



Global Partnership

for Effective Development
Co-operation



EFFECTIVENESS ISSUES IN DEVELOPMENT CO-OPERATION FOR DATA AND STATISTICS

Issues paper prepared by the OECD Development Co-operation Directorate for the Global Partnership for Effective Development Co-operation (GPEDC) on the scope and potential for more effective support to data and statistics

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Foreword

This paper identifies and discusses effectiveness issues in relation to development co-operation for data and statistics, taking into account the roles of different stakeholders. It applies an effectiveness lens to co-operation in the area of data and statistics, drawing on evidence from a range of sources and consultations. It examines the extent to which common principles for the effectiveness of development co-operation agreed in the *Busan Partnership Agreement* and commitments made at the second High-Level Meeting of the Global Partnership for Effective Development Co-operation (GPEDC) in Nairobi (2016) play out in practice, and identifies three strategic issue areas, and three cross-cutting principles, that merit collective investment and efforts for greater effectiveness.

This paper contributes to the GPEDC Action Area for 2021-22 on support for data and statistical systems and capacity, with an evidence based analysis of how all relevant stakeholders can collectively strengthen data and statistical systems in partner countries in a more coherent and effective manner.

Rationale for applying an effectiveness lens to data for development

The GPEDC is a multi-stakeholder platform that brings together a diverse range of development actors to sustain political momentum for more effective co-operation and partnerships for the Agenda 2030. The main instrument of the GPEDC and its members is implementation and monitoring of the *Busan Principles for Effective Development Co-operation*.

The four principles for effective development co-operation – *focus on results, country ownership of development priorities, inclusive partnerships and transparency and accountability* – are intrinsically linked to the availability of accessible and high quality data at country level. For this reason, all GPEDC partners, developing countries, development partners, civil society, private sector and subnational governments, have made a concrete commitment to support data and statistical capacity at their last High Level Meeting in Nairobi in 2016. However, little progress has been achieved with this objective since then.

A multi-stakeholder process on effective support for data and statistical systems

To catch-up on these commitments and to accelerate progress, GPEDC has prioritised *effective support to statistical capacity and data* as one of its seven action areas in its current work programme (GPEDC, 2020^[1]). Led by Switzerland as the current co-Chair of GPEDC, this work aims to generate evidence and guidance for effective delivery of support by all partners and to build political momentum around the need for stronger country-level data systems and capacity.

The work is informed by the extensive research and body of evidence referenced throughout this paper. It is also informed by initiatives such as a collaboration between the GPEDC with members of the *Bern Network on Financing Data for Development* through a Data in Development Dialogue in June 2021 with representatives from national statistical offices (NSOs) and ministries of finance and planning of five African countries (Burkina Faso, Ghana, Madagascar, Mali and Rwanda) (PARIS21, 2021^[2]). Further country dialogues are planned at a later stage.

In addition, the paper is informed by activities and outputs of the OECD Development Co-operation Directorate's work on Data for Development (D4D) as a follow-up to the OECD's 2017 Development Co-operation Report on *Data for Development* (OECD, 2017^[2]). Specific activities

and outputs from the work stream include two annual meetings of partners (in December 2019 and February 2021); an OECD policy paper on *Key trends in development co-operation for national data and statistical systems* (Lange, 2020^[3]); qualitative insights gathered from interviews conducted with over 20 experts from both government and development partners based in Mozambique and Uganda focused on good practices and challenges to effectiveness in support for development data; and, the 2021 *D4D Profiles* of support to data and statistics by members of the Development Assistance Committee (DAC) (OECD, 2021^[4]).

An earlier version of this paper was discussed at an expert workshop in September 2021 with 34 participants from DAC member development co-operation agencies and ministries, representatives from national governments, civil society and experts from the data and statistical community. The authors, Simon Lange and Ida Mc Donnell, are grateful for insightful comments and feedback, which are incorporated in this paper, and thank Marc Cortadellas Mancini for his help with finalising the paper.

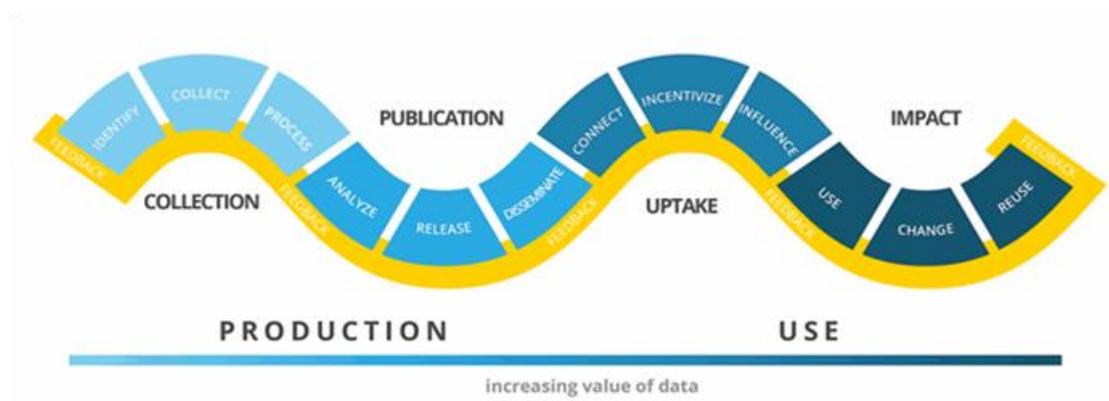
Following further consultation with other GPEDC constituencies over the course of 2022, GPEDC will formulate *Principles for Effective Data and Statistical Systems*, to be agreed at the third High-Level Meeting of the GPEDC, taking place in Geneva in 2022. The principles will be accompanied by actionable good practice guidance that is relevant for multiple stakeholders.

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Introduction

Matched with capacity to use them, development data (see Box 1; from here on simply “data”) can improve people’s lives in many ways (World Bank, 2021^[5]). They have the potential to benefit all development actors: governments at different levels and their development partners as well as citizens, civil society organisations, private companies and others. Yet, much of the value of data for sustainable and equitable development remains untapped (World Bank, 2021^[5]). In many developing countries the *data value chain*, the sequence of steps necessary to create value from data (Figure 1), does not play out optimally.

Figure 1. Collection, publication, uptake and impact: the data value chain



Source: Open Data Watch and Data2X (2018^[6]).

First, relevant and reliable development data are often in short supply. Despite modest gains in recent years, many developing countries, especially low-income countries and fragile states, continue to lack foundational data and statistics for effective policymaking (Lange, 2020^[3]; Devarajan, 2013^[7]): baselines for the measurement of the size and structure of the economy are often outdated (Jerven, 2013^[8]) and censuses and key surveys are lacking or only conducted infrequently (Serajuddin et al., 2015^[9]). Administrative data systems, ranging from the routine registration of births and deaths to registries of businesses, properties and tax payers, are often either non-existent or incomplete (Mbondji et al., 2014^[10]).

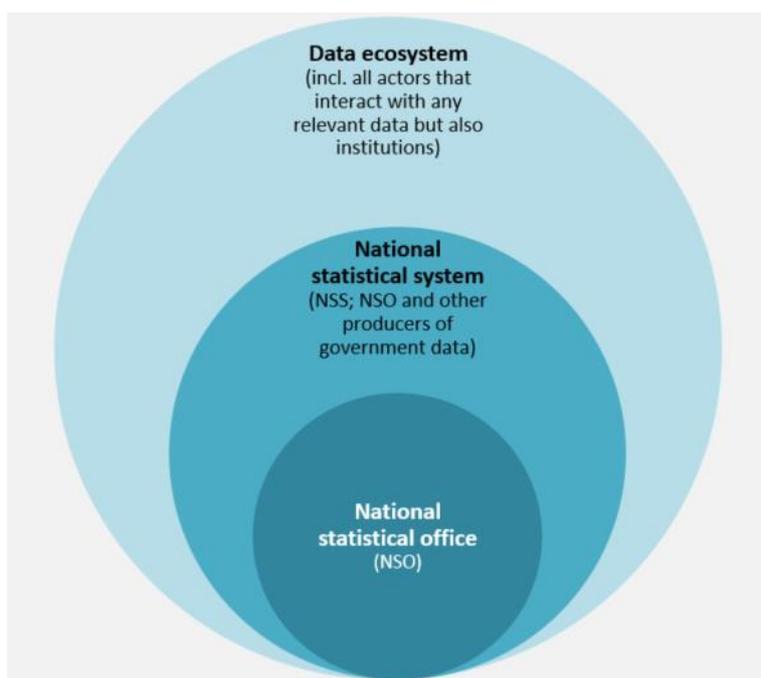
The continued scarcity of relevant, timely and reliable data in developing countries continues to be a major impediment to delivering Agenda 2030 and ensuring that no one is left behind. According to the GPEDC, 91% of national development strategies (NDPs) that were approved after 2015 referenced the Sustainable Development Goals (SDGs) and/or the 2030 Agenda (OECD/UNDP, 2019^[11]). But only 35% of developing countries that participated in the GPEDC monitoring exercise in 2018 reported having data and systems to track the implementation of NDPs (OECD/UNDP, 2019^[11]).

While the under-supply of development data and quality concerns are well documented, paradoxically, there are also concerns about low uptake and use of existing data, especially for the purpose of informing development policymaking (Custer and Sethi, 2017^[12]).¹ Despite a range of commitments and initiatives calling for better practices,² data are not being made openly available, not in a timely manner and not in formats that facilitate uptake. In addition, a lack of trust in the reliability and completeness of data can further undermine uptake and use.

Third, the context in which value is created from data has changed in recent years as new technologies have made it easier to collect data and provide opportunities for increased data sharing, use, re-use and re-combination. Yet, realising the potential of new technologies for equitable and sustainable development and putting in place safeguards to prevent misuse of data require new, inclusive partnerships (or “data compacts”³), which have been challenging to create and maintain.

The need to address the many failures to tap fully into the potential of data for development and to leave no one behind has become more urgent in the past few years. While the data-driven SDGs are off-track, demands on national statistical systems to produce data for monitoring progress (by a range of partners) are increasing. In addition, the COVID-19 pandemic has underscored the inadequacy of development data systems in low- and middle-income countries (Dahmm, 2020^[13]; Moreira da Silva and Charron, 2020^[14]). Policy makers and development actors struggled with having adequate evidence to inform fast-paced decision making on policy and service responses. For example, they lacked baseline data to understand the social and economic impacts of the pandemic, while censuses and surveys had to be cancelled or postponed during lockdowns.⁴

Figure 2. Overview of data ecosystems



Source: Authors' elaboration

International development actors are major players in data for development, partnering with national statistical offices, sector ministries, central banks, local authorities, universities and local civil society to support data and statistical production. They wear multiple data hats from financiers of official statistics, sectoral information systems, and civil registration and vital statistics, to producers and users of data outside the national statistical system to measure their development impact. These data efforts are not necessarily aligned to partner countries' results frameworks, and serve providers' planning, monitoring, evaluation, accountability and research needs (OECD/UNDP, 2016^[16]) (OECD/UNDP, 2019^[17]) (OECD, 2021^[18]). Through these actions international development actors also shape a complex and evolving data ecosystem

in many developing countries. As such they are both part of the problem and the solution to addressing long running and emerging data challenges.

