

METHODOLOGICAL GUIDELINES ON THE COLLECTION AND USE OF CITIZEN GENERATED DATA FOR REPORTING SDG 5 AND GENDER SPECIFIC INDICATORS IN OTHER SDGS

REPORT FOR THE UN WOMEN'S
FLAGSHIP PROGRAMME INITIATIVE
"MAKING EVERY WOMAN AND
GIRL COUNT" (WOMEN COUNT)

MARCH 2020



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LIST OF ACRONYMS

CAPI	Computer Assisted Personal Interview
CGD	Citizen-Generated Data
CRC	Citizen Report Card
CSC	Community Score Card
CSO	Civil Society Organization
DQACF	Data Quality Assessment and Certification Framework
DR	Data Revolution
DTWG	Data Technical Working Group
ESARO	East and Southern Africa Regional Office
FGD	Focus Group Discussion
FPOS	Fundamental Principles for Official Statistics
GBV	Gender Based Violence
GEWE	Gender Equality and Women's Empowerment
HRBAD	Human Rights Based Approach to Data
IAEG	Inter-Agency and Expert Group
ILO	International Labor Organization
INGO	International Non-Governmental Organization
MDA	Ministries Departments and Agencies
NGO	Non-Government Organization
NPGEI	National Priority Gender and Equality Indicators
NSDS	National Strategy for Development of Statistics
NSO	National Statistical Office
NSS	National Statistical System
NVR	National Voluntary Review
PC	Phone Call
QS	Qualitative Studies
SDG	Sustainable Development Goals
SM	Social Media
SMS	Short Message Services
SVC	Statistical Value Chain
UBOS	Uganda Bureau of Statistics
UN	United Nations
UNDQAF	United Nations Data Quality Assessment Framework
VNR	Voluntary National Reporting

ACKNOWLEDGEMENT

The author is grateful to several persons who committed their time and perspectives in the development of this guideline.

Mr. Albert Motivan,	Equal Measures Regional Coordinator EM2030, Africa.
Ms. Diana Byanjeru,	Senior Statistician Gender – Uganda Bureau of Statistics.
Dr. Fatmata Sesay,	ESARO Regional Advisor
Hellen Malinga Apila,	The African Women’s development and communications Network (FEMNET).
Dr. Isabella Schmidt	Gender Statistics Advisor, UN Women, ESARO.
Mr. James Muwonge	Director –Social Economic Survey, Uganda Bureau of Statistics.
Mr. Johnson Kagugube	Director, Statistics Capacity Building consultant
Ms. Karina Miroslava Cazarezgrageda,	Gender Specialist, Paris21, OECD. Rajiv RANJAN – Paris21, OECD
Ms. Lilliane Byarugaba Adriko,	Chief Executive Officer, Uganda Association of Women Lawyers
Ms. Mariam Kitembe,	Senior Statistician – National Bureau of Statistics Tanzania.
Mr. Mohammed Khatib,	MandE officer – Tanzania Media Women Association Zanzibar
Mr. Patrick Onyango- Mangen,	Transcultural, Psychosocial Organization, Chief Executive Officer.
UN Women,	Gender statistics desk officers - Dr. Mitra Sandananda, Tanzania, Ms. Grace Gulere, Uganda and Ms. Maureen Gitonga, Kenya
Mr. Wairu Kinyori,	Director Programmes, Oxfam
Ms. Zaida Mgalla,	Twaweza, Manager Uwezo Tanzania

EXECUTIVE SUMMARY

The world of data is changing exponentially with greater volumes of data generated and delivered in shorter time spans than ever before. The changes are primarily the result of technological innovation and are increasingly transforming the world. At the same time, the relationship of individuals and communities with data has also been changing – especially the transparency and individual control over personal data. Within this changing data context, the aspiration of the Sustainable Development 2030 Agenda of “leaving no one behind” places a responsibility on planners and the producers of data to ensure that the voices of citizens and, more specifically, those of marginalized groups and individuals, are included and amplified.

The Human Rights Approach to data, developed by the Office of the High Commissioner of Human Rights (OHCHR) resonates with the UN Women tradition of anchoring its work in participatory approaches and working closely with grassroots organizations. It is evident that National Statistical Offices (NSOs) still face challenges in identifying, adopting, and leveraging the opportunities created by the data revolution. Technological change and the need for greater inclusion and citizen participation in both planning and data-related activities have made it necessary for them, as well as other role players in the Sustainable Development Goals (SDG) process, to reconsider the potential role of non-traditional data sources such as citizen-generated data (CGD), in National Statistical Systems (NSSs) in general and SDG processes in particular. Anecdotal information indicates that citizen-led processes and CGD can make the problems of poor and vulnerable populations more visible. CGD is considered complementary to traditional and official sources. They are usually inclusive, localized, and versatile, and have the potential to mobilize action.

Considering this, it may become necessary and even desirable to make trade-offs between data

that is useful locally, and data that is comparable globally. It is also important to overtly recognize the difference and exploit complementarities where they exist.

This guideline was developed by UN Women and aims to:

- Foster systematic and deliberate data compilation by civil society organizations (CSOs) and private sector engaged in the Gender and Economic Empowerment of Women (GEWE) programmes.
- Present data production mechanisms for CSOs adaptation consistent with statistical value chain (needs assessments, collection, processing, analysis, and interpretation).
- Strengthen the CSOs' capacity and knowledge for developing equitable and efficient gender-responsive policies and interventions to inform SDG tracking.

The guideline targets non-state actors, and other potential users including CSOs, NSOs, ministries, government departments and agencies, development partners, the private sector, research institutions, and academia that produce actively-generated CGD.

Four different sources informed the study: a self-administered questionnaire administered by CSOs operating in the three Women Count pathfinder countries in the region (Kenya, Uganda, and Tanzania); a desktop review of online SDG related CGD publications; telephonic interviews with experts involved in the CGD workshop organized by Paris 21 and the Philippines Statistics Authority in 2019, the CSO Equal Measures 2030, and key informant interviews (KIIs) with representatives of CSOs, gender statistics specialists, and survey experts from NSOs in the region.

The production and use of quality CGD and

its potential to improve decision-makers' responsiveness and action is explored in different countries. Examples of CGD approaches confirm its potential use as a source for proxy indicators for Tier II indicators and for filling Tier III indicator data gaps. Uptake and opportunities of CGD open space for interconnections, strategic partnerships and citizen involvement in evidence-based decision-making. The challenges combined with weak interconnectivity between key CGD actors, questionable data quality, lack of representability, and inadequate CSO and NSOs capacity to collect and analyze information from non-traditional sources reduces its complementarity and interoperability with official statistics. Hence, benchmarking best practice approaches and identifying capacity needs in NSOs and CSOs for enhancement may help countries to fill data gaps.

The CGD guidelines aims to address some of the problems associated with CGD identified during the study. These include, amongst others: a lack of coordination between different CGD initiatives; limited collaboration efforts between NSOs and the producers of CGD; perceived low levels of trust in CGD by NSOs; unacceptable data quality standards; and a lack of alignment of CGD with the SDGs. While CGD is an indispensable part of any country's data ecosystem, it has an operational ecosystem of its own. Indeed, CGD provides the opportunity to maximize complementarities of different components in the data and information landscape, while harnessing the potential of "the data revolution." Consistent with the United Nations (UN) Human Rights Based Approach to Data (HRBAD) principles, the involvement of women, girls and other marginalized groups as key citizens, establishing structures for coordination of all key actors in the gender equality and women's empowerment (GEWE) CGD ecosystem, enhancing the skills of CGD actors and NSOs and CGD data quality assurance all underpin the recommendations.

Based on these considerations, the guidelines propose an enhanced coordination mechanism with other data producers in the gender data

ecosystem to ensure the availability of gender-responsive indicators. It is recommended that CSOs create a data coordination initiative that enables them to collaborate with government entities to learn and contribute CGD Voluntary National Reporting (VNRs) and other official data requirements. Other data producers in the gender data ecosystem should also become members of the gender statistics technical committee for added impact. Procedurally, NSOs need to seek membership in the umbrella CSO data initiative on gender under which they can dialogue on the CGD agenda, priorities, methodological issues, CGD metadata structures, support systems, and best practices, among others.

By integrating CGD into the NSS or gender data ecosystem, the production of complementary and mutually reinforcing information will be enhanced. The following potential additional benefits accrue:

- ***Institutionalization of CSOs in the NSS:*** by creating coordination mechanisms, agreeing on common metadata frameworks, human resource capacity building, consensus on SDG targets and indicators to report, and frequency and intra collaboration strategies.
- ***Improving the art of CGD data compilation:*** by agreeing on structuring, tools, and processes for systematic collection, processing, analysis, reporting, and disseminating information.
- Increasing the availability of quality CGD: by developing a common CGD, gender metadata dictionary and standards, and agreeing on data management policies across CSOs and the respective private sector entities.
- ***Raising the public profile for CGD as a reliable source:*** by developing an inclusive CSO data advocacy strategy.

Figure 1 graphically illustrates the proposed pathway for compiling CGD.

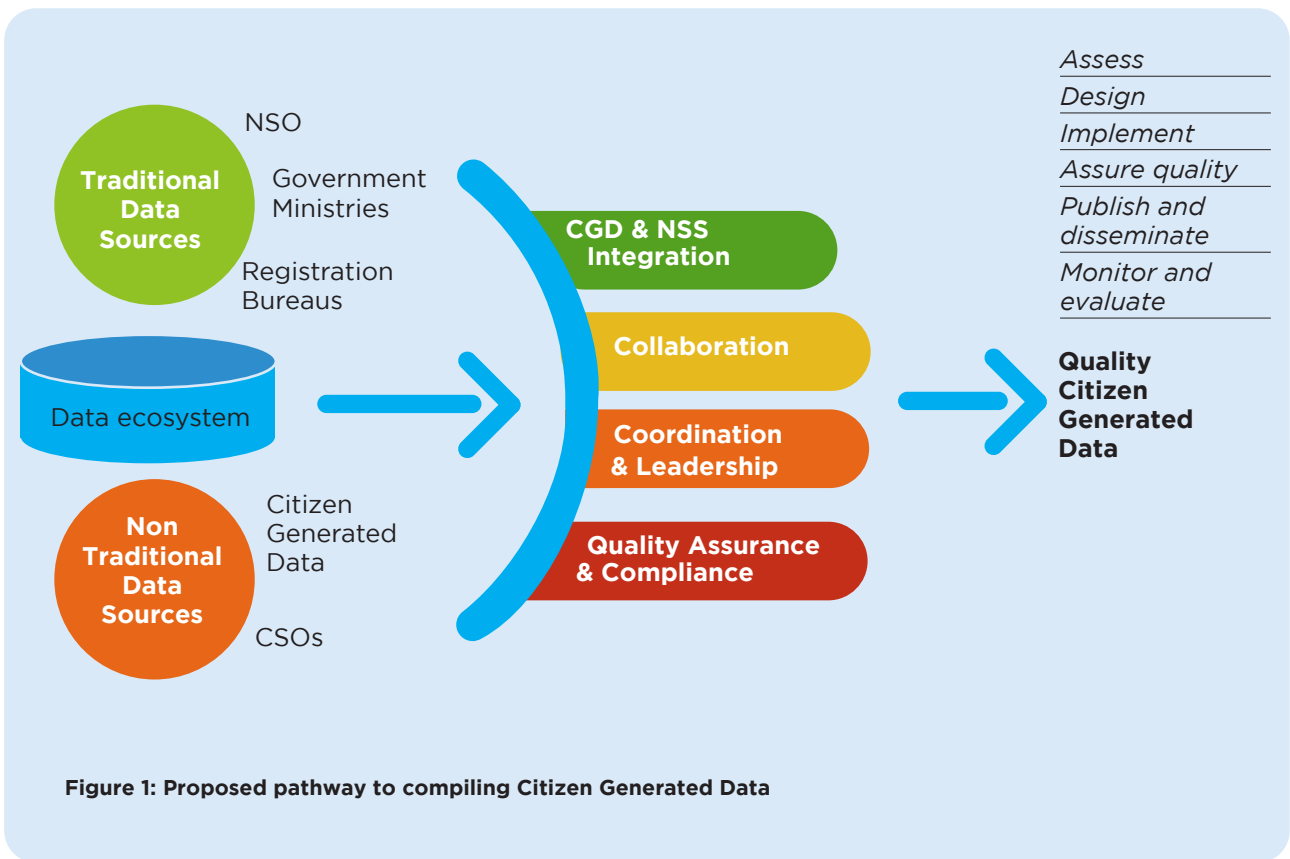


Figure 1: Proposed pathway to compiling Citizen Generated Data



1 INTRODUCTION, BACKGROUND AND METHODOLOGY



1.1. Introduction

Citizens are increasingly driving change and progressively expecting and demanding quality services that address poverty, food insecurity, violence, conflicts, climate change, pollution, healthcare challenges, and social injustice. The demand for changes in social norms, harmful practices that adversely affect women and girls, as well as gender stereotypes, have also increased over the past three decades. Unless these calls are actioned and accompanied by statistical evidence that embraces both official and non-traditional sources of data, the challenges around GEWE are unlikely to be fully addressed and many of the targets set in 2030 Agenda will not be reached.

At the First UN World Data Forum, countries were encouraged to develop guidelines on the use of new and innovative data generated outside the official statistical system, in order to bring them into the realm of official statistics. These non-traditional data sources include data from sensors, satellites, drones, online platforms, mobile phones and numerous other digital devices and infrastructures, as well as other data collected directly from citizens. Citizen-generated data (CGD) is at the center of non-traditional data sources that can potentially complement official statistics in monitoring and reporting on 2030 Agenda. The idea of bringing people's voices into the process of collecting and providing data is not new or restricted to civil society organizations (CSOs). The 2016 United Nations (UN) Human Rights-Based Approach to Data (HRBAD) (OHCHR 2016) as developed by the OHCHR in Geneva, emphasizes six principles, namely: participation; data

disaggregation and collection by population groups; self-identification; transparency; privacy and accountability. These are also characteristics of CGD and were used to underpin the development of this methodological guideline.

The triangulation of traditional and non-traditional data sources cements evidence and draws more attention towards the plight and unique challenges faced by women and girls. CGD enhances opportunities for women and girls to participate socially, economically, and politically in all developmental processes, and furthermore, to benefit from local democratic reforms. According to the Africa Monitor (2018), citizen's voices tapped through the application of a rigorous methodology can generate reliable data and strengthen national and regional reviews.

The gender and CGD research by Lopes (2018) revealed challenges and opportunities for NSOs to consider and recognize the authenticity of non-official statistics in the National Statistical System (NSS). According to Lopes, evidence from official statistics reports also shows that traditional data sources do not adequately measure variables such as social institutions that exacerbate the vulnerable status of women and girls in society. Additionally, the SDG transformative agenda emphasizes critical drivers and challenges that countries should note, including the adoption of non-official statistics for SDG reporting. Monitoring the SDG indicators requires high-quality disaggregated and geo-referenced data; use of new and non-traditional data sources (administrative data, big data, CGD, etc.); and use of innovative technology for data collection, processing, and dissemination.

According to Kiregyera in his book 'The Emerging Data Revolution', effective reporting of progress on all SDG indicators calls for countries to have well-developed and articulated monitoring systems supported by robust statistical systems that generate data on the agreed indicators (Kiregyera 2015).

The UN Women Pathfinder flagship programme, Making Every Woman and Girl Count (Women Count) (UN Women 2018) is supporting and facilitating the production and use of gender statistics for monitoring and reporting of the gender equality commitments of 2030 Agenda. The main focus in East and Southern Africa (ESA) is on three pathfinder countries, namely, Uganda, Kenya, and Tanzania. Women Count is also supporting gender statistics in five non-pathfinder countries - Ethiopia, Malawi, Rwanda, Mozambique, and Zambia, albeit on a limited scale.

The development of this guideline was undertaken within the context of the Women Count program and primarily inspired by the increasing demand for gender statistics and the need to fill data gaps in official statistics as noted in the UN review of SDG Voluntary National Review (VNR) reporting (UN 2018). The growing visibility of a variety of actors in the data ecosystem, as well as the recognition of CSOs, private sector and individual researchers as potential producers of CGD, also prompted the need for CGD methodological guidelines that can provide a standard pathway for the collection and use of this data as a complement to official gender statistics.

This chapter consists of a brief description of the frameworks underpinning the report, as well as a brief overall summary of the concept CGD. This is followed by an overview of the goals and objectives of the guidelines and a description of the methodology used.

1.2. Frameworks for Gender Equality and Women's Empowerment (GEWE)

Two major international frameworks - the Convention on the Elimination of all Forms of Discrimination Against Women of 1979 (CEDAW) and Beijing Platform for Action of 1995 (BPFA) regulate gender equality and

women's empowerment (GEWE). The global call to improve gender-related statistics, indicators and frameworks originates in the BPFA, which gives very clear guidance on and emphasizes the importance of the statistical measurement of gender-related activities, as well as the need to build policies and strategies based on statistical evidence. During the BPFA meetings held in 2005, clear guidelines and the responsibilities of statistical agencies at national, regional, and international level were published. These guidelines focused on: the provision of sex-disaggregated data; data on specific gender issues and gender-responsive data and statistics. Since then, various initiatives aimed at improving gender statistics and reporting have been initiated. Examples of this include the establishment of the Interagency and Expert Group on the Development of Gender Statistics (IAEG-GS) by the United Nations in 2006 and the development of a Global Minimum Set of Gender Indicators.

As part of the Sustainable Development 2030 Agenda, the UN and its member states approved Goal 5 to "achieve gender equality and empower all women and girls". Additional gender-related indicators appear in several of the other goals and a total of 54 priority GEWE indicators are now being monitored worldwide (Annex 2). The notion of equality enshrined in the Charter of the United Nations focuses on: the elimination of discrimination against women and girls; the empowerment of women; and the achievement of equality between women and men as partners and beneficiaries of development, human rights, humanitarian action and peace, and security.

Regionally, the Agenda for Africa's transformation, 'Agenda 2063', envisages an Africa where girls and boys can reach their full potential, and where women and men contribute equally to the development of their societies. The African Union (AU) gender strategy guides the implementation of its efforts to realize full gender equality for all and underlines women's and girls' empowerment as well as the elimination of violence and discrimination against women and girls. Other instruments in support of gender equality include the African Protocol on Peoples' Human Rights: the protocol on Women's Rights; Africa's Solemn Declaration on the rights of women, and regional block policies and action plans.

Progress has been slow in many respects with regards to the measurement of these frameworks. For example, according to a special report to the Secretary General of the UN, only 13 of 69 countries had an established monitoring system that measures and makes publicly available gender budget data and 41 countries had advanced in developing such a system (UN 2019). Within the context of limited data, CGD has the potential to fill these gaps.

1.3. Brief Synopsis of Citizen Generated Data (CGD)

CGD represents one of the dimensions of the Data Revolution (DR). The DR underpins a transformational and hybrid culture in the use of traditional, non-traditional and new sources of data for increased open access and uptake of different data for evidence-based decision making (UN 2014). It also creates the need for a paradigm shift in the management and modernization of statistics in NSOs and broadening the scope of NSSs to that of 'data eco-systems'. The Cape Town Global Action Plan for SDGs (UNSD 2017), which emanated from the First UN Data Forum, identified NSOs as the necessary and appropriate leaders of interactions between producers and users in national statistical systems.

According to Civicus, CGD is "*data that people or organizations produce to monitor, demand directly, or drive change on issues that affect them*" (Lämmerhirt 2018a). They are directly collected from individual citizens, groups of persons in communities under given programs, and projects, which in this context are 'gender' related. Where it is desirable that CGD should serve statistical purposes, their production should follow standard statistical practices. More importantly, they must be independent of government support and influence to impinge on development initiatives, educational programs, community outreach, monitoring, auditing, planning, and decision-making at the local level. CGD can potentially bridge data gaps that may exist when only official statistics and other traditional data sources are used.

