

# CITIZEN- GENERATED DATA (CGD) TOOLKIT UGANDA

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# OUTLINE

1. Introduction and Background
2. Rationale for the CGD Toolkit
3. Scope and Coverage
4. Citizen Generated Data uses, opportunities, limitations and impact
5. Methodology for developing the CGD GEWE guidelines
6. The Toolkit
7. Building Blocks for the Toolkit
8. Conclusion

**1**

# INTRODUCTION AND BACKGROUND



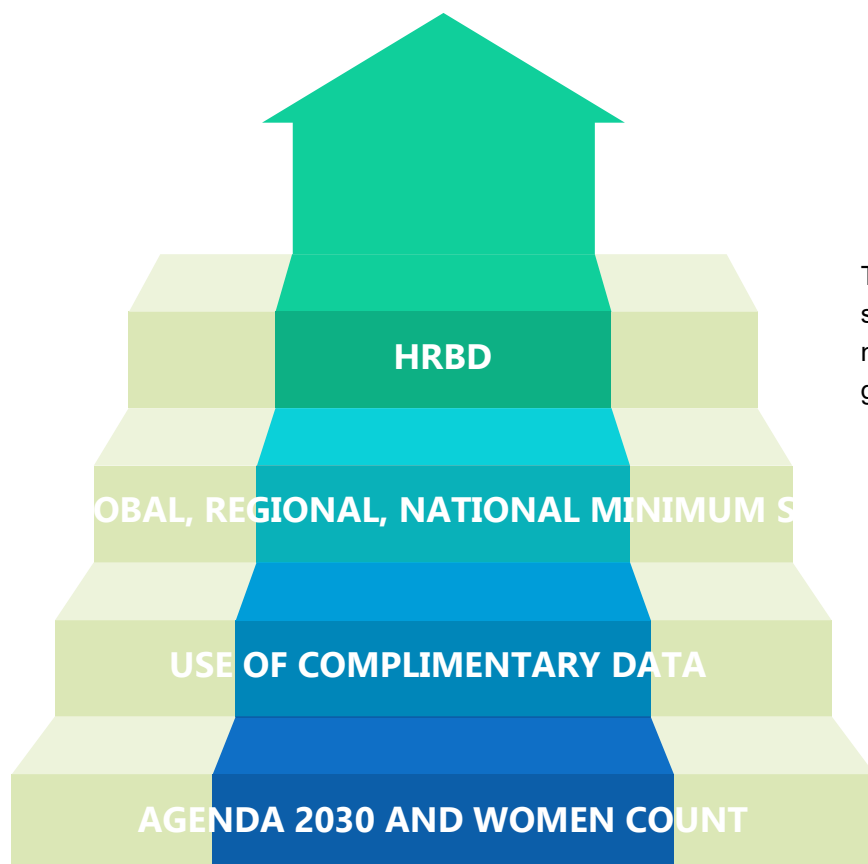
# STRONG COLLABORATION



**UGANDAN  
CSOS**

# INTRODUCTION

TO THE CGD toolkit development



The 2016 UN Human Rights-Based Approach to Data (HRBAD) emphasizes six principles, all of which are essential for Citizen Generated Data (CGD) namely; participation, data disaggregation and collection by population groups.

Need for diversification and harmonization. Most official statistics emanate from Censuses and Surveys and administrative data of government agencies but other valuable information at the grass root exists but not recognized by government.

At the First UN World Data Forum (Cape Town), countries were encouraged to develop guidelines on the use of new and innovative data generated outside the official statistical system, as official statistics.

Government of Uganda committed to the UN Agenda 2030 SDGs and the programme on Every Woman and Girl Counts implemented through UNWomen.



## Measuring and reporting SDG 5 & related gender indicators

- 11 of the 17 goals (1, 2, 3, 4, 5, 8, 10, 11, 13, 16, 17) have gender related indicators.
- Measuring progress for Agenda 2030 requires a radical shift in methodology, tools and content, including its use for decision-making on resource allocation at both national and local levels of government.
- There are unmet needs for thematically and geographically disaggregated sub-national data to inform service delivery, resource allocation and progress reporting.
- SDG data intensity, real time data demand has increased uptake of non-official statistics including CGD to inform development policy.
- CGD has the potential to plug these gaps to ensure that ‘No one is left behind’.
- CGD value increases with collation of data from different sources for evidence-based tracking of SDGs.