This paper identifies three inter-related effectiveness issues along the data value chain pertaining to data production, collection and use (Figure 1):

- Issue area # 1.** Aligning data support with countries' long-term needs and priorities
- Issue area # 2.** Strengthening data uptake and use among all stakeholders
- Issue area # 3.** Building inclusive and accountable data partnerships

It argues that these are *development effectiveness issues* as per GPEDC principles because current practices are inconsistent with those principles or fail to implement them in the area of data and statistics. To make progress in tackling these effectiveness issues for data and statistics, all stakeholders in the effective development agenda have a role and responsibility.

Box 1. Key terms

Data and statistics

Development data: This paper is about development data – all data that are instrumental in understanding development challenges and opportunities and in achieving development outcomes and impact, can help strengthen development effectiveness, accelerate achievement of results, and bolster accountability. Development data include official data and statistics produced by government but also data produced by other actors. However, while there is a growing diversity of data producers, governments generate the vast majority of information on development inputs, outputs, and outcomes in their countries (Custer and Sethi, 2017^[12]). Line ministries and local governments produce administrative records related to the services they provide (e.g. school, hospitals), the people who access public services (students, patients), and the benefits they deliver (e.g. enrolment and immunisation rates). National statistical offices conduct censuses and surveys, including sector-specific data collection. Government data are also the most frequently used domestic source of information across different stakeholder groups, including governments, development partners, civil society and the private sector (Masaki et al., 2017^[15]).

National statistical office (NSO) is the leading statistical agency within a national statistical system.

National statistical system (NSS): The ensemble of statistical organisations, including the NSO and units within a country that jointly collect, process and disseminate official statistics on behalf of the national government. The NSO and the NSS are part of a wider **data ecosystem**, the entirety of factors that condition the supply and use of development data and statistics in a specific country, including the institutional framework, technical capacity of producers, data and statistical literacy of users, and other resources (Figure 2).

National strategy for the development of statistics (NSDS): NSDS are strategic plans developed by countries to strengthen the statistical capacity of the NSS. They show what and how statistics will be collected and published and identify the financial, human and technical resources that will be available to the NSS.

Development co-operation

Development co-operation: Development co-operation can be defined as an activity that 1) aims explicitly to support national or international development priorities; 2) is not driven by profit; 3) discriminates in favour of developing countries; and 4) is based on co-operative relationships that seek

to enhance developing country ownership (Alonso and Glennie, 2015^[16]). Thinking about development co-operation has evolved considerably over the years – from primarily financial aid to a much broader palette of development co-operation approaches and instruments, including non-concessional finance, South-South and triangular co-operation, climate finance, co-operation among governments on non-aid policies, and co-operation with and among non-governmental actors, such as businesses and civil society.

Development partners are the range of national and international organisations that partner with countries that receive development co-operation to realise national sustainable development priorities and the SDGs. These include governments that provide different types of development co-operation, multilateral organisations such as United Nations' agencies and programmes, international financial institutions, bilateral development finance institutions, parliamentary organisations, civil society organisations, trade unions and philanthropic organisations.

Partner countries are all countries that receive development co-operation.

1. Data and effective development co-operation: two sides of the same coin

This section discusses the two-way relationship between the effectiveness of support for data capacity and systems and the broader effectiveness of development co-operation. It clarifies the mutual benefits of more effective support for data and statistics.

Data are a means to ensure the effectiveness of development co-operation

Data play a dual role in development co-operation and development effectiveness. In their first role, they are a *means* to ensure the effectiveness of development co-operation. The four principles of effective development co-operation (OECD, 2011^[17]) – *country ownership, a focus on results, inclusive partnerships, and transparency and mutual accountability* – provide high-level guidance on how partner countries, their development partners, and other stakeholders should work together towards sustainable development. Data support the effective implementation of development co-operation, by helping countries assume ownership of their priorities and strategies to engage in effective dialogue with development partners, as an input into monitoring and learning, and as a means to promote transparency, trust and mutual accountability (Table 1). Accordingly, data and statistics – and especially their instrumental role in ensuring transparency and accountability and in strengthening the focus on results – have featured prominently in the effectiveness debate (Box 2).

Table 1. The dual role of data in effective development co-operation

	Instrumental role of data for development effectiveness	The contribution of effective support to data and statistical capacity and systems
Ownership of development priorities by developing countries	Data support countries in setting their development priorities and strategies and to engage in effective and mutual dialogue with development partners.	Developing countries lead efforts to build lasting data and statistical capacities by setting clear objectives linked to NDPs and identifying priority actions.
Focus on results	Data help decision-makers plan, monitor and learn from programmes and investments, increasing the odds that investments and efforts have a lasting impact.	Development partners' efforts help partner countries to develop lasting capacity to produce and use data for sustainable development, respecting national priorities and aligning their support to them.
Inclusive development partnerships	Shared strategies and open data underpin partnerships, create trust, support accountability and provide baselines for constructive dialogue.	Multi-stakeholder partnerships are key to building strong and inclusive systems that create social value from data.
Transparency and mutual accountability	Data promote transparency and mutual accountability – accountability to the beneficiaries of co-operation, as well as to stakeholders' respective citizens for achieving the SDGs and other commitments.	Efforts to strengthen data and statistical systems promote openness and public trust in data and statistics and higher demand for and use of data and evidence for better policies and better lives.

Source: Authors' elaboration.

Box 2. Data and statistics in the development effectiveness debate: Time to move from words to deeds

From the early days of effectiveness debates and efforts, data and statistics featured prominently as outlined below. However, while the focus on data and statistics increased in the 2016 Nairobi High-Level Meeting, the link between the effectiveness and statistical communities has weakened over time. For example, the *Cape Town Global Action Plan for Sustainable Development Data* (HLG-PCCB and UNSC, 2017^[22]), which was informally launched as the successor to previous action plans at the first UN World Data Forum in January 2017 and adopted by the United Nations Statistical Commission shortly after, has no apparent link to the effectiveness debate.

In addition, the follow-up to past action plans and commitments in the context of development effectiveness has generally been limited. The GPEDC monitoring exercise tracks some of these commitments (e.g. uptake of country data by development partners for results monitoring), albeit not comprehensively, and progress in these areas has been limited (see Issue # 2.4). Addressing these different commitments together, have rarely been considered – a gap that the GPEDC Action Area on data and statistics aims to tackle.

The development effectiveness agreements that commit to data and statistics include:

- The outcome document of the *Second International Roundtable on Managing for Development Results*, which took place in Marrakesh in 2004, notes that “[a] global effort is needed to support countries in generating reliable and timely data.” Participants endorsed the *Marrakech Action Plan for Statistics* (MAPS, 2004^[18]), which gave prominence to a number of initiatives, including PARIS21’s support for NSDS.
- In 2008, the Accra Agenda for Action called to “better co-ordinate and link the various sources of information, including national statistical systems [...]” and, for development partners, to “support and invest in strengthening developing countries’ national statistical capacity and information systems [...]” (OECD, 2008^[19]).
- Participants at the Fourth High-Level Forum on Aid Effectiveness in Busan in 2011 pledged to “implement a global Action Plan to enhance capacity for statistics [...]” (OECD, 2011^[17]) – the *Busan Action Plan for Statistics* (PARIS21, 2011^[20]).
- Data and statistics also feature prominently in the *Nairobi Outcome Document*, the outcome of the second High-Level Meeting of the GPEDC in 2016, which mentions the term “data” 51 times on just 44 pages (GPEDC, 2016^[21]) (see also Annex A).

Data are also an area of focus and investment by development co-operation

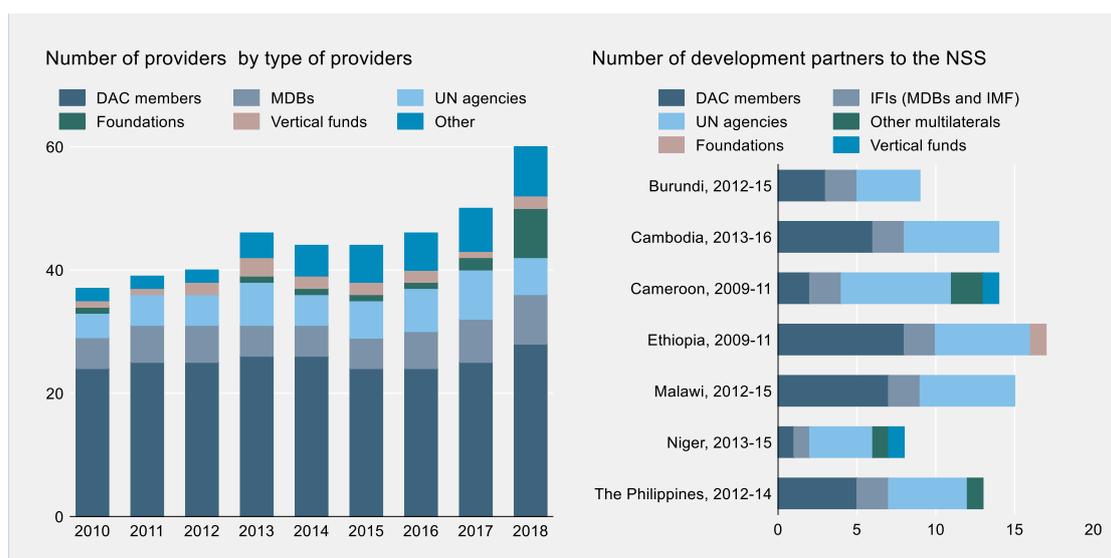
In their second role, data production and the capacity to use and produce data are also the *subject* of development co-operation – and support to data and statistics should therefore follow effectiveness principles.

Statistical capacity building and other activities in support of data and statistics have a long history in development co-operation, with some initiatives dating back to the 1970s. Efforts were stepped up in the late 1990s and early 2000s, partly in response to new demand for data to monitor progress towards the Millennium Development Goals. Also, support to data and

statistical systems at that point was often linked to budget support and the implementation of poverty reduction strategies, whose focus on long-term development and poverty analysis and monitoring would pave the way towards investments in surveys and other sources of official statistics (Lange, 2020^[3]).

While international funding for data and statistics has stagnated over the last ten years (at about USD 600-700m per year⁵) (PARIS21, 2020^[23]), the number and diversity of development partners that support data and statistics has increased. They include most of the members of the Development Assistance Committee (DAC), international financial institutions, UN agencies, private foundations, and others (Figure 3). They provide different types of support, including funding of statistical operations (e.g. censuses and surveys) and reforms, technical assistance, and, to a lesser extent, programmes and projects that aim to strengthen data use among policymakers or civil society actors (Lange, 2020^[3]).⁶ Project-type support and funding of regional or global initiatives of multilateral organisations are by far the most common ways of delivering support while joint approaches at country-level, such as budget support or multi-donor trust funds, have become less common (OECD, 2021^[4]).

Figure 3. National statistical systems in developing countries often cooperate with a large number of international partners



Notes: DAC: Development Assistance Committee; IFI: international financial institution; IMF: International Monetary Fund; MDB: multilateral development bank; NSS: national statistical system. Panel A is based on providers reporting against the DAC Creditor Reporting System. Panel B is based on a common list of 38 development partners.

Source: See Lange (2020^[3]) and sources cited therein.

