, the larger the representation, and more generally, the importance. To create a pie chart, select the requisite columns, and click on the required pie chart option from the Pie option as shown below.

Figure 18: Sample pie chart



Source: Nsubuga et al, (2020)

Box …How to generate charts and graphs in excel

To draw a chart in Excel, first enter your data into a worksheet, ensuring it's organized with headers. Highlight the cells containing your data, including headers. Next, go to the "Insert" tab on the Ribbon and choose a chart type (e.g., Column, Line, Pie, Scatter) that best represents your data. After the chart appears, click on the chart title to edit it and add a meaningful title. Use the "Chart Elements" button (plus sign) to add axis titles, legends, and data labels. Customize your chart's appearance using the "Chart Styles" button (paintbrush icon) and right-click on various chart elements to format them individually. Resize and move the chart by clicking and dragging its corners or the entire chart. To modify the data series, right-click on the chart and select "Select Data." If a different chart type is needed, right-click on the chart and choose "Change Chart Type." Save your workbook to preserve your chart, or right-click the chart and select "Save as Template" for future use. You can also copy the chart (Ctrl+C) and paste it (Ctrl+V) into other documents or export it as an image by right-clicking and choosing "Save as Picture."

Note:

a) **Column chart** is ideal for comparing data across categories. One can adjust colors, axis labels, and data labels for clarity.

b) **Bar chart**s are useful for displaying categorical data.

c) **Line chart** is best used when showing trends over time or continuous data. One can add markers, trendlines, and gridlines to enhance readability.

d) **Pie chart s**hows proportions of a whole. Best used when there are a few categories. One can adjust slice colors and add data labels for clarity.

e) **Scatter plot** displays relationships between two numerical variables. One can add trendlines, adjust axis scales, and use different marker styles.

Tables

Although tables may not be as appealing as graphs, tables are a necessary form for presentation data for the following reasons:

1. They can present precise values, including specific counts, percentages, and other precise metrics.
2. Tables may contain comprehensive information on several characteristics and indicators, such as gender statistics broken down by age groups, regions, and other demographic factors.
3. The distribution of data sometimes makes tables suitable. For example, when data does not vary much across categories of characteristics, or when they vary too much, tables are a better choice of presentation than graphs.

Annex tables contain much information and are often presented in the document annex. List tables appear in the body of the document to compliment text.

Maps

Maps provide a visual representation of how gender statistics vary across different regions, helping to identify geographic patterns and disparities in sex ratios, employment rates, educational attainment, health outcomes, and other gender indicators. This geographic context can be critical in understanding and addressing regional issues related to gender.

The steps in generating maps include:

1. **Select the Data**:
    - Gather relevant statistical data that is geographically referenced.
    - Ensure the data is accurate, up-to-date, and suitable for mapping.
2. **Choose the Type of Map**:
    - Decide on the most appropriate type of map for your data (e.g., choropleth maps for density or concentration, dot distribution maps for occurrence points, heat maps for intensity, etc.).
3. **Prepare the Data**:
    - Clean and preprocess the data to ensure it is compatible with mapping software.
    - Aggregate or disaggregate the data as needed to match the geographical units (e.g., countries, states, cities).
4. **Select Mapping Software or Tools**:
    - Choose a mapping tool or software that fits your needs (e.g., GIS software like ArcGIS, QGIS, or online tools like Google Maps, Tableau, or Mapbox).
5. **Create the Map**:
    - Import the data into the mapping tool.
    - Configure the map settings, such as projection, scale, and boundaries.
    - Apply the appropriate map chosen in step 3.
6. **Design the Map**:
    - Choose suitable colours, symbols, and legend to represent the data clearly and effectively.
    - Ensure the map is visually appealing and easy to interpret.
    - Add titles, labels, and annotations to provide context and enhance understanding.

7. **Include Supporting Elements**:

- Add a legend to explain the map's symbols and colours.
- Include a scale bar to indicate distances.
- Provide a north arrow for orientation.
- Add any relevant text or descriptions to provide further context.

