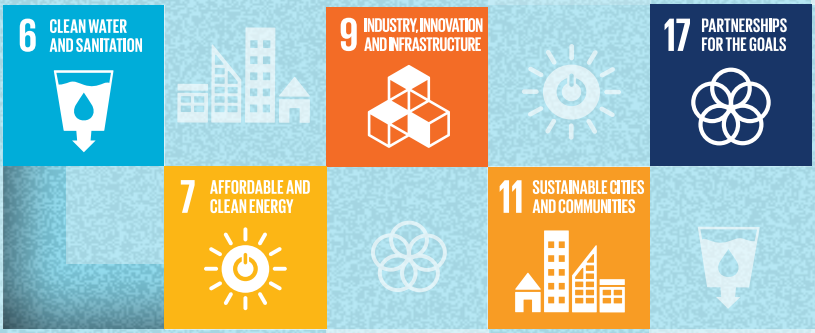
2023 Africa Sustainable Development Report

Accelerating the recovery from the coronavirus disease (COVID-19) and the full implementation of the 2030 Agenda for Sustainable Development and African Union Agenda 2063 at all levels



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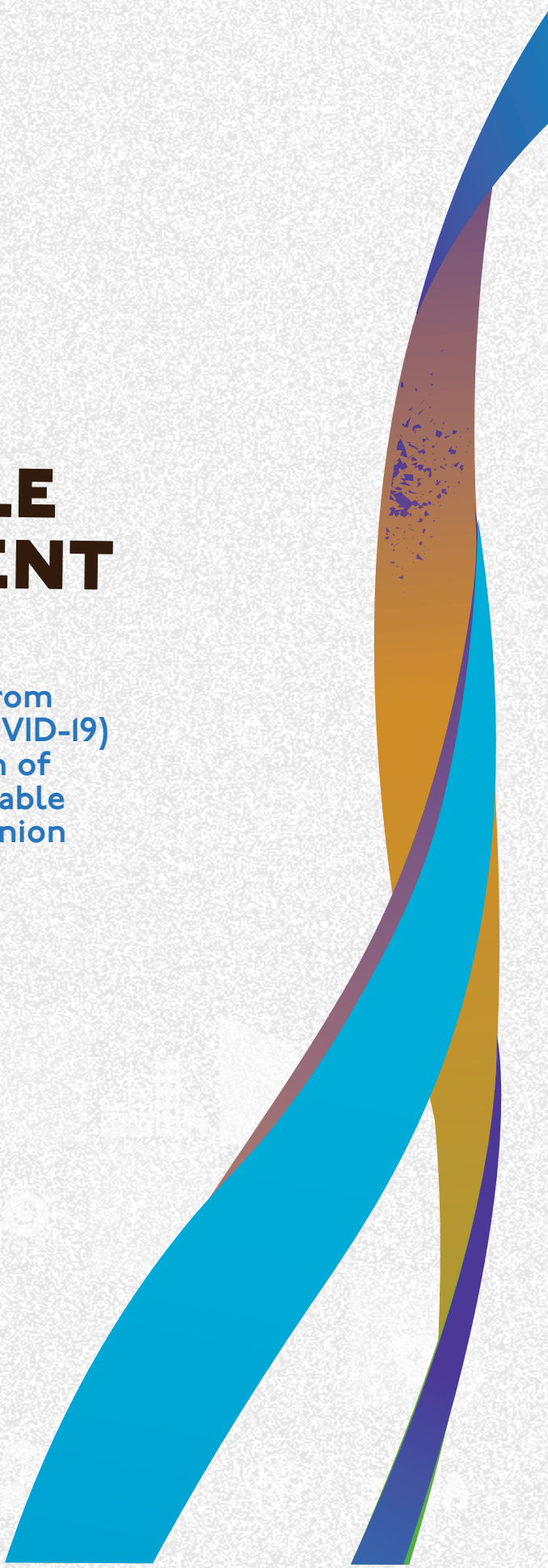

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Contents

Abbreviations

AfDB	African Development Bank
AUC	African Union Commission
COVID-19	coronavirus disease
CFAF	CFA franc
ECA	Economic Commission for Africa
GDP	gross domestic product
ICT	information and communications technology
IEA	International Energy Agency
ODA	official development assistance
OECD	Organisation for Economic Co-operation and Development
PIDA	Programme for Infrastructure Development in Africa
SMEs	small and medium-sized enterprises
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
WASH	Water, Hygiene and Sanitation for All
WHO	World Health Organization

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The preparation of the report was coordinated by a core team led by the Chief of the Development Planning Section, Macroeconomics and Governance Division, ECA, Bartholomew Armah; Economic Affairs Officer, Development Planning Section, Macroeconomics and Governance Division, ECA, Atkeyelsh Persson; Acting Head, Economic Development, Integration and Trade, AUC, Patrick Ndzana Olomo; Chief, Climate Change and Green Growth Specialist, AfDB, Balgis Osman-Elasha; Strategic Advisor, UNDP Regional Bureau for Africa, El Hadji Fall; and Strategic Research Analyst, UNDP Regional Bureau for Africa, Michael Mbate.

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Executive summary and key policy recommendations

The year 2023 marks a critical juncture, namely the midway point for the implementation of the 2030 Agenda for Sustainable Development and the conclusion of the first 10-year implementation plan (2014–2023) of Agenda 2063.

The achievement of those two overarching agendas is being impeded by global crises and conflicts. In the light of the significant challenges faced by the continent, in the present report, the need to urgently adopt and implement Sustainable Development Goal stimulus programmes, incentivize African States to evaluate and make necessary revisions to their national strategies to achieve the Goals, renew their commitment to supporting the most vulnerable, and create economies and societies that benefit everyone, is underscored.

This year's report also sets out a series of practical and timely recommendations to accelerate country progress towards key Goals and related aspirations, goals and targets of Agenda 2063.

Sustainable Development Goal 6: Ensure availability and sustainable management of water and sanitation for all

Goal 6 encompasses not only access to drinking water, sanitation and hygiene but also emphasizes water resource quality and sustainability, which are vital for human survival and global well-being. It plays a pivotal role in advancing progress in other important areas, such as health (Goal 3), education (Goal 4) and poverty reduction (Goal 1).

Safely managed drinking water services are on the rise across the continent, although with significant differences between rural and urban areas

From 2015 to 2020, Africa witnessed an increase in the proportion of people accessing safely managed drinking water, yet with only 39 per cent of the population having safely managed services in 2020, regional disparities persisted, rural-urban gaps were notable and the continent's prospects for attainment of universal access and related targets of Agenda 2063 remained uncertain.

Three out of four Africans lack safely managed sanitation services

Globally, access to safely managed sanitation services increased from 47 per cent in 2015 to 54 per cent in 2020, but the African average of 27 per cent in 2020 highlighted significant regional disparities, with only 2 out of 48 countries on track to achieve universal basic sanitation by 2030 and limited progress in basic handwashing facilities at home in most African countries.

North Africa is at high risk of water stress

Heightened water stress in North Africa, which is exemplified by levels reaching 120.5 per cent in 2019, reveals impending scarcity challenges, while the majority of African countries, aside from those in South Africa, maintained safer water stress levels below the global average of 18.6 per cent.

International cooperation to promote programmes in the Water, Sanitation and Hygiene for All sector in African countries has stagnated, with the focus primarily on public development finance for capacity-building and lacking emphasis on integrated infrastructure development

ODA for water and sanitation programmes remained within the $2.5 billion to $3 billion range between 2013 and 2020, indicating limited progress in integrated water resource management and underscoring the need to tap into private sector financing for integrated catchment infrastructure to bolster climate resilience and establish partnerships for transboundary water resource management to further efforts to achieve Sustainable Development Goal targets.

Effective progress towards achieving Goal 6 in Africa, including water hygiene and sanitation services

This requires leveraging synergies with other Sustainable Development Goal targets, addressing data gaps in monitoring and enhancing capacity-building efforts, while emphasizing the need for comprehensive data and resource mobilization.

African countries should strengthen integrated water resource management capacity

Countries should focus on improving monitoring capabilities by collaborating with national and transboundary water resources entities, foster public-private partnerships in the WASH sector, adopt innovative technologies, and address water stress through sustainable management strategies to accelerate the achievement of Goal 6 and the objectives of Agenda 2063.

Sustainable Development Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all

Sustainable Goal 7 encompasses five targets and six indicators that revolve around ensuring widespread access to affordable, dependable and modern energy services. By achieving the Goal 7 targets, the international community will significantly increase the proportion of renewable energy in the global energy mix, double the rate of global energy efficiency improvement, foster international cooperation to facilitate access to clean energy research and technology, and expand relevant infrastructure and upgrade technology to provide modern and sustainable energy services.

Electrification rates are on the increase across the continent, although there are stark differences between rates in rural and urban areas

Electrification rates could be increased by focusing on modernizing and expanding energy infrastructure, promoting rural electrification programmes and enacting energy sector reforms to encourage competition and efficiency.

Universal access to clean cooking fuels and technologies remains a key policy priority

The use of clean cooking fuels and technologies remains limited, as some countries remain heavily reliant on coal and other fossil fuels for their energy needs. African countries should scale up access to clean cooking options through financial incentives, awareness-raising programmes, research and development and support for local manufacturing, while prioritizing clean cooking in national plans and promoting international cooperation.

The shift from non-renewable to renewable energy is slow, and accelerating a just energy transition remains paramount

To increase the share of renewable energy in total final energy consumption, it remains vital to adopt a systemic approach to a just energy transition by setting ambitious renewable energy targets, improving access to resources and shifting subsidies from fossil fuels to renewables.

Increased funding for infrastructure and technology is required to boost the production of sustainable energy

Greater attention should be given to the development of infrastructure and technology to sustain the continent's sustainable power generation efforts. In addition, countries should improve financing mechanisms through the provision of support for public-private partnerships, dedicated funds, carbon markets, microfinance and green bonds to encourage clean energy investments and cross-border cooperation.

Sustainable Development Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Goal 9 encompasses three important aspects of sustainable development – infrastructure, industrialization and innovation – and is strongly linked with many of the Sustainable Development Goals. Hence, in the context of Africa, Goal 9 is highly relevant in efforts to promote development while accelerating structural transformation across the continent.

Africa is performing well in mobile network coverage

African countries have been investing in infrastructure and innovative technologies that support the establishment of mobile telephone networks. In general, Africa is on track in terms of its mobile network coverage. Based on current trends, Africa will meet the relevant Goal 9 target by 2030. However, those few lagging countries need to accelerate their efforts to improve coverage in the coming years.

Progress in infrastructure development is uneven across Africa

Progress in infrastructure development varies across the continent. Notwithstanding the fact that rural inhabitants in most African countries account for up to 85 per cent of the population, rural areas are not equipped with access to an all-season road within an approximate walking distance of two kilometres. The acceleration of rural road construction and expansion should be prioritized to achieve rural connectivity and regional integration, which in turn will facilitate the full implementation of the Agreement Establishing the African Continental Free Trade Area, by 2030.

Disparities among countries in receiving official development assistance for infrastructure

Despite the repercussions of the pandemic, total ODA for infrastructure development has increased in recent years for a number of African countries, although it has fallen sharply for others. The disparities among countries and subregions in receiving ODA and other official flows for infrastructure in 2019 and 2020 can be explained by the fact that priorities vary from country to country. Some countries prioritized the health sector in response to the pandemic. Every effort should be made to ensure that African countries are able to mobilize the resources they need for infrastructure development, including within the context of the Programme for Infrastructure Development for Africa.

Africa continues to underperform in comparison with other global regions in terms of the share of gross domestic product generated by manufacturing

African countries underperformed

for a number of reasons, including inadequate productive capacity, supply chain disruptions resulting from the combined effects of the COVD-19 pandemic and the conflict between the Russian Federation and Ukraine, a decline in global demand and limited policy space to deploy fiscal stimulus measures to support the industrial sector, in particular small industrial enterprises, which continue to face significant challenges in accessing credit. African countries need to provide fiscal stimulus and access to financial services in support of SMEs to promote inclusive and sustainable industrialization and, by 2030, to significantly increase industry's share of GDP.

Share of employment in the manufacturing sector has slightly increased in Africa

The increase could be attributable to the boom in the construction sector, which, in turn, increased the demand for inputs of manufacturing materials, such as cement and steel. Input production provides synergistic effects in augmenting employment. Expanding manufacturing, increasing value addition and investing in the productive capacities of young people, who represent about 60 per cent of the population, could help to increase employment opportunities for young people in Africa while increasing the share of employment in manufacturing in total employment.

Medium- and high-tech industry is growing in Africa

Although Africa exhibited a 2.41 per cent increase in the medium and high technology industry, industry in Africa is still mainly resource-based and makes use of low-technology activities. As a result, the share of the continent's medium- and high-technology industry value added as a proportion of total manufacturing value added is lower than in the rest of the world. One of the factors for low share relates to the low level of spending on research and development in African countries. African countries need to provide adequate funding for research and development in order to advance the continent's structural transition from resource-based and low-technology activities to medium- and high-technology activities with a view to increasing productivity and creating better paid jobs.

Sustainable Development Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

Goal 11 supports the establishment of sustainable cities and communities by addressing such factors as accessibility, resilience and sustainability. The assessment of progress towards the achievement of the Goal encompasses an examination of diverse indicators pertaining to housing, transportation, public spaces, disaster risk reduction, the preservation of national cultural and

natural heritage, waste management and air quality.

The continent has experienced a modest decline in the proportion of the population living in urban slums, but limited progress has been made on improving access to public transport

The proportion of the urban population living in slums has slightly declined, but Central, East and West Africa still have high slum populations. Access to public transport remains low. The proportion of built-up urban areas dedicated to public spaces in Africa is less than that recommended by the United Nations. It is imperative for African countries to develop policies and institutions that support sustainable and inclusive urban development, with a focus on agglomeration economies and congestion reduction through transport infrastructure investment and incentives for establishing businesses in efficient locations.

Natural disasters have had a substantial impact on cities and human settlements, resulting in loss of life and economic losses

There is significant variation among countries and subregions in terms of their adoption and implementation of local disaster risk reduction strategies, with particularly slow progress in Central Africa. To reduce the losses resulting from natural disasters, it is paramount to implement economic transformation policies that incorporate a disaster risk reduction component and give priority attention to the challenges facing cities and to people's well-being, in line with the 2030 Agenda and Agenda 2063.

Efforts must be made to improve waste management in many African cities in order to meet the relevant Goal 11 targets, and air quality remains a concern in densely populated areas

Waste management in African cities is often extremely poor. Southern Africa has the highest proportion of municipal solid waste collected and managed. There is an immediate need for African countries to resolve current waste management issues and to prepare for the anticipated increase in waste production in the twenty-first century. Moreover, air quality, measured by fine particulate matter (PM2.5), is a concern in areas with high population concentrations, in particularly in Central, North and West Africa. Stricter limits for annual mean PM2.5 levels globally need to be adopted to reap public health benefits and the corresponding economic benefits.

Sustainable Development Goal 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

Goal 17, which has 19 targets and 25 indicators, covers seven distinct yet critical areas, namely finance,

technology, capacity-building, trade, policy and institutional coherence, multi-stakeholder partnerships and data, and monitoring and accountability. Goal 17 is closely linked to the 16 other Goals and is therefore vital in efforts to achieve sustainable development in Africa.

African countries must give priority attention to securing adequate, predictable, and affordable financing through greater domestic resource mobilization

Revenue generation trends in Africa fluctuate and show significant disparities among countries. African Governments need to strengthen domestic resource mobilization while addressing debt vulnerabilities. It is essential to boost intra-African trade by accelerating the implementation of the Agreement Establishing the African Continental Free Trade Area, including by reducing tariff and non-tariff barriers, negotiating simplified and effective rules of origin, improving trade infrastructure, fostering the development of regional value chains and coordinating standards.

The use of technology is improving but requires further investment

The COVID-19 pandemic caused a surge in global Internet use, but Africa, excluding North Africa, continues to lag behind other regions in that respect. The combination of low levels of research and development, poor Internet connectivity and inadequate power generation and transmission had a negative impact on the adoption of innovative technology on the continent. Financial and logistical resources are needed at all levels of administration to support the development and implementation of policies, plans, laws and regulations in all relevant sectors, such as health, finance and manufacturing.

Capacity-building is crucial in the implementation of both the 2030 Agenda and Agenda 2063

Capacity limitations in various areas continue to hinder many countries' efforts to foster development. Policy choices and implementation frameworks play a vital role in the implementation of the 2030 Agenda and Agenda 2063. North-South, South-South and triangular cooperation frameworks that promote the sharing of best practices, expertise and relevant technology, and strengthened partnerships among public, private and civil society stakeholders remain vital to the continent's progress.

Strengthening policy and institutional coherence in Africa

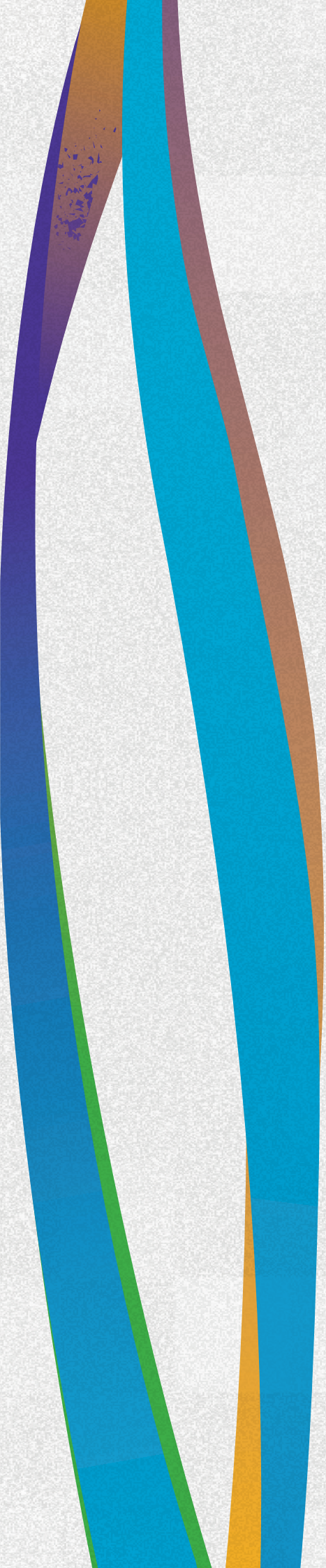
A number of organizations are now coordinating efforts to combat illicit financial flows and recover lost assets. Furthermore, ECA has developed 14 institutional tools to help African countries to reduce tax avoidance. Most African countries have not yet put those tools to use.

Building multistakeholder partnerships and enhancing data, monitoring and accountability

The number of countries reporting progress in their efforts to develop multi-stakeholder effectiveness monitoring frameworks increased from 14 in 2016 to 17 in 2018. Building partnerships that promote shared values, transform systems, empower local stakeholders and encourage the adoption of digital technology will be essential if African countries are to achieve transformative change and ensure that no one is left behind.

Lack of data and statistics hamper the monitoring of and reporting on Sustainable Development Goals and the related goals, aspirations and targets of Agenda 2063

Data gaps remain a major challenge for tracking the Sustainable Development Goals in Africa, where one third of indicators for almost half of all African countries lack sufficient data. African countries, therefore, need to strengthen their national statistical capacity to facilitate the generation of high-quality, timely and internationally comparable data and statistics, with a specific focus on the indicators of the Goals, to monitor and report progress adequately and to evaluate the effectiveness of programmes aimed at achieving the Goals and the related goals, aspirations and targets of Agenda 2063.



Chapter 1: Introduction

1.1 Report overview and context

The 2023 Africa Sustainable Development Report is the sixth in a series of reports, the first of which was published in 2017. These reports assess progress achieved and ongoing challenges faced by African States in achieving the Sustainable Development Goals, set out in the 2030 Agenda for Sustainable Development, and the corresponding aspirations, goals and targets of Agenda 2063: The Africa We Want, of the African Union. The 2023 report is a short technical report that reflects the theme of the 2023 meeting of the high-level political forum on sustainable development, namely "Accelerating the recovery from the coronavirus disease (COVID-19) and the full implementation of the 2030 Agenda for Sustainable Development at all levels", and highlights trends, critical bottlenecks, opportunities and steps that could be taken to foster sustainable development and ensure a more sustainable future for all. The report is focused, in particular, on the following Sustainable Development Goals (and related goals of Agenda 2063) that are the focus of the 2023 high-level political forum:

- Goal 6 (Clean water and sanitation)
- Goal 7 (Affordable and clean energy)
- Goal 9 (Industry, innovation, and infrastructure
- Goal 11 (Sustainable cities and communities)
- Goal 17 (Partnerships for the Goals)

The report includes an analysis of the critical trends and the African continent's progress towards the achievement of those five Goals and the related aspirations, goals and targets of Agenda 2063. It also highlights areas that require urgent policy attention.

1.2 Scope and methodology

This report is being published at a time when African countries are aggressively implementing policy initiatives to address the repercussions of the COVID-19 pandemic and the war in Ukraine. Noting African countries' renewed efforts to address the impact of those and other external shocks, the report adopts a data-driven approach in order to assess the status of the implementation of the 2030 Agenda and offers important policy recommendations that can help put countries back on track. While the policy implications are broad in nature, they provide a general sense of what countries can do, although a differentiated approach is required, in line with the specific contexts that have been analyzed. To facilitate the comparison of what xare often very different African countries, the report looks at data from the continent's five subregions, namely North Africa, West Africa, Central Africa, East Africa and Southern Africa. As analysis at the subregional level can be problematic because of differences in the countries assigned to each subregion by different organizations, the present report uses the subregional classification established by ECA.

This report is a joint publication of AUC, ECA, AfDB and the UNDP Regional Bureau for Africa. Several consultative forums, working groups and external review processes were initiated to establish the overall framework and parameters of the report.

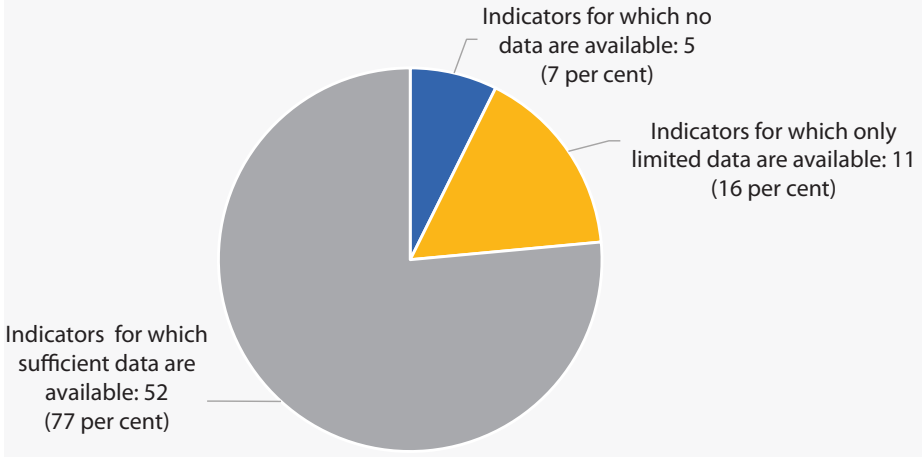
The report also provides a data-based analysis of progress towards the implementation of Agenda 2063 and uses boundaries, names and designations in accordance with guidance issued by the Geospatial Information Section at United Nations Headquarters. It relies on the latest harmonized data from international sources for ease of comparability. The report covers all African countries and provides subregional and country-level assessments of progress towards the achievement of the Sustainable Development Goals and the aspirations, goals and targets of Agenda 2063.

1.3 Data sources and limitations

The report draws on data from a number of sources, including data made available in the United Nations Sustainable Development Goal Indicators Database of the United Nations in April 2023. Out of the 68 indicators for Goals 6, 7, 9, 11 and 17, only 22 indicators (32 per cent) are informed by data from all African countries, and there is no data at all from any African country for 5 indicators. Figure 1 shows that 52 indicators are informed by adequate data (at least two data points for at least 40 per cent of countries).

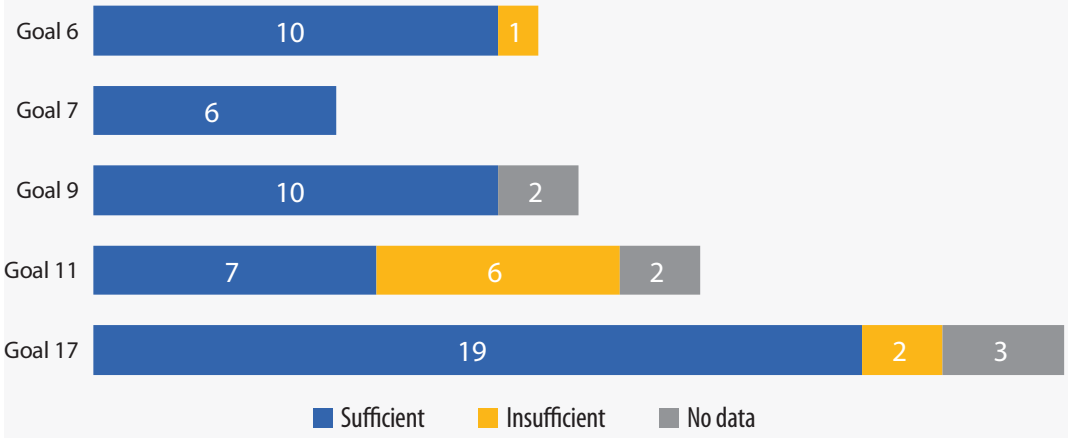
Figure 2 shows that tracking Goals 11 and 17 is challenging, owing to sig-

Figure 1: Number of Sustainable Development Goal indicators for which sufficient data are available, limited or unavailable for African countries (Goals 6, 7, 9, 11 and 17)



Source: African Centre for Statistics, ECA.

Figure 2: Data availability by Goal, 2000–2023, all African countries

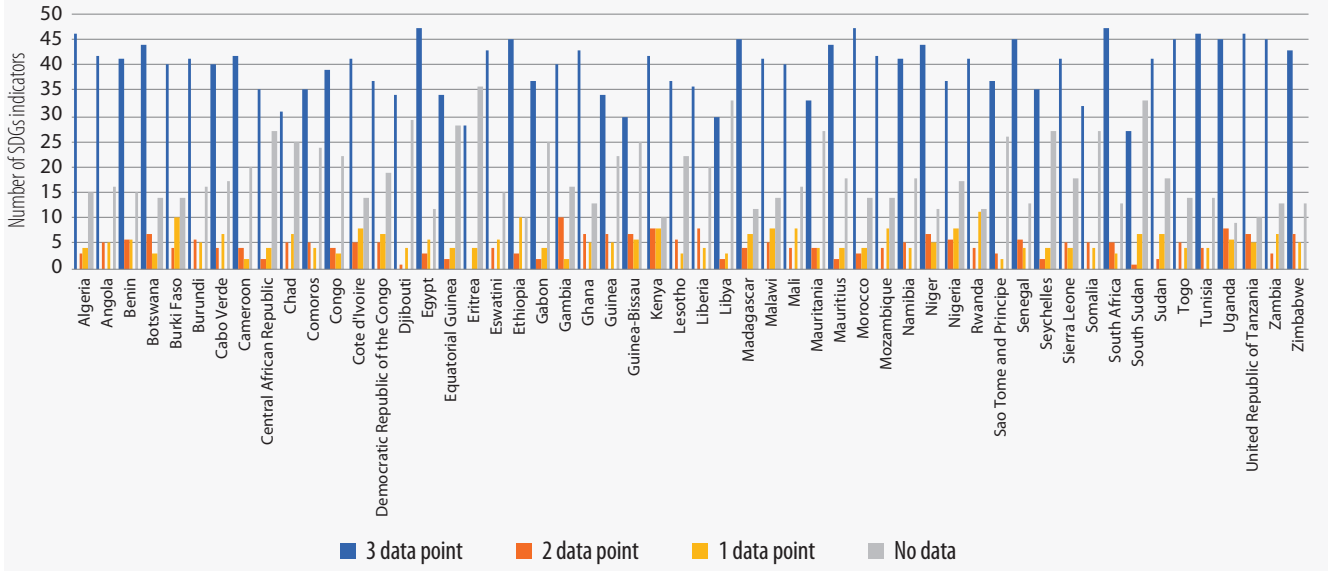


Source: African Centre for Statistics, ECA.

nificant data gaps. More than half the indicators for Goal 11 have insufficient data and two indicators (11.3.1 and 11.3.2) have no data for any African country. Five indicators have insufficient data to assess Goal 17, and there are no data available to inform indicators 17.2.1, 17.5.1 and 17.18.1.