Translating existing commitments into tangible results has been elusive so far

There are a range of international statements and commitments to strengthen data and statistical capacity and systems in developing countries. They include:

- As part of the Sustainable Development Goals (SDGs), two targets, 17.18 and 17.19, call for enhancing capacity-building support to developing countries, including to

increase the availability of high-quality, timely, reliable and disaggregated data, and to develop measures that complement gross domestic product (UN DESA, n.d.^[24]).

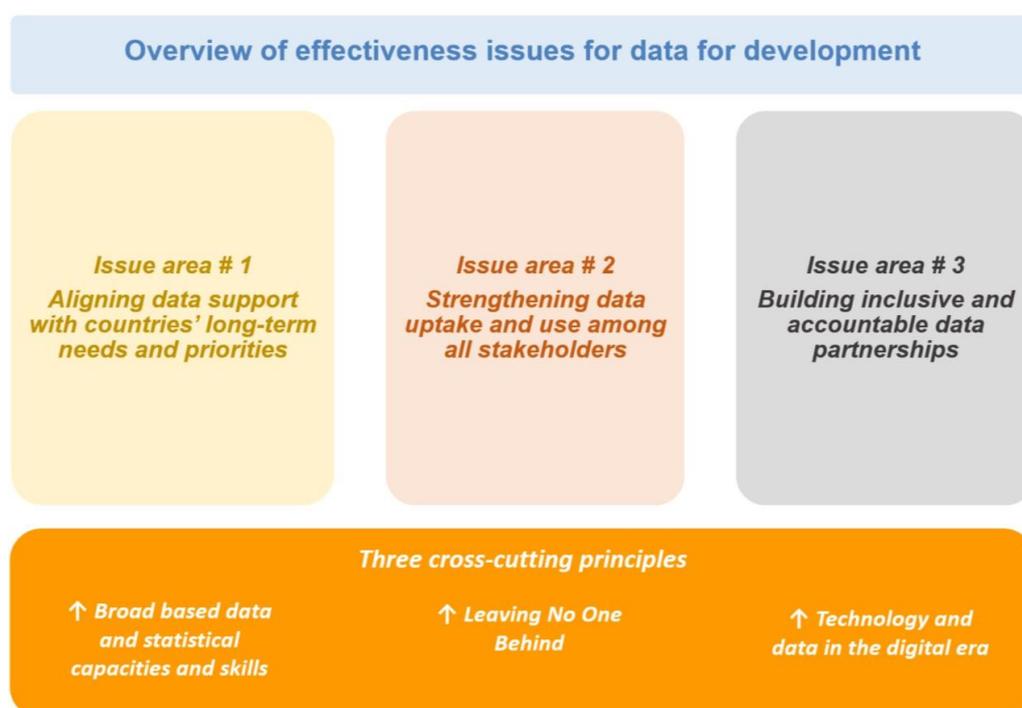
- The *Cape Town Global Action Plan for Sustainable Development Data* (CT-GAP), which was informally launched at the first UN World Data Forum in 2017 and adopted by the United Nations Statistical Commission at its 48th Session. The CT-GAP calls for policy leaders “to achieve a global pact or alliance that recognizes the funding of NSS [National Statistical Systems] modernization efforts is essential to the full implementation of Agenda 2030.”
- There are also specific data-related commitments and calls in the *Nairobi Outcome Document* (GPEDC, 2016^[21]). Among other things, members of the GPEDC committed to further develop, support and use national statistical systems and to make relevant data publicly available (see also Box 2 and Annex A).

Yet, despite these commitments and some success stories,⁷ providing effective international support for data and statistical systems, in line with commitments, is a work-in-progress with many shortcomings (OPM, 2009^[25]; IEG, 2011^[26]; IEG, 2017^[27]). While many international partners stress the importance of aligning support with country priorities (OECD, 2021^[4]), both international development partners and national statistical offices (NSOs) are concerned about the fragmented nature of international support and the lack of co-ordination among development partners behind national priorities and strategies (Ngo and Flatt, 2014^[28]; PARIS21, 2018^[29]; Sanna and Mc Donnell, 2017^[30]). The sectoral nature of development co-operation programming and projects poses a challenge to achieving system-wide co-ordination of support to data and statistics and in limiting fragmentation. Line ministries also develop, maintain and receive ODA investments in specific statistical systems (for example, management information systems in education or health services) and there are not necessarily cascading lines of authority and data specifications from NSOs to line ministries. Therefore, development co-operation actors would rely on ministries to locate the co-operation in the national strategies.

2. Key effectiveness issues for data for development

Data have specific characteristics that give rise to challenges that may not be as pertinent in other areas of development co-operation. Taking into account these characteristics and the Busan Effectiveness Principles, this section discusses three overarching, strategic effectiveness issues and cross-cutting principles that could be addressed through collective action, including potentially through *GPEDC Principles for Effective Support for Data and Statistics* (Figure 4).

Figure 4: Overview of effectiveness issues for data and development



Specific characteristics of data and implications for co-operation

Data and statistics have specific characteristics that make them interesting and useful for multiple actors and stakeholders involved in international development. Yet at the same time, these characteristics make being effective more challenging and give rise to the need for national governments, development partners and others to co-ordinate their activities:

- Data are **non-rival**. Once produced, they can be used by any number of actors and at the same time without them being used up (Stiglitz, 1999^[31]; Coyle et al., 2020^[32]; Jones and Tonetti, 2020^[33]; World Bank, 2021^[5]). For instance, a population census or a multi-purpose household survey can be used to extract valuable insights by many different actors and at the same time.

Non-rivalrous implies that data can create value for many different stakeholders. But since not all data will benefit different stakeholders to the same degree, there needs to be a common understanding of different data needs and actors' potential to use data for the benefit of equitable and sustainable development. Also, to increase the value generated from data, conditions have to be in place for data to be shared, used and re-used (subject to provisions for data privacy and protections – see Issue 3.4).

- Data exhibit **synergies**. They become more valuable when they are combined with other data (Coyle et al., 2020^[32]). Benchmarking is one example: a person's health or labour market data gain much of their value from comparisons to other's; one country's data on population or mortality gain from comparisons to other countries; and so on. But data can also often generate new insights if they can be combined with data that have different characteristics. Examples include the combination of data from household expenditure surveys and the population census to create estimates of poverty at finer levels of geographic disaggregation (Bedi, Coudouel and Simler, 2007^[34]), and of data on changes in night-time lights with national accounts data to predict (regional) gross domestic product (Henderson, Storeygard and Weil, 2012^[35]).
- Synergies imply that the value of data will also depend on the availability of existing data and the ease with which they can be combined. Strong partnerships and governance mechanisms are needed to ensure that data from different actors can be easily combined to tap into synergies.

Cross-cutting principles and priorities

With the above characteristics and the principles for effective development co-operation in mind, this section outlines three overarching or cross-cutting principles and priorities that should be mainstreamed in effectiveness principles for data and statistics, while recognising some overlap with the three issue areas. These cross-cutting trends surface across all issue areas and, in many, bind the challenges together.

Broad based data and statistical capacities and skills

In countries where data fail to realise their potential to advance sustainable and equitable development, lack of capacity (along the data value chain) is a significant constraint. The required skills go beyond knowing how to best collect and disseminate data. While such capacity is too often lacking in some contexts, a broader set of skills is needed by all relevant data producers and users. Skills include data and statistical literacy, the ability to read, understand, create and communicate data as information with policy relevance, but also organisational and managerial knowledge, e.g. to effectively co-ordinate various parts of national statistical systems. For instance, activities aimed at strengthening the NSO will not have significant impact when there is insufficient local expertise to make use of its outputs (see Issue area # 2 below).

Basic data skills are a particularly important endowment. For instance, training or degrees in statistics, mathematics, or computer science easily build human capital to conduct survey sampling or construct national accounts. However, NSOs with financial resource constraints and a very limited supply of university graduates,⁸ struggle to attract and retain staff that have solid foundations in these subjects and there may even be brain drain from national actors to more competitive private and international actors (see Issue area # 1 below).⁹ The continued need to build basic data skills across society underpins the notion that strengthening national

statistical systems and ecosystems is a long-term challenge, starting in primary school classrooms.

Leaving no one behind

Data ecosystems that are geared towards underpinning sustainable and equitable development need to ensure, in line with the pledge of Agenda 2030, that data benefit people and groups that are marginalised and at risk of being left behind (see Box 3). Delivering on this priority includes a deliberate and sharp focus and guidance on what data are produced and by whom (see Issue area # 1) but also how the data are used and by whom (see Issue area # 2) and the inclusiveness of the data and statistical systems and processes (see Issue area # 3). Integrating “Leave no one behind” (LNOB) into data and statistical systems is about more than collecting more granular data about those in poverty, at the margins of society or lacking access to public services. It also calls for greater triangulation and integration of data sets. For instance, the socio-demographic profiles of those with access to a certain service, if compared to the profile of the entire population, will be informative about who lacks access to the same service. Moreover, key concerns include ensuring that foundational data such as censuses, household surveys, civil registration and vital statistics are representative of the whole population and that data are actually relevant to and for populations at risk of being left behind.

Technology and data in the digital era

New technologies, especially digital technologies, have created new opportunities to collect more data at lower cost and greater frequency. They allow actors to extract more value from data through enhanced data sharing, re-use, re-combination of data – in short: by leveraging synergies between data. However, by making it easier to collect data, digital technologies have also led to an increase in the number and diversity of producers of relevant development data, increasing the need for effective co-ordination (See Issue area # 1). More traditional producers and users of data often lack capacity to harness new sources of data, while some sources of new data are likely to exclude information of populations that are still disconnected from the Internet – 3.7 billion according to latest data from ITU (ITU, 2020^[36]). Digital data and the ease with which they can be stored and shared also call for strengthening governance frameworks that protect data privacy and protections (Issue area # 3), an issue that is increasingly high on the agenda of international development actors (OECD, forthcoming^[37]).¹⁰

Issue area # 1: Aligning data support with countries’ long-term needs and priorities

Partner country governments have the overall responsibility for the development of their national statistical system, including by drawing up ambitious-yet-realistic strategies for statistics and data that are closely connected to national development plans and that can guide their development partners’ support. But development partners can also play a conducive role in supporting that process, starting by ensuring that their own demand for data is constructive – or, at a minimum, not counterproductive – to the development of national data and statistical systems. Lack of alignment leads to fragmented initiatives, which cause waste and reduce potential for more sustainable and demand-based support.

The first effectiveness principle, country ownership, states that partnerships for development need to be led by developing countries while the second holds that “investments and efforts must have lasting impact on eradicating poverty and inequality, on sustainable development,

and on enhancing developing countries' capacities, aligned with the priorities and policies set out by developing countries themselves" (OECD, 2011^[17]). In the area of development data, the principle of country ownership and development partners' focus on results can come into conflict with each other. The consequences of this are evident, among other things, from the mismatch between actual investments in data and stated preferences of partner countries. There is scope for greater clarity on what ownership means and should look like in reality in the data and statistical space. Practical questions about the meaning of ownership include if the development strategy is aligned with NSDS; NSDS is integrated and financed by the national development plan, and if co-financing arrangements ensure that domestic resources are also invested.

