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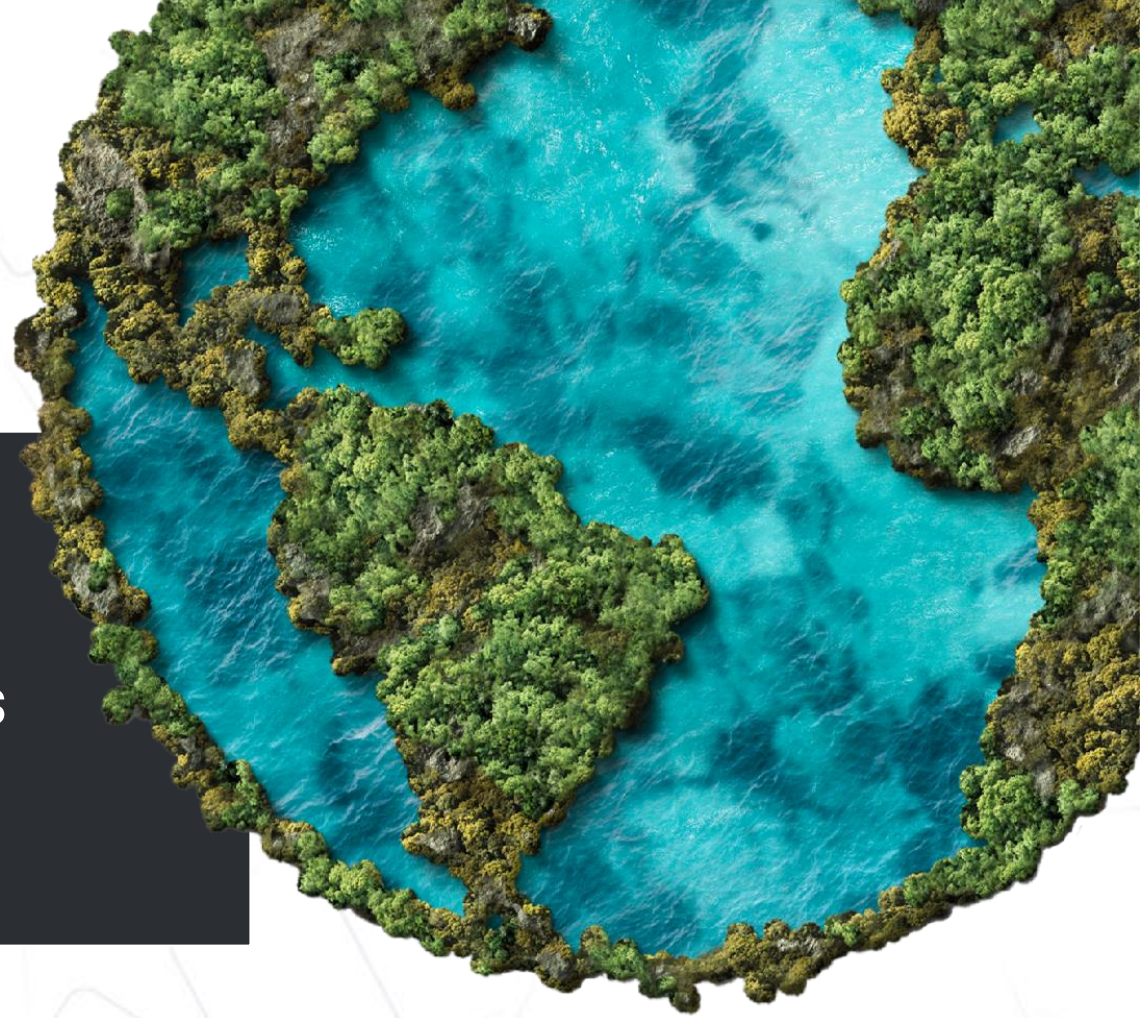

National Statistical Offices & citizen data for national sustainable development priorities

Elena Proden, UNITAR

Geneva, 17 March 2023

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 872944

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Research question

- **To what extent can National Statistical Offices (NSOs) leverage Citizen Science Data (CSD) for monitoring SDGs? Can it help inform climate actions?**

- **What are the opportunities and common impediments? How can the latter be addressed?**

Data produced by citizens who **voluntarily contribute their time, knowledge, skills and/or their data** to help produce evidence, strengthen accountability or develop locally-rooted solutions.