# RATIONALE



## 1 DEMAND HOW AND WHY

High demand for data that explain the how and why

## 2 UNMET NEEDS

Unmet needs for thematically and geographically disaggregated data

## 3 NO ONE IS LEFT BEHIND

CGD fill the gaps by including the voices of those normally excluded

## 4 GUIDANCE NEEDED

Guidance is needed to regulate the production and use of CGD

## 5 QUALITY ISSUES TO BE ADRESSED

Improvement of quality is a prerequisite expanded use and inclusion of complimentary data

## Scope and coverage

Limited to SDG Gender Equality and Women's Empowerment related indicators

Covers initiatives (CSO and PSIs) that generate gender related data that is or may be used for monitoring and reporting Sustainable Development Goal 5 and other SDG gender indicators.



# Citizen Generated Data uses, opportunities, limitations and impact

## Uses

1. Is a solution to the widening data gaps in official statistics
2. Provides a better understanding of change and why at community level
3. Improves its availability, quality and opens space for interconnections, strategic partnerships and citizen involvement
4. Yields more detailed, timely and relevant information.
5. Fills Gender gaps in Tier II & III indicators

## Opportunities

1. More transparency in decision-making and accountability
2. Increases knowledge, analytical capacity skills transfer and access to an entirely new world of data.
3. methodological development, data collection,
4. Dissemination and compilation of CGD
5. Qualitative information is integrated into NSO reports

**CGD**

## Constraints

1. Limited methodological soundness
2. Inadequate representability,
3. Inadequate CSO and NSO capacity to collect and analyze the data,
4. Lack of trust in the CGD,
5. Misfit for complementarity,
6. Limited interoperability and resourcing

## Impact of CGD utilization

1. Fills unmet data gaps created between periodic surveys
2. Increases ownership of programmes by citizens who participate.
3. Informs gender responsive interventions at sub national and micro level where majority of marginalized groups reside, and;
4. Enhances findings from traditional sources.

*Source: Statistics Canada, November 2018*

# Measuring and reporting SDG 5 & related gender indicators

In terms of:



CGD methodology enables compilation of real time information for all sectors with GEWE indicators.



Producers of CGD leverage phones, Technology, communities as mediums for collecting real time information about events in specific in addition to other non-traditional approaches.



Effectively integrates the voices of the citizens as [key stakeholders](#) and provides a holistic explanation of the progress attained when reporting on the gender related SDGs



*Citizen Report Card (CRC), Short Message Service (SMS) using mobile phones, phone calls (voice messages), emails, programme reports, remote sensors, social media, big data, qualitative studies, satellite imagery, crowdsourcing, engagement exercises, Community Score Cards (CSC), and Focus Group Discussions*

\*\*\* Diverse approaches can be combined to compile CGD

## Why CSOs?

- Civil Society and the private sector Institutions produce data that can contribute to the reporting progress of the SDGs and Voluntary National Reporting (VNR).
- There is more use of technology i.e. interactive radio and SMS, smartphone apps and offline surveys (*application-enabled tools*) to generate data.
- 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.