Issue 1.1: Ensuring country ownership of support

The Agenda 2030 and the SDGs are recognised by partner countries and their development partners alike. The SDG indicator framework with its 232 unique indicators should, in principle, serve as a shared framework for results (OECD, 2018^[38]) and the basis of a common understanding of what minimum set of results data are needed to make progress.

Yet, stakeholders play different and complementary roles in achieving the SDGs and are accountable to different constituencies. And realities in countries often play out less neatly than the concept. Partner countries, which need to take the lead in designing, implementing and monitoring national development strategies, are accountable first and foremost to their citizens. They thus need data that are relevant to them and their respective contexts. Also, governments have to allocate resources sub-nationally and, in order to make timely policy adjustments, need frequent data on the performance of relevant administrative units (e.g. communities, school districts) (Rosling and Fleck, 2013^[39]; Sandefur and Glassman, 2015^[40]).

Censuses and surveys are important for governments and development partners alike, not least for high-level monitoring of key indicators (e.g. poverty or unemployment rates) and to inform policies focussed on those at risk of being left behind, which is also driving an agenda for more disaggregated data (Box 3). But they are typically conducted only every few years. Also, most household surveys cannot be disaggregated at the level of relevant decentralised units.¹¹

Box 3. What data to leave no-one behind?

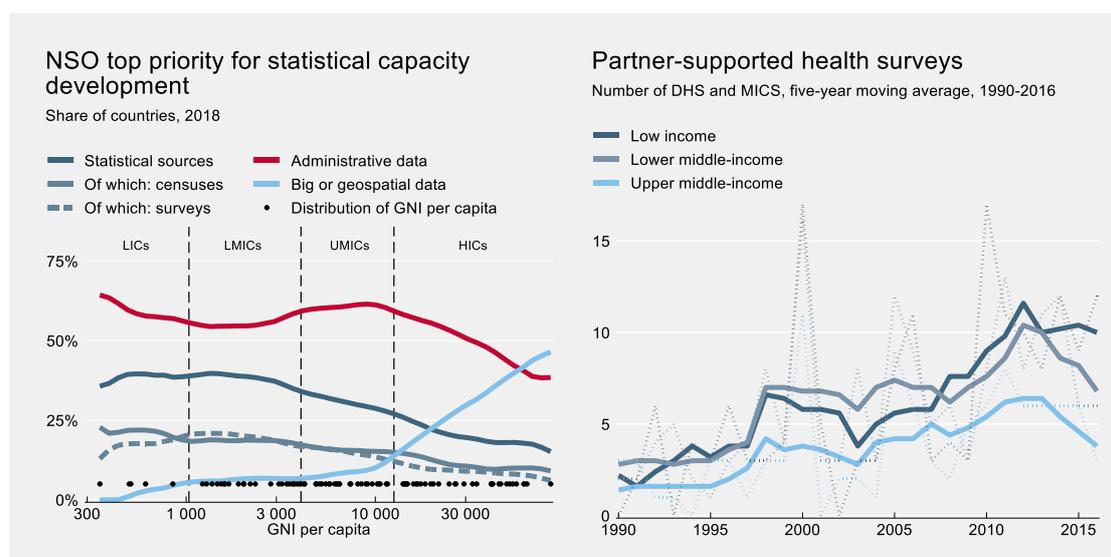
"Leave no one behind" (LNOB) is a central and cross-cutting theme of Agenda 2030. While there are differing interpretations of what it can and should mean (United Nations, 2016^[41]), it is broadly associated with a greater focus on poverty, inclusiveness and inequality.¹² Data to inform LNOB would ideally be representative of the entire population so that they can be used to calculate measures of poverty and inequalities – monetary or non-monetary – as well as access to key services among those most at risk of being left behind.

Household sample surveys come close to being ideal for the purpose of informing LNOB. They are typically designed to be representative of the entire population and can easily be disaggregated by social categories, wealth or income quintile. Administrative data, on the other hand, will almost by definition exclude those without access to public services, formal employment opportunities, etc., as the poor are typically less likely to use or be enrolled in (public) education systems, use health services, participate in the formal economy, own a title to their land, and so on.

Yet, as discussed previously, sample surveys tend to have drawbacks in terms of the frequency with which they are typically conducted, their inability to provide actionable data at the level of relevant administrative units, and, in the context of standardised surveys, a potential lack of local relevance.

Administrative data collected in the process of providing government services, on the other hand, often meet the above criteria of local relevance, high frequency, and sufficient geographic disaggregation, and tend to be especially useful when they can be combined with traditional statistical sources like censuses and surveys. Evidence from stakeholder interviews and other work suggests that there often is an unmet need for administrative data in country.¹³ Administrative data, rather than sample surveys, are also cited by most NSOs in low- and middle-income countries as the top priority for capacity development (Figure 5).

Figure 5. The development of administrative data capacities are often a key priority for national statistical offices



Notes: DHS: Demographic and Health Surveys; MICS: Multiple Indicator Cluster Surveys.

Source: Right panel: Authors' elaboration based on PARIS21 and UNSD (2018_[42]). Data on GNI per capita (Atlas method) come from the World Bank. Left panel: Author's elaborations based on metadata from World Bank (2020_[43]) Microdata Library, <https://microdata.worldbank.org/index.php/home>, and PARIS21 and UNSD (2018_[42]).

Development partners have committed to align their support with national development strategies, which would include national strategies for the development of statistics (NSDS). But they also have data needs that the NSDS may not address such as data to inform geographical allocation of ODA and other financing flows, indicators on human rights, economic and social inequalities, specific vulnerable groups, etc. In addition, many multilateral organisations, especially UN agencies, are explicitly mandated to monitor progress towards the SDGs at the global level and to provide indicators that are comparable across countries (OPM, 2009_[44]; Sandefur, 2013_[45]). The most common way to obtain comparable information at the country level is through standardised household surveys, which are almost always implemented by NSOs yet have the above-mentioned limitations for use by governments. Indeed, international support has in the past been geared towards funding household surveys,^{14,15} especially health surveys (Figure 5).¹⁶

Development partners, especially bilateral development agencies and ministries, are accountable to parliaments and citizens at home for the use of taxpayer funds. This has often led them to focus on the accountability, attribution and reporting function of results-based management systems and data production (Zwart and Egan, 2017_[46]; Vähämäki and Verger,

2019^[47]). They require data on results that can be attributed to their individual investments and projects – which can differ from data prioritised by partner governments.

Effectiveness principles encourage providers to rely on government data for results monitoring to the extent possible. The DAC, for instance, has adopted Guiding Principles for Managing for Sustainable Development Results in 2019. These principles recognise the need to align indicator frameworks to partner country results frameworks and to “strengthen and maximise use of partner countries’ monitoring and statistical systems, enhancing national capacity to plan and develop results frameworks as well as to produce and analyse” (OECD, 2019^[48]). In practice, however, actual uptake in the past was often limited: only half of the results indicators that providers monitor are drawn from partner countries’ statistical systems, with uptake among bilateral partners even lower (OECD/UNDP, 2019^[11]) (see also Issue # 2 below).

What is observed instead is a proliferation of parallel monitoring systems, each set up to collect data valuable only to a small number of actors. A series of OECD case studies on the extent of alignment of results indicators to the SDG framework finds that, across results frameworks of 15 providers of development co-operation working in Ethiopia in the energy sector, there were 40 different corporate indicators related to SDG target 7.1 on universal access to energy services, of which only three were direct matches with the relevant SDG indicator (OECD, 2019^[53]; Guerrero-Ruiz and Verger, 2022^[54]).

Issue 1.2: Ensuring that short-term data production does not undermine the long-term development of systems

Like all capacity development, data and statistical capacity development is a long-term process that is as much about incentives and governance as it is about skills and procedures (OECD, 2008^[50]; PARIS21, 2020^[51]). National statistical systems thus often face trade-offs between the demands for relevant data today and the long-term development of sustainable capacity to produce more relevant, granular and timely data in the future.

Development partners have thus far often focussed on the short term: one-off, project-type support for traditional statistical sources (i.e. funding censuses and surveys) or supply-driven technical assistance (e.g. contracting of international experts for narrow tasks) are common. While these approaches often succeed in producing relevant data in the short-term, they have left little in terms of sustainable capacity (Badiee et al., 2017^[52]).

On the other hand, development partners have done less to support administrative data systems, in which gaps tend to be pronounced (Lange, 2020^[3]) and which are often a priority for partner-country NSOs (Figure 5)¹⁷ Developing administrative data is a challenging task that requires establishing the NSO as a steward of data produced in the process of regular government functions and ensuring co-ordination across different government entities. In one survey, 41% of NSO representatives listed improved co-ordination with other government data producers among their three most important objectives and 53% said that planning and reporting systems between producers of official statistics should be modified to improve the governance of the NSS (PARIS21, 2018^[29]).

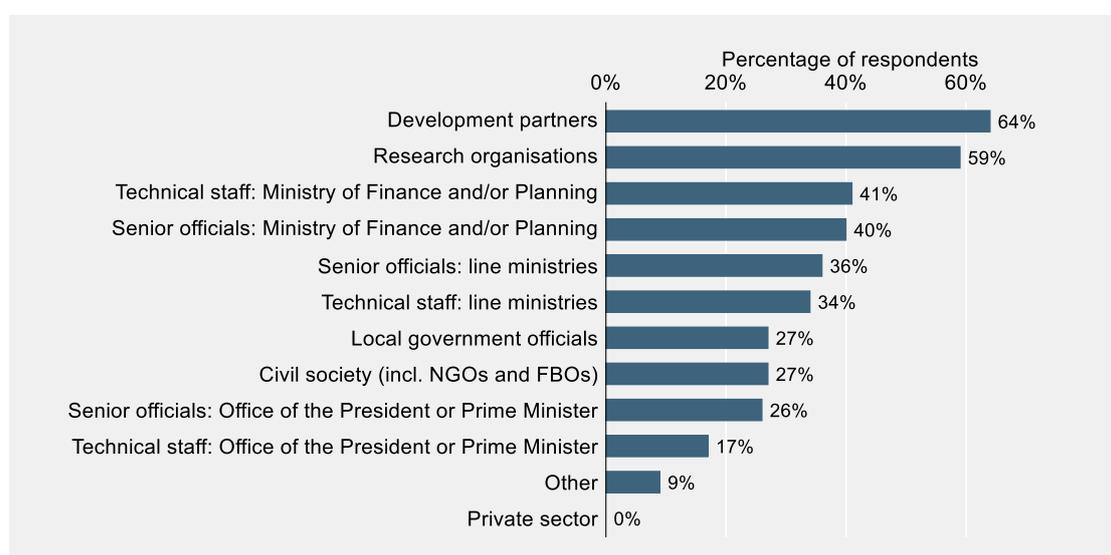
Finally, development partners often support data and statistics as an add-on to other sectoral projects to ensure project-specific results can be monitored (Badiee et al., 2017^[52]), especially in priority sectors like health and agriculture (OECD, 2021^[4]). But sectoral programmes and projects in support of data and statistics are more likely to lack alignment with priorities expressed in national statistical plans (PARIS21, 2020^[23]), suggesting scope to strengthen links across different project and programmes.