The Civicus definition focuses on data that is actively produced. However, there are instances of passive data production by citizens for

example, mobile phone data and transactional data when accessing services or purchasing goods. The latter is often generated without the knowledge of the individuals they pertain to and is used and analyzed by the private sector for commercial purposes such as targeted marketing; innovation and product development, and geographic positioning. Given that the citizen is not at the center of the whole research value chain, this type of data is excluded from the scope of the report. Even though this data is generated by citizens, it does not meet all the criteria of the Civicus definition and should therefore be considered as big data rather than CGD per se.

CGD expands on the 'what', 'how' and 'purpose'. The processes followed have raised its value because it is primarily sourced from program beneficiaries or communities. CGD is not just the "right" thing to do, but it is useful because it supports development outcomes. It empowers targeted populations, such as women to contribute information about processes and contexts that enable them to pursue accountability for critical service delivery (Hall et al 2019). It is more micro and detail-rich in key areas and can augment the monitoring of gender issues across relevant SDGs, visualize inclusivity, and inter alia, avail opportunities to engage citizens, such as marginalized groups.

Furthermore, CGD offers the additional benefit of mobilizing communities to action. After all, communities themselves have participated in identifying the problem and in many cases, are already actively working to solve it. Governments can build on this mobilization in order to accelerate progress and address the issues that merit a more systemic response (World Vision 2019). Non-official data, such as CGD explains the 'why and how' of different variables. It can therefore fill gaps, inform planned surveys, and enhance findings using data captured from citizen voices prior to and during implementation of GEWE programs that are neither driven nor financed by government.

An array of civil society organizations, data communities, innovation hubs, social media stakeholders and analysts, and big data enthusiasts are involved in the CGD ecosystem. Since CGD exists outside the remit of official

statistics, it is widely misunderstood by traditional NSOs, with the consequential understatement of its importance to policy. Partly as a result of this, CGD has an acrimonious relationship with official statistics

as many NSOs hold the view that it does not conform to the quality criteria that are associated with official statistics. CGD that have been declared as official statistics, would respond to a collective need as well as comply with quality standards for statistical production. However, there is also a high potential for continued conflict because most CSOs are limited in scope and may use mixed methods such as Focus Group Discussions (FGDs), community dialogues, and opinion polls concurrently during data collection. The latter are typically not included in current guidelines and standards related to official statistics. Even though it has a lot of potential because of its complementarity to quantitative data, understanding and mitigating these dynamics, especially by CGD producers and NSOs, is critical.

As such, a better understanding of the factors that drive and constrain the production and usage of CGD will determine how countries operationalize the guidelines proposed in this report. CGD is not a substitute for official statistics but rather, complementary information from traditional sources that helps provide a better understanding of change and reasons for change at the community level. Using CGD improves its availability and quality and opens space for interconnections, strategic partnerships and citizen involvement. The efforts to leverage citizen-generated data should also protect privacy and other human rights. As part of the SDG principle of 'Leaving No One Behind', it has been discussed that the integration of alternative types of data (CGD and administrative records) with data collected periodically by governments or other organizations (such as census, and household surveys) yields more detailed, timely, and relevant information.

Research undertaken in Uganda, Tanzania, and Kenya on CGD and gender statistics by Lopes (2018) identified various challenges associated with CGD. These include:

- a) Absence of coordination among citizen-generated data initiatives
- b) Limited collaboration efforts between national statistical offices and non-official data producers
- c) Perceived low quality of CGD
- d) Low levels of trust in CGD by NSOs
- e) Unacceptable data quality standards used by CSOs
- f) Lack of alignment of CGD to SDGs

Although opportunities for nurturing and deepening collaboration between NSOs and non-official data producers (CSOs) exist, the prevailing environment is characterized by the absence of coordination among citizen-generated data initiative actors; a great diversity of potential data sources, methods, and tools, and limited partnership and cooperation between the NSOs and CSOs.

To this end, recognition and integration of non-official statistics as complementary sources of data in the NSS should be encouraged, managed and coordinated through partnerships across the gender data ecosystem by respected champions in government. In Malaysia, the use of digital governance (convergence of new communication technologies with artificial intelligence - AI) has created powerful new possibilities for local governance (Shahridan and Vijayendra 2019). Benchmarking such initiatives and experiences can yield remarkable data and results for pathfinder countries.

Chapter 2 provides a more detailed analysis of CGD in the context of gender and the SDGs.

1.4. Objectives of the CGD methodological guidelines

The primary objectives of these guidelines are to:

- i. Provide a systematic - 'step-by-step' approach of compiling CGD to complement official gender statistics for monitoring and reporting on SDG 5 and gender-related indicators in the SDGs.
- ii. Identify sustainable mechanisms for developing and maintaining GEWE CGD ecosystem in the NSS.

The guidelines stimulate transformative approaches to increase accountability for GEWE and learning, policy formulation, and more effectiveness in making every woman and girl count. In addition, they underline the engagement of beneficiaries and vulnerable groups at the community level as an integral segment of the data ecosystem that provides potentially valuable information.

The guidelines provide pointers towards improving and organizing CSO programme data to inform and influence public policy and decision-making towards:

- fostering systematic and deliberate data compilation by the CSO and private sector engaged in Gender and Economic Empowerment of Women (GEWE) programmes;
- presenting data production mechanisms for CSO adaptation consistent with the statistical value chain (needs assessments, collection, processing, analysis and interpretation);
- strengthening CSOs' capacity and knowledge in developing equitable and efficient gender-responsive policies and interventions to inform SDG tracking, among others.

Whereas non-state actors such as CSOs and private enterprises are the target audience for these guidelines, other potential users include NSOs, ministries, government departments and agencies, development partners, research institutions and academia.

1.5. Methodology for developing the guideline

The study was based on a combination of key informant interviews (KIIs) and desk reviews. This is graphically represented in Figure 2 below. Multiple data sources were utilized including:

- 1) A rapid appraisal using a self-administered tool targeted for the CSOs operating in the three pathfinder countries in East Africa (Kenya, Uganda, and Tanzania). The tool was sent to the respective UN Women country gender statistics officers, who shared it with

various CSOs undertaking gender-related programs in the three countries. The appraisal yielded information about the CSO projects, the particular SDGs they respond to, methods of data collection, users, and partners supporting the various CSOs' data initiatives. The data collection instrument is provided in Annex 5.

- 2) Data scraping of CGD products - special attention was paid to those reporting on gender-related SDGs.
- 3) Virtual interviews with experts who were involved in the CGD workshop held by Paris21 in collaboration with Philippines Statistics Agency in 2019 and Equal Measures 2030.
- 4) KIIs with CSOs and NSO gender statistics and survey specialists from Kenya, Tanzania, and Uganda.
- 5) A desk review of reports and presentations from the first and second World Data Forum discussions on non-official sources of data held in Cape Town and Dubai in 2017 and 2018 respectively.
- 6) CIVICUS Datashift reports, PAL Network, GROOTS Kenya, and World Bank initiative publications. The latter clearly underline the importance of non-traditional sources within the context of the data revolution. The study also considered other CGD initiatives, and UN Women literature about the pathfinder program.

1.6. Scope of the report

Even though in its broader sense CGD covers data that can be generated actively as well as passively, these guidelines provide a framework for CGD that is produced actively with the full knowledge and participation of the individuals concerned. The analysis and proposed framework primarily covers CGD that can be produced by individuals or organizations, with a stronger focus on CSOs and NSOs. Even though the private sector, which produces a large amount of passive CGD is referred to in

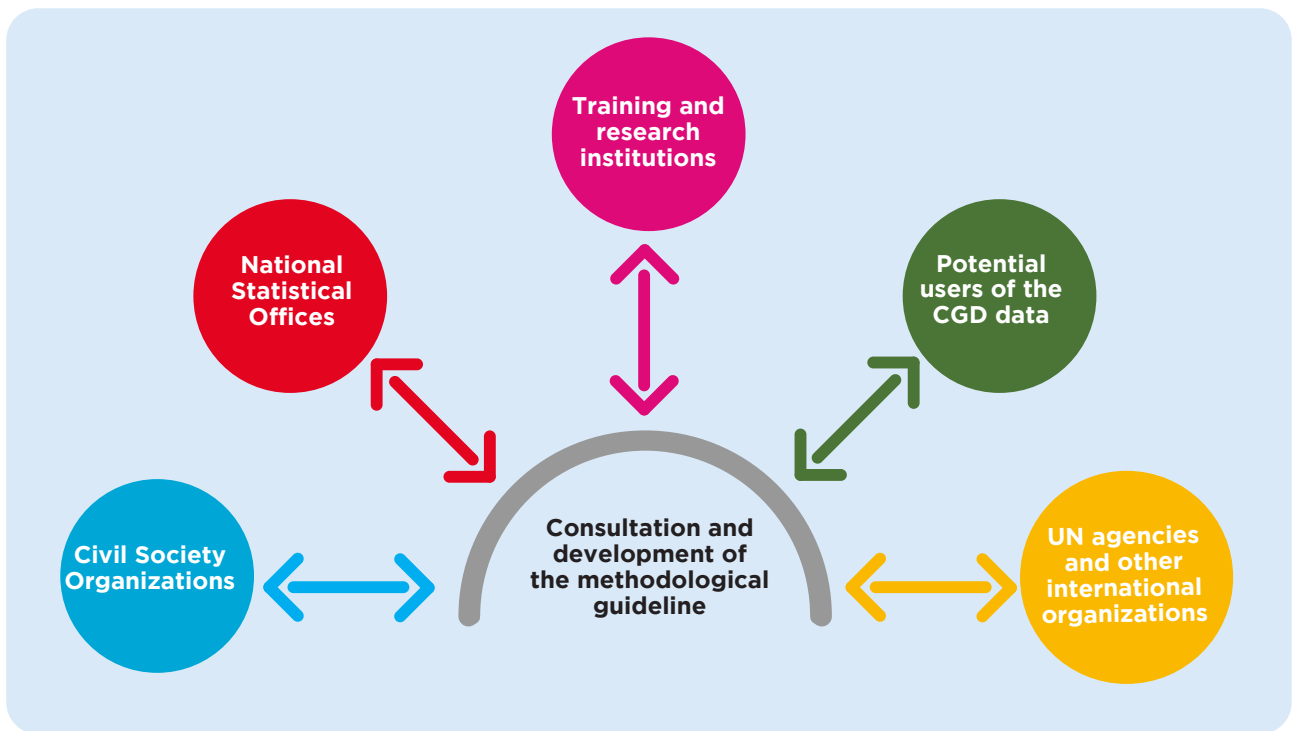


Figure 2: Consultative process for the methodological guideline development

some sections of this report in the interest of providing a more comprehensive scope, it is not the primary focus of the guidelines.

1.7. Layout of the report

This report is divided into five chapters. Chapter 1 provides the global framework pertaining to gender equality and women’s empowerment as well as the rationale and methodology used in preparing the guidelines. The second chapter elaborates on the CGD concept in the context of gender, its use, opportunities and challenges, quality issues and the CGD ecosystem approach.

Chapter 3 presents measurement and reporting on GEWE, a synthesis of gender statistics efforts and the CGD indicator framework. Chapter 4 describes the framework for mainstreaming CGD in the NSS, the support structures needed, strategies for integration with official statistics, stakeholder roles and capacity-building issues. This is followed by Chapter 5, which covers the guidelines for compiling CGD to inform the SDG 5 and other SDG gender-related indicator monitoring and reporting, and finally Chapter 6, which presents the conclusion and recommendations.



2 CITIZEN GENERATED DATA AND GENDER-RELATED SDG INDICATORS



2.1 Introduction

Even though the Sustainable Development Agenda 2030 has a specific goal, namely Goal 5 which overtly focuses on achieving gender equality and empowering all women and girls, there are several other goals that have overt gender-related targets and indicators and/or sex disaggregated indicators. According to the vision of SDG 5, its achievement will result in more sustainable economies and in women and girls having equal access to education, health care, decent work, and representation in political and economic decision-making processes, among others. CGD has a unique role to play in this process. Its potential value could be to enable governments to detect data anomalies and better understand the contextual factors that are needed to improve the framing of policies and strategies. CGD could hypothetically also identify the need to initiate follow-up data collections.

This chapter illuminates the nature of CGD, in terms of the use, opportunities, constraints and impact for monitoring and reporting on SDG 5 and other gender-related indicators, the GEWE indicator framework, and related SDG gender indicators as a complement to official statistics. The chapter also integrates information obtained from the rapid assessment carried out among CSOs in Kenya, Uganda and Tanzania as part of this study into the analysis.

2.2 Status of gender statistics for SDG monitoring

The production of gender statistics has improved significantly in different countries since the Beijing Declaration for Action in 1995. Many countries have developed robust gender-responsive data systems that are coordinated by the NSOs¹ and provide an array of sex-disaggregated data to inform indicators that guide policies and interventions aimed at gender equality and the empowerment of women and girls worldwide. Unfortunately, in many instances, survey data is limited by reporting gaps due to the time lag between surveys and censuses.

The production of regular and timely gender statistics is essential for evidence-based planning and decision making, including for the monitoring and reporting of progress related to the SDGs.

To date, several UN Women country offices have supported some initiatives related to the compilation of GEWE indicators at country level as part of the Women Count programme. For example, Uganda developed a set of National Priority Gender Equality indicators (NPGEIs), while Kenya and Senegal developed gender-sensitive budgeting and planning systems. A collaboration between Paris21 and UN Women resulted in the development and testing of an assessment method of the gender statistics system at country level. Countries that have adopted Computer Assisted Personal Interviews (CAPI) improved coverage of households per enumeration area and shortened the gap

¹ NSOs are mandated through legislation to produce, coordinate and disseminate official statistics.

between data collection and dissemination. Other sources of data triggered by the DR are increasingly gaining prominence. More particularly, there has been an increase in the use of interactive radio and SMS, smartphone apps and offline surveys² to generate data.

In spite of these advances, there is a growing demand for quality gender data to inform national, regional, and global policy initiatives. Significant gaps in the collection and uptake of relevant, useful and reliable gender-responsive data also still exist and as a result evidence-based decision-making for appropriate service delivery and accountability at sub-national levels is not fully achieved. Notably, improving data quality and availability should be a development issue in its own right as it has the potential to improve the targeting of existing resources and spur new economic opportunities (UN 2014). Countries have therefore been encouraged to adopt innovative approaches and embrace the new world of data so as to capture the participation of women and girls in general, as well as women and girls who experience multiple and intersecting forms of discrimination, for example as a result of living in remote and rural areas, disability status, living with HIV/AIDs, or age (the elderly and the young).

There are also unmet needs for thematically and geographically-disaggregated sub-national data on service delivery, resource allocation and reporting. Owing to high costs associated with traditional data sources, investing in CGD requisite skills is paramount for both CSOs and NSOs. Local governments generally have limited capacity to collect, regularly update and process administrative and other primary data needed for effective planning and budgeting for the welfare of vulnerable and invisible populations, among others.

Within this context of data gaps and unmet needs, the 2030 Sustainable Development Agenda requires well thought through decision-making about resource allocation at both national and local levels of government, as well as a radical shift in how data and information inform development policy. The 2030 agenda

also demands a sustainable flow of timely and reliable data that both informs national policy and manages local service delivery. Furthermore, socio-economic growth can be bolstered through better access to data and information for citizens, governments, development partners, private sector, and CSOs.

CGD has the potential to plug these gaps as part of 'Leaving No One Behind'. CGD produced by CSOs and the private sector can add value to information gathered from traditional data sources. Although versatile, localized and inclusive, CGD faces complex challenges especially in supporting monitoring and decision-making to accelerate the implementation of the 2030 Agenda. Governments across Africa have established mechanisms and platforms that include civil society and the private sector to harness their data as a contribution to the VNR and implementation of the SDGs. Each non-traditional data source presents a different approach to the compilation, analysis and use of data for monitoring progress towards the SDGs in fulfilment of the 'Leaving No One Behind' commitment. It is therefore important that standardized approaches be developed and used to inform the generation and use of data from non-traditional data sources.

2.3 Citizen Generated Data from a gender perspective

The participatory nature of CGD resonates strongly with the GEWE agenda in that the latter was born out of grassroots dissatisfaction with the socio-economic position of women. The women's movement developed and grew as a result of the mobilization of women's voices regardless of their geographic location or socio-economic status. Various platforms and agreements, such as the Beijing Platform for Action (BPfA), the Sustainable Development Agenda of 2030, and Agenda 2063 among others, highlight the importance of increasing the availability and use of quality and timeous gender statistics in support of evidence-based planning and decision-making.

Measuring harmful and prohibitive socio-cultural traditional practices that exacerbate gender discrimination, violation of rights and

² Offline surveys are application-enabled tools administered even without an internet connection.

violence in some communities, and persisting gender inequalities, economic, and political opportunities is still the reality in many parts of Africa. The UN Women Flagship Report underlines these glaring gender data gaps, limited investment in gender statistics, and the inability of traditional sources to respond to all unmet data gaps (UN Women 2018).

Marginalized women are often not in a position to unravel their own discrimination and exploitation. To ensure inclusivity and attainment of GEWE initiatives, it is critical to identify the most disadvantaged women and girls at the community level. Understanding their heterogeneity and whereabouts illuminates the level of engagement, roles and participation in data compilation, analysis and use of the data for relevant interventions. Women and girls in some inaccessible and hard-to-reach areas, such as islands, mountainous, and very remote areas, often with the least developed infrastructure, have limited access to basic social services. Without engaging with them at the community level, policies and programmes are unlikely to effectively address their needs.

Yet, without the essential nuances that come from citizen voices, leveraging the knowledge and skills of young technology entrepreneurs, and other data infomediaries, traditional statistics on its own cannot provide the information necessary to understanding complicated development nexuses such as

those related to gender, marginalized population groups, and other ‘invisible’ and vulnerable populations.

CGD could provide insights into harmful customary practices, factors constraining mobility, and increased lack of opportunities for the development of women and girls, all of which are important for achieving and reporting on the 2030 Agenda. They potentially enable tracing, engaging, sensitizing, increasing women’s knowledge and participation in data collection, and subsequent interventions related to democracy, entrepreneurship and access to social services.

CGD takes different forms ranging from collecting new data in the field to compiling, interpreting, and organizing existing data to facilitate specific perspectives. It enables data gathering in hard-to-reach communities, provides detailed data at lower costs, faster than large-scale questionnaire surveys and censuses, and could create baseline indicators for further NSO inquiry. In respect to SDG 5 and the gender-related indicators of other goals, women and girls are best suited to track and report achievements because they have the lived experiences of discrimination, poverty, violence, food insecurity, and stereotypes. Consequently, CGD can help governments to detect anomalies, test the accuracy of existing monitoring processes, understand contextual factors, and initiate their own follow-up data collections.

Table 1: Broad categories of the CGD platforms and methodologies as used in pathfinder countries

Category	Advantages	Disadvantages
Advanced technology includes the use of remote sensors, email, internet, social media, drones, etc.	<ul style="list-style-type: none"> • Quick to send and receive information • Faster response mechanisms 	<ul style="list-style-type: none"> • Requires internet connection for both the sender and receiver • Requires a high level of competence which may not be available in the rural areas • Only few people are engaged
Phone based systems include SMSs, phone calls, social media, etc.	<ul style="list-style-type: none"> • Quick to send and receive information • Faster response mechanisms 	<ul style="list-style-type: none"> • It involves paying for the services for both the sender and receiver • Only few people are engaged
Community engagements include qualitative assessments, community score cards, citizen report cards, other types of engagement exercises, etc.	<ul style="list-style-type: none"> • Engages most of the community members making it easy to validate the information at that level. • Gives a chance to the service providers to respond to the issues raised. 	<ul style="list-style-type: none"> • A lot of time is required to consolidate the information and write a report

A deeper insight of the tools and platforms used for CGD in the three case study countries presents three categories of methodologies namely, methodologies based on advanced technology, phone-based systems, and community engagement as illustrated in Table 1.