Data gaps remain a major challenge for tracking the Goals in Africa, where one third of indicators for almost half of all African countries lack sufficient data. In addition, and as shown in figure 3, data availability varies among countries, with the percentage of indicators with sufficient data ranging from 41 per cent to 80 per cent. For example, Botswana, the Niger, Senegal, South Africa, Uganda and the United Republic of Tanzania are better positioned than other African countries, in that sufficient data (at least two data points) are available for 75 per cent or more of indicators. On the other hand, for

Figure 3: Data availability for the 68 indicators of Goals 6, 7, 9, 11 and 17, by country, 2000–2023 (Number of indicators)



Source: Author's elaboration on the basis of data from United Nations (2023c).

Eritrea, Libya and South Sudan, data are insufficient for 50 per cent or more of indicators.

1.4 Report organization

This report is organized into six chapters. The second chapter presents an analysis of Goal 6, on clean water and sanitation. Chapter 3 includes an analysis of Goal 7, on affordable and clean energy in the light of the continent's push towards cleaner sources of energy and just energy transitions. Chapter 4 is focused on Goal 9, on industry, innovation, and infrastructure, while chapter 5 contains an examination of Goal 11 on sustainable cities and communities. Chapter 6 is focused on Goal 17, on partnerships for the Goals, while chapter 7, the final chapter, presents Sustainable Development Goal dashboards for the five Goals covered in the report and related targets at continental and subregional levels

Chapter 2: Sustainable Development Goal 6 – Ensure availability and sustainable management of water and sanitation for all

Table 1: Sustainable Development Goal 6 and related goals of Agenda 2063

2030 Agenda	Agenda 2063
Sustainable Development Goal 6 – Ensure availability and sustainable management of water and sanitation for all	Goal 1 – A high standard of living, quality of life and well-being for all citizens Goal 7 – Environmentally sustainable and climate resilient economies and communities

2.1 Progress and prospects for the achievement of Goal 6

Goal 6, which has 8 targets and 11 indicators, is focused on universal access to safe and affordable drinking water and on sanitation and hygiene, including an end to open defecation. It also addresses the quality and sustainability of water resources, which are essential for people's survival and the well-being of the planet. Achieving Goal 6 is critical as it will foster progress on other Goals, including those on health (Goal 3), education (Goal 4), decent work and economic growth (Goal 8), reduced inequalities (Goal 10), sustainable consumption (Goal 12), and climate action (Goal 13).

2.1.1 Safe and affordable drinking water

Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all

Indicator 6.1.1: Proportion of population using safely managed drinking water services

Almost three quarters (74 per cent) of the world's population had access to a safely managed water source in 2020, meaning that one in four people did not have access to safe drinking water. The proportion of the population of Africa using safely managed drinking water services is relatively low compared to the rest of the world, but increased from 36 per cent in 2015 to 39 per cent in 2020 (WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene, 2022). This means that, overall, three out of every five people on the continent, equivalent to some 411 million people, still lacked safely managed drinking water in 2020. At the continental level, most progress has been achieved in North Africa and in Southern Africa, where 77 per cent and 74 per cent of the population, respectively, have access to safely managed drinking water. Central Africa has the lowest levels of access, with only 22 per cent of the population in that subregion enjoying access as of 2020.

In addition to subregional disparities, the disparities between rural and urban populations are relatively high in Africa, with only 22 per cent of people on average in rural areas enjoying access in 2020, as opposed to an average of 59 per cent in urban areas. No significant progress has been recorded in rural areas, while the proportion of people in urban areas enjoying access to safely managed drinking water services increased from 20 to 22 per cent between 2015 and 2020. In addition to the disparities between urban and rural areas within countries, there are significant differences across countries in the percentage of rural populations with access to safely managed drinking water. For instance, such countries as Algeria, an upper-middle-income country, and Lesotho and Nigeria, lower-middle-income countries, show relatively better performance compared with low-income countries, such as the Central African Republic and Chad, as shown in figure 4. Out of the seventeen countries assessed in 2020, the Central African Republic and Chad had the lowest rates of access in rural areas to safely managed drinking water services. Meanwhile, some 69 per cent of the population of Africa as a whole enjoyed access to basic drinking water sources in 2020.

The share of deaths attributed to unsafe water sources in Africa remains alarmingly high, and the significant disparity between the rates of access to basic drinking water and to

safely managed drinking water underscores the importance of investing in drinking water infrastructure services with a view to reducing people's exposure to waterborne diseases, including cholera, diarrhoea, dysentery, hepatitis A, typhoid and polio. It is therefore crucial to give priority attention to the provision of clean drinking water and allocate adequate resources to ensure that drinking water infrastructure not only provides access to water but also safeguards public health by minimizing the risk of waterborne illnesses.

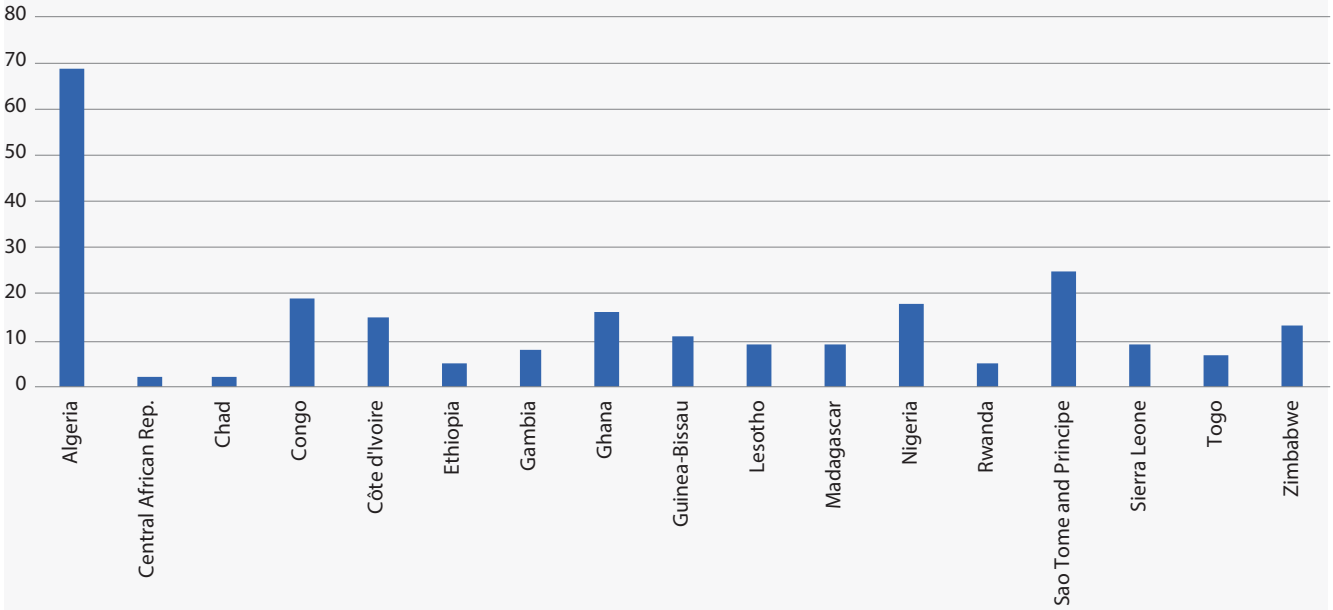
At the country level, the Government of Ethiopia has prioritized investment in improving access to clean drinking water. Despite those efforts, the country is still classified as "water stressed", however, owing to a number of factors, including rapid population growth, the country's high vulnerability to dry spells and a high proportion of deaths (6.53 per cent) attributed to unsafe water sources in 2019. Furthermore, a significant portion of the population of Ethiopia still had no access to basic water services in 2020 (WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene, 2022).

Overall, out of the 46 countries with less than 99 per cent coverage, only 3 are currently on track to achieve universal coverage of at least basic drinking water by 2030. The continent is, moreover, very unlikely to achieve the related target of Agenda 2063 of reducing the proportion of the population without access to safely managed drinking water by 2023.

Limited progress on indicator 6.1.1 in Africa can be attributed to a number of factors, including insufficient institutional capacity for designing and monitoring projects and infrastructure, challenges in resource mobilization, and limitations in the technical capabilities of State-owned utilities responsible for providing potable water services. Those utilities are often constrained by limited funding and face difficulties in fulfilling their mandates effectively. Additionally, government subsidies and price controls means private sector potable water service providers have little incentive to invest in the sector. Innovative policies and incentives are needed to de-risk the potable water sector and encourage investment by private sector stakeholders. It is, moreover, crucial to prioritize affordability, particularly for low-income households.

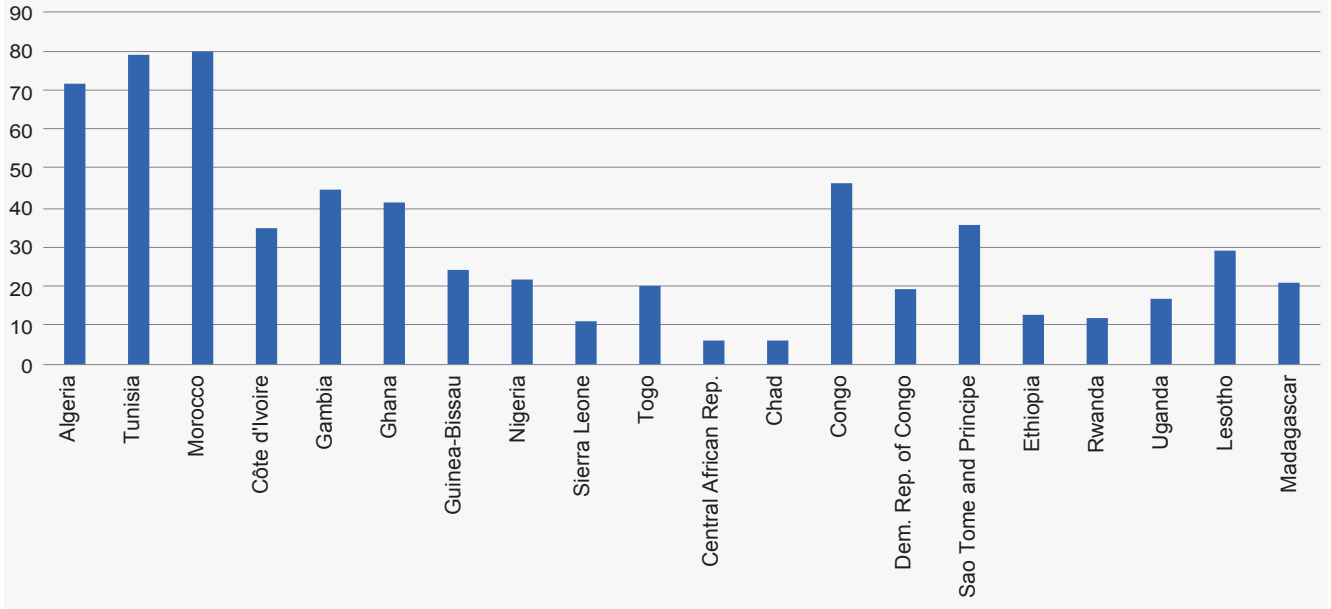
Only three countries, namely Algeria, Morocco and Tunisia, out of the 46 African countries with less than ninety-nine per cent coverage are currently on track to achieve universal coverage of at least basic drinking water by 2030, as shown in figure 5. Consequently, the continent is unlikely to achieve the related Agenda 2063 target of reducing the proportion of the population without access to safe drinking water by 2023.

Figure 4: Percentage of the rural population using safely managed drinking water services in 2020, selected African countries



Source: Author's elaboration on the basis of data from WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (2022).

Figure 5: Percentage of the total population using safely managed drinking water services in 2020, selected African countries



Source: Author's elaboration on the basis of data from WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (2022).

Box 1: Policies, strategies and programmes of Benin to improve access to water and sanitation

Through its water supply programme, Benin has made significant strides in terms of providing rural communities with access to drinking water. Through the programme, Benin has established autonomous water points and rural piping systems and is now building small water towers to serve households in several villages. The programme is also focused on improving water quality and preventing contamination before it reaches households.

The country has also taken the following measures to improve access to water and sanitation:

- Established the National Agency for the Supply of Drinking Water in Rural Areas
- Established a leasing system for the management of water supplies at the district level
- Adopted a national water policy

Source: Benin, Ministry of Development and the Coordination of Government Action (2023).

2.1.2 Adequate and equitable sanitation and hygiene

Target 6.2: By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

Indicator 6.2.1: Proportion of population using (a) safely managed sanitation services and (b) a handwashing facility with soap and water

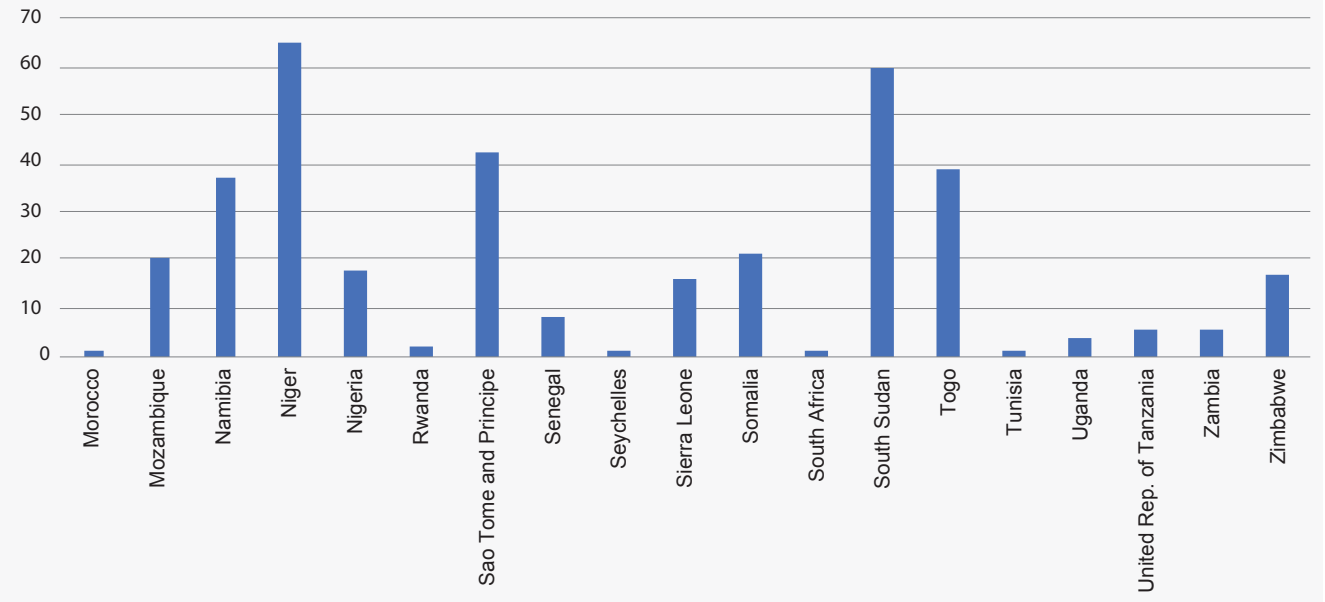
Overall, progress on this target has been slow and it is unlikely to be achieved by many African countries by the 2030 deadline unless urgent measures are adopted, including appropriate financing mechanisms. Furthermore, there are significant disparities in terms of the progress achieved by middle-income and low-income countries.

While access to safely managed sanitation increased globally from 47 per cent to 54 per cent between 2015 and 2020, the proportion of the population with access to safely managed sanitation services in Africa remained very low, at only 27 per cent on average in 2020, meaning that nearly three out of every four people in Africa lacked access to safely managed sanitation services (WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene, 2022). As is the case with access to safely managed drinking water, people living in countries in North Africa are more likely to enjoy access to sanitation facilities than people in other African subregions, while people living in East and Central Africa are least likely to enjoy access. A similar trend is observed with the no open defecation rate, which has increased from 81 per cent to 84 per

cent between 2015 and 2020 in Africa (WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene, 2022). Overall, 208 million people in Africa lacked access to basic sanitation services and were thus forced to practise open defecation in 2020, with the highest proportion of the population practising open defecation in the Niger, as shown in figure 6. Indeed, in October 2019, open defecation was practised by more people in the Niger than in any other country in the world.

Only 2 out of 48 African countries, namely Egypt and Tunisia, are currently on track to achieve universal coverage of at least basic sanitation by 2030, while in some countries, coverage is actually decreasing (WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene, 2022). High population densities and a lack of appropriate sanitation infrastructure often increase pressure on existing services and impede access to basic sanitation for large numbers of people. Between 2015 and 2020, the average rate of basic sanitation in Africa increased from 40 per cent to 42 per cent. However, it is concerning that the proportion of deaths attributed to unsafe sanitation in Africa also increased during that period, with more people dying in Africa as a result of unsafe sanitation than in any other global region (WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene, 2022). It is therefore crucial to ensure that investment in sanitation infrastructure not only facilitates access to basic sanitation services but also strengthens action to reduce the

Figure 6: Percentage of the population practising open defecation in 2020, selected African countries

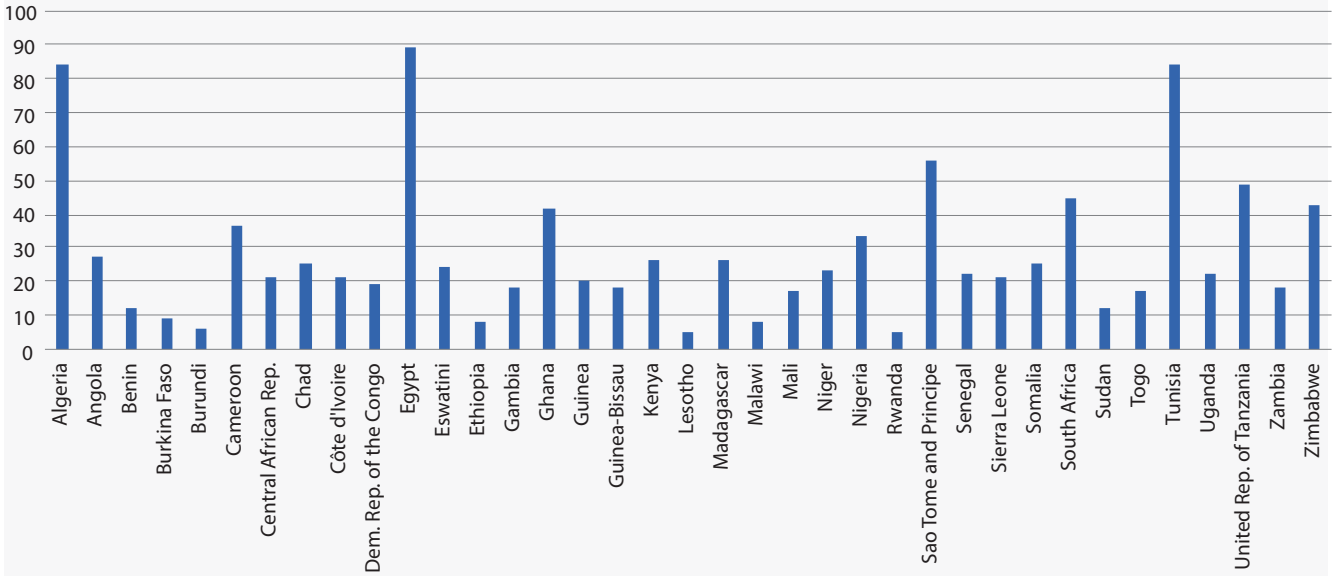


Source: Author's elaboration on the basis of data from WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (2022).

prevalence of sanitation-related diseases. By implementing measures to improve sanitation practices, including proper waste management, hygiene education and the provision of adequate sanitation facilities, the risk of diseases associated with unsafe sanitation can be reduced effectively. The adoption of a comprehensive approach to hygiene and sanitation will help safeguard public health and promote overall well-being.

A similar trend is observed with regard to the proportion of the population with basic handwashing facilities on premises. Some North African countries, including Algeria, Egypt and Tunisia, have made significant progress in this area, resulting in over 80 per cent of their respective populations now living in households equipped with handwashing facilities, including soap and water. In addition to the efforts to enhance access to safely managed drinking water at the household level by improving water, sanitation and hygiene infrastructure, efforts to raise awareness about the use of handwashing facilities on the premises has played a crucial role in achieving progress in North African countries. The situation is quite different, however, elsewhere on the continent. In the majority of African countries, excluding North African countries, only between 5 and 50 per cent of the population enjoy access to basic handwashing facilities on premises, as shown in figure 7. Low levels of handwashing practices in Africa, excluding North Africa, are a significant factor driving the high prevalence of diseases in the region. Poor hand hygiene, which includes inadequate

Figure 7: Percentage of the population with basic handwashing facilities on premises in 2020, selected African countries



Source: Author's elaboration on the basis of data from WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (2022).

handwashing, can contribute to the spread of various diseases, especially in high-density populations, such as informal settlements, where most people lack proper urban facilities, including water drainage systems.

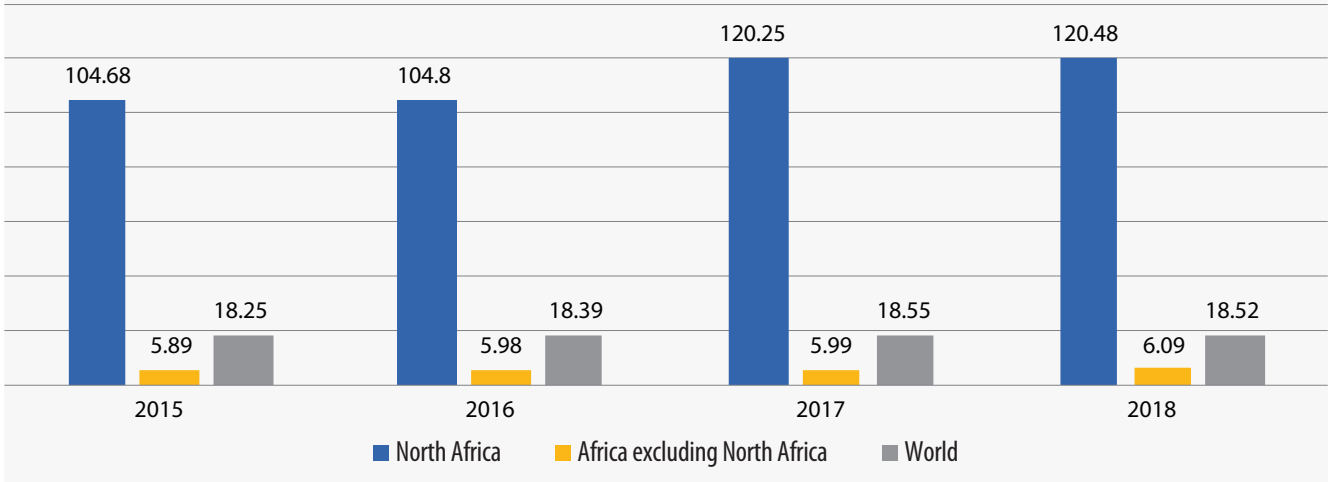
2.1.3 Improved water-use efficiency

Target 6.4: By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of fresh water to address water scarcity and substantially reduce the number of people suffering from water scarcity

Indicator 6.4.2: Level of water stress: freshwater withdrawal as a proportion of available freshwater resources

Figure 8 shows that, compared with the rest of Africa, North Africa is at the highest risk of water stress. Water stress levels in North Africa reached 120.5 per cent in 2019, indicating a high probability of future water scarcity. Excessive water use can lead to the depletion and degradation of both surface and groundwater resources, compromising livelihoods and development opportunities for future generations. Among the North African countries, Morocco has relatively sustainable withdrawals of fresh water, while Libya has the highest water stress levels. The capacity of Morocco for sustainable water management has been enhanced by the country's early water infrastructure investment and the development of a master plan for integrated catchment management. The implementation of the master plan was facilitated by the establishment of an administrative, financial and technical framework, and has strengthened the country's water

Figure 8: Freshwater withdrawal as a percentage of available freshwater resources



Source: Author's elaboration on the basis of data from Food and Agriculture Organization of the United Nations (2021).

sector planning capacity, including in connection with budgeting and flood and drought management. Concerns remain, however, with regard to water pricing and it is crucial to sustain efforts to promote both water sustainability and affordability.

With the notable exception of South Africa, water stress levels in most African countries were relatively low, at 18.6 per cent on average in 2019, significantly below the global average. Nonetheless, high population growth rates in Africa, coupled with the impact of climate change and insufficient water harvesting infrastructure, are increasing water demand across various sectors, including agriculture and mining. In this context, deepening understanding of African countries' water resources is a prerequisite for effective planning and the promotion of cost-effective water efficiency measures. Water stress is particularly alarming in semi-arid and arid regions. To address the challenges faced by African countries, promoting the use of ICT and innovative water management techniques, including climate-smart water harvesting, storage and distribution systems, can significantly improve water management and

Box 2: Ensuring water sustainability in Morocco

Morocco experiences significant climate variations and varying rainfall patterns across its territory. To support its development and improve water management, Morocco has given priority attention to the development of key water infrastructure, including dams and efficient irrigation systems, in order to address household, industrial and agricultural needs. In 2015, the country adopted the National Water Plan, commonly known as PNE 2020–2050, a strategic road map with a budget of $37.6 billion that is aimed at improving national water networks for domestic and agricultural use and safeguarding water supplies at particular risk, owing to climate change. National Water Plan objectives include:

- Addressing challenges related to water demand management and water use efficiency
- Enhancing the provision of freshwater through dam storage, seawater desalination, the efficient use of treated wastewater and water transfers between surplus and deficit basins
- Conserving water resources, protecting the natural environment and adapting to climate change through water quality enhancement, sustainable groundwater management, watershed development and the preservation of sensitive areas

The National Water Plan includes a localized irrigation enhancement component, the aim of which is to improve 70 per cent of the country's irrigated land by 2030, at a conversion rate of 50,000 hectares per year. Morocco also has plans to construct 100 large dams, 1,000 small dams and 20 seawater desalination plants by 2030. The National Water Plan also encompasses flood protection and drought relief measures to enhance the management of extreme natural events and encourage the adoption of climate change adaptation measures.

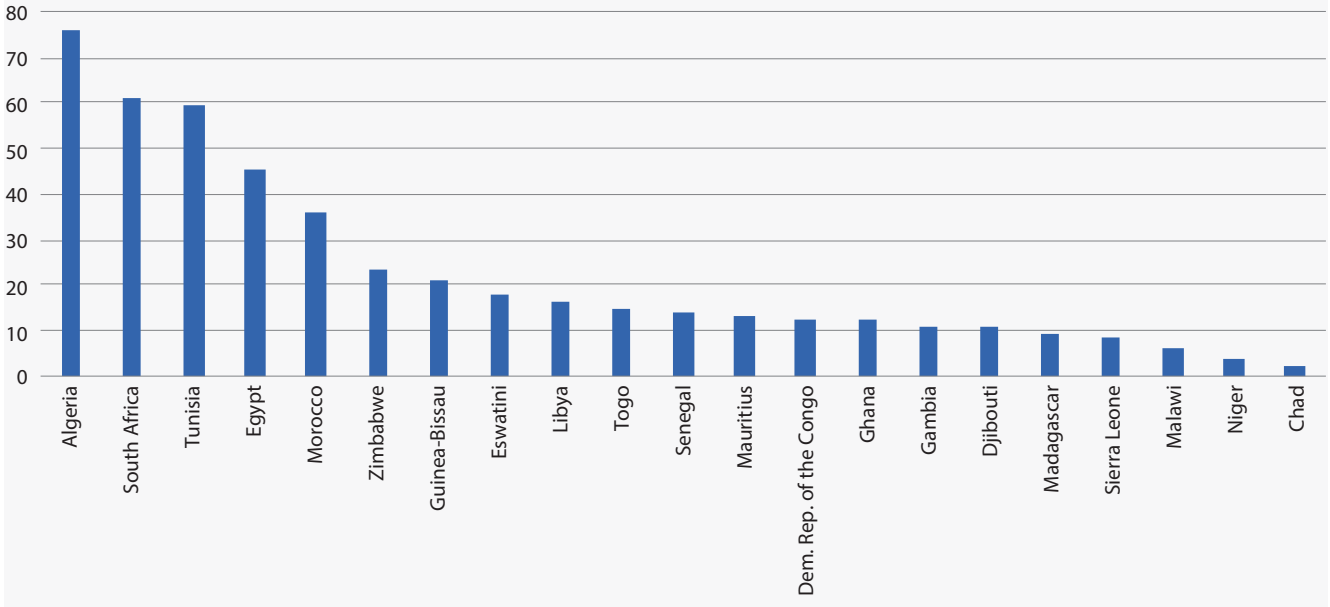
Morocco has, moreover, launched the National Programme for Drinking Water Supplies and Irrigation (PNAEP 2020–2027) with the aim of ensuring that all Moroccans enjoy access to abundant, high-quality and safe drinking water.