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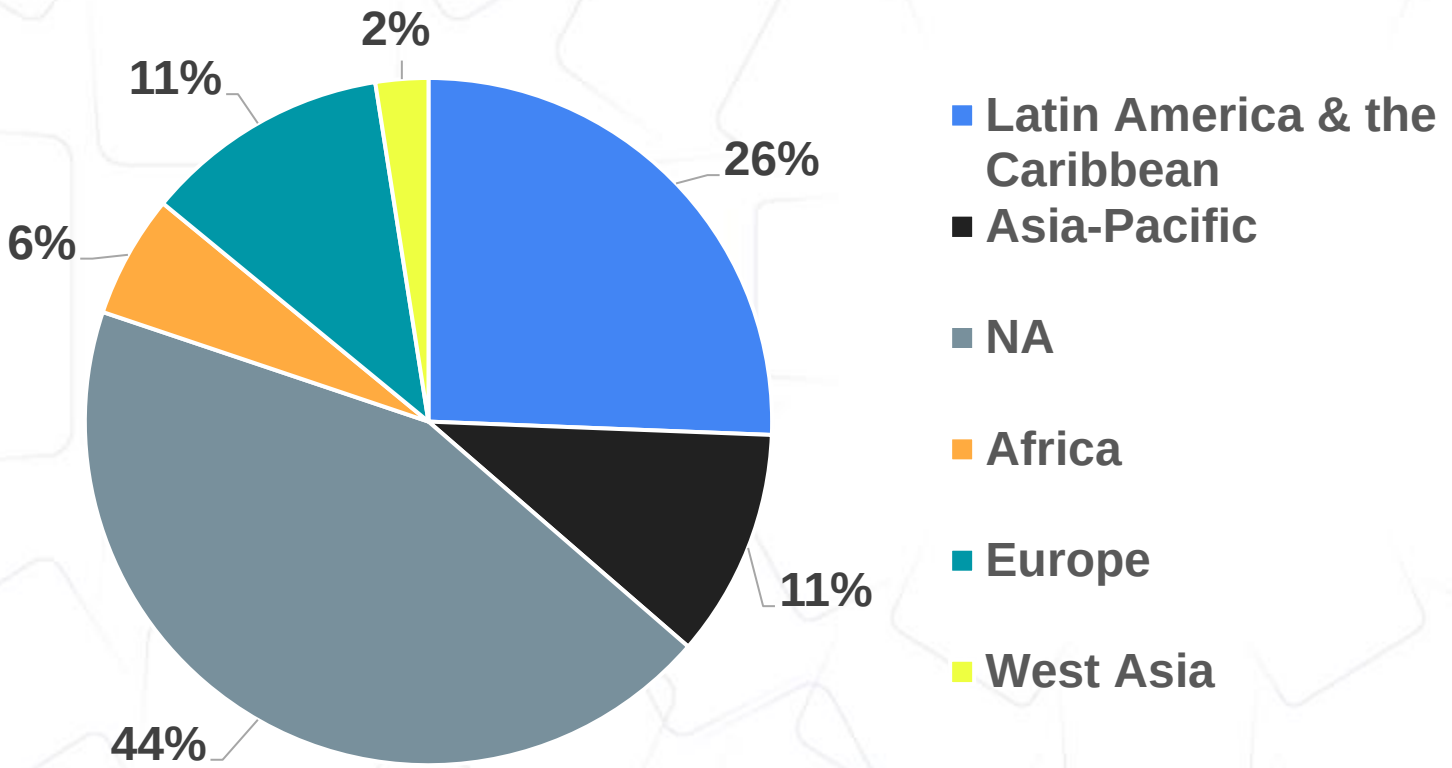
NSO survey (2021)

