

# Closing Data Gaps for Key SDGs and Regions in the 2030 Agenda and Beyond:

Recommendations for Researchers, Policymakers and the Sustainability Community

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## Key Messages

- The timely provision of high-quality data across all SDGs and regions is essential to the evidence-based decision-making needed to achieve the 2030 Agenda.
- However, significant data gaps for SDG 5 (Gender), SDG 13 (Climate) and SDG 16 (Peace & Institutions) as well as across the Middle East and North Africa (MENA) region have limited how much data has served as the basis for SDG planning.
- This discussion paper therefore recommends strengthening global cooperation on SDGs 5 (Gender), 13 (Climate) and 16 (Peace & Institutions) to close these gaps. It similarly calls for enhancing cooperation across MENA countries on a wide range of SDGs.
- More generally, the paper suggests that citizen science offers a cost-effective way to close data gaps while enabling the engagement and ownership of data collection, particularly in developing countries.
- These recommendations could be further enhanced by, *inter alia*, investing in statistical capacity, adopting innovative practices based on new technologies, and leveraging non-traditional data sources involving businesses and civil society.
- In the Post-2030 era, strengthening statistical capacity and making data systems more resilient will be a growing need. Investing in harmonised standards and sharing networks can help mitigate disruptions from environmental and geopolitical shocks in this connection.

## 1. Introduction

This paper focuses on several key issues facing policymakers, researchers and the international development community in their efforts to bring data-driven decision-making to bear on the 2030 Agenda and beyond. Toward that end, the paper has two main objectives:

- Highlight critical challenges to data-driven decision-making for the 2030 Agenda; and
- Provide recommendations on those challenges that can be overcome for the current and possible post-2030 agenda.

Policies and actions grounded in scientific evidence are key to a sustainable future. In fact, there are many gains from adopting evidence-based decision-making when working on the Sustainable Development Goals (SDGs). These benefits include greater certainty, reproducibility, and consistency in policy outputs, as well as enhanced transparency, monitoring and accountability over policy outcomes. It is therefore understandable that SDG 17 emphasises the importance of scientific evidence and data collection. Although acquiring sound evidence can be a lengthy and contested process, it is justifiably viewed as a worthwhile investment of time, energy and resources.

There are, moreover, several ways of assessing whether the resources devoted to these ends are helping to integrate data-driven evidence into SDG decisions. For example, one could take a downstream perspective to determine whether countries have created mechanisms to translate scientific evidence into policy (Allen, Metternicht, and Wiedmann 2021). However, while work on science-policy interface merits attention, an arguably more fundamental question is whether policymakers have secured the data for different goals/targets across different regions.

The remainder of this paper is divided into four sections that can shed light on that question. More concretely, the next section (section 2) points to data gaps on several SDGs that persist and highlights that these gaps are particularly significant in the Middle East and North Africa (MENA) region. Section three discusses how the gaps across goals/targets and regions can be closed in the current and a post-2030 sustainable development agenda. The fourth section concludes by reflecting on how the issues made in this paper relate to themes covered in this discussion paper series.