The primary mechanisms used to generate data in the NSSs are questionnaire surveys, censuses and administrative records. CGD sources on the other hand can include Participatory Rural Appraisals (PRA), mobile phone short message services (SMSs), sensing devices, online platforms where internet-connected devices are networked to other devices, smartphones, computers, or web platforms, surveys such as Citizen Report Cards (CRCs), Community Score Cards (CSCs), drones, satellite imagery, action research studies, and other forms of stakeholder or community engagement.

In instances, where the results from one source are questionable, a follow-up study can be undertaken using a different approach to data collection. Citizen views as tapped when gathering and interpreting data to guide the decision-making process, promote inclusiveness and ‘Leaving No One Behind’. The CGD results are often availed faster and cheaper than alternative data sources. The data can be more disaggregated compared with the results from surveys. While it may not be representative, it provides invaluable information that presents particular community patterns. These observations and insights can benefit women and girls if used to inform official policymaking and monitoring systems.

Based on the different methods employed by the two systems, that is official statistics and CGD, one can only conclude that the two are not competing, but rather complementary and that the results from one source can potentially enhance the findings of the others.

2.4 Use of CGD for measuring and reporting SDG gender indicators

The production and use of CGD and its potential to improve decision-makers’ responsiveness has been explored in different countries. It is evident that NSOs still face challenges in identifying, adopting, and leveraging the data revolution opportunities. Anecdotal information reveals

that citizen-led and generated data made the problems of the poor and vulnerable populations more visible. Within that context, it is necessary and perhaps even desirable to do a trade-off between data that is useful locally and data which is comparable globally. Furthermore, it is necessary to overtly recognize the difference.

Four examples of CGD approaches adopted by selected CSOs and the relevance of the information for SDG reporting are presented below:

- *Citizen Sense Kit approach* was used in the USA for monitoring air quality. Citizens collected the data and had access to an online visualization tool as open-source software to monitor air quality. The results provided evidence that was used to inform discussions between citizen groups, public institutions, and companies.
- HARASSmap is a volunteer-based mobile and online technology for interactive mapping of the social acceptability of sexual harassment throughout Egypt. Data from this source contributes to SDG 16.2.2 “Number of victims of human trafficking per 100,000 population, by sex, age and form of exploitation”³
- Transcultural Psychosocial Organization (TPO) is a CSO that supports refugees and host communities in Uganda to access psychosocial support and trauma care. The TPO engages women vulnerable to gender-based violence (GBV) through *standardized screening tools, community discussions, focus group discussions (FGDs - in Cognitive Behavioral Therapy Groups) and face-to-face interviews using tablets*. The Organization also supports female survivors of GBV and other rights violations, to access psychosocial and mental health services. The data collected as part of the program informs SDG 5, *especially 5.2.2 “Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner, in the*

³ [https://harassmap.org/en/.](https://harassmap.org/en/)

*previous 12 months, by age and place of occurrence*⁴.

- UNODC and World Vision – ‘*Mobile Caravan*’ moves around to several areas, especially hot spots for sexual trafficking, and holds events informing and educating communities about human trafficking and associated practices. The program is aimed at reducing human trafficking and sexual exploitation of women and girls in Senegal. Thanks to the Caravan, victims can speak out and tell their stories for the first time. The data collected informs authorities to act. Data from this source can contribute to indicator 16.2.2 “*Number of victims of human trafficking per 100,000 population, by sex, age and form of exploitation*”.⁵

More details about these approaches are available in Annex 4.

The compilation of CGD takes different forms. It may be through a combination of the quantitative and qualitative approaches or either approach. It is essential for all CGD generators and users including CSOs and NSOs to understand and appreciate the merits and demerits of each method to inform the choice of method. For the most part, in the three countries that formed part of the rapid appraisal, CGD is compiled using qualitative approaches as was reported in the CSO rapid appraisal that also informed this guideline. For example, the Social Institutions and Gender Index (SIGI) qualitative study (2015) preceded the main SIGI survey (Uganda).

Measuring GEWE requires a multi-dimensional approach because the value of CGD actually increases with collation of data from different sources for evidence-based tracking of SDGs. Employing CGD compiled and utilized by service recipients is an effective way of monitoring performance on the SDGs. The data provides direct representations of local residents’ perspectives and complements data generated by NSOs.

Producers of CGD leverage smart phones and other non-traditional approaches as tools for

collecting real-time information about events in specific communities. However, most CSOs use mixed data collection methods and tools namely: offline surveys conducted without the internet, telephonic interviews, and hard copies of questionnaires for face-to-face and self-administered data collection instruments, Computer Aided Personal Interviews (CAPI), and tablets. Depending on the methodology and technology adopted, CGD can provide real-time information for all sectors with GEWE indicators.

Embracing CGD is an effective way of integrating the voices of citizens in quantitative data and gives a holistic explanation of the progress attained when reporting on gender-related SDGs. The CGD process goes beyond data production as it involves participation, information-sharing, feedback, and actions that address the issues identified by citizens.

Findings from the rapid appraisal carried out among selected CSOs in Uganda, Kenya and Tanzania show that generating quality disaggregated data using the CGD approach was of prime importance in both national and international contexts. The most common methods used to compile gender-related data in the target countries were FGDs, face-to-face interviews, self-administered questionnaires, and KIIs. Citizens were involved in the generation of CGD data as providers of information. CGD users included CSOs, local and national governments, and donors/development partners. All the CSO CGD approaches complement official statistics produced by government (Annex 2).

Anecdotal data and findings from the rapid appraisal revealed that most CSO data across the three countries was not national in scope. Therefore, generalization is not tenable for the wider society. It is evident that CSOs are already using the CGD methodology to generate information that responds to some SDG 5 and other SDG gender-related indicators. However, the scope of all the CSO initiatives is limited to small parts of the respective countries.

The table on the next page summarizes how some of the CSOs which took part in the study generate data that could be used for reporting or to complement existing SDG reporting mechanisms.

⁴ Sourced from: <https://www.linkedin.com/company/transcultural-psychosocial-organization>

⁵ Sourced from: https://www.unodc.org/westandcentralafrica/en/2017_03_26_senegal-traite.html

Table 2: Examples of the generation and use of CGD by CSOs in Kenya, Tanzania, and Uganda

Indicator #	Indicator/Domesticated indicator	Country and organization	Brief description of approach
SDG 4.1.1	<i>Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex"</i>	Tanzania: Twaweza For Uwezo	Compiles information on literacy and numeracy competency levels for children aged 6-16 years through face-to-face interviews and Institutional surveys. It covers 56 districts out of 158 districts (2015) in Tanzania, in 30 enumeration areas and 20 households per enumeration area. The data is used for; Awareness raising on status of learning outcomes, Policy advocacy to improve quality of Education, Citizen engagement to address education challenges in their localities, and community engagement to find local solutions to address learning challenges. The data generated complements the Annualized School Censuses and National Household Surveys in response to SDG 4.1.1
SDG 5.1.1	<i>"Whether or not legal frameworks are in place to promote, enforce and monitor equality and non-discrimination on the basis of sex"</i>	Uganda: The Uganda Association of Women Lawyers.	Operates in 11 districts. Compiles data on; legal cases reported by women and girls, Legal services by type, Women and girls trained on sexual reproductive rights, girls saved from trafficking, Citizens sensitized on human rights and number of dependents per client. Collect data continuously through face-to-face interviews, FGDs and self-administered questionnaires. Data is used to determine the nature of injustice prevalence, the most effective and preferred legal services by the women and girls, level of awareness on sexual reproductive health rights, preparation of FIDA annual reports, establish the level of awareness and knowledge on human rights, and the number of indirect beneficiaries of the legal services.
SDG 5.2.1	<i>"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"</i>	Tanzania: Tanzania Media Women Association Zanzibar	Compiles data on Gender Based Violence (GBV) cases, GBV survivors, Media stories on GBV, Networking on GBV and Committees working on GBV. Methodology used is Offline survey, media visits in news worth sessions, Focus Group Discussions and Field visits to the project sites every month. Data is used for follow-up, support, and advocacy for prevention purposes of GBV.
SDG 5.2.2	<i>"Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner, in the previous 12 months, by age and place of occurrence"</i>	Uganda: The Uganda Association of Women Lawyers.	Operates in 11 districts. Compiles data on; legal cases reported by women and girls, Legal services by type, Women and girls trained on sexual reproductive rights, girls saved from trafficking, Citizens sensitized on human rights and number of dependents per client. Collect data continuously through face-to-face interviews, Focus Group Discussions and self-administered questionnaires. Data is used to determine the nature of injustice prevalence, the most effective and preferred legal services by the women and girls, level of awareness on sexual reproductive health rights, preparation of FIDA annual reports, establish the level of awareness and knowledge on human rights, and the number of indirect beneficiaries of the legal services.

Indicator #	Indicator/Domesticated indicator	Country and organization	Brief description of approach
SDG 5.4.1	<i>Proportion of time spent on unpaid domestic and care work, by sex, age and location.</i>	Kenya: Oxfam - Women's Economic Empowerment and Care (WE-Care)	CSO engaged in addressing care work by both women and men, their families, communities, governments, and the wider society. WE-Care compiles Time-use data on unpaid care and domestic work (UCDW), and related social norms data through Household surveys – face-to-face interviews with female and male adult members of the household and children (if consented). The work covered five informal settlements in Nairobi and generated new data on patterns of UCDW distribution and use of public services and facilities. The CSO also engaged the NSO during a validation workshop. They need online updated household survey information, disaggregated by Counties, sub-counties and wards, gender, income levels for ease of access, and wish to partner on research that is benefits both parties. The targeted users include; INGOs, CSOs/WROs, policy- and decision-makers, for Advocacy and decision-making on resource allocation for care-supporting infrastructure and public services, as well as changes in social norms to inform SDG 5.4.1. This complements the findings of the Kenya National Bureau of Statistics integrated Time Use Survey.
SDG 5.5.1	<i>“Proportion of seats held by women in national parliaments and local governments”</i>	Uganda: Women's Democracy Network-Uganda Chapter	Compiles CGD on women participation in political leadership, Election violence and women's participation in elections covering 13 districts. The methodology used are Key informant interviews, FGDs, Citizen report cards and the Community Score cards. The information is used for official purposes to inform electoral programming, advocacy and lobbying. The data is collected twice a year and inform SDG 5.15.1 and SDG 16. Uganda Bureau of Statistics conducted a Governance, Peace and Security Survey (2017) and will do so every three years. Hence, CGD from the Women's Democracy Network can greatly complement data required during inter survey periods to inform SDG 5.5.1
SDG 5.6.1	<i>“Proportion of women aged 15-49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care”</i>	Uganda: The Uganda Association of Women Lawyers.	Operates in 11 districts. Compiles data on; legal cases reported by women and girls, Legal services by type, Women and girls trained on sexual reproductive rights, girls saved from trafficking, Citizens sensitized on human rights and number of dependents per client. Collect data continuously through face-to-face interviews, Focus Group Discussions and self-administered questionnaires. Data is used to determine the nature of injustice prevalence, the most effective and preferred legal services by the women and girls, level of awareness on sexual reproductive health rights, preparation of FIDA annual reports, establish the level of awareness and knowledge on human rights, and the number of indirect beneficiaries of the legal services.

Indicator #	Indicator/Domesticated indicator	Country and organization	Brief description of approach
SDG 5b	<i>Percentage of women who agree that a husband/ partner is justified in beating his wife/partner under certain circumstances</i>	Kenya: The African Women's development and communications Network (FEMNET)	FEMNET is an advocacy focused CSO that undertakes regional policy engagement to amplify the voices of African Girls and Women about their rights related to the SDGs. Compile shadow reports to highlight issues not raised by Governments or comment on issues where government appears to be silent or are deemed to be misleading citizens and identify gaps and areas of progress e.g., Beijing+10, +15, +20 +25 (currently on-going). Target African women rights organizations (CSOs), individual gender advocates and activists, African Governments (policy /decision makers), UN agencies, Private sector, and the media. FEMNET uses FGDs with target groups, SRHR score cards, Regional SRHR Barometers, Digital Data Gathering through Google Surveys with WROs, Fact Sheets, Position papers, Phones (WhatsApp groups), Members and working group list serves, and Key informant interviews with policy makers. Citizen involvement takes place through focus group discussions/consultations conducted by FEMNET, consultants or resource persons at community level to capture citizens views. Examples of Position Papers: 'Mind the Gender Gap - Post 2015 Position Paper' and 'The Africa We Want: Position Paper.
SDG 5d	Proportion of seats held by women in national parliaments	Kenya: The African Women's development and communications Network (FEMNET)	FEMNET is an advocacy focused CSO that undertakes regional policy engagement to amplify the voices of African Girls and Women about their rights related to the SDGs. Compile shadow reports to highlight issues not raised by Governments or comment on issues where government appears to be silent or are deemed to be misleading citizens and identify gaps and areas of progress e.g. Beijing+10, +15, +20 +25 (currently on-going). Target African women rights organizations (CSOs), individual gender advocates and activists, African Governments (policy /decision makers), UN agencies, Private sector, and the media. FEMNET uses FGDs with target groups, SRHR score cards, Regional SRHR Barometers, Digital Data Gathering through Google Surveys with WROs, Fact Sheets, Position papers, Phones (WhatsApp groups), Members and working group list serves, and Key informant interviews with policy makers. Citizen involvement takes place through focus group discussions/consultations conducted by FEMNET, consultants or resource persons at community level to capture citizens views. Examples of Position Papers: 'Mind the Gender Gap - Post 2015 Position Paper' and 'The Africa We Want: Position Paper.
SDG 11.7.2	<i>"Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months"</i>	Tanzania: Tanzania Media Women Association Zanzibar	Compiles data on Gender Based Violence (GBV) cases, GBV survivors, Media stories on GBV, Networking on GBV and Committees working on GBV. Methodology used is Offline survey, media visits in news worth sessions, Focus Group Discussions and Field visits to the project sites every month. Data is used for follow-up, support and advocacy for prevention purposes of GBV.

Indicator #	Indicator/Domesticated indicator	Country and organization	Brief description of approach
SDG 16.2.2	"Number of victims of human trafficking per 100,000 population, by sex, age and form of exploitation"	Uganda: The Uganda Association of Women Lawyers.	Operates in 11 districts. Compiles data on; legal cases reported by women and girls, Legal services by type, Women and girls trained on sexual reproductive rights, girls saved from trafficking, Citizens sensitized on human rights and number of dependents per client. Collect data continuously through face-to-face interviews, Focus Group Discussions and self-administered questionnaires. Data is used to determine the nature of injustice prevalence, the most effective and preferred legal services by the women and girls, level of awareness on sexual reproductive health rights, preparation of FIDA annual reports, establish the level of awareness and knowledge on human rights, and the number of indirect beneficiaries of the legal services.

Examples of other CGD initiatives generating real-time information on education and health in the region are supported by UNICEF. These include EduTrac, Mtrac and the U-report.

2.5 GEWE CGD indicator framework

This CGD gender indicator framework aims to provide a comprehensive standard approach for compiling gender-responsive data across the relevant Goals using non-traditional sources. In this process, 11 of the 17 goals (1, 2, 3, 4, 5, 8, 10, 11, 13, 16, and 17) and related gender indicators form the basis of discussion. The CGD indicator framework is consistent with the Sustainable Development GEWE indicator framework of prioritized indicators adopted by the Member States of the United Nations and indicators through the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs).

The illustrative SDG-GEWE indicators by the proposed CGD methods (Annex 2), show traditional data sources to underpin potential gaps that can be filled through adoption of non-traditional approaches. Different CSOs use different methods to compile CGD. The case studies selected from CSOs in Kenya, Uganda and Tanzania show the new approaches of data collection yielding

CGD and how they have increased the uptake and use of the information. While there are implications of using a limited number of examples to demonstrate CGD methodology to generate information by and for citizens, it demonstrates how the community, local governments, and government entities may harness the data. CGD can inform government programmes, but CSOs and the private sector primarily use it for their own decision-making. Thus, the possibility of using CGD for reporting progress on SDG 5 and related gender indicators to complement traditional data sources will enhance reporting progress on the GEWE indicators.

A GEWE CGD operational manual is needed to assist participants to remain on course in case of any potential disruptions during the process. Disruptions may arise due to technology failure or the process itself. In order to ensure consistency among data collectors across CSOs using similar methodology, development of user manuals will be necessary. The design of CGD manuals for the particular data collection activity and approach should be part of capacity building provided by experts from the NSO, academia or other experts. Such manuals should encapsulate ongoing and future references for

***EduTrac** is a mobile phone-based data collection system developed by UNICEF in partnership with Uganda's Ministry of Education and Sports to collect timely data including teacher and student attendance and delivery of materials. EduTrac helps districts to improve their education planning and provides better and more timely supervision to schools based on system reports. The system complements the Education Information Management System and was launched in 2011. Teachers and administrators send data to the system on a regular basis, say weekly.*

***MTrac** is a Uganda government-led initiative to digitize the transfer of Health Management Information System (HMIS) data via mobile phones. The initial focus of mTrac is to speed up the transfer of HMIS weekly surveillance reports, provide a mechanism for community members to report on service delivery challenges, and empower District Health Teams by providing timely information for action.*

***U-Report** is a free social monitoring tool for community participation, designed to address issues that people care about. It is based on simple SMS messages (poll questions, results, and sharing of useful information) designed to strengthen community-led development, citizen engagement and positive change. SMS polls and alerts are sent out to U-Reporters and real-time response information is collected. Issues polled include health, education, water, sanitation and hygiene, youth unemployment, HIV/AIDS, disease outbreaks, and social welfare sectors, among others.*

the most frequently asked questions. It can also be useful for the management of tools used in data collection, such as applications, CAPI, and sensors to ensure accurate data capture by volunteers or enumerators. Experience gleaned from survey manuals developed by NSOs could serve as a point of reference.

2.6 CGD opportunities, impact, and constraints

Opportunities for using CGD are infinite and the potential value will be higher when national statistics offices support CSOs and other data producers to enhance the CGD methodology and quality of citizen-generated gender data. The latter increases the chances of developing comprehensive CGD datasets and underscores the usefulness and potential complementarity of non-traditional gender data sources to official statistics. CGD creates opportunities for transparency in decision-making and accountability for SDGs progress.

With respect to NSOs, CGD offers an opportunity of gaining knowledge, analytical capacity, skills, and access to an entirely new world of gender data. This includes non-traditional data sources that meet the minimum requirements of quality expected and can also enhance quantitative findings from traditional data sources. In so doing, CGD enhances learning, data value and knowledge of the eventual output from the gender data ecosystem. NSOs will also benefit by having information of a more qualitative nature integrated into their reports for a better understanding of contextual issues at the community level. Given the developmental challenges facing Africa and particularly women, essential CGD, labeled as non-official, does not become non-essential simply because of its lack of 'official'⁶ status.

Notably, CSOs producing gender statistics have the potential to gain from a closer working relationship with NSOs, especially if supported with the development of methodologies, data collection, dissemination, and compilation of CGD metadata and other aspects of the statistical value chain.

Evidence in the use of CGD has confirmed that it has the potential to:

- Fill data gaps created between periodic surveys and in so doing enable evidence-based planning, decision-making, and engagement of key citizens in development at the local level.
- Increase ownership of programmes by citizens who participate.
- Inform gender-responsive interventions at the sub-national and micro level where most marginalized groups reside.
- Enhance in-depth understanding of information acquired from traditional sources (Statistics Canada, 2018).

