

**Inter-agency and Expert Group on SDG Indicators
Working Group on Geospatial Information (IAEG-SDGs: WGI)**

A Review of the First 3 Years

Background

On 10 July 2017 the General Assembly, in its resolution 71/313, adopted the global indicator framework for the 17 Sustainable Development Goals (SDGs) and 169 targets of the 2030 Agenda for Sustainable Development, as developed by the Inter-Agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs). The global indicator framework was earlier agreed upon by the Statistical Commission at its forty-eighth session, held from 7-10 March 2017. The resolution stressed that official statistics and data from national statistical systems constitute the basis needed for the global indicator framework and recommended that national statistical systems explore ways to integrate new data sources into their systems to satisfy new data needs of the 2030 Agenda. In line with the requirements of the 2030 Agenda, the SDG indicators should be disaggregated, where relevant, by income, sex, age, race, ethnicity, migratory status, disability and geographic location, or other characteristics, in accordance with the Fundamental Principles of Official Statistics.

The SDGs are highly dependent on geospatial information and enabling technologies as the primary data and tools for relating people to their location and place, and to measure ‘where’ progress is, or is not, being made, particularly at ‘disaggregated’ sub-national and local levels. In this respect, the 2030 Agenda specifically demands the need for new data acquisition and integration approaches, including to exploit the contribution to be made by geospatial information and Earth observations to support the implementation of the SDGs, targets and global indicators. Goal 17, in the area of data, monitoring and accountability, requires that by 2020, we are able to “enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts”.

The Cape Town Global Action Plan for Sustainable Development Data, issued on 15 January 2017, recognizes the need to facilitate the application of modern technologies and new data sources to mainstream statistical activities to support the implementation of the 2030 Agenda, and tracking progress on the SDGs. It calls for the identification and removal of barriers to the use of new data sources, including registries and administrative data, geospatial information systems, and other innovative data sources. To this end, the Action Plan promotes the integration of modern geospatial information management systems within mainstream statistical production programmes, highlighting synergies between the two systems. It also stresses the need to build confidence, trust and capacity through coordinated measures, legal reforms, and better funding, as well as through the development of principles and guidelines, to support the integration of data from traditional and non-traditional data sources.

As indicated in Figure 1, the 17 SDGs of the 2030 Agenda comprise the integrated and indivisible global goals to be achieved by countries, and applicable for both developed and developing countries, balancing the three dimensions of sustainable development. The 169 aspirational targets provide the detailed and actionable objectives for governments to measure progress through to 2030. Each country will set its own national targets, guided by the global level of ambition, and will also decide how these targets should be incorporated into national planning processes, policies and strategies. While the 17 SDGs and 169 targets provide the overall policy and results framework for the 2030 Agenda, in terms of a robust and annual follow-up and review mechanism for its implementation, it is the global indicator framework where the data acquisition, integration and disaggregation is most needed.