## 2. Identifying Data Gaps

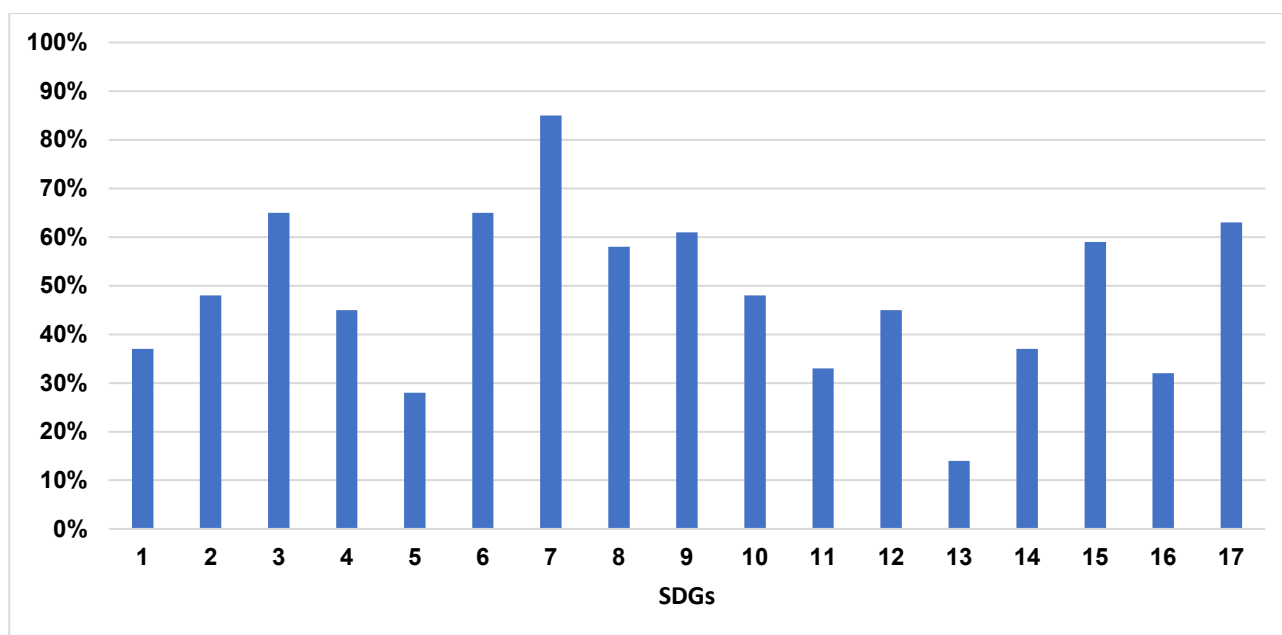
Widespread access to high-quality data is essential to not only for analysing the status and trends on the SDGs but also to ensure that policy decisions draw meaningfully from those analyses. The opposite is also true: insufficient data collection and data gaps can undermine progress tracking and informing decisions on the 2030 Agenda. The need for timely delivery of high-quality data as a basis for decisions on international development is not new. In fact, challenges securing evidence trace back to the Millennium Development Goals (MDGs) when the international community and some researchers cautioned about the effects of data shortages on assessing progress (Jacob 2017). However, these needs have arguably become increasingly salient due to the number of the targets/indicators and the heightened attention to ensuring that good data is available across goals and regions, given the systemic and universal nature of the SDGs.

The SDG monitoring framework faced numerous challenges at its inception, including mismatches between targets and indicators, a lack of clear numerical benchmarks, and significant methodological issues (Development Initiatives 2023). Many countries, particularly low-income ones, lacked the capacity and resources to collect and report on all SDG indicators (UN Statistics Division 2023; PARIS21 2025). Substantial progress has nonetheless been made since then, with increased data production and methodological revisions. In fact, most countries have now achieved at least 50-75% data production for at least one year in the 2015-2023 period, demonstrating the framework's growing effectiveness (UN Statistics Division 2023; PARIS21 2025).

Despite the notable progress, some data gaps persist. This is illustrated by the fact that data for 66 out of 231 indicators are not regularly produced (Tier 2 indicators). These shortfalls are particularly concerning given that the world is ten years into the implementation of the SDGs. Another worrying inference can be drawn from looking at a short time frame: about one-third of the indicators lack data from the past three years (United Nations 2024). While there has been progress in closing data gaps—for instance, there are no longer any tier 3 indicators—work remains to be done before key decisions on the SDGs are based on robust data.

It is a fact that data gaps have been observed, and shedding light on where those gaps are most problematic can help ensure better resources to address them. One way of identifying key gaps involves looking across the targets and goals. Figure 1 offers insights into areas that arguably require the most attention at the goal level. The figure demonstrates that less than 30% of countries have sufficient data for SDG 16 (peace and justice), while less than 20% of countries have adequate data for SDG 5 (gender equality) and SDG 13 (climate action).

The lack of data available for SDG 13 is particularly alarming, given the emphasis on grounding climate policy in accurate data.