Overall, there are promising indications that CGD could be used for SDG 5 and related gender indicators for reporting purposes. However, there are challenges that must be understood by users regarding the limitations of CGD. These include limited methodological soundness, poor representativity, inadequate CSO and NSO capacity to collect and analyze the data, lack of trust in CGD, misfit for complementarity, and limited interoperability and resourcing. These limitations are explained in more detail below:

- Limited methodological soundness:* methodological soundness is a pre-requisite for quality statistics and requires the application of appropriate tools, procedures, and expertise. Sound methodologies promote comparability at national and international level, for example, by adopting common standards, concepts, sampling frames, questions, definitions, statistical units, and classifications (including common geographic referencing and coding standards), which is not typical of CGD.
- Poor representativity:* CGD is prone to statistical bias because CSO initiatives are typically localized and focused on program beneficiaries or specific communities. For example, women taking part in governance programs in a specific location or district covered by a program about GBV is not representative of women in general. Besides, CGD can

⁶ Official statistics contain an up-to-date quality description approved by the Head of the National Statistics Office. (Code of Practice - US 942, Uganda (2012))

be limited in scope in that it covers a geographical area that is not comparable to the geographic areas included in official statistics.

- c) *Inadequate CSO and NSO capacity*: due to inadequate human resources and analytical capacity within statistical offices and civil society, especially with regards to data science and analytics, these entities may not be able to adequately collect and analyze CGD data. This creates sustainability challenges, especially in the adaptation and use of new data sources. Thus, limited information can be collected, which affects comparability.
- d) *Reliability*: It is difficult to integrate CGD with other data because of the diverse collection and verification methods and lack of methodological refinement. This reduces reliability of the data.
- e) *Complementarity* - CGD and official statistics create an objective-driven task force to test and refine processes that harmonize data streams, including through SDG progress dashboards. However, issues monitored through CGD are not always comparable or complementary to those analyzed by governmental agencies.
- f) *Limited interoperability* - owing to the size and aim of survey undertakings, CGD producers need an in-depth analysis and organization of their data to increase compatibility with official data files.

All these quality limitations make it important to ensure sufficient buy-in from CSOs and interested parties to support the implementation of the guideline and scale up the scientific rigor of CGD compilation. This can be done by enhancing methodologies, strengthening trust in the data they generate and use, unravelling silos, broadening the scope of generating larger datasets, and increasing information-sharing.

2.7 CGD Quality

Many of the limitations identified in the previous section affect data quality. Firstly, quality data must be fit for use. CGD can only be 'fit for use' if the data is produced in line with the data quality standard dimensions namely: accuracy, timeliness, accessibility, interpretability, reliability, comparability and coherence, methodological soundness, and integrity. CGD data producers must be committed to providing quality data/information to not only inform their own programmes, but, as much as possible, try to also meet needs for the greater public good. Quality CGD that is suitable for government use and complements official statistics should reflect quality assurance mechanisms adhered to during data collection, processing, publication, and dissemination.

Quality data has a technical as well as a political dimension, particularly when it comes to its use. Structural factors, leadership, institutional arrangements, actors, technical competence, governance, and resources influence the quality of data and uptake in Africa. CGD captured from women, girls and other marginalized population groups for their good can influence change for them in each sphere. Quality CGD must meet the expected need for their use across borders and institutions implying that they should comply with international and national data quality frameworks.

CGD compilation practices take diverse approaches including quantitative and qualitative methods. Quantitative data should comply with existing and evolving standards as encapsulated by the Data Quality Assessment Framework (DQAF) of each NSO. Similarly, where qualitative approaches are adopted, key markers of quality in qualitative research need to be observed including: (a) worthy topic (relevance), (b) rich rigor (methodological soundness), (c) sincerity (accuracy), (d) credibility, (e) resonance, (f) significant contribution, (g) ethics, and (h) meaningful coherence (Tracey 2010). Lämmerhirt et al (2018b) posited that CGD quality can be comparable to official data collection standards, provided that tasks are *sufficiently easy to conduct*, the quality of tools is high enough

and sufficient training, resources and quality assurance is observed.

Standards and definitions enable an in-depth understanding, comparing, sharing and use of datasets. Metadata structure and standards also facilitate merging or linking data from different sources in a consistent and contextualized way and increase uniformity across datasets held by different entities. Traditional metadata structures facilitate data quality management and presents indicators, method of compilation, level of disaggregation, computation method and access, among others. A metadata structure presenting information generated, meaning, process and purpose is key for enhancing the CGD value.

The enhancement and use of CSO-generated data and related capacity is possible through observation and application of simplified acceptable CGD metadata infrastructure as follows:

- a. Provision of information about the CGD concepts to explain the terms used under which data is planned to be shared (Lämmerhirt et al 2018a).
- b. Presentation of tools, protocols, and other strategies of the initiative.
- c. Clarification of methodology highlighting steps taken and data created.
- d. Collaboration and opportunities for sharing data on existing data infrastructure.
- e. Elaboration of community and targeted population involved in the needs assessment, design of tools, data collection, analysis, and interpretation of results.
- f. Data literacy and institutional literacy mechanisms.
- g. Confidentiality of data providers to minimize risk of unauthorized access and illegitimate data use on sensitive topics.

The adoption of the proposed guidelines has the potential to enhance the quality of CGD products, enable continuous improvement in

CGD processes, and increase the chances that these data sources can contribute towards monitoring and reporting on SDG 5 and related gender indicators.

Quality CGD is possible if NSOs purpose to support the respective CSO and private sector methodological approaches. The possibility that CGD will get to a point of data quality by following the UNDQAF processes is a mirage. Nonetheless, CGD quality assurance processes should be consistent with those applied to official statistics as produced for traditional data sources. Essentially, their data collection instruments should be of the required quality, accurate and systematic, training of data collectors professionally managed, adequate resources made available, and quality assurance systems in place.

2.8 CGD Ecosystem approach

2.8.1 Overview

Policy formulation, decision-making, and tracking the Sustainable Development Goals, must be evidence-based to enable the actualization of 2030 Agenda. Data in all their forms, production and use modalities, are not uniform. There are repetitive iterative transaction mechanisms, involving different actors, and approaches that countries must take into consideration when benchmarking CGD practices and data sources for measuring SDG progress. It is prudent for CGD actors in the data ecosystem to appreciate the diversity of stakeholders and the gender dimensions along the data value chain to meet the wide range of differing user data needs with complementary information.

While CGD forms an indispensable part of any national data ecosystem, it has an operational ecosystem of its own. CGD provides the opportunity to maximize complementarities of different components in the data and information landscape, whilst harnessing the potential of “the data revolution”. The ecosystem approach enhances user mapping and an understanding of the CGD stakeholder ecosystem. The main reasons for this are because it (Young and Potschin 2014):

- (a) provides a framework for reflecting on and understanding the different components and interconnections in the CGD value chain.
- (b) enhances the value that accrues from improvements in interactions between the different stakeholders in the production, processing, analysis, and use of CGD data and information.
- (c) add value to tracking gender dynamics under the 2030 Agenda at individual stakeholder level, strategic level; as well as at national and international levels. .
- (d) Helps to understand trade-offs between actors operating in the CGD data ecosystem and increases uptake and use of new ecosystem knowledge. Understanding interdependency between actors in the ecosystem helps to ensure that all add value to supporting CGD for SDG 5.

2.8.2 Stakeholders in the CGD data ecosystem

Many components of the CGD data ecosystem are collecting important non-traditional data, including through citizen dialogues, coding communities, social media data mining, and other tech-oriented data production by a variety of data communities. Harnessing these stakeholder forces has potential for providing priceless data sources for SDG 5 indicators in response to gender gaps found in the traditional data ecosystem. Table 3 presents a comprehensive list of likely CGD stakeholders in the CGD ecosystem. However, these role players may vary across countries depending on the context. Annex 1 presents detailed information on the roles of different actors in the data ecosystem.

The interconnectivity between these role players is visually depicted in Figure 3, which shows the linkages between different actors in the CGD ecosystem. All actors affect and are equally affected in the generation of citizen data.

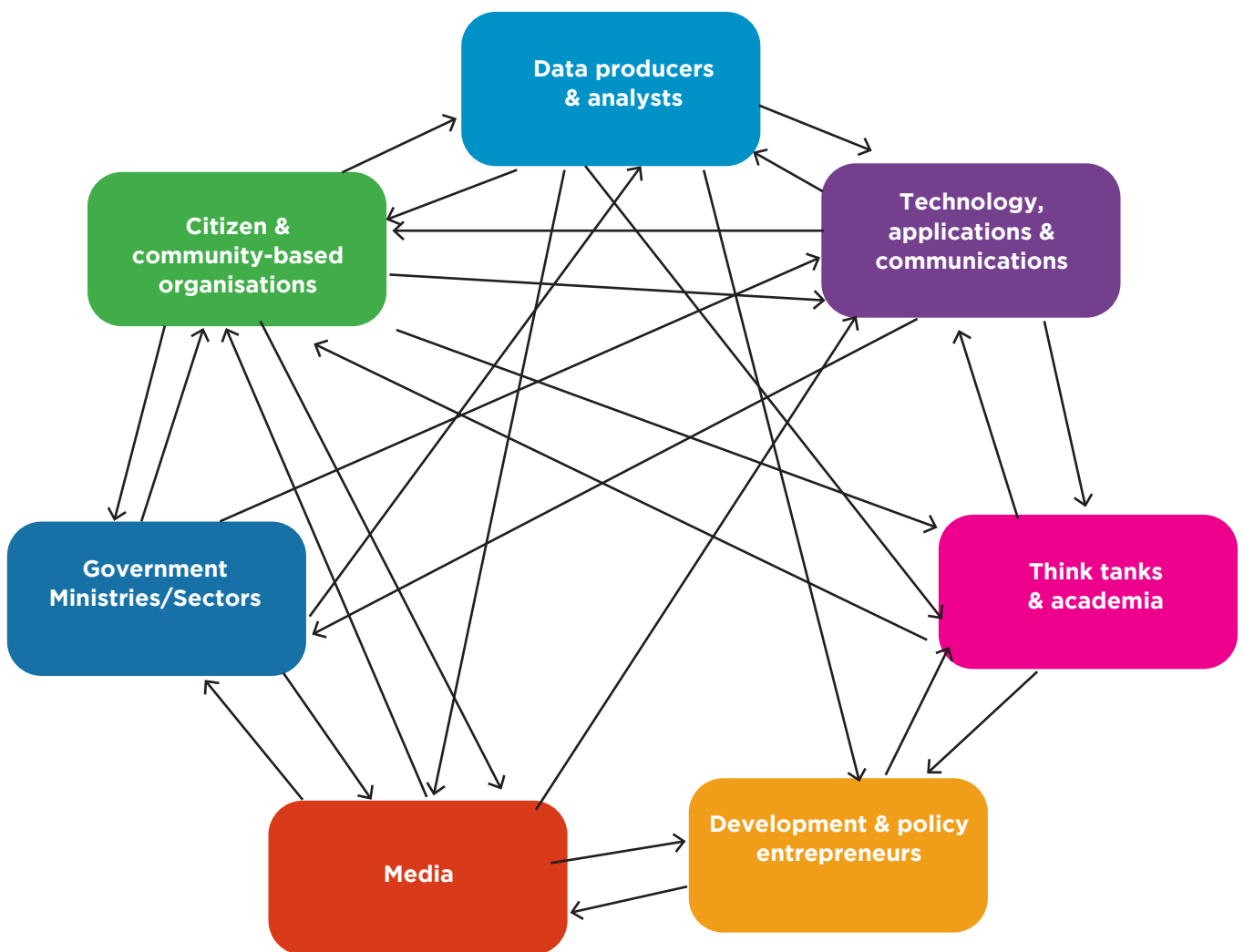
Table 3: Potential stakeholders in CGD ecosystem

Constituent group	What is their interest/Stake?	Possible role in CGD
Citizens and Gender NGOs and community-based organizations	Make day-to-day decisions about Women empowerment, girl child protection, advocacy, and other issues of gender equality	These are the frontline providers, collectors, and users of CGD. They are the genesis of gender issue specific data and recipients of GEWE policy action.
CSO	Facilitate dialogue and advocacy for improved services, deeper understanding of issues	Complementary data, and in-depth analysis of issues based on lived experiences in the communities
Private sector institutions	They execute business cases whose products or services contribute to improving livelihoods through PPPs ¹ or as entities.	Compiling information/indicators of sustainability related to their business case interventions
NSO	These are the heads of the NSS and Undertake large scale primary data collection and analysis such as in censuses, surveys, etc.	Produce quality gender-responsive data for policymakers, analysts and citizens. They ensure that CGD is of acceptable quality and authentic for official use.
Data analysts	They convert data into first-level messages and meaning.	Expected to add value to meaning of data through the interconnected interaction of stakeholders.
Technology, applications and communications	Enabling communities to have access to technological tools for collection of gender relevant data (SMS, socio-media).	Developing practical tools for making gender-responsive data and information easily available, accessible, and useable

¹ Public-Private Partnerships are long term voluntary collaborative agreement between the public and private sectors.

Constituent group	What is their interest/Stake?	Possible role in CGD
Think tanks and academia	Use CGD data to undertake action research on GEWE priorities for development.	Contribution to developing and improving policy messages and programmes targeting women and girls.
Development and policy entrepreneurs (“datapreneurs”)	Translate and communicate GEWE related policy research results to users, policy makers and media outlets.	Info-mediaries that interrogate data and analysis to policymakers and those tracking GEWE SDGs.
Media	Disseminate CGD and information, and initiate debates on national development priorities to inform SDG 5 and related gender indicator localization initiatives.	Broadcast and communicate important and simplified messages about GEWE to communities and groups to inform popular development discourses.
Political leaders	Winning political power by citing evidence of the positive nature of their policies to SDG 5	Likely to use CGD data and analysis to justify GEWE initiatives and solutions to their constituencies.
Government Ministries/ Sectors	Define relevant GEWE sector policies, develop or implement sector programmes.	CGD data and analysis to justify increased budget allocation and their current policies and investments to GEWE.

Figure 3: Stakeholder interaction in the CGD ecosystem



The CGD data ecosystem interacts with all actors (traditional and non-traditional)

2.9 Conclusion

The production and use of quality CGD and its potential to improve decision-makers' responsiveness and action has been explored in different countries. Examples of CGD approaches confirm its potential use as a source for proxy indicators for Tier II indicators and for filling Tier III indicator data gaps. Uptake and opportunities of CGD open space for interconnections, strategic partnerships, and citizen involvement in evidence-based decision-making. The challenges combined with weak interconnectivity between key CGD actors, questionable data quality, lack of representability, and inadequate CSO and NSOs

capacity to collect and analyze information from non-traditional sources reduces its complementarity and interoperability with official statistics.

Hence, benchmarking best practice approaches and identifying capacity needs in NSOs, CSOs and the private sector for enhancement may help countries to fill data gaps. Acknowledging the potential role of the private sector in SDG 5 progress reporting is important. Private sector business cases advance the participation of women as employees, consumers, producers, and suppliers, and generate requisite data which can be organized to inform SDG 5 monitoring.

3 FRAMEWORK FOR MAINSTREAMING CGD IN THE NATIONAL STATISTICAL SYSTEM

3.1 Introduction

This chapter presents mechanisms for establishing the necessary coordination structures and systems for the sustainable compilation of quality CGD for official GEWE tracking and reporting. Since gender is cross-cutting and affects many different statistical systems, many aspects of the proposed framework for mainstreaming CGD in the national statistical system are applicable not only to the gender statistics system, but to the national statistics system in general.

The urgent need to fill gender data gaps requires a deliberate effort towards incorporating CGD approaches into traditional and official data systems, as well as capturing the views of the citizens. Strategically, establishing coordination structures, integrating CGD practices in the NSS, and determining appropriate strategies that will drive the model are key to achieving sustainability and making a more holistic contribution towards the vision of 'Leaving No-One Behind'.

3.2 Establishing Coordination Structures for gender-related CGD

National SDG monitoring structures exist, but membership and naming vary across countries. However, in most countries CGD do not form part of these structures. In Uganda, the SDG coordination structure is under the Office of the Prime Minister (OPM). Under this structure, there are technical working groups of which the Data Technical Working Group (DTWG) is responsible for collating and providing evidence required for tracking and reporting on the

various SDG indicators bearing in mind the principle of 'Leaving No One Behind'. The NSOs are responsible for the data working groups. Essentially, the NSO coordinates other data producers in the NSS and ensures that data is gender-responsive and 'fit for use'.

3.3 National Statistics System Gender Statistics Structures

In most African countries, the linkages between CGD and official statistical systems are inconsistent, informal, and relatively weak (Lopes 2018). There is limited appreciation of the implications of CSO and private sector-generated data with respect to official statistics. However, there are gender statistics technical coordination structures constituted of government and CSO representatives. These include the Gender Statistics Technical Working Group (Tanzania), Gender Statistics Technical Committee and the Gender Statistics Advisory Committee (Uganda), and the Gender Statistics Committee (Kenya).

SDG VNR country reports outline how countries can address cross-cutting issues of the 2030 Agenda for Sustainable Development: 'Leaving No-One Behind'; addressing trade-offs through policy integration; and pursuing global partnership as a means of implementation. At the national level, processes of compiling VNRs must be participatory and inclusive of government and non-state actors – civil society and the private sector. Likewise, supporting structures that inform the national SDG coordination and have data working groups as is the case in Uganda must recognize the contribution of CSOs towards particular indicators. Tanzania adopted a "whole-of-

society” approach and a robust national SDGs coordination and monitoring framework supported by the NSO (URT 2019).

3.4 Proposed gender CGD Coordination mechanisms/ governance structure for CGD

Coordination with other data producers in the data ecosystem ensures availability of gender-responsive indicators. It can promote the collection and use of CGD as a positive and complementary contribution to official statistics for monitoring and reporting progress on SDG 5 and the other SDG gender indicators. Civil society should work closely and collaborate with government entities to learn and contribute to CGD VNRs and other official data requirements. Essentially, they should form part of the NSS gender statistics technical committee for mileage.

Procedurally, it is proposed that CSOs should seek membership in the umbrella SDG Coordination Structure and CSO data initiative on gender in the CGD ecosystem (if it exists in the country), under which they can dialogue on the CGD agenda, priorities, methodological issues, standards, metadata structures, support systems and best practices, among others. Each relevant CSO should be included and profiled under the data initiative database. The profile should ideally include: the title of the CSO program, SDG indicator targeted, data collection approach, type of data, scope, frequency, and expected users. Regular meetings on a bi-annual basis or otherwise, will be necessary to review progress against milestones and agree on strategic priorities for the next six months.

3.5 Integrating CGD in the national statistical system

CGD integration in the NSS is aimed at achieving balance and complementarity between official data sources and CGD approaches at all levels rather than preference for one over the other. CGD integration achieves win-win-win outcomes, in that it enables production of mutually-reinforcing information and goes beyond weighing trade-offs across traditional and non-traditional sources of data.

Designing a framework for gender CGD tools

requires that relevant data providers, producers and users are actively engaged in all the discussions. CSOs, private sector institutions, and relevant government institutions responsible for SDG 5 and other SDG goals with gender indicators should form a coalition to mold and prioritize the indicators and agree on the relative contribution of each constituent player to their reporting. Integration of CGD should ensure that the approaches, concepts, tool, actors, and processes targeting GEWE leave no-one behind.

This will enable collective agreement on the types of data, scope, and coordination and quality assurance strategies. Essentially, the integration process should facilitate the following:

- *Institutionalization of CSOs in the NSS:* by creating coordination mechanisms, agreeing on common metadata frameworks, human resource capacity building, consensus on SDG targets and indicators to report, and frequency and intra collaboration strategies.
- *Improving the art of CGD data compilation:* by agreeing on structuring, tools, and processes for systematic collection, processing, analysis, reporting and dissemination of information.
- *Increasing the availability of quality CGD:* By developing a common CGD, gender metadata dictionary and standards, and agreeing on data management policies across CSOs and the respective private sector institutions.
- *Raising the public profile for CGD as a reliable source:* by developing an inclusive CSO data advocacy strategy.