Infographics

Infographics are visual representations of information, data, or knowledge intended to present complex information quickly and clearly. They combine text, images, charts, and diagrams to create a compelling and easily digestible narrative. Infographics often use visual metaphors and icons to illustrate concepts and relationships, enhancing the audience's ability to understand and retain information. The steps involved in producing an infographic include:

1. **Outline Key Points**: Decide on the main points and messages to communicate. Organize these points in a logical flow.
2. **Select the Infographic Type**: Choose an appropriate format, such as:
   a. **Statistical Infographics**: Focus on presenting raw numbers and comparisons.
   b. **Informational Infographics**: Provide explanations and context along with data.
   c. **Timeline Infographics**: Show changes over time.
   d. **Comparative Infographics**: Compare different groups or categories.
3. **Select a Design Tool**: Choose a design tool that suits your needs and skill level. Popular tools include Adobe Illustrator, Canva[1], Piktochart[2], and Infogram[3].
4. **Templates and Customization**: Use templates for a quick start but customize them to fit your specific data and branding.
5. **Design the Infographic**
   a. **Choose a Colour Scheme**: Select colours that enhance readability and highlight key data points. Use colour coding to differentiate between categories.
   b. **Create Visual Hierarchy**: Use size, colour, and placement to emphasize the most important information. Ensure the title and key messages stand out.
   c. **Incorporate Charts and Graphs**: Use bar charts, pie charts, line graphs, or other visual tools to present data clearly.
   d. **Add Icons and Illustrations**: Use icons to represent different categories

1 http://www.canva.com/
2 https://piktochart.com/
3 https://infogram.com/

or data points. Illustrations can make the infographic more engaging and easier to understand.

e. **Include Text Sparingly**: Use concise text to explain data points and provide context. Avoid overcrowding the infographic with too much text.

Exercise 5.1B: Qualities of a good infographic

Look at the infographic below[1] and suggest:

- Its good features.
- How it can be improved.

1 Source: Women's Health in the North (WHIN). https://www.whin.org.au/brc/about-building-a-respectful-comm unity/.

Answers to Exercise 5.1B: Qualities of a good infographic

It is good infographic because:

a. It is built on a single colour scale + white, making it very easy for the eye to look at the relevant information without distractions.

b. It uses a pictorial bar to represent "one in three women" and "one in five women", which makes the information easy to understand and engaging. The coloured part of the bar is exactly proportional to the statistics it represents.

c. It uses typography to highlight the most shocking information, i.e. the cost of violence against women in Australia: “21.7 billion”.

b) It can be improved in the following ways:

a. There is too much information for the reader to retain; some of the information can be dropped to focus only on the “cost of violence in Australia”.

b. If the key message is the cost of violence, there needs to be a link with health services or other forms of public services to support victims, or with victims missing working days, etc. This is currently missing from the infographic.

c. The information about 95% men is supported with three male icons. It might be better to include a visual which represents 95% accurately.

d. The size of different fonts (e.g. typography) appears in varying sizes on different parts of the infographic, making it difficult for the reader to know where to focus their attention.

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ANNEXES

Appendix I: Pre-Training Registration/ Needs Assessment Form

Dear prospective participant,

EPRC/UBOS/MGLSD (delete as appropriate) has organised a training workshop aimed at improving the technical capacity of selected *government/ civil society officers* (delete as appropriate) to access and utilise gender statistics towards the achievement of gender equality and women's empowerment. To enable us to meet your training needs, we request you to complete this Form. While the answers may be used during the training, no one will know the answers provided by any of the participants.

Part 1

1. Personal information

Title	**Dr/Mr./Mrs./Ms.**
Name	
Job Title	
MDA/LG/ Organisation	
Sex (Male/ Female)	
Email	
Telephone Number	

Part 2

2. What gender statistics does your agency need to fulfill its mandate in promoting gender equality and empowering women?
3. In what ways does your agency use gender statistics?
4. What sources of information does your agency currently use to obtain gender statistics? Please mention specific sources
5. How effective are the above sources in meeting the gender statistics information needs of your agency?
    a) Very effective
    b) Effective
    c) Somewhat effective
    d) Not effective
    e) Not at all effective