Issue 1.3: Strengthening countries' strategic leadership

Development co-operation is only going to be effective when there is clear and high national demand for more and better data. However, domestic demand for data can be low in developing countries, especially relative to demand for data from development partners. For instance, in a 2018 survey among NSOs officials in low- and middle-income countries international development partners were more likely to be cited as frequent users of government data than local civil society organisations and the domestic private sector. Similarly, Roger and Somani (2018) found that 13% of local government officials used the government's administrative databases as their main source of information.

Figure 6. NSO staff consider development partners among the most frequent users of official data

Share of mentions by NSO officials (N = 350): "Which of the following groups do you think uses data produced by [your NSO] most frequently (select up to five)?"



Notes: NSO: national statistical office; NGO: non-governmental organisation; FBO: faith-based organisation.

Source: Sethi and Prakash (2018^[53]).

Reliable and sufficient funding of core functions of official statistics would indicate local ownership and support. In practice, funding can often be insufficient, including for recurrent expenditure such as salaries. This, in turn, can result in organisational weaknesses such as inadequate staffing and high levels of staff turnover. NSOs and other government producers of data are left with low absorptive capacity and in a weak position to co-ordinate activities with a large number of development partners and other government entities.

Moreover, it can create incentives for NSOs to accepting external support (e.g. for survey work) primarily as a way to supplement own resources and even if it may not fit with national needs and priorities (Hoogeveen and Nguyen, 2019^[54]; OPM, 2009^[25]). This will be the case especially if funding from development partners is seen as more volatile over time vis-à-vis government funding, which seems at least likely. NSOs will then prioritise short-term projects that reflect partner priorities rather than working towards their own long-term, strategic objectives. As one

report puts it: “[r]ather than funding what needs to get done, whatever gets funded gets done” (OPM, 2009^[25]).

A World Bank project appraisal document for a statistical capacity building programme in a low-income country captures this situation: “This statute [governing the funding of the national statistical office] requires partial self-financing of [the NSO’s] operations and salaries. Budget transfers from the Government are currently only enough to cover 40 percent of staff salaries. As a result, priority has been given to revenue generation activities, such as contracting with development partners to carry out surveys, thereby neglecting the production of core economic statistics. Salary levels are not sufficient to attract and retain qualified statisticians, and few of the [...] staff have the required qualifications” (World Bank, 2017^[55]).

Systematic data on spending on official statistics in developing countries, especially low-income countries, are hard to come by (Jolliffe et al., 2021^[56]) and, unlike in the education or health sectors, international spending targets are rare¹⁸ (and would in any case lack heft in the absence of spending data). But individual reports and case studies indicate that there can be significant imbalances in terms of funding, especially in low-income countries, suggesting that NSOs can depend on development partners for 70-80% of their total expenses.¹⁹

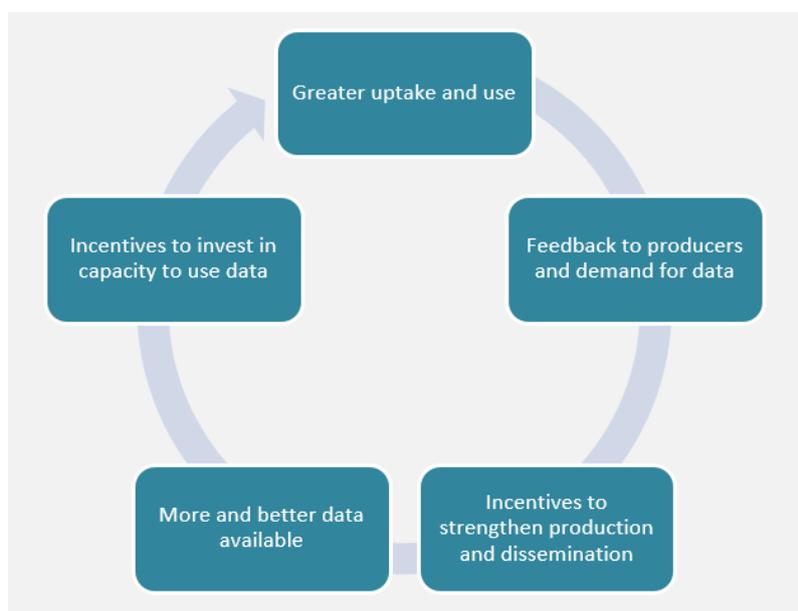
Another manifestation of robust domestic demand would be an ambitious-yet-realistic national strategy for the development of statistics (NSDS) that reflects high-level government priorities, commands broad buy-in from relevant stakeholders, and is fully funded. In theory, sound and transparent planning can help link data and statistical development to overarching national development plans and guide development partners that want to align their support to country priorities.²⁰ In practice, NSDS can remain disconnected from key national policy priorities due to a lack of engagement by ministries of finance or planning and other key government actors, there is often inadequate awareness and uptake by development partners,²¹ and many remain underfunded,²² especially in low-income countries.

Why can domestic demand for data be low? In some cases, governments may not recognise the value of data or may have limited incentives to invest in data and statistics or disseminate them. There can be political economy constraints to investments in development data or their publication (Taylor, 2016^[57]; Dargent et al., 2018^[58]; Hoogeveen and Nguyen, 2019^[59]). For example, uncomfortable truths such as low rates of economic growth, rising poverty and inequality, or a changing electorate²³ are harder to obscure when good quality data are routinely produced and publicly available.

Issue area # 2: Strengthening data uptake and use among all stakeholders

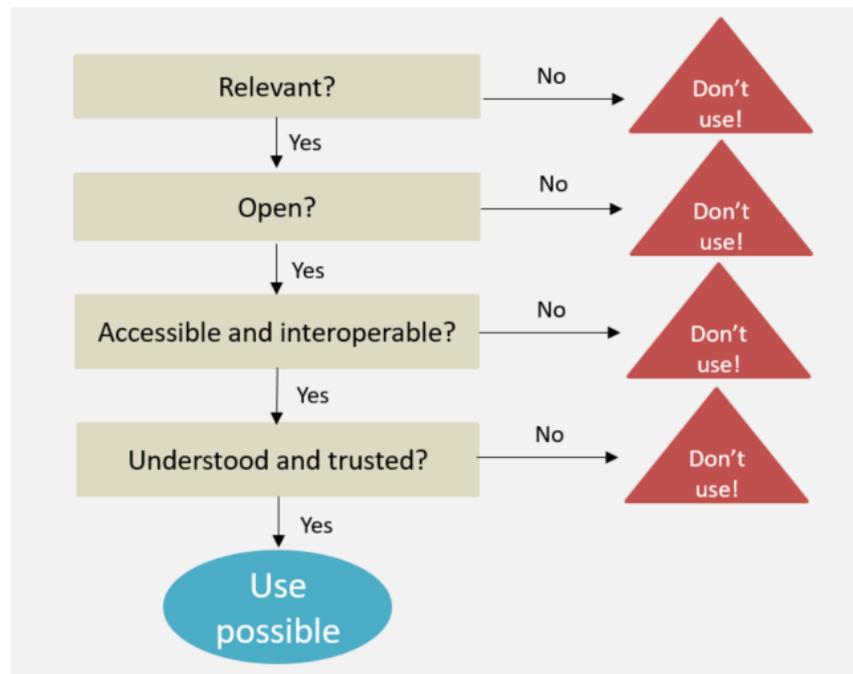
For data to generate any value at all, they need to be used to generate insights and inform decisions. But greater uptake and use of data can also trigger a positive feedback loop, a virtuous cycle towards a “culture of data use” (Figure 7): a more savvy, more diverse and more vocal user base can, in theory, help identify quality issues and advocate for the development of new sources of data. If that, in turn, leads to tangible improvements in the availability and reliability of data, it creates incentives to invest in data literacy and skills, further expanding demand, uptake and use in the future. Greater emphasis on data use and capacity to use data, at all levels including sub-national and local levels, could also strengthen country ownership, especially if there is clarity on what ownership means in practice to/for different stakeholders

Figure 7. Towards a culture of data use: the virtuous cycle between data demand and supply



Source: Authors' elaboration, based on OECD (2017^[2]), PARIS21 and Open Data Watch.

Yet too often, relevant development data fail to realise their potential for sustainable development as they are not used to feed into decision-making processes (Custer and Sethi, 2017^[12]). The reason for low uptake and use of existing development data vary across contexts. Lack of relevance to would-be data users, especially due to insufficient geographic granularity, can be a constraint (see above). But in many cases, data are not being made open, are difficult to access or combine with other data, or are not sufficiently trusted, any of which can prevent actors from using relevant data (Figure 8).²⁴ The data value chain can be broken at its origin (data collection and production) but also in other places.

Figure 8. Constraints to data uptake and use

Source: Authors' elaboration.

Governments have a key role in making public data open, accessible and inter-operable. Trust in public data is sustained by a transparent governance framework encompassing clear rules, including statistical legislation, and their implementation and safeguards to prevent misuse (World Bank, 2021^[5]). But strengthening uptake and use of government data is a task not only for governments. Development partners can help create a culture of data use through various, re-enforcing actions.

First, development partners can re-think their own approach to country data with a view to increasing their own use. This might require investing in their capacity to understand public data and the underlying political factors that shape it. Multilateral organisations, which have comparative advantages when it comes to assessing data availability and quality, often play an important role as “trust brokers.”²⁵ Second, they can deliberately and consistently make data issues part of their policy dialogue with their partners. Finally, development partners have scope to strengthen their support on the demand-side of data. As noted by several evaluations and with only few exceptions, strengthening data uptake and use has rarely been a priority of development co-operation in the past.²⁶

There are different ways in which data uptake and use are related to effectiveness principles. Perhaps the most obvious is that data can only make a contribution to eradicating poverty and inequality and to sustainable development if they are used in policymaking. Support to data that end up under-utilised will be ineffective.

But data use is also critical in the context of the third and fourth effectiveness principles: inclusive development partnerships and transparency and accountability to each other. The functional role of data in ensuring transparency and mutual accountability is widely acknowledged in the context of effective development co-operation. Both partner countries and their development partners are called on and have committed to making relevant data open and accessible as a way of ensuring transparency and mutual accountability. The *Nairobi Outcome*

Document notes that “the primary use of national data is to inform inclusive national conversations, to track performance, to prioritise and to *promote accountability*” (emphasis added). Furthermore, all signatories committed to improving the publication of open data on development co-operation, endorsing “open data standards” (GPEDC, 2016_[21]).

Finally, the third principle also stresses that “openness, trust and mutual respect and learning” lie at the core of effective partnerships in support of development goals. Trust among partners can also engender trust in each other’s data, a prerequisite for their use: only if would-be users have trust in the reliability and accuracy of data will they be willing to use them in their decision-making process. A lack of trust, on the other hand, can create incentives for development partners to set up duplicative data collection exercises managed and controlled by development partners directly or by trusted third parties. But this potentially brings development partners in conflict with the principle of country ownership.

Issue 2.1: Increasing the openness and accessibility of existing government data

Making relevant data open (subject to adequate provisions for data privacy and protections) has economic benefits²⁷ and, by strengthening government accountability vis-à-vis constituents, wider benefits to drive government effectiveness.²⁸ The role of open development data in promoting transparency and accountability in development co-operation and the importance of making data accessible and interoperable is acknowledged by all signatories of the Nairobi Outcome Document (GPEDC, 2016_[21]).