3.6 Sustaining CGD in Official statistics

Unlike NSOs, which have been at the center of designing National Strategies for Development of Statistics (NSDSs), few, if any, have involved CSOs and the private sector. The data revolution puts CSOs and the private sector in the limelight as potential data producers. Data from private companies often covers information collected through: active (survey) or passive (web-scraping) methods; administrative and similar

data used for billing customers and targeting services; and transactional data, among others. Hence, the inclusion of CSO and private sector in the design and implementation of NSDS is the first step of CGD integration in the national statistical system. To realize some visible results of improved CSO CGD systems, deeper collaboration and initiating 'quick wins' in partnership with NSOs is necessary to determine sectors and indicators that demonstrate immediate impact on the production and use of CGD and the functioning of the CSO data system.

CGD creates opportunities for partnerships between government and civil society entities that are contributing to GEWE program implementation and monitoring, especially mapping CSO data outputs to existing traditional and official data sources. For example, CSOs involved in health interventions that inform SDG 2 should be part of the planning, implementation and dissemination of the Demographic Health Survey and U-Report, among others. The findings will certainly inform micro CGD in areas with glaring data gaps and extreme conditions that warrant in-depth analysis and citizen views to explain why and how. Annex 1 contains a summary of the roles and responsibilities of CSOs and NSOs vis-à-vis CGD.

3.7 Strategies for sustaining CGD in the NSS

CGD provides a good backbone for linking CSOs, the private sector, and NSOs as part of the data revolution. Balancing the tensions between the need for real-time information at the community, national, and international levels as highlighted in the CGD Spiral (Figure 4) calls for flexibility, coordination and leadership, as well as sound planning and priority-setting.

a) Flexibility in developing methodology

Flexibility would yield good-quality data, which is comparable. The data quality frameworks and standards should be initiated and applied to the work of CSOs for better results. CGD methodologies, for example CRCs and surveys require support from statisticians to ensure that the samples yield credible results. Similarly, there

is need for a national CSO data hub comprising of the different CSOs, programs, SDGs and indicators targeted, information generated, frequency and methodology adapted. Doing away with silos and creating a more integrated data landscape will enhance the development of shared training, reduce duplication of effort and working at cross purposes, and improve quality. Systematically-compiled CGD mapped to traditional samples under the NSO could facilitate processes aimed at merging data from different sources, enhance comparability, and increase demand from government.

b) Coordination and leadership

A review of legal mandates in each country is needed to ensure that responsibilities are clearly allocated to NSOs, the relevant ministries, government agencies and departments and local governments and CSOs for the collection or compilation of data that informs global frameworks as appropriate, preferably as part of the overall NSDS.

Although CGD and its role in the NSS are still being debated among NSS experts, African legal and policy frameworks governing statistics fully support the need for, and the role of, non-traditional data sources, including CGD, in bolstering national statistics as part of the data ecosystem. This provision starts with how many countries define the NSS. Most African statistical legislation and policy frameworks espouse an inclusive NSS in their definitions. Some examples to this effect from the East Africa region include:

- **The Uganda Bureau of Statistics Act of 1998**, which established the Uganda Bureau of Statistics (UBOS), defines the NSS as that which: *“Includes all agencies in Uganda, whether Government or not; under any enactment or otherwise; responsible for gathering statistical data through either surveys or administrative action.”* The act goes further to designate UBOS as the coordinator of the NSS stating in Article 4 (1) *“The Bureau shall be the principal data collecting and disseminating agency responsible for coordinating, monitoring and supervising the National Statistical System”*.

- **The Kenya Statistics Act, No. 4 of 2006** under which the Kenya National Bureau of Statistics operates, defines the NSS as: “...composed of the individual units engaged in the production and use of official statistics in the country. It comprises producers, users, suppliers of statistical information as well as research and training institutions.”
- **The Rwanda Institute of Statistics** includes in its definition of the composition of the NSS: “The National Institute of Statistics of Rwanda; various state institutions that provide statistical information, organs which use statistical information; organs that provide statistical information, including public and private institutions, non-governmental organizations, households and the population; and institutions of research and training including institutions of higher learning.”

These examples illustrate an emerging trend towards a more inclusive definition of the NSS: one that includes ‘non-official’ producers and users of data in and out of the government ecosystem. None of these progressive approaches undermine the fact that NSOs need to retain leadership of the broader NSS in order to maintain the integrity of official statistics and for quality assurance. The role of setting benchmarks, standards and rules governing the collection, analysis and use of data by all entities in a NSS indisputably belongs to the NSO (Sabiti, 2017). Similarly, while national gender machineries in the different countries are responsible for gender policy initiatives, leadership on data remains a core function of NSOs.

c) Planning and priority-setting

Each country needs to review its NSDS to ensure that it is gender responsive and that the statistical systems across entities in the data ecosystem include an assessment of user needs, setting of priorities to meet these needs within capacities, and resources that can realistically be made available. CSO planning should also result in recommendations on the appropriate gender-responsive data programmes, indicators,

type of data, and statistical outputs. It should also identify training and other inputs such as the funding resources needed to achieve the programme.

d) Nurturing partnerships

Leveraging Public-Private-Partnerships (PPPs) will increase trust in and satisfaction with CGD as well as the sustainability of processes and results. Indeed, effective collaboration between CSOs, private sector institutions and NSOs will increase the compilation of high-quality and thus trustworthy CGD. The rapid appraisal conducted as part of this study, revealed that CSOs which generate gender data using the CGD methodology had no working relationship with NSOs. Whereas the private sector undertakes business case studies geared towards aspects such as women’s economic empowerment, deliberate data capture, management, and use is limited. Access is limited by confidentiality requirements for their clients’ data. Evidence of seeking technical support and collaboration from the NSOs to perfect their data collection methodologies is limited.

Twaweza and World Vision stand out for: seeking statistical support to determine their sample sizes; obtaining baseline information for their study areas; cartographic maps; sampling methodology reports; assessment/ data collection tools; training fieldworkers on map reading; household sampling and listing; and monitoring assessment surveys for quality assurance. Subsequently, if the use of CGD is to be mainstreamed, partnerships between CSOs and NSOs should be cultivated to enhance the quality of and build trust in CGD. Collaboration and partnerships between CSOs and potential data users could also illuminate the pathway to engagement. In this scenario, the program startup and subsequent production of relevant data, complementary to official statistics, would inform a specific gender-related indicator or indicators under a given sector.

e) Promoting uptake of CGD

Generally, NSO data is the most trusted source of official statistics used by government. However, the relative importance of other data sources is growing exponentially due to changing user demands in the data revolution.

In fact, NSOs are encouraged to up their game in modernizing, transforming, and innovating in their statistical production efforts to ensure that the available evidence on prioritized SDG indicators remains relevant. CSOs can leverage NSOs' survey and census data to inform their baselines as complementary data sources. There are at least two opportunities in which the use of CGD on girls and women can be tapped into as evidence, namely, during VNRs and annual government reviews of the national strategies.

Other reasons for which there is increased demand for GEWE CGD include:

- Enhancing traditional data with deeper, more granular, micro data from CSOs.
- Influencing decision-makers to improve service delivery purposing to leave no-one behind at the community level.
- Illuminating grey areas in government laws, policies and decision-making that can avert harmful social norms and practices, discrimination, powerlessness of marginalized groups, among others.

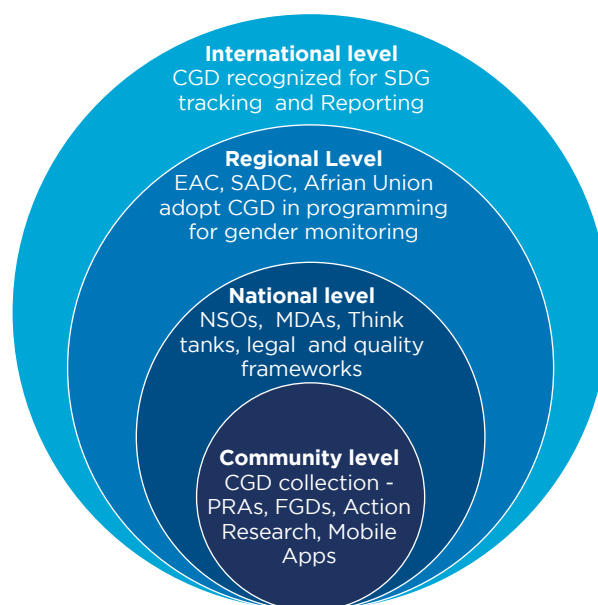
3.8. Stakeholder roles and responsibilities

CSOs and other key actors in the community play significant roles in providing and generating data/information, which is usable within the context of the programme. Governments, through their NSOs, have a cardinal role of strengthening the capacity of CSOs to generate quality information. The results from the integration of CGD and official statistics have the potential to impact policy and financing of intervention at the regional and international level. Table 4 presents the roles and responsibilities of key stakeholders during the different phases of GEWE CGD

production. The essential global and granular role of CGD is illustrated in the CGD spiral potential in Figure 4 below. It befits countries to appreciate this nomenclature as they structure the production of CGD for GEWE.

A CGD spiral potential helps actors (producers, users, and IT experts, among others) in the CGD ecosystem to have an edge in their contributions. While they may be at different levels of society, forging a common understanding of expected outputs is necessary at all levels.

Figure 4: CGD Spiral Potential



To appreciate these processes better, CGD producers need to begin small. For example, a CSO may focus on gender requirements of one sector (e.g., agriculture) that is consistent with national priorities and aligned to an SDG indicator such as 2.3.2 - 'Average income of small-scale food producers, by sex and indigenous status'. Doing so provides insights for scaling up to other sectors and goals.

Example from Southern Africa

The Southern African Development Community (SADC) gender barometer is aligned to an existing policy and follows the nine sectors of the Gender Protocol namely: constitutional and legal rights, governance, education and training, the economy, gender violence, health HIV and AIDS, the media and climate change. Aligning the protocol to SDG 5 (Gender Equality) gave additional leverage for the Government to sign up to the Protocol and meet the targets. Consequently, Head of Public Education and Information at South Africa's Commission for Gender Equality Joan De Klerk confirmed that the Commission cites data from the barometer in their own reports (Gillian 2018).

Table 4: Roles and responsibilities of the actors

Level	CSOs	NSOs	Donors
Community	<ul style="list-style-type: none"> • Design CGD methodology and tools • Collect data • Share information 	<ul style="list-style-type: none"> • Provide technical support during the development of the CGD methodology and tools • Training for CSOs • Share data with CSOs • Share quality standards with CSOs 	<ul style="list-style-type: none"> • Finance the CGD undertaking • Share best practices to improve the methodology and quality of results • Support capacity development programs for implementers
National	<ul style="list-style-type: none"> • Engage the different actors to ensure good quality data • Validate information with data from NSOs • Update the database 	<ul style="list-style-type: none"> • Training and quality assurance • Support maintenance of the CGD database • Capacity development for stakeholders 	
Regional	<ul style="list-style-type: none"> • Engage different stakeholders • Support updating the database 	<ul style="list-style-type: none"> • Collaborate with other NSOs for efficient and effective CGD methodologies for reporting on SDG gender indicators 	
International	<ul style="list-style-type: none"> • Identify the development frameworks, goals, and GEWE indicators 	<ul style="list-style-type: none"> • Adapt international best practices, standards, and concepts 	

Anecdotal information from “*The I Am Aware program*” in Ghana, confirmed that building partnerships with CSOs, civic groups, local radio stations and other media organizations at the district and regional level was effective and increased reach and impact especially at the local level. Working with local partners enabled more captivating dissemination and the use of information and created multiple safe platforms for citizens to engage with duty-bearers “to meet citizens where there are” (Scheid 2019).

3.9 Capacity-building for CGD

Supporting the collection and use of CGD for reporting on SDG 5 and gender-specific indicators as a complementary source to official statistics is essential for these guidelines. Invaluable technical support is needed to compile minimal proxy indicators that will inform SDG 5 and other SDG gender-related indicators. Strengthening capacity to collect, process and increase the uptake of CGD by means of the guideline is anchored on the six HRBAD principles as summarized in Chapter 1.

Participation of targeted citizens is key to the realization of all components of the HRBAD. This is reflected in the promotion of the involvement of women, girls, and other marginalized persons in both the collection and use of data, which is so central to CGD.

The involvement of women can increase the credibility of CGD information to inform decision-making on gender issues. HRBAD principles of data disaggregation and collection allow for the comparison of different population groups and help to assess the extent of possible inequality and discrimination. Capacity development is an ongoing concern for any learning and growing organization. The CSO rapid appraisal showed that CSOs receive limited attention and support from NSOs towards their data production efforts. Current low levels of action with regards to strengthening technical competencies may result from several factors: poor planning, capacity flight, lack of exposure, and change of technology. Thus, deliberate capacity enhancement initiatives for the CGD ecosystem for gender may involve:

- a. Taking stock of the knowledge, demand, and availability of sex disaggregated data in CSOs and NSO skills in qualitative approaches.
- b. Empowering and enabling communities to have a direct voice.
- c. Working towards a better understanding among governments, civil society, and donors on the complexity of delivering on the global agenda. The latter requires fulfilling the promise of putting people at the centre of the SDGs.
- d. Enhance CSOs' learning and understanding of the data value chain and other methodologies that demonstrate engendering of information is necessary for GEWE CGD development.
- e. Strengthening CSO capacity to produce CGD that adheres to sound statistical practices through qualitative and quantitative measures.
- f. Strengthening data literacy, analytical capacity, and resource endowment of CSOs.
- g. Standardizing approaches of obtaining data from the grassroots, and,
- h. Operationalizing and sustaining CGD methodology in the data ecosystem.

3.10 Strengthening NSO capacities

NSOs produce official statistics and have the prerogative to impart statistical skills to other data producers in the data ecosystem. However, CGD compilation calls for a PPP effort to determine the appropriate skills mix, approaches, methodology, and tools for data collection. Understanding this helps to build common practices and nuances behind complementarity of traditional and non-

traditional data sources. The four elements of capacity building that can strengthen CSO technical skills are training, equipping, mentoring, and coaching as part of technical assistance and supervision. Training pedagogy for CGD will include information about new methodologies across the three categories presented in Section 2.2, geographical maps, and varied protocols or tools for compilation of diverse types of data. Table 6 contains a summary of what NSOs can do to support CGD given that CGD can be generated using different approaches.

3.11. Data literacy and analytical capacity

The previous table showed that CGD production efforts need invaluable technical support to collect minimal proxy indicators that will inform SDG 5 and other SDG gender-related indicators. Civil society and private sector capacity to undertake small-scale quantitative studies can benefit from the expertise of NSOs or other country NSOs models through a south-south cooperation. In either case, there is a need to determine the incentives and sustainability for both parties in the process, promote collaboration in the collection of information, solve a problem, and enable sharing with other stakeholders.

Strengthening the data literacy and skills of CSOs, private sector and NSOs in CGD methodological approaches will promote meaningful participation in national and local development processes that inform SDGs especially Goal 5 indicators and related gender indicators. Some countries have institutionalized gender in their data production programmes in the form of gender-specific modules or engendered the tools, mainstreamed gender-responsive strategies in the NSDSs and developed gender capacity-building programmes.

Figure 5: Gender-Responsive Statistical Value Chain (Stages)

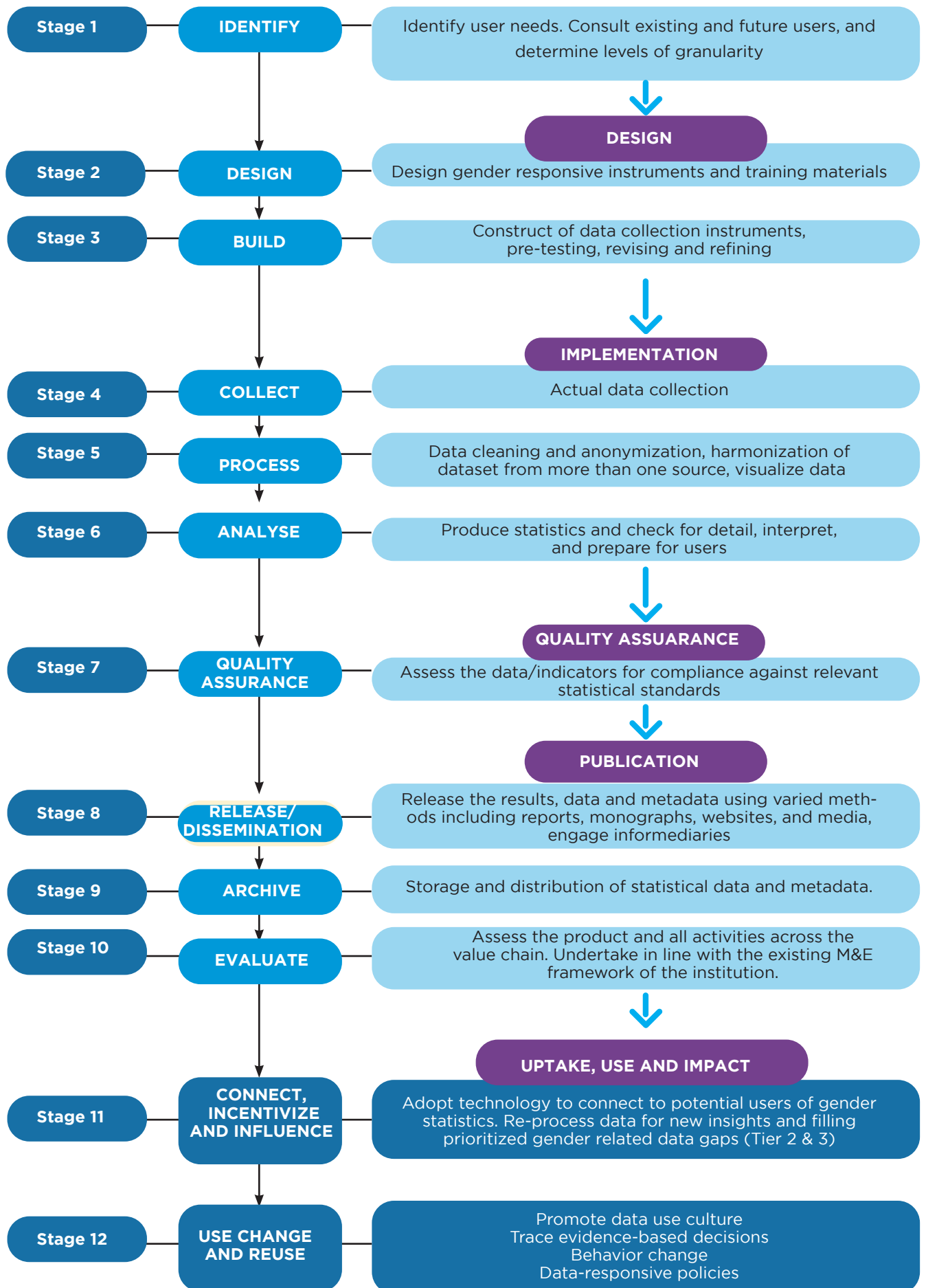


Table 5: Role of NSOs in CGD quality assurance and training

Broad category	NSO Involvement	Notes
Qualitative Methods	Train statisticians on integration of qualitative and quantitative methods	This will benefit mainly statisticians involved in compilation of demographic and socio-economic data
	Develop training modules on use of qualitative techniques in data collection and analysis	NSOs could develop training modules in collaboration with CSOs on the use of qualitative techniques and the integration of qualitative information and quantitative data
	Provide guidance on methodologies where the use of qualitative techniques/tools of data collection yields quantitative data.	Methods such as the CRC employ more quantitative approaches to generate information, while information from tools such as pairwise ranking and seasonal calendars can be analyzed using quantitative techniques
	Guide CSOs on how to generalize findings from qualitative assessments	NSOs could guide CSOs on selecting research sites and respondents to ensure appropriate representation of the findings
	Utilize findings from qualitative techniques to enrich/explain findings from quantitative studies	When studies are carried out around the same time, findings from one study can enrich the other.
	Utilize findings from qualitative studies to revise the quantitative data collection tools	Findings from qualitative studies could provide an ideal springboard for the revision of data collection questionnaires/tools. In 1999, the NSO of Uganda utilized findings from the Participatory Poverty Assessment (PPA) to introduce a Welfare Section in the Uganda National Household Survey (UNHS).
	Conduct data collection using both quantitative and qualitative techniques to maximize the benefits	Both qualitative and quantitative techniques could be employed either simultaneously or one conducted after the other.
Advanced technologies	Regularly conduct research on the potential tools and sources of information to inform SDG gender indicators	There are numerous sources of information, many of which do not provide accurate information. It should also be noted that some approaches are very expensive to manage, and the tools could be rendered useless whenever there is a change in technology. For instance, the applications for operation of robots and form-scanning technologies.
	Mobilize CSOs per institutional arrangements in the NSS to employ affordable methods to generate CGD	CSOs need guidance from those who are more informed on the most appropriate and affordable advanced data collection technologies to adopt.
Phone-based approaches	Work in collaboration with CSOs and mobile phone service providers to design the best methodologies for CGD reporting and information sharing	Use of phones to report and share information is very expensive. Phone service providers could guide on cost-saving techniques for the sustainability of CGD generation by the CSOs.