**Figure 1: Availability of country-level data**

**Source:** Based on UNDESA, <https://unstats.un.org/sdgs/dataportal/analytics/DataAvailability>

The gaps for specific SDGs are not the only issue. A related problem is that different countries and regions have varying levels of data. For example, some studies have shown that only one-quarter of the 193 countries—54 in total—produce enough data to track at least 50% of the required indicators (Goessmann, Janssen & Diehl 2023). Interestingly, although economic resources can play a role in a country's ability to collect data, it is not the most decisive factor. There is actually considerable variation among countries of similar income levels, and high-income countries do not necessarily have better data coverage. For instance, some reviews suggest that middle-income countries such as Mexico, Peru and Colombia outperform high-income countries in their data coverage. On the other hand, some high-income countries, such as Canada and Israel, score below some of the low-income countries (Goessmann, Janssen & Diehl 2023).

This variation is also apparent when looking across different regions. A simple multivariate regression model can help illuminate these regional differences. As shown in Table 1, the results of a model that regressed regional differences as well as gross national product (GNP) (normalised by taking the natural log) and population (again normalised by taking the natural log) onto a measure of data availability (based on the average data available for set indicators for the 17 SDGs) demonstrated that there are indeed significant regional differences. Among the six regions, the largest, most discernible differences were between the Organisation of Economic Cooperation and Development (OECD) and the Middle East and North African (MENA) countries. This can be seen by looking at the size of the reported

coefficients, which suggests that, all else equal, MENA countries coverage of relevant indicators tended to be about 5% (-0.051751) less than the average country in the sample, while OECD countries coverage of relevant indicators tended to be about 4% (0.042035) above than the average country. Unlike other regions, the results from the regression suggest that these regional differences for MENA and OECD are unlikely to be due to random chance alone. While additional research on factors behind these differences are needed (and discussed later in the paper), these results support claims that conflict and political instability at the regional level could negatively impact the acquisition of high-quality data (United Nations 2023).

**Table 1: Regression Results**

| Variable                                                            | Coefficient/Standard Error |
|---------------------------------------------------------------------|----------------------------|
| Intercept                                                           | 0.080<br>(0.086)           |
| LN Gross Domestic Product<br>(GDP)                                  | 0.009<br>(0.006)           |
| LN Population                                                       | 0.018***<br>(0.003)        |
| Europe (Non-OECD)                                                   | 0.022<br>(0.020)           |
| Middle East and North Africa<br>(MENA)                              | -0.052*<br>(0.021)         |
| Organisation for Economic<br>Co-operation and<br>Development (OECD) | 0.042*<br>(0.020)          |
| Sub-Saharan Africa                                                  | -0.019<br>(0.019)          |
| Latin America and the<br>Caribbean (LAC)                            | -0.007<br>(0.020)          |
| R <sup>2</sup>                                                      | 0.368                      |

### 3. Closing Data Gaps Under the 2030 Agenda

The previous section underlined that data gaps have undermined efforts to base decisions related to the SDGs on concrete evidence. It further noted that gaps are not only a longstanding problem but that they are most worrying for particular goals and regions. This section offers pragmatic suggestions for addressing the more general as well as specific goal and regional gaps.



At the most general level, the approaches to closing these gaps are not entirely new. However, some of the frequently offered recommendations warrant reiterating before discussing more nuanced points pertaining to specific goals and regions. Some of the more general recommendations involve continuing efforts to strengthen national statistical offices (NSOs) and data collection systems. This may entail not only raising the number of human resources but also ensuring that staff are trained to handle complex methodologies (Development Initiatives 2023; United Nations 2024). It may also necessitate strengthening cooperation among different institutions to manage some of the more challenging cross-cutting data issues. Strengthening political commitments to securing data would undoubtedly help with the above efforts to enhance NSO capacity and interagency coordination (United Nations 2024). Countries can further supplement these interventions by leveraging technology and big-data analytics and developing user-friendly tools for data visualisation and sharing (PARIS21 2025). Last but not least, relying on civil society and academia for areas not covered by the public sector can arguably pay dividends (UNDP 2023).

