AFRICA

SDG INDEX AND DASHBOARDS REPORT 2018

COMPACT EDITION

THE SUSTAINABLE DEVELOPMENT GOALS CENTER FOR AFRICA

SUSTAINABLE DEVELOPMENT SOLUTIONS NETWORK
A GLOBAL INITIATIVE FOR THE UNITED NATIONS

July 2018

The views expressed in this report do not reflect the views of any organization, agency or program of the United Nations. It has been prepared by a team of independent experts of the Sustainable Development Goals Center for Africa and the Sustainable Development Solutions Network Secretariat.

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Table of Contents (Compact Edition)

List of Figures

List of Tables

Foreword

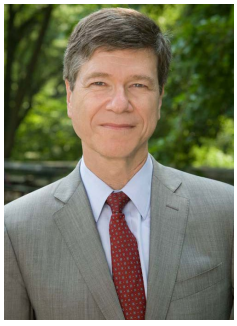
The Sustainable Development Goals (SDGs) are a universal agenda, calling on all nations to pursue economic development, social inclusion, and environmental sustainability, on the basis of good governance. This report creates, for the first time, a measurement of progress on the SDGs tailored specifically to African countries.

However, the Africa SDG Index is more than a report – it is a tool for local and national governments, academia, and civil society to take ownership over African development trajectories and for revitalizing partnerships to achieve sustainable development. The Africa SDG Index and Dashboards Report can support national governments in tracking progress and narrating their own development priorities, but important gaps remain. Investing in the improvement of statistical systems contributes to better informed policies, faster response times to pressing issues, increased civic engagement, and of course, markedly improved transparency and accountability. Recognizing this reality is an important part of this report, and we hope to see African governments move towards enhancing national statistical monitoring systems.

The report is also a call to action for governments to focus efforts on the SDGs with new information on where they stand. The Dashboards should help each African country identify priorities for action, understand key implementation challenges, and identify the gaps that must be closed in order to achieve the SDGs by 2030. We hope this report supports African discussions about priorities in achieving the SDGs and that it is operationalized into a tool for national and regional discussion and planning. Our vision is for an official day on which African countries will convene stakeholders in their respective countries around the SDGs, with this report presented as a useful tool for analysis and action. The "Africa SDG Day" would allow all actors to discuss appropriate SDG strategies given their national contexts and the findings of this and related reports. Additionally, we hope that the results of this report are disseminated in creative ways into local communities to spark collective and inclusive engagement on ways they can contextualize the SDGs and spur on progress.

Thank you for reading this first edition of the Africa SDG Index. We hope to continue this discussion throughout further annual publications of the Index, and support collaboration for the achievement of the SDGs in Africa.

Belay Begashaw
Director General
The Sustainable Development Goals Center for Africa



Jeffrey D. Sachs
Director
Sustainable Development Solutions Network

The Sustainable Development Goals Center for Africa is deeply committed to accelerating the implementation of the SDGs across the continent, including helping governments build and strengthen capacity on data and national statistical systems for reporting on the SDGs.

The Sustainable Development Solutions Network (SDSN) mobilizes global scientific and technological expertise to promote practical solutions for sustainable development, including the implementation of the SDGs and the Paris Climate Agreement.

Background and Purpose

Following their adoption in 2015, the Sustainable Development Goals (SDGs) have become the world's shared goals, but their operationalization and ultimate achievement at the country level requires clear baselines, public discussions about implementation priorities, the design of goal-based strategies, and effective follow-through mechanisms. This in turn depends on timely and comprehensive data being available to inform public discussions and policy design processes.

Under the leadership of the United Nations, 232 official SDG Indicators have been agreed upon. While progress is being made in collecting data for these indicators, data are lacking for the vast majority of official metrics in most countries, particularly across Africa. According to a recent analysis of the data availability for the SDGs, only 37.8% of official SDG indicators have data for African countries (UNECA 2017).

Moreover, the official indicator process provides no guidance on how goal achievement can be assessed for targets that lack quantitative indicators. As a result, it is difficult for countries to set baselines, estimate distance to target, and benchmark their performance with peers.

To help fill these gaps, the Sustainable Development Solutions Network (SDSN), together with the Bertelsmann Stiftung, has been publishing an annual global SDG Index and Dashboards report since 2016. The Index provides an aggregate measure of progress across all 17 SDGs using available data, including official SDG indicators as well as alternative metrics from trusted official and other verifiable sources. The Dashboards provide a goal-level snapshot that is color-coded from red to green, which signifies goal achievement.

Many African countries have thus far used the global version of the SDG Index and Dashboards to guide discussions around the SDGs, but a regional version is necessary to address several issues. First, African countries' SDG performance are low by international standards, resulting in African countries appearing mostly "red" in the global Dashboards. This hides important variations in performance across African countries that can only be uncovered through a higher-resolution analysis for the region.

Second, the global SDG Index and Dashboards do not include measures for some key regional priorities nor do they reflect subregional development trajectories. Examples of such priorities include extractive industries, particular gender equality issues, endemic vector-borne diseases, and measures of government capacity.

Third, the heterogeneity of countries' development experiences around the world makes it difficult to address issues relating to the "leave no one behind" agenda in the global SDG Index and Dashboards. A focus on Africa alone provides greater opportunities for methodological innovations in tracking measures of inequality and exclusion in relation to SDG achievement.

Finally, the global SDG Index lacks the resolution to report on government efforts towards achieving the SDGs and trends that can be used to gauge whether countries are on track towards achieving the SDGs. Shining a greater light on trends and government efforts is particularly important in Africa, where some countries' development trajectories have moved in opposite directions, because SDG assessments based on achievement levels alone will fail to account for the diverse development experiences in Africa.

To address these challenges, the SDG Center for Africa (SDGC/A) and the SDSN are jointly publishing this first annual Africa SDG Index and Dashboards Report that builds on and expands the global one. The report collects and synthesizes the most detailed, recent, available data on the SDGs from official and other verifiable sources to support national and regional discussions on where each country stands with regards to achieving the SDGs and on which metrics might be useful to track progress.

This Africa SDG Index unlocks the power of that data to inform governments, businesses, multilateral organizations, and—most importantly—citizens about their country's achievement in and commitment to the SDGs, to ensure accountability, and to incubate commitment to change. It includes a common core set of indicators from the global SDG Index and Dashboards report, supplemented with a set of indicators that are pertinent to the African context. The additional variables provide a richer assessment of the specific SDG-related challenges faced by African countries and how successful those countries are in overcoming them.

Furthermore, elements of the Agenda 2063 have been incorporated—in particular measures of continental integration, a core component of this African agenda, were added into the metrics in Goal 17. Thanks to this African focus, the Africa SDG Index better allows each country to understand its situation and compare itself within the region and with peers at similar levels of overall social and economic development. Finally, according to the UN Population Division, more than half of global population growth from now to 2050 is projected to occur in Africa. This Africa-focused report can assist countries in identifying investment areas to help manage the corresponding increase in demand and use of resources, infrastructure, and public facilities.

This report is comprised of five parts. The first part of this report will give a snapshot of the SDGs in the African context, including an analysis of the co-existing development agendas, an overview of statistical capacity in Africa, and a preliminary assessment of a selection of African countries' implementation efforts. This final section also includes three case studies on good practices, policies, and programs to integrate and implement the SDGs in national development agendas. We hope they will serve as a resource and inspiration for the creation, use, and further sharing of effective solutions.

The second part will present the results of the Index and Dashboards, with an analysis by subregion. The third part gives a detailed overview of the methodology. Finally, in part four and five, we present individual detailed country and indicator profiles. These are not included in this compact edition. Please see the full report for the detailed profiles.

Part 1 The SDGs in the African Context

1. The SDGs, Agenda 2063, and the High 5s

In 2013, African Union (AU) member states crafted an African-driven vision "Agenda 2063: The Africa We Want" that outlined how the African continent should look in 50 years based on the pillars of wealth generation, regional integration, and attainment of a peaceful society, all driven by Africans. In 2015, UN member states unanimously adopted the 2030 Agenda, which balances the dimensions of economic, social and environmental development, underpinned by good governance.

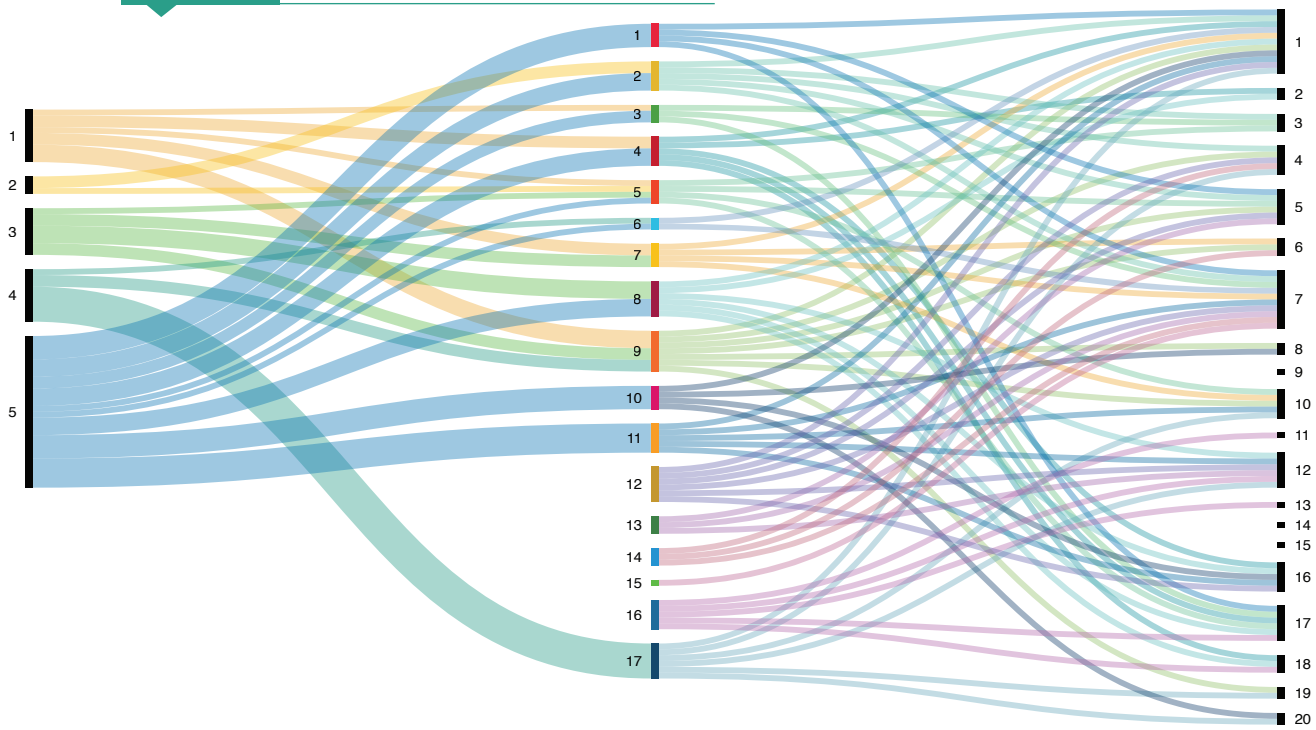
Both agendas include specific sets of goals. The Agenda 2063 (A2063) has 20 goals with 174 targets, while the SDGs include 17 goals and 169 corresponding targets. These goals broadly converge on social and human capital development, inclusive economic growth, peaceful societies, accountable institutions, and environmental sustainability dimensions. However, there are topics of divergence as well. Crucially, these agendas are operating in very different time frames: only 15 years for the SDGs against 50 for the A2063. As such, comparison of the varying quantitative targets is not straightforward. Themes such as inequality (between and within nations), sustainable management of land ecosystems (desertification, biodiversity, and land degradation), responsible consumption and production and urgent climate action are central to the SDGs but are not as fully developed in A2063.

Conversely, A2063 has a strong identity component, emphasizing that the structural transformation needs to be endogenous, integrating the continent and raising the profile of African culture, values, and heritage. It also fosters domestic resource mobilization and has flagship projects focusing on transport, information and communication technologies (ICT), and energy infrastructure. Additionally, the two agendas diverge on Official Development Assistance (ODA)—it is regarded as a needed partnership component in the SDGs but is framed as detrimental for fiscal strength and independence in A2063. This divergence makes sense given the varying timelines: African countries will partially rely on aid to achieve the SDGs by 2030 but should aim to be more independent in the longer-term future. Another key difference is that the SDGs are focused on national ownership and there are no institutional governance milestones, such as governmental body creation (ex: African Charter on Democracy). A2063 includes regional and continental targets in addition to national ones.

The African Development Bank (AfDB) High Fives (Hi5s) exist alongside these two sustainable development agendas. These five priority areas are part of the AfDB 10-year strategy (2013-2022) and are: Light Up and Power Africa, Feed Africa, Industrialize Africa, Integrate Africa, and Improve the Quality of Life for the People of Africa.

The goal and priority alignment in Figure 1 demonstrates the strong linkages between the Hi5s, the SDGs, and A2063. At the goal level, the global and continental agendas are aligned by 85% with 17 of the 20 A2063 goals overlapping with the SDGs. The three goals in A2063 that do not fully overlap with any of the SDGs are: G9: Key Continental Financial and Monetary Institutions established and functional; G14: A Stable and Peaceful Africa; and G15: A Fully Functional and Operational African Peace and Security Architecture. As Figure 1 shows, at least 15 A2063 goals overlap with at least two SDGs, evidencing a deeper and stronger synergy between the agendas.