6. What specific gaps do you perceive in the current gender statistics available to your agency?
7. Have you ever attended an in-person or online training in producing or using gender statistics?
    a) No.
    b) Yes.
8. If yes, what specific topics related to gender data or statistics production, or use were covered in the training events above? You may tick more than one topic.
    a) Key concepts and terminology in gender statistics
    b) Gender in data collection
    c) Gender in data analysis, presentation, report writing, and visualization
    d) Communicating or disseminating gender statistics
    e) Utilising gender statistics in decision-making (policy-making, programming, advocacy, etc.)
    f) Gender statistics in specific sectors or studies (e.g. health, education, agriculture, demographic & health surveys, census, etc.)
    g) Other, specify.
9. How confident do you feel in your understanding of gender statistics concepts and methodology?
    a) Very confident.
    b) Confident
    c) Somewhat confident
    d) Not confident
    e) Not confident at all.
10. Please rate your current level of understanding of these topics (**Please tick**)

Topic	**Limited**	**Good**	**Very good**
Key concepts and terminology in gender statistics			
Gender in data collection			
Gender in data analysis, presentation, report writing, and visualization			
Communicating or disseminating gender statistics			
Utilising gender statistics in decision-making (policymaking, programming, advocacy, etc.)			

Gender statistics in specific sectors or studies (e.g. health, education, agriculture, demographic & health surveys, census, etc.)			

11. Which of the following specific topics related to gender statistics would you want to learn more about? Tick not more than three preferred topics.

    a) Key concepts and terminology in gender statistics

    b) Gender statistics in data collection

    c) Gender statistics in data analysis, presentation, report writing, and visualization

    d) Communicating or disseminating gender statistics

    e) Utilising gender statistics in decision-making (policy making, programming, advocacy, etc.)

    f) Collecting and using gender statistics in specific sectors or studies

12. Which facilitation methods and additional considerations would enhance the overall effectiveness of the planned gender statistics training??

Appendix II: Training Workshop Evaluation Form

Please help us to improve the quality of the training we provide by taking a few moments to complete this Form. You must not state your name, but if you do it will help us if we want to follow up any of your suggestions. Please use another sheet of paper if you need more space for your responses.

1) How well did the content match the learning objectives of this training workshop?

Not at all 1 2 3 4 5 Very Well

Comments

2) How appropriate was the choice of methods used to achieve those learning objectives?

Not Appropriate 1 2 3 4 5 Appropriate

Comments

3) How would you rate the facilitator(s) of this workshop?

Poor 1 2 3 4 5 Very Good

Comments

4) How much additional knowledge do you feel you have gained from this training?

Very Little 1 2 3 4 5 Very Much

Comments

5) How much has this learning opportunity increased your confidence in now being able to access and utilize gender statistics in your work?

Very Little 1 2 3 4 5 Very Much

Comments

6) Which topics/sessions did you find most useful? If possible, please identify why.

Comments

7) Which topics/sessions did you find least useful? If possible, please identify why and what could have been done differently to make the learning more useful/ relevant for you.

Comments

8) How do you plan to apply the knowledge and skills acquired during this training in your work?

Comments

9) Any other comments you would like to make regarding aspects not covered in the above:

Comments

Please hand in this Form before leaving

THANK YOU FOR YOUR HONEST FEEDBACK!

Appendix III: Sample Training Report Template

1. Cover page
    - Title of Training
    - Name of Training Organiser
    - Date(s) (both the dates when the training took place and the date of the report)
    - Location (town, country) of the workshop
    - Report Author
    - Logos of partners/organizers
1. Table of Contents
2. Executive Summary (for big reports, as per the organisation's House style)
3. Background to the workshop:
    - Background and context
    - Targeted audience

3. Participants and facilitators
    - Participants: Number and categories, including by sex)
    - Details of facilitators (names and affiliations)

4. Training Objectives

5. Discussions and training activities:
    - Include details of the contents (topics)
    - Training methods and materials used (e.g., presentations, workshops, hands-on activities)

6. Training evaluation and feedback

7. Recommendations (based on participants' evaluation and feedback and facilitators' experiences)
    - Areas for improvement/ suggestions for future training programmes
    - Follow up action plan to enhance the application of knowledge by trainees.
8. Acknowledgements of collaborators and donors
9. Appendixes attached to the report should include:
    a) List of participants, including their designation, address, phone number, and email, along with all staff involved in planning and coordinating the training
    b) Workshop programme/agenda
    c) Copies of training materials (slides, handouts)
    d) Detailed feedback/evaluation results from participants
    e) Additional resources or references


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