121 respondents, mostly from NSOs but also NSSs and IOs/ROs

13% had experience with CSD



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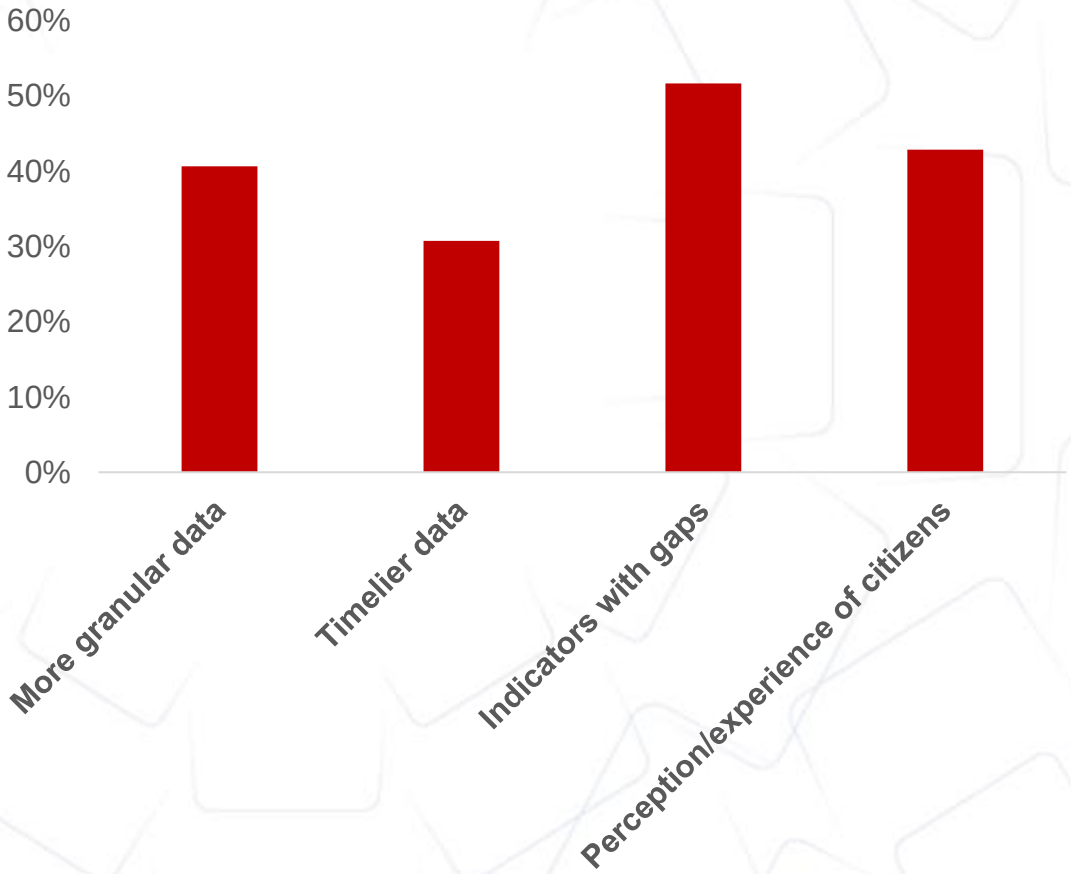
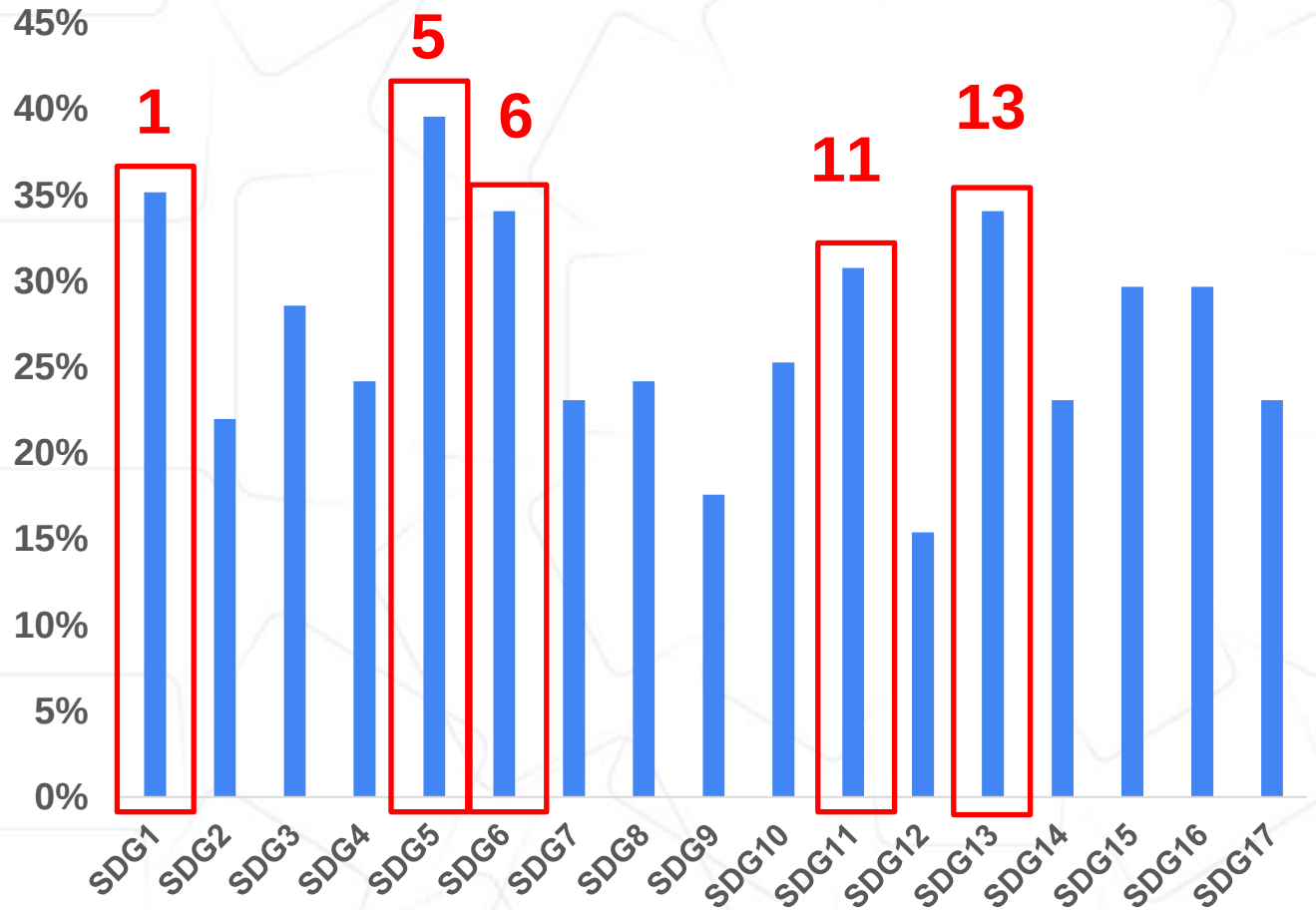
NSO survey: Opportunities





