



FROM EVIDENCE TO ACTION



**TURNING CITIZEN-GENERATED DATA
INTO ACTIONABLE INFORMATION
TO IMPROVE DECISION-MAKING**

Danny Lämmerhirt, Shazade Jameson, Eko Prasetyo



BACKGROUND

Human decision-making is complex. Our daily routines, perceptions, values, and lived realities all influence how we make choices. Data is often seen as a panacea to inform better decision-making, be it to tackle value-laden policy processes with evidence, or to remove opinionated bias from individual decisions. Yet, there is no straight-forward answer as to how data turns into relevant evidence, decision-making, and behavioural change. This is because what counts as actionable and high-quality evidence lies in the eyes of the beholder.

Citizen-generated data (CGD) is increasingly used to provide evidence for decision-making. It is a means to voice the concerns of individual citizens or civil society at large—ranging from environmental damages, to labour conditions, or perceived corruption. However, CGD is often refuted as lacking representativity and accuracy, or as not meeting other features of ‘good quality data’. Therefore, if CGD is to go beyond merely voicing the concerns of citizens, to ensuring that they are actually heard and acted upon, **it is necessary to understand under which circumstances it becomes a trusted source of information, used in consensus, relevant, and fit-for-use.**

CGD can inform diverse types of decision-making. Beyond mere agenda setting and flagging of problems, CGD can inspire citizens to design their own solutions. It can also give citizens the literacy to ‘read’ and understand governance issues and thereby provide confidence to engage with politics. Sometimes data can be used to directly implement a solution to a problem. **The value of CGD is fairly broad and depends largely on the issue it speaks to and the individuals, groups, organisations, and networks using it.** These actions can be important drivers of progress on sustainable development issues—but are underrepresented in current debates around the Sustainable Development Goals.

Importantly, different types of data have different uses (and levels of usefulness). The term ‘data’ itself seems to suggest a very narrow notion of numbers, figures, and statistics. Actors involved in policy-making seem to prefer ‘hard’ evidence (e.g. quantitative data from researchers and government agencies) over ‘soft’ evidence (e.g. narrative texts, personal perceptions, or autobiographical material). Soft evidence is often neglected, in favour of numbers, which become the main argumentative device. **Debates around the data revolution or sustainable development data should not gloss over the fact that narrative texts, individual perceptions, interviews, and images all count as ‘data’—which might be best understood broadly as a building block of human knowledge, decision-making, and action.** Research states that this fixation with numbers could hamper the quality of policy-making. Soft evidence, such as personal qualitative stories (including from marginalised groups), should therefore be more readily considered in policy decisions.

Danny Lämmerhirt is research coordinator and researcher at Open Knowledge International;

Shazade Jameson is an independent social science researcher on governance issues;

Eko Prasetyo is a practitioner focusing on ICT4D project implementation and evaluation

What constitutes 'good data quality' is more nuanced than commonly understood, being not only a matter of rigorousness, validity or representativity. It does not mean that methodological rigour is irrelevant for CGD. The opposite is the case.

CGD should be thoughtfully and holistically designed in order to address specific tasks and to respond to the human elements of data quality (Is data credible and trustworthy? Who defined the data methodology? etc.). But a human-centric understanding of data quality also acknowledges that data is never 'raw' but always 'cooked', meaning that decisions have to be made about which parts of reality to capture and how. This holds true for all types of data, including numbers, which are often seen as sterile facts born out of standardised data creation procedures. Hence, numbers and other quantitative data is not more valuable or more reliable than other data. **What matters is that citizens collect data in a systematic way that demonstrates how the data was collected and processed in the first place.**

TURNING CITIZEN-GENERATED DATA INTO ACTION

CGD can only support decision-making and trigger action if the problem that requires action, as well as its stakeholders, are well understood. Stakeholders have different priorities, values, or responsibilities, and are affected by issues in different ways. They also have distinct capacities to engage with and act upon an issue. Some actors may lack the literacy, knowledge, time, or interest to engage with complicated data. **The task is for CGD projects to understand these nuances, and to translate their data into digestible, easily understandable, and relevant messages.**

The **qualities of CGD need to match with the action that is planned.** Long-term monitoring needs reliable, accurate, and standardised data. Setting the agenda for a formerly unknown issue may require a CGD project to build trust, and to ensure credibility. Some projects might need to produce highly detailed data, other tasks only require rough indications of trends. **The engagement strategies should also fit with the desired change.** To change policies, perceptions, or behaviour, a targeted engagement strategy should be used. Such a strategy includes various forms of engagement, from data portals to public hearings and community work.