A second set of recommendations pertains to specific SDGs. In this connection, some of the efforts should be targeted at increasing data for SDGs 5, 13, and 16. For SDG 5, there is still a lack of gender-related and sex-disaggregated data in both developed and developing countries (Beegle et al. 2023). One way of filling SDG 5 gaps is enhancing survey methodologies and strengthening administrative data systems; this will make it possible to capture more granular, sex-disaggregated data across sectors like education, health and employment (Open Data Watch 2023). For SDG 13 (climate action), there is a need to develop integrated data systems that combine meteorological data, satellite imagery and socio-economic indicators. This can be complemented by building partnerships and capacity between NSOs and environmental agencies working on nationally determined contributions (NDCs) and biennial update reports (BURs). For SDG 16 (peace, justice and strong institutions), standardising methodologies for sensitive data collection and using alternative sources like perception surveys can help fill gaps. Bolstering collaboration across various data producers, including civil society and non-official sources, can also address data needs in some contexts. For each of the above SDGs (5, 13 and 16), it may also be possible to tap into resources and systems where data coverage and collection practices tend to be strong, including SDG7 (energy), SDG3 (health), and SDG9 (industry) (Goessmann et al. 2023).

Regional partnerships have demonstrated significant potential for coordinated approaches to addressing data gaps. For instance, the Strategy for the Harmonization of Statistics in Africa (SHaSA) represents a comprehensive framework that has successfully implemented harmonised survey modules and administrative data collection instruments across multiple African countries. This initiative focuses on creating standardised methodologies and shared protocols that enable cross-country comparability while respecting national contexts.



SHaSA's success lies in its systematic approach to building regional statistical capacity with shared training programmes, technical resources and data collection frameworks (African Union Commission 2019).

The Praia City Group on Governance Statistics, established by the UN Statistical Commission in 2015, exemplifies another effective multi-stakeholder collaboration in addressing specific SDG data gaps. This initiative brings together national statistical offices, international organisations and civil society groups to promote governance statistics production based on internationally agreed methodologies. The group has been particularly effective in addressing SDG 16 data gaps by, for instance, developing standardised approaches to measuring governance indicators, including discrimination experiences and women's representation in decision-making positions, thereby contributing to both SDG 16 and SDG 5 monitoring efforts (United Nations Statistical Commission 2015).

Citizen science initiatives have emerged as another promising approach to addressing data gaps, particularly for SDGs 5, 13 and 16. Notable examples include the NSO of Colombia's use of social media data and natural language processing to measure perceptions of discrimination (SDG 16) (Lucero et al. 2023), and the SafeCity platform's use of geo-located crowdsourced data to identify areas of sexual and gender-based violence (SDG 5) (D'Silva 2021). The UNDP's Global Policy Centre for Governance and the Ghana Statistical Service have successfully implemented a smartphone application to assess citizen satisfaction with public services, aiding the monitoring of SDG 16 indicators (UNDP 2025). For SDG 13, initiatives like ISeeChange enable community-based climate impact monitoring (Drapkin 2021). These examples demonstrate how citizen science can provide valuable contextual information, promote citizen participation and offer alternative ways to report on sensitive issues.

A third set of recommendations pertain to the MENA region. In this context, it merits noting that data challenges are often related to political instability that can disrupt data collection and divert resources from essential surveys and censuses. They are also a function of resistance to open data policies, limiting access to government data in usable formats, which hampers SDG monitoring (Ekhtor-Mobayode & Hoogeveen 2022). These difficulties notwithstanding, there may be scope for deepening regional collaboration and expanding partnerships with the OECD and other high-performing regions. In a similar vein, high-performing countries within the region can be held up as examples, and regional programmes can support peer learning and best practice exchanges. At the same time, there is also a need for countries to redouble efforts to access and share data. These efforts can be complemented by some of the more general recommendations such as increased capacities of NSOs and enhanced interagency coordination. Establishing legal frameworks that mandate the timely release of data and creating national platforms for public access to data can also help. Collaboration with civil society, academia and the private sector can



further assist in filling data gaps and improving data quality, while digital infrastructure and innovative data collection methods like mobile technology and satellite imagery can support these efforts.

#### **4. Evidence-based Decision-making in the Post-2030 Era**

The previous section offered some recommendations for addressing data gaps generally and for specific SDGs and regions. As the world looks toward a possible post-2030 agenda, it is important to acknowledge the lessons learned thus far while also considering how future innovations and disruptive forces could influence data collection practices moving forward. Before reflecting on lessons learned and emerging trends, it merits noting that this section assumes that there will be a post-2030 sustainability agenda with goals and targets that require data to inform decisions and assess progress.