Source: Author's elaboration on the basis of Morocco, Ministry of Equipment and Water (n.d.a, b and c) and Finance News Hebdo (2019).

provide for the establishment of early warning systems, which can play a key role in enhancing efficiency and promoting the sustainable use of countries' freshwater resources.

Many African countries have demonstrated their relatively advanced capacity to reuse wastewater in order to increase their supplies of fresh water. Algeria, South Africa and Tunisia have high wastewater reuse capacity, in descending order, but Chad and the Central African Republic have the lowest wastewater reuse capacity, in descending order, as shown in figure 9. In response to the increasing frequency of droughts, Governments in North Africa are turning to treated wastewater to mitigate the depletion of natural resources and safeguard supplies of drinking water. Wastewater treatment plants and related infrastructure are on the rise across the subregion, bolstering the capacity of Governments to ensure the sustainable use of water and enhance access to water. In Algeria, in a noteworthy pilot project, the Société des Eaux et de l'Assainissement d'Alger has provided Cosider with 500 m3 per day of ultraviolet-treated wastewater sourced from the Baraki wastewater treatment plant, which has a total capacity of 170,000 m3 per day and is situated in Algiers wilaya (Takouleu, 2021). That innovative pilot project showcases the potential of using treated wastewater to address water scarcity challenges and promote more efficient water resource management.

Figure 9: Percentage of safely treated domestic wastewater flows in 2020, selected African countries



Source: Author's elaboration on the basis of data from WHO (2023a).

2.1.4 International cooperation in water and sanitation programmes

Target 6.a: By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies

Indicator 6.a.1: Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan

This indicator is a proxy for international cooperation and capacity-development support for the water, sanitation and hygiene sector and was between $2.5 billion and $3 billion between 2015 and 2020. Among African subregions, East Africa received a relatively higher proportion of water- and sanitation-related ODA, followed by West Africa, while Southern Africa and Central Africa received a smaller proportion. In 2020, ODA for water and sanitation in Africa, excluding North Africa, dropped below the 2015 level of $2.5 billion (WHO, 2023b).

At the country level, an analysis has revealed that in 2020, the Niger, Nigeria, Senegal and Mali, in descending order, were among the countries in West Africa that received the most ODA related to water, sanitation and hygiene, as shown in figure 10. Such support demonstrates international cooperation and builds capacity within the sector. The Niger River basin, the longest river basin in West Africa and third longest in Africa, is immensely important. The Niger Basin Authority is a pivotal institution for promoting collaboration among riparian States, facilitating integrated river management and bolstering finance for the water, sanitation and hygiene sector. The Authority plays a significant role, including through the use of ICT, in supporting an early warning system for integrated water resources management in the basin (Niger Basin Authority, 2023). Although the river offers substantial economic and ecological value to improve water, sanitation and hygiene services, technical and financial capabilities remain constrained, and international development support, in particular from public sources, is often relied upon. Additionally, the lack of an enabling environment for private sector involvement poses an extra challenge in effectively advancing financing for the water, sanitation and hygiene sector across West Africa.

In East Africa, where the Sio–Malaba–Malakisi basin, the Dawa River and aquifer, the Bahr el-Ghazal basin

and the Baggara basin aquifer play crucial roles in addressing water, sanitation and hygiene sector challenges, Kenya, Uganda and Ethiopia, in descending order, were the top recipients of ODA related to that sector in 2020, as shown in figure 10. In Kenya, the Water Act of 2016 established vital institutions: the Water Resource Authority, Water Services Regulatory Board and Water Sector Trust Fund (Musonge and others, 2022). The clear separation of water resource management from water services enhances financing, planning and cooperation for infrastructure development within the water, sanitation and hygiene sector, leading to improved service delivery.

Although Africa is endowed with an abundant volume of river inflows, the poor financing of water sector infrastructure reduces the capacity of the region to harness its water resource potential and address integrated water resource management challenges. Of the $81 billion that were invested in infrastructure in 2020, only $8.1 billion, or 10 per cent, was allocated to the water sector (The Infrastructure Consortium for Africa, 2023). The majority of that funding came from concessional sources, such as government sources and multilateral funds.

Within the water sector, there are significant project risks, including a lack of project preparation funds, an absence of investment guarantee schemes, especially for SMEs, and the fact that the prices paid by consumers for water supplies and services do not cover the full cost of water supply and distribution services. Those issues are major barriers to private sector investment in and public-private partnerships for water sector infrastructure development across Africa. Consequently, public water utility companies are becoming the predominant players in the sector, often with poor financial balance sheets. Public water utility companies are constrained by the limited number of financially viable projects and are, therefore, less attractive for private capital investment.

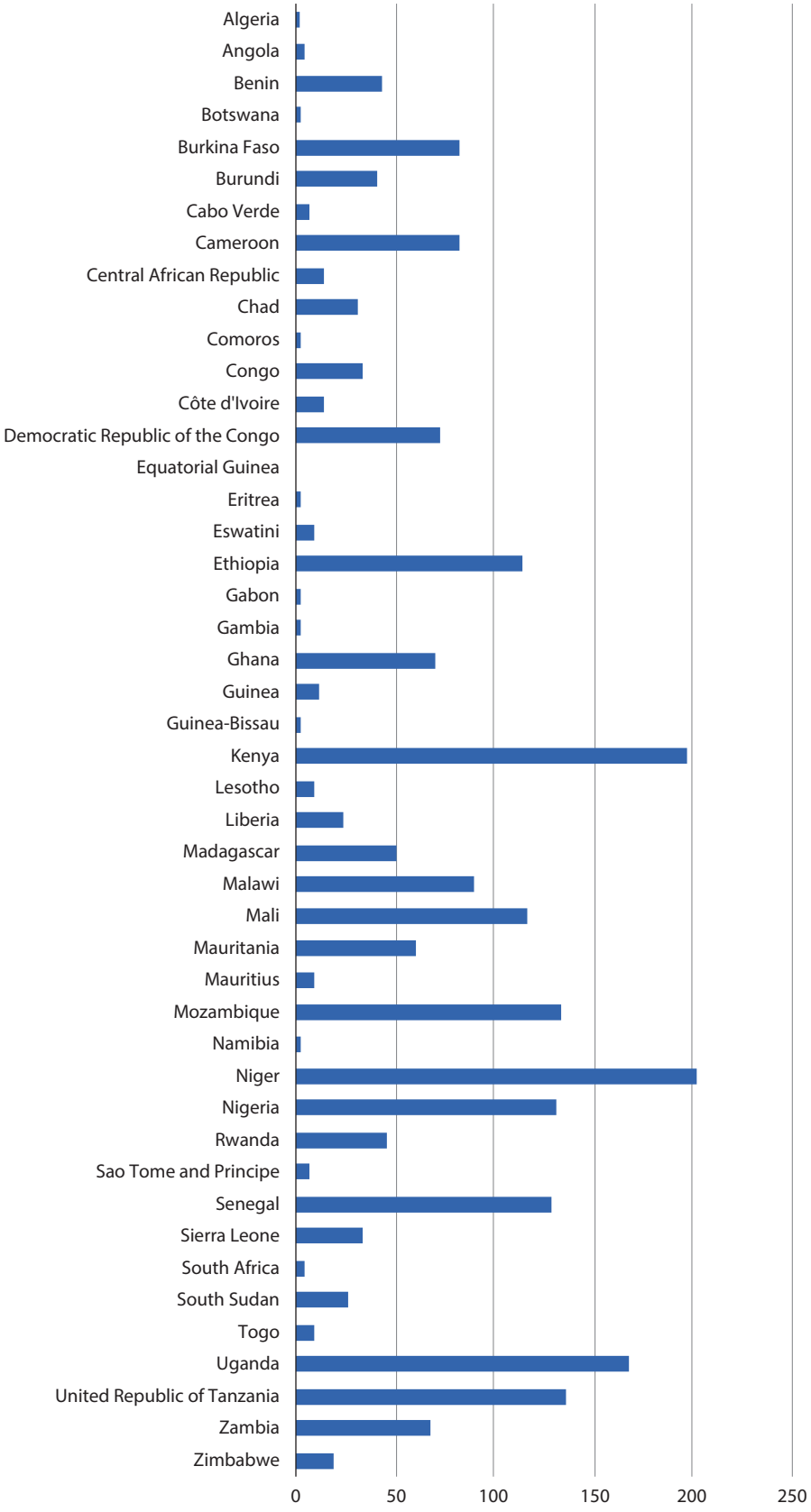
2.1.5 Integrated water resources management

Target 6.5: By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate

Indicator 6.5.1: Degree of integrated water resources management

This indicator concerns the enabling environment for integrated water resources management, including the policies and regulatory frameworks aimed at enhancing water resources knowledge, protection and monitoring at the national and transboundary catchment levels. In addition, it relates to the extent

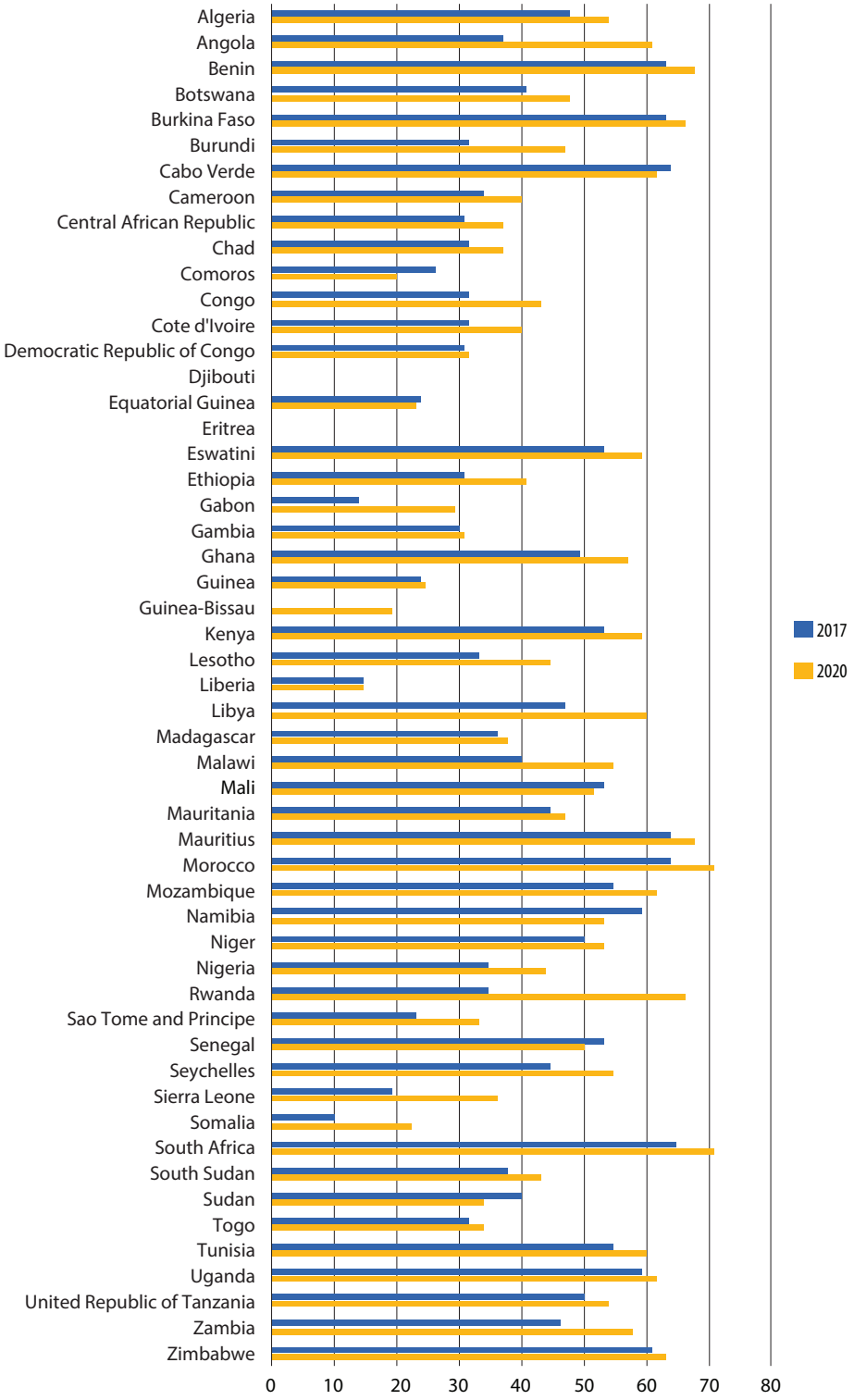
Figure 10: Amount of water and sanitation-related official development assistance by country, 2020 (Millions of constant 2020 United States dollars)



Source: Author's elaboration on the basis of data from WHO (2023b).

of institutional technical capacity and participation, the status of institutional capacity-building, the availability of water management instruments for pollution control and disaster risk management, and the water management financing model. Medium-low to medium-high progress has been reported across the continent, with low performance observed in Gabon, Guinea-Bissau, Liberia and Somalia, as shown in figure 11. Somalia is highly susceptible to climate extremes, in particular recurrent and severe droughts. Currently, fewer than one third of Somalis have access to clean water, and the scarcity of water presents a grave threat to the health, well-being and livelihoods of the approximately 60 per cent of the population who practise pastoralism and 15 per cent who practise agriculture (Global Environment Facility, 2019). Several ongoing initiatives, including support from the Global Environment Facility, are aimed at enhancing national capability and encompass the development of infrastructure to enhance climate and water monitoring. The ultimate goal is to establish strategies for integrated water resources management, ensuring reliable water access and bolstering disaster preparedness for pastoralists in Somalia.

Figure 11: Degree of integrated water resources management, 2017 and 2020

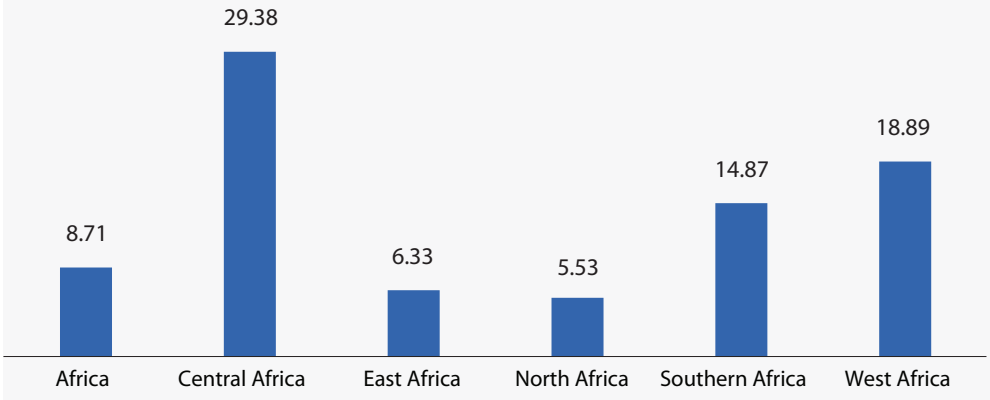


Source: Author's elaboration on the basis of data from United Nations Environment Programme–Danish Hydraulic Institute (UNEP-DHI) Centre on Water and Environment (2023).

Note: The status of integrated water resources management is measured on a scale of 0 to 100, in which a score between 0 and 10 is very low, 11 and 30 is low, 31 and 50 is medium low, 51 and 70 is medium high, 71 and 90 is high, and 91 and 100 is very high.

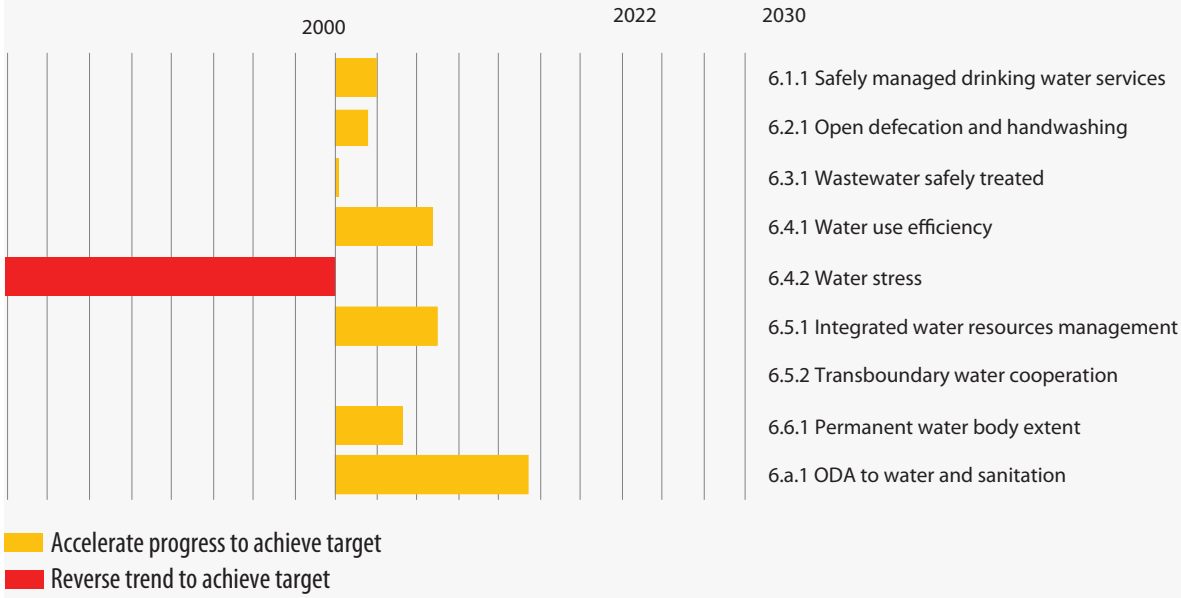
Progress towards the achievement of Goal 6 in Africa has been uneven and many countries must redouble their efforts to meet the Goal 6 targets by 2030. In relation to indicator 6.4.1 (change in water use efficiency) there has been relatively little progress across the continent and in North Africa, in particular, where water usage in the agriculture sector accounts for 80 to 90 per cent of total water use, as shown in figure 12. It is necessary, therefore, to enhance investment in efficient irrigation systems, and bolster the capacity of the agriculture sector to adapt to climate extremes, such as drought (Rossi, Biancalani and Chocholata, 2019). Indicator 6.4.2, (level of water stress: freshwater withdrawal as a proportion of available freshwater resources) has been negative in many countries, and current trends must be reversed in order to achieve target 6.4 by the 2030 deadline. An overview of the performance of African countries in relation to the Goal 6 indicators is provided in figure 13.

Figure 12: Water use efficiency in Africa as a whole and in the five African subregions, 2020 (Unites States dollars per cubic meter)



Source: Author's elaboration on the basis of data from Food and Agriculture Organization of the United Nations (2021).

Figure 13: Action that must be taken on the Goal 6 indicators for African countries to achieve the Goal 6 targets by 2030



Source: United Nations (2023b).

2.2 Conclusion

The management of water resources is a cross-cutting issue, and it is therefore vital to explore and exploit synergies with other Sustainable Development Goal targets related to water use, management and stress reduction. Large data gaps continue to undermine efforts to monitor the implementation of Goal 6. For example, fewer than 50 per cent of African countries have data to inform indicator 6.3.1: Proportion of domestic and industrial wastewater flows safely treated. Furthermore, there is still only limited interest in the generation of statistics that can support implementation of Water, Sanitation and Hygiene for All (WASH) initiatives and programmes in Africa. This results in poor sectoral planning and undermines the formulation of policies to improve basic services, especially for vulnerable communities**.** More disaggregated data are needed to support the design and implementation of robust WASH policies and programmes, both at the national and subnational levels. Moreover, data on the water quality of groundwater bodies is only available for some 20 per cent of African countries.

Large financial gaps also continue to undermine the implementation of water management plans and projects and fewer than 20 per cent of African countries have been able to provide 50 per cent of integrated water resources management implementation financing. More efforts are therefore needed to mobilize resources, both domestically and at the international level. To that end,

efforts are needed to help African Governments mobilize the financial resources they need to manage their water resources effectively. The current investment approach in the WASH sector does not adequately reflect the actual costs involved, and there is a lack of private-sector participation in WASH initiatives. Government partial guarantee facilities and project preparation funds could be used to de-risk private sector investment in WASH initiatives, especially for SMEs. Furthermore, blended finance, which combines public and private funding sources, could make water and sanitation investment more commercially attractive for investors and stimulate private-sector investment.

Institutional and human resource capacity development is also needed in order to improve and expand WASH projects and services, mobilize additional resources, leverage the provisions of global water conventions and laws of transboundary aquifers, and mobilize the political will necessary for further action to be taken in the areas of sustainable water resource management and sanitation. Indeed, a lack of sufficient institutional capacity to design and monitor water infrastructure projects, especially among State-owned enterprises responsible for water-related utilities, remains a crucial challenge across the African continent.

2.3 Policy recommendations

To accelerate the achievement of Goal 6 and the related goals of Agenda 2063, African countries should:

- Strive to bolster their capacity to monitor progress on Goal 6, inter alia by strengthening collaboration among national statistical systems and relevant regional and international organizations. To facilitate that process, efforts will be needed to enhance the coordination function of national statistical offices with a view to generating internationally-comparable data. In that regard, it should be emphasized that the availability of accurate, high-quality data, including robust hydrological, technical, social, economic and financial data, will enable African countries to enhance their water resource management frameworks;
- Develop policies and incentives to foster the emergence of public-private partnerships in the WASH sector. Policies should address issues related to water licensing, procurement and water pricing with a view to ensuring affordability. Steps should also be taken to make optimal use of existing water resources;

- Scale up innovative technologies and practices, such as water harvesting, desalination using sources of renewable energy, water reuse and smart water management. The use of ICT should be encouraged in order to address data gaps and strengthen efforts to monitor progress towards the achievement of Goal 6. It is crucial to reverse the trend observed in relation to water stress and highlighted by indicator 6.4.2, especially in North Africa.

Chapter 3:
Sustainable Development Goal 7 – Ensure access to affordable, reliable, sustainable and modern energy for all

3.1 Progress and prospects for the achievement of Goal 7

Goal 7, which has 5 targets and 6 indicators, is focused on providing universal access to affordable, reliable and modern energy services, increasing the share of renewable energy in the global energy mix,

Table 2: Sustainable Development Goal 7 and related goals of Agenda 2063

2030 Agenda	Agenda 2063
Sustainable Development Goal 7 – Ensure access to affordable, reliable, sustainable, and modern energy for all.	Goal 1 – A high standard of living, quality of life and well-being for all citizens Goal 6 – Blue/ocean economy for accelerated economic growth Goal 7 – Environmentally sustainable and climate resilient economies and communities Goal 10 – World class infrastructure crisscrosses Africa

doubling the global rate of improvement in energy efficiency, enhancing international cooperation to facilitate access to clean energy research and technology, and expanding infrastructure and upgrading technology. Given the importance of energy in sustainable development, accelerating progress on Goal 7 will have a positive impact on other Goals, including Goal 4 (quality education), Goal 5 (gender equality), Goal 15 (life on land), Goal 8 (decent work and economic growth), and Goal 13 (climate action.

3.1.1 Universal access to energy

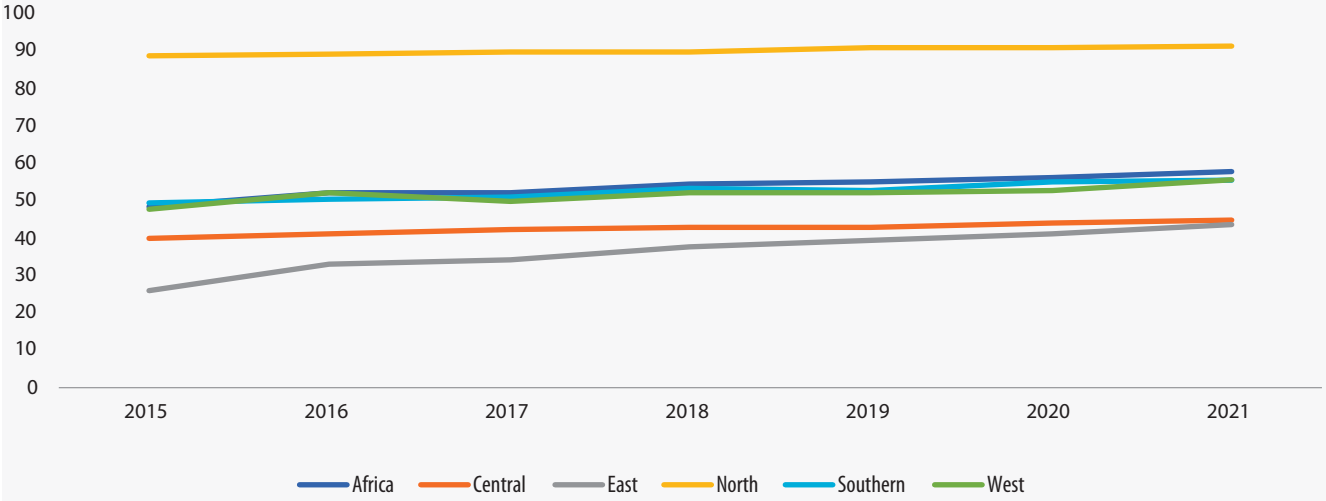
Target 7.1: By 2030, ensure universal access to affordable, reliable and modern energy services

Indicator 7.1.1: Proportion of population with access to electricity

Electrification rates in Africa continue to increase. Figure 14 shows that the proportion of the population with access to electricity rose from 48.8 per cent in 2015 to 57.9 per cent in 2021. However, this was still significantly lower than the global average, which was estimated at 91 per cent in 2021. The continent also performed marginally above the average for the least developed countries, which was estimated at 56.3 per cent in 2021 (UNDP, 2023). That performance is attributable to several policy interventions, such as the expansion of the electricity network, reducing power loss, liberalization of the electricity market by granting licences to independent power producers and reliance on incentives for private sector investment in energy. Regional differences were also substantial in 2021, with the electrification rate estimated at 91.5 per cent in North Africa, 55.7 per cent in West Africa, 55.6 per cent in Southern Africa, 44.9 per cent in Central Africa and 43.7 per cent in East Africa. At the country level, electrification rates in 2021 were below the continental average in several countries, including Burkina Faso, Burundi, the Central African Republic, Chad, the Democratic Republic of the Congo, Malawi, the Niger and South Sudan. An estimated 600 million people in Africa, excluding North Africa, lacked access to electricity in 2021 (IEA, 2022).

Disparities in access to electricity between urban and rural areas remain high. Globally, 97.7 per cent of

Figure 14: Percentage of the population of Africa as a whole and of the five African subregions with access to electricity, 2015–2021



Source: Author's elaboration on the basis of data from United Nations (2023c).

the urban population in 2021 had access to electricity, compared to 84.5 per cent of the rural population (UNDP, 2023). Figure 15 shows that Africa performed well below the global average, with African urban and rural electrification rates estimated at 84.4 per cent and 38.8 per cent, respectively in 2021. The most significant urban-rural divide was in Central Africa (79.2 per cent in urban areas compared to 11.2 per cent in rural areas) followed by West Africa (87.6 per cent in urban areas and 28.1 per cent in rural areas) and Southern Africa (81.7 per cent in urban areas compared to 33.0 per cent in rural areas). At the country level, less than 10 per cent of the rural population in a number of African countries, including Burundi, the Central African Republic, Chad, the Democratic Republic of the Congo, Equatorial Guinea, Liberia, Malawi, Mozambique, Sierra Leone, and South Sudan, had access to electricity in 2021. Rural electrification programmes to bridge the rural-urban divide are being implemented in several countries, including Rwanda (as described in box 3).