NSOs have the technical competence to analyze quantitative data in a meaningful way. However, many public institutions including NSOs and CSOs fall short of managing qualitative methodological approaches. In the emerging data revolution, NSOs need to develop skills and mechanisms that will enable them to empower their staff, and subsequently provide support and guidelines on alternative data sources and the qualitative data space of CSOs.

The matrix in Annex 1 presents possible short, medium and long-term measures for CGD in general to guide the process. The *UNPulse Lab Kampala* <https://refugees.unglobalpulse.net/> compiles data from citizens that have generated invaluable information for the health and education sectors in Uganda.

For example, one of its projects used the Radio Content Analysis Tool, an automated speech-to-text technology developed by the Lab for less-known languages, to analyze public discussions aired by local radio stations to support the Government's refugee open-door policy. The hypothesis was that the systematic analysis of what people say on the radio regarding their situation, concerns, and needs provides actionable insights for programme implementation. They used an artificial intelligence technology that transcribed audio content into text, which could then be analyzed using machine learning, for topics of interest relevant to the SDGs. Such initiatives have complemented survey findings undertaken by the statistics offices (UNPulse lab 2018).

The inclusion of women's voices and gender-related issues in the media increased the power to promote women's empowerment by breaking the circle of inequality and dependence. In Uganda, two women-focused local radio stations, Mama FM and Speak FM <http://www.unesco.org/archives/multimedia/document-4819>, aim to tackle gender inequality in Uganda. Similarly, The African Woman and Child Feature Service (AWC), also a media-focused, NGO runs programmes focused on gender equality for sustainable development (AWCFS, 2017). However, the capacity to analyze the content to generate meaningful information for SDG 5 and other related indicators is limited in many cases.

Notwithstanding, leveraging NSOs technical competence can enable CGD practitioners to:

- understand the coverage of their data
- assess the quality of their data
- increase the comparability of data by ensuring standard approaches in the design of data collection programmes
- promote CGD initiatives for increased and appropriate use of the data for official purposes (Statistics Canada 2018).
- embrace CGD methodology for SDG gender-related indicators reporting
- provide baseline data from surveys and censuses to build gender-based action research.

CSO CGD capacity-building efforts will focus on ensuring that data collected is of acceptable quality and consistent with the traditional statistical value chain at micro-level regardless of the tools used. Strengthening capacity for GEWE reporting will entail increasing the focus on understanding CGD collection techniques, analysis, management, feedback, dissemination, and preparation of reports.

Universities involved in teaching qualitative approaches and data science, among others can also play a complementary role in the growth and expansion of the CGD ecosystem.

The CSOs and private sector institutions that need knowledge related to gender analytics will benefit from trainings that cover:

- Basic concepts and definitions pertaining to gender and CGD.
- Skills in designing instruments that can capture the diversity of women and men, boys and girls using application on mobile phones, data scrapping, cloud sourcing, balance scorecards, community cards, among others.
- Techniques in data collection methods that reduce the incidence of gender bias in the data.
- CGD tool orientation - balance scorecard, community questionnaire,

interview guide, qualitative data analysis, imagery, action research, and FGDs, etc.

- Analytical skills to correctly assess and present the differences and inequalities between women and men in view of the indicators being measured.

As part of the capacity enhancement field, planning for follow-up and backstopping missions to assist the volunteering women, girls, and men (field teams) to participate in the data collection is key. The teams must be oriented before deployment. Also, further training for development and operationalization of the CGD database is necessary and persons with the

requisite IT skills set must be hired to support interested CSOs to update and upload the data on a shared database whenever it is available.

To ensure effective citizen participation, locals of a given community need to provide individual views to assist the government and partners to appreciate their perspective of the problem and solutions through a win-win situation. Finally, key actors in the data ecosystem have to engage in dialogues about CGD data governance to inform potential areas of capacity enhancing. CSOs and NSOs may also gain from training provided by the private sector experts, especially in aspects such as data analytics.

4 GUIDANCE ON COMPILATION OF GENDER-RESPONSIVE CGD FOR SDG 5 REPORTING

4.1. Introduction

These guidelines for the collection of CGD for reporting SDG 5 and other SDG gender-related indicators build on existing efforts to harness CGD for SDG monitoring and reporting, the UN Fundamental Principles of Official Statistics (UNFPOS) and the Human Rights Based Approach to Data (HRBAD). These frameworks provide guidance on the pathway to strengthening CSOs, private sector and NSO nexus along the CGD value chain. The primary activity areas where collaboration will be essential are data collection (user assessment, design, analysis), quality publication and dissemination, and monitoring and evaluation. CGD compilation practices may differ from official statistics but the consistency of SDG 5 GEWE indicators, definitions, and vocabulary will be key for effective monitoring and reporting.

CGD complements official statistics so that it is desirable that CSOs and NSOs work closely on sampling frames, terminologies, standards, definitions, vocabularies, tools, and assurance of data fitness for use without compromising the rights to privacy and data protection. An acceptable CGD chain respects and protects personal identity, dignity, and rights of women, girls, and other marginalized groups. CGD approaches promote openness, which increases user access to data and information related to gender issues in their community. Consistent with the HRBAD, the guide therefore reinforces the principles of participation, data disaggregation, and collection by the population group, self-identification, transparency and privacy (OHCHR 2016).

Advocacy for CGD for SDG reporting must precede the data production chain mentioned

earlier in this chapter. Advocacy is more effective where CGD needs are relevant for sub-national, national, and international development efforts. Creating awareness about the programme and the intended data collection approaches in the community of practice should involve the targeted groups and local media houses as much as possible.

This chapter is structured around six broad areas of primary activities identified for collaboration: assessment, design, implementation (actual data collection and analysis), quality assurance, publication and dissemination, monitoring and evaluation (impact).

4.2. Assessment

CGD for reporting on the gender-related SDG indicators aims to collect data that complements official statistics and that can be used for prompting and ensuring accountability in public service delivery. Mapping, reaching out to, and consulting key stakeholders, especially users, marks the beginning of this stage. The CSO needs to determine the SDG indicator/s that must be frequently reported at the community, sub-national or national level based on user assessment. Citizens have diverse data needs so the starting point of the CGD value chain should be determining the priority needs in each segment of the population, government sector, and other key potential users.

With respect to GEWE, women's participation as primary users of basic services in health, education, agriculture, and water, among others, is necessary. However, a segment of men in the community can be involved. During this phase, the CSO should begin to:

- identify the gender-related problem in view of the GEWE indicator as guided by the programme intervention and its policy implication;
 - define and document the process of user engagement and sensitize users on how they will access information;
 - embed users' views in the presentation of information and data, the associated commentary, datasets, and metadata;
 - provide users with information about the quality assurance measures that will be considered, including any statistical biases;
 - seek feedback on their lived experiences and timing of outputs;
 - develop a tool to generate tangible and comparable results; and
 - mobilize women, children, and other marginalized members of the community to participate in the process.
- e) involves users in the evaluation of emerging results and their implications for policy at the community and other administrative levels (UNBS, 2016).

In addition, deeper consultation with other implementing CSOs, NSOs and other government ministries, departments, and agencies in the related focus area commences during this phase. Subsequently, consistency with existing frames from the NSO will help to link the CSO micro data to the bigger samples covered by the NSO. The dialogue with the NSO at this level will help to:

- Establish plausible areas of matching CGD gender-related records from samples in the national surveys
- Determine data gaps
- Identify quality mechanisms to observe
- Increase commitment to recognize its relevance in informing development planning and SDG reporting

Subsequently, the CSO and private sector institution determines the best-fit tools to use and, with reasons consistent with international standards and ethical issues, produces relevant data. For example,

In Ghana, having been involved in the initial stages of the project, local women leaders used the data to demand and get their District Assembly to build public toilets in the Garu marketplace, noticeably decreasing unsanitary conditions (Scheid 2019).

Identification of key data users and producers to inform an indicator depends on the program agenda or business case in the case of a private sector institution, which must be consistent with the GEWE objectives. For example, a CSO implementing a project addressing unpaid care work in response to indicator - '5.4.1 Proportion of time spent on unpaid domestic and care work' can, through deeper consultations with other practitioners, map out existing literature, initiatives, practices, and methods from research, users, practitioners, and other entities in government and non-government that compile the related data.

User engagement for CGD sharpens focus on the key issues and enhances confidence in the CGD. More so, the involvement of women and girls in this regard through consultative meetings, workshops, and online surveys is critical during this stage. As a critical phase of the data production chain, user engagement determines the final use of the information so that it must '*not only be done*' but '*must be done right*'. It is at this point that the relevant community practices are unveiled and can best be achieved if the CGD producer:

- a) defines and documents the process of user engagement;
- b) makes users aware of how they will participate and later find the information that they need;
- c) takes account of users' views on the presentation of findings from a qualitative and quantitative approach including new e-approaches and associated commentary;
- d) provides users with information about the quality assurance plan, including any statistical biases; and,

4.3. Design

The design phase precedes implementation. This step under the CGD value chain aims to develop and build the instruments. As such, the CGD producer needs to:

- a) List anticipated internally desired and SDG gender indicators.
- b) Determine data collection requirements
- c) Confirm the scope of the sample noting the unit of interest for the CSOs or private sector institutions. The confirmation ensures that duplication of efforts or conflicting programs are avoided, hence promoting efficiency.
- d) Ensure that the size and design of the sample reflects the granularity needed in tabulations and other data products and the precision required of key variables.
- e) Determine appropriate CGD approach (See Table 7) based on affordability, user-friendliness, and output of real-time information.
- f) Design tools for collecting relevant data (quantitative or qualitative) within the geographical frame (provided by the NSO) to enable linkage to an existing survey.
- g) Prepare a tabulation plan to guide data analysis in case of quantitative data or analytical structure for qualitative data to inform the required indicator/s.
- h) Define the responsible actors (women, girls, and persons with disabilities) and their roles in the regular generation of data. This will go a long way in enabling the sustainability of the interventions.
- i) Prepare the GEWE CGD user manual consisting of a list of standard operating procedures that explain the data production chain highlighting how different tools, concepts and contexts should be viewed.

Table 6: Key design stage actions for the different CGD approaches

Advanced Technology Approach	Phone-Based Approach	Community Engagement Approach
<ul style="list-style-type: none"> • Emails • Internet • Imagery <p><u>Key actions:</u></p> <ul style="list-style-type: none"> • Design the application(s) to facilitate the collection of CGD • Test the applications in preparation for data collection • Decide on the reporting sites • Identify the reporters and the frequency of reporting • Streamline the flow of information • Design the database 	<ul style="list-style-type: none"> • Short Message Services (SMS) • Social Media (SM) • Phone calls (PCs) <p><u>Key actions:</u></p> <ul style="list-style-type: none"> • Define the type of phone based on the application to be used • Design the application(s) to facilitate the collection of CGD • Test the applications in preparation for data collection • Decide on the reporting sites • Identify the community reporters and the frequency of reporting • Streamline the flow of information • Design the database 	<ul style="list-style-type: none"> • Community Score Cards (CSC) • Citizen Report Card (CRC) • Sample surveys (SS) • Qualitative studies (QS) <p><u>Key actions:</u></p> <ul style="list-style-type: none"> • Introduce the SDG gender indicators to the community • Agree with the community members/ service recipients/ citizens on the priority issues/ indicators to report on the related scores. • Identify the service providers • Design the application(s) to facilitate the collection of CGD • Test the applications in preparation for data collection • Determine the representative sample/ study areas • Identify the community reporters/ facilitators/ volunteers and the frequency of reporting • Streamline the flow of information • Design the database

- j) Explain new and rare technical words and illustrations of technology images to improve visualization of tools. Include basic information on the 'Do's and Don'ts' to control the quality of work.
- k) Prepare data collection instruments, schedule of work, cost estimate, and appropriate methods, and,
- l) Document processes at each level.

Overall, different CSOs and private sector firms will utilize different data collection tools and questions relevant to their respective programmes. However, the tools should include some standard questions that capture background characteristics and the geographical setting of the respondent or community group. Qualitative CGD has the potential to explain the achievement of targets and the related indicators for local actions.

4.4. Implementation - Data collection

Effectively implementing the foregoing tasks complements traditional approaches and depends on the type of data, context, focus area, and expected use of the data. Some CGD approaches require advanced technology while others do not. For example, a CSO may choose community score cards - an established and well-evaluated participatory monitoring methodology. Regardless, the issue or programme for potential CGD must relate to SDG 5 and any SDG-related gender indicators. In section 2.2, the high costs involved in data collection featured, particularly for approaches that use advanced technological platforms, phone-based systems, and community engagement.

Key implementation activities of the data production chain include: defining and undertaking data collection; processing involving data cleaning and anonymization; harmonizing datasets from more than one source; data visualization; analysis to produce statistics and check for detail, interpret, and prepare for users; and write reports in line with the approach chosen in Table 6. The CSO, private sector institution or others should therefore:

- a. Organize a training of trainers facilitated by experienced persons from the NSO, university, or research organization for identified women and/or girls deployed as data collectors.
- b. Pilot the tools to develop a reliable final version. If the method involves a web-based or offline mobile application, the training should include orientation and testing of the application.
- c. Subject tools to a validity test given that gender issues manifest at the household and community levels. Kothari (2004) defines validity as the indication of the degree to which an instrument measures what they were intended to measure. It is the measure of trustworthiness or strength of the findings or conclusion.
- d. Gain skills to analyze, present, and use the data for own decisions and learning and systematically inform national efforts, that is, policies and development frameworks.
- e. Document every step of the process including the importance of the method chosen, how it is applied, capacity requirements, duration of the exercise, and data collection.

The Africa Gender Barometer noted that the validation of data with government entities is critical for buy-in and to increase the credibility of the evidence presented by civil society⁷. CSOs partnering with NSOs and academic bodies need to establish from their key users what is considered acceptable data quality and what still needs to be done to increase trust and use of CGD for official purposes.

In Tanzania, guidelines in the form of a methods and standards manual are available at the National Bureau of Statistics to guide all data producers. They require data producers outside the NSO to obtain permission prior to undertaking any survey. Uganda also gazetted 'Rules for Censuses and Surveys' to serve the same purpose.

⁷ To be established

4.5. Quality Assurance

Ensuring consistency with the quality framework dimensions including completeness, relevance, and consistency, amongst others guarantees fitness of the data and statistics for use.

Engaging CSOs to ensure compliance to the QACF in their CGD initiatives can generate information about its institutional environment, data production processes, and final information or statistics.

The PAL Network illuminated why trust in CGD was limited. Some of the reasons include: the involvement of citizen-volunteers in conducting the assessment, which raises data quality and reliability issues; the simplicity of assessment tools, which may be considered to imply an absence of complexity and precision; and limited distinction of who the respondent should be in a sampled household. Additional concerns include lack of replicability and limitations in scaling up the findings (Wilson 2018).

Thus, the CGD metadata trail should be consistent with UNDQAF used in official statistics. Countries with national quality assessment frameworks may consider assisting them during this phase particularly during planning, design of instruments, data collection, data analysis, report preparation, and dissemination of the results.

In addition to quality dimensions for non-traditional data, participation as a principle of inclusiveness increases the relevance of data. According to Tracey (2010), key quality markers for qualitative information include:

- a) worthy topic (relevance)
- b) rich rigor (methodological soundness)
- c) sincerity (accuracy)
- d) credibility
- e) resonance (reliability)
- f) significant contribution (relevance)
- g) ethics, and
- h) meaningful coherence (consistency).

It is important that producers of qualitative data in NSOs and CSOs recognize and adhere to the foregoing key quality markers in all the data they collect and compile regardless of method, mode, or platform.

4.6. Publication and Dissemination

It is important for producers of GEWE CGD to understand that documentation of metadata and publication thereof form an essential part of ensuring transparency and is a litmus for the robustness of whichever data collection approach is used in all its forms. It increases trust and credibility, facilitates information-sharing, and enables appropriate interpretation of information by producers and users in the data ecosystem. Effective dissemination of CGD is a key dimension of establishing and managing any data ecosystem.

CSOs therefore need to:

- a) disseminate findings including the metadata of processes along the CGD value chain and anonymized data (where applicable),
- b) archive record or data set,
- c) develop a quality assurance plan,
- d) compile CGD metadata of the programme prior to any dissemination initiative and describe all terms, definitions, compilation processes etc., along the data production cycle/statistical value chain,
- e) make available real-time and credible information defining the standard by which the CGD was produced for users,
- f) demonstrate anonymity of CGD providers during dissemination of findings to cement citizen trust and participation, and
- g) harmonize CGD from different sources into one database, dissemination platform, and annual report by sector and programme.

4.7. Uptake, Use and Impact of CGD

Increasingly, monitoring progress along the GEWE CGD value chain is essential for continuous improvement. This calls for preparing and tracking uptake, use, and observable traces of CGD use for policy and decision-making. To ascertain this, CSOs and private sector

institutions need to integrate monitoring and evaluation of CGD initiatives in their processes.

The uptake and use of CGD is limited by inherent characteristics that contrast with official statistics. There is limited evidence about the impact of CGD initiatives on development policy and practice but some authors point to important intermediate dimensions of citizen engagement and the impact of CGD initiatives. There is need to bridge CGD to potential stakeholders by:

- adopting technology that enables connectivity with potential users in government and public to increase uptake and efficiency,
- engaging experts (data scientists/statisticians) to transform the CGD data to show precision and integrity,
- re-processing data for new insights to fill prioritized gender-related data gaps observed in GEWE SDG Tier 2 indicator,
- increasing access to data by agreeing on matters of trust. It is argued that private sector firms (e.g., Twitter) may be reluctant to share or allow free access to their information yet others sell data services and technology platforms.

4.8. Monitoring and evaluation

Monitoring and evaluation (M&E) provides feedback about the whole CGD value chain, including assessment, design, implementation, and quality assurance to build an effective CGD ecosystem. M&E is also required to assess uptake, use, and impact of CGD. The establishment of robust monitoring systems for all potential data sources can enhance the country's achievements for the 2030 Agenda for Sustainable Development. In the spirit of harmonization, monitoring should preferably take place in the context of joint efforts between programme implementers and the statistics office. The monitoring process of CGD initiatives should involve CSO and private sector stakeholders, including community leaders, business investors - especially women representatives - local government, and the relevant ministries, and development partners.