**2**

## **METHODOLOGY**

# METHODOLOGY

FOUR COMPONENTS

**I**

**DESK REVIEW OF CGD LITERATURE**

**II**

**INTERVIEWS WITH INDIVIDUAL KEY INFORMANTS E.G. UBOS, CSOs, Private Sector Institutions, UNWomen, and MDAs.**

**III**

**GROUP DISCUSSIONS E.G. UBOS, CSOs, Private Sector Institutions, UNWomen, and MDAs.**

**IV**

**BASELINE INQUIRY ABOUT THE PRODUCTION AND USE OF CGD**

**3**

## THE TOOLKIT

COLLECTION	PRODUCTION	PUBLICATION	UPTAKE & USE	IMPACT
<p><b>1. Identify</b> Consult with users to determine their data needs or issue</p> <p><b>1. Design</b> Designing gender responsive instruments and training materials</p> <p><b>1. Build</b> Construction of data collection instruments, pre-testing, revising and refining.</p> <p><b>1. Collect</b> Actual data collection using different collection methods.</p>	<p><b>1. Process</b> Data cleaning and anonymization, as well as integration of data from more than one data source into a harmonized dataset.</p> <p><b>1. Analyze</b> Production of sex disaggregated data and gender statistics showing underlying patterns and trends; checking for detail, interpreting and packaging for users.</p>	<p><b>1. Disseminate</b> Release is the sex disaggregated data and gender responsive results showing inequalities and differences between women and men; metadata using varied methods; and reach out to citizens through diverse Media.</p> <p><b>1. Archive</b> Storage and distribution of statistical data and metadata.</p>	<p><b>1. Connect</b> Connecting data to users. CSOs and PSIs producing agencies must ensure data is accessible by potential user via press releases, data portals, trainings, workshops etc.</p> <p><b>1. Incentivize</b> Motivate potential users by producing user-friendly material that are easily understood.</p>	<p><b>Evaluate</b> Assess the product and all activities across the value chain within the existing M&amp;E framework of the institution.</p>

# OVERVIEW OF STEPS



Identify the producers, stakeholders, needs, obstacles and use

Design the study and create the necessary tools, methods and frames.

Collect the data.

Process and analyse the collected data and produce the necessary data and statistics products.

Develop dissemination and communication plans and promote the use of CGD.



# Collecting: *Identify data user needs/ Assessment*

## Questions

- a. Which stakeholders are relevant for consultation on the priority CGD to meet vast user need at community, local government, national and international level?
- b. What data/information is needed for internal decision-making (organization)?
- c. What data/information is necessary for performance monitoring and global reporting (NDP, SDG)?
- d. What critical targets or indicators will signal progress on the intervention?
- e. In what format, frequency, and medium should the information/data be packaged and delivered to the potential user?
- f. Who must participate to trigger demand for better services, empowerment opportunities, rights etc, using the data/statistical information?

## Action

- Identify and map out key potential users of the data/information from the programme intervention at community, local and central government.
- understand the context and situation that surrounds the issue behind the intervention and therefore the data/information (indicators) needed for SDG 5 and other gender related SDGs.
- discuss CGD user priorities and expectations in respect to quantity, quality, timeliness and access.
- ensure involvement of the 'women and girls' in their different categories following the HRBAD – 'the Poor, having functional disabilities, living with HIV/AIDs, vulnerable' to determine data gaps.

# Collecting: *Design*

## Questions

- What data are required to produce needed indicators for the intervention?
- What is the context, scope and coverage of the intervention?
- What level of granularity best inform vast user need?
- What questions will inform the extent of reliability and validity of results?
- Does the design selected enable mapping of the data to related UBOS survey?

## Action

- List anticipated and desired NDP and SDG gender indicators.
- Determine the scope and coverage of the sample noting the unit of interest.
- Determine the most appropriate and cheap data collection method to generate tangible and comparable results.
- Check and ensure the chosen (complete or sample) size of the population is representative and reflects the granularity needed in the tabulations and other data products, and the level of precision required of key variables.
- Choose an appropriate CGD approach based on affordability, user friendliness and real time availability of the output.
- Design tools for collecting relevant data (quantitative or qualitative) within the geographical frame from UBOS to facilitate mapping to relevant surveys.
- Prepare a tabulation plan to guide data analysis in case of quantitative data or content analytical structure for qualitative data to inform the required indicator/s.
- Define terms of the responsible data collectors (women, girls, persons with disabilities) and their roles in the regular generation of data to ensure sustainability of the interventions.
- Prepare the GEWE CGD manual to guide data collectors. Include basic information on the 'Do's and Don'ts' to control the quality of work, and,
- Document process.