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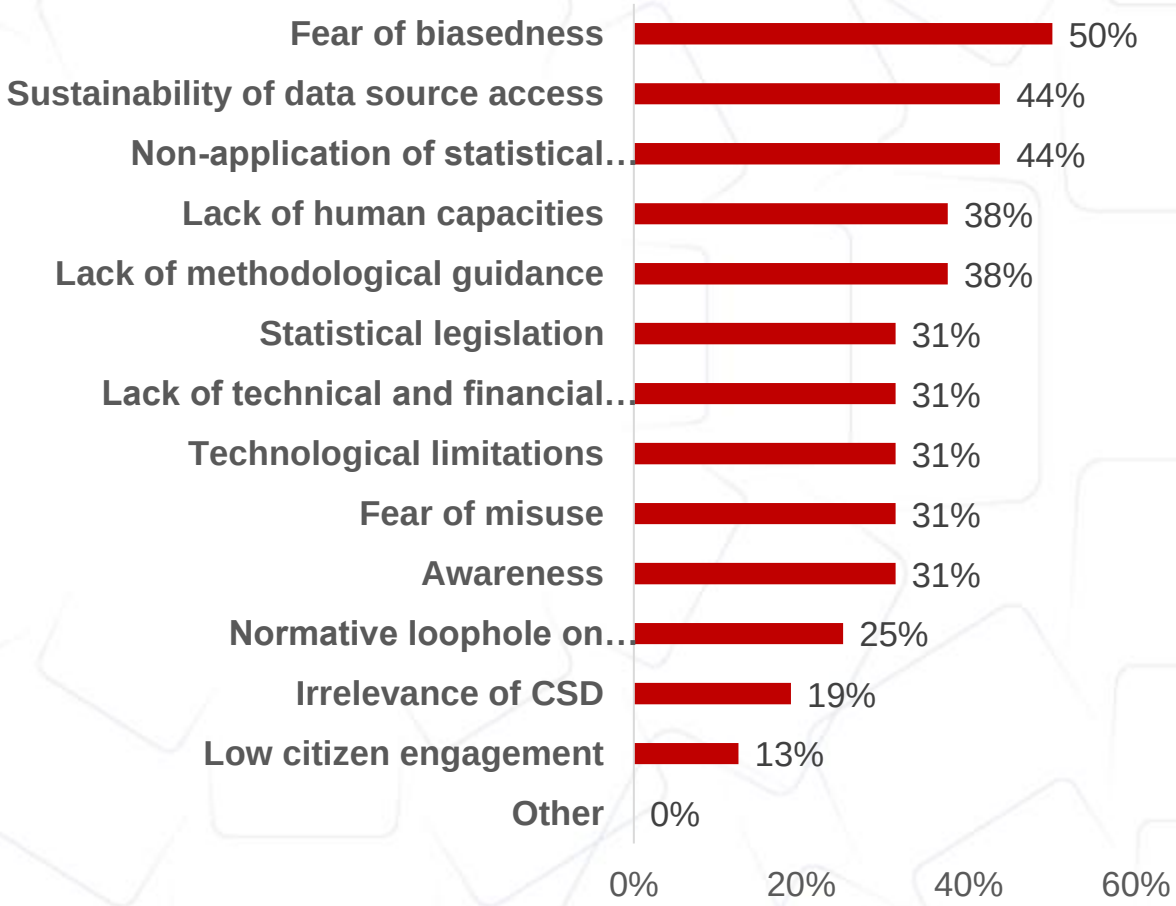