Figure 1 Linkages between the three agendas



Hi5 Priorities

1. Light up and power Africa
2. Feed Africa
3. Industrialize Africa
4. Integrate Africa
5. Improve the quality of life for the people of Africa

Sustainable Development Goals

1. End poverty in all its forms everywhere
2. End hunger, achieve food security and improve nutrition and promote sustainable agriculture
3. Ensure healthy lives and promote well being for all at all ages
4. Ensure inclusive and equitable education and promote lifelong learning opportunities for all
5. Achieve gender equality and empower all women and girls
6. Ensure availability and sustainability management of water and sanitation for all
7. Ensure access to affordable, reliable, sustainable and modern energy for all
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
10. Reduce inequality within and among countries
11. Make cities and human settlement inclusive, safe, resilient and sustainable
12. Ensure sustainable consumption and production patterns
13. Take urgent action to combat climate change and its impacts
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15. Protect, restore & promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, & halt and reverse land degradation & halt biodiversity loss
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17. Strengthen the means of implementation and revitalize the global partnership for sustainable development

Agenda 2063 Goals

1. A high standard of living, quality of life and well-being for all
2. Well educated citizens and skills revolution underpinned by science, technology & innovation
3. Healthy and well-nourished citizens
4. Transformed economies and job creation
5. Modern agriculture for increased productivity and production
6. Blue ocean economy for accelerated economic growth
7. Environmentally sustainable climate resilient economies and communities
8. United Africa (Federal or Confederate)
10. World class infrastructure crisscrosses Africa
11. Democratic values, practices, universal principles of human rights, justice & the rule of law entrenched
12. Capable institutions and transformed leadership in place at all levels
13. Peace, security and stability are preserved
16. African cultural renaissance is pre-eminent
17. Full gender equality in all spheres of life
18. Engaged and empowered youth and children
19. Africa as a major partner in global affairs and peaceful co-existence
20. Africa takes full responsibility for financing her development

Source: Authors' analysis

There is a similar level of alignment at the target-level. Of the 174 A2063 targets, only 36 do not overlap with any A2030 targets (21%), 66 overlap with one SDG target (38%) and the remaining 72 overlap with two or more SDG targets (41%); evidencing an alignment of 79% at a target level between the global and continental agenda.

Table 1 Target alignment

A2063 targets	No. of target	%
Overlapping with 2 or more SDG targets	72	41.4
Overlapping with one SDG target	66	37.9
No overlapping	36	20.7
Total	**174**	**100**

Source: ECA, 2017b.

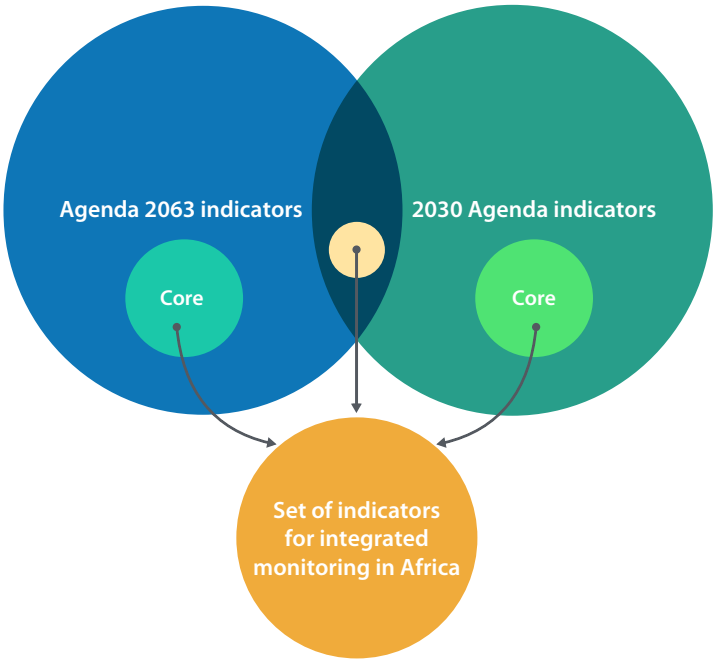
Finally, at the indicator level, 44 A2063 indicators fully converge with SDG indicators, and only seven have no match to SDG indicators. The remaining 12 are Africa-specific. Therefore, at this level, the agendas are 86% aligned. In fact, this alignment is formalized in the Ten-Year Implementation Plan (TYIP) for the A2063. The AU and the UN Economic Commission for Africa (ECA) have agreed on a shared monitoring and evaluation framework for both agendas and a common reporting system in order to generate unified and systematic reporting and to facilitate implementation and tracking for countries. For this, 63 core indicators were selected and categorized (see Figure 2).

Table 2 Core indicators by category

Category	No. of indicators	%
100 % convergence	44	70
Africa specific	12	19
No provision on SDGs	7	11
Total	**63**	**100**

Source: AU, 2015.

Figure 2 Integrated monitoring framework



Source: UNECA, 2017b

This shared reporting system is also completed by an agreed institutional framework, meant to ensure a harmonized integration of both agendas into member states' national plans. The AU-UN Framework for the Implementation of Agenda 2063 and the 2030 Agenda for Sustainable Development was signed in January 2018, ensuring that both institutions "will undertake joint activities and programs for the effective implementation, tracking and monitoring of and reporting on the 2030 Agenda and Agenda 2063" (AU-UN, 2018).

The SDGs and A2063 are not two standalone development projects; they are highly aligned at goal, target, and indicator levels. Working towards one agenda means working towards the other. This is fully understood by their lead institutions, and that is why they have put together a synchronized framework. Thanks to this coordination, countries are not burdened by two unrelated agendas, but instead can benefit from their synergies and complementarities.

2. Statistical Capacity in Africa

Many countries in Africa lack the capacity to collect, manage, and report on demographic, social, economic, and environmental data. This is especially alarming in an increasingly digital, knowledge- and information-based world. This information is critical for governments to be able to develop better policies and interventions and respond more effectively to their national development challenges. Additionally, governments need data to document and report on progress made in their countries.

According to the World Bank, in 2017 Africa had the lowest average statistical capacity (Table 3). While there are wide disparities in statistical capacity throughout the continent, there are common challenges across institutions, relating to technical capacity, data collection and processing, and the adoption and application of international statistical standards and new technologies. National Statistical Offices (NSO) in Africa also face the challenge of high turnover rates making it difficult to develop in-house expertise, to apply international statistical standards, and to employ new technologies to collect and disseminate statistics and information.

Adequate resourcing of national statistical systems is crucial. The need is clear and investments in national statistics systems and data production have increased. According to the AfDB African Statistical Yearbook, from 2006 to 2014, the total amount of all resources made available to strengthen statistical capacity increased by 388%. Official Development Assistance (ODA) focused on data and statistics formed part of these resources: ODA to statistics globally was 0.30% in 2015, which is a slight improvement on the last decade's average of 0.27%. African countries received 56% of this statistical support on average for the years 2013-2015 (PARIS21, 2017).

Table 3 Average Statistical Capacity Scores

Region	Statistical Capacity Score
Africa	60
Middle East	61
East Asia and the Pacific	62
South Asia	70
Latin America and the Caribbean	70
Europe and the Central Asia	75

Source: World Bank, 2017

The building blocks of strong national statistical systems include data on vital statistics, economics, health, education, safety, and the environment. These building blocks are all essential components to tracking the SDGs and, unfortunately, they are particularly weak across Africa, as summarized in Table 4.

Table 4 Data building blocks in Africa

Building blocks	Instruments	Status
Vital statistics (births and deaths)	Civil registries, censuses, household surveys	Only 6 countries have +90% coverage of death registration from data sources newer than 2005[1] Only 4 countries have +90% coverage of live birth registration from data sources newer than 2005
Economic statistics: growth and poverty, taxes and trade	National accounts populated by firm surveys; household surveys; censuses; administrative data	Out of the 36 Tier I economic SDG indicators, only one-third of those indicators are adequately informed in African countries[2] 87% of countries conducted a census between 2005 and 2014[3] 31 countries have weak to zero capacity to produce detailed and timely data on employment 41 countries have weak to zero capacity to produce detailed and timely data on poverty[4] Since 2005, only 13 countries in Africa have completed or updated a report on the Observance of Standards and Codes as part of the IMF Data Quality Assessment Framework[5]
Sickness, schooling, and safety	Administrative data	Between 2005 and 2014, 51 countries recorded data in the database of the United Nations Office on Drugs and Crime Homicide Statistics [6] Between 2005 and 2017, 80% of African countries reported publishing a household survey that included an education component[7] Between 2005 and 2017, 72% of African countries reported publishing a household survey that included an education component
Land and the environment	Cadastral registries; administrative data; new testing (water) and remote sensing technologies (air quality, forest)	In 2010, 57% of tropical African countries were rated "limited" or "low" with respect to forest area change monitoring capacity[8] In 2010, 22% of tropical African countries were rated "limited" or "low" with respect to carbon pool reporting capacity In 2015, 15 African countries reported using aerial/remote sensing to monitor forest inventory[9] Only 5 African countries have adopted national geospatial information policy or initiated the process; and 2 others have begun the formulation of national geospatial information policies[10]

1. http://unstats.un.org/unsd/demographic/CRVS/CR_coverage.htm; **2.** ECA/ACS (May 2018); **3.** https://unstats.un.org/unsd/demographic/sources/census/censusdates; **4.** GI All (2018); **5.** http://dsbb.imf.org/pages/dqrs/ROSCDataModule.aspx; **6.** http://data.un.org/Data.aspx?d=UNODC&f=tableCode%3A1; **7.** http://catalog.ihsn.org/index.php/catalog; **8.** Romijn et al (2012); **9.** FAO FRA (2015); **10.** ECA (2017).

Investments in statistical systems have contributed to improved data availability in and knowledge about Africa. However, this still falls short of the current needs—PARIS21 estimates a funding gap of USD 200 million annually to meet the needs for SDG data. In particular, funds allocated to developing national statistical capacity are insufficient; therefore, the quality, quantity, and substance of data have been and continue to be driven by donors and less by the nation's priorities and needs (Kiregyera, 2015). Many African countries still rely on data collected with the help of international organizations, in particular household surveys and censuses. For instance, the UN Statistics Division produced country progress snapshots for the MDGs, but the data, methodology, knowledge, and resources were not made readily available to the countries—they are driven by international organizations and donors, not by governments.

With the adoption of the SDGs and the 232 indicators, it is vital to ensure that national governments are more involved and have greater ownership of their data in order to track progress and narrate their own development. To achieve this, more investment–informed by the needs of Africans themselves, rather than donors–is needed to develop robust, independent, and autonomous national statistical systems in Africa.

3. African SDG Implementation Efforts

Achieving the SDGs will require major transformations and unprecedented mobilization from all stakeholders. In particular, Heads of State committed to the SDGs in 2015 at the UN, therefore national governments should be at the forefront in implementing the SDGs.

This section assesses government commitments to achieve the SDGs and provides information on 11 African countries in five key aspects: (1) national strategy and baseline assessments in the executive, (2) coordinating units in the executive, (3) budgeting practices in the executive, (4) legislative actions, and (5) main challenges for implementation. It draws attention to regulatory measures that have been put in place to create the necessary enabling environment for mainstreaming the SDGs into national policies and strategic plans along with coherent coordination. Ultimately, the aim of this section is to provide useful analysis on how seriously the goals have been adopted and to compare these results with the Index outcomes over time.

Method

Fifteen countries, three countries from each subregion (Central, East, North, South, and West Africa), were selected. To gather comparative information, a short survey comprised of 15 questions was prepared. Preliminary data were collected through desk research. Each positive response was accompanied with official statements, documents or web portals to ensure that the survey responses reflect verifiable facts and not opinions. The survey focused on initiatives introduced between January 1, 2016 and April 2018. As a result, some of the information and initiatives published in the Voluntary National Reviews (VNR) 2018 may not be fully reflected in this year's assessment. To ensure the highest standards in terms of data quality and comparability, preliminary results were validated through consultations with national government institutions. Of the 15 countries selected, 11 countries verified the results. These results are presented and analyzed here. It is important to note the limitations of the collected data, which are descriptive in nature and may not gauge the effectiveness of the strategies and mechanisms in place. They are also incomplete since they only focus on the national level and do not cover initiatives at subnational levels.

Findings

While African countries lag behind the rest of the world in terms of achieving the SDGs, our survey results show strong institutionalization of the goals. The countries surveyed are a small but representative cross-section which demonstrate how Africa is committed to integrating the SDGs into their national development plans. While governments are not inclined to create standalone institutions or structures, solely dedicated to the SDGs, the executive branches have embedded the SDGs into their national development strategies.

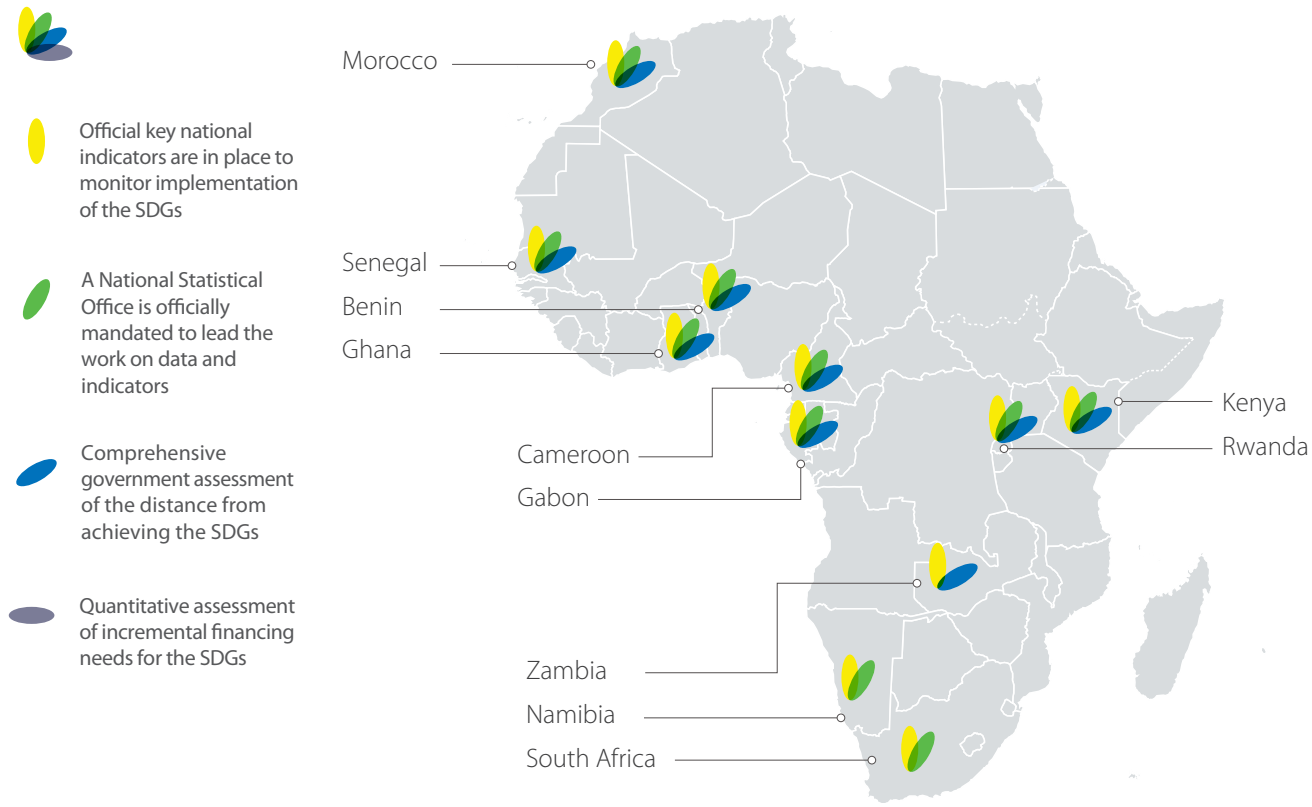
According to the survey results from 11 countries, a high-ranking official from each country has made an official statement endorsing the SDGs. Additionally, all surveyed countries have identified key national indicators and priorities to monitor the implementation of the SDGs. Ninety percent verified having aligned national strategies with the SDGs and 70% have an action plan to implement the SDGs. These strong results are unsurprising given African countries' familiarity with goal-based development planning thanks to the Millennium Development Goals (MDGs).