# Collecting: *Build*

## Questions

- What approaches (phone based, technology based or community based) are most suitable for the context and type of data needed?
- Are the tools gender responsive?
- Who are main respondents? Who does what (roles)? Who gets what (resources)? Who owns what (access)? What do they do with it (Opportunities)?, and, Where, Why, How, & When?
- Is there need for translation of the questionnaires into different languages?
- How can the beneficiaries be involved as volunteer enumerators

## Action

Ensure;

- the instrument captures the sex of the data providers, where applicable.
- gender issues considered in the identification and design stages are incorporated in the instruments
- data collection modes are specified namely; personal/telephone interview; PAPI, paper, hand held devices, CAPI, android phones etc., including data extraction routines used to collect data from administrative records.
- instruments are pretested to ensure consistency with the manuals and metadata as well as their validity and reliability.
- IT experts are involved to ensure the existing software provides for capture of gender dimensions in the data entry frame, data repositories and workflows during data collection.
- the drawn sample will yield optimal gender perspectives during data processing, analysis and report writing.

# Collection: *Collect* (Approaches)

Technology based	Phone based	Community based
<ol style="list-style-type: none"> <li>1. Design the application(s) to facilitate the collection of CGD</li> <li>2. Test the applications in preparation for data collection</li> <li>3. Decide on the reporting sites</li> <li>4. Identify the reporters (by sex) and the frequency of reporting</li> <li>5. Streamline the flow of information, and,</li> <li>6. Design the database</li> </ol>	<ol style="list-style-type: none"> <li>1. Define the type of phone based approach for the application to be used.</li> <li>2. Design the application(s) to facilitate the collection of CGD</li> <li>3. Test the applications in preparation for data collection</li> <li>4. Decide on the reporting sites</li> <li>5. Identify the community reporters and the frequency of reporting</li> <li>6. Streamline the flow of information</li> <li>7. Design the database</li> </ol>	<ol style="list-style-type: none"> <li>1. Identification of the SDG indicator suitable for the community engagement.</li> <li>2. Introduce the SDG gender indicators to the community</li> <li>3. Agree with the community members/ service recipients/ citizens on the priority issues/ indicators to report on the related scores.</li> <li>4. Identify the service providers</li> <li>5. Design the application(s) to facilitate the collection of CGD</li> <li>6. Test the applications in preparation for data collection</li> <li>7. Determine the representative sample/ study areas</li> </ol>

# Collecting: *Collect*

Ensure;

1. The ratio of citizen volunteer trainees to trainers is no more than 30:1 to ensure quality of training.
2. The training of volunteers should include classroom learning modules and practice fieldwork.
3. Training should include use of tools in the local languages to allow explanations in their mother tongue or home language.
4. Training of citizen volunteers must include a session on the importance of completing ALL sections of the tool to ensure no missing data.

## Action

Ensure;

5. All trainees are tested at the end of each training day, to determine citizen volunteers who require additional support or training.
6. Conduct an evaluation of the training at the end of every session to ensure they have adequate knowledge to participate in the fieldwork.
7. Emphasise the value of ethics and confidentiality during data collection.
8. Document the process.

# Production: *Process*

## Questions

1. Does the tabulation plan capture all the priority internal and external data user needs?
2. Do the variables capture the key GEWE concepts?
3. Are all the questionnaires returned and captured?
4. Did all the information from phone based or technology-based approaches reach the servers?
5. Is the system free from cyber security risk?
6. What capacity exists to process the data?

## Action

### Ensure

1. weighting of the data is done to know the effect on gender variables and how it can be used to infer the information consistent with the national surveys or population. A key step is to engage the survey methodologist/s and IT data specialist to guide the process.
2. gender related data are in a single statistical database for ease of analysis and sharing with users.
3. gender related variables are not lost during anonymisation and cleaning.
4. Documentation of the process is undertaken.

# Production: Analyse

## Action

### Questions

1. Does the tabulation plan capture all the How can the data be prepared for analysis?
2. How good is the data? Is it complete, reliable or valid?
3. Are there non-responses or blanks?
4. What statistical analysis technique is appropriate?
5. What analytical programme is most appropriate for the type of data?
6. What is the feel of the data? This needed to determine how good the scales are and how well the coding and data entry was handled.

