

Developing a robust statistical framework for SDG monitoring

Issue Brief

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The 46th Session of the UN Statistical Commission marked an important moment in the development of an SDG monitoring system. The Commission provided recommendations on a roadmap for developing indicators, including the establishment of a multi-stakeholder process, via an Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs). The work of the IAEG-SDG is now well underway, with two work streams established on the conceptual framework and inter-linkages between the goals and targets.

SDSN has been working to develop an integrated, comprehensive set of SDG indicators for more than 18 months. Our final proposal, [Indicators and a Monitoring Framework for the SDGs](#), was informed by two global public consultations, as well as extensive dialogue with leading experts from National Statistical Offices (NSOs), UN agencies, as well as academics, civil society, and private sector representatives. During this process, we moved from an initial long-list of over 900 indicators to a concise set of 100 global monitoring indicators, which can comprehensively track all 169 OWG targets.

This note is offered as a contribution to the IAEG-SDG's deliberative process. It summarizes key lessons learnt by the SDSN on the conceptual framework, as well as principles for selecting a concise set of global monitoring indicators. It is accompanied by a second issue brief, entitled "*Indicators for the SDGs: Identifying Inter-linkages*". We hope these lessons and suggestions will be helpful for the work of the Inter-Agency Expert Group on SDG Indicators.

I. A CONCISE, INTEGRATED FRAMEWORK

The 169 proposed SDG targets describe a universal agenda of unrivaled ambition and scope. As a result the question has arisen of how a global indicator framework can do justice to the breadth of the agenda without overloading statistical systems?

Some people have pointed to pre-existing frameworks, such as the European Framework of Sustainable Development Indicators or the System of Environmental-Economic Accounting, as a possible solution. Although such frameworks provide very sophisticated and comprehensive methodologies for tracking dimensions of sustainable development, they do not cover the full breadth of the 169 SDG targets. Indeed, we believe that no single, existing framework can cover the scope and complexity of the new development agenda. Furthermore, there is ongoing discussion about the relevance of these pre-existing frameworks in all countries.

As described in our report, [Indicators and a Monitoring Framework for the SDGs](#), we recommend the development of a distinct set of SDG indicators, which utilize commonly accepted and standardized methodologies and are consistent with systems-based information, to the greatest extent possible, but which map directly against the SDGs.

NSOs and other stakeholders have told us that 100 harmonized global SDG indicators are the absolute maximum of what they consider feasible, even with significantly expanded resources. Fortunately, as described in Table 2 of our indicator report, it is possible to track the broad SDG agenda with a reduced set of global reporting indicators. These indicators should be accompanied by greater numbers of national and regional indicators to allow for local adaptation and priorities. Moreover, large numbers of thematic reporting metrics can be collected, that may be outside the scope of formal official systems.

The SDGs proposed by the OWG rightly emphasize the need for integration across all 17 of the goals. For example, gender equality must be addressed in virtually every goal, and economic growth cannot be pursued at the expense of climate change or ecological damage. This integration must also be reflected in the indicator framework, so indicators should be designed for use across multiple goals. A good example is our proposed measure of *Nitrogen use efficiency in food systems* (#15). During a roundtable dialogue organized with the International Fertilizer Industry Association and involving leading scientists, as well as representatives from international organizations, civil society, and business, an agreement was reached on a science-based indicator of nitrogen use efficiency, which addresses the richness and complexity of nitrogen fertilizer use. In addition to addressing issues of agricultural production (targets 2.3 and 2.4), the indicator also addresses the environmental impact of excessive fertilizer use, and contributes directly to understanding a key driver of marine nutrient pollution (target 14.1). This type of “multi-purpose” indicator is critical to help keep a concise global indicator framework.

The SDSN Issue Brief entitled *‘Indicators for the SDGs: Identifying inter-linkages’* (accompanying this note) and Table 2 in our report, shows how many indicators proposed by the SDSN help track more than one proposed SDG target. Note that this integration was achieved without resorting to multi-component indices that aggregate large numbers of individual variables. We strongly believe that composite indices should be avoided where possible since they require more complex data collection methods, and often rely on imputation for missing variables and arbitrary weighting. Moreover, composite indices do not lend themselves easily to policy recommendations, and they expand the number of (underlying) variables that need to be collected through official statistical systems, which might undermine the feasibility of a monitoring framework. Instead, Global Monitoring Indicators should rely as much as possible on metrics that consist of one variable only.ⁱ

II. LEVELS OF MONITORING

Since a very large number of indicators would be required to comprehensively track progress towards all targets identified by the OWG, we propose that countries consider multiple layers of indicators, monitored at different levels.