Yet, despite some progress in recent years, access to government data continues to be severely constrained in many developing countries. For instance, Open Data Watch, an international non-profit organisation, reports that the median country satisfies about half the criteria the organisation considers for data openness (Open Data Watch, 2021_[60]). Among low-income countries, the median is only one third. Similarly, of the 21 signatory countries of the *International Open Data Charter*, an initiative to support open data,²⁹ nine are high-income countries, 11 are middle-income countries, but only one is a low-income country (ODC, n.d._[61]).

Issue 2.2: Preventing the fragmentation of data

Synergies mean that data will often be more valuable when they are combined with other data. Decision-makers in governments or development agencies, for instance, will typically be interested in learning about performance at each step in the delivery chain from upstream budgets and intermediate outputs to downstream outcomes.

But lack of inter-operability – data are available but shared in incompatible formats – or fragmentation of data systems – data have to be obtained from different actors in different ways – can prevent would-be users from realising these synergies. Fragmentation of data systems is common and tends to originate from disconnected efforts, including those supported by development partners. Also, different government agencies often lack incentives to integrate systems or harmonise data and access procedures (Custer and Sethi, 2017_[12]).

Issue 2.3: Strengthening trust in the accuracy and completeness of data

In practice, there are many examples in development co-operation where distrust, especially in government data, impedes uptake and use.³⁰ All governments want to present bullish statistics on their performance³¹ and actual or suspected political interference in data production and dissemination is common, undermining trust in data. Yet there are “many shades of wrong,” ranging from outright manipulation of data (which is rare) to the opportunistic use of

methodological space (more common) and cherry picking data (very common) (Aragão and Linsi, 2020^[62]).

The standard way of guarding against interference is to ensure the independence and professional integrity of the NSS.³² But the independence of the NSS in many countries is often in question (Kjølsterud, 2017^[63]), including as a result of lack of capacity and inadequate resourcing. For instance, Global Integrity, an international civil society organisation that publishes the *Africa Integrity Indicators*, reports that none of the 54 African NSOs are perceived as completely independent by in-country researchers and 17 received the lowest score (Global Integrity and Mo Ibrahim Foundation, n.d.^[64]). In many cases, this is despite national statistical legislation that establishes the independence of NSOs *de jure*.

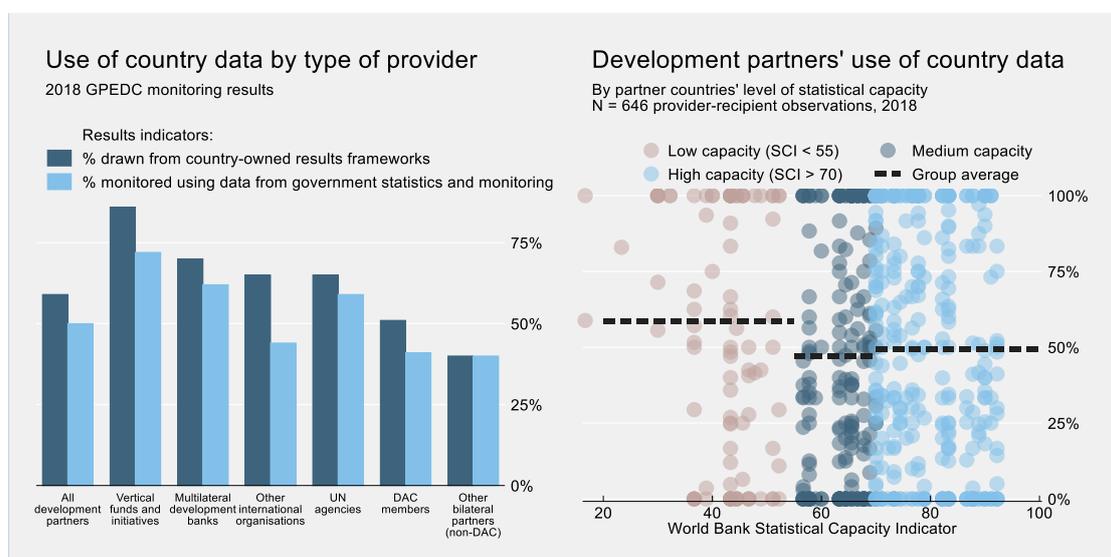
Issue 2.4: Increasing the use of country data for results monitoring

In theory, development partners should rely on country data for result monitoring whenever feasible. In the *Paris Declaration on Aid Effectiveness* and the *Busan Partnership Outcome Document*, development partners commit to using country systems “to the maximum extent possible” and “as the default approach” (OECD, 2005^[65]; OECD, 2011^[17]). This would ostensibly include partner countries’ data and statistical system, although this was not made explicit. Only in the *Nairobi Outcome Document* is there a commitment to “further, develop, support and use national statistical systems [...]”. Also, the *OECD DAC Guiding Principles for Managing for Sustainable Development Results*, which were adopted by the DAC in 2019, call on development partners to “strengthen and maximise use of partner countries’ monitoring and statistical systems [...]” (OECD, 2019^[48]).

In practice, monitoring of results and evaluation often relies on development partners’ own data or data from other non-government sources: while 83% of the objectives of development co-operation initiatives in 2018 were aligned to country priorities and objectives, only 59% of results indicators were drawn from country frameworks and only 50% of the results indicators were sourced from national data and statistics (OECD/UNDP, 2019^[11]).

There is significant variation by type of development partner: the share of DAC members’ results indicators monitored using country data is only 41% and that of other bilateral providers only 40%, compared to 72% for vertical funds and initiatives, 62% for multilateral development banks and 59% for UN agencies. On the other hand, there is no systematic variation by partner countries’ level of statistical capacity (as measured by the World Bank’s *Statistical Capacity Indicator*) – uptake can range from 0% to 100% across the entire range of countries’ statistical capacity (Figure 9). Seemingly, low statistical capacity does not automatically prevent development partners from using country data for results monitoring.

Figure 9. Development partners' uptake of country data varies by type of provider but not by partners' level of statistical capacity



Source: Left panel: OECD/UNDP (2019_[11]). Right panel: Authors' elaboration based on data from the GPEDC (2018_[66]) and the World Bank. (2020_[67]).

Issue area # 3: Building inclusive and accountable data partnerships

Stakeholders to effective development co-operation recognise that “inclusive multi-stakeholder partnerships are necessary for the realisation of effective development co-operation and for reaching the SDGs” (GPEDC, 2016_[21]) that are respectful of “different and complementary roles of all actors” (OECD, 2011_[17]). The idea that inclusive partnerships between different stakeholders (government, civil society, private sector, etc.) and users and producers are key to harnessing the potential of data for development also commands broad support within the data and statistical communities (Box 4).

Box 4. Data communities, data compacts and integrated national data systems

- The 2014 report *A World that Counts* by the **UN's Independent Expert Advisory Group on a Data Revolution for Sustainable Development** envisions the emergence of a vibrant “global data ecosystem” to support the monitoring and implementation of the SDGs, with roles for governments (including but not limited to NSSs), international and regional institutions, development partners, civil society, academia and the private sector (UN IEAG, 2014_[68]).
- The ***Africa Data Consensus*** introduced the concept of “data communities” interacting with one another in a “data ecosystem” to achieve the data revolution. The document identifies key actions, the first of which is to “[c]reate an inclusive data ecosystem involving government, private sector, academia, civil society, local communities and development partners that tackles the informational aspects of development decision-making in a coordinated way” (ECA and AUC, 2015_[69])
- The ***Cape Town Global Action Plan for Sustainable Development Data***, which was adopted by the United Nations Statistical Commission in 2017, states that “[t]he modern production of statistics requires comprehensive interaction among data providers, producers and users.

Therefore, trust among data providers, producers and users of statistics is key for the effective functioning of the national, regional, and global statistical systems” (HLG-PCCB and UNSC, 2017^[22]).

- The **OECD's** 2017 Development Co-operation Report *Data for Development* urges the establishment of country-led “data compacts” that meet the needs of all actors and foster mutual accountability for delivering on joint, performance-based action plans (OECD, 2017^[2]).
- The **World Bank's** 2021 *World Development Report: Data for Better Lives* puts forth an aspirational vision of an *integrated national data systems* (World Bank, 2021^[5]): the “[*integrated national data system*] is built on an intentional, whole-of-government, multi-stakeholder approach to data governance. It [...] actively integrates the various stakeholders from civil society, the public sector, and the private sector into the data life cycle and into the governance structures of the system.” In calling for “a new social contract for data – one that enables the use and reuse of data to create economic and social value, promotes equitable opportunities to benefit from data, and fosters citizens’ trust [...],” it notes that it will require strengthening national data systems and engaging all stakeholders at the national level.

To a great extent, the case in 2021 for an increased focus on partnerships rests on the idea that they can help realise opportunities provided by technological change. Digital technologies, in particular, are radically changing the way in which data can be produced, shared and used. They are blurring traditional distinctions between data users and data producers. These changes are creating vast opportunities to leverage data for sustainable development, especially by unlocking synergies between new types of data and traditional data. At the same time, when national governments take the lead in managing partnerships to deliver on priorities, and co-invest with domestic resources, they incentivise alignment by development partners.

There are, however, significant challenges to building inclusive partnerships for data. Depending on context, they can include capacity constraints, incentives of individual actors to focus on their own data needs or to curtail access to data, and the absence of or issues around compliance with regulatory frameworks that prevent data sharing (Pisa et al., 2020^[70]; GPSDD, 2020^[71]). Overcoming these challenges will require deliberate efforts to build a common understanding of data needs, opportunities and challenges, and to increase data sharing among different stakeholders through partnerships that can help realise more value from data and in a more equitable way (Ramage and Slotin, 2021^[72]).

Issue 3.1: Enabling civil society and the private sector to drive data development

In addition to governments and their development partners, citizens, their local communities, civil society organisations, universities, researchers, the media and the private sector all have traditionally played a role in the development of strong data ecosystems. **Civil society organisations**, including research organisations and the media, use data to generate insights, advance public discourse and enhance accountability. Civil society also has an important role in communicating data needs of the public to government, demanding public data to be made open and accessible, probing available data and providing alternative data if necessary. In countries that have strong data and statistical systems, **private sector companies** use public data – often in combination with their own data – as an input into their decision-making (Hughes-Cromwick and Coronado, 2019^[73]) but also as a factor of production, fostering economic growth and job creation. Their feedback on existing data and views on which data should be prioritised for development have the potential to spur investments that support sustainable development.

However, in many developing countries, there is little communication between the private sector and official statisticians. While nearly 90% of private sector leaders in developing countries commonly use data from government ministries and agencies in their decision-making processes (Masaki et al., 2017^[15]), NSO officials typically do not perceive the private sector as being among the most frequent users of official data (Sethi and Prakash, 2018^[53]).

Issue 3.2: Harnessing non-government data for development

Civil society and the private sector are far from being only passive consumers of data that should have a say in what data are to be prioritised. For instance, there has been a growing interest in “citizen-generated data” in recent years (Box 5) and many international NGOs have created indices based on their own data collection efforts (for example to track democracy, poverty, human rights abuses, etc.). As the examples in Box 5 show, citizen-generated data are in some cases being used as a substitute for official data when these are not available and to challenge (or validate) them when their accuracy or impartiality are in question. But by the same token, they also provide opportunities to validate official statistics, strengthening trust and uptake, and thus providing opportunities for new partnerships between CSOs and government. Similarly, data collected by private entities, which are often available with much greater granularity and frequency, are increasingly seen as a valuable source of development insights and have in some cases been used to inform programming or to monitor implementation.³³ Accordingly, commentators have argued that the private sector should recognise the value of their data to sustainable development and – where appropriate standards and safeguards are in place – make them available to other actors (Durand, 2017^[74]).