Table 5 National strategies in the executive

Country by Region	Official statement made by a high-ranking official endorsing implementation of the SDGs	Alignment of existing national strategies with the SDGs	Action plan to implement the SDGs	Identified key national priorities regarding the implementation of the SDGs	Online repository for the SDGs hosted on the website of the Center of Government portal
Northern Africa					
Morocco	✓	✓	✓	✓	✓
Western Africa					
Benin	✓	✓	✓	✓	✓
Ghana	✓	✓	—	✓	✓
Senegal	✓	✓	—	✓	✓
Eastern Africa					
Kenya	✓	✓	✓	✓	✓
Rwanda	✓	✓	✓	✓	✓
Central Africa					
Cameroon	✓	✓	✓	✓	✓
Gabon	✓	✓	✓	✓	✓
Southern Africa					
Namibia	✓	—	—	✓	✓
South Africa	✓	✓	✓	✓	✓
Zambia	✓	✓	✓	✓	✓

Legend: check marks denote a positive response. Dashes indicate a negative one.
Source: Authors' analysis

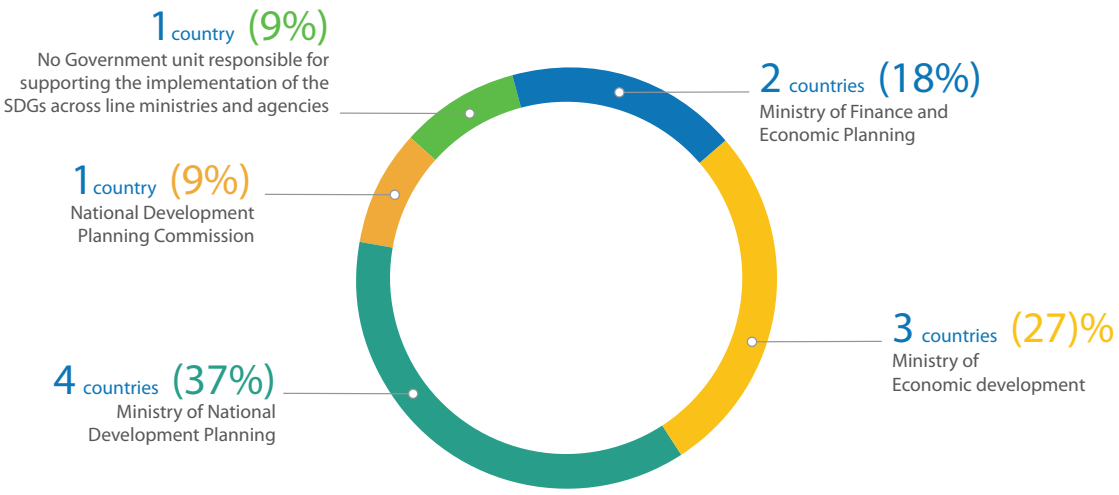
Figure 3 Assessments and monitoring



This map is for illustrative purposes only. The boundaries and names shown do not imply official endorsement or acceptance.
Source: Authors' analysis

In terms of institutional arrangements, the survey found that 37% of countries made the Ministry of National Development Planning the main government unit responsible for implementing the SDGs, whereas 27% of countries made the Ministry of Economic Development the main unit. The majority of respondents reported insufficient engagement from the legislative branch—only 36% had organized parliamentary sessions on the SDGs (Figure 6).

Figure 4 Coordinating unit in the executive



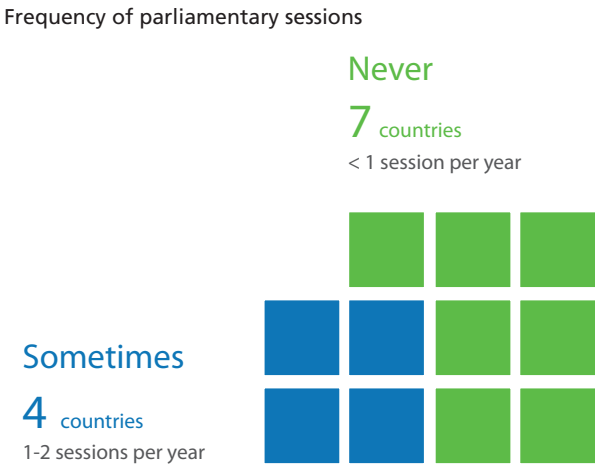
Source: Authors' analysis

Finally, regarding budgeting and financing for the SDGs, no country has conducted a quantitative assessment of incremental financing needs for the SDGs, and only 18% of countries have a budget that reflects incremental budgeting for all the SDGs (Figure 5). Budgeting and financing should be an urgent priority for all countries, as assessing financing needs and sourcing adequate financing underpins the success of the entire framework.

Figure 5 Budgeting practices

Source: Authors' analysis

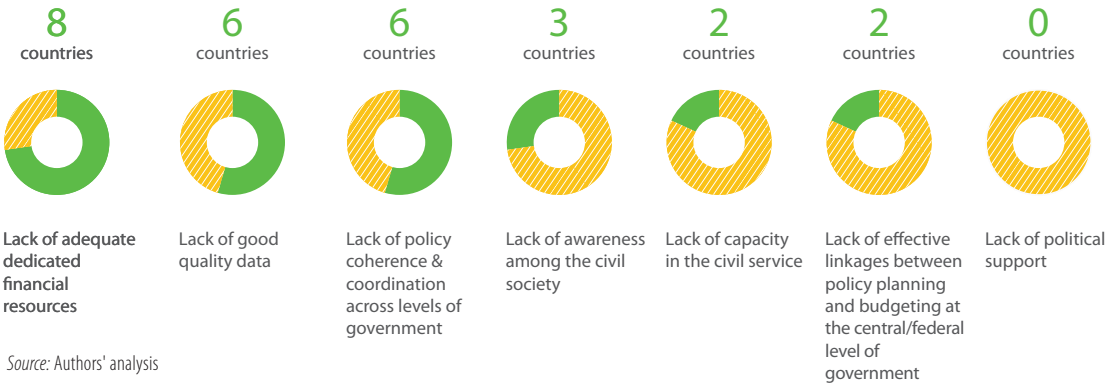
Figure 6 Legislative actions



Source: Authors' analysis

The lack of action on financing appears in sharp contrast to the final survey question on the key challenges in implementing the SDGs: 72% of respondents cited the lack of adequate dedicated financial resources as the first major challenge (Figure 7). The other major challenge cited was the lack of good quality data and lack of policy coherence and coordination..

Figure 7 Key challenges in implementing the SDGs



Source: Authors' analysis

Implementation Case Studies

Ghana: A Truly Inclusive Approach

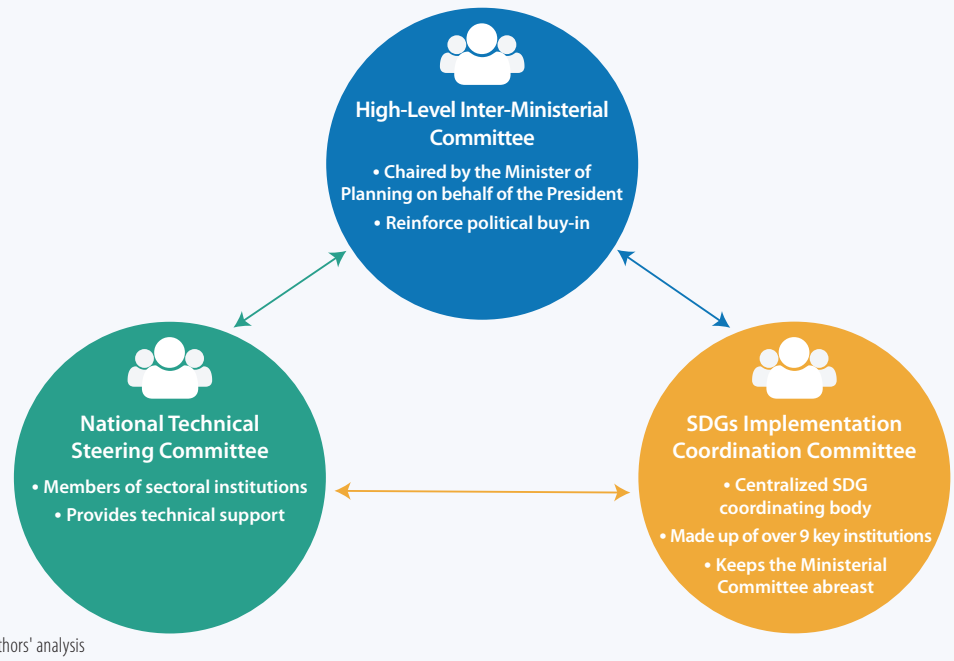
The government of Ghana is making deliberate efforts to ensure that no one is left out in the implementation of the SDGs. The intention to collaborate and the presence of strong institutional buy-in began during the MDGs and goes from the Presidential office all the way down through government institutions and civil society organizations. Ghana's key coordination structure is a triad of three institutions: the SDG Implementation Coordination Committee (ICC), the High-Level Inter-Ministerial Committee, and the National Technical Steering Committee.

This structure ensures that all SDG-related activities are coordinated and integrated, and that all relevant actors are collaborating and aware of their roles and responsibilities. For instance, as a member of the ICC, the Ghana Statistical Service (GSS) has access to all the bodies responsible for SDG data collection and can directly request data from them. Moreover, the GSS has reviewed all data templates from each ministerial department to ensure that they are aligned with the SDGs, and it provides capacity support to other government institutions to strengthen their understanding of data collection, reporting, and usage.

As a result, the GSS has successfully identified 62 SDG indicators that were already being produced, 63 indicators that could be produced with improvements to existing data, and 30 indicators that had no data. They also learned that 57% of their data came from administrative sources and 33% came from census and surveys. This mapping exercise has equipped the government of Ghana to be better positioned to report and monitor their progress toward achieving the SDGs.

The government of Ghana has complemented this centralized coordination with broad public awareness campaigns on the SDGs. Harmonized messages and activities were organized across the nation to inform local governments, civil society organizations, NGOs, and citizens about the role of the SDGs in the national development plan and the importance of implementing and aligning local development plans and strategies accordingly.

Figure 8 Ghana's coordination structure



Source: Authors' analysis

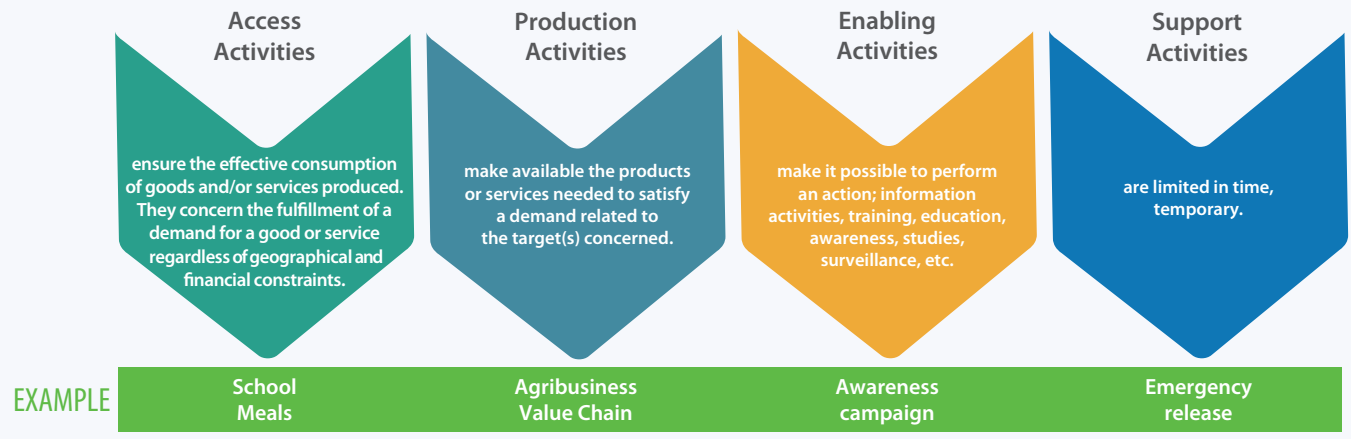
Benin: Measuring the Impact of Ministerial Programs on the SDGs

Since the inception of the SDGs, the government of Benin has shown tremendous political will and a desire to innovate. The government has developed a unique tool to capture and quantify the impact of each ministry on the SDGs. This tool analyzes the extent and depth to which the SDGs are included in the Annual Working Plans (AWP) of each ministry in order to allocate budget to those interventions that have the highest SDG impact.