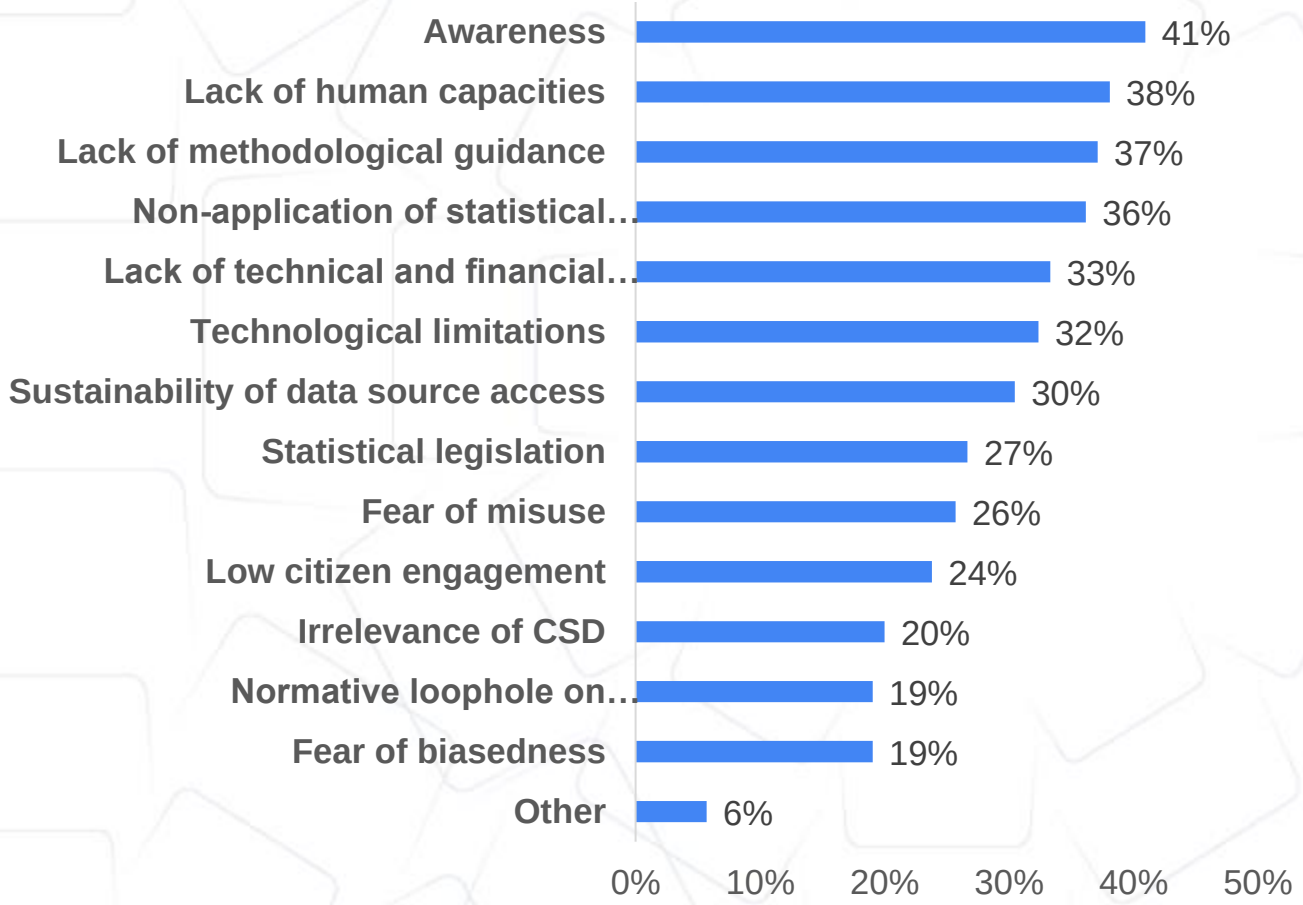
NSO survey: Impediments