### Ensure

- a) weighting of the data is done to know the Determine the relevant variables for data analysis based on earlier user consultations as well as gender and development frameworks.
- b) Review the data for non-responses or blanks. If 25% of the issues have no response disregard the question during analysis.
- c) Determine if the analysis will be uni-variate, bi-variate or multivariate, descriptive, relational or inferential among others, with support from technical persons (UBOS, Academia, Statistical experts, etc.).
- d) Search for gender related data and information from other studies, publications to understand the data better, and be able to explain the results.
- e) Analyse the information/data.
- f) Present findings in formats that visibly indicate potential gender issues, stereotypes, human rights based issues, and gender biases.
- g) Ensure analytical tables, narratives and forms of presentation facilitate comparison between women and men and are understandable by policy makers, planners and decision makers, among others.
- h) Generate indicators where required and subject them to internal consistency and quality checks by an independent team.
- i) Interpret results correctly about indicators needed to inform GEWE monitoring.
- j) Document the process.

# Uptake and Use

## Action

- 1) repackage the CGD into evidence based stories fit for public consumption, and partner with the media once the Uganda Bureau of Statistics certifies the data.
- 2) create linkages with app developers to maximise the value of open data and establish build a long lasting partnership with, academia and private companies.
- 3) adopt technology that enables connectivity with potential users in government and public to increase uptake and efficiency.
- 4) engage experts (data scientists/statisticians) to transform the CGD data to show precision and integrity.
- 5). Re-process data for new user insights to fill prioritized gender related data gaps observed in GEWE SDG Tier 2 indicator.
- 6). Produce and avail free, printable, open-source materials with rich statistical information.
- 7). Provide for open-Access printable posters and handouts, and,
- 8). Document the process.



# Building blocks for the Toolkit Implementation

- GEWE CGD Quality Assurance Management
- Monitoring and Evaluation
- Multi-stakeholder approaches for CGD
- Mainstreaming CGD in the NSS
- Strengthening capacity for CGD production to report on SDG 5

Building blocks for the CGD in Uganda

**CGD Quality Assurance Management  
for  
Quantitative and Qualitative data**

Quality Action	Compliance check	
<b>1. Managing the Institutional environment for CGD compilation.</b>	1.1	Professional independence (Government agencies)
	1.2	Impartiality and objectivity in treating all users equitably.
	1.3	Confidentiality and security (statistics data protection)
	1.4	Quality commitment to ensure improvement of processes and product quality.
	1.5	Adequacy of resources for continuous provision of CGD that meets user need.
<b>2. Managing Statistical processes</b>	2.1	Methodological soundness showing adequacy of tools, design, procedures and expertise.
	2.2	Cost effectiveness to show if resources were used adequately.
	2.3	Respondent fatigue where potential data providers are not burdened over time.
<b>3. Managing statistical outputs</b>	3.1	Relevance in term so meeting user data/information needs in terms of completeness (coverage and detail) for the users.
	3.2	Accuracy and reliability of data and portrays reality of the coverage and size of the population group or sample.
	3.3	Timelines and punctuality of data releases following a specific calendar.
	3.4	Accessibility and clarity in that the CGD is clear and understandable, available and can be obtained easily with complete metadata.
	3.5	Comparability and coherence in that the data are consistent internally, over time and compared, related and integrated with other sources.
	3.6	Metadata management of all data in their custody for easy understanding by other users.
<b>4. Quality assessment and reporting</b>	4.1	Measuring product and process quality (quality indicators, targets and variables and descriptions)
	4.2	Communicating about quality reports
	4.3	Obtaining user feedback
	4.4	Certification and labelling
	4.5	Continuous quality improvement

# Qualitative Data Quality management.

Where qualitative approaches are adopted in CGD compilation, key markers of quality linked to the Code of Practice (US 942) that need to be observed include:

- (a) Worthiness of the 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).