To quantify each ministry's contribution to the achievement of one or more of the SDGs, approximately 6,000 activities were mapped and analyzed per ministry. Three criteria were assessed based on the type of activity and its likelihood to impact the SDGs: 1) nature of activity, 2) adaptability of the respective SDG indicator, 3) localization of the activity. Given the SDG priority of leaving no one behind, activities which increased access to various goods and services were categorized as highest impact. A score was assigned depending on how directly the activity related to its SDG indicator. Finally, the geographical scope was assessed.

The tool showed that overall, the ministries' AWPs are 54% correlated with the SDGs. This means that among all the ministerial activities in Benin, more than half impact their prioritized SDG targets. Most of the activities are enabling (52%) and support (43%) activities, while access and production activities are still highly underrepresented (Figure 8). Therefore, one of the main findings of the tool is the need for the ministries to focus more on these other categories of activities, which have a more direct impact on the population's wellbeing. This recommendation has already been transmitted to the ad hoc committee of the Presidency so that each ministerial plan will be aligned to reflect this need in the 2019 plans. Overall, Benin's new tool allows its government to make more informed policy and budgetary decisions by mapping the relation between its current activities and prioritized SDG targets, thereby allowing for the restructuring of activities to ensure a continued and positive impact on the achievement of the SDGs.

Figure 9 Nature of activities



Source: Authors' analysis

Rwanda: *Imihigo* to Support SDG Implementation

Imihigo are a new form of performance contracts, originally introduced in 2006 as a way to ensure accountability in the implementation of development programs at the local government level. *Imihigo* have become effective tools for both driving results and merging sustainable development priorities from the international to the local level.

This homegrown solution has changed the way Rwanda implements national plans, as performance contracts are results-driven. Targets and indicators are derived from various national plans, including the Economic Development and Poverty Reduction Strategy (EDPRS), sector and district specific priorities, and Vision 2020, which are themselves aligned with the SDGs.

Overall coordination is led by the Steering Committee and National Partnership Group, which is chaired by the Ministry of Finance and Economic Planning. The Committee also focuses on the full incorporation of all relevant SDG indicators into national planning. So far, it has evaluated 160 of the 232 SDG indicators–of those, only 89 indicators were found to be relevant to the Rwandan context.

At the local level, each government entity bases its performance contracts on the District Development Plans, into which SDG indicators are domesticated, and key issues identified from consultative meetings with citizens. Therefore, *Imihigo* are a combination of top-down SDG priorities and bottom-up citizen priorities, creating a balanced development agenda.

Moreover, any progress made by this innovative structure is evaluated and documented for replication, and the improvement of the *Imihigo*. A technical team comprising of members from key ministries and institutions evaluates performance on a biannual basis and documents lessons learned. Starting in 2018, the National Institute of Statistics will take over this role to ensure quality data analysis and incorporation.

The continuous evaluation and evolution of *Imihigo* promotes policy innovation at the national and local government levels. Importantly, it does this with an emphasis on the effective and efficient execution of both national and international sustainable development priorities.

Figure 10 *Imihigo* scoring system in administrative entities

Source: Authors' analysis

Part 2 Results and Analysis

1. Africa SDG Index

The 2018 Africa SDG Index, shown in Table 6, ranks 51 African states according to 97 indicators across all 17 SDGs. The SDG Index score signifies a country's position between the worst (0) and best (100) outcomes. Morocco leads the continent with a score of 66.1, meaning that Morocco is about 66.1% of the way to achieving the SDGs, according to the measures used in this Index.

The top-ranking countries are a combination of North African countries and small island states, but these top performers are still only about two-thirds of the way on average to achieving the SDGs. The two countries at the bottom of the ranking are both heavily indebted poor countries (HIPC) mired in internecine conflict, Somalia and the Central African Republic, with scores of 36.2 and 35.8 respectively. The overall average score for the continent is 52.2, just barely over halfway to reaching the goals with less than 12 years to go. This result is not surprising, but it must be an urgent call to action for all countries - and in particular, a mobilization of global support for those countries facing major challenges to achieving this bold development agenda.

The Index's indicators have been as closely aligned as possible with the official SDG indicators. Where gaps remained, we have filled them with SDG-related data from reputable sources. To ensure pertinence to Africa, indicators from the global SDG Index that were not a useful metric for African countries or that lacked sufficient data coverage were omitted. Likewise, a number of additional indicators were included that reflect Africa-specific priorities. As a result of these changes, the results in the Africa report are not comparable to the findings in the global SDG Index and Dashboards report.

Table 6 Africa SDG Index

Rank	Country	Score	Rank	Country	Score
1	Morocco	66.1	27	Mauritania	51.2
2	Tunisia	65.9	28	Togo	51.2
3	Mauritius	64.0	29	Mozambique	51.1
4	Algeria	64.0	30	Lesotho	51.0
5	Cabo Verde	63.0	31	Benin	50.9
6	Ghana	62.0	32	Burundi	50.9
7	Egypt	60.9	33	Guinea	50.3
8	Gabon	59.0	34	Gambia	50.2
9	South Africa	59.0	35	Sierra Leone	50.1
10	São Tomé and Príncipe	59.0	36	Comoros	49.0
11	Rwanda	57.9	37	Congo	48.6
12	Botswana	57.0	38	Niger	48.4
13	Uganda	56.8	39	Nigeria	48.0
14	Senegal	56.4	40	Djibouti	47.9
15	Côte d'Ivoire	56.3	41	Angola	47.6
16	Kenya	56.2	42	Madagascar	46.7
17	Namibia	56.1	43	Liberia	46.4
18	Zimbabwe	55.0	44	Eritrea	45.0
19	Tanzania	54.7	45	Sudan	44.8
20	Cameroon	53.3	46	Guinea-Bissau	43.0
21	Zambia	52.8	47	Democratic Republic of Congo	42.8
22	Malawi	52.7	48	Equatorial Guinea	41.6
23	Ethiopia	51.9	49	Chad	40.5
24	eSwatini (fmr. Swaziland)	51.7	50	Somalia	36.2
25	Burkina Faso	51.5	51	Central African Republic	35.8
26	Mali	51.2			

Source: Authors' analysis

2. Africa and Subregional Dashboards

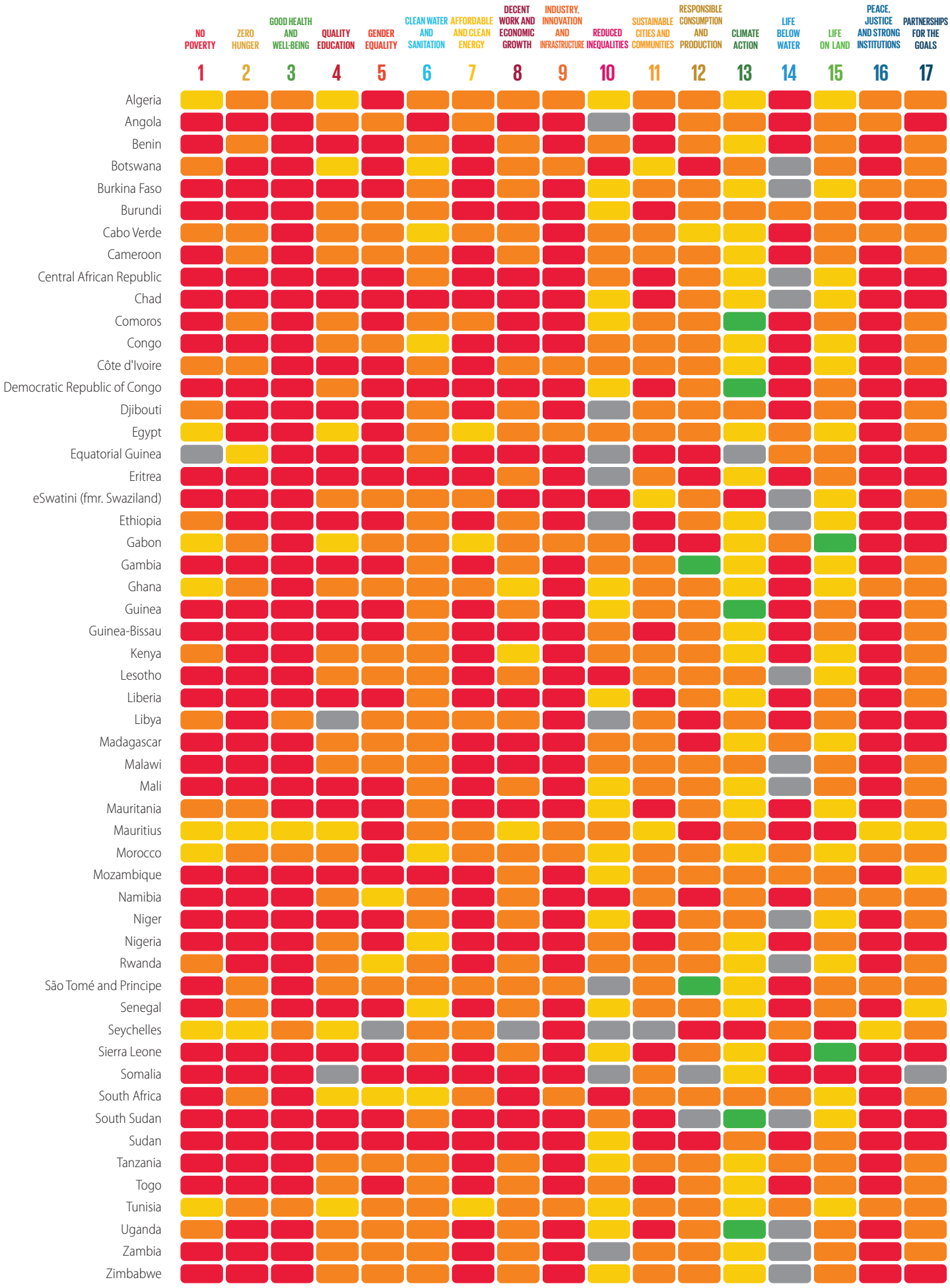
More than any other region in the world, Africa faces substantial challenges in achieving the SDGs. The 2018 Africa SDG Dashboards (Figure 11) present an analysis of African countries' current situation towards achieving the SDGs. Overall, according to this Dashboard, the goal areas facing the steepest challenges are health (SDG 3), infrastructure (SDG 9), and peace, justice, and strong institutions (SDG 16) with more than 80% of countries scoring red. Food security and sustainable agriculture (SDG 2), energy access (SDG 7), and marine ecosystems (SDG 14) are also big challenges that need to be prioritized as around 70% of the countries scored red in these areas. For 14 of the 17 goals, not a single African country has achieved green status, according to the Dashboard's system of color-coding. For the remaining three goals, there are only a handful of green countries—climate action (SDG 13) has five greens, and terrestrial ecosystems (SDG 15) and sustainable consumption and production (SDG 12) have three and two greens, respectively.

The Trends Dashboard (Figure 12) reveals the very limited progress African countries have been making towards the goals. On average, overall trends are stagnant for 13 out of the 15 goals for which we have trends. Trends are regressing for the cities goal (SDG 11), which is worrying given Africa's fast increasingly urban population. Progress must be also accelerated for education (SDG 4), energy (SDG 7), and marine ecosystems (SDG 14) which are nearly regressing. The most promising trend is for climate action (SDG 13), with gender equality (SDG 5), infrastructure (SDG 9), and terrestrial ecosystems (SDG 15) also showing modest progress.

Nearly all countries have overall flat trends on average, which confirms the urgent need for progress to be accelerated across all goal areas. The following seven countries are the best performers over time: Cabo Verde, Côte d'Ivoire, Ethiopia, Mauritius, Morocco, Namibia, Rwanda, and the Seychelles. However their moderate increases are still not sufficient to put them on track to achieve the SDGs by 2030.

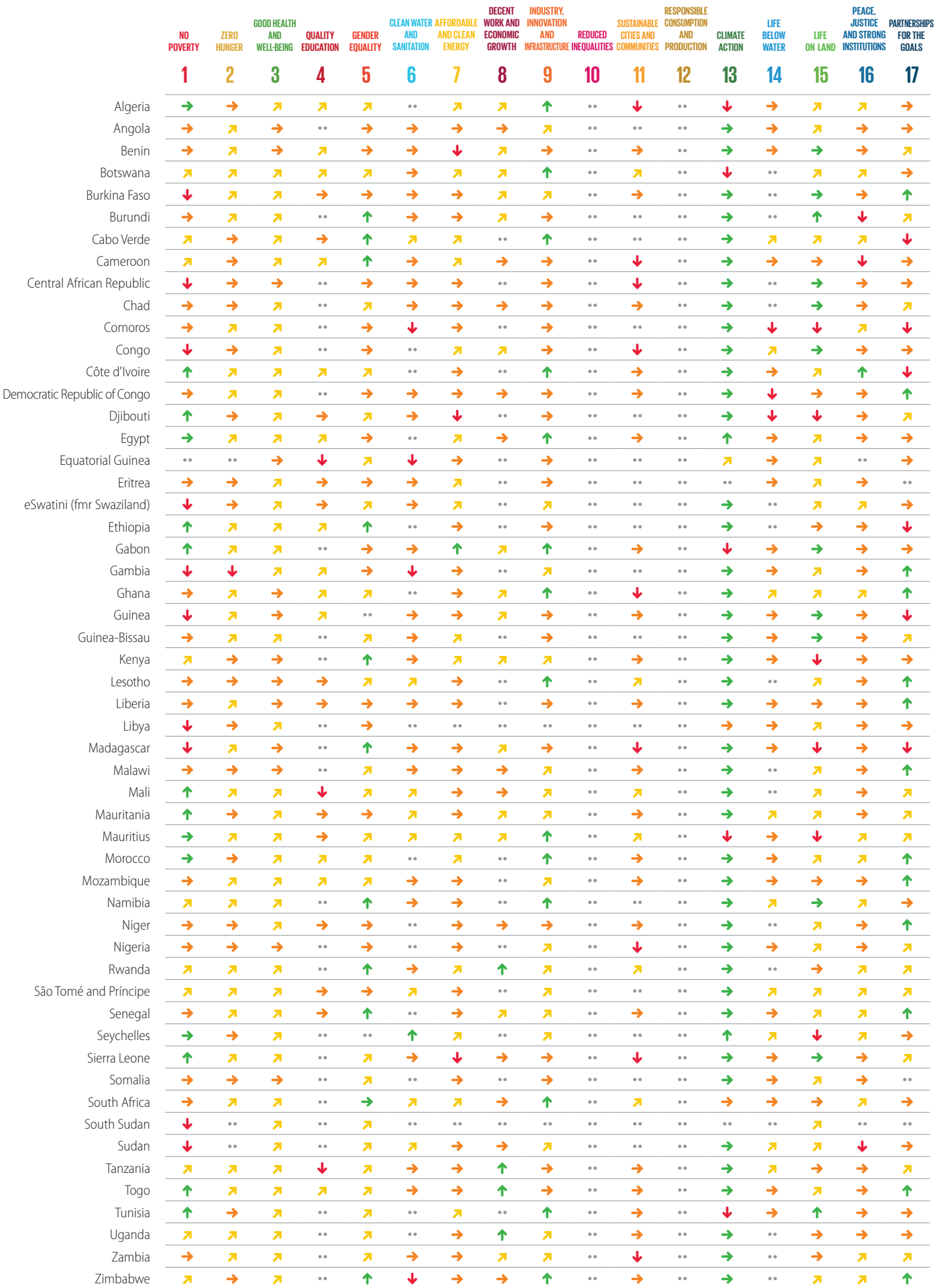
However, it is important to note that the continent, composed of 54 countries, is also very heterogeneous. The subregional dashboards, organized based on the AfDB regional classification, allow for a more detailed level of analysis across countries that share similar geographies, cultures, and economies. These subregional dashboards and a brief analysis for each are presented below.