Respondents with CSD experience



Respondents with no CSD experience

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Accuracy, Reliability, Coverage

Citizen Science Data (CSD) is mostly **produced in specific locations**. If no proper sampling techniques are used, with incomplete coverage, it may be impossible to establish whether data are representative of the population.

- Introduction of sampling
- Estimation may be possible or full coverage
- Other advantages despite lack of coverage

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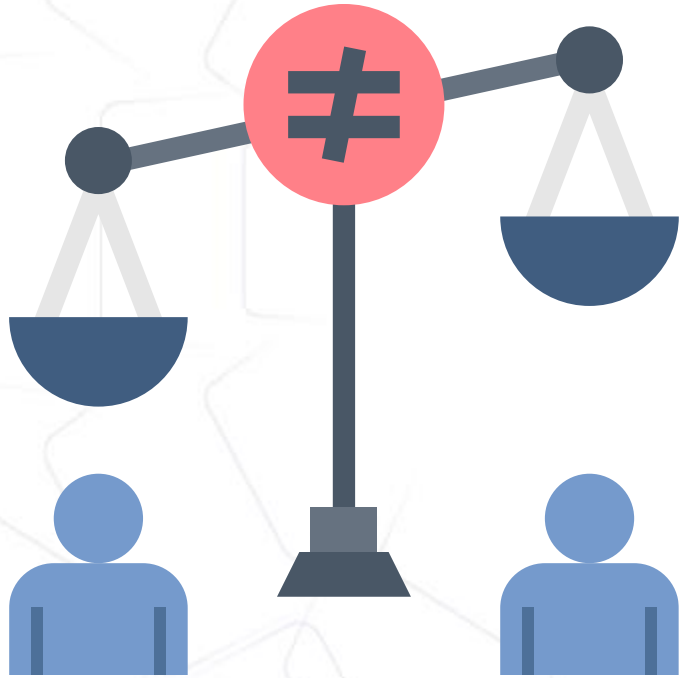
Coherence & Comparability

Without a coherent use of **standard statistical concepts and methods,** it may be difficult to ensure the comparability of data across regions, over time and allows its aggregation and use in combination with other data sources.



- Promote the use of standards via metadata sharing and guidelines
- Use proxies in the absence of better alternatives

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Confidentiality, Self-identification

When data are collected, **consent** may not always be properly obtained from people on whom data are collected. Data should not be **shared/published** in a way that would allow identification of individuals: risks of misuse, trust undermined.

Self-identification is important to allow respondents choose to respond and define response options.

- Ensuring consent / compliance with data protection
- Training on anonymization and human rights-based approach to data

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Impartiality, Metadata, Data journey

Some CSOs and citizen scientists may work on **advocacy**, and data quality may be affected by that.

- Separation of advocacy and data production roles
- Application of sound statistical procedures
- Publication of detailed metadata and data journey description to ensure transparency

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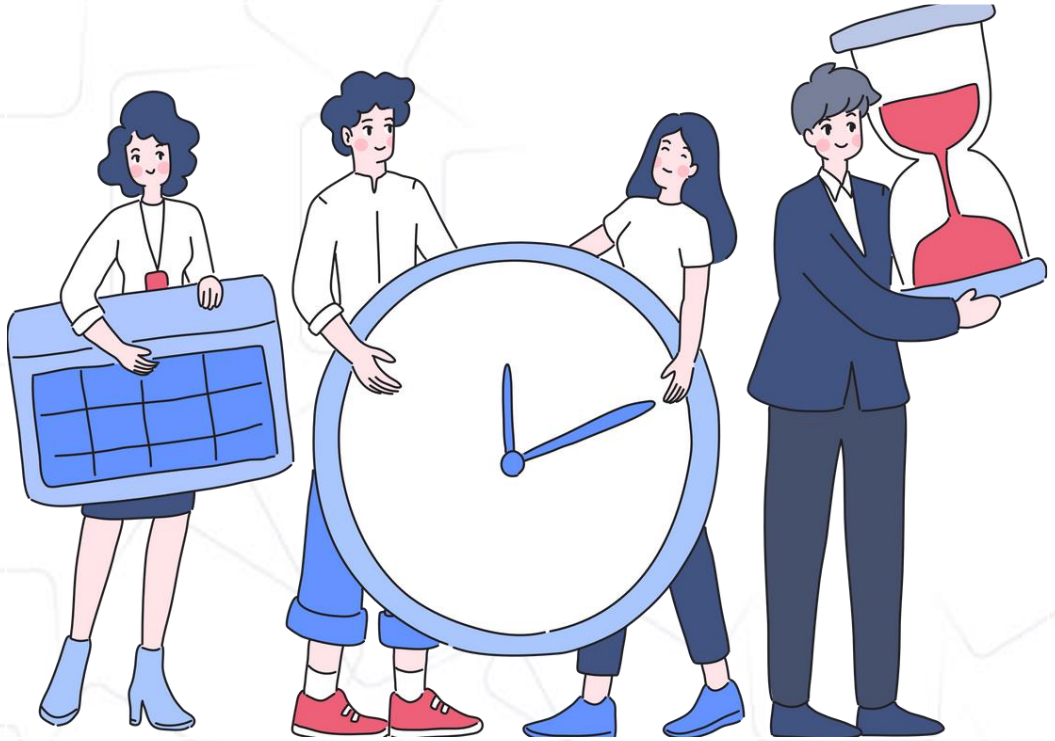
Timeliness, frequency, sustainability

CSD may offer the advantage of being **timelier** and have **higher frequency**. However, **sustainability of data source** – to construct time series - is a major concern for NSOs.