3.1.2 Access to clean fuels and technology

Indicator 7.1.2: Proportion of population with primary reliance on clean fuels and technology

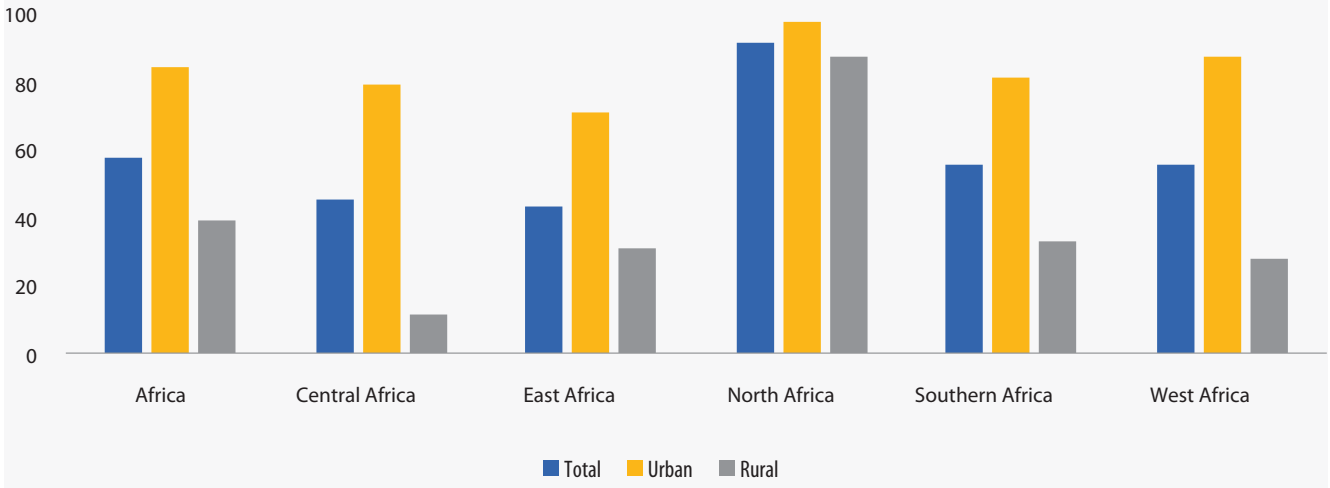
Figure 16 shows that primary reli-

Box 3: Closing the urban-rural divide in electrification access in Rwanda

To tackle electricity accessibility challenges in remote and mountainous rural areas, Rwanda established the Renewable Energy Fund, which is managed by the Rwanda Development Bank. The fund offers discounted credit to such entities as savings and credit cooperative organizations, banks, micro-finance institutions and solar companies. Those entities then lend to households and micro-businesses for off-grid energy solutions. The fund also provides subsidies to make solar home systems more affordable for low-income households. The goal is to connect 500,000 households by 2025, prioritizing the most economically vulnerable groups across various rural areas.

Source: Rwanda (2023).

Figure 15: Percentage of the urban, rural and total population with access to electricity in Africa as a whole and in the five African subregions, 2021

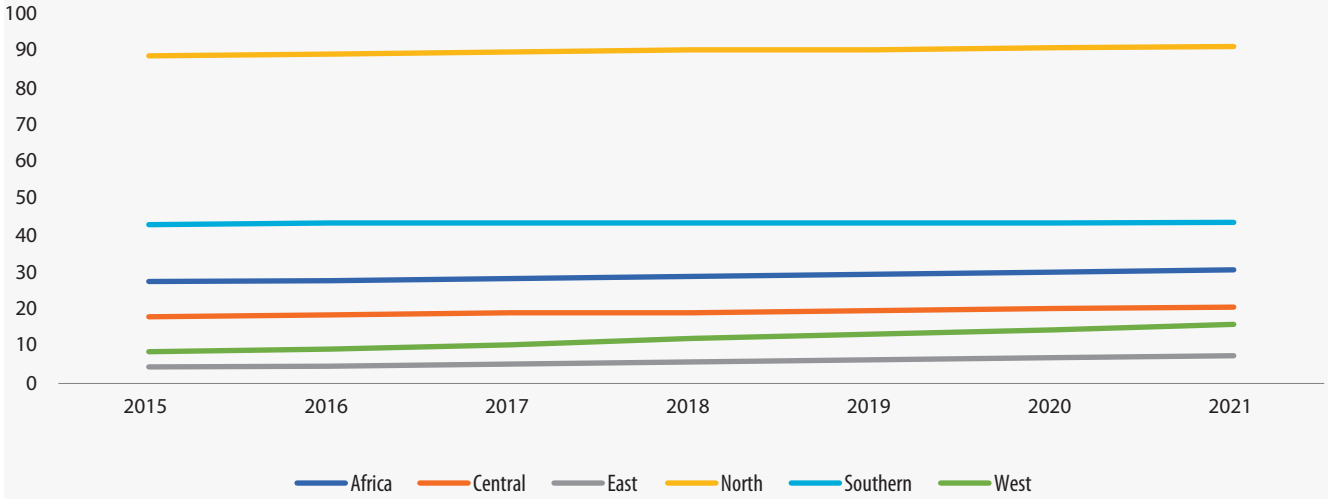


Source: Author's elaboration on the basis of data from United Nations (2023c).

ance on clean fuels and technology in Africa increased from 27.6 per cent in 2015 to 30.8 per cent in 2021, substantially lower than the global increase from 64 per cent in 2015 to 71 per cent in 2021, but higher than the average for least developed countries (which increased from 15 per cent in 2015 to 19 per cent in 2021). Furthermore, only 36 per cent of the urban population in Africa excluding North Africa relied on clean fuels and technology in 2021, while the figure for rural areas was only 5 per cent. This pattern mirrors global trends, in that 86 per cent of urban dwellers at the global level had access to clean fuels and technology in 2021, compared to 51 per cent in rural areas. The impact of the ongoing conflict in Ukraine and prevailing economic uncertainty worldwide continue to cause significant fluctuations in energy prices. As a result, countries have adopted different approaches to the adoption of clean fuels and technology, with some countries increasing their investment in cleaner cooking fuels and others increasing their reliance on coal, undermining the continent's energy transition.

Figure 17 shows that there are sharp disparities among the subregions in terms of access to clean cooking fuels and technologies. Fully 91.4 per cent of the population of North Africa enjoyed access to clean fuels and technologies in 2021, but only 43.7 per cent of people in Southern Africa, 20.7 per cent of people in Central Africa, 16.0 per cent in West Africa and 7.5 per cent in East Africa enjoyed access to those fuels and technologies. At the country level, over 90 per cent of the population in five countries, namely Algeria, Mauritius, Morocco, Seychelles and Tunisia, had access to clean fuels and technologies in 2021, while fewer than 5 per cent of the popula-

Figure 16: Percentage of the population relying primarily on clean fuels and technology in Africa as a whole and in the five African subregions, 2015–2021



Source: Author's elaboration on the basis of data from United Nations (2023c).

tion had access in 19 other African countries. Policy interventions to reverse that trend are underway in several countries, including Kenya (as described in box 4).

3.1.3 Renewable energy

Target 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix

Indicator 7.2.1: Renewable energy share in the total final energy consumption

Box 4: Promoting access to clean fuels and technologies in Kenya

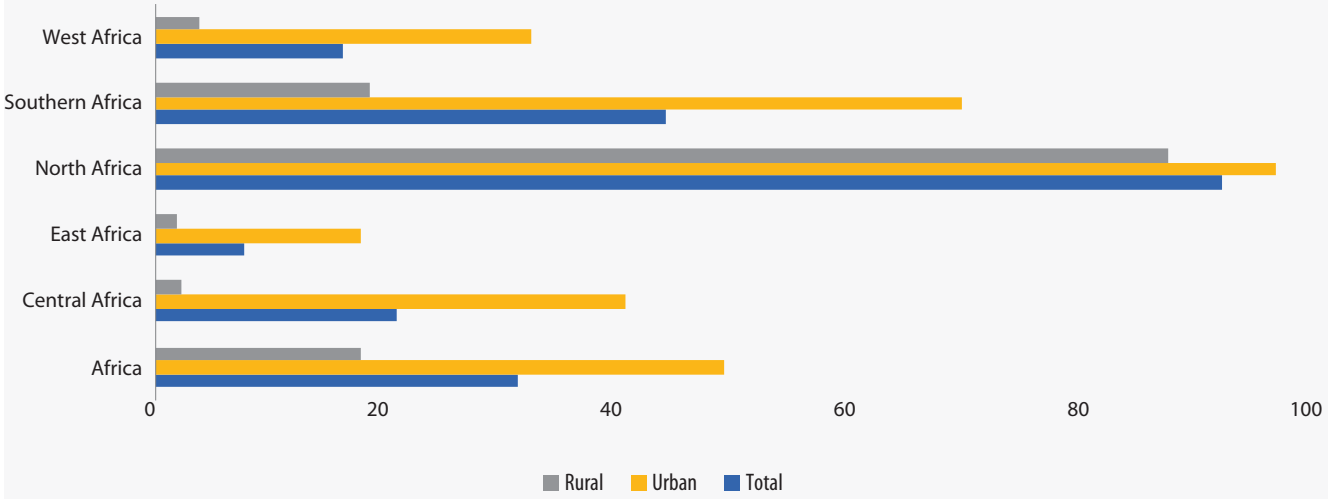
The Government of Kenya, through the Ministry of Petroleum and Mining, in collaboration with the National Oil Corporation of Kenya, launched the Mwananchi Gas Project, aiming to boost the use of liquefied petroleum gas by providing 6-kg gas cylinders, including the gas, burner and grill, at a subsidized cost to economically challenged households. Additionally, the National Oil Corporation is establishing an efficient distribution network to make liquefied petroleum gas accessible to individuals across all counties through licensed retailers.

The key objectives of the project are to:

1. Increase the adoption of liquefied petroleum gas from 10 to 70 per cent in three years;
2. Reduce respiratory illnesses and mortality linked with household air pollution caused by firewood and charcoal use;
3. Improve the quality of life for Kenyans by ensuring easy access to clean cooking fuel;
4. Mitigate deforestation by shifting beneficiaries away from biomass fuels, such as charcoal and firewood;
5. Foster entrepreneurship, particularly among women, young people and people with disabilities, by involving them in the supply chain as distributors, retailers and brand ambassadors.

Source: National Oil Corporation of Kenya (2023).

Figure 17: Percentage of the rural, urban and total population relying primarily on clean fuels and technology in Africa as a whole and in the five African subregions, 2021

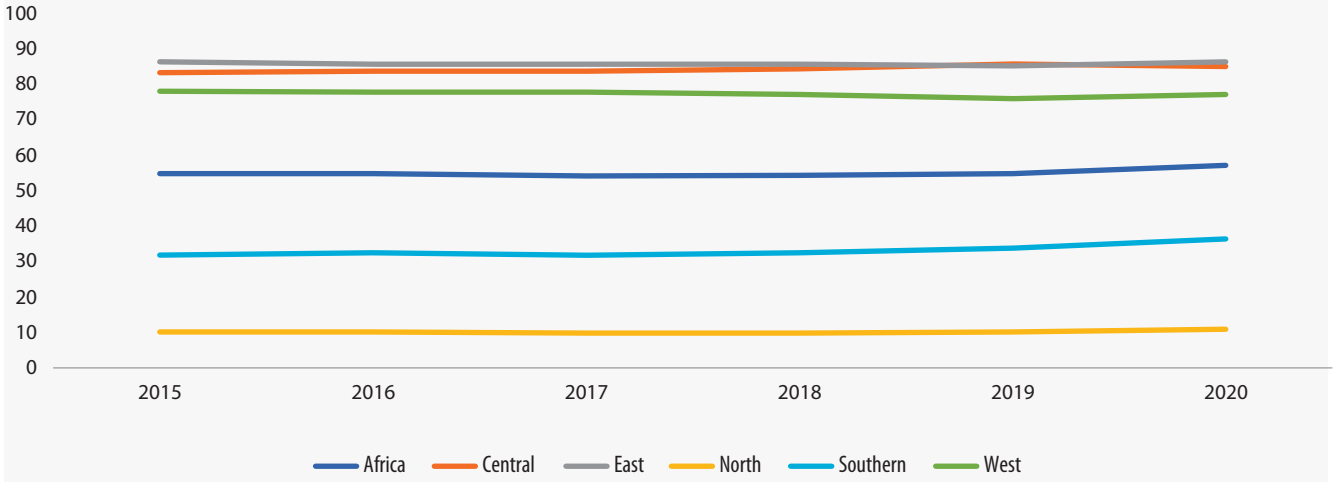


Source: Author's elaboration on the basis of data from United Nations (2023c).

Figure 18 shows that the share of renewable energy in total final energy consumption in Africa increased from 54.7 per cent in 2015 to 57.1 per cent in 2020. In 2020, renewable energy accounted for an estimated 85.16 per cent of total final energy consumption in Central Africa, which was followed by West Africa (76.82 per cent), Southern Africa (36.34 per cent) and North Africa (10.90 per cent). The best performing countries in terms of the use of renewables were the Central African Republic, the Democratic Republic of the Congo, Somalia and Uganda, where the share of renewable energy in total final consumption was above 90 per cent. Improvements are still required in several countries, including Algeria, Egypt, Equatorial Guinea, Libya and Seychelles, where the share of renewables in the energy mix remains below 10 per cent.

To exploit renewables sufficiently, African countries will need to address several structural barriers, including the energy access gap, the required level of technological sophistication and technical expertise necessary for the successful exploration, processing and distribution of renewables, and the environmental and social costs of exploration. The efforts of Ethiopia to exploit renewable energy sources are described in box 5.

Figure 18: Percentage of renewable energy in total final energy consumption in Africa as a whole and in the five African subregions, 2015–2020



Source: Author's elaboration on the basis of data from United Nations (2023c).

Box 5: Efforts by Ethiopia to exploit its renewable energy potential

Ethiopia has abundant renewable energy resources, including hydropower, geothermal power, wind power and solar power. The country has adopted policies, strategies and programmes that promote green energy use. As a result, Ethiopia has been at the forefront of the countries promoting green energy. One of the country's most significant achievements in that area is the construction of the Grand Ethiopian Renaissance Dam and an associated hydroelectric power plant on the Blue Nile river. Once completed, this will be one of the largest dams in Africa and will generate more than 6,000 megawatts of electricity. The project will provide electricity not only to Ethiopia but also to neighbouring and other countries. Another notable green energy project is the Adama II Wind Farm, which generates more than 153 megawatts of electricity, thereby providing clean energy while also reducing carbon emissions.

Source: Ethiopia, Ministry of Planning and Development (2023).

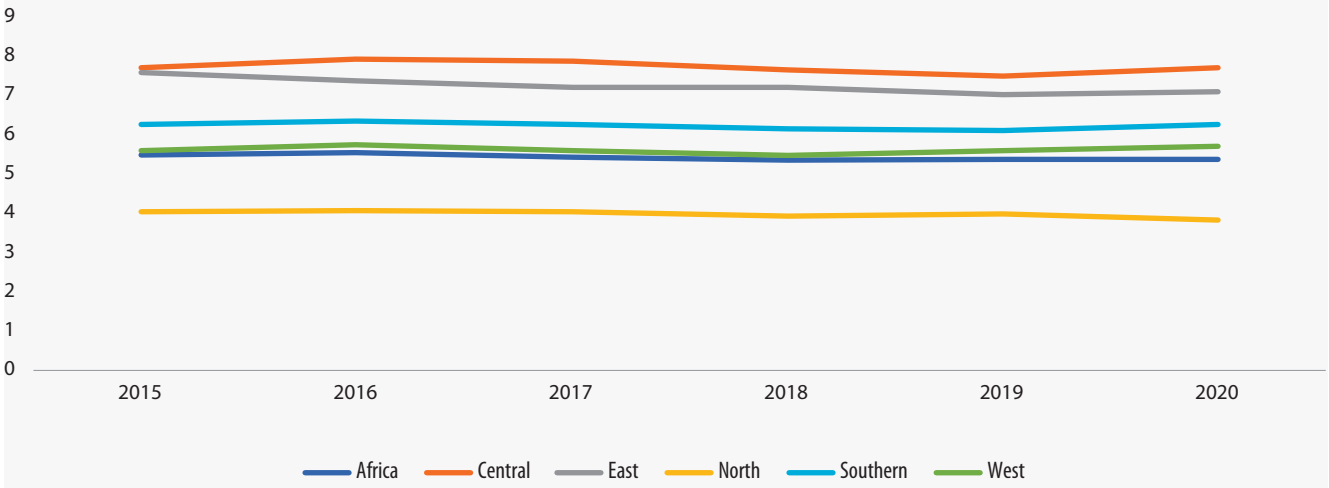
3.1.4 Energy efficiency

Target 7.3: By 2030, double the global rate of improvement in energy efficiency

Indicator 7.3.1: Energy intensity measured in terms of primary energy and GDP

Figure 19 shows that primary energy intensity in Africa, defined as total energy supply per unit of GDP, changed only slightly, from 5.4 megajoules per dollar in 2015 to 5.36 megajoules per dollar in 2020. That change is less than the 2030 target that calls for an annual improvement in energy intensity of 2.6 per cent. The 2020 figure is higher than the global average of 4.63 megajoules and the average for the least developed countries of 4.69 megajoules in that year (UNDP, 2023). Regional and country-level disparities are

Figure 19: Energy intensity measured in terms of primary energy (Megajoules per constant 2017 purchasing power parity GDP)



Source: Author's elaboration on the basis of data from United Nations (2023c).

also apparent. The lack of progress can be attributed to several factors, including changes to economies during the COVID-19 pandemic, which resulted in more energy-intensive industrial production. Additionally, only minor improvements in technical efficiency have occurred, particularly as low energy prices meant that there was little incentive to promote energy efficiency (United Nations, 2022b).

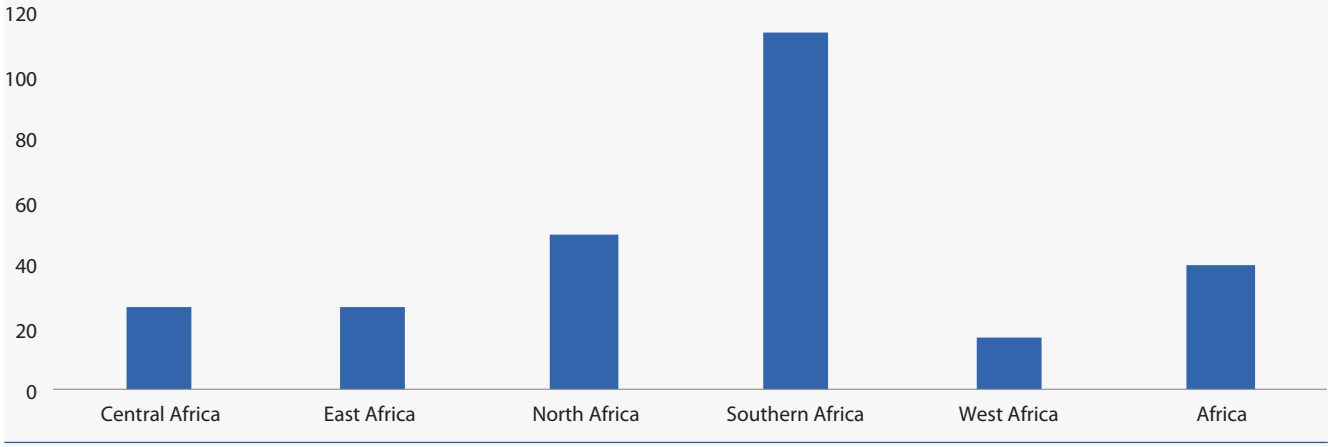
3.1.5 Infrastructure and technology

Target 7.b: By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programmes of support

Indicator 7.b.1: Installed renewable energy-generating capacity in developing countries (in watts per capita)

Installed renewable energy-generating capacity in Africa reached 39.8 watts per capita in 2021, significantly lower than the global average of 268.1 watts per capita but slightly higher than the average for least developing countries of 39.1 watts per capita (UNDP, 2023). As illustrated in figure 20, the best-performing African subregion was Southern Africa (114.3 watts per capita), followed by North Africa (49.2 watts per capita), East Africa (26.3 watts per capita), Central Africa (25.7 watts per capita) and West Africa (16.8 watts per capita). At the country level, Mauritius

Figure 20: Installed renewable electricity-generating capacity, 2021 (Watts per capita)

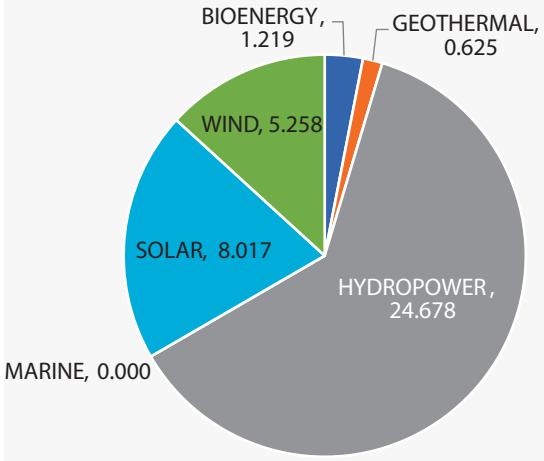


Source: Author's elaboration on the basis of data from United Nations (2023c).

and Namibia were both estimated to have a renewable energy-generating capacity of 198.2 watts per capita in 2020, while several countries, including Benin, Chad, Djibouti, Guinea-Bissau, Libya and South Sudan were estimated at less than 1 watt per capita. Significant investment in renewable energy on a systematic scale remains vital, as international public financial flows in support of clean energy in developing countries has been on a decreasing trend since before the COVID-19 pandemic (United Nations, 2023d). Achieving the African continent's energy and climate objectives is likely to require an annual investment of more than $190 billion between 2026 and 2030, with some two thirds of that sum allocated to clean energy projects (IEA, 2022).

As illustrated in figure 21, hydropower is the prominent source of renewable energy in Africa (24.67 watts

Figure 21: Installed renewable electricity-generating capacity in Africa by type of renewable technology, 2021 (Watts per capita)



Source: Author's elaboration on the basis of data from United Nations (2023c).

per capita), followed by solar power (8.02 watts per capita), wind energy (5.26 watts per capita), bioenergy (1.22 watts per capita) and geothermal energy (0.63 watts per capita).

3.2 Conclusion

Although most African countries are advancing towards their sustainable and renewable energy goals, further action is required if they are to attain the Goal 7 targets by 2030 and the related goals of Agenda 2063. In 2020, three quarters of the world's 730 million people living without access to electricity were in Africa, excluding North Africa. Furthermore, of the 2.4 billion people globally lacking access to clean cooking fuels and technology, four out of ten live in Africa, excluding North Africa (IEA, 2022).

Achieving universal access to clean cooking fuels and technologies, especially for the estimated 970 million Africans who lack access, is critical (IEA, 2022). Accelerating progress in that area could reduce premature deaths caused by pollution and reduce the time spent by many Africans gathering fuel and cooking, and is therefore likely to accelerate women's empowerment and promote their participation in public and civic life (UNCTAD, 2023).

African countries can increase the share of renewable energy in the energy mix by gradually replacing fossil fuels, including natural gas and coal, with renewable energy sources. The careful calibration of the continent's energy mix will be critical, given the vast resource potential of wind, solar, hydro-, and geothermal energy, the abundance of mineral resources used in the production of electric batteries, wind turbines and fuel cells, and the discovery of sizeable natural gas resources in several African countries.

3.3 Policy recommendations

To accelerate the achievement of Goal 7 and the related goals of Agenda 2063, African countries should:

- Improve electrification rates through the modernization and expansion of energy infrastructure, including national grids and mini solar and wind power distribution networks, promote rural electrification programmes and enact reforms to promote competition in the energy sector, including reforms to simplify licensing processes, establish transparent and predictable tariff and subsidy structures, support the entry into the sector of private-sector SMEs, and promote the adoption of efficient power generation and distribution modalities;

- Scale up access to clean cooking options by providing financial incentives to support the production and distribution

of clean cooking technologies, implementing awareness-raising campaigns on the benefits of clean cooking technologies, promoting research and development on improving the efficiency, affordability and accessibility of clean cooking technologies, supporting the local manufacture of modern cooking options, such as biogas, liquefied petroleum gas and clean combustion biofuel, establishing certification standards for cooking options, prioritizing clean cooking in national planning and development plans, and strengthening partnerships and international cooperation with a view to sharing best practices and lessons learned in efforts to improve access to clean cooking technologies;

- Promote a just energy transition by establishing ambitious targets for the deployment of renewable energy, drawing up integrated resource plans for the energy sector, promoting renewable energy technology as a global public good, improving access to renewable energy components and raw materials, shifting energy subsidies from fossil fuels to renewables and scaling up investment in technology and infrastructure;

- Establish public-private partnerships, dedicated funds, subsidies, grants and low-interest loans to support energy companies and encourage household investment in clean energy, promote the development of carbon markets to incentivize low-carbon energy investment, promote microfinance and rural financial programmes to facilitate energy access, especially in rural areas, facilitate the issuance and use of green bonds for clean energy initiatives, introduce risk mitigation instruments to reduce the risks associated with energy investment, and support cross-border energy cooperation and synergies in energy production and trade.

Chapter 4:
Sustainable Development Goal 9 – Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Table 3: Sustainable Development Goal 9 and related goals of Agenda 2063

2030 Agenda	Agenda 2063
Sustainable Development Goal 9 – Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	Goal 1 – A high standard of living, quality of life and well-being for all citizens Goal 4 – Transformed economies Goal 7 – Environmentally sustainable and climate resilient economies and communities Goal 10 – World class infrastructure crisscrosses Africa

4.1 Progress and prospects for the achievement of Goal 9

Goal 9, which has 8 targets and 12 indicators, is focused on three distinct and critical aspects of sustainable development, namely building resilient and sustainable infrastructure, inclusive and sustainable industrialization and research and innovation with a view to formulating long-term solutions to social, economic and environmental challenges. Goal 9 is strongly linked with Goal 4 (quality education), Goal 8 (decent work and economic growth), Goal 11 (sustainable cities and communities), Goal 12 (responsible consumption and production), and Goal 13 (climate action). Those Goals are, in turn, closely linked with Goal 3 (good health and well-being), Goal 5 (gender equality), Goal 2 (zero hunger) and Goal 1 (no poverty). Hence, Goal 9 is highly relevant in efforts to promote development while accelerating structural transformation across the African continent.

4.1.1 Infrastructure

Target 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

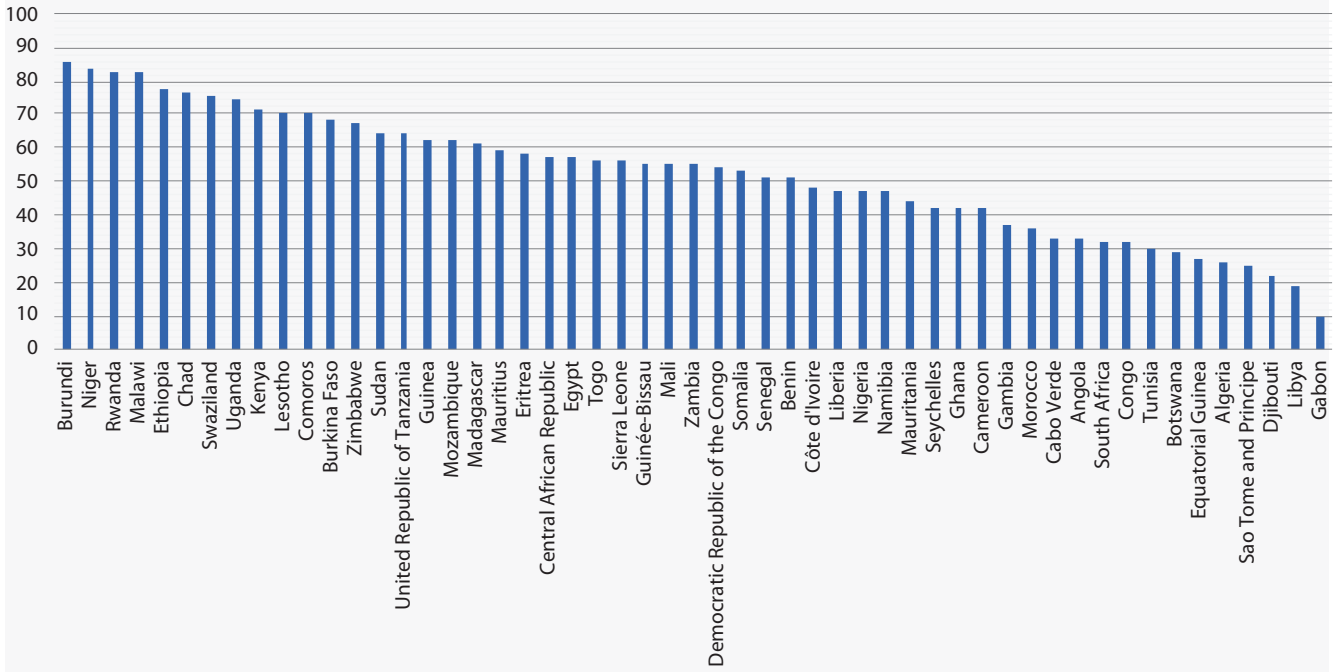
Indicator 9.1.1: Proportion of the rural population who live within 2 km of an all-season road

Investment in infrastructure, especially in transport, energy, and ICT, is crucial for sustainable and inclusive economic transformation. In 2021, the rural population in Europe (47 countries) comprised, on average, 27.34 per cent of the total population. The highest proportion was in Liechtenstein, where 85.53 per cent of the population lived in rural areas, and the lowest was in Belgium, where only 2.00 per cent did so. As shown in figure 22, the rural population in Africa (53 countries) averaged 52.24 per cent of the total population in 2021. The highest proportion was in Burundi (85.94 per cent) and the lowest was in Gabon (9.58 per cent) (The Global Economy, 2023).