Figure 11 Africa SDG Dashboard



Green denotes SDG achievement, followed by yellow to orange which indicate an increasing distance from SDG achievement. Red highlights major challenges.
Source: Authors' analysis

Figure 12 Africa SDG Trends Dashboard



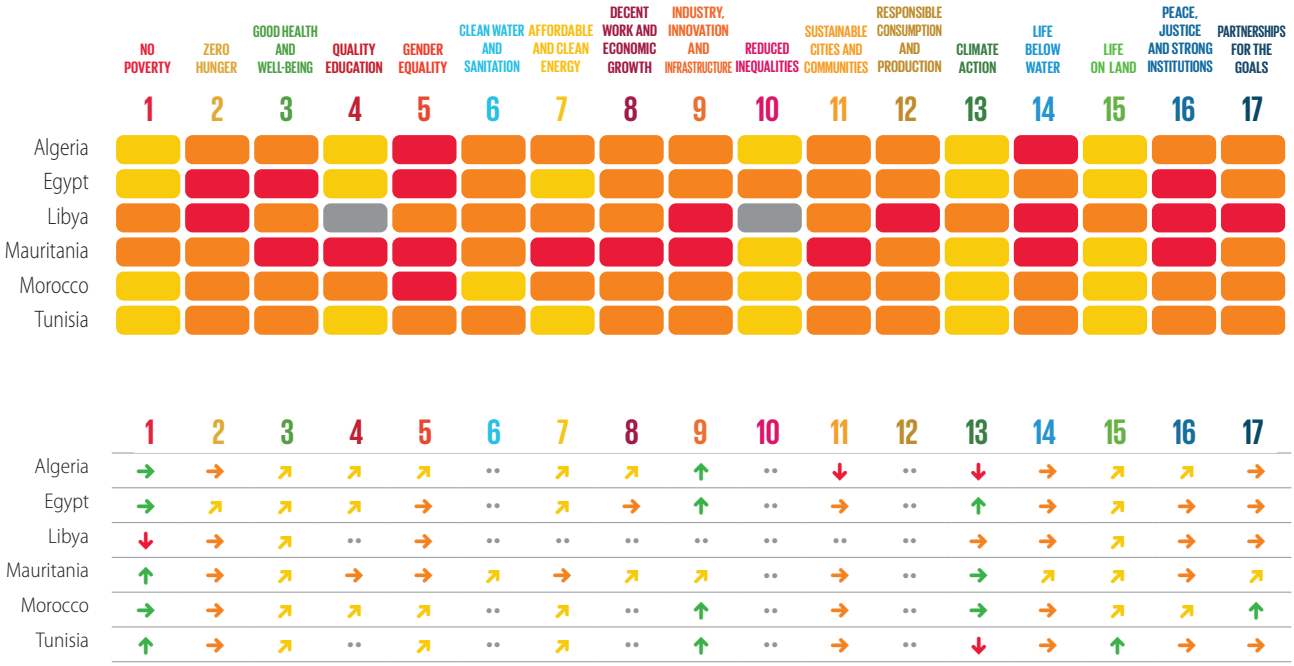
Note: Time series data are not available for the indicators under SDGs 10 and 12. For arrows key, see page 35.
Source: Authors' analysis

North Africa

Northern African countries top the Index rankings and have the highest average index score of 61.6, despite being the only region with not a single green goal. Relative to Sub-Saharan Africa, these states perform better on poverty (SDG 1) and energy access (SDG 7). In these countries, gender equality (SDG 5) is still a critical issue with a majority of reds. Other challenges are marine ecosystems (SDG 14) and peace, justice, and strong institutions (SDG 16) each with 50% red, followed by economic growth (SDG 8), sustainable cities (SDG 11), responsible consumption (SDG 12) and partnerships and regional integration (SDG 17) with 83% orange. Climate action (SDG 13) and terrestrial ecosystems (SDG 15) are the best performing goals, with 83% yellow, followed by inequality (SDG 10) with 80% yellow. The top dashboard performer is Tunisia, the only country in the continent with no red, followed by Morocco with one red.

In terms of trends, North Africa is the only region on track to achieve the poverty goal (SDG 1), except for Libya which is regressing. On average, there is also moderate progress across several goals: health (SDG 3), infrastructure (SDG 9), climate action (SDG 13) and terrestrial ecosystems (SDG 15). Trends for sustainable cities (SDG 11) are off track and the eight other goals are stagnant.

Figure 13 North Africa SDG and Trends Dashboards



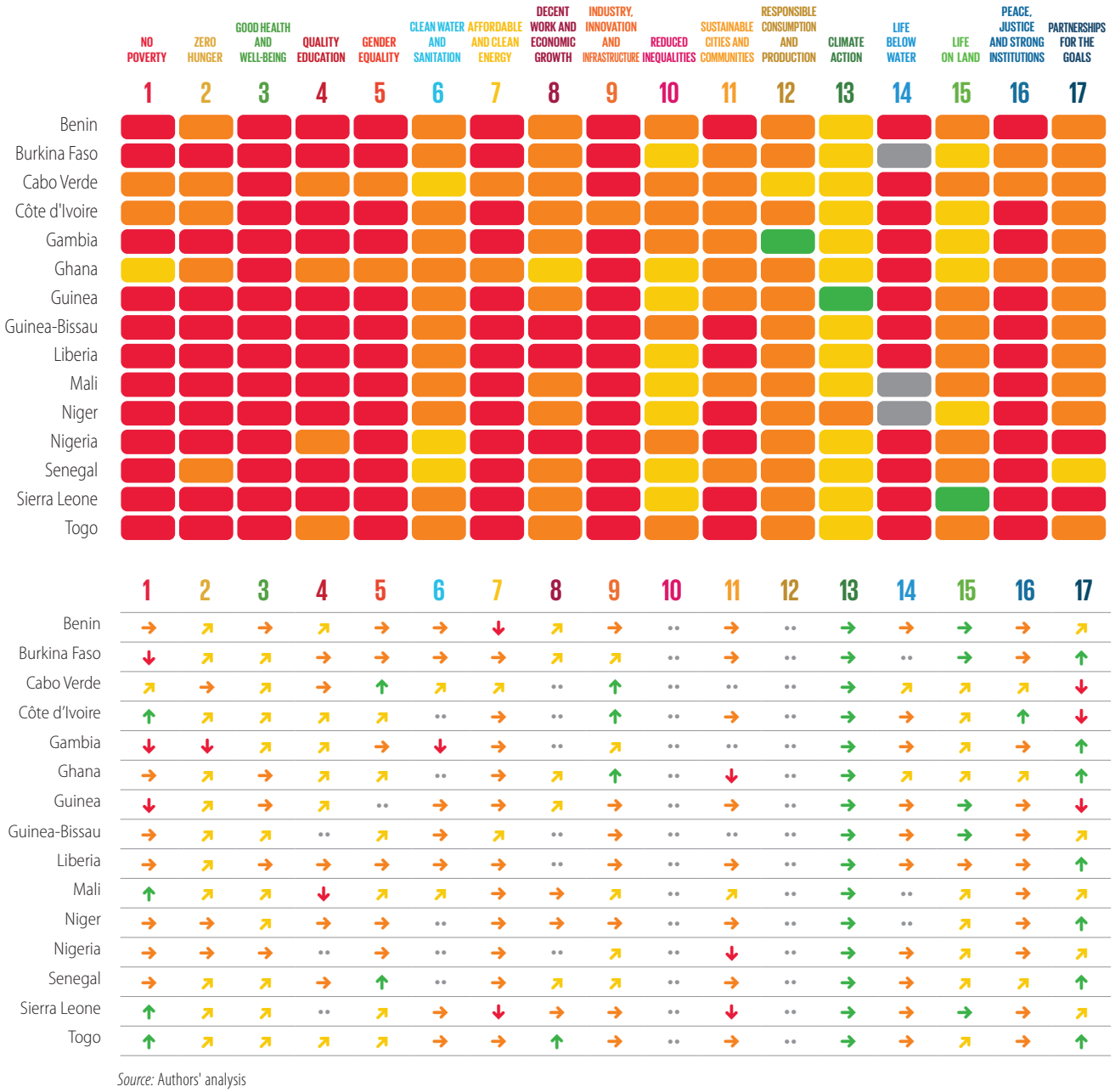
Note: The country groupings are based on the African Development Bank regional definitions. In addition to geography, these groupings take into consideration language, culture, trade ties, and topography. The regions are listed in the order they are presented by the AfDB.
Source: Authors' analysis

West Africa

Despite having a considerable number of countries with red scores, this region has the middle average index score of 52. Health (SDG 3) and marine ecosystems (SDG 14) are imperative challenges with all countries scoring red, followed by infrastructure (SDG 9) with 93% red, and gender equality (SDG 5) and energy (SDG 7) with 87% red. Climate action (SDG 13) is the best performing goal with 87% yellow, followed by inequalities (SDG 10) and terrestrial ecosystems (SDG 15) with no reds. Ghana has the best performance, followed Cabo Verde. Nigeria, the most populous country on the continent and home of more than 15% of Africa's population, has 65% of its goals in red.

West Africa is the only region that is maintaining achievement of a goal for all countries, climate action (SDG 13). The region is also making moderate progress towards sustainable terrestrial ecosystems (SDG 15) and partnerships (SDG 17) , with some exceptions to the average. All other goal areas are stagnant on average, except sustainable cities (SDG 11) which is regressing.

Figure 14 West Africa SDG and Trends Dashboards



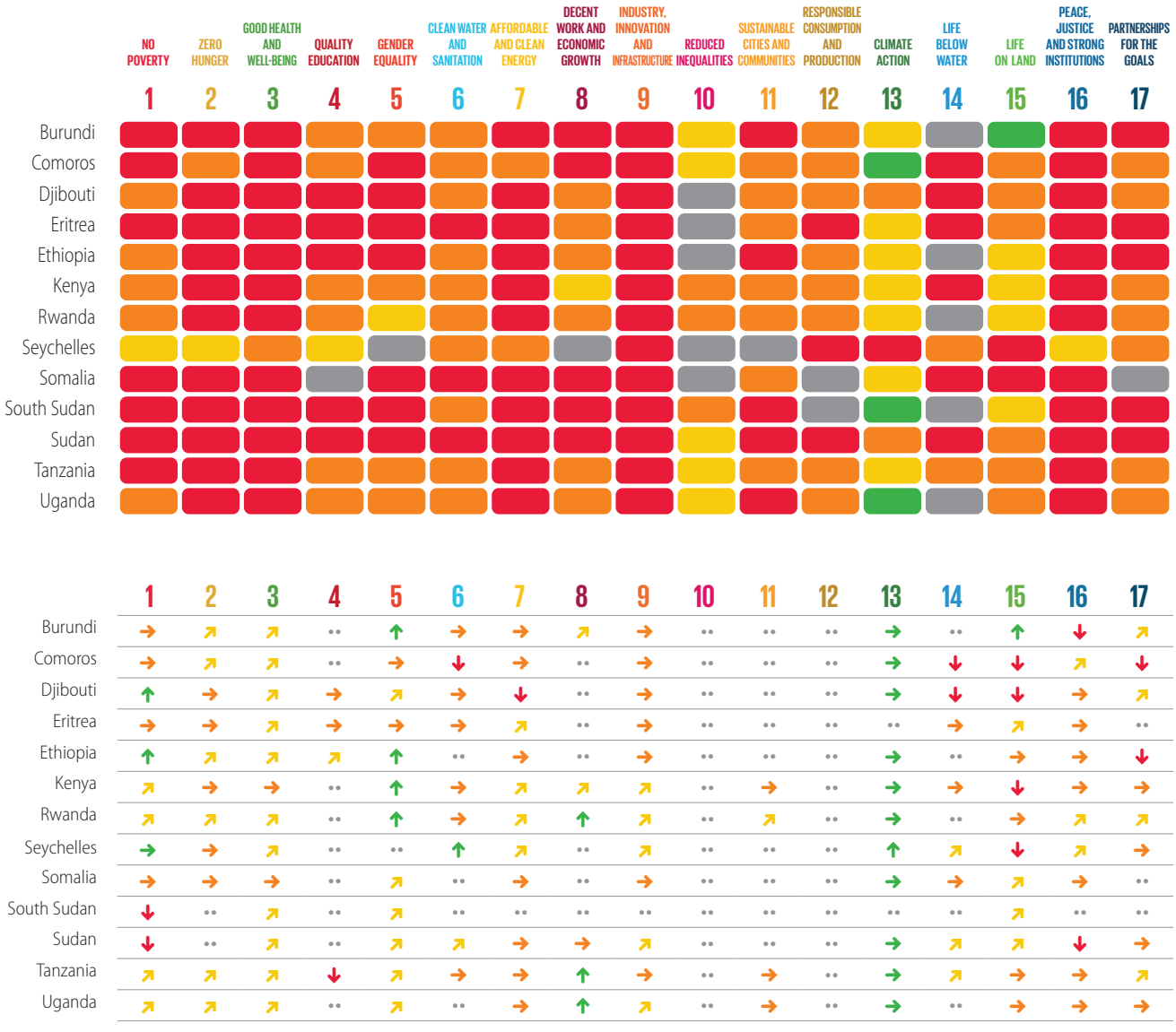
Source: Authors' analysis

East Africa

Despite having the highest economic growth and the largest number of green per region, East Africa has the second lowest average index score of 50.1 and the second largest number of red goals per country, with an average of 8.3. Infrastructure (SGD 9) is the main challenge with all countries scoring red, followed by health (SDG 3) and peace and justice (SDG 16) with 92% red. Hunger (SDG 2) and energy (SDG 7) are goals that also need to be prioritized with 85% red. As in other regions, the best performing goal is climate action (SDG 13), followed by inequality (SDG 10). For this group, Kenya and Rwanda are the top performers, while Somalia has the highest number of reds (85%), followed by Sudan (82%).

