



Convention on
Biological Diversity



Executive Summary

Measuring Progress

Environment and the SDGs



Executive Summary

This Measuring Progress report serves two purposes. It explores the potential and limitations of using a statistical correlation analysis between indicator pairs (“state of the environment” and “drivers of change” indicators; “state of the environment” and “state of society” indicators) to improve the understanding of the interlinkages between SDG indicators. It also informs on progress being made for those SDG indicators UNEP identified as environment-related since December 2018, based on data from the SDG Global Indicators Database.

Statistical Correlation Analysis and Methodology

Actions taken in achieving one SDG target may impact other SDG targets. The interlinked nature of the SDGs means that achieving one goal or target may contribute to achieving other goals or targets, or the pursuit of one objective may conflict with the achievement of another. The analysis in the report aims to contribute to the growing research on SDG Interlinkages Analysis.

The report uses an analytical approach driven by data, whereby the relationship between the indicators of the SDG framework and their underlying data identify topics to be explored. The analytical approach is broken into five stages. The first stage is based on classifying the 231 unique indicators of the SDG framework as “drivers of change”, “state of the environment” or “state of society” indicators. Stage 2 identifies potential synergies between pairs of these indicator classifications to investigate the relationship between direct drivers of change and the state of the environment, and secondary relationships

between the state of the environment and the state of society indicators. Stage 3 selects the indicators to investigate based on the availability of their underlying data, while Stage 4 consists of performing a correlation analysis between the pairs of indicators. The last stage identifies the positive outlier countries that represent an opportunity to further investigate based on their environmental improvements.

The analysis revealed examples where correlations are significant and are consistent with intuition or published evidence. In line with published evidence and intuition, water stress and water ecosystem extent are negatively correlated; Domestic Material Consumption (DMC) related to biomass extraction is negatively correlated with the Red List Index; and the proportion of Key Biodiversity Areas and certified forest area are correlated with both water ecosystem extent and forest area.

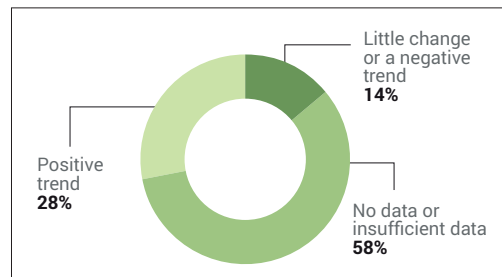
Monitoring Progress

The report also gives a general analysis of progress made based on the 92 SDG indicators which are most relevant to the environmental dimension of the SDGs and a regional analysis of the progress in each region.

In July 2020, of 92 SDG indicators relevant to the environment, 42 per cent had sufficient data to assess progress made in achieving the SDG targets. This is an increase of 10 per cent compared with data from the Measuring Progress report I (MP I) (UNEP 2019a). However, with the addition of indicators with sufficient data to be assessed, the percentage of indicators now showing a positive trend toward meeting the relevant SDG has declined

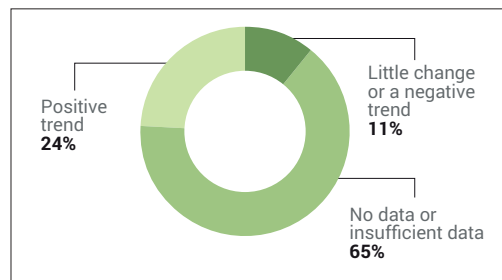
from 74 per cent in December 2018 to 67 per cent as of this report, and 33 per cent show little change or a negative trend, up from 26 per cent.

Global



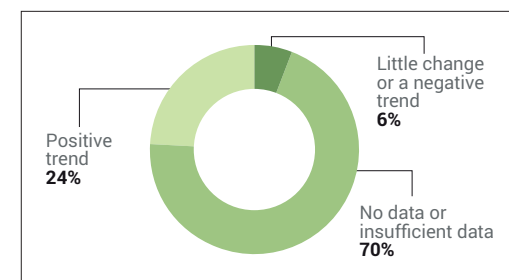
Sub-Saharan Africa saw an increase in the number of environmental indicators showing a positive trend toward the achievement of the relevant SDG (47 per cent more indicators), and a decrease of 17 per cent and 9 per cent for indicators with little or negative change and insufficient or no data, respectively, in comparison with data from MP I. Although 65 per cent of indicators lack data to assess for Sub-Saharan Africa, data availability for a number of environmental indicators improved from no data or one data point to more data points, which is an indication that the data gap for SDG indicators is reducing - albeit very slowly.