The proportion of the rural population of Africa who live within 2 km of an all-season road varies greatly across the continent. For example, some 25 per cent of the rural population of Burundi lived within 2 km of all season road in 2016, while the corresponding figure for Rwanda was 55 per cent, as shown in figure 23.[1] The corresponding figures for Madagascar, Mali and Sierra Leone

1 Owing to a lack of accurate data beyond 2016, it is difficult to ascertain the current status of rural road development in Africa.

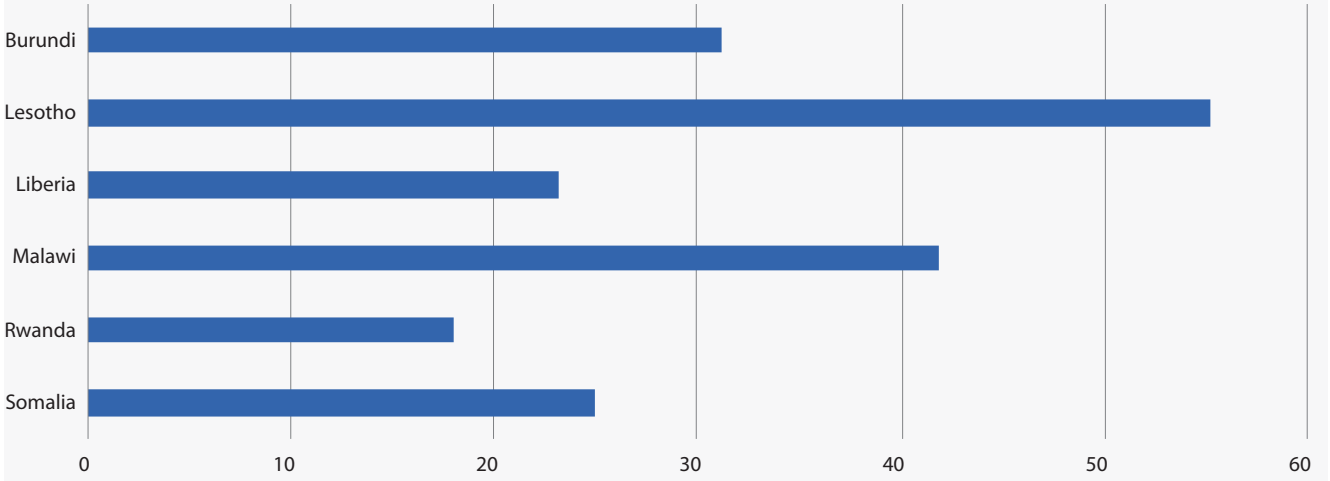
Figure 22: Percentage of the population living in rural areas, African countries, 2021



Source: The Global Economy (2023).

in 2017 were approximately 11 per cent, 22 per cent and 31 per cent, respectively. Although rural accessibility is key to reducing poverty and promoting inclusive economic growth, the vast majority of the continent's rural population does not enjoy access to an all-season road within an approximate walking distance of 2 km, impeding access to critical public services, including schools, health-care centres and other vital facilities. Furthermore, the vast majority of people living in rural areas in Africa are farmers, and a lack of decent roads means that they are often isolated from local, regional and global markets. There is, therefore, a need to accelerate road construction in rural areas, which could significantly increase agricultural productivity, business profitability and employment. Infrastructure development can also foster regional integration and industrialization and empower Africans to exploit the full potential of the Agreement Establishing the African Continental Free Trade Area. In fact, in a report entitled "Progress, challenges, opportunities and priority actions to accelerate the achievement of Sustainable Development Goal 9" (ECA/RFSD/2023/7), ECA estimates that implementation of the Agreement is likely to lead to an increase in demand for road, rail, maritime and air freight of 22 per cent, 8 per cent, 62 per cent and 28 per cent, respectively.

Figure 23: Percentage of the rural population who live within 2 km of an all-season road, selected African countries, 2016



Source: Author's elaboration on the basis of data from United Nations (2023c).

Box 6: Success of Côte d'Ivoire in expanding the national road network

Côte d'Ivoire has already invested more than 3,000 billion CFAF in the development of the national road network and roads to facilitate trade with neighbouring countries. About 48 per cent of the population live in rural areas and the road expansion programme to increase urban-rural connectivity is critical as it facilitates access by those living in rural areas to public services. By the end of 2021, a total of 27,557 km of road had been reprofiled to foster rural connectivity. Other major successes include:

- Construction of 1,300 km of new asphalt roads
- Construction of 300 km of functional motorways
- Repair of 2,500 km of degraded paved interurban roads
- Construction of more than 30 bridges in Abidjan

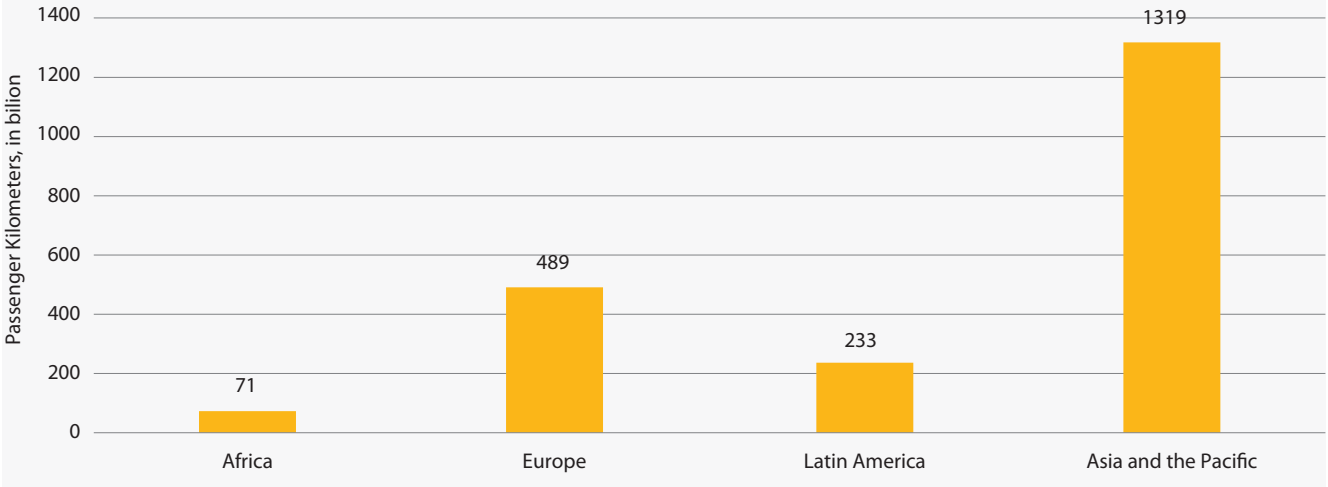
In 2023, Côte d'Ivoire earmarked 15 billion CFAF for the completion of a number of public investment projects. The country has also strengthened domestic resource mobilization by broadening the tax base and is strengthening its financial system in order to accelerate economic development.

Source: Côte d'Ivoire, Ministry of Planning and Development (2023).

Indicator 9.1.2 Passenger and freight volumes, by mode of transport

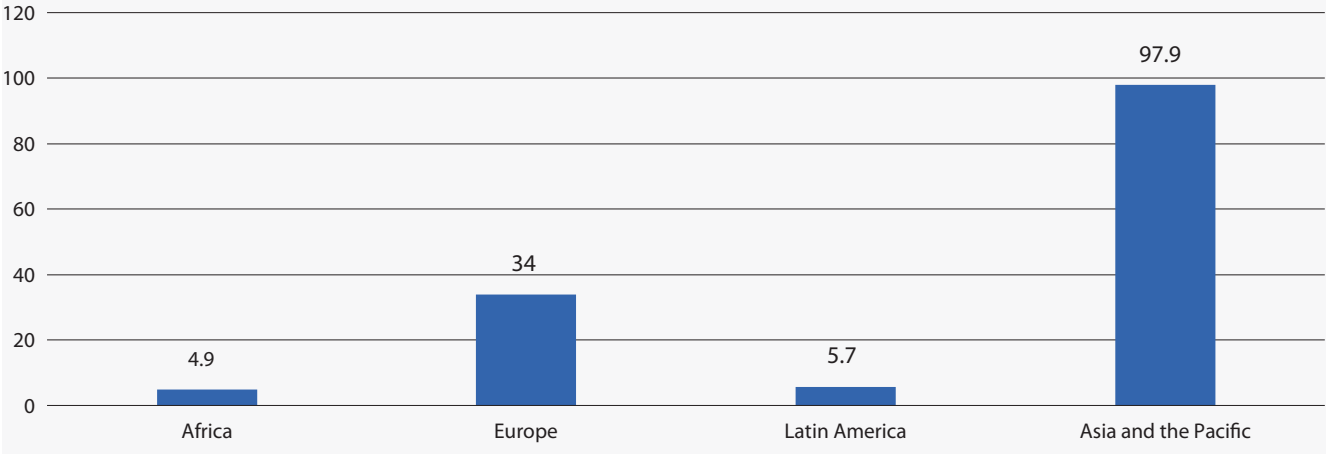
In 2021, the Asia-Pacific region registered the largest volumes in both passenger and freight transport by air, as shown in figures 24 and 25.[2] The Asia-Pacific region is home to more than half the world's population, facilitating economic expansion and the movement of goods and people. Although Africa has a larger population than Europe, the limited size of African economies, low levels of trade and investment within Africa and infrastructure gaps mean that the volumes of passenger and freight transport by air in Europe are far higher than in Africa.

FIGURE 24: Air transport passenger volumes, selected global regions, 2021 (Passenger kilometres flown, billions)



Source: Author's elaboration on the basis of data from United Nations (2023c).

FIGURE 25: Air transport freight volumes, selected global regions, 2021 (Ton kilometres, billions)



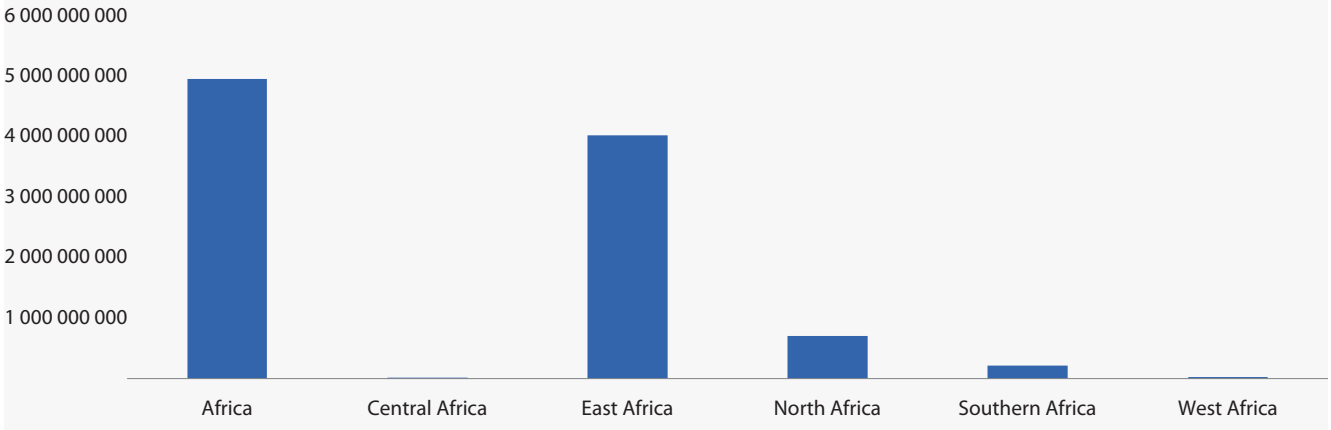
Source: Author's elaboration on the basis of data from United Nations (2023c).

[2] Owing to a lack of data on other global regions for 2021, some regions are excluded from the two figures.

As shown in figure 25, total air freight volume in Africa was 4.9 billion ton kilometres (tkm) in 2021, significantly less than volumes in Europe (34.0 billion tkm), Latin America (5.7 billion tkm) and Asia and the Pacific (97.9 billion tkm). Figure 26 shows that there were substantial differences within Africa in 2021. Volumes were higher in East Africa (4 billion tkm) compared to other subregions, including West Africa (28 million tkm) and Central Africa (1 million tkm). This could be a consequence of the fact that a number of countries in East Africa, including Ethiopia, Kenya and Rwanda, are home to successful national airlines, one of which, Ethiopian Airlines, is the continent's largest airline in terms of passengers carried, destinations served and fleet size.

Passenger and freight volumes vary by mode of transport (air, rail, road and inland waterway) and by country. Between 2018 and 2020, for example, Ethiopia transported more goods by air than other African countries with large national airlines, such as Egypt and South Africa, as shown in figure 27. In contrast, South Africa performed well in rail and road transport, while Egypt performed well in inland waterway transport, as can be seen in figures 28, 29 and 30. In 2019 and 2020, however, freight volume declined in both Egypt and South Africa, primarily as a result of the COVID-19 pandemic, and there was a significant increase in freight volumes in Ethiopia. This suggests that the three countries were affected in different ways by the pandemic. Furthermore, it is becoming clear that countries and companies that put in place strategies to increase their resilience are better able to withstand global or continental shocks. The growth strategy adopted by Ethiopian airlines, for example, helped the company address COVID-19-related challenges and take advantage of emerging opportunities: by converting passenger planes into cargo planes,

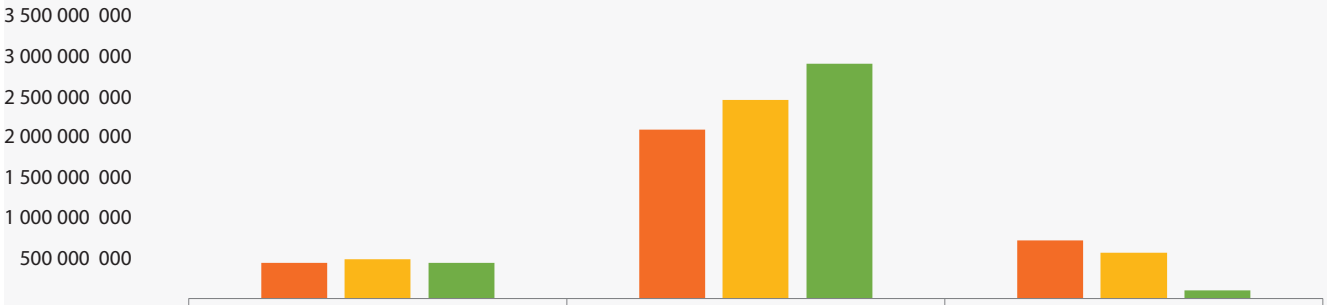
FIGURE 26: Freight volume by air in Africa as a whole and in the five African subregions, 2021 (Ton kilometres)



Source: Author's elaboration on the basis of data from United Nations (2023c).

Ethiopian Airlines was able to transport large quantities of critical medical supplies during the pandemic. As a result, air freight volume in Ethiopia increased by 18 per cent between 2019 and 2020, as shown in figure 27.

Figure 27: Freight volume by air in Egypt, Ethiopia and South Africa, 2018–2020 (Ton kilometres)



	Egypt	Ethiopia	South Africa
2018	437,625,328	2,089,277,540	720,949,566
2019	483,413,879	2,450,272,960	565,209,470
2020	438,908,903	2,897,134,100	102,392,463

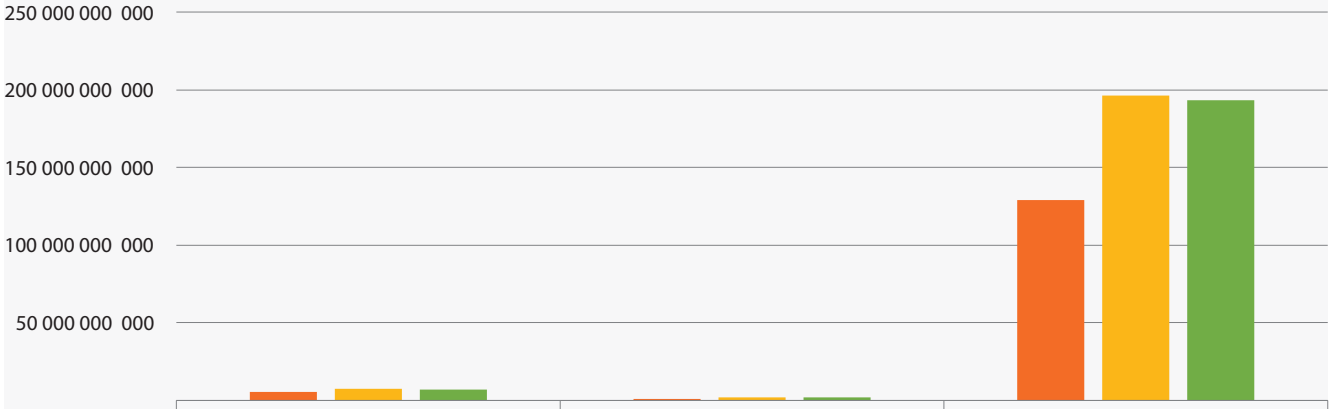
Source: Author's elaboration on the basis of data from United Nations (2023c).

Box 7: Ethiopian airlines and the COVID-19 pandemic – a business success story

The aviation industry was particularly badly affected by the global response to the COVID-19 pandemic. Ethiopian Airlines passenger numbers fell sharply owing to a rapid decline in demand for travel. As a result, the airline was compelled to ground many aircraft and operate at just 10 per cent of its capacity, severely curtailing revenue generation. However, the four-pillar growth strategy previously adopted by Ethiopian Airlines, which focused on human resource development, the acquisition of modern aircraft, infrastructure development and the adoption of innovative technology, enabled the airline to address challenges and exploit emerging opportunities. The airlines shifted its focus to cargo transport and to maintenance, repair, and overhaul. More than 40 aircraft belonging to Middle East and African airlines received maintenance, repair, and overhaul services provided by Ethiopian Airlines, enabling Ethiopian to continue generating revenue. Ethiopian Airlines also reconfigured some 25 passenger aircrafts as freight transporters to increase its cargo capacity in response to increasing global demand for the transport of medical supplies and personal protection equipment and operated more than 360 charter cargo flights that transported vaccines and other medical supplies to over 80 countries. Furthermore, Ethiopian Airlines carried out over 470 charter repatriation flights, reuniting more than 63,000 citizens of different countries with their families and loved ones. The charter cargo and repatriation flights, together with the austerity measures adopted by Ethiopian Airlines, enabled the airline to survive the pandemic.

Source: European Organization for the Safety of Air Navigation (EUROCONTROL) (2021).

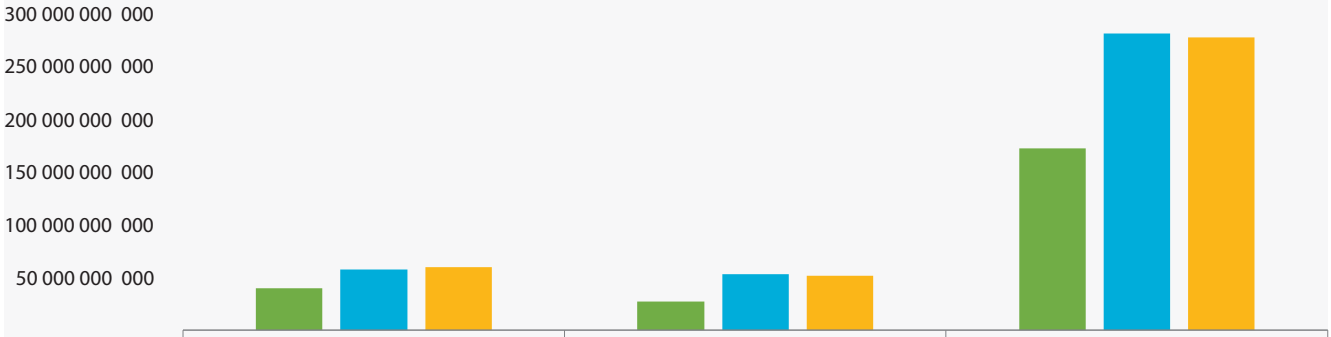
FIGURE 28: Freight volume by rail in Egypt, Ethiopia and South Africa, 2018–2020 (Ton kilometres)



	Egypt	Ethiopia	South Africa
2018	5,458,616,261	788,911,615	129,066,000,000
2019	7,385,000,000	1,939,800,000	196,177,000,000
2020	7,090,000,000	1,927,000,000	193,118,000,000

Source: Author's elaboration on the basis of data from United Nations (2023c).

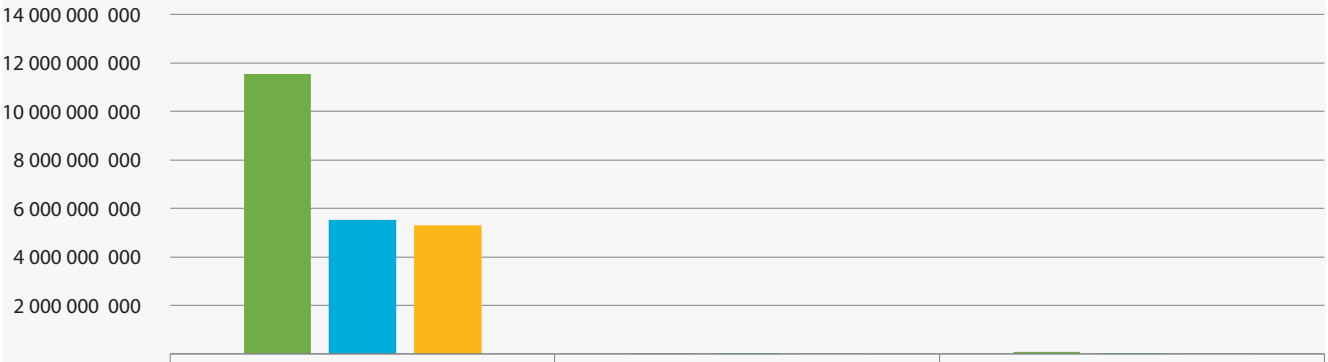
FIGURE 29: Freight volume by road in Egypt, Ethiopia and South Africa, 2018–2020 (Ton kilometres)



	Egypt	Ethiopia	South Africa
2018	39,536,560,789	27,234,776,645	172,133,000,000
2019	57,239,400,000	53,194,200,000	280,438,000,000
2020	59,233,000,000	51,524,000,000	277,303,000,000

Source: Author's elaboration on the basis of data from United Nations (2023c).

Figure 30: Freight volume by inland waterway in Egypt, Ethiopia and South Africa, 2018–2020 (Ton kilometres)



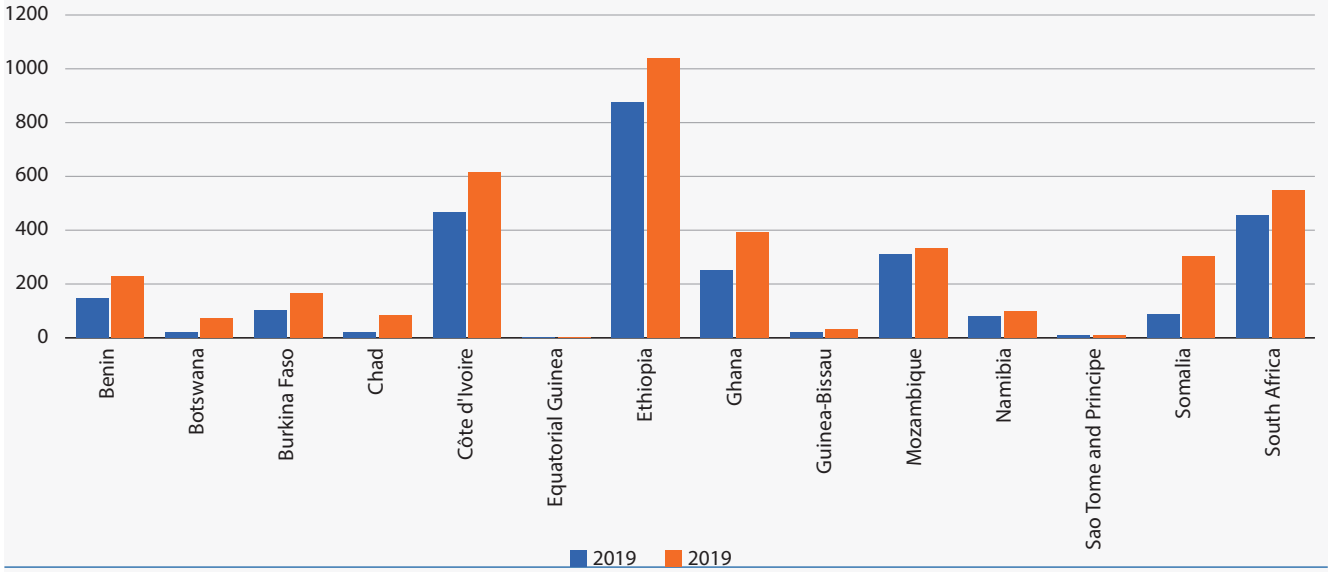
	Egypt	Ethiopia	South Africa
2018	11557240715	15054919	78931003
2019	5525000000	16400000	1000000
2020	5288000000	15000000	1000000

Source: Author's elaboration on the basis of data from United Nations (2023c).