Building blocks for  
the CGD in Uganda:

**Monitoring and Evaluation**

# Monitoring and Evaluation

All CGD producers should;

- Develop a Strategic Plan for Statistics with a clear logical framework outlining the expected indicators (outputs), objectives, activities and inputs that guide monitoring.
- Develop mechanism that promotes participatory monitoring including evidence based results.
- Identify potential actors among the GEWE implementers to monitor involve relevant groups of citizens and the responsiveness of public and private authorities to monitor their indicators.
- Provide feedback about the whole CGD value chain, including but not limited to assessment, design, implementation, quality assurance to build an effective CGD ecosystem.

# Monitoring and Evaluation

## Monitoring

1. involve CSO and Private Sector stakeholders, including community leaders, business investors - especially women representatives - local government, relevant Ministries, and development partners.
2. continuously (monthly, quarterly) assess data production processes performance, depending on the lifetime of the programme.
3. re-check data collection needs along data quality framework processes to ensure data is available in real time, accompanied with spot checks.

## Evaluation

Evaluators should;

- assess if the CGD approaches and resulting data play a complementary role to official data.
- assess the contribution of CGD to GEWE intervention to beneficiaries.
- Assess the contribution (impact) of the CGD towards meeting relevant SDG 5 targets and adage.
- periodically review CGD related programme performance based on M&E dimensions (relevance, effectiveness, efficiency, value for money, & impact).

Building blocks for  
the CGD in Uganda

**Multi-stakeholder approaches  
for CGD**



# Multi-stakeholder Approaches

- The CSOs and PSIs should map out the key stakeholders, conduct a stakeholder analysis and determine those with high/low influence for CGD compilation and use (Tables 5&6).
- Create ownership of CGD in the NSS by engaging various stakeholders (Table 7).
- Define roles of key actors in the CGD data ecosystem [UBOS, MDAs, HLGs, CSOs, PSIs, Media, Cultural and Religious institutions)

Building blocks for  
the CGD in  
Uganda

**Mainstreaming CGD in the National  
Statistical System**

# Mainstreaming CGD in the NSS

The mainstreaming of CGD in the NSS will involve;

- Including provisions for non traditional sources in the Amended UBOS Act and related policies.
- Transforming CGD into Official Statistics to incentivise confidence in using them for public policy and service delivery planning by ensuring they are produced based on the DVC and compliance to data quality standards (in Chapter 2).
- **Integrating CGD in the national statistical system by;** *Aligning the CGD to household survey and administrative data frameworks, Institutionalization of CSOs in the NSS, Improving the art of CGD data compilation, Raising the public profile for CGD etc*
- **CSOs and Private Sector Institutions nurture CGD**

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- **CSOs and Private Sector Institutions nurture CGD**
- Establishing and coordinating the governance structures for CGD

# Strengthening capacity for CGD production

UBOS will in partnership with CSOs and PSIs;

- Take stock of the knowledge, demand, and availability of sex-disaggregated data in CSOs.
  - Enhance CSOs' learning and understanding of the data value chain and other methodologies that demonstrate engendering of information is necessary for GEWE CGD development.
  - Training technical personnel involved in data production from CSOs and PSIs to produce CGD that adheres to sound statistical practices through quantitative measures.
  - Strengthen data literacy, analytical capacity, and resource endowment of CSOs.
  - Standardise approaches of obtaining data from the grassroots, and,
  - Operationalize and sustain CGD methodology development capacity in the data ecosystem.
- As a quantitative data-oriented organization, UBOS needs to access and train her staff in qualitative techniques, data science, and analytics, harnessing big data by collaborating with Makerere University and the CSOs.

# Conclusion

- This toolkit aims to guide producers of CGD needed to inform monitoring and reporting on SDG 5 and other SDG related gender indicators, and data requirements of other development frameworks.
- Operationalizing the proposed stages of the Data Value Chain, recognizing the HRBD principles that underline active and meaningful participation of relevant marginalized population groups, building analytical skills and monitoring of processes to ensure that there is effective stakeholder engagement and disaggregation that respond to the adage of 'leaving no one behind' will increase reliability and usefulness of CGD.
- All non-traditional data producers in Uganda are encouraged to comply, as appropriate, with the provisions of this toolkit.

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