In terms of trends, East Africa, like the other regions in Sub-Saharan Africa, is on track to achieve SDG 13 on climate action and is also making modest progress towards gender equality (SDG 5) and economic growth (SDG 8). The 12 other goal areas all have stagnant trends on average.

Figure 15 East Africa SDG and Trends Dashboards



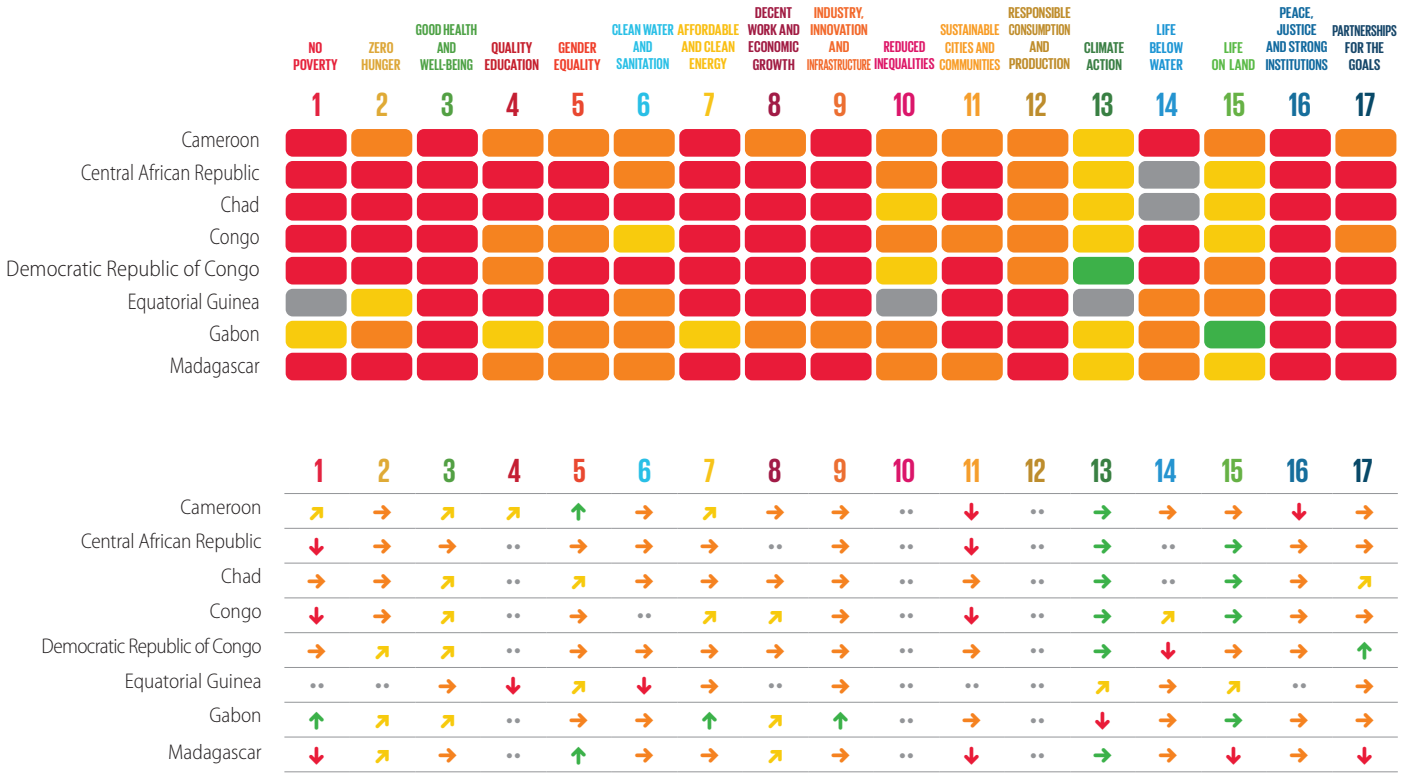
Source: Authors' analysis

Central Africa

This region has the lowest average index score of 46 and has the largest number of red goals per country, averaging 9.1. Health (SDG 3) and peace and justice (SDG 16) are the main challenges as all countries scored red; followed by energy (SDG 7) and infrastructure (SDG 9) with 88% of countries scoring red. Poverty (SDG 1) and economic growth (SDG 8) are goals that also need to be prioritized, as 86% and 75% of the countries obtained red in each of these, respectively. Central Africa occupies a pivotal position in the continent as it shares boundaries with all the other regions, and thus is a keystone in term of regional integration. Nonetheless, of all five regions, this one scores lowest in partnership and regional integration (SDG 17). Climate action (SDG 13) obtained the highest score with 86% yellow and 14% green; followed by life on land (SDG 15) and inequalities (SDG 10) where no country scored red. Gabon and Cameroon are the best performers with a majority of oranges and yellows.

Central Africa is on track to achieve SDG 13 on climate action, except for Gabon which is off track. The region is making moderate progress towards SDG 15 on terrestrial ecosystems and only Madagascar is off track. However the region is the most off-track on the continent overall, with three goals regressing: water and sanitation (SDG 6), cities (SDG 11), and peace and justice (SDG 16). Progress towards all other goals is stagnant on average.

Figure 16 Central Africa SDG and Trends Dashboards



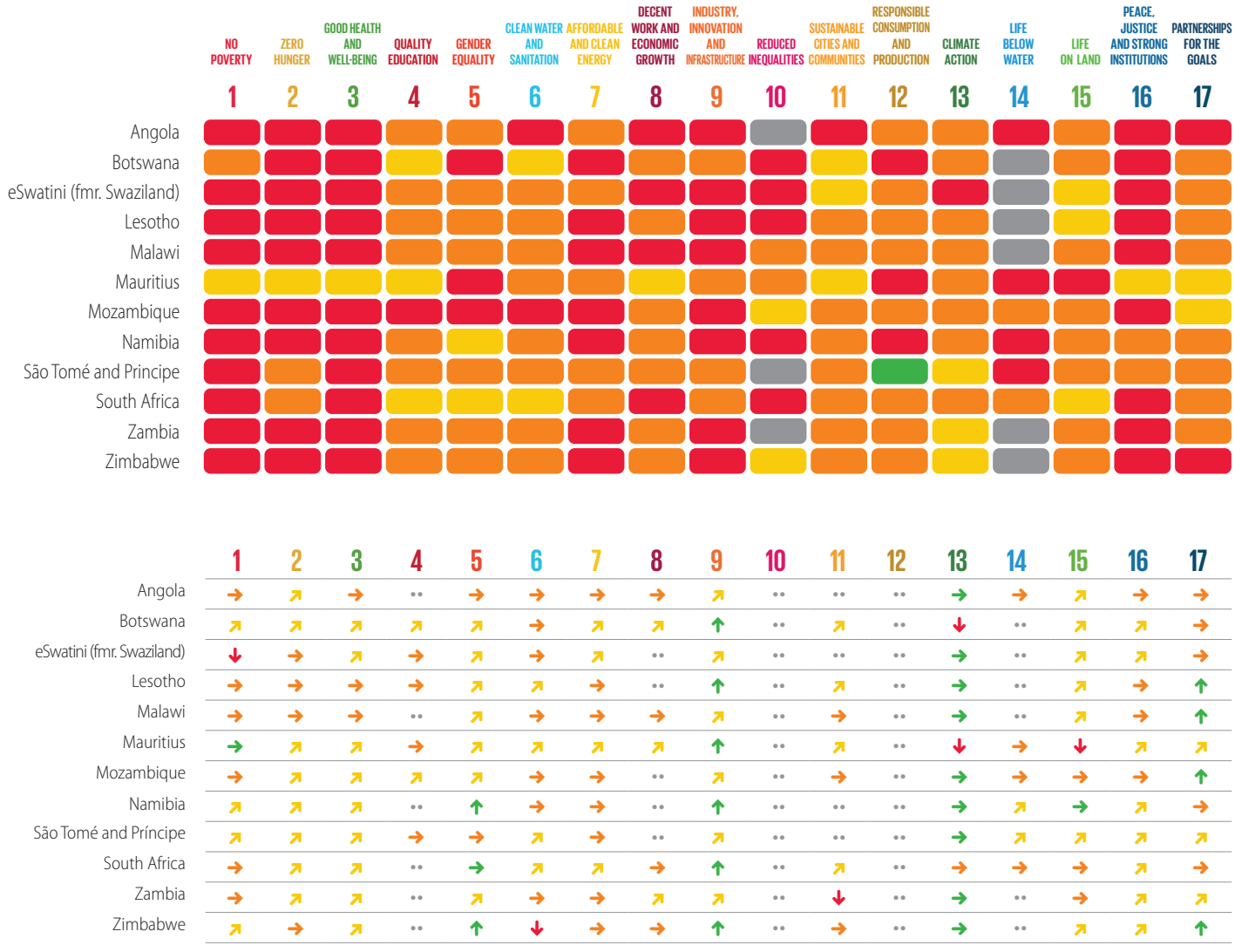
Source: Authors' analysis

Southern Africa

Southern Africa is a diverse region, comprising a mix of upper-middle-income and low-income-countries. This heterogeneity is clear in the overall results: this region has the second highest average index score at 54.8 with the second least number of reds and conversely only one green (São Tomé and Principe in SDG 12). The main challenge of the region is health (SDG 3) with 92% red, followed by poverty (SDG 1) with 83% red, and infrastructure (SDG 9) and peace and justice (SDG 16) with 75% red. The goals with the best results are education (SDG 4), sustainable cities (SDG 11), climate action (SDG 13), and terrestrial ecosystems (SDG 15). Mauritius has the best performance with majority yellow (67%) and orange (42%) scores. Southern Africa surpasses all other regions on regional integration (SDG 17) thanks to high performers Mauritius and Mozambique.

This region is on track for SDG 13 on climate change, except for Botswana and Mauritius which are off track. Southern Africa is making moderate progress towards gender equality (SDG 5) and infrastructure (SDG 9). All other goal areas show stagnant trends on average.

Figure 17 Southern Africa SDG and Trends Dashboards



Source: Authors' analysis

Part 3 Methodology of the Africa SDG Index and Dashboards

The 2018 Africa SDG Index and Dashboards uses the most recent available data that have been aligned as closely as possible with official SDG indicators. Where substantive gaps remained, we have filled them with SDG-related data from reputable sources. To ensure pertinence to Africa, several methodological changes have been made to this report, relative to the global SDG Index and Dashboards:

- Additional indicators fill gaps and capture issues particular to the African context.
- Revised indicator thresholds ensure more granularity and differentiation, thereby allowing better benchmarking between African countries.
- For Africa-specific indicators, an average of the top 3 African performers creates the upper bound for normalization.

Table 7 provides a synthesis of the major changes between the global SDG Index Report and the Africa Index Report. *As a result of these changes, it is not possible to directly compare the results of the Africa SDG Index and Dashboards with results in the global SDG Index and Dashboards report.*

Table 7 Summary of changes

SDG	Indicator	Change
1	Proportion of population living below the national poverty line	New addition
1	Population covered by Social Protection (%)*	New addition
2	Fertilizer consumption (kg per hectare of arable land)	New addition
2	Sustainable Nitrogen Management Index	Excluded
3	People living with HIV receiving antiretroviral therapy (%)	New addition
3	Proportion of children under 5 with fever who are treated with appropriate anti-malarial drugs (%)	New addition
3	Malaria mortality rate	New addition
3	Coverage of Preventive Chemotherapy for Neglected Tropical Diseases (%)	New addition
5	Proportion of women aged 20-24 years who were married or in a union before age 18	New addition
5	Proportion of girls and women aged 15-49 years who have undergone female genital mutilation/ cutting, by age	New addition
5	Women in ministerial positions (%)*	New addition
6	Population using at least basic drinking water services (%)*	Updated phrasing
6	Population using at least basic sanitation services (%)*	Updated phrasing
7	Access to clean fuels & technology for cooking (% population)	Updated phrasing
7	Renewable energy share in the total final energy consumption	New addition
7	Consumer affordability of electricity	New addition

SDG	Indicator	Change
7	CO_2 emissions from fuel combustion/electricity output ($MtCO_2$/TWh)	Excluded
8	5-year average GDP growth per capita (%)	New addition
8	Employment-to-population ratio	New addition
8	Starting a Business score	New addition
8	Adjusted Growth (%)	Excluded
8	Unemployment rate (% total labor force)	Excluded
9	Infrastructure score (0-100)	New addition
9	QS University Ranking, average score of top 3 universities (0-100)	Excluded
9	Nitrogen production footprint (kg/capita)	Excluded
9	Quality of overall infrastructure (1= extremely underdeveloped; 7= extensive and efficient by international standards)	Excluded
11	Proportion of urban population living in slums	New addition
12	Natural resource value realization score	New addition
12	Net imported emissions of reactive nitrogen (kg/capita)	Excluded
12	Nitrogen production footprint (kg/capita)	Excluded
14	Percentage of inadequately managed plastic waste	New addition
14	Mean area that is protected in freshwater sites important to biodiversity (%)	Excluded
15	Percentage change in forest area (2010-2015)	New data source
16	Conflict-related deaths per 100,000	New addition
16	Property Rights (0-100)	New data source
16	Access to justice (0-100)	New addition
16	Public Sector Accountability & Transparency (0-100)	New data source
16	Prison population (per 100,000 people)	Excluded
16	Transfers of major conventional weapons (exports) (constant 1990 US$ million per 100,000 people)	Excluded
17	Level of customs duties on imports	New addition
17	Visa requirement score	New addition
17	Governmental Statistical Capacity	New addition
17	For high-income and all OECD DAC countries: International concessional public finance, including official development assistance (% GNI)	Excluded
17	Tax Haven Score (best 0-5 worst)	Excluded

Note: asterisk denotes indicator that was changed following the public consultation. For more information, see page 36.