Indicator 9.a.1: Total official international support (official development assistance plus other official flows) to infrastructure

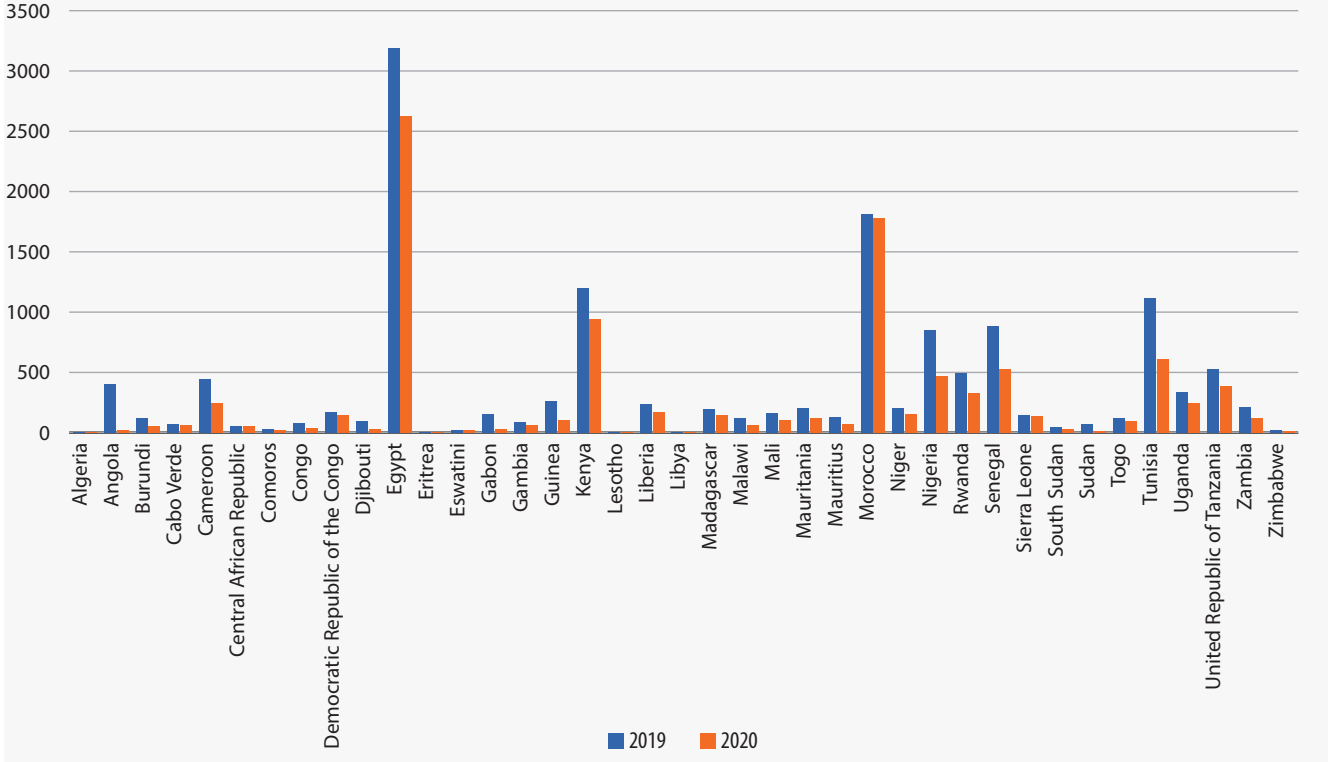
As shown in figures 31 and 32, total official flows for infrastructure development increased between 2019 and 2020 to a number of African countries, including Ethiopia, where flows increased from $874.4 million to $1,039.4 million (an increase of 18.86 per cent) despite the ongoing global response to the COVID-19 pandemic, but they fell sharply to other countries, including Nigeria, where flows fell from $852.2 million in 2019 to $471.9 million in 2020 (a 44.63 per cent decrease). Although official flows to Egypt also declined by some 18 per cent between 2019 and 2020, that country still received some $2.626 billion in 2020 and remained the continent's leading recipient of assistance. Egypt was followed by Morocco, which received $1.781 billion in assistance in 2020. In general, total official flows were lower to countries in West, Central and Southern Africa than to countries in East and North Africa. The Niger, Sao Tome and Principe, and Lesotho, for example, received $154 million, $9 million and $4 million respectively, in 2020. The disparities among countries and subregions in ODA receipts and other official flows for infrastructure in 2019 and 2020 can be explained by the fact that the priorities of countries vary. Some countries prioritized the health sector in response to the pandemic effects. In Lesotho, for example, health and nutrition programmes accounted for 39 per cent of the total ODA spending, while energy, communication and transport accounted for 2 per cent, 2 per cent and 3 per cent, respectively (Lesotho and UNDP, 2021).

Figure 31: Increases in total official flows for infrastructure development, selected African countries, 2019–2020 (Constant 2020 United States dollars, millions)



Source: Author's elaboration on the basis of data from United Nations (2023c).

Figure 32: Decreases in total official flows for infrastructure development, selected African countries, 2019–2020 (Constant 2020 United States dollars, millions)



Source: Author's elaboration on the basis of data from United Nations (2023c).

The first phase of PIDA, the continent's master plan for the development of transport, energy, transboundary water and telecommunications/ICT infrastructure, ended in 2020. In 2021, African Heads of State and Government adopted the PIDA Priority Action Plan for the period 2021–2030, with a total of 69 projects in the areas of transport (28), energy (18), water (12) and ICT (11) to be implemented at an estimated cost of $160.8 billion (African Union, 2020). Securing financing for those projects is critical as it will promote industrialization and innovation in African countries, accelerating economic growth and reducing poverty in the process.

4.1.2 Industrialization

Target 9.2: Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries

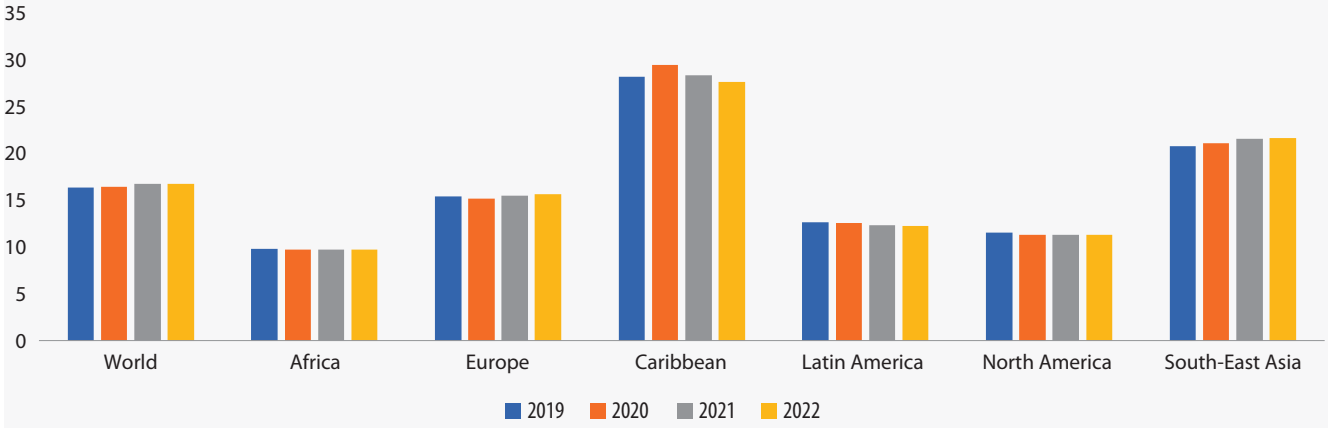
Indicator 9.2.1: Manufacturing value added as a proportion of GDP and per capita

Manufacturing lies at the core of industrialization, which, given its fundamental role in strengthening economic resilience and increasing prosperity, remains the key to the continent's economic transformation. Developing the manufacturing sector can help create jobs, boost incomes and drive innovation, with positive knock-on effects for other parts of the economy.

Despite the socioeconomic repercussions of the global response to the COVID-19 pandemic, manufacturing value added as a proportion of GDP increased slightly at the global level from 16.33 per cent in 2019 to 16.73 per cent in 2022. Manufacturing value added was highest in the Caribbean (27.61 per cent), followed by South-East Asia (21.62 per cent), Europe (15.62 per cent), Latin America (12.22 per cent), North America (11.27 per cent) and Africa (9.72 per cent) in 2022.

Recovery from the pandemic has been uneven across global regions and, as illustrated in figure 33, manufacturing value added as a proportion of GDP in Africa was consistently lower than in other global regions between 2019 and 2022. African countries underperformed for a number of reasons, including inadequate productive capacity, supply chain disruptions resulting from the combined effects of the COVD-19 pandemic and the conflict between the Russian Federation and Ukraine, a decline in global demand and limited policy space to deploy fiscal stimulus measures to support the industrial sector, in particular small industrial enterprises, which continue to face signif-

Figure 33: Manufacturing value added as a percentage of GDP measured in constant 2015 United States dollars, global total and selected regions, 2019–2022



Source: Author's elaboration on the basis of data from United Nations (2023c).

Box 8: Strategies adopted by Zimbabwe to increase value added as a proportion of GDP

Zimbabwe has implemented a number of strategic programmes to accelerate industrialization, increase local content, develop value chains, encourage investment and boost exports in order to increase the share of manufacturing value added in the economy. In that regard, the 2019 Zimbabwe Investment and Development Agency Act provides for:

- The promotion, entry, protection and facilitation of investment;
- The establishment of the Zimbabwe Investment and Development Agency;
- The establishment of the One Stop Investment Services Centre;
- The repeal of relevant provisions of the Zimbabwe Investment Authority Act, the Special Economic Zones Act and the Joint Ventures Act;
- Other actions incidental to or connected to the foregoing.

Source: Zimbabwe, Ministry of Public Service, Labour and Social Welfare (2023).

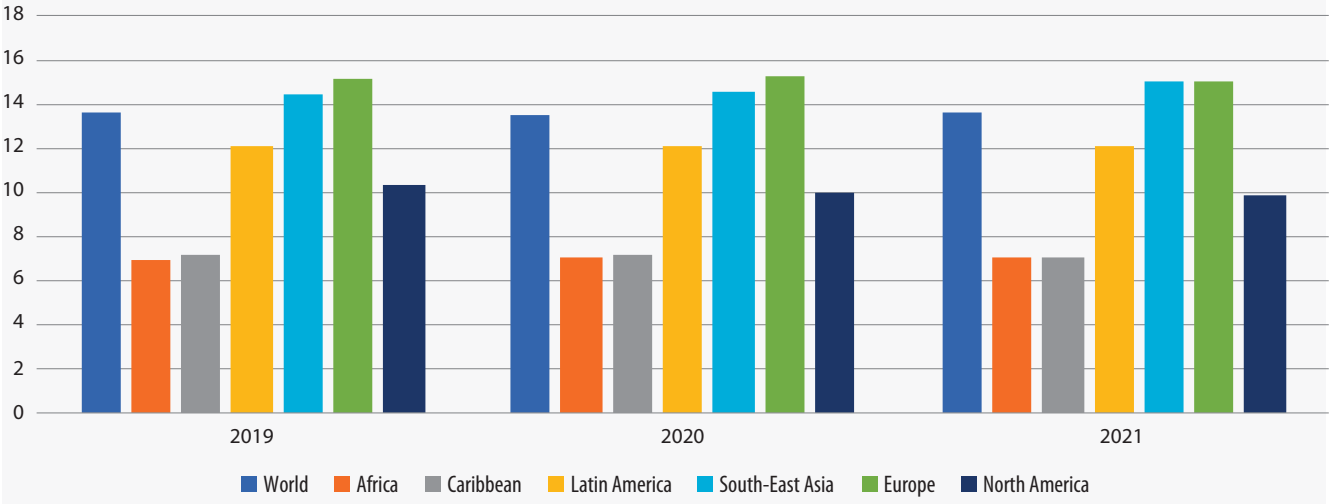
icant challenges in accessing credit.

Indicator 9.2.2: Manufacturing employment as a proportion of total employment

As shown in figure 34, the proportion of total employment accounted for by manufacturing was uneven across global regions between 2019 and 2021. Africa and South-East Asia showed a slight increase of 0.12 per cent and 0.59 per cent, respectively during that period, while the Caribbean, Europe and North America showed a slight decline of 0.14 per cent, 0.15 per cent, and 0.45 per cent, respectively. In Latin America, there was a slight increase of 0.03 per cent in 2020 compared to 2019, although the proportion declined once again in 2021.

As illustrated in figure 35, the period

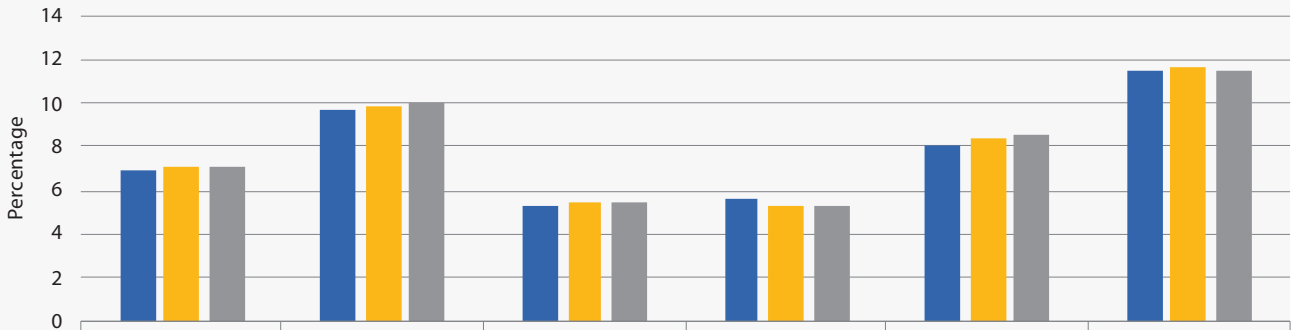
Figure 34: Manufacturing employment as a percentage of total employment, world and selected regions, 2019–2021



Source: Author's elaboration on the basis of data from United Nations (2023c).

2019 to 2021 witnessed an increase in manufacturing employment as a share of total employment in Africa. In 2021, North Africa had the highest manufacturing employment rate (11.55 per cent), followed by Central Africa (10 per cent), and West Africa (8.48 per cent). Although East Africa had the lowest rate (5.47 per cent) in 2021, an increase of 0.17 per cent occurred in that subregion between 2019 and 2021, while manufacturing employment as a share of total employment declined in Southern Africa by 0.22 per cent over the same period. The increase in manufacturing employment in Africa could be the consequence of the boom in the construction of roads, buildings, railways and other infrastructure, which, in turn, increased the demand for inputs for manufacturing material, such as cement, steel and polyvinyl chloride. Input production provides synergistic effects to augment employment for skilled and unskilled workers. Construction paves the way for enormous employment, especially of young people, who play a critical role in the economy of African countries. The total population of Africa was estimated at 1.4318 billion in 2023 (Worldometer, 2023a), with 60 per cent of the continent's population under 25 years of age (World Economic Forum, 2022). Policies that strengthen the productive capacity of young people and create a conducive environment that fosters inclusiveness and encourages investment will strengthen the manufacturing sector in Africa, boost youth employment rates and increase the economic contribution of young people in African States.

Figure 35: Manufacturing jobs as a percentage of total employment in Africa as a whole and in the five African subregions, 2019–2021



	Africa	Central Africa	East Africa	Southern Africa	West Africa	North Africa
2019	6.95	9.63	5.3	5.66	8.14	11.48
2020	7.03	9.85	5.42	5.37	8.38	11.65
2021	7.07	10	5.47	5.24	8.48	11.55

Source: Author's elaboration on the basis of data from United Nations (2023c).

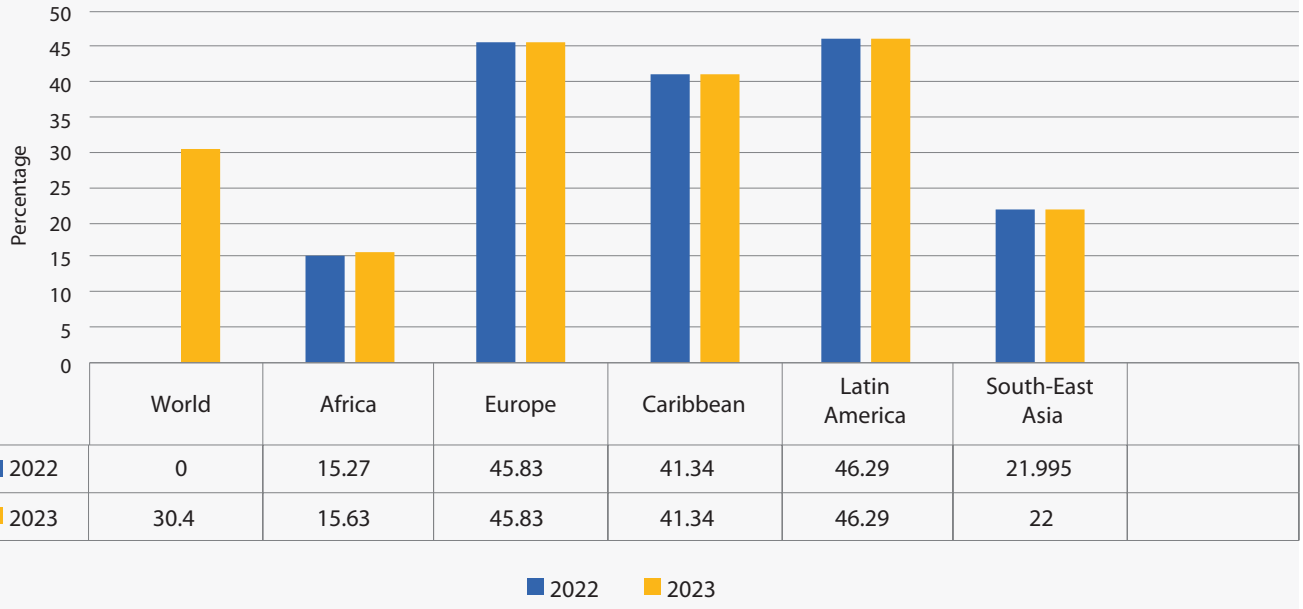
Indicator 9.3.2: Proportion of small-scale industries with a loan or line of credit

Small-scale industrial enterprises play a critical role in African economies as they are a major source of employment and self-employment and play a key role in the development of innovative technologies at the lowest levels of industrial production. They are, therefore, highly important in income generation and poverty alleviation. However, due to their small size and limited resources, they often lack the capacity to withstand unexpected shocks, such as the COVID-19 pandemic, unless they receive support from governments. Access to credit is particularly important to increase their competitiveness, which in turn can increase their contribution to GDP and job creation (UNIDO, 2021).

There are significant differences among global regions in terms of the percentage of small-scale industrial enterprises with access to credit. For example, the percentage of small industrial enterprises in Africa and South-East Asia that took out bank loans or were offered lines of credit was significantly lower than the equivalent percentage in Latin America, Europe and the Caribbean in both 2022 and 2023, although, as shown in figure 36, there were slight increases in both Africa and in South-East Asia in 2023. There are also differences among countries within regions. In Europe, for example, 69 per cent of small-scale industries in Slovenia had access to finan-

cial services in 2019 compared to only 7.3 per cent in Moldova (UNIDO, 2021). In Africa, approximately 37 per cent of small-scale industries in Tunisia had access to financial services in 2020 compared to only 5.52 per cent and 4.13 per cent in South Africa and Egypt, respectively. In Africa, differences are also apparent among subregions and, as shown in figure 37, the proportion of small-scale industrial business enterprises with a loan or line of credit was highest in Southern Africa in 2023, followed by East Africa and North Africa. The comparatively low percentage of loans or lines of credit given to African small-scale enterprises can be explained by the lack of collateral and credit history of those enterprises. Efforts are therefore needed to strengthen the provision of financial services, including loans and lines of credit, to African small-scale industrial enterprises, which, if adequately financed, could play a key role in the economic transformation of the continent.

FIGURE 36: Percentage of small-scale industrial business enterprises with bank loans or access to lines of credit in selected global regions, 2022 and 2023

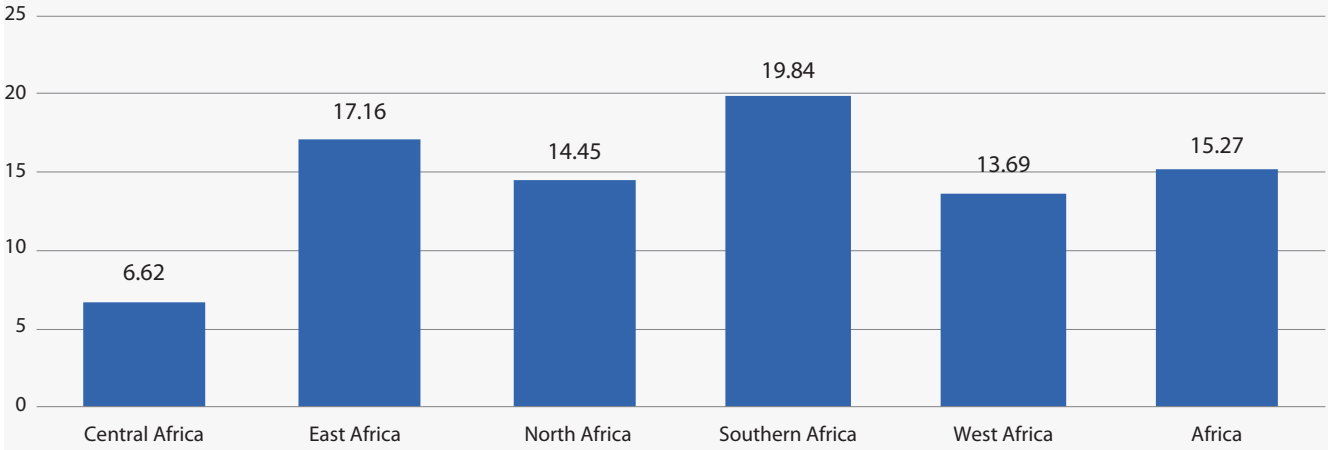


	World	Africa	Europe	Caribbean	Latin America	South-East Asia	
2022	0	15.27	45.83	41.34	46.29	21.995	
2023	30.4	15.63	45.83	41.34	46.29	22	

Source: Author's elaboration on the basis of data from United Nations (2023c).

Note: Data are not available for "World" in 2022.

Figure 37: Percentage of small-scale industrial business enterprises with bank loans or access to lines of credit in Africa as a whole and in the five African subregions, 2023



Source: Author's elaboration on the basis of data from United Nations (2023c).

4.1.3 Innovation

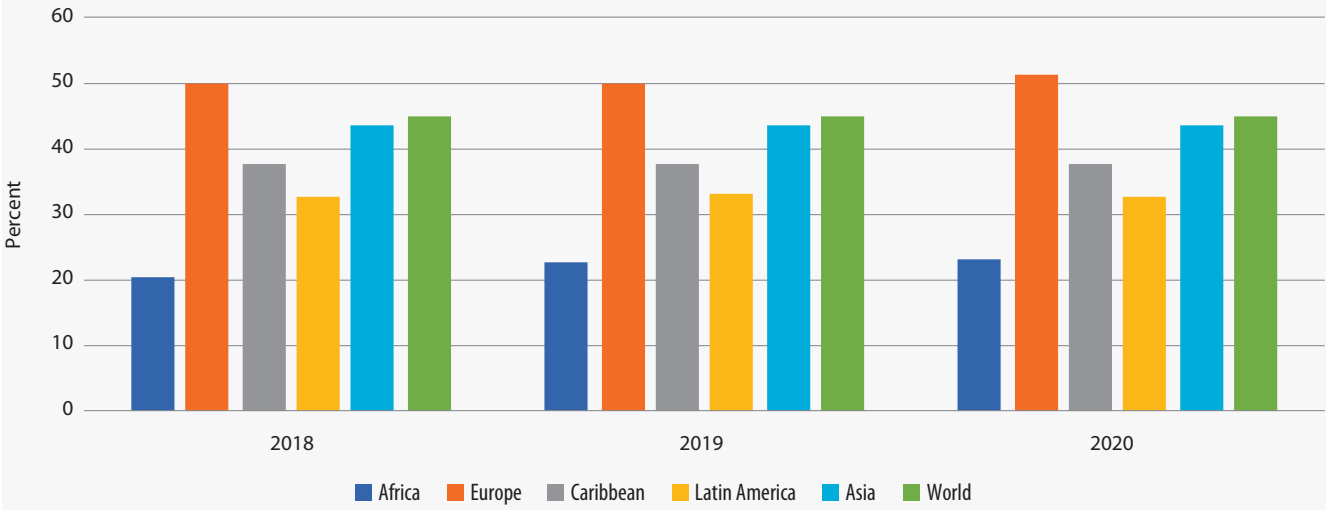
Target 9.b: Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities

9.b.1: Percentage of medium and high-tech industry value added in total value added

As shown in figure 38, the percentage of medium and high-tech manufacturing value added in total manufacturing value added was lower in Africa than in other global regions between 2018 and 2020, owing to the fact that African industry is primarily resource-based and tends to involve low-tech activities. However, there was a 2.41 per cent increase in medium and high-technology industrial activity in Africa between 2018 and 2022, despite the socioeconomic repercussions of the COVID-19 pandemic. That slight increase in the proportion of medium high- and high-tech industrial value added in total manufacturing value added underscores African countries' capacity to adopt innovative technologies in other economic sectors. Growth in medium and high-tech industrial activity, which could spur economic transition and job creation in African countries, will, however, require a major shift from resource-based and low technology activities to medium high- and high-technology activities on the continent.

There are, moreover, notable differences in the share of medium and high-tech industry manufacturing value added in total value added among the continent's subregions, as shown in figure 39. The highest share between 2018 and 2020 was

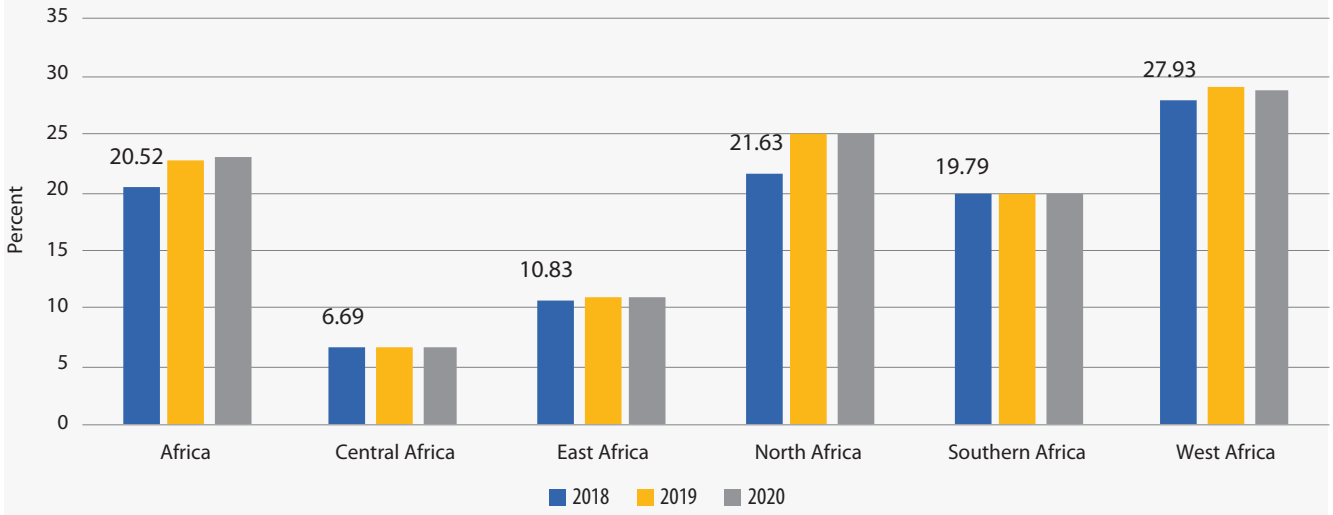
FIGURE 38: Percentage of medium and high-tech manufacturing value added in total value added at the global level and in selected global regions, 2018–2020



Source: Author's elaboration on the basis of data from United Nations (2023c).

in West Africa, which was followed by North Africa and Southern Africa. In general, the share of medium and high-tech industry manufacturing value added in many African countries, including Algeria, Angola, Gabon and Ethiopia, has remained relatively stable or deteriorated since 2000. Several factors affect the share of medium and high-tech manufacturing value added of total value added. They include the capacity to produce and export and to keep abreast of the latest technology, political unrest, poor economic performance and the rapid pace of population growth. It should be noted that the subregional aggregates are simply the sum of the values for each of the countries of each subregion. Larger national economies contributed more to the aggregated values than did the smaller national economies. Given the lack of high-quality data on the Goal 9 indicators, however, it is difficult to report adequately on the progress achieved on the Goal 9 targets by African countries and the likelihood that they will achieve Goal 9 by the 2030 deadline.

FIGURE 39: Percentage of medium and high-tech manufacturing value added in total value added in Africa as a whole and in the five African subregions, 2018–2020



Source: Author's elaboration on the basis of data from United Nations (2023c).