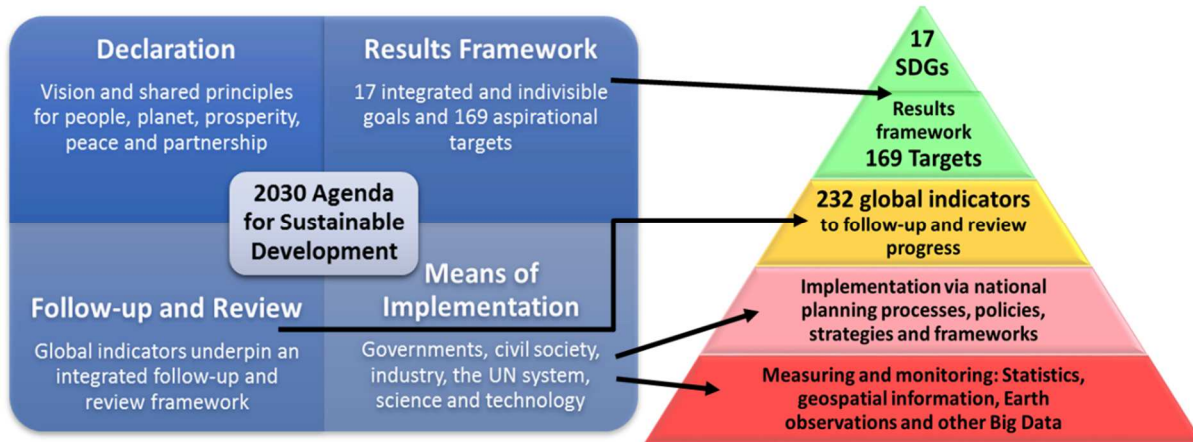


Figure 1: The 2030 Agenda is an integrated plan of action structured in four main parts: (i) a vision and principles for transforming our world as set out in the Declaration; (ii) a results framework of 17 SDGs and 169 targets; (iii) a means of implementation through governments, society and global partnership; and (iv) a follow-up and review framework of 232 global indicators. Any national SDG implementations will be sub-optimal without strategies and frameworks to integrate geospatial information and other data into the measuring, monitoring and reporting processes.

Geospatial information

Geospatial Information reflects the physical world in which all human, economic and environmental activity takes place, and provides the digital version of our world - without which a digital economy is not possible. Geospatial information describes the physical location of geographic features and their relationship to other features and associated statistical information; and can be presented in many forms and mediums including maps, satellite imagery, aerial photography, and even sophisticated, interactive and highly visual dashboards. Citizens, communities, business sectors, governments, and many other stakeholders benefit, daily and often unknowingly, from the use of geospatial information and related location-based services. This is because geospatial information provides the digital connection between a place, its people and their activities, and is used to illustrate what is happening – where, how and why. It is also used to model and portray the impact of the past, the present and likely future scenarios. Geospatial information is a nation’s ‘digital currency’ for evidence-based decision-making. It is a critical component of a national infrastructure and knowledge economy that provides a nation’s blueprint of what happens where, and the means to integrate a wide variety of government services that contribute to economic growth, national security, sustainable social development, environmental sustainability and national prosperity.

Many of the technical hurdles surrounding geospatial information and related enabling technologies have been aggressively tackled and solved over the past years, including hardware, software, database and other technological development. Therefore, the potential of geospatial information has rapidly advanced and has now reached a level of maturity that allows this information to make a central contribution to the integration of information for many of the current social, economic and environmental challenges facing the world, given its ability to integrate both quantitative and qualitative information across sectors and present this to decision-makers in innovative formats. These technology developments offer significant opportunities and benefits, but also present major implementation challenges in terms of capability, capacity and especially policy. Implementation by all countries, which includes being able to address the specific needs of the developing countries, will be important in ensuring that the full value of geospatial information can continue to be realized.

Geospatial information and enabling technologies have emerged as major contributors to economic and digital transformation in many countries, including in the areas of e-government, e-service and e-commerce. The global geospatial industry is witnessing unprecedented growth, driving innovation, knowledge, smart solutions, delivery platforms and a location-based information economy. But with more data and technology available than ever before, many developing countries have yet to have the ‘opportunity’ to interact with these rapidly emerging capabilities, as the democratization of geospatial information is not being equally shared. Governments are still being challenged by issues related to aspects regarding the management of the data, and its closely coupled relationship with ICT and other technologies. Then there are institutional challenges related to coordination, leadership managing the value chain, fragmented implementation, diffused policy accountability, and then potentially the lack of tools and mechanisms to properly manage the data supply chain and related technologies.

The Challenge

The 2030 Agenda presents all countries and the global policy community with a set of significant development challenges that are almost entirely geographic in nature. Meeting the new data requirements is already proving difficult for the most advanced countries, but the 2030 Agenda further demands that by 2020 – in less than 2 years’ time – this enhanced data availability can support and address the capacities of developing countries, particularly African countries, least developed countries, small island developing States, and land-locked developing countries. The challenges faced in the collection, processing, production, analysis and dissemination of reliable, timely, accessible and sufficiently disaggregated data for better evidence-based policymaking are considerable and not to be underestimated. Geospatial data, leadership, knowledge and innovation is primarily still limited to the developed countries. While technologies are evolving at a rapid rate, the commensurate capabilities, skills and opportunities in the developing countries are not.