- Harness the potential related to timeliness and frequency
- Sustainability is more difficult to address but may not always be an issue

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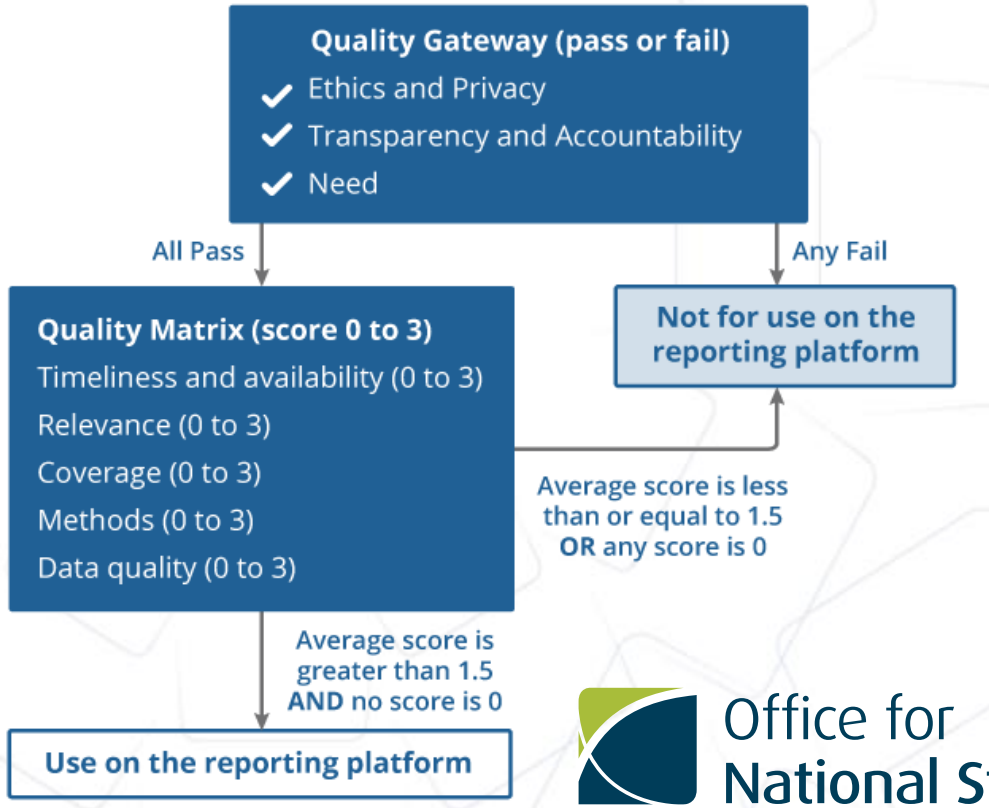
Case studies on Quality Assurance Frameworks (QAFs)



Office for National Statistics

DANE INFORMACIÓN PARA TODOS 70 AÑOS

Criteria for experimental statistics

- Relevancia
- Accesibilidad
- Interpretabilidad
- Transparencia
- Coherencia
- Oportunidad

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Crowd4SDG QAF and criteria

Example of a scoring matrix

CRITERIA	Score	Notes	CRITERIA	Score	Notes
Relevance	1		Metadata	1	
Coverage	1		Documented data journey	2	
Accuracy and Reliability	2		Impartiality	2	
Coherence, Comparability and Integrability	1		Confidentiality/Privacy	2	
Timeliness, Frequency and Sustainability	1		Self-Identification	n/a	
Accessibility	2		TOTAL	1.5	

0 – zero compliance, 1 – partially compliant, 2 – fully compliant (based by UK ONS's approach with additional criteria)

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Identified case studies on CSD

Fill in indicator gaps on SDGs or National Development Plans

- Ocean/Lake waste management (UK, Switzerland)
- Terrestrial waste management (Ghana)
- Human rights (Colombia)
- Gender based violence (Ghana)
- Air pollution – spatial disaggregation (Netherlands)
- Water pollution (Australia)
- Biodiversity (Denmark)
- COVID measures compliance
- 81 national indicators (Philippines)

Use new methods to improve frequency or cover informal economy

- Time use surveys (Italy)
- Sex workers economy (Kenya)