Target 9.5: Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending

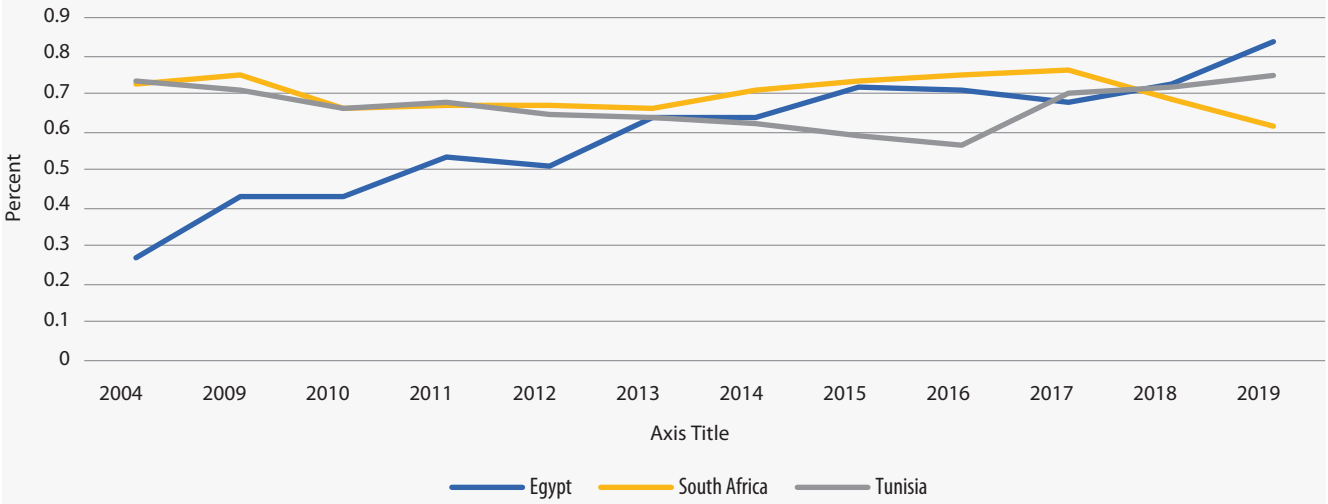
9.5.1: Research and development expenditure as a proportion of GDP[3]

Research and development, which include basic research, applied research and experimental development, are of crucial importance in the development of innovative products and services and in sustaining economic growth. In 2020, Germany, Sweden and the United States of America, all high-income countries with large industrial sectors, spent 3.14 per cent, 3.53 per cent and 3.45 per cent, respectively, of GDP on research and development, while Egypt and Mauritius, two of the African continent's most industrialized economies, spent only 0.96 per cent and 0.42 per cent of GDP, respectively. On average, high-income countries spent 2.97 per cent of GDP on research and development, which is higher than the global average of 2.63 per cent (World Bank, 2023).

As illustrated in figure 40, Egypt and Tunisia increased their research and development expenditure by 0.20 and 0.13 percentage points, respectively, between 2014 and 2019, while South Africa reduced expenditure by 0.09 percentage points. The increases in Egypt and Tunisia may not necessarily be a result of increased investment in research and de-

[3] Data informing indicator 9.5.1 are not available for all African countries and the limited data that are available are often of poor quality, impeding analysis.

Figure 40: Expenditure on research and development as a percentage of GDP, selected African countries, 2004–2019



Source: Author's elaboration on the basis of data from United Nations (2023c).

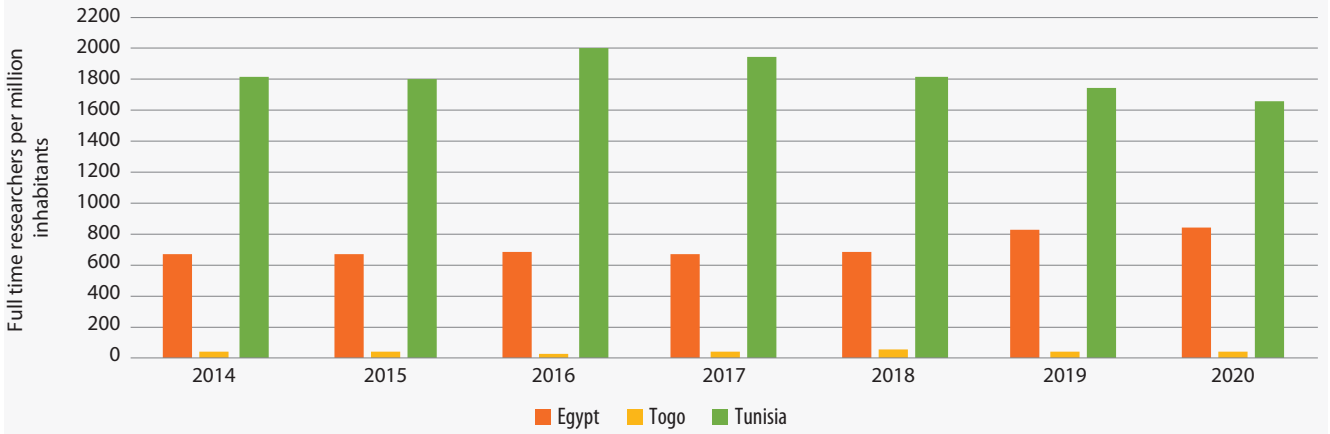
velopment during the period. There could have been a decline in the GDP of the two countries, with the growth in research and development investment outpacing economic growth. Furthermore, although an increase in investment was recorded in those countries, investment levels have not reached the target of 1 per cent of GDP set by the African Union in 2007.[4] No data on research and development have been made available for most African countries, however, and it is therefore not currently possible to conduct Africa-wide analysis of research and development expenditure trends at this time.

Indicator 9.5.2: Researchers (in full-time equivalent) per million inhabitants

Data informing indicator 9.5.2 are available for only a limited number of African countries. For some African countries, only one data point has been made available, making it impossible to assess progress in this area. Figure 41 shows changes in the number of full-time researchers per million inhabitants in Egypt, Togo and Tunisia between 2014 and 2020. In 2020, Tunisia had 1659 full time researchers per million inhabitants, while Egypt and Togo had 837 and 46 full time researchers, respectively, per million inhabitants. Between 2014 and 2019, the number of researchers per million population increased by 163 in Egypt and by 8 in Togo, while the number decreased by 159 in Tunisia. The major factors that contributed to the decrease could include a lack of funding and a low demand for research by policymaking bodies.

[4] Decision 347 (X) of the Executive Council of the African Union.

Figure 41: Number of full-time researchers per million inhabitants in Egypt, Togo and Tunisia, 2014–2020



Source: Author's elaboration on the basis of data from United Nations (2023c).

Target 9.c: Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020

Indicator 9.c.1: Proportion of population covered by a mobile network, by technology

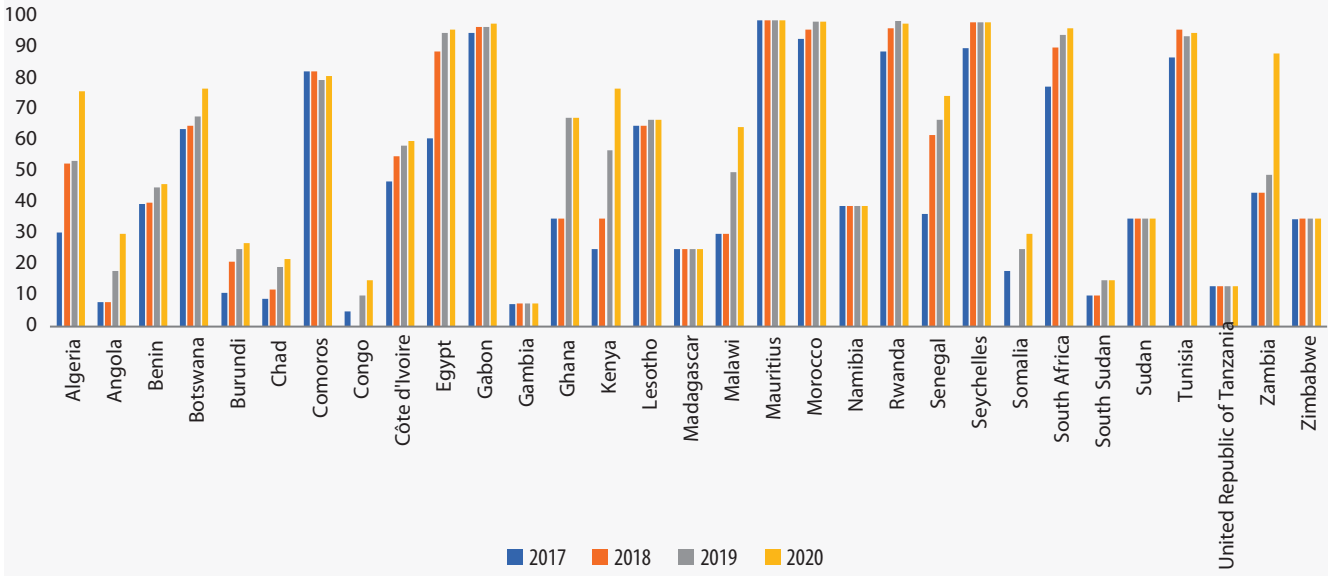
In 2020, there was good 2G mobile network coverage across Africa. On average, 89.24 per cent of the total population of 54 African countries received 2G coverage in 2020. Guinea-Bissau, Mali and Namibia have 100 per cent 2G mobile coverage, while 34 countries had more than 90 per cent coverage. Burundi, the Central African Republic and South Sudan had less than 60 per cent 2G mobile coverage. Some 75 per cent of the population of 53 African countries received 3G mobile network coverage in 2020, while in 30 countries more than 80 per cent of the population received coverage. The Niger and South Sudan had the lowest coverage, at 24 and 15 per cent, respectively. In 2020, 53 per cent of the population of 48 African countries received 4G mobile network coverage, while in 21 countries more than 60 per cent of the population received coverage. In Cameroon, Ethiopia, the Gambia, the Niger, South Sudan, and the United Republic of Tanzania, less than 20 per cent of the population received 4G coverage.

Although mobile network coverage, especially 3G and 4G, is uneven across Africa, there was a 20 per cent increase overall in 4G mobile network coverage between 2017 and 2020, despite the socioeconomic repercussions of the COVID-19 pandemic (figure 42). This is because African countries have continued to invest in infrastructure and innovative technologies to support the establish-

ment of mobile telephone networks. At that rate of implementation, Africa will meet the target by 2030.

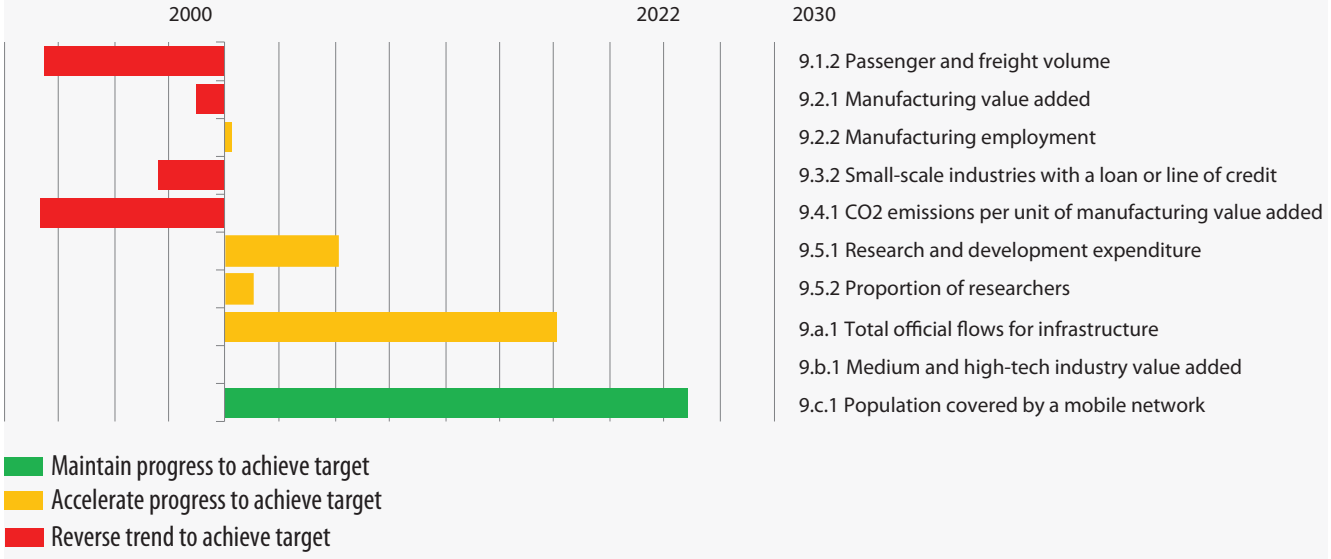
In general, Africa is on track in terms of mobile network coverage and, on current trends, will meet the relevant Goal 9 target by 2030. However, lagging countries need to accelerate their efforts to improve coverage in the coming years. An overview of the performance of African countries on the Goal 9 indicators is provided in figure 43.

FIGURE 42: Percentage of the population receiving 4G mobile network coverage, selected African countries, 2017–2020



Source: Author's elaboration on the basis of data from United Nations (2023c).

FIGURE 43: Action that must be taken on the Goal 9 indicators for African countries to achieve the Goal 9 targets by 2030



Source: United Nations (2023b).

4.2 Conclusion

Progress by African countries on Goal 9 has been mixed. The development of adequate infrastructure plays a key role in driving industrialization and innovation, which in turn plays a pivotal role in job creation, economic growth, and poverty reduction. A number of African countries, including Benin, Côte d'Ivoire, Ethiopia, Somalia and South Africa have recently increased their support for infrastructure development, while expenditure on infrastructure declined in other African countries, including Angola, Egypt, Kenya, Senegal and Tunisia. In 2021, African Heads of State and Government adopted the Programme for Infrastructure Development in Africa (PIDA) Priority Action Plan for the period 2021–2030, to be implemented at an estimated cost of $160.8 billion. Securing financing for projects under the programme will be critical.

Manufacturing lies at the core of industrialization, which remains the key to the continent's economic transformation. At present, some 80 per cent of the population live in rural areas and practise agriculture, either by growing crops or by raising livestock. Developing the manufacturing sector can help increase value addition, create jobs (potentially absorbing excess labour from the agricultural sector), and promote import substitution, with positive implications for the trade balance and foreign exchange reserves of African countries.

Manufacturing value added as a proportion of GDP was lower in Africa than in other global regions. Africa did, however, experience a slight increase in the proportion of employment in manufacturing between 2019 and 2021. Among the five African subregions, North Africa had the highest proportion of the labour force employed in manufacturing, followed by Central Africa. In 2022 and 2023, the percentage of small-scale industrial enterprises with access to credit was lower in Africa than in other global regions. Facilitating access to credit is crucial if African businesses are to improve their competitiveness, create jobs and increase their contribution to GDP.

Technology development, research and innovation are crucial elements in industrial development, which involves a structural transition from resource-based and low technology activities to medium and high-technology industry. Industry in Africa is still mainly resource based and makes use of low-technology activities. As a result, the continent's medium and high-technology industry value added as a proportion of total manufacturing value added is lower than in other global regions.

The share of medium and high-tech industry value added in total manufacturing is uneven across Africa. The share is highest in West Africa, followed by North Africa and Southern Africa. Although expenditure on research and development as a

proportion of GDP is lower in Africa on average than in high-income countries, certain African countries, including Egypt and Tunisia, increased their expenditure on research and development between 2014 and 2019. Limited funding for research and development undermines efforts to promote sustainable and inclusive industrialization. It is therefore critical to provide adequate funding for research and development in African countries. On average, about 89 per cent of the total African population receives mobile network coverage. Mali, Namibia and Guinea-Bissau have 100 per cent 2G mobile network coverage. Africa is on track in terms of its mobile network coverage and on current trends, will achieve the relevant Goal 9 target by 2030.

4.3 Policy recommendations

To accelerate the achievement of Goal 9 and the related goals of Agenda 2063, African countries should:

- Provide fiscal stimuli and access to financial services, including bank loans, to support SMEs so that they survive and prosper during and in the wake of global crises, such as the COVID-19 pandemic, and to strengthen their capacity to create more jobs and drive innovation, which, in turn, alleviate poverty;
- Accelerate the expansion of road construction in rural areas to enhance rural road connectivity, which promotes agricultural productivity, improves business profitability and creates jobs, and to foster regional integration and industrialization and accelerate the implementation of the Agreement Establishing the African Continental Free Trade Area;
- Advance the continent's structural transition from resource-based and low-technology activities to medium high- and high-technology activities with a view to increasing productivity and creating well-paid jobs. This includes providing adequate funding for research and development, expanding manufacturing, increasing value addition and investing in the productive capacity of young people, who currently account for more than 60 per of the African population;
- Enhance national statistical capacities to facilitate the generation of high-quality, timely and internationally comparable data and statistics, with a specific focus on Goal 9 in order to strengthen monitoring and the evaluation of programmes aimed at promoting infrastructure and industrial development.

Chapter 5:
Sustainable Development Goal 11 – Make cities and human settlements inclusive, safe, resilient and sustainable

Table 4: Sustainable Development Goal 11 and related goals of Agenda 2063

2030 Agenda	Agenda 2063
Sustainable Development Goal 11 – Make cities and human settlements inclusive, safe, resilient and sustainable	Goal 1 – A high standard of living, quality of life and well-being for all citizens Goal 4 – Transformed economies Goal 7 – Environmentally sustainable and climate resilient economies and communities Goal 10 – World class infrastructure crisscrosses Africa

5.1 Progress and prospects for the achievement of Goal 11

An assessment of progress towards the achievement of Goal 11 by African countries is particularly important at the current time, when progress towards the achievement of the 2030 Agenda and Agenda 2063 in Africa has been set back by a series of economic, political, social, security and climate-related challenges. Goal 11 is focused on three key dimensions, namely: the accessibility and openness of cities and human settlements; the resilience and sustainability of cities and human settlements; and the sustainability of cities and human settlements. Goal 11 encompasses 10 targets and 14 indicators. However, three indicators, namely indicators 11.3.1, 11.3.2 and 11.c, are not covered in this assessment owing to data gaps.

5.1.1 Accessibility and openness of cities and human settlements

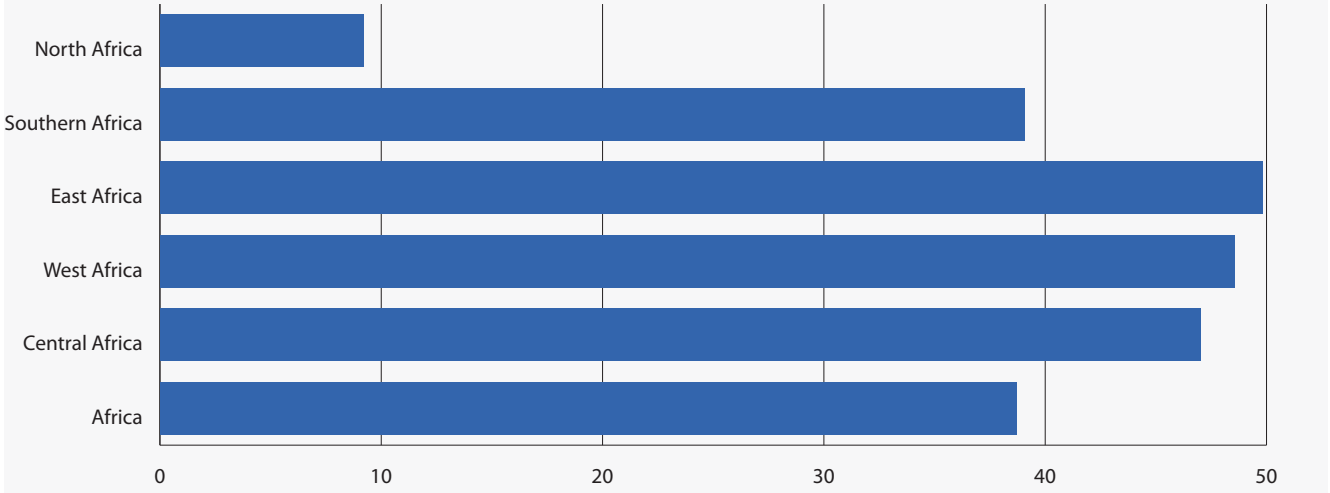
Goal 11 is focused on ensuring universal access to adequate, safe and affordable housing and basic services, and upgrading slum areas.

Target 11.1: By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

Indicator 11.1.1: Proportion of urban population living in slums, informal settlements or inadequate housing

Between 2018 and 2020, the proportion of the urban population living in slums, informal settlements and inadequate housing in Africa averaged 38.72 per cent. As illustrated in figure 44, the proportion was highest in East Africa (49.83 per cent), West Africa (48.54 per cent) and Central Africa (47.01 per cent) and lowest in North Africa (9.19 per cent), implying that the subregions with higher population densities have greater numbers of people living in slums and informal settlements. For instance, East Africa and West Africa have a high population density (73 people per km2) compared with North Africa (34 people per km2). Those three subregions have shown slight decreases in their population growth rates of 0.07 per cent, 0.03 per cent and 0.07 per cent respectively (Worldometer, 2023b).

Figure 44: Percentage of the urban population living in slums, informal settlements and inadequate housing in Africa as a whole and in the five African subregions, 2018–2020

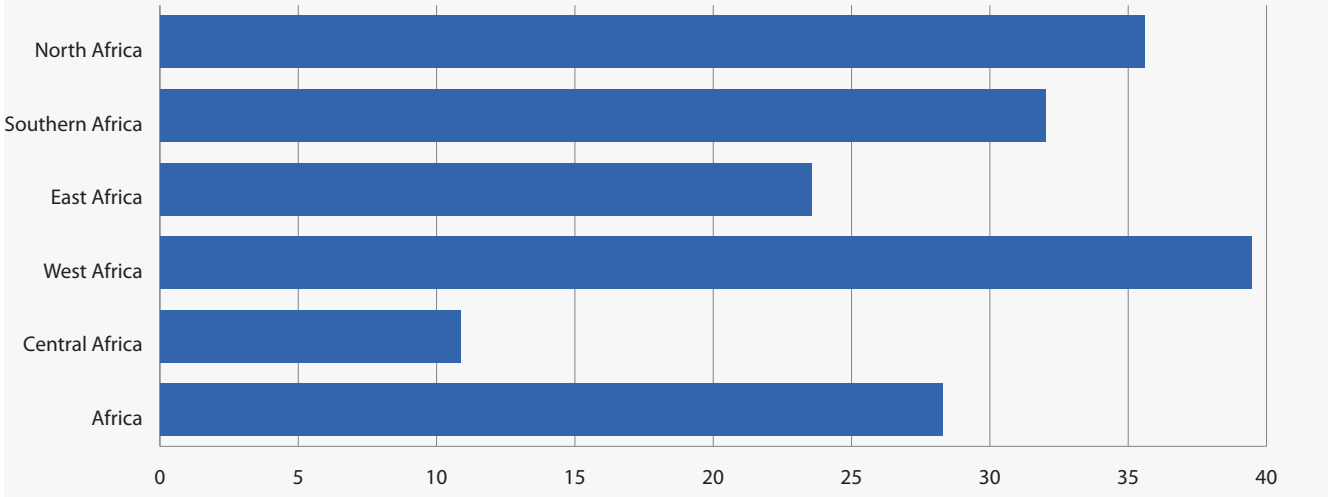


Source: Author's elaboration on the basis of data from United Nations (2023c).

Indicator 11.2.1: Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities

As shown in figure 45, access to public transport in Africa remains low, with only 28 per cent of the population of the continent enjoying access in 2020. The proportion was below 50 per cent in all subregions and lowest in Central Africa (10.85 per cent). Data disaggregated by sex, age and persons with disabilities have not been made available. Figure 2, in section 1.3, illustrates the available data for Sustainable Development Goals and highlights the significant data gaps for Goal 11.

Figure 45: Percentage of the population that has convenient access to public transport in Africa as a whole and in the five African subregions, 2020



Source: Author's elaboration on the basis of data from United Nations (2023c).

Indicator 11.7.1: Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities

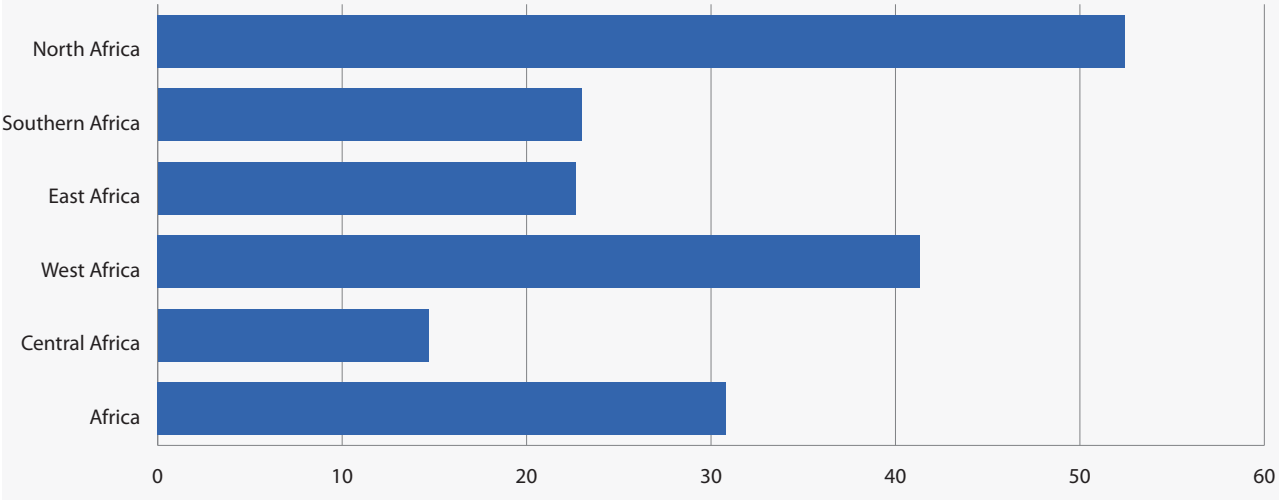
As shown in figure 46, a total of 30.81 per cent of urban areas in Africa comprised open space for public use. That figure is below the recommended target of 45 to 50 per cent of the United Nations Human Settlements Programme (UN-Habitat, 2022). There was considerable variation among subregions, however, with North Africa cities providing the most public space (52.44 per cent), followed by West Africa (41.32 per cent), Southern Africa (22.98 per cent) and East Africa (22.66 per cent). Central African cities had the lowest proportion of public space (14.68 per cent). Disaggregated data are not available for further analysis.

Indicator 11.a.1: Number of countries that have national urban policies or regional development plans that (a) respond to population dynamics; (b) ensure balanced territorial development; and (c) increase local fiscal space

As illustrated in figure 47, national urban policies or regional development plans have been adopted by 45 African countries.

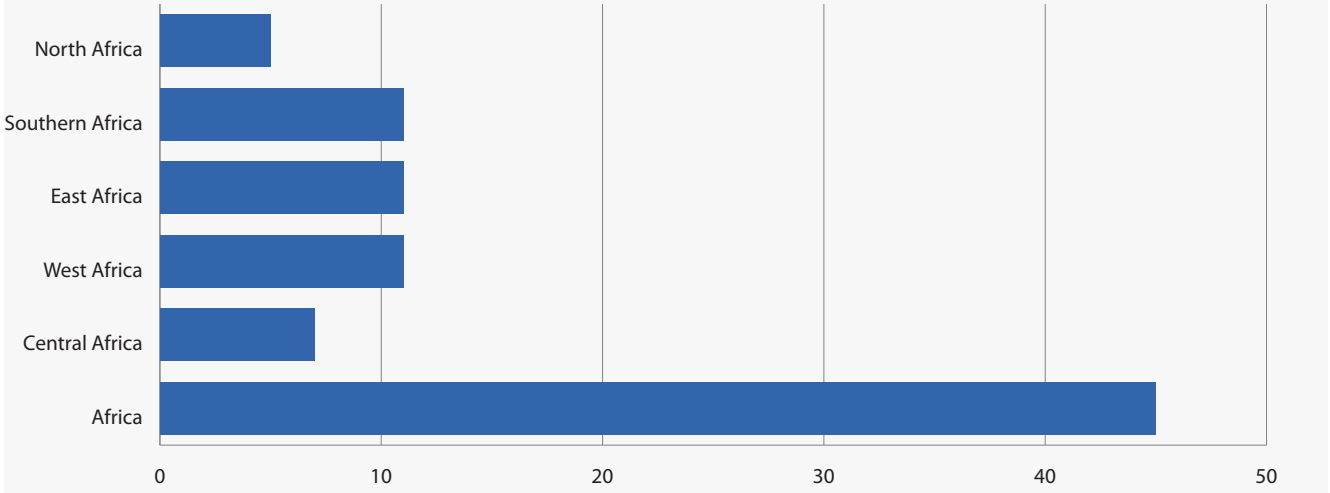
It is not possible to assess indicators 11.3.1 and 11.3.2, owing to the unavailability of relevant data.

Figure 46: Percentage of urban areas comprising open space for public use for all in Africa as a whole and in the five African subregions, 2020



Source: Author's elaboration on the basis of data from United Nations (2023c).

Figure 47: Number of countries that have adopted a national urban policy or regional development plan in Africa as a whole and in the five African subregions, 2020



Source: Author's elaboration on the basis of data from United Nations (2023c).