Entering the fourth year of national to global reporting on the SDGs, countries are realising how difficult it is to translate the shared vision of the 2030 Agenda into national development plans and strategies that ensure that no one is left behind. In 2018, in providing the annual Sustainable Development Goals Report, the Secretary-General of the United Nations noted that without evidence of where we stand now we cannot confidently chart our path forward in realizing the SDGs. This reflects the “challenges faced in the collection, processing, analysis and dissemination of reliable, timely, accessible and sufficiently disaggregated data, and called for better evidence-based policymaking. While today’s technology makes it possible to collate the data we need to keep the promise to leave no one behind, we need political leadership, resources and commitment to use the tools now available”. Not only do countries continue to lack important baseline data and enabling technologies to help guide development, national governments remain a considerable distance from fully developing and implementing the required policies and frameworks to ensure that development progress interventions are effective, measurable, and sustainable.

While the initial development of the global indicator framework was largely a statistical data approach, based on the similar history of the MDGs, the need for “geographic location” in a new era of data needs has been well recognized. Noting that there are considerably more indicators than targets, the process of developing the indicator framework by the IAEG-SDGs highlighted several key issues regarding the production of indicators with non-statistical data, including being able to address the issues of alternative data sources and methodologies – and particularly using geospatial information and Earth observations data. Through this process, the statistical community now understands that geospatial information and Earth observations are able to provide new and consistent data sources and methodologies to integrate multiple “location-based” variables to support and inform official statistics and the indicators for the SDGs. These



methods are able to fill data gaps and/or improve the temporal and spatial resolutions of data, by bringing together information from various sources, particularly those related to the environment.

IAEG-SDGs Working Group on Geospatial Information

The IAEG-SDGs Working Group on Geospatial Information (WGGI) was established by the IAEG-SDGs at its third meeting in Mexico City, 30 March to 1 April 2016, and provides a progress report to each of the IAEG-SDGs formal meetings held on a biannual basis. The primary objective of the WGGI is to ensure that, from a statistical and geographic location perspective, the key principle of the 2030 Agenda for Sustainable Development, to leave no one behind, is achieved via the global indicator framework, and that everyone can be counted. Within its terms of reference, the WGGI set a number of tasks to achieve, primarily related to providing expertise, advice, and strategic guidance to the IAEG-SDGs and the wider statistical community on how geospatial information, Earth observations and other new data sources can reliably and consistently contribute to the production of indicators.

At its seventh session in 2017, the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) noted that geospatial information can provide enabling methodologies and processes for the disaggregation of data by geographic location, and that the disaggregation of national statistical data is considerably strengthened through geospatial information and referencing the principles within the Global Statistical Geospatial Framework as developed by the Expert Group on the Integration of Statistical and Geospatial Information.

At its eighth session in August 2018, the Committee of Experts, in making decision 8/110, noted the importance and crucial role of the WGGI in engaging with national Governments, and acknowledged that geospatial information and Earth observations were not yet sufficiently leveraged in statistical production processes. The Committee requested that the WGGI continue to develop and provide expert advice and guidance on the application of geospatial information and its management to achieve national development priorities and the global targets of the SDGs, and that the WGGI do so with a degree of urgency while ensuring the robustness of the advice and guidance provided.

At the 50th session of the Statistical Commission, the report of the IAEG-SDGs (E/CN.3/2019/2, para 23) expressed the concern that the IAEG-SDGs “was not sufficiently connected to the work of the working group (WGGI) and that there must be an increase in interaction with the statistical community. The recommendation to include a few of the members of the Group (the same representatives as those in the working group) was welcomed and accepted by the working group”. This statement was a reflection of the eighth meeting of the IAEG-SDGs where, in essence, the IAEG-SDGs has a concern that they do not know what the WGGI is doing, or if its work is addressing the needs of the IAEG-SDGs. There was also a reflection that the members of the WGGI are mostly representatives of the geospatial community with little or no interaction with the statistical community.