Sub-Saharan Africa

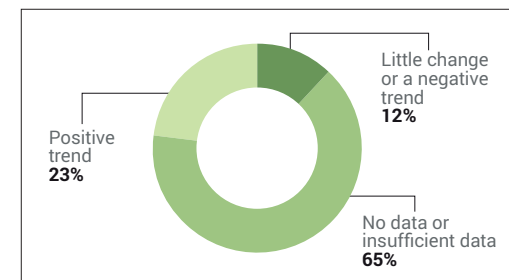


In comparison with data from MP I, Asia and the Pacific had an overall increase in the positive trend indicators (92 per cent more in Oceania, 40 per cent more in Eastern and South-Eastern Asia and 29 per cent more in Central and Southern Asia), a decrease in the number of environmental indicators with little change or negative trend (50 per cent less in Central and Southern Asia, 41 per cent less in Oceania and 21 per cent less in Eastern and South-Eastern Asia), while the insufficient or no data indicators showed no change in Central and Southern Asia, and a 6 and 8 per cent fewer indicators in Eastern and South-Eastern Asia and Oceania, respectively (UNEP 2019a).

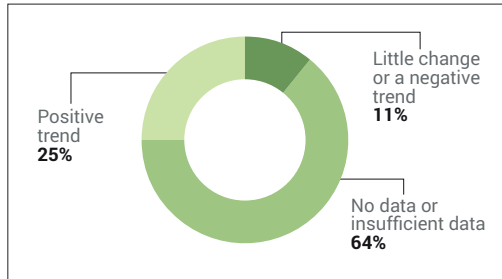
Central and Southern Asia



Eastern and South-eastern Asia

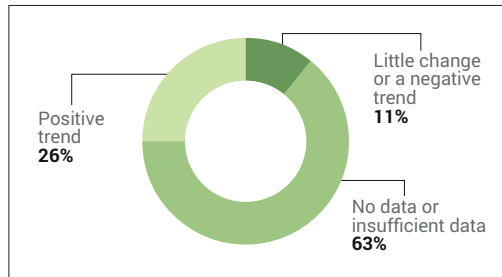


Oceania



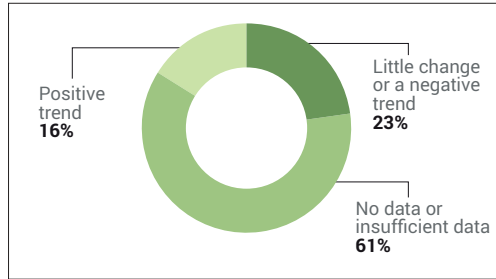
In Europe, although indicators with insufficient or no data to analyse progress decreased by 18 per cent, over half (63 per cent) of the indicators still lack sufficient data for assessment. Environmental indicators showing positive trends increased significantly (167 per cent more indicators), and indicators with little change or negative trends decreased (23 per cent) in comparison with data from MP I (UNEP 2019a).

Europe



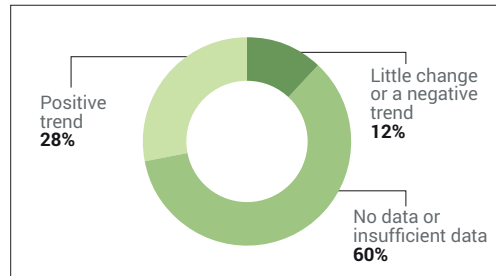
North America continues to have significant shortfalls in data and reporting. In comparison with data from MP I, improvement was made for environmental indicators with positive trends (67 per cent more indicators) and insufficient or no data indicators (22 per cent less). However, more indicators showed little change or negative trends (75 per cent more) (UNEP 2019a).

North America



The Latin American and the Caribbean (LAC) region showed improvement in environmental indicators, where 63 per cent more indicators demonstrated positive trends, 15 per cent fewer indicators showed little change or negative trends and 14 per cent fewer indicators had insufficient or no data, compared to data from MP I (UNEP 2019a).