We propose a set of “Global Monitoring Indicators” that would track essential dimensions of the targets and be reviewed by the international community. These indicators would help to ensure global coordination, support strategies for managing global public goods, and would indicate which countries and thematic areas are in need of greatest assistance. A global dialogue on SDG progress will also encourage knowledge-sharing and reciprocal learning.

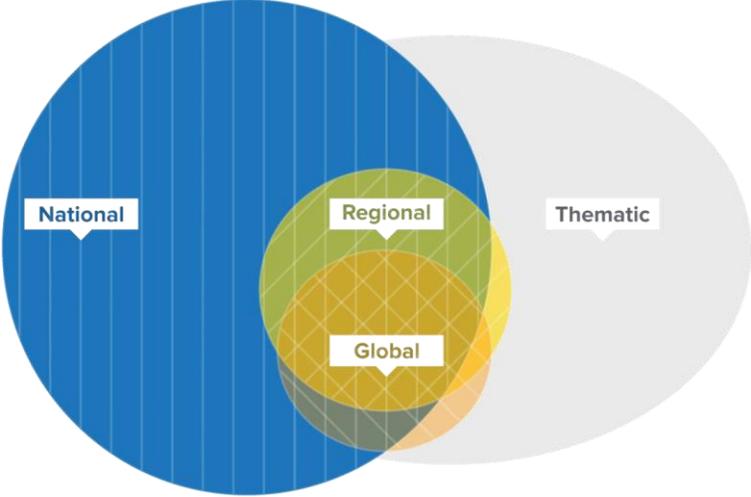
Global Monitoring Indicators should be designed to be truly universal indicators, but some (such as malaria metrics) may not apply to every country. Similarly, some Global Monitoring Indicators track global commons, such as the oceans, and may therefore not be reported at the country level. The majority of Global Monitoring Indicators will be compiled by NSOs, drawing on official data sources such as administrative data from ministries, censuses, civil registration and vital statistics, and household surveys. A small number of Global Monitoring Indicators may be prepared by specialist agencies, for example where no suitable, comparable official data exists. To ensure comparability, Global Monitoring Indicators must be harmonized across countries.

A second set of “Complementary National Indicators” would track issues that may be applicable to some countries only, such as indicators for neglected tropical diseases (NTDs), or that may give countries greater scope in applying complex concepts, such as inequality, to their specific needs. The Complementary National Indicators represent a menu of options for countries to choose from. Of course countries are free and even encouraged to consider additional indicators that are not included in a list of Complementary National Indicators.

Regional monitoring can play an important role in fostering knowledge-sharing, reciprocal learning, and peer review across countries in the same region. It will also promote shared accountability for regional priorities, such as shared watersheds, regional conflicts, or regional infrastructure. As a result, indicators for regional monitoring extend beyond the scope of the Global Monitoring Indicators and may include a small number of metrics not considered under Complementary National Indicators (Figure 1).

Finally, to achieve the SDGs, complex challenges must be addressed across a broad range of sectors and thematic areas, such as health, education, agriculture, nutrition, the water-energy nexus, sustainable consumption and production patterns, or infrastructure design. Lessons learned in one country can inform progress in other countries. Similarly, implementation challenges and technology gaps are often common across countries, so major thematic communities need to be mobilized globally in support of the SDGs. Thematic communities – often under the leadership of specialized international organizations – should develop specialist indicators for monitoring and accountability that are tracked in countries across the globe. Often these indicators include input and process metrics that are helpful complements to official indicators, which tend to be more outcome-focused

FIGURE 1: SCHEMATIC ILLUSTRATION OF THE INDICATORS FOR NATIONAL, REGIONAL, GLOBAL AND THEMATIC MONITORING



III. PRINCIPLES FOR SELECTING INDICATORS

The purpose of SDG indicators is twofold. First and foremost, an indicator should be a *management tool*, to help countries develop evidence-based implementation strategies for achieving the SDGs. Second, an indicator is a *monitoring tool*, to measure progress towards achieving a target and ensure accountability to the broad range of stakeholders.