Performance monitoring with respect to CGD initiatives should be continuous (e.g., monthly, quarterly), depending on the lifetime of the programme. To guarantee data quality, each citizen-led data collection needs to be supported by a monitoring and re-check framework as well as spot checks to ensure that data is available in real-time.

During evaluation, an assessment should be made of whether CGD evidence met the requirements of official statistics, and also whether it supported monitoring and reporting of SDG 5 and related SDG gender-related indicators. To the extent possible, evaluators should check whether the CGD approaches applied and resulting data played a complementary role to official data in order to draw lessons for the future. The findings should also enable CSOs and the private sector to ascertain their contribution (impact) towards meeting relevant SDG 5 targets. Evaluations should be annual or undertaken at the end of the project depending on the life cycle of the programme. The assumption is that during the first years, a lot of technical support toward compilation of CGD would be required. The log frame or results indicators matrix developed after defining the indicators will guide the process.

4.9. Conclusion

Compilation of CGD from different production approaches can be standardized through the proposed core steps embedded in the data value chain namely: assessment; design; implementation; quality assurance; publication and dissemination; uptake, use, and impact of CGD; and monitoring and evaluation. Operationalizing the proposed steps increases consistency of the guide with the HRBD principles that underline active and meaningful participation of relevant marginalized population groups, filling of capacity gaps, and monitoring of processes to ensure that there is effective stakeholder engagement and disaggregation that respond to the adage of 'Leaving No One Behind'. Furthermore, compliance to the data quality frameworks for quantitative and qualitative approaches increases the trust and reliability of CGD to be used for policy, planning, and decision-making. This will not only amplify the voices of citizens, but also serve as a complementary source to official statistics.

5 CONCLUSION AND RECOMMENDATIONS

Within the context of a dynamic data landscape and our interactions with that landscape, data producers and users have to adjust and innovate in order to remain relevant and meet rapidly-evolving demands for data and information. The changes are primarily the result of technological innovation and are taking place at a time when the relationship of individuals and communities with data has also been changing – especially in relation to the transparency and individual control over personal data. Within this changing data context, the aspiration of the Sustainable Development 2030 Agenda of “Leaving No One Behind” and the imperatives of the HRBAD places a responsibility on planners and the producers of data to ensure that the voices of citizens and, more specifically, those of marginalized groups and individuals, are included and amplified.

It is evident that National Statistical Offices (NSOs) still face challenges in identifying, adopting, and leveraging the opportunities created by the data revolution. Technological change and the need for greater inclusion and citizen participation in both planning and data-related activities have made it necessary for them and other role players in the SDG process, to reconsider the potential role of non-traditional data sources, such as CGD, in NSSs in general and SDG processes in particular. Anecdotal information indicates that citizen-led processes and CGD can make the problems of poor and vulnerable populations more visible. CGD can potentially be complementary to more traditional and official data sources as they tend to be more inclusive, localized, and versatile, and have the potential to mobilize action.

There is currently a lack of general acceptance of CGD by the statistical community because of concerns about quality, lack of metadata, and representativity. This guideline is thus

aimed at: fostering systematic and deliberate data compilation by CSOs as part of GEWE programmes; providing data production mechanisms for CSOs with adaptations consistent with the statistical value chain (needs assessments, collection, processing, analysis, and interpretation); and strengthening CSOs’ capacity and knowledge for developing equitable and efficient gender-responsive policies and interventions to inform SDG tracking. The guideline targets non-state actors, and other potential users including NSOs, government ministries, departments, and agencies, development partners, the private sector, research institutions, and academia that produce actively-generated CGD.

The primary objectives of the guidelines are to:

- i. Provide a systematic ‘step-by-step’ approach to compiling CGD to complement official gender statistics for monitoring and reporting on SDG 5 and SDG gender-related indicators.
- ii. Identify sustainable mechanisms for the development and maintenance of a GEWE CGD ecosystem in the NSS.

The data revolution invigorated a dynamic statistical landscape that embraces non-traditional sources of data with granular information to complement traditional data sources. This concern was re-echoed at the Cape Town (2017) UN World Data forum where countries were encouraged to develop guidelines that can facilitate the growth and integration of non-traditional sources into NSSs. The notion of embracing non-traditional data sources resonated with the need to engage citizens in the collection and use of information to inform sub-national planning, decision-making, and monitoring of development progress.

CGD is an example of a non-traditional data source that creates a dilemma to the producers of official statistics. However, while both sources present financial and methodological challenges, the CGD ecosystem provides opportunities that NSOs can leverage to fill gaps where granular data is most needed for planning and policy formulation.

To promote the co-existence of both data sources, strategies and structures for effective coordination and collaboration between the responsible government machinery and civil society actors is essential. Whereas new structures may be initiated, building on existing NSS gender statistics coordination mechanisms is encouraged throughout the document.

Determining priority indicators by sector in line with the national and international framework can reveal a win-win for CGD producers and users. It also helps to determine the data production approach and choice of tools, roles and responsibilities, and requisite skills set.

Availability of skills at the NSO and CSO level will determine the extent of technical support needed. While using quantitative methods, NSOs probably have the strongest sets of expertise at the national level. However, they fall short when it comes to manipulating information from non-traditional data sources. Partnership with universities involved in teaching qualitative approaches and data science, among others, is therefore the proposed short-term strategy to grow and expand the CGD ecosystem.

The guide provides for training NSOs in the requisite analytical competencies for the different methodological approaches including big data, social media, web scraping, satellite

imagery, and managing and processing qualitative data, among others.

These guidelines have been developed using a systematic approach comprising six steps, namely: assessment, design, implementation, quality assurance, publication and dissemination, and, monitoring and evaluation. The guidelines benefited from the UNFPOS and the HRBAD, which underline participation of key beneficiaries - in this case, women, girls and other marginalized population groups - in data collection and use.

The key contention was how CSOs and NSOs will achieve quality data/information that is fit for use, but provisions for data quality assurance mechanisms have been developed for both quantitative and qualitative approaches. The guideline recommends that CSOs and NSOs comply to the UNFPOS and quality markers for qualitative data.

Availing information to the user increases its use and trust. CGD producers are encouraged to publish and disseminate emerging information, which must be in user-friendly formats and accessible forms with clear metadata to increase use and comparability of information from different sources.

NSOs are encouraged to support CSOs as data owners to generate and ensure metadata items are completed, and periodically reviewed for correctness and quality to the satisfaction of users. The production of metadata by CGD producers is essential to increasing the transparency and replicability of processes and findings. This is feasible if an M&E mechanism, which is implemented in partnership with NSOs, exists for CGD programmes.

GLOSSARY

Big Data	This refers to large sets of diverse structured and unstructured information that grow at ever increasing rates. Big data is characterized by 3 V's – Variety, Velocity and Volume.
Citizens	These are groups of persons belonging to a given state with entitlement to protection as they give allegiance.
Citizen science	Is the engagement of ordinary persons to collect data that enables them understand their environment and make it better.
Citizen sensing	Where relevant persons and communities are engaged in the collection and generation of information to understand an issues using powerful tools such as sensor technologies.
Citizen journalism	The act of citizens, or a group of them playing an active role in the process of collecting, reporting, analyzing and disseminating findings and information about an event. ⁸
CGD ecosystem	This is the environment where all CGD practitioners (producers and users) interact through different and interdependent roles, responsibilities and actions to address a given issues.
Citizens' observatories	These are community-based environmental monitoring and information systems where citizens participate in the observation of issues in their environment. The marginalized population groups can be deliberately involved by giving them applications fixed in portable or mobile personal devices.
Civic technology	Is the technology deployed to give population groups more voice to participate in public decision making and/or to enhance the relationship between people and government towards improve service delivery.
Community-based monitoring	Is where the local beneficiaries are involved (drawn in, activated and motivated and empowered) to participate and give feedback about the functionality of a service or development program to bring about optimal results. ⁹
Community Policing	Is where the police cooperatively engages individual citizens and/ groups of citizens, from both public and private organizations to identify, prevent and resolve issues which can potentially effect safety in the community and its neighborhoods areas, or the city as a whole.
Community Score Cards (CSC)	Is a participatory, community based monitoring and evaluation tool that enables citizens to assess the quality of public services such as a health center, school, public transport, water, waste disposal systems among others. ¹⁰

8 Shayne, B. & Wills, C. (2003). We Media: How Audiences re Shaping the Future of News and Information. (Lasica, EdO Reston: The Media Center at the American Press Institute.

9 Suneela, G. & Ananya, R. L. (2010). Community-Based Monitoring: Key to Success of National Health Programs. *Indian J Community Med.* 2010 Apr; 35(2): 214–216.

10 https://civicus.org/documents/toolkits/PGX_H_Community Score Cards.pdf

Co-production	The interactions between people or groups 'identities and capabilities' and place that lead to ecosystem services (data production) here 'co-production', relates to the structures, services and their engagement that facilitate CGD production and use. ¹¹
Crowdsourcing	Is the practice of engaging a 'crowd' or group of citizens and empowering them with greater voice for a common goal – often innovation, problem solving, or efficiency enhanced by new technologies, social media and web 2.0.
Data communities	Refers to specialized groups that appreciate, value and harness data to report findings
Data literacy	Technical skills-building and efforts to inculcate a 'culture of data use.
Data revolution	Is "The integration of data coming from new technologies with traditional data in order to produce relevant high quality information with more details and at higher frequencies to foster and monitor sustainable development. This revolution also entails the increase in accessibility to data through much more openness and transparency, and ultimately more empowered people for better policies, better decisions and greater participation and accountability, leading to better outcomes for the people and the planet". ¹²
Data scrapping	Is when Internet-based data retrieval methodologies, used without the permission of the data owner. Data scraping can be manual or automatic - where conducted automatically, machine-to-machine interaction is used. ¹³
Drones	These are the unmanned overhead or aerial imaging technology used for data collection. The images can show the location of all points of desired features.
Evidence Based	Use of facts to report events
Environmental monitoring	Processes and activities for assessing the quality of environment to against circumstances where human activities carry a risk of harmful effects.
Grassroots mapping	Is a set of technical practices and technologies that can be passed from experts to trainees without providing time for the development of shared norms or cultural meanings around the tools. ¹⁴
Short Message Services (SMS)	The transmission of short text messages to and from a mobile phone, fax machine and/or IP address. Messages must be no longer than 160 alpha-numeric characters and contain no images or graphics.
Open Source Initiative (OSI)	An organization formed in 1998 to promote usage of Open Source software.

11 Fischer, A. & Eastwood, A. (2016). 'Coproduction of ecosystem services as human-nature interactions—An analytical framework. [Land Use Policy](#). Vol. 52, March 2016, Pages 41-50

12 UN Secretary General's Independent Expert Advisory Group (IEAG)

13 <https://privacylawblog.fieldfisher.com/2019/data-scraping-considering-the-privacy-issues>

14 Dosemagen, S, Warren, J. & Wylie, S. (2017). Grassroots Mapping: Creating a participatory map-making process centered on discourse. Public Laboratory for Open Technology and Science.

Open development	Open development seeks to bring the philosophy of the open movement to international development. It promotes open government, transparency of aid flows, engagement of beneficiaries in the design and implementation of development projects, and availability and use of open development data.
Participatory Action Research	An approach to research in communities that emphasizes participation and action. It seeks to understand the world by trying to change it, collaboratively and following reflection. PAR emphasizes collective inquiry and experimentation grounded in experience and social history.
Participatory data collection	Collection of data/ information of qualitative nature.
Participatory design	An approach to design attempting to actively involve all stakeholders (e.g. partners, citizens, end users) in the design process to help ensure the result meets their needs and is usable. Participatory design is an approach which is focused on processes and procedures of design and is not a design style.
Participatory Rural Appraisals (PRA)	An approach used by non-governmental organizations (NGOs) and other agencies involved in international development. The approach aims to incorporate the knowledge and opinions of rural people in the planning and management of development projects and programmes
Participatory mapping	A set of approaches and techniques that combines the tools of modern cartography with participatory methods to represent the spatial knowledge of local communities. It is based on the premise that local inhabitants possess expert knowledge of their local environments which can be expressed in a geographical framework which is easily understandable and universally recognised.
Satellite imagery	Images of Earth or other planets collected by imaging satellites operated by governments and businesses around the world.
Sensing devices	Devices, modules, machines, or subsystems whose purpose are to detect events or changes in its environment and send the information to other electronics, frequently a computer processor.
Social Media	Interactive computer-mediated technologies that facilitate the creation or sharing of information, ideas, career interests and other forms of expression via virtual communities and networks.
Citizen Report Card (CRC)	A participatory social audit tool based on user feedback on public service delivery.
User-Generated Content	The term used to describe any form of content such as video, blogs, discussion form posts, digital images, audio files, and other forms of media that was created by consumers or end-users of an online system or service and is publically available to other consumers and end-users.
Volunteered geographic information	The harnessing of tools to create, assemble, and disseminate geographic data provided voluntarily by individuals.

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ANNEXES

Annex 1: Primary roles and responsibilities in the CGD ecosystem

Statistics Value Chain Activity	Typical Activities for CGD	Short to Medium Term			Long Term		
		Data Producer	SDG steering committee	NSO/Training Institutions	Data Producer	SDG steering committee	NSO
Identify	Participatory process of project design and identification of information/data needs	Consultations and information gathering	Engage stakeholders and provide technical guidance	Share the quantitative/qualitative data with the CGD data producers	Consultations and building partnerships	Forge partnership with potential CGD data producers	Share the quantitative data and information sources with the CGD data producers
Design	Participatory design of collection methods and instruments	Design data collection methodologies and instruments	Review data collection methodologies and instruments	Provide technical support for the quantitative/qualitative data collection methodologies and instruments	Standardize the data collection methodologies and instruments	Review the standardized data collection methodologies and instruments	Provide technical support for the standardized quantitative data collection methodologies and instruments
Build	Participatory development and testing of applications, methods and tools	Pretest and pilot the data collection methodologies and instruments	Review the pretested and piloted the data collection methodologies and instruments	Provide technical support for the quantitative/qualitative data collection methodologies and instruments	Refine the data collection methodologies and instruments	Review the pretested and piloted the data collection methodologies and instruments	Provide technical support for the quantitative data collection methodologies and instruments
Collect	Participatory and often qualitative collection process	Conduct participatory and qualitative data collection	Supervise the participatory and qualitative data collection	Provide technical guidance on the selected study sites and non-traditional sources	Conduct participatory and qualitative data collection	Supervise the participatory and qualitative data collection	Provide technical guidance the selected study sites
Process	Some quantitative and qualitative data need to be coded and sometimes cleaned and edited	Data coding and editing of the qualitative and quantitative data	Review the coding and editing guidelines of the qualitative and quantitative data	Provide technical support on the data coding and editing of the qualitative and quantitative data	Develop data coding and editing guidelines of the qualitative and quantitative data	Review the coding and editing guidelines of the qualitative and quantitative data	Provide technical support on the data coding and editing guidelines of the qualitative and quantitative data

Statistics Value Chain Activity	Typical Activities for CGD	Short to Medium Term			Long Term		
		Data Producer	SDG steering committee	NSO/Training Institutions	Data Producer	SDG steering committee	NSO
Analyze data	Explore, integrate, aggregate data from different sources	Analyze the data from the study and integrate in data from other sources	Review the draft reports	Share the data from the quantitative/ qualitative sources	Analyze the data from the study and integrate in data from other sources	Review the draft reports	Share the data from the quantitative sources
Produce report	Document the findings of the study	Prepare the study reports	Review the draft reports	Validate the information	Prepare the study reports	Review the draft reports	Validate the information
Disseminate	Report shared with participants, stakeholders and others	Share reports with stakeholders	Guide on the key stakeholders to receive the reports	Review the draft reports	Share reports with stakeholders	Guide on the key stakeholders to receive the reports	Review the draft reports
	Data made available in public domain	Avail data in public domain	Respond to feedback from the public	Share related quantitative information with the public	Avail data in public domain	Respond to feedback from the public	Share related quantitative information with the public
	Metadata documenting all steps and methods along the SVC published	Document all the CGD steps and methodologies	Review metadata for all the CGD steps and methodologies	Guide on the statistical concepts and definitions	Standardize all the CGD steps and methodologies	Review the standard metadata CGD concepts and definitions	Guide on the statistical concepts and definitions
	Quality assurance report produced	Follow the CGD quality assessment standards	Develop the CGD quality assessment standards	Review the CGD quality assessment standards	Follow the CGD quality assessment standards	Develop the CGD quality assessment standards	Review the CGD quality assessment standards
Archive	Report, data, metadata, quality assurance report and all other products developed during the process is archived	Archive the CGD reports, data, metadata, quality assurance report and all other products and tools developed	Review the quality of products/ items to be archived	NSO provide support to ensure the archival quality	Archive the CGD reports, data, metadata, quality assurance report and all other products and tools developed	Review the quality of products/ items to be archived	
Evaluate	The process and findings are evaluated as part of an iterative process of improving quality	Provide information for the evaluation of the CGD process and findings as part of an iterative process of improving quality	Evaluate the CGD process and findings as part of an iterative process of improving quality	Participate in the evaluation of the CGD process and findings as part of an iterative process of improving quality	Provide information for the evaluation of the CGD process and findings as part of an iterative process of improving quality	Evaluate the CGD process and findings as part of an iterative process of improving quality	Participate in the evaluation of the CGD process and findings as part of an iterative process of improving quality

Annex 2: SDG GEWE indicators by the proposed CGD method/tool

SDG GEWE indicator	Proposed CGD method/tool
1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)	CRC and Sample surveys
1.2.1 Proportion of population living below the national poverty line, by sex and age	As above
1.2.2 Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	As above
1.3.1 Proportion of population covered by social protection floors/systems, by sex, and distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, newborns, work injury victims, and the poor and the vulnerable	CRC, Surveys, and SMS
1.4.2 Proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure	CRC, CSC, Surveys, QS, and SMS
1.b.1 Proportion of government recurrent and capital spending going to sectors that disproportionately benefit women, poor and vulnerable groups	CRC and CSC
2.3.2 Average income of small-scale food producers, by sex and indigenous status	CRC, Surveys, and SMS
3.1.1 Maternal mortality ratio	CRC, CSC, Surveys, QS, and SMS
3.1.2 Proportion of births attended by skilled health personnel	CRC, CSC, Surveys
3.3.1 Number of new HIV infections per 1,000 uninfected population, by sex, age and key populations	CRC and sample surveys
3.7.1 Proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern methods	CRC, CSC, Surveys, and QS
3.7.2 Adolescent birth rate (aged 10-14 years; aged 15-19 years) per 1,000 women in that age group	CRC, CSC, Surveys, QS, and SMS
3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	CRC, CSC, Surveys, QS, and SMS
4.1.1 Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex	CRC, CSC, Surveys, and QS
4.2.1 Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex	CRC, CSC, Surveys, and QS
4.2.2 Participation rate in organized learning (one year before the official primary entry age), by sex	CRC, CSC, and Surveys
4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex	CRC, CSC, Surveys, and QS
4.5.1 Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict affected as data become available)	CRC, and , Surveys