More specifically, CGD can inform four distinct types of action:

- **Agenda setting:** Did an issue receive attention before the CGD project started? Agenda setting raises awareness about a problem. It is about altering the perceptions of stakeholders and mobilising them.
- **Designing solutions:** How could an issue be solved? CGD can be used to envision or plan alternative ways of managing an issue.

- **Implementing solutions:** CGD can also directly steer behaviour and enable better actions by giving stakeholders relevant information to take decisions and enable actions. This includes rewarding certain actions as performance indicators do. A caveat is that CGD will be 'gamed'. Thus, every effort to design CGD projects that aim to steer behaviour must be carefully thought through.
- **Monitoring and evaluating solutions:** CGD can also inform performance monitoring of all kinds—from process efficiency to satisfaction with service outcomes. Monitoring is based on pre-set criteria, compares performance against goals, and involves judgement. This stage serves to reflect upon solutions and can be supported by in-depth contextual information.

RECOMMENDATIONS

On the basis of our case studies, we suggest that CGD projects can better influence decision-making by assessing:

- **The audiences** they want to reach: Different audiences have different interests in the CGD project and can perform different actions to solve the issue. Which level of government is responsible for the issue? Who are the stakeholders that can be mobilised?
- **The power and interest** stakeholders have in an issue. Power can be understood in many ways, such as the power to legislate or manage an issue, or the power of building confidence within communities to engage with decision-making processes. Depending on power and interest, different engagement strategies should be applied.
- **The message** data should convey to these audiences. What is the relevant data that is needed to engage with the stakeholders being targeted. Issues should be framed so that they resonate with the knowledge, perceptions, and lived realities of stakeholders. Different engagement strategies are important to ensure that the data are listened to.
- **The engagement strategy** to connect with different audiences. CGD projects should design outreach and engagement strategies that are relevant and suitable for the context. Furthermore, targeted engagement is most likely to change behaviour and drive action.

Good quality data must be understood holistically, as its validity and usefulness will vary according to the issue and the stakeholders invested in it. This requires a thorough, integrated project design and a careful methodology. We recommend that CGD projects consider the following methodological issues during data production and processing:

- **Validity and reliability** are generally important for CGD projects. Only **accurate data can be credibly used to make claims about an issue**, to aggregate or compare data, or to calculate trends and correlations.
- Yet, **data quality is largely determined by the intended use**. CGD projects should think about how 'complete' and timely data has to be, in order to become useful for a task. It should be asked: how is the accuracy of my data affected, if some data is not included in a dataset? Timeliness must not be confused with 'real-time' data: instead data is timely if it is provided in appropriate and useful rhythms.
- **Data aggregation** relies on categorisation and standardising data. Both operations can be done during the data capture phase (in the form of standardised data capture methods) or by cleaning and classifying data afterwards. A **major challenge is to define common categories that are meaningful and relevant** for data producers (those who want to describe the issue) as well as for data users (those who need to understand the issue).
- **Data visualisations** help communicate information and patterns in complex data but demand data literacy and graphicacy. Often, readers also need topical knowledge to interpret the sometimes complex underlying information of data visualisations.

Subsequently, the usefulness and relevance of CGD can be further leveraged by:

- **Designing targeted engagement strategies:** Research around evidence-based politics highlights partnerships as an important means to transfer knowledge, establish trust, and make key messages graspable. Targeted engagement strategies do not end with publishing CGD reports or visualising data online. Instead, the engagement methods need to be suitable for individual stakeholders. Examples include public hearings, education meetings with local decision-makers, on-site visits with decision makers, and hackathons.
- **Choosing the right degree of participation for stakeholders throughout the project:** Successful projects manage whom they engage in different phases of the project. The degree of participation is a crucial element of each CGD project. For instance, should citizens or policy-makers be engaged in the definition of data? How does this affect the credibility of data and buy-in? Who should be engaged in the dissemination of findings. Does the project benefit to collaborate with a 'knowledge broker' like an experienced advocacy group, a university, or a newspaper?

- **Acting like a 'knowledge broker', crafting targeted messages:** Data should be translated in a way that is understandable and relevant to stakeholders. Long, detailed reports might interest researchers, while 'killer charts', and concise information might appeal to busy decision-makers.
- **Granting open access to raw data:** Several CGD projects grant access to their data as long as these do not contain personal information. Is my audience a group of researchers, a journalist unit, or some other knowledge broker who can translate and analyse the data? Open access helps gathering expertise from outside and increases the relevance of raw data.
- **Explaining raw data:** Raw data is often produced in a messy process. Data values can be incomprehensible for both humans and machines. Metadata and other documentation can help to understand what the data means, how it was created, as well as its methodological strengths and weaknesses.



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