In addition to the official IAEG-SDGs report submitted to the Statistical Commission, a further 9 background documents were provided (<https://unstats.un.org/unsd/statcom/50th-session/documents/>) as indicated below. The only mention of “geographic location” in any of these background documents was in the area of data disaggregation, and even then, the focus was entirely on the discussion between rural and urban. Geospatial information was not once mentioned.



Agenda item 3(a)

Items for discussion and decision: Data and indicators for the 2030 Agenda for Sustainable Development

Official documents

E/CN.3/2019/2

Report of the Inter-agency and Expert Group on Sustainable Development Goal Indicators

Arabic Chinese English Español Français Russian

E/CN.3/2019/3

Report of the Secretary-General on the work for the review of progress towards the Sustainable Development Goals

Arabic Chinese English Español Français Russian

E/CN.3/2019/4

Report of the High-level Group for Partnership, Coordination and Capacity-Building for Statistics for the 2030 Agenda for Sustainable Development

Arabic Chinese English Español Français Russian

Background documents

- ▶ Better Data for Sustainable Development: Implementing the Cape Town Global Action Plan for Data for the 2030 Agenda
- ▶ Summary of Better Data for Sustainable Development: Implementing the Cape Town Global Action Plan for Data for the 2030 Agenda
- ▶ Modernization of the United Nations Statistical System: A more effective and efficient UN statistical system in the era of the 2030 Agenda for Sustainable Development and beyond
- ▶ Annual report of the Global Network of Institutions for Statistical Training (GIST)
- ▶ Best Practices in Data Flows and Global Data Reporting for the Sustainable Development Goals
- ▶ Principles of SDG Indicator Reporting and Dissemination Platforms and guidelines for their application
- ▶ Interlinkages of the 2030 Agenda for Sustainable Development
- ▶ Data Disaggregation and SDG Indicators: Policy Priorities and Current and Future Disaggregation Plans
- ▶ Contribution of the Committee of Chief Statisticians of the UN System to the HLG-PCCB on the efficiency of the UN statistical system

In the past 3 years, the WGGI has made a significant amount of progress on a complex topic and set of issues, and contributed substantially to the work of both the IAEG-SDGs and UN-GGIM. These include activities such as:

- Reviewed the indicators through a geospatial lens.
- Task Stream 1: Data disaggregation by geographic location and aggregation of geocoded unit record data.
- Task Stream 2: Application of ‘production ready’ satellite-based observation data for the production of indicators.
- Task on voluntary national assessments/reviews.
- Activity on institutional cooperation
- Activity on global definition of settlements (degree of urbanization)
- And many others

Problem: The IAEG-SDGs does not know the relevance of geospatial information, or what the WGGI is doing

The reflections of the eighth meeting of the IAEG-SDGs and the concerns expressed at the 50th session of the Statistical Commission suggest that the WGGI has not been able to adequately inform and communicate how it is able to “provide expertise, advice, and strategic guidance to the IAEG-SDGs and the wider statistical community on how geospatial information, Earth observations and other new data sources can reliably and consistently contribute to the production of indicators”. Additionally, the report of the IAEG-SDGs (E/CN.3/2019/2, para 22) noted the work of the two WGGI task streams, both with a proposed timeline of 2018– 2019, and what these activities will deliver this year.

Given the above discussion, the WGGI may wish to consider and review how it continues to best give guidance and clearly articulate the essential value-add to SDG monitoring from the geospatial information and Earth observations community to the IAEG-SDGs. Geospatial data and “disaggregation by geographic location” is desperately needed. But we still have difficulty in not only describing where the data is, but also what is its composition how do countries use it? How do we articulate, in SDG indicator implementation and monitoring, the role of geospatial information, Earth observations and other data in national case studies and best practices for disaggregation by geographic location? What are the principles and guides? What are the data supply chain requirements and solutions for certain indicators? Our knowledge, experience and expertise need to be harnessed. However, we are getting into too much detail before articulating the key messages to the IAEG-SDGs according to the needs of their evolving agenda – and requirements from Member States.