In terms of lessons learned, there are several areas that are likely to remain relevant past the expiry of the current SDGs. These include continued efforts to strengthen NSOs and enhance national cross-sectoral collaboration around data collection. There will also likely be a need to address data deficiencies for some SDGs and regions. This might entail, for example, targeted efforts to ensure disaggregated data for gender or greater harmonization with climate change processes. It may similarly be advisable to institutionalise cross-regional sharing of experiences on data collection processes by creating sessions during a possible successor of the High-Level Political Forum (HLPF) focused on these issues. Another step in this direction might involve creating data-sharing partnerships under the United Nations to support countries in need and thereby formalise cooperation on these issues.

The current SDG framework provides valuable lessons for designing future sustainable development agendas. Political ambition must be carefully balanced with measurement feasibility when establishing goals and targets. The SDG framework's introduction of numerous indicators without standardised methodologies created significant implementation challenges that required several years to resolve (Development Initiatives 2023). Future sustainability agendas should build upon existing achievements, leveraging past investments and incorporating proven indicators from the current monitoring framework wherever possible.

Data governance must be central to future framework design. This encompasses ensuring data sovereignty and national ownership, establishing transparent data-sharing protocols, and implementing robust privacy protection measures. Regional initiatives like SHaSA demonstrate how proper governance frameworks can foster trust and encourage cross-border data sharing while respecting national sovereignty and local contexts.





While the above proposals largely follow from the previous sections, there might also be a need to adjust approaches to data gathering. Some adjustments might entail recognising the importance of national and local contexts—and offering more flexibility for data gathering in light of these differences. To illustrate, some regions or countries may want to place a greater emphasis on species losses or temperature changes. Formally enabling countries to tailor data collection to their needs for a subset of targets and indicators may prove beneficial. Similarly, it might also be helpful to offer more support to inclusive approaches to data gathering. This could include efforts to empower women’s groups to support work programmes on gender-disaggregated data. Finally, there is likely to be many new opportunities for tapping new approaches based on digital technology, advanced observation techniques (GIS) and artificial intelligence (AI) to fill data gaps.

Another area that is likely to gain increased attention involves resilience. Experiences with the MDGs, SDGs and the COVID-19 pandemic have underscored the critical importance of statistical capacity and data availability to anticipate and avert shocks. The pandemic has also highlighted the need to build data systems that are resilient to unanticipated strains and rare or unpredictable “black swan” events. Effective monitoring will be crucial in addressing these challenges, preventing conflict, reducing poverty and inequality, and ensuring that progress is not reversed. To preserve current achievements and continue advancing sustainable development, future agendas must prioritise the creation of a robust data collection and sharing system. This system should deliver timely, disaggregated and standardised data and be resilient to shocks from environmental changes. Building such a system will require broad partnerships, resource sharing, integration of new technologies and active involvement from diverse stakeholders.

## **5. Conclusion**

This paper began with the contention that widespread access to robust data is essential to making progress on the current sustainable development agenda and shaping a possible post-2030 Agenda. It then noted that, while the need for data is well-recognised, there remain persistent gaps. These gaps are observable across the entire 2030 Agenda; they are greatest for SDG 5, 13 and 16, and in the MENA region. The paper also made several recommendations on how these gaps can be closed, including initiatives aimed at gender-disaggregated data, stronger alignment with climate processes, and relying on perception surveys for work on peace and institutions. The paper highlighted the potential of citizen science and regional capacity building initiatives to bridge these gaps, while acknowledging the need for robust frameworks to ensure data quality and protect privacy. It emphasised the importance of measurement feasibility in designing future frameworks and the need for robust data governance mechanisms. The paper further pointed to several areas that may

require attention under a post-2030 agenda; the need for tracking trends in resilience and building resilience into data systems stands out in this regard.

In addition to the above findings and recommendations, it is also important to note that many of the arguments made herein can also support claims made in other discussion papers in this series. These include, for instance, the need for abundant data to support work on synergies or the potential for just transitions to open avenues to locally appropriate data. Finally, there is likely to be a need to recognise the limits of empirical evidence as a basis for decision-making. In this case, those contemplating a future sustainability agenda also need to stress the importance of less measurable ethics and norms as a way to moderate unsustainable behaviours and practices.

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