Box 5. Citizen-generated data

What are citizen-generated data?

Citizen-generated data (CGD) are produced by individuals, often to fill gaps in public and private sector data or when the accuracy of existing data is in question. There are different definitions of CGD but they all typically entail that data are actively produced by non-state actors, often for monitoring and advocacy purposes and organised and managed by civil society. They are distinct from Big Data or social media data which is indirectly created through interaction with digital technology.³⁴ In many examples, data are crowdsourced, i.e. voluntarily contributed by individuals.

There are several encouraging examples of how citizen-generated data are used to inform key issues:

- In 2007, in response to what was widely perceived as manipulation of inflation rates in Argentina, researchers, private-sector economists and civil society organisations started independent collections of price data to produce alternative estimates of Argentina’s inflation rate (Economist, 2012^[75]).
- Citizens of Beijing used sensors attached to kites that produced accurate, timely data on air quality in the city when no data were available from the Chinese government (Maly, 2012^[76]).
- Other examples include HarassMap (n.d.^[77]), an Egyptian tool that maps cases of sexual harassment based on citizen reports, and ForestWatchers, a platform through which citizens monitor the deforestation of the Amazon (Luz et al., 2014^[78]).

Yet, there are also significant challenges with both CGD and private-sector data. In the case of the former, there are often questions about the data’s representativeness and quality as well as

a lack of statistical expertise among CSOs (Wilson and Rahman, n.d.^[79]). For instance, crowdsourced data cannot be representative as individual members of the crowd self-select into providing data. Second, CGD are often only available for specific geographic areas and are not usually generated on a regular and recurring basis (PARIS21 and Philippine Statistics Authority, 2020^[80]). Finally, and as is the case of government data, there can be concerns about the effect of incentives that CSOs as agenda-driven organisations have on the reliability of their data. For private-sector data in particular, coherent and comprehensive regulations or guidelines for the use of these data are often lacking and privacy concerns often bar private companies and governments from sharing and using them.

There is also a risk that new data sources become a distraction from long-standing challenges and are prioritised over the development of foundational data systems. For instance, the large majority of pilots that explore the contribution of private data have relied on combining digital data provided by the private sector with more traditional data from government sources. Examples include the combination of data on mobile phone usage with traditional surveys to predict illiteracy (Sundsøy, 2016^[81]) or the use of online data on job postings, payroll data, credit and debit card spending, and so on, calibrated with official statistics, to track the US economy after the onset of the COVID-19 pandemic (Chetty et al., 2020^[82]).

Also, with remote data collection (e.g. phone calls), actors still need to ensure that they are obtaining informed consent and understand how to ensure privacy and security of data. For instance, many mobile phones are shared among family members. Collecting sensitive information from only specific persons in a household (say, women) might be challenging if the context in which respondents answer questions cannot be observed but might affect responses and, in the worst case, can put respondents at risk (USAID, 2019^[83]) (see also Issue 3.5).

Issue 3.3: Ensuring that the benefits of data are spread equitably

An active effort is needed to ensure that data ecosystems deliver benefits in an inequitable way and that they are inclusive and participatory, not least to strengthen data uptake and use. Coverage and representativeness matter: as poor and marginalised groups are more likely to live in remote or unsafe areas, it has always been difficult to ensure that they are properly represented in traditional data collection exercises. Technology can help, but is very unlikely to be sufficient by its own. For instance, the poor are often the least likely to have access to digital technologies.³⁵ And to the extent that they are less likely to have access to public services and to work in the formal sector, they are also less likely to be captured by traditional means of data collection.

These gaps should not, however, serve as a call to simply collect more data about poverty, of people at the margins of society or lacking access to public services. For instance, the socio-demographic profiles of those with access to a certain service (e.g. from administrative data systems) will often be informative about those that lack access to the same service if compared to the profile of the entire population. But the representativeness of foundational data (censuses, household surveys) and the relevance of data to populations at risk of being left behind are critical.

Data ecosystems should be actively developed to bring benefits to those at risk of being left behind, which will often require that they buy into (or experience 'ownership' of) the data being collected. Data that promote equitable development should be about those at risk of being left behind but also informed by what they themselves perceive as pertinent.

Issue 3.4: Closing feedback loops

Data are often most effectively interpreted, analysed and put to action by local actors that understand the context in which they were generated. A specific concern in this regard is a lack of mechanisms that ensure that data or the insights generated from data benefit the individuals, communities, and organisations that initially provide the data – what has been described as the “open loop problem” (Pisa et al., 2020^[70]). Sharing data or analytical insights back to local governments and communities where they have originated has the potential to improve the quality of data by incentivising better reporting, strengthening feedback loops, and incentivising investments in data analytical skills at the local level.

One example, provided by a workshop participant, is that of local governments or administrative units that provide data to the national statistical office but are unaware of the benefits that this can potentially entail for them. But it also includes development partners, who in some cases extract data and have them analysed by their own staff or international experts with limited benefits to local populations.

Issue 3.5: Safeguarding against the misuse of data

Data can support sustainable and equitable development – but they can also be used to harm people (World Bank, 2021^[5]). Threats to data privacy and security, for instance, have received much attention in recent years, especially in the wake of the Cambridge Analytica scandal (OECD, 2020^[84]), and have also embroiled development agencies (Human Rights Watch, 2021^[85]).

More specifically, while greater data sharing can generate large returns, it will often require governance frameworks that take into account the potential repercussions of releasing data, especially sensitive personal data. This is particularly the case in sensitive and crisis environments. Afghanistan, where easy access to the personal data of individuals that have co-operated with international development partners in the past might now be a threat to their safety, is one example. However, it is also an issue in many other instances as digital data can be breached and shared more easily. Only if data providers feel that their personal information will be safe from misuse will they be willing to co-operate with data collectors or provide accurate information. And only if potential users are trusted to put in place relevant safeguards to protect sensitive data at all times will data be shared readily. The development of strong governance frameworks that prevent data from being misused and help ensure they contribute to equitable and sustainable development should be an inclusive process.

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Annex A. Data, statistics and indicators in the Nairobi Outcome Document

The *Nairobi Outcome Document* is the outcome document of the Second High-Level Meeting of the Global Partnership for Effective Development Co-operation that took place in Nairobi, Kenya, at the end of 2016 (GPEDC, 2016^[21]). Commitments made at the Nairobi High-Level Meeting inform the current work programme of the Global Partnership.

Data feature prominently in the Nairobi Outcome Document, especially as a means to strengthen a focus on results (i.e. to measure and monitor progress) and a means to promote transparency and accountability. Both development partners and partner countries pledge to strengthen national statistical systems throughout the data cycle from creation to use, storage and deletion.

On the other hand, data and statistical systems are not primarily framed as an ownership issue (or at least not in the same way as, say, public financial management systems). There is, however, a broad commitment by all signatories to use national statistical systems and signatories note that strengthening capacities “will improve national monitoring exercises and public debates in partner countries receiving support.”

In the summary

Data and statistics are mentioned in the summary in the context of strengthening a focus on results, and transparency and accountability:

10. *To strengthen the focus on results, we will:*

- a. *further develop, support and use country-level results frameworks; progressively adapt results frameworks to reflect the targets and indicators of the SDGs; and make data on results publicly available; and*
- b. *further develop, support and use national statistical systems, and generate disaggregated data to report on progress.*

12. *To strengthen transparency and accountability to each other, we will:*

- a. *improve publication of open data on development co-operation, and support the use of this data by all stakeholders; [...]*
- c. *improve the capacity of local authorities and parliaments to provide transparent information to citizens on the use of resources; [...]*

In the context of ownership of development priorities by partner countries receiving support (Principle 1)

Data are only mentioned once in commitments under the first effectiveness principle, ownership of development priorities by partner countries.

Partner countries receiving support commit to:

- h. encourage innovations in citizen-led data gathering and reporting by women's groups, youth and other partners in civil society.*

In contrast to, say, financial management systems and processes, partner countries are not explicitly committing to accelerate progress in use of national data and statistical systems.

In the context of focus on results (Principle 2)

Under the second effectiveness principle, focus on results, all signatories recognise the importance of data to measure progress in development co-operation. Partner countries commit to strengthen their results frameworks, linking them with SDG-related targets and indicators and identifying “meaningful and measurable indicators and realistic and robust targets [...]”. Development partners providing support commit to strengthening data and statistical systems.

52. We recognise that high-quality, accessible, timely and reliable data disaggregated by age, sex, income, disability, race, ethnicity, migratory status, geography and other characteristics relevant in national contexts will be needed to help in the measurement of progress in development co-operation. We affirm our commitment to help develop partner country capacities in this regard. This will improve national monitoring exercises and public debates in partner countries receiving support.

54. Partner countries receiving support commit to:

- a. adapt their national results frameworks to strengthen linkages with national development priorities and SDG-related targets and indicators;*
- b. strengthen their results frameworks, including through identifying meaningful and measurable indicators and realistic and robust targets; and improving national monitoring and evaluation systems; and*
- c. ensure that national results frameworks have appropriate disaggregation and are used to drive performance, improve development outcomes, facilitate multi-stakeholder participation and ensure no-one is left behind.*

55. Development partners providing support commit to:

- a. use country-led results frameworks and associated national systems for statistics and for monitoring and evaluation in planning, delivering and monitoring development interventions as a matter of urgency; [...]*
- c. support the strengthening of statistical capacity and monitoring and evaluation systems of partner countries receiving support, with the aim of enhancing data collection and analysis, including data disaggregated by age, sex and location for use in policy-making, planning, budgeting and reporting on implementation of 2030 Agenda:*

In the context of transparency and accountability (Principle 4)

All signatories recognise the functional role of data to promote transparency and accountability, endorsing open data standards and measures to make data accessible and interoperable. Partner countries commit to step up their efforts to strengthen their capacity to produce data and to put in place elements of appropriate governance frameworks (e.g. the “independence of national statistical capacities” is mentioned). Development partners in turn commit to making their data open, to support increased awareness and use of data, to strengthen support to increase data use, and, again, to help their partners countries build national statistical capacity.

74. We note that primary use of national data is to inform inclusive national conversations, to track performance, to prioritise and to promote accountability. The Global Partnership therefore commits to strengthening country-level systems throughout the data cycle from creation to use, storage and deletion. The data produced from national-level processes is the building block for review at regional and global levels. We will support efforts to make data standards interoperable, allowing data from different sources to be more easily compared and used.

75. We also endorse open data standards and platforms that make data more accessible, understandable, and that promote focused and effective interventions. We encourage increased involvement of all stakeholders including data communities and the media to enhance data use at all levels. [...]