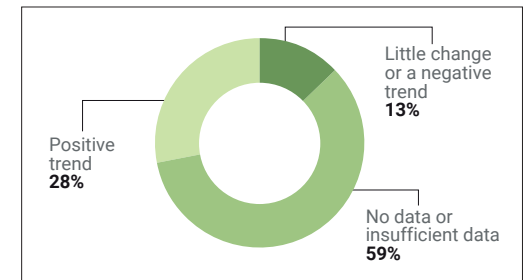
Latin America and the Caribbean



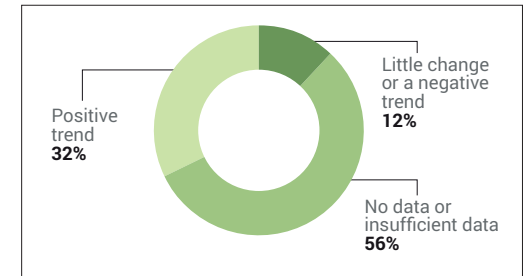
In comparison with data from MP I, the Northern Africa and Western Asia region has shown an increase in positive trends for environmental indicators (123 per cent in Western Asia and 189 per cent in Northern Africa), a decrease of insufficient or no data indicators (24 per cent in Western Asia and 25 per cent in Northern Africa) and an 8 per cent decrease in Western Asia for little change or negative trend indicators, while Northern Africa had no change (UNEP 2019a). Over 50 per cent of

environmental indicators lack data in the region, more specifically, cities and communities (SDG 11), responsible consumption and production (SDG 12) and life below water (SDG 14) have the least available environmental data, while ending poverty (SDG 1), clean water and sanitation (SDG 6) and life on land (SDG 15) have the most environmental data.

Northern Africa



Western Asia



Discussion

A new analytical approach based on correlation analysis provides insights on interlinkages related to nature between specific SDG indicator pairs, as well as an understanding of what might be required to improve the ability to understand interlinkages further. However, a simple correlation analysis provides only limited insight into interlinkages that often are complex, and which ultimately need to be further investigated for impactful policy design. The attempt to establish statistical relationships between some of the key drivers and indicators of the environmental dimension of the SDGs has been inconclusive. The state of the environment indicators, considered as the dependent variables in the analysis, are influenced by a multitude of factors beyond the population, GDP (Gross Domestic Product) and regional variables that were included in the analysis, indicating the importance of national and local level analyses of systemic effects. There is a need for data and techniques adequate to undertake full multi-variant analyses, to understand the implications of the full set of the SDG policies and better design new interventions.

Perhaps of greatest value in terms of identifying work that urgently needs to be undertaken, the report identifies vital data gaps. An overview of data gaps and opportunities evaluates which aspects of the environment one can measure versus which aspects presently lack the information needed to understand the current global situation and makes suggestions as to how these gaps could be filled using innovative technologies and techniques. Data gaps refer to gaps in the compilation, analysis, and effective use of data. The analysis in this report highlights the underlying data sparsity for the environmental dimension of the

SDGs. Gaps are found not only in the underlying data, but also in the tools and analytical methodologies for understanding the state of the environment, as well as interactions within the environmental dimension of the SDGs and interactions between the environmental dimension of the SDGs and the social and economic dimensions of sustainable development. Strengthening the National Statistical Offices' ability to undertake integrated analyses and explorations of interlinkages will be vital for designing, monitoring, and improving the efficacy of government interventions to achieve the SDGs.

The ability to use integrated metrics and analyses requires an investment in building data and statistical systems which employ both traditional data and new data (such as citizen science, remote sensing, IoT devices and transactional data) and new data science techniques. It is also critical to build a widespread practice of using scientific data as a foundation for decision-making across all three pillars of sustainable development. It is now possible to build environmental data products using big data. However, ensuring that these data products are both useful and used in practice at the national level requires (a) building national data collection, management and data analysis capacity; (b) strengthening the role and ownership of National Statistical Offices and Ministries of Environment in terms of collecting and processing environmental data and (c) establishing a practice by non-environmental government agencies, particularly the Ministries of Finance and Economic Development, of factoring environmental indicators and integrated analyses into their decision making. Strengthening environmental data capacities and availability of science-based standards are needed for policy makers to improve their understanding of the environmental priority actions required and are necessary for reaching sustainable development.



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