Considerations may include:

- The 2020 comprehensive review of indicators: This provides an opportunity to improve the indicator framework to help the global monitoring of the 2030 Agenda and provide the necessary guidance to countries, many of which are already well advanced in implementing their national framework and reporting platforms.
- Data comparability.
- Disaggregation and data integration.
- Experiences on implementing and monitoring the SDGs, including preparation of the VNRs and development and use of national data platforms.
- We have an Integrated Geospatial Information Framework developed and being implemented at the country level.
- We have the Global Statistical Geospatial Framework, a principles-based framework which is being implemented regionally and nationally by countries.
- We have global geospatial fundamental data themes that countries are implementing.

We have key guidance messages (but have not messaged them):

- In principle, reliable geospatial data would be better collected by individual countries at a national level. For some indicators like e.g. under SDG 11, even the local administrative level should be involved more intensely. In the cases of urban and rural related SDGs, data is supposed to be collected at the local level (city or rural areas) while reporting is done after aggregation and average calculation at the national level. Such data sets shall then be aggregated, as appropriate, at regional, national or global levels and compared to independent international (global) data sources.
- Certain types of fundamental geospatial data (e.g., elevation and topography, land cover, transportation networks, settlements and geographic names) should be collected and provided to underpin the calculation of SDG indicators.

- For a robust comparability, such geospatial data should be provided in a harmonized way regarding a number of technical properties such as spatial resolutions, thematic detail and accuracy and temporal periodicity. However, this is a challenging task for many countries in the world, with clear differences between countries on data richness and capacity to provide long-term consistent data. Some of them may have a shortage of certain types of core geospatial data while others might lack the requisite data capture capacities.
- Which data sources should be used? While some indicators need local data all the way down to street and address level, others could benefit from a more regional/global data approach. Furthermore, some SDG indicators are very ambitious and the data and processes which are needed are not yet defined. All in all, we are looking at a data-puzzle of opportunities and limitations to use global data, where it will be difficult to apply a single approach that fits for all data situations in the countries. The way in which the 2030 SDG indicators will be implemented will to some extent depend on the individual countries' data availability, priorities, capacities, available data infrastructure and institutional arrangements.

So, what do we do?

The WGGI needs to 'recalibrate' and align to the emerging needs of the IAEG-SDGs. This may also mean having an internal reflection of our work, composition and modalities so that they are in better alignment with the diversity, needs and rhythm of the IAEG-SDGs.

Noting the WGGI has been in existence for three years and progress to date, the co-Chairs together with the Secretariat are of the opinion that the objectives and remaining tasks of the working group would be better served by a refreshed group of members that will increase its *"interaction with the statistical community"* and *"provide expertise and advice to the IAEG-SDGs and the larger statistical community"*¹.

A recommendation could be to have an open call for membership for a three-year period (2019 – 2022) from amongst those who are able and willing to contribute to advance the objectives and task of the WGGI, beginning with the –

- (a) members of the IAEG-SDGs; then
- (b) members of the High-level Group for Partnership, Coordination and Capacity building for statistics for the 2030 Agenda for Sustainable Development;
- (c) representatives of International organizations who have considerable experience in the work of the group;

and to ensure broad expertise and effectiveness, from the wider geospatial information and earth observations communities drawn from

- (d) the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM), GWG-Big Data, EG-Integration of Statistical and Geospatial Information and Group on Earth Observations;

as provided for in the terms of reference of the WGGI.

¹ Terms of Reference of the Working Group on Geospatial Information of the IAEG-SDGs (<http://ggim.un.org/documents/ToR%20WG%20on%20Geospatial%20Information%20Final.pdf>)