76. Partner countries receiving support commit to:

- c. intensify efforts to strengthen national statistical capacities and their independence and to support initiatives aimed at collecting and disseminating data in more effective and accessible ways; [...]*
- f. accelerate and deepen efforts to collect, analyse disseminate, harmonise and make full use of data disaggregated by demography (including sex, age and disability status) and geography to inform policy decision and guide investments that can ensure that public expenditures are targeted appropriately, including to equally benefit both women and men and to leave no-one behind; [...]*

77. Development partners providing support commit to:

- a. update institutional architecture, policies and information management systems, as needed, to make development co-operation more transparent, meeting the information needs of partner countries receiving support, citizens, and other Global Partnership stakeholders, and relying on open data international standards such as the International Aid Transparency Initiative (IATI) and the statistical standards of the OECD-DAC systems;*
- b. close data gaps by capacity building through appropriate financial and technical support to improve national statistical capacity to systematically collect, analyse, disseminate and use data disaggregated by sex and age;*
- c. work together to improve the availability, accuracy and use of open data on development co-operation at the country level;*
- d. support increased awareness and use of data in planning, delivering and monitoring development and humanitarian initiatives, especially at the country level, to drive effectiveness, engage stakeholders and citizens and improve development outcomes;*

- e. *strive to publish data on all ongoing activities, as regularly as possible, including detailed forward-looking data as well as data on results and evaluations, wherever available; and*
- f. *strengthen support to increase data use, including through the development of data visualisation and analysis tools, and assist partners that receive support to do likewise.*

Notes

¹ One study by the World Bank asked over 1,800 public officials in Ethiopia about how many people lived in their districts. About half of them thought their districts were at least 50% bigger or smaller than they actually were according to official data. When asked, less than 13% said that their government's administrative databases were their main source of information (Roger and Somani, 2018^[104]).

² As outlined in the United Nations Fundamental Principles of Official Statistics, the International Open Data Charter; more information and resources available at Open Data Watch: <https://opendatawatch.com/our-work/>.

³ See proposal on data compacts by Badiee et al in Chapter 4 [Rethinking donor support for statistical capacity building](#), OECD Development Co-operation Report 2017: Data for Development.

⁴ To give just one example, the impact of the pandemic on mortality in many developing countries is highly uncertain as a large share of deaths go unregistered. Commenting on their estimates of excess mortality during the COVID-19 pandemic, the Economist notes that uncertainty intervals for Africa and Asia were spectacularly wide: “The data from which to make strong predictions are not available, and in some places do not exist” (Economist, 2021^[94]).

⁵ Some observers have noted that total spending on data by development partners is likely higher as some data-related activities, especially project monitoring and evaluation, are often subsumed in larger projects and programmes. By one estimate, 2-3% of total official development assistance (ODA) went towards project monitoring and evaluation (Powell and Stout, 2018^[86]). In 2017, this would have equated to approximately USD 2.9-4.4 billion.

⁶ In a 2017 survey of DAC members, for instance, a majority of respondents reported that their support aims to strengthen data production and dissemination while support to data use and statistical literacy of data users was less common. Only two DAC members noted that they also support statistics through advocacy on the value and impact of data and statistics (Sanna and Mc Donnell, 2017^[30]).

⁷ Several low-income countries like Malawi, Rwanda and Uganda have much higher statistical capacity (according to the World Bank's Statistical Performance Indicators) than would be expected given their level of economic development (Stacy and Dan, 2021^[100]). They all have received substantial support for the development of their statistical systems from a number of international partners in the past.

⁸ While there is ample evidence for this from consultations and case studies – see, for instance, World Bank (2021^[5]) – it is difficult to know how pronounced the problem is. International organisations go to great lengths to report the number of physicians, nurses and midwives, and community health workers per population and there are international benchmarks for these different categories (e.g. one medical doctor per 1 000 population). But no comparable data are available for statisticians or other data professionals. According to the 10%-subsamples of population censuses published by the Minnesota Population Center, Mozambique, a low-income country, in 2007 had 1.4 “mathematicians, statisticians and related professional” per

100 000 population whereas Armenia, which graduated to the upper-middle income bracket in 2018, had 10.3 in 2011.

⁹ Contemporary brain drain challenges are discussed in this article (25 October 2021) by the journalist Antoaneta Roussi “A big tech talent war threatens Kenya’s start-ups” <https://www.ft.com/content/3232ccdd-6d53-4c50-ab82-911738ecf92e>

¹⁰ See, for instance, USAID (2019_[83]).

¹¹ While data from sample surveys typically can be disaggregated at the level of wealth or income quintiles (fifths of a population), “the quintile has no director that can be fired”, as one minister of health reportedly once put it (Rosling and Fleck, 2013_[39]).

¹² For instance, one approach advocated has been to focus on the bottom quintile, the poorest 20% of the population (German and Randel, 2017_[91]).

¹³ One report finds that potential data users from government, civil society and development partners often seek data on development infrastructure (e.g. schools, clinics) or results (e.g. student performance, unemployment figures). A lack of data that can be disaggregated at that level constrains overall data uptake and use (Custer and Sethi, 2017_[12]). This is also consistent with an analysis of usage patterns of Kenya’s Open Data Portal, one of the first of its kind on the African continent, which finds that two-thirds of datasets most frequently downloaded at the time were either at district or country level (Rahemtulla et al., 2011_[101]).

¹⁴ Examples of donor-funded household survey programmes include the World Bank’s Living Standards Measurement Study (LSMS) programme, USAID’s Demographic and Health Surveys (DHS), and UNICEF’s Multiple Indicator Cluster Surveys (MICS).

¹⁵ Household surveys became the workhorse of development data production in the run-up to the Millennium Development Goals (MDG)-era. By one estimate, more than half of the MDG indicators could be measured using internationally comparable household survey data (Muñoz and Scott, n.d._[89]).

¹⁶ Beyond their importance in generating internationally comparable development data, household surveys may have additional advantages for donors: they typically provide ready-to-use data in a few months’ time; inputs and results are easy to monitor; and the risk of delays or cost overruns is generally low. In contrast to administrative data systems, the implementation of household surveys also requires little co-ordination with government agencies other than the NSOs.

¹⁷ The development of administrative data sources has also featured prominently after the onset of the COVID-19 pandemic as door-to-door data collection became infeasible due to lockdowns (UNSD, 2020_[108]).

¹⁸ One exception is the call under the Strategy for the Harmonisation of Statistics in Africa (SHaSA) to allocate 0.15% of national budgets each year to statistical activities (African Union et al., 2018_[97]). It is not clear how many African countries attain this target. (South Africa, clearly among the leaders in terms of statistical capacity on the African continent, reportedly allocated 0.19% of its national budget to statistical activities (OECD, 2018_[98])).

¹⁹ For instance, a report by Malawi's NSO calculates that development partners accounted for 75% of the offices' total budget in 2009-14 (Government of Malawi, 2012^[96]). Another example is Madagascar.

²⁰ The importance of strategic approaches to statistical development was already recognised by the Second International Roundtable on Managing for Development Results, held in Marrakech in 2004. The Marrakech Action Plan for Statistics set a target for all low-income countries (where appropriate) to have NSDS by 2006 and to have started to implement them by the following year. PARIS21 published guidelines on NSDS for the first time in 2004 (Williams, 2005^[95]).

²¹ Only half of all DAC members report making NSDS the basis of their decisions about their support to data and statistics (Sanna and Mc Donnell, 2017^[30]; Lange, 2020^[3]). Instead, bilateral discussions are by far the most common starting point for any engagement in support of data, indicating that neither development partners nor their government counterparts consistently adhere to national statistical plans.

²² According to data from the SDG indicator dashboard, more than half of all low-income countries were implementing NSDS in 2020 (fewer than 20% reported that no plan was under implementation and no data was available for close to 25% of low-income countries). However, none reported that the plan was fully funded (half reported that it was not funded and the remaining half provided no information) (United Nations, n.d.^[90]).

²³ Population censuses have in some cases become highly politicised as they often form the basis for the distribution of central government resources and the number of seats in national parliaments. While the phenomenon is by no means limited to developing countries, Nigeria's experience with population censuses is instructive in many ways (Mimiko, 2006^[87]; Okolo, 1999^[88]).

²⁴ This is not to say that if all these conditions are in place, data use will follow. In particular, ascertaining whether data are open, accessible, trustworthy, etc. is costly. Hence, the expectation alone that at least one of these conditions are not met may prevent would-be users from attempting to find out and, by extension, using relevant data.

²⁵ A 2017 study notes that data disseminated by multilaterals (e.g. UN, World Bank, etc.) were found to be used in business cases by DFID staff and considered more trusted than most national government data sources (Development Gateway, 2018^[99]), despite the fact that they typically are based on partner country data as well and means to validate them can be limited.

²⁶ For instance, a survey of DAC members finds that a majority engaged in improving statistical production and strengthening data dissemination while only few focused on improving data and statistical literacy and promoting data use (Sanna and Mc Donnell, 2017^[30]). Evaluations of past efforts to build capacity have also frequently urged a greater emphasis on improving data access and data and statistical literacy among government staff and other prospective users (OPM, 2009^[25]; IEG, 2011^[26]; IEG, 2017^[27]).

However, there are some indications that this is changing. For instance, PARIS21's *Guidelines for Developing Statistical Capacity* (2020^[51]) emphasises user integration in capacity development. Recent projects by development partners such as the Millennium Challenge Corporation (2020^[105]) and the World Bank (World Bank, n.d.^[106]) have focussed on data use and literacy.

²⁷ A study commissioned by the Open Data Institute finds that open public sector data will provide 0.5% of GDP more economic value every year than data that users have to pay for (Lateral Economics, 2016^[92]).

²⁸ In 2013, G8 leaders signed the *G8 Open Data Charter*, recognising the power of data to drive government effectiveness and urging open data by default in convenient formats, among other things (G8, 2013^[107]).

²⁹ The *International Open Data Charter* was launched at the margins of the 2015 United Nations General Assembly after a global consultation led by key representatives of governments and civil society organisations.

³⁰ A 2017 study of data use among staff of the UK's Department for International Development, widely considered a leader in data for decision-making, notes that partner country administrative data systems were used "only when systems are accessible to and trusted by DFID staff" (emphasis added) (Development Gateway, 2018^[99]). In effect, external data use was largely restricted to the design and planning stages, and centred on trusted international data sources.

³¹ Political interference in official statistics has been documented across nearly all types of countries (Aragão and Linsi, 2020^[62]).

³² The preamble to the *Fundamental Principles of Official Statistics* stresses that "the essential trust of the public in the integrity of official statistical systems and its confidence in statistics depend to a large extent on respect for the fundamental values and principles that are the basis of any society seeking to understand itself and to respect the rights of its members and, in this context, that the professional independence and accountability of statistical agencies are crucial" (UN, 2013^[103]).

³³ See, for instance, Fast and Waugaman (2016^[110]).

³⁴ For instance, PARIS21 defines citizen-generated data (CGD) as data produced by non-state actors under the active consent of citizens to tackle social issues explicitly (Cázarez-Grageda, Schmidt and Ranjan, 2020^[102]). A report by CIVICUS, on the other hand, defines CGD as "data that people or their organisations produce to directly monitor, demand or drive change on issues that affect them" (Wilson and Rahman, n.d.^[79]).

³⁵ For instance, one study conducted by the World Bank finds that, "across the developing world, females, the elderly, those who live in rural areas, and those who have a relatively low level of income or education are less likely to adopt mobile internet" (Chen, 2021^[109]).