While there have been great improvements in data gathering over the past few decades, the MDG indicators have not fulfilled their dual purpose because the data comes with too great a time lag to be useful for real-time management and for monitoring. Poverty data, for example, is commonly three or more years out of date by the time it is published, compromising the utility of this data for planning and budgetary processes. Data from national statistical systems and household surveys is often incomplete or of poor quality. Much greater investment in building national statistical capacities, strengthening quality and standards will be required for the SDG indicators to fulfill both key functions.

Building upon the standards proposed in the United Nations Development Group (UNDG) handbook,ⁱⁱ we propose nine criteria for robust SDG indicators (defined below). We have stopped short of stipulating that objective quantitative metrics should always be used, because subjective and perception-based indicators will likely play a role for some goals.

1. **Clear and straightforward:** Indicators need to be simple to compile and interpret. For this reason, composite indicators should be avoided where possible since they require more complex data collection methods, often rely on imputation for missing variables, and arbitrary weighting. Perhaps most importantly, composite indicators do not lend themselves easily to policy recommendations.
2. **Consensus based in line with international standards:** Global Monitoring Indicators, in particular, should be underpinned by a broad international consensus on their measurement and be based on international standards, recommendations, and best practices to facilitate international comparison. By way of example, in SDSN's indicator proposal we include a measure of access to clean cooking as recommended by the SE4ALL initiative: *Share of the population using modern cooking solutions (#50)*.
3. **Broadly consistent with systems-based information:** To ensure coherence indicators should be broadly consistent with systems of national accounts, systems of environmental-economic accounting, and other systems-based information.
4. **Constructed from well-established data sources:** Indicators should draw on well-established sources of public and private data and be consistent to enable measurement over time. Identifying these data sources should be undertaken in consultation with communities of experts, from across the public and private sector.
5. **Disaggregated:** Preference should be given to indicators that lend themselves to disaggregation according to (i) characteristics of the individual or household (e.g. gender, age, income, disability, religion, race, or ethnicity); (ii) economic activity; and (iii) spatial dimensions (e.g. by metropolitan areas, urban and rural, or districts).

6. **Universal:** The set of SDG indicators as a whole needs to track a universal agenda. Many (though not all) Global Monitoring Indicators should therefore be applicable in developed as well as developing countries.
7. **Outcome-focused, but only if possible:** As with the targets it is generally preferable for indicators to track outcomes. Yet, the choice between input and outcome measures must be handled pragmatically. In some cases input metrics can play a critical role in driving and tracking the changes needed for sustainable development. For example, access to health services is a vital component of Universal Health Coverage. Similarly, ODA is difficult to mobilize but critical for achieving the SDGs. Dedicated indicators are needed to track both.
8. **Supported by a designated organization:** Global Monitoring Indicator should be supported by one or more designated lead organization(s) that will be responsible for ensuring annual, high-quality national monitoring of the indicator with due consideration to cost effectiveness, lean reporting processes, and national monitoring methods.
9. **Coherent with other multilateral processes:** The SDGs are the central framework for achieving sustainable development in our generation, but they are not being debated in a vacuum. Important supportive processes include the Financing for Development Conference and the Conference of the Parties negotiation on climate change (COP21). In response to these overlapping processes, and with respect for the OWG targets on policy coordination and coherence (e.g. 17.13 & 17.14), SDSN has proposed an indicator on the relationship between international rules and the SDG, or more specifically the preparation of an annual report by various multilateral bodies to show their alignment with SDG objectives (#98).

¹ The Global Monitoring Indicators presented *Indicators and a Monitoring Framework* include a small number of exceptional composite indices. The motivation for each exception is explained in Annex 5. The arguments against the use of composite indices apply less to Complementary National Indicators where the number of underlying variables does not need to be restricted. Hence composite indices can play an important role in supporting national monitoring processes. They may also be useful for thematic monitoring.

ii. United Nations, (2003), *Indicators for Monitoring the Millennium Development Goals: Definitions, Rationale, Concepts, and Sources*, New York, NY: United Nations.