1. Data Selection

A. Data criteria

For each SDG, we identified technically-sound quantitative indicators that met five criteria to determine inclusion in the Africa SDG Index and Dashboards:

1. **Relevance and applicability to a broad range of African countries:** Indicators were relevant for monitoring achievement of the SDGs and applicable to the entire continent. They had to allow for direct comparison of performance across countries and for the definition of quantitative performance thresholds that signify SDG achievement. To ensure pertinence for Africa, indicators in the global index that were not a useful metric for African countries were omitted. Likewise, a number of additional indicators were included that touch on specifically African issues, such as malaria.
2. **Statistical adequacy:** Data were collected and processed in a statistically reliable and robust way.
3. **Timeliness:** Data series had to be published on a reasonably prompt schedule and be available for most recent years.
4. **Data quality:** Data had to be harmonized according to international standards, whether derived from official national or international sources (e.g. national statistical offices or international organizations) or other reputable sources, such as peer-reviewed publications or academia.
5. **Coverage:** Data had to be available for at least 80% of the 48 African countries with a national population greater than 1 million. We excluded small countries (5) in the indicators selection process because data tend to be scarce for these countries, which in turn makes it more difficult to include new indicators given our precise data coverage requirement for adding additional indicators. South Sudan was also excluded from the calculation since fewer data are available for this young country.

B. Indicator Selection

The SDG Index was built on a set of indicators for each of the 17 SDGs using the most recent published data. We considered each of the 232 SDG indicators (IAEG-SDGs, 2016) proposed by the Inter-Agency and Expert Group on SDG Indicators and endorsed by the UN Statistical Commission, and included those that met the five criteria above. Some official SDG indicators met the five criteria but could not be included as they did not permit a ranking of countries or the definition of a quantitative threshold signifying achievement of the goals applicable to all countries. For example, different countries specialize in different sectors of the economy, so there is no "right" threshold of manufacturing as a share of GDP for which all countries should aim. While individual countries may find the share of manufacturing value added highly useful for developing long-term strategies for industrialization, it is not possible to define a common threshold for the SDGs. Other official SDG indicators are similarly useful at the country level but cannot serve as a yardstick for comparing countries' performance internationally.

Where official SDG indicators did not meet the criteria for data selection or where indicator gaps remained, we considered official and other metrics published in peer-reviewed literature, as well as major databases and reports

on development and environmental indicators. Owing to limited data availability and a lack of metrics for key SDG priorities, particularly education and inequality, this report is still an incomplete picture. As data availability improves and new estimation techniques become available, subsequent editions of the Africa SDG Index and Dashboard may include additional variables.

For this first edition, we were able to include 97 indicators from a broad range of data sources, 28 of which are Africa-specific, including indicators from the A2063 ten-year implementation plan. The revised set of indicators includes new indicators and revisions to fill gaps and to better align the SDG Index and Dashboards with the monitoring needs of African states. The Africa SDG Index comprises 51 of the 54 African member states of the UN.

C. Missing Data

The purpose of the Africa SDG Index and Dashboards is to guide countries' discussions of their SDG priorities today based on available and robust data. For this reason, and since many SDG priorities lack widely-accepted statistical models for imputing country-level data, we generally did not impute or model any missing data. We made exceptions for the following variables that would otherwise not have been included because of excess missing data:

- Research and development (R&D) expenditure (% of GDP): We assumed zero R&D expenditure for low-income countries that did not report any data for this variable.
- Proportion of girls and women aged 15-49 years who have undergone female genital mutilation/cutting (FGM/C): Survey data is available for the 26 African countries where FGM/C is most concentrated. For countries where data are not available, we assumed zero only for those countries where our desk research clearly showed that this is not a cultural practice. We left the value missing for countries without data and where FGM/C may be practiced.
- Value realization score: This component of the Resource Governance Index (RGI) only applies to those African countries with oil and gas and/or mining sectors. In cases where both sectors were assessed by the RGI, the average score across sectors was calculated.
- Conflict-related deaths per 100,000: We assumed zero conflict deaths for countries without data for this variable and where desk research indicated no conflicts are ongoing.

Since the Africa SDG Index compares countries, it is important to avoid excessive bias through missing data. The index therefore only includes countries that have data for at least 80% of the indicators used. In this report, only three African UN member states could not be included in the index ranking due to insufficient data availability: Libya, the Seychelles, and South Sudan. Investing in these countries' capacity to generate high-quality and regular data is a priority for establishing better SDG monitoring in order to inform policy priorities and resource allocation. Though they are not ranked in the Index, more detailed information about these three countries is available in their respective country profiles and dashboards.

2. Method for Constructing the SDG Index

The procedure for calculating the SDG Index comprised three steps: (1) censor extreme values from the distribution of each indicator; (2) rescale the data to ensure comparability across indicators; (3) aggregate the indicators within and across SDGs.

Addressing Extreme Values and Rescaling

To make the data comparable across indicators, each variable was rescaled from 0 to 100 with 0 denoting worst performance and 100 describing the optimum. Rescaling takes into account limits and extreme values (outliers) at both tails of the distribution. The latter may become unintended thresholds and introduce spurious variability in the data. Consequently, the choice of upper and lower bounds can affect the relative ranking of countries in the index. This applies in particular to the lower bounds that affect the value and the units of the variable, which may in turn affect rankings, while the upper bound only affects the units (Booysen, 2002; OECD and JRC, 2016).

Where global indicators were retained for the Africa SDG Index, the same upper bounds from the global SDG Index were retained for those indicators (In the case of global indicators retained, the upper bound was set by taking the average value of the top 5 global performers.). For newly-added Africa-specific indicators, we defined new upper and lower bounds.

The upper bound for each indicator was determined using a four-step decision tree:

1. **Use absolute quantitative objectives in the goals and targets:** E.g. zero poverty, universal school completion, universal access to water and sanitation, full gender equality. For example, the optimal bound for women parliamentarians is 50%, representing gender parity. Some SDG targets propose relative changes (such as Target 3.4: […] reduce by one third premature mortality from non-communicable diseases [..]) that cannot be translated into a global snapshot today. Such targets are addressed through Step 4 below.
2. **Where no explicit SDG target is available, apply the principle of "leave no one behind" to set the upper bound to universal access (corresponding to an optimal value of 100) or zero deprivation for the following types of indicators:**
   a. Measures of extreme poverty (e.g. wasting), consistent with the SDG ambition to end extreme poverty in all its forms ("leave no one behind")
   b. Public service coverage (e.g. access to contraception)
   c. Access to basic infrastructure (e.g. mobile phone coverage, wastewater treatment)
3. **Where science-based targets exist that must be achieved by 2030 or later, use these to set 100% upper bound:** E.g. zero greenhouse gas emissions from electricity as required by no later than 2070 to stay within 2°C, and 100% sustainable management of fisheries.

4. **For all other indicators, use the average of the top performers.** The average of the top 5 performers is used for the upper bound for indicators retained from the global Index. For newly-added Africa Index Indicators, we used the average of the top 3 African performers because of the smaller sample size of countries.

These principles interpret the SDGs as "stretch targets" and focus attention on the indicators where a country is lagging behind. Each indicator distribution was censored, so that all values exceeding the upper bound scored 100, and values below the lower bound scored 0.

In some cases, the upper bound exceeded the thresholds to be met by 2030 in order to achieve the SDGs. For example, the SDGs call for reducing child mortality to no more than 25 per 1000 live births, but some African countries have already exceeded this threshold, namely Mauritius, Tunisia, and Cabo Verde. By defining the upper bound as the "best" outcome (e.g. 0 mortality per 1000)—rather than the SDG achievement threshold—the SDG Index rewards improvements across the full distribution. This is particularly important for countries that have already achieved some SDG thresholds but still lag behind other countries on this metric. Some countries have already exceeded the upper bound of some indicators today and more will do so in the coming years as the world progresses towards the SDGs.

To remove the effect of extreme values, which can skew the results of a composite index, the OECD (OECD and JRC, 2016) recommends censoring the data at the bottom 2.5th percentile as the minimum value for the normalization. We applied this approach to the lower bound and censored data at this level.

After establishing the upper and lower bounds, variables were transformed linearly to a scale between 0 and 100 using the following rescaling formula for the range [0; 100]:

$$x' = \frac{\mathrm{x} - min(x)}{max(x) - min(x)}$$

where x is raw data value; *max/min* denote the bounds for best and worst performance, respectively; and x' is the normalized value after rescaling.

The rescaling equation ensures that all rescaled variables were expressed as ascending variables (i.e. higher values denoted better performance). In this way, the rescaled data became easier to interpret and compare across all indicators: a country that scores 50 on a variable is half-way towards achieving the optimum value; a country with a score of 75 has covered three quarters of the distance from worst to best.

To minimize the bias of missing data on the aggregate index score, when countries do not have any indicator values under a goal, the regional goal average is used for the purpose of calculating their index score. For example, many landlocked countries have missing data for SDG 14, but this does not mean landlocked countries have no effect on marine life. To have at least an approximate measure, the 16 landlocked countries were assigned the average African performance for the calculation of the composite score.

3. Method for Constructing the Dashboards

The Africa SDG Dashboards use the same data as the Africa SDG Index after censoring and rescaling. We introduced additional quantitative limits for each indicator to group countries in a "traffic light" table. Aggregating across all indicators for a goal yielded an overall score for each SDG and each country.

To assess a country's progress on a particular indicator, we considered four bands. The green band is bounded by the maximum that can be achieved for each variable (i.e. the upper bound) and the threshold for achieving the SDG. Three color bands ranging from yellow to orange to red denote an increasing distance from SDG achievement. The upper and lower bounds are the same as for the Index described above.

A. Thresholds

For global indicators retained for the Africa SDG Dashboards, the green threshold always remains the same as it equates to goal achievement. In general, the red thresholds were made less strict by 20% from those used in the global SDG Dashboards. In some cases, this adjustment was more than 20% depending upon the nature of the indicator and how it relates to the African context. For instance, for the drinking water metric under SDG 6, the red threshold was lowered by about 40% from the global threshold. Since the majority of African countries have less than 60% access, the original global threshold of 80% was all red. The revised red threshold of 50% allows for more differentiation between African countries, which is one of the objectives of this report. Table 8 summarizes all the threshold changes between the Global and Africa reports.

Additional thresholds, both red and green, were established both by a combination of analysis of the data distribution and consultation with experts–for instance, the fertilizer consumption green threshold is Africa-specific as the "right" amount of fertilizer use is very context-specific and not applicable globally. Similarly, the red threshold for many of the governance indicators was based on expert insight into country contexts, combined with an analysis of the actual data distribution and an identification of the worst performers.

These thresholds and other assessments were subject to an open online public consultation and direct consultations with members of the SDGC/A and SDSN network. All thresholds were specified in absolute terms and apply to all countries. Thanks to this approach, the Africa SDG Dashboards exposes more granularity of performance levels between countries and serves as a useful benchmarking tool for African countries.