New ways of measuring well-being

- Sentiment analysis (Mexico)
- Qualitative risk and vulnerability monitoring methodology (Colombia)

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Crowd4SDG support on CSD

CSD support to Maldives NSO

- Marine litter
- Key Biodiversity Areas
- Mapping of all National Strategy for the Development of Statistics gap indicators on CSD

Womer project on indigenous women & climate

- Linking project with Colombian NSO, advice on sampling and data governance

Donate Water project

- Assessment with recommendations

Early-warning during floods

- Assessment with recommendations

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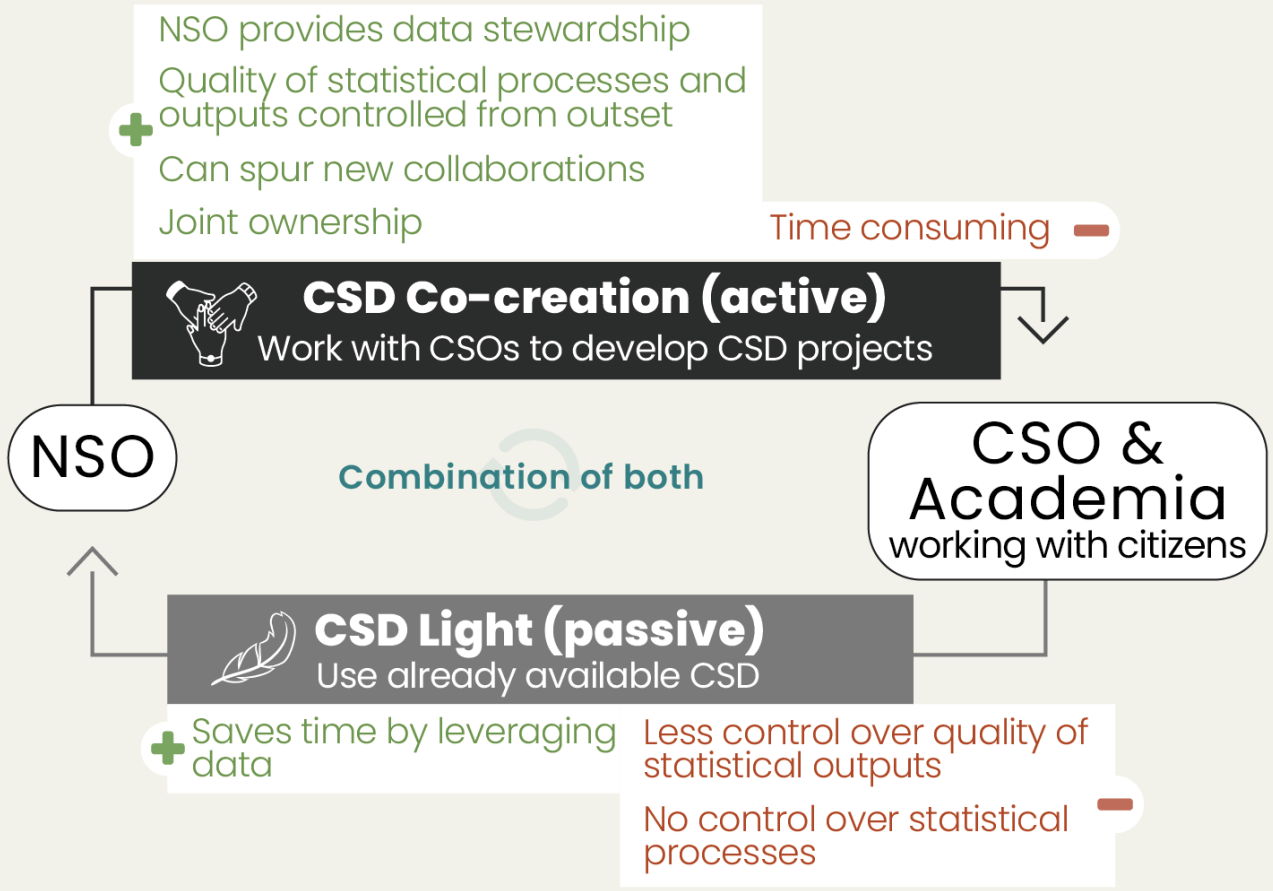
Policy Brief

National context
- Legal frameworks
- Institutional structures
- Resources
- Availability of active citizen science networks
- Data needs/priorities

Common steps
- Up-to-date legislation
- Mapping of CSOs & CSD
- Strengthen partnerships
- Quality assurance standards, criteria & mechanism
- Building capacities of NSOs & CSD producers
- Culture of innovation & collaboration

CSD Light and Co-creation



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