SDG GEWE indicator	Proposed CGD method/tool
4.6.1 Percentage of population in each age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex	CRC and Surveys
4.7.1 Extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in (a) national education policies, (b) curricula, (c) teacher education and (d) student assessment	CRC, CSC, Surveys, QS, and SMS
4.a.1 Proportion of schools with access to: (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water; (f) single sex basic sanitation facilities; and (g) basic hand washing facilities (as per the Water, Sanitation and Hygiene for All (WASH) indicator definitions)	CRC, CSC, Surveys, QS, and SMS
5.1.1 Whether or not legal frameworks are in place to promote, enforce and monitor equality and non-discrimination based on sex	QS, and SMS
5.2.1 Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner, in the previous 12 months, by form of violence and by age	CRC, CSC, Surveys, QS, and SMS
5.2.2 Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner, in the previous 12 months, by age and place of occurrence	CRC, CSC, Surveys, QS, and SMS
5.3.1 Proportion of women aged 20-24 years who were married or in a union before age 15 and before age 18	CRC, CSC, Surveys, QS, and SMS
5.3.2 Proportion of girls and women aged 15-49 years who have undergone female genital mutilation/cutting, by age	CRC, CSC, Surveys, QS, and SMS
5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location	CRC, Surveys, and QS
5.5.1 Proportion of seats held by women in national parliaments and local governments	QS and SMS
5.5.2 Proportion of women in managerial positions	QS and SMS
5.6.1 Proportion of women aged 15-49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care	CRC, CSC, Surveys, and QS
5.6.2 Number of countries with laws and regulations that guarantee women aged 15-49 years access to sexual and reproductive health care, information and education	QS, and SMS
5.a.1 (a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure	CRC, CSC, Surveys, QS, and SMS
5.a.2 Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control to promote the empowerment of women	QS, and SMS
5.b.1 Proportion of individuals who own a mobile telephone, by sex	CRC, CSC, Surveys, and QS
5.c.1 Proportion of countries with systems to track and make public allocations for gender equality and women's empowerment	QS, and SMS

SDG GEWE indicator	Proposed CGD method/tool
8.3.1 Proportion of informal employment in non-agriculture employment, by sex	CRC, CSC, Surveys, QS, and SMS
8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities	CRC, CSC, Surveys, QS, and SMS
8.5.2 Unemployment rate, by sex, age and persons with disabilities	CRC, CSC, Surveys, QS, and SMS
8.7.1 Proportion and number of children aged 5-17 years engaged in child labour, by sex and age	CRC, CSC, Surveys, QS, and SMS
8.8.1 Frequency rates of fatal and non-fatal occupational injuries, by sex and migrant status	CRC, CSC, Surveys, QS, and SMS
8.8.2 Increase in national compliance of labour rights (freedom of association and collective bargaining) based on International Labour Organization (ILO) textual sources and national legislation, by sex and migrant status	QS, and SMS
8.9.2 Number of jobs in tourism industries as a proportion of total jobs and growth rate of jobs, by sex	QS, and SMS
10.2.1 Proportion of people living below 50 per cent of median income, by age, sex and persons with disabilities	CRC, CSC, Surveys, QS, and SMS
11.2.1 Proportion of population that has convenient access to public transport, by age, sex and persons with disabilities	CRC, CSC, Surveys, and QS
11.7.1 Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities	CSC, QS, and SMS
11.7.2 Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months	CRC, CSC, Surveys, QS, and SMS
13.b.1 Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth, and local and marginalized communities	QS, and SMS
16.1.1 Number of victims of intentional homicide per 100,000 population, by sex and age	CRC, CSC, Surveys, and SMS
16.1.2 Conflict-related deaths per 100,000 population, by sex, age and cause	CRC, CSC, Surveys, and QS
16.2.2 Number of victims of human trafficking per 100,000 population, by sex, age and form of exploitation	CRC, CSC, Surveys, QS, and SMS
16.2.3 Proportion of young women and men aged 18-29 years who experienced sexual violence by age 18	CRC, CSC, Surveys, QS, and SMS
16.7.1 Proportions of positions (by sex, age, persons with disabilities and population groups) in public institutions (national and local legislatures, public service, and judiciary) compared to national distributions	CRC, CSC, Surveys, QS, and SMS
16.7.2 Proportion of population who believe decision-making is inclusive and responsive, by sex, age, disability and population group	CRC, CSC, Surveys, QS, and SMS
17.18.1 Proportion of sustainable development indicators produced at the national level with full disaggregation when relevant to the target, in accordance with the FPOS	QS, and SMS

Annex 3: Gender Equality and Women's Empowerment (GEWE) Indicators

	Indicator	Tier	SDG
1	1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)	1	1
2	1.2.1 Proportion of population living below the national poverty line, by sex and age	1	1
3	1.2.2 Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	2	1
4	1.3.1 Proportion of population covered by social protection floors/systems, by sex, and distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, newborns, work injury victims, and the poor and the vulnerable	2	1
5	1.4.2 Proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure	3	1
6	1.b.1 Proportion of government recurrent and capital spending going to sectors that disproportionately benefit women, poor and vulnerable groups	3	1
7	2.3.2 Average income of small-scale food producers, by sex and indigenous status	3	2
8	3.1.1 Maternal mortality ratio	2	3
9	3.1.2 Proportion of births attended by skilled health personnel	1	3
10	3.3.1 Number of new HIV infections per 1,000 uninfected population, by sex, age and key populations	2	3
11	3.7.1 Proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern methods	1	3
12	3.7.2 Adolescent birth rate (aged 10-14 years; aged 15-19 years) per 1,000 women in that age group	2	3
13	3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	3	3
14	4.1.1 Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex	3	4
15	4.2.1 Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex	3	4
16	4.2.2 Participation rate in organized learning (one year before the official primary entry age), by sex	2	4
17	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex	2	4
18	4.5.1 Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict affected as data become available)	3	4
19	4.6.1 Percentage of population in each age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex	2	4

	Indicator	Tier	SDG
20	4.7.1 Extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in (a) national education policies, (b) curricula, (c) teacher education and (d) student assessment	3	4
21	4.a.1 Proportion of schools with access to: (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water; (f) single sex basic sanitation facilities; and (g) basic hand washing facilities (as per the Water, Sanitation and Hygiene for All (WASH) indicator definitions)	2	4
22	5.1.1 Whether or not legal frameworks are in place to promote, enforce and monitor equality and non-discrimination based on sex	3	5
23	5.2.1 Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner, in the previous 12 months, by form of violence and by age	2	5
24	5.2.2 Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner, in the previous 12 months, by age and place of occurrence	2	5
25	5.3.1 Proportion of women aged 20-24 years who were married or in a union before age 15 and before age 18	2	5
26	5.3.2 Proportion of girls and women aged 15-49 years who have undergone female genital mutilation/cutting, by age	2	5
27	5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location	2	5
28	5.5.1 Proportion of seats held by women in national parliaments and local governments	3	5
29	5.5.2 Proportion of women in managerial positions	1	5
30	5.6.1 Proportion of women aged 15-49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care	2	5
31	5.6.2 Number of countries with laws and regulations that guarantee women aged 15-49 years access to sexual and reproductive health care, information and education	3	5
32	5.a.1 (a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure	3	5
33	5.a.2 Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control to promote the empowerment of women	3	5
34	5.b.1 Proportion of individuals who own a mobile telephone, by sex	1	5
35	5.c.1 Proportion of countries with systems to track and make public allocations for gender equality and women's empowerment	3	5
36	8.3.1 Proportion of informal employment in non-agriculture employment, by sex	2	8
37	8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities	2	8
38	8.5.2 Unemployment rate, by sex, age and persons with disabilities	1	8

	Indicator	Tier	SDG
39	8.7.1 Proportion and number of children aged 5-17 years engaged in child labour, by sex and age	1	8
40	8.8.1 Frequency rates of fatal and non-fatal occupational injuries, by sex and migrant status	1	8
41	8.8.2 Increase in national compliance of labour rights (freedom of association and collective bargaining) based on International Labour Organization (ILO) textual sources and national legislation, by sex and migrant status	1	8
42	8.9.2 Number of jobs in tourism industries as a proportion of total jobs and growth rate of jobs, by sex	2	8
43	10.2.1 Proportion of people living below 50 per cent of median income, by age, sex and persons with disabilities	3	10
44	11.2.1 Proportion of population that has convenient access to public transport, by age, sex and persons with disabilities	2	11
45	11.7.1 Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities	3	11
46	11.7.2 Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months	3	11
47	13.b.1 Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth, and local and marginalized communities	3	13
48	16.1.1 Number of victims of intentional homicide per 100,000 population, by sex and age	1	16
49	16.1.2 Conflict-related deaths per 100,000 population, by sex, age and cause	3	16
50	16.2.2 Number of victims of human trafficking per 100,000 population, by sex, age and form of exploitation	1	16
51	16.2.3 Proportion of young women and men aged 18-29 years who experienced sexual violence by age 18	2	16
52	16.7.1 Proportions of positions (by sex, age, persons with disabilities and population groups) in public institutions (national and local legislatures, public service, and judiciary) compared to national distributions	3	16
53	16.7.2 Proportion of population who believe decision-making is inclusive and responsive, by sex, age, disability and population group	3	16
54	17.18.1 Proportion of sustainable development indicators produced at the national level with full disaggregation when relevant to the target, in accordance with UNFPOS	3	17

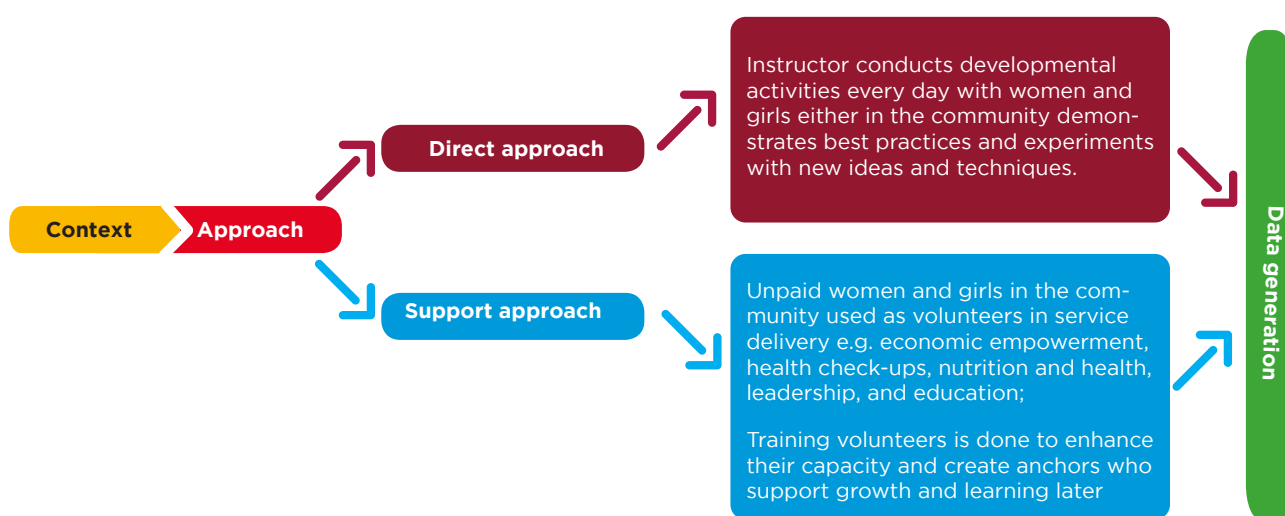
Tier I	Indicators for which an established methodology exists and data are already widely available
Tier II	Indicators for which a methodology has been established but for which data are not easily available
Tier III	Indicators for which an internationally agreed methodology has not yet been developed

Annex 4: Examples of CGD approaches and SDG relevance

The production and use of citizen-generated data and its potential to improve decision-makers' responsiveness has been explored in different countries. It is evident that NSOs still face challenges in identifying, adopting and leveraging the data revolution opportunities. Anecdotal information reveals that Citizen-led and generated data made the problems of the poor and vulnerable populations more visible. Within that context it is necessary and perhaps even desirable to do a trade-off between data that is useful locally and data which is comparable globally and overtly recognize the difference.

The CGD quality standards directly affect the quality of the data over time and across countries. For example, the Citizen Sense Kit approach used to monitor air quality in Pennsylvania, USA is presented in Figure 6 below. The results provided evidence that informed discussions between citizen groups, public institutions and companies. GEWE indicators can be collected using the Citizen Sense Approach.

Figure 6: Citizen Sense Kit Approach



Source: Citizen Sense Kit Approach

The Kits were distributed to 30 residents; local community group Breathe Easy Susquehanna County then also used them. Information from the kits with local expertise from residents and data from other sources was integrated to build up a detailed picture of the character and changes to air quality surrounding fracking facilities over a three- to six-month period. The data from the pollution-sensing project was availed through an online visualization tool using an open source software for monitoring air quality data. The CGDS was “a useful negotiation tool” with local bodies, non-profit organizations and political representatives. Jennifer Gabrys, the coordinator confessed that the “Citizen monitoring led to follow-up monitoring from institutions,” which was a key objective of many residents and community groups. This helped them to realize that: air monitoring stations were concentrated in urban instead of rural areas (owing to population density); and unconventional natural gas extraction was not subject to usual air pollution regulations. The project succeeded in changing the scope of official data collection practices by introducing new pollution monitoring activities to sites of specific concern to residents.

Example 2: HARASSmap

HARASSmap is an award-winning volunteer-based initiative that uses mobile and online technology CSO for interactive mapping to address the social acceptability of sexual harassment throughout Egypt. The organization supports individuals and institutions to collectively fight against sexual harassment before or when they see it happen, re-establishing

social consequences for harassers – and making role models of people who stand up to them. The use of mobile phones owned by about 97% of Egyptians then – half of whom are women – owned a mobile phone, and this technology seemed like an opportunity to re-engage the public on this issue. HarassMap is not “just a map” and it has a strong community-based component where community engagement with victims helps them to come forward with stories which are curated into data using free text narratives, dividing them into setting, incident, and reaction and fed into the Harassmap tool. The visualized most hit areas eliciting action from the government and communities. The starting point was to use the reporting and mapping technology to support an offline community mobilization to break stereotypes, stop making excuses of perpetrators, and to convince people to speak out and act against sexual harassment. Data from this source contributes to SDG 16.2.2 “Number of victims of human trafficking per 100,000 population, by sex, age and form of exploitation” <https://harassmap.org/en/>. By Rebecca Chiao.

Example 3: Transcultural-Psychosocial-Organization (TPO), Uganda

TPO Uganda is a CSO that supports refugees and host communities to access psychosocial support and trauma care. It supports women survivors of Gender Based Violence GBV and other rights violations, to access psychosocial and mental health services, and the data informs SDG 5, especially 5.2.2 “Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner, in the previous 12 months, by age and place of occurrence”. Key users include; community actors, Local Governments, CSO Partners (practitioners), Donors and Central Government for planning purposes, as well as directing focus for project interventions, selection of beneficiaries to participate in particular project activities, and engage the vulnerable women through standardized screening tools, community discussions, focused group discussions (in Cognitive Behavioral Therapy Groups) and face to face interviews using tablets. The CGD is cumulative through working groups at settlement levels to national working groups and condensed into national information management systems such as the GBV-MIS. In official reports, it informed the Ministry of Gender, Labour and Social Development National Guidelines for the Provision of Psychosocial Support for Gender Based Violence Victims/Survivors (2015) – Uganda, and the Uganda Country Refugee Response Plan (2019-2020). <https://www.linkedin.com/company/transcultural-psychosocial-organization>

Example 4: Anti-Sexual Trafficking Caravan, Senegal

Trafficking in persons and smuggling of migrants are two growing issues in West Africa that threaten the human security and economic development of populations. The caravan moves around several areas especially hot spots for sexual trafficking and holds events. Most of the victims come mostly from Nigeria. Thanks to the caravan, they can speak out and tell their stories for the first time. The data collected informs authorities to act. In 2017, UNODC, in partnership with World Vision Senegal, organized a campaign to raise awareness on sexual exploitation of girls and women by collecting voices of victims’ experiences and supporting these victims to tell their stories to save unsuspecting girls and women. The caravan in Senegal received wide media coverage that was championed by the UNODC Goodwill Ambassador against trafficking in persons and smuggling of migrants in Senegal. Data from this source can contribute to indicator 16.2.2 “Number of victims of human trafficking per 100,000 population, by sex, age and form of exploitation”. https://www.unodc.org/westandcentralafrica/en/2017_03_26_senegal-traite.html

Annex 5: Rapid Appraisal Tool for Civil Society Organizations

1. Background

The demand for data to inform the monitoring and reporting, of the Sustainable Development Goal 5 and other gender-specific SDG indicators, has continued to increase exponentially since 2016. Experience from the Voluntary National Reporting (VNR) revealed that monitoring some indicators was not feasible due to lack of requisite official statistics. Instead, non-official statistics served as a proxy to illuminate the country statuses in some cases. However, most non-official statistics, especially Citizen Generated Data (CGD) need a framework that defines the concept, data production processes, users and structures. This information will go a long way in ensuring the production of usable complementary data across sectors and national boundaries to demonstrate the leaving no one behind commitment. It will also increase the visibility of non-official statistics as potential sources for monitoring SDGs. The efforts are in line with the call by the High-Level Panel (HLP) on the Post-2015 Sustainable Development Agenda for a 'Data Revolution' (DR) to underpin transformational shifts for attaining sustainable development.

The tool below aims at collecting information about the ongoing CSO and agency initiatives targeting women and girls across the various SDGs. The availability of quality, timely and reliable data disaggregated by income, gender, age, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts is of prime importance. Thus, identification of gender-related CSO and agencies programmes linked to particular SDGs and how they involve citizens to generate primary data will benefit this effort.

Instructions

Please complete the form below to illuminate the ongoing data generation efforts from citizens (beneficiaries) during programme implementation to inform the CGD framework and methodological guidelines development.

RAPID APPRAISAL TOOL FOR CIVIL SOCIETY ORGANIZATIONS AND AGENCIES

2 Profile

Country	
Institution/Organization:	
Programme:	
Objectives:	
SDG Focus area e.g. SDG 1, 2 etc.	
Name of responsible officer:	
Phone:	
Email:	
Designation:	

Please provide the type of data produced, why and who is the targeted user?

3 Purpose of the data

a) What data is collected?	b) Who is/are the intended User(s)?	c) What is the data used for?	d) Level of Data disaggregation	e) SDG/Indicator

- f) How do you ensure the reliability and completeness of the information collected?
- g) What mechanisms are in place to ensure credibility of the information collected from the citizens?

4 Methodology

a) How is data collected under your programme/s (<i>Focus Groups, Community Score Card, Citizen Report Card, Offline surveys, Phone Short Message Systems (SMS), among others (Please explain)</i>)	b) What is the scope of your programme? Please also state the month and year when you last collected data.	c) How are the citizens involved in the programme? Please enumerate the different stages and the roles of the citizens.	d) How often is the information collected/ frequency of data collection?

e) What is the duration of data collection?	f) How is the data processed and validated?	g) Has your data been used in any official reports e.g. SDGs, VNRs? (Please specify the data and report)	h) What data quality strategies have been adopted?

- i) How many localities are covered? Please also state the total number of localities in the Country.
- j) What is the average cost of data collection per locality?
- k) Do you provide a feedback to the citizens based on the information provided? Are the citizens appreciative of the CGD methodology?

5 Partnerships:

a) This section seeks to establish who is involved in the programme/s and their roles?

Stakeholder	Role/s	contact
National Statistics Office		
Ministry, Department and Agency		
Donors		
Internal Employees		
Beneficiaries		
Local Leaders		
Other		

b) What kind of support do you obtain from the National Statistical Office?

c) What technical support would you like to get from the National Statistics Office?

d) Do the CGD results complement/ enrich the data generated by the National Statistical System? If yes, how? If no, why?

e) In your view, are the results of the CGD appreciated? Yes No If yes, how? If no, why?

f) What interventions are done after generation of the CGD results?

g) Is there another organization that produces the CGD data you generate under your programme?

If 'Yes' please enumerate them?

h) Please make suggestions on how to improve the CGD methodology?

i) Which reports or products have been generated as a result of implementing the CGD project? Please share with us the reports or products from the CGD data collection process.

THANK YOU FOR YOUR COOPERATION

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