Table 8 Threshold changes

Goal	Indicator	Green threshold	Global red threshold	Africa red threshold
1	Poverty headcount ratio at $1.90/day (% population)	2.00	12.70	20.00
1	Projected poverty headcount ratio at $1.90/day in 2030 (% population)	1.00	3.00	3.60
2	Prevalence of undernourishment (% population)	7.50	15.00	18.00
2	Prevalence of stunting (low height-for-age) in children under 5 years of age (%)	7.50	15.00	22.00
2	Prevalence of wasting in children under 5 years of age (%)	5.00	10.00	12.00
2	Prevalence of obesity, BMI ≥ 30 (% adult population)	10.00	25.00	30.00
2	Cereal yield (t/ha)	2.50	1.50	1.20
3	Maternal mortality rate (per 100,000 live births)	70.00	140.00	168.00
3	Births attended by skilled health personnel (%)	98.00	90.00	72.00
3	Neonatal mortality rate (per 1,000 live births)	12.00	18.00	21.60
3	Under-5 mortality rate (per 1,000 live births)	25.00	50.00	60.00
3	HIV prevalence (per 1,000)	0.20	1.00	1.20
3	Incidence of tuberculosis (per 100,000 people)	10.00	75.00	100.00
3	Age-standardised death rate due to cardiovascular disease, cancer, diabetes, and chronic respiratory disease in populations age 30–70 years (per 100,000 population)	15.00	25.00	30.00
3	Traffic deaths rate (per 100,000 people)	8.40	16.80	25.00
3	Adolescent fertility rate (births per 1,000 women ages 15-19)	25.00	50.00	60.00
3	Universal Health Coverage Tracer Index (0-100)	80.00	60.00	48.00
3	Age-standardised death rate attributable to household air pollution and ambient air pollution (per 100,000 population)	18.07	150.92	181.11
3	Percentage of surviving infants who received 2 WHO-recommended vaccines (%)	90.00	80.00	64.00
3	Healthy Life Expectancy at birth (years)	65.00	60.00	48.00
3	Subjective Wellbeing (average ladder score, 0-10)	6.00	5.00	4.00
4	Net primary enrolment rate (%)	98.00	80.00	64.00
4	Mean years of schooling	12.00	10.00	6.00
4	Literacy rate of 15-24 year olds, both sexes (%)	95.00	85.00	68.00
5	Seats held by women in national parliaments (%)	40.00	20.00	16.00
5	Estimated demand for contraception that is unmet (% women married or in union, ages 15-49)	20.00	41.34	60.00
5	Ratio of female to male mean years of schooling of population age 25 and above	98.00	75.00	60.00
5	Ratio of female to male labour force participation rate	70.00	50.00	40.00
6	Population using at least basic drinking water services (%)	98.00	80.00	50.00
6	Population using at least basic sanitation services (%)	95.00	75.00	40.00
6	Freshwater withdrawal as % total renewable water resources	25.00	75.00	90.00
6	Imported groundwater depletion (m^3/year/capita)	5.00	20.00	24.00
7	Access to electricity (% population)	98.00	80.00	64.00
7	Access to clean fuels & technology for cooking (% population)	85.00	50.00	40.00
8	Slavery score (0-100)	80.00	50.00	40.00
8	Adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider (%)	80.00	50.00	40.00
9	Logistics performance index: Quality of trade and transport-related infrastructure (1=low to 5=high)	3.00	2.00	1.60
9	Research and development expenditure (% GDP)	1.50	1.00	0.50
9	Number of scientific and technical journal articles (per 1,000)	0.50	0.10	0.08

Goal	Indicator	Green threshold	Global red threshold	Africa red threshold
9	Mobile broadband subscriptions (per 100 inhabitants)	75.00	40.00	32.00
9	Proportion of the population using the internet (%)	80.00	50.00	25.00
10	Gini Coefficient adjusted for top income (1-100)	30.00	40.00	62.40
11	Improved water source, piped (% urban population with access)	98.00	75.00	60.00
11	Satisfaction with public transport (%)	72.20	43.43	34.75
11	Annual mean concentration of particulate matter of less than 2.5 microns of diameter ($PM_{2.5}$) in urban areas ($\mu g/m^3$)	10.00	25.00	30.00
12	Municipal solid waste generated (kg/year/capita)	1.00	2.00	2.40
12	E-waste generated (kg/capita)	5.00	10.00	12.00
12	Production-based SO_2 emissions (kg/capita)	10.00	30.00	36.00
12	Anthropogenic wastewater that receives treatment (%)	50.00	15.00	12.00
12	Net imported SO_2 emissions (kg/capita)	1.00	15.00	18.00
13	Climate Change Vulnerability Monitor, range of 0 (best) to 1 (worst)	0.10	0.20	0.24
13	Energy-related CO_2 emissions per capita (tCO_2/capita)	2.00	4.00	4.80
13	Imported CO_2 emissions, technology-adjusted (tCO_2/capita)	0.50	1.00	1.20
13	CO_2 emissions embodied in fossil fuel exports (kg/capita)	100.00	8000.00	9600.00
14	Ocean Health Index Goal - Clean Waters (0-100)	70.00	60.00	48.00
14	Ocean Health Index Goal - Biodiversity (0-100)	90.00	80.00	64.00
14	Ocean Health Index Goal - Fisheries (0-100)	70.00	60.00	45.00
14	Mean area that is protected in marine sites important to biodiversity (%)	50.00	10.00	8.00
14	Percentage of fish stocks overexploited or collapsed by EEZ (%)	25.00	50.00	60.00
14	Fish caught by trawling (%)	6.32	60.00	73.00
15	Mean area that is protected in terrestrial sites important to biodiversity (%)	50.00	10.00	8.00
15	Red List Index of species survival (0-1)	0.90	0.80	0.64
15	Imported biodiversity threats (threats/capita)	5.00	15.50	18.60
16	Homicides (per 100,000 people)	1.50	3.00	3.60
16	Proportion of the population who feel safe walking alone at night in the city or area where they live (%)	80.00	50.00	40.00
16	Children 5–14 years old involved in child labour (%)	2.00	10.00	20.00
16	Corruption Perception Index (0-100)	60.00	40.00	32.00
16	Birth registrations with civil authority, children under 5 years of age (%)	98.00	75.00	60.00
17	Government health and education spending (% GDP)	16.00	8.00	6.40

B. Weighting and Aggregation

The purpose of the Africa SDG Dashboards is to highlight those SDGs that require particular attention in each country and therefore should be prioritized for action. For the design of the SDG Dashboards, the issues discussed above for weighting and aggregation with the SDG Index also apply.

Averaging across all indicators for an SDG might hide areas of policy concern if a country performs well on most indicators but faces serious shortfalls on one or two metrics within the same SDG. As a result, the Africa SDG Dashboards aggregate indicator ratings for each SDG by estimating the average of the two variables on which a country performed worst. To this end, the indicator values were first rescaled from 0 to 3, where 0 corresponds to the lower bound, 1 to the value of the threshold between red and orange ("red threshold"), 2 to the value of the threshold between yellow and green ("green threshold"), and 3 to the upper bound. For all indicators, the "yellow/orange" threshold was set as the value halfway between the red and green thresholds (1.5). Each interval between 0 and 3 is continuous.

We then took the average of the two rescaled variables on which the country performed worst to identify the rating for the goal. We applied the added rule that in order to score green for the goal both indicators had to be green–otherwise the goal would be rated yellow. Similarly, a red score was applied only if both worst-performing indicators score red. If the country has only one indicator under a particular goal, for example SDG 10, then the color rating for that indicator determines the overall rating for the goal. If the country has less than 50% of the indicators available under a goal the dashboard color for that goal is grey.

4. Trends

Using historic data, we estimate how fast a country has been progressing towards an SDG and determine whether – if continued into the future – this pace will be sufficient to achieve the SDG by 2030. The time series methodology provides an indication of the pace at which countries are closing the gap to goal achievement. Achievement at the indicator level is defined by the green threshold. The difference in percentage points between the green threshold and the current country score is interpreted as the gap for meeting the goal on each indicator. Therefore, to provide an indication on trends at the indicator level, we calculated linear annual growth rates needed to achieve the targets by 2030 (i.e. 2010-2030) which we compared to the annual growth rate over the most recent period (usually 2010-2015). This linear extrapolation method was retained because it is technically sound, as well as intuitive to understand. Figure 8 below provides a graphic representation of the trends methodology.

At the goal level, we assign a score to each indicator arrow from 0 ("decrease") to 4 ("on track"). We then average across the trend indicators under each goal. An average score between 0 and 1 will yield a "decrease" arrow, between 1 and 2 a "flat" arrow, between 2 and 3 a "moderately increasing" arrow, and between 3 and 4 an "on track" arrow. If all indicators were maintaining achievement, a maintaining achievement arrow was assigned to the goal. Goal arrows were not generated if a country had missing data for more than 25% of indicators used under a goal. The arrows generated for the indicators are explained in Figure 9 below.

Figure 18 Trends methodology

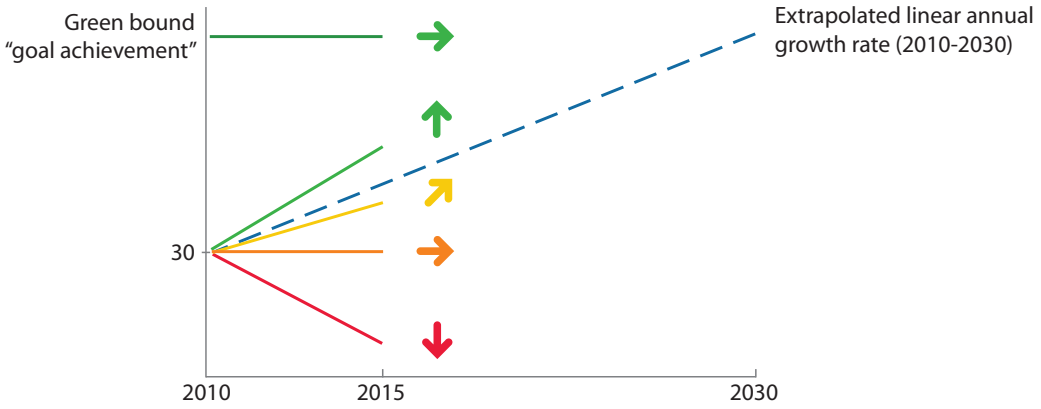


Figure 19 Arrows key

Decreasing	Stagnating	Moderately Increasing	On track	Maintaining SDG achievement
Decreasing score, i.e. country is moving in the wrong direction	Score remains stagnant or is increasing at a rate below 50% of the growth rate needed to achieve the SDG by 2030	Score is increasing at a rate above 50% of the required growth rate but below the rate needed to achieve the SDG by 2030	Score is increasing at the rate needed to achieve the SDG by 2030	Score is level and trend remains at or above SDG achievement

In order to be indicative of countries' distance to meeting SDG goals, this methodology focuses on medium and poor indicator trends and does not account for improvements or worsening of performance within the green thresholds. Therefore, a country that scores extremely well on all indicators under a goal – above the green threshold – automatically obtains a maintaining achievement arrow. As with the dashboard, we believe that the objective of the report is to shed light on areas that call for further action.

Table 9 provides the list of indicators used to compute trends' indications. These indicators were selected based on the availability of time series data. All indicators for which we could generate time series were retained. For goals where several indicators were used to generate goal scores, the same timespan was used across indicators for consistency. When the value for a specific year was not available, we used the closest available value with a maximum one-year difference.

Several other calculation methods were considered and not retained. For instance, we tested the sensitivity of the results when using technical optimums as "goal achievement" and calculated distance to technical optimums. This approach yielded harsher results and is not consistent with our conceptual assumption that the green thresholds correspond to goal achievement. We also tried using compound annual growth rates (CAGR) instead of linear growth rates. The two approaches yield similar results and we could not identify a strong argument for using the CAGR method.

Public Consultation

From March 13 to 30, 2018, the SDGC/A and the SDSN held an open public consultation on the draft framework for this report. The purpose of the online consultation was to receive expert input on the proposed indicators for the Africa SDG Index and Dashboards in order to improve the draft proposals, validate thresholds, fill gaps, and consider alternative data sources. Over the course of the consultation period, nearly 70 sets of detailed comments were received from over 30 countries. We are very grateful for the comments received from experts from government, academia, NGOs, representatives of national statistical offices, and international organizations.

Thanks to these responses, two new indicators were added, the sources for two other indicators were changed to reflect the latest data available, and several thresholds were adjusted. These changes are signaled with an asterisk in Table 7. The full sets of comments are also available on the report website at www.AfricaSDGIndex.org

Table 9 Time series indicators

SDG	Indicator	Series
1	Poverty headcount ratio at $1.90/day (% population)	2008 – 2018
2	Prevalence of obesity, BMI ≥ 30 (% adult population)	2008 – 2016
2	Cereal yield (t/ha)	2008 – 2016
2	Fertilizer consumption (kg per hectare of arable land)	2010 – 2015
3	Maternal mortality rate (per 100,000 live births)	2008 – 2015
3	Neonatal mortality rate (per 1,000 live births)	2008 – 2016
3	Under-5 mortality rate (per 1,000 live births)	2008 – 2016
3	HIV prevalence (per 1,000)	2010, 2016, 2017
3	Incidence of tuberculosis (per 100,000 people)	2008 – 2016
3	Malaria mortality rate	2010 – 2016
3	Age-standardised death rate due to cardiovascular disease, cancer, diabetes, and chronic respiratory disease in populations age 30–70 years (per 100,000 population)	2010, 2015
3	Traffic deaths rate (per 100,000 people)	2010, 2015
3	Adolescent fertility rate (births per 1,000 women ages 15-19)	2008 – 2015
3	Universal Health Coverage Tracer Index (0-100)	2010, 2016
3	Percentage of surviving infants who received 2 WHO-recommended vaccines (%)	2008 – 2016
3	Subjective Wellbeing (average ladder score, 0-10)	2008 – 2017
4	Net primary enrolment rate (%)	2008 – 2015
4	Mean years of schooling	2008 – 2015
5	Seats held by women in national parliaments (%)	2008 – 2017
5	Estimated demand for contraception that is unmet (% women married or in union, ages 15-49)	2008 – 2018
5	Ratio of female to male labour force participation rate	2008 – 2017
6	Population using at least basic drinking water services (%)	2008 – 2015
6	Population using at least basic sanitation services (%)	2008 – 2015
7	Access to electricity (% population)	2008 – 2014
7	Access to clean fuels & technology for cooking (% population)	2008 – 2014
7	Renewable energy share in the total final energy consumption	1990-2014
8	Employment-to-population ratio	2010 – 2017
8	Adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider (%)	2011, 2014, 2017
8	Starting a Business score	2010-2018
9	Mobile broadband subscriptions (per 100 inhabitants)	2008 – 2016
9	Proportion of the population using the internet (%)	2008 – 2016
11	Improved water source, piped (% urban population with access)	2008 – 2015
11	Satisfaction with public transport (%)	2008 – 2017
13	Energy-related CO_2 emissions per capita (tCO_2/capita)	2008 – 2014
14	Ocean Health Index Goal– Clean Waters (0-100)	2012 – 2017
14	Ocean Health Index Goal – Biodiversity (0-100)	2012 – 2017
14	Ocean Health Index Goal – Fisheries (0-100)	2012 – 2017
15	Mean area that is protected in terrestrial sites important to biodiversity (%)	2008 – 2017
15	Red List Index of species survival (0-1)	2008 – 2017
16	Conflict-related deaths per 100,000	2000 – 2016
16	Proportion of the population who feel safe walking alone at night in the city or area where they live (%)	2008 – 2017
16	Property Rights (0-100)	2000-2016
16	Access to justice (0-100)	2000-2016
16	Corruption Perception Index (0-100)	2012 – 2017
16	Public Sector Accountability & Transparency (0-100)	2000-2016
17	Government health and education spending (% GDP)	2008 – 2014
17	Governmental Statistical Capacity	2010 – 2017

Please see Parts 4 and 5 of the *Africa SDG Index and Dashboards Report 2018* for the country and indicator profiles at: www.AfricaSDGIndex.org

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