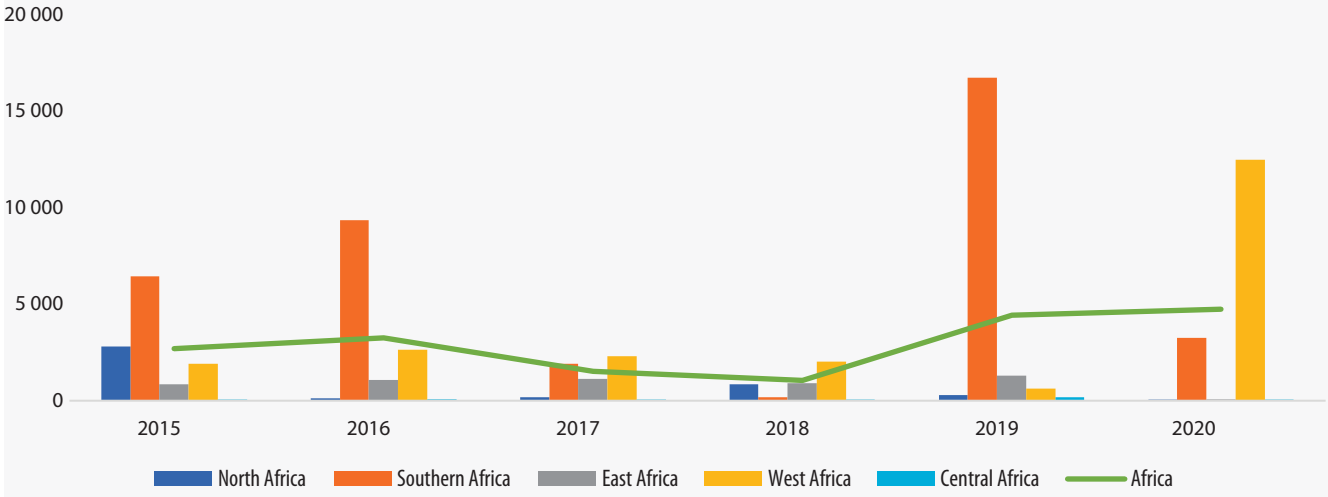
5.1.2 Resilience of cities and human settlements

Target 11.5: By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

Indicator 11.5.1: Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population

Natural disasters continue to have a severe impact on African countries, very often resulting in significant loss of life. As shown in figure 48, in 2020, some 4,735 people per 100,000 population were recorded as dead, missing or directly affected by disasters in Africa, which was almost double the amount in 2015 (2,680 people). In contrast, at the subregional level, Southern Africa has reduced the figure significantly, from 16,707 people in 2019 to 3,275 people in 2020. There has been a huge increase, however, in West Africa, where the figure rose from 639 people to 12,474 people during the same period. The surge is most noticeable in Ghana, where the number increased from 1,346 in 2019 to 71,883 in 2020, possibly as a result of floods in the Savannah Region, which resulted in the displacement of more than 1,000 people. Furthermore, in the same year, 500 and 200 people were displaced as a result of flooding in the Upper East Region and Accra, respectively (Statista, 2022). In 2020, the number was low-

Figure 48: Average number of persons recorded as dead, missing or directly affected by disasters per 100,000 population in Africa as a whole and in the five African subregions, 2015–2020



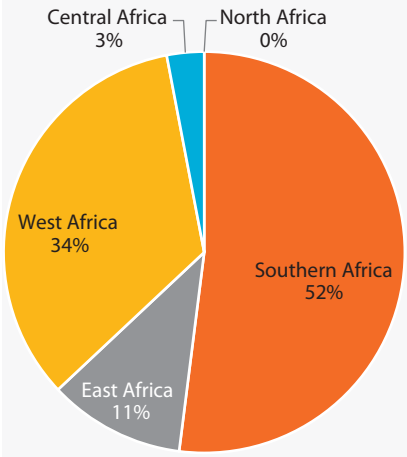
Source: Author's elaboration on the basis of data from United Nations (2023c).

er for countries in Europe, such as Denmark (22.95), France (2.45) and Switzerland (91.72) (Economic Commission for Europe, 2023).

Indicator 11.5.2: Direct economic losses attributed to disasters in relation to global domestic product (GDP).

As illustrated in figure 49, Southern Africa, West Africa and East Africa experienced significant economic losses and disruptions to basic services as a result of disasters between 2015 and 2020. Central and North Africa showed relatively low or no losses during that period.

Figure 49: Economic losses from disasters as a percentage of GDP in the five African subregions, 2015–2020 average



Source: Author's elaboration on the basis of data from United Nations (2023c).

Goal 11 also calls for the adoption and implementation of national and local disaster risk reduction strategies.

Target 11.b: By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels.

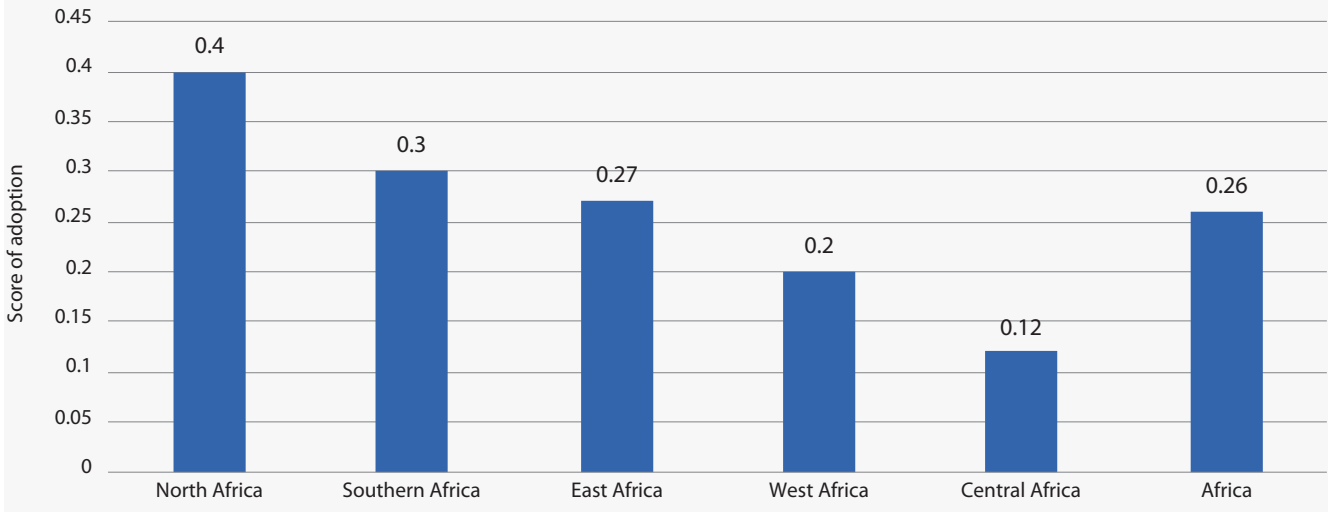
Indicator 11.b.1 Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030.

As shown in figure 50, there are significant differences among the African subregions in terms of their adoption and implementation of national disaster risk reduction strategies. Progress in that regard has been particularly slow in Central Africa.

Indicator 11.b.2: Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies.

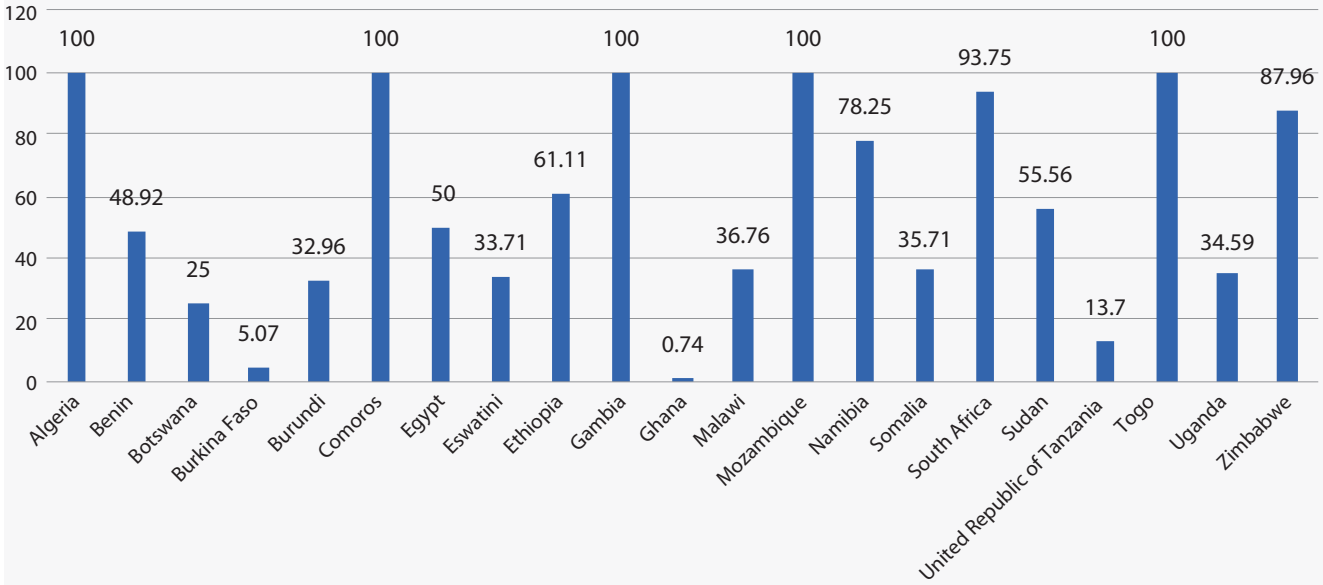
As illustrated in figure 51, a very high proportion of local governments in certain African countries, including Algeria, the Comoros and the Gambia, have successfully adopted and implemented local disaster risk re-

FIGURE 50: Average index score for the adoption and implementation of national disaster risk reduction strategies in Africa as a whole and in the five Africa subregions, 2015–2020



Source: Author's elaboration on the basis of data from United Nations (2023c).

Figure 51: Percentage of local governments in selected African countries that have adopted and implemented local disaster risk reduction strategies, 2015–2020



Source: Author's elaboration on the basis of data from United Nations (2023c).

duction strategies in line with national strategies, while other countries, including Burkina Faso, Ghana and the United Republic of Tanzania, have made limited progress in that regard.

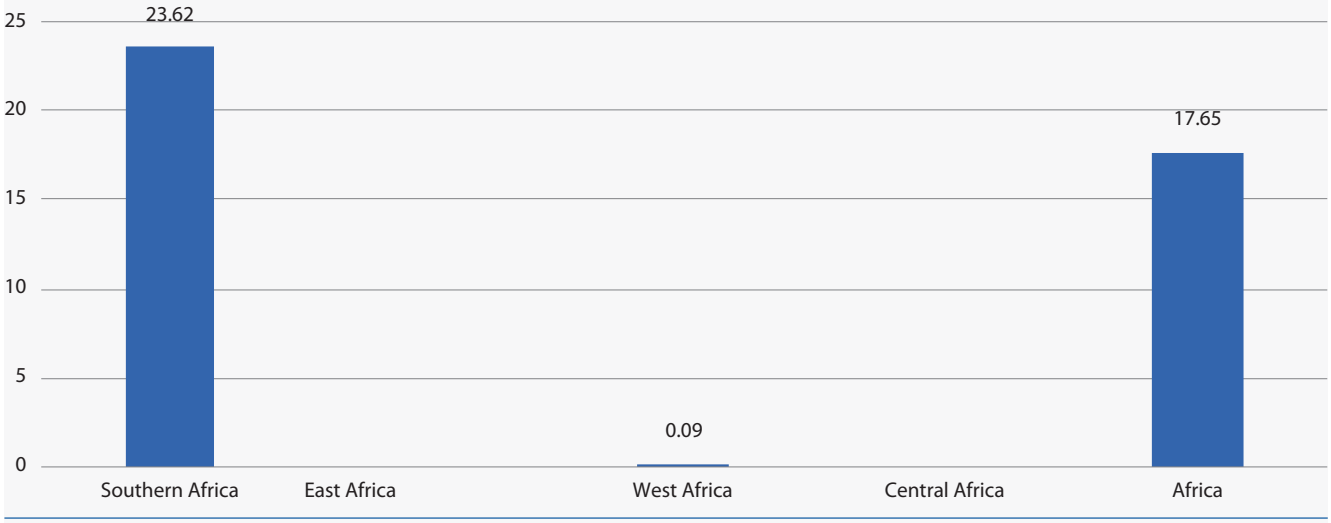
5.1.3 Sustainability of cities

Target 11.4: Strengthen efforts to protect and safeguard the world's cultural and natural heritage

Indicator 11.4.1: Total per capita expenditure on the preservation, protection and conservation of all cultural and natural heritage, by source of funding (public, private), type of heritage (cultural, natural) and level of government (national, regional, and local/municipal)

As shown in figure 52, total per capita expenditure on the preservation, protection, and conservation of cultural and natural heritage in Mauritius in Southern Africa stood at $23.62 per capita in 2020. In Burkina Faso in West Africa expenditure amounted to $0.09 per capita. Those amounts are far below the medium per capita national public and private combined expenditure on cultural heritage in the period 2020–2021 of $89.1 (United Nations Educational, Scientific and Cultural Organization, 2022). No data has been made available on expenditure in other African countries.

Figure 52: Total per capita expenditure on the preservation, protection, and conservation of cultural and natural heritage in Africa as a whole and in selected African subregions (where data is available), 2019–2020 (Constant 2017 United States dollars)



Source: Author's elaboration on the basis of data from United Nations (2023c).

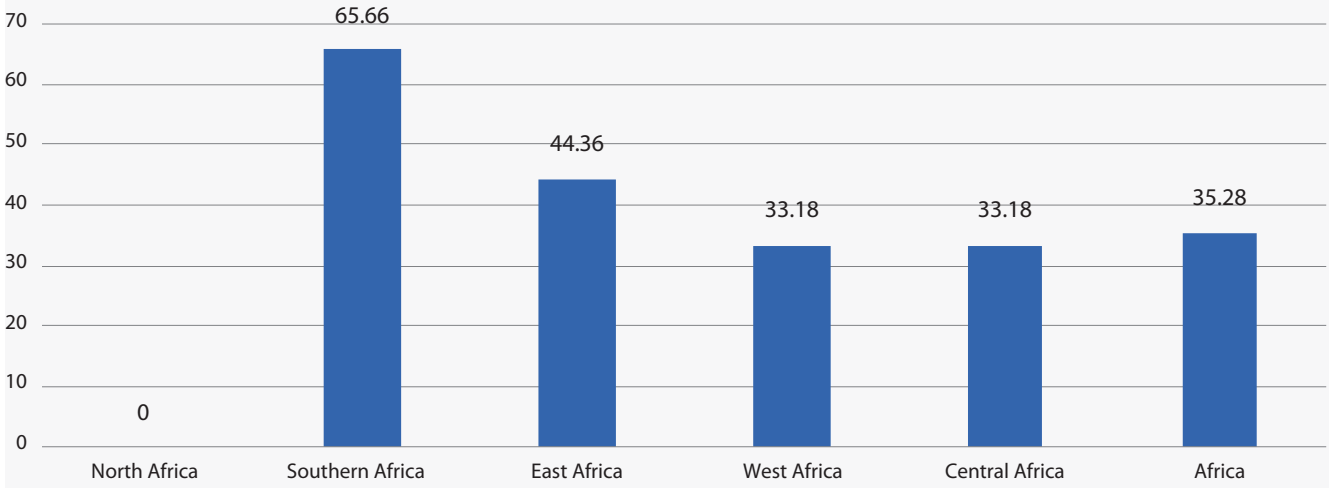
Target 11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

Indicator 11.6.1: Proportion of municipal solid waste collected and managed in controlled facilities out of total municipal waste generated, by cities.

Figure 53 shows that the proportion of municipal solid waste collected and managed in controlled facilities in both Southern Africa (65.66 per cent) and East Africa (44.36 per cent) was higher than the continental average (35.28 per cent) between 2015 and 2020. No relevant data is available on municipal solid waste collection and management in North Africa during that period.

In 2012, 125 million metric tons of municipal solid waste were produced in Africa, and that amount is anticipated to double by 2025 (UNEP, 2018). The increase in waste generation in Africa will be so significant that any decrease in waste generation in other regions of the world will be overshadowed by the growth in Africa. African countries must immediately resolve current waste management issues and prepare for the anticipated increase in waste production, which will necessitate never-before-seen levels of social and technological innovation, and investment in services and infrastructure in the waste and secondary resources sector.

Figure 53: Average proportion of municipal solid waste collected and managed in controlled facilities in Africa as a whole and in the five Africa subregions (where data is available), 2015–2020 (Percentage)



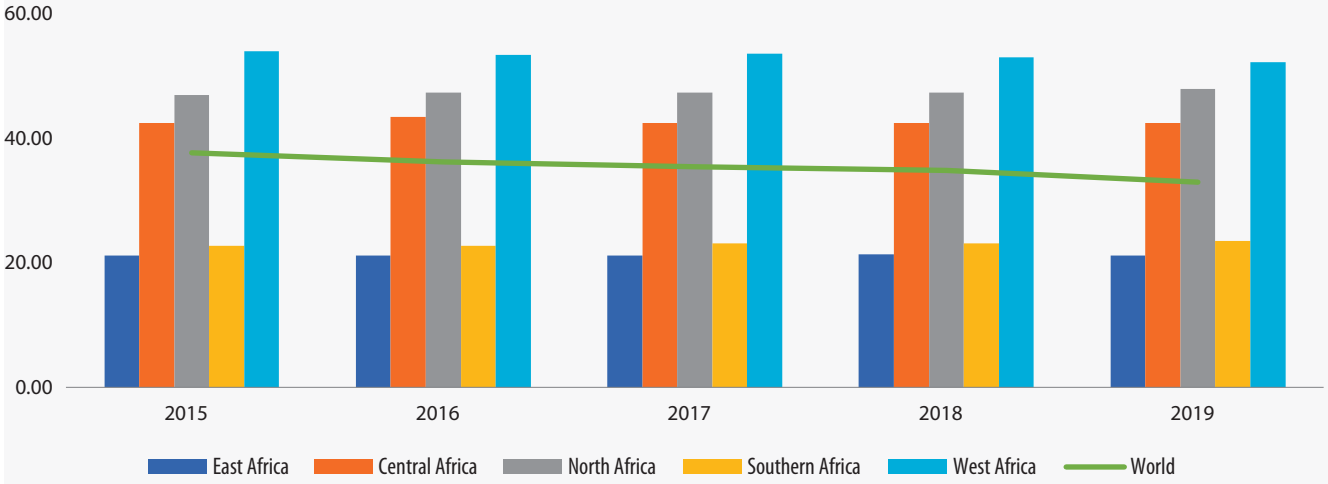
Source: Author's elaboration on the basis of data from United Nations (2023c).

Indicator 11.6.2: Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities, (population weighted).

Many African cities suffer from poor air quality and, as shown in figure 54, a number of Africa subregions recorded high levels of fine particulate matter in cities between 2015 and 2019. Levels of fine particulate matter were especially high in West Africa (52.08 micrograms per cubic metre), North Africa (47.73 micrograms per cubic metre) and Central Africa (42.42 micrograms per cubic metre) in 2019. In contrast, the levels were relatively low in East and Southern Africa, at 21.06 and 23.47 micrograms per cubic metre, respectively compared with the global average of 32.86 in 2019. Altieri and Keen (2019) have shown that, in South Africa, there are significant public health benefits to lowering PM2.5 concentrations across the country, with correspondingly high economic benefits. Hence it is crucial for African countries to work together to reduce the concentrations of pollutants. Stricter limits for annual mean PM2.5 levels globally, such as the United States standard of 12 micrograms per cubic metre or an even lower limit, need to be adopted.

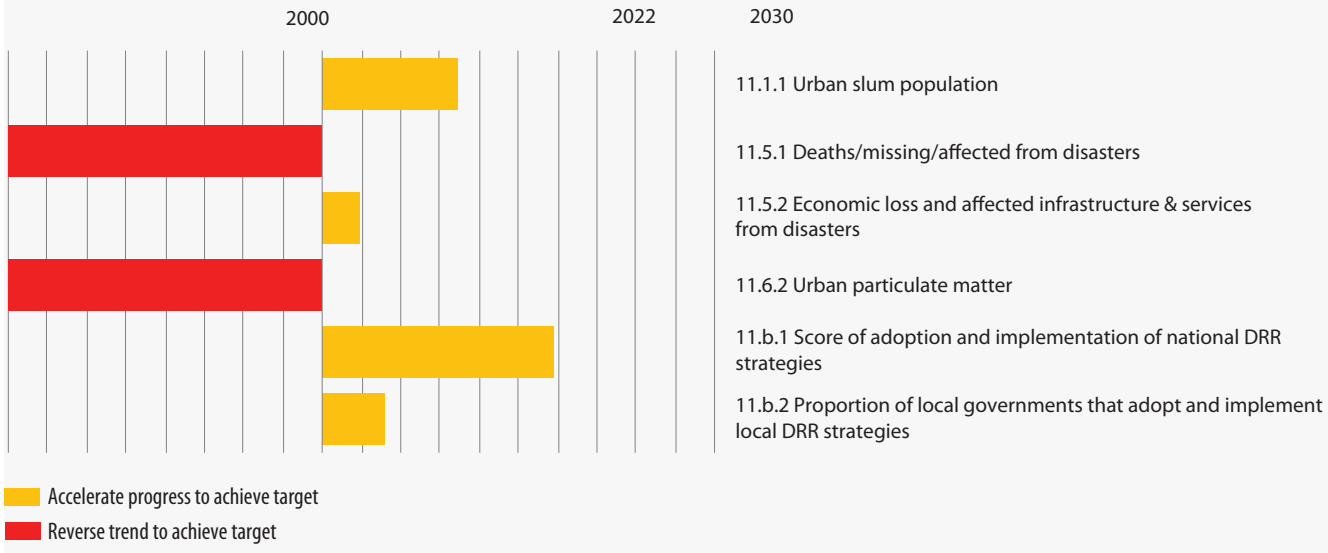
Progress towards the achievement of Goal 11 in Africa has been uneven, with some Goal indicators actually deteriorating in recent years. Most countries must redouble their efforts to meet the Goal 11 targets by 2030. An overview of the performance of African countries on the Goal 11 indicators is provided in figure 55.

Figure 54: Annual mean levels of fine particulate matter (population-weighted) in cities in the world and in five African subregions, 2015–2019 (Micrograms per cubic metre)



Source: United Nations (2023a).

Figure 55: Action that must be taken on the Goal II indicators for African countries to achieve the Goal II targets by 2030



Source: United Nations (2023b).

5.2 Conclusion

Population growth and urbanization trends in African countries make clear the importance of effective urban planning, without which it is unlikely that African countries will achieve Goal 11 by the 2030 deadline or make significant progress on related aspirations, goals and targets of Agenda 2063. Although some progress has been achieved in connection with certain Goal 11 targets, additional efforts are needed, particularly with regard to the Goal 11 targets on disasters, air quality and municipal waste management. Most African countries also need to scale up their efforts to ensure access for all to adequate, safe and affordable housing and basic services. This will require substantial investments in urban planning and in basic socioeconomic infrastructure development and service provision.

5.3 Policy recommendations

To accelerate the achievement of Goal 11 and the related goals of Agenda 2063, African countries should:

-
- Develop policies and institutions to support sustainable and inclusive urban development. Policies should help cities deliver agglomeration economies while reducing the costs associated with increasing congestion. Policy actions to reduce congestion costs should include investments in transport infrastructure to enhance connectivity, both within and among cities, and incentives to encourage socially-beneficial and efficient location decisions by firms;
- Put cities and people's well-being at the centre of interventions to achieve the Sustainable Development Goals and the aspirations, goals and targets of Agenda 2063. Those interventions should include the design, adoption, and implementation of disaster risk reduction plans;
- Strengthen the capacity of institutions to collect and process data and provide up-to-date statistical data on the implementation of the Goal 11 indicators so as to enhance assessments of progress achieved. AUC, ECA and other relevant institutions should provide capacity-building support to African member States to facilitate progress in that area.

Chapter 6:
Sustainable Development Goal 17 – Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

Table 5: Sustainable Development Goal 17 and related goals of Agenda 2063

2030 Agenda	Agenda 2063
Sustainable Development Goal 17 – Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development	Goal 1 – A high standard of living, quality of life and well-being for all citizens Goal 4 – Transformed economies Goal 10 – World class infrastructure crisscrosses Africa Goal 19 - Africa as a major partner in global affairs and peaceful co-existence Goal 20 - Africa takes full responsibility for financing her development

6.1 Progress and prospects for the achievement of Goal 17

Goal 17, which has 19 targets and 25 indicators, covers seven distinct yet critical areas, namely finance, technology, capacity-building, trade, policy and institutional coherence, multi-stakeholder partnerships and data, and monitoring and accountability. Goal 17 is closely linked to the 16 other Goals and is therefore vital in efforts to achieve sustainable development in Africa.

6.1.1 Finance

Target 17.1: Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection

Target 17.2: Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of ODA/GNI to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries

Target 17.3: Mobilize additional financial resources for developing countries from multiple sources

Target 17.4: Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress

Target 17.5: Adopt and implement investment promotion regimes for least developed countries

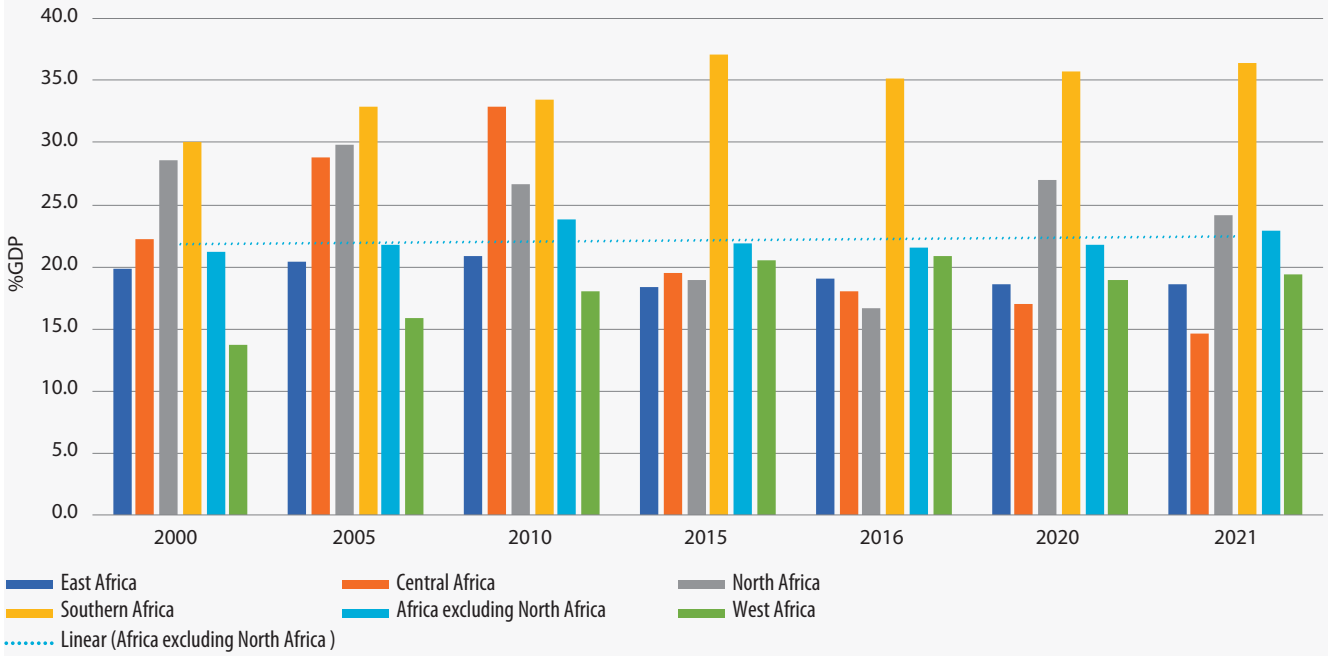
Domestic revenue generation as a percentage of GDP in Africa excluding North Africa declined from 16.5 per cent in 2019 to 15.0 per cent in 2020, before rebounding to 16.4 per cent in 2021. Tax collection capacity varies greatly among African countries, however, and ranges from 34.3 per cent of GDP in Seychelles and Tunisia to only 6.0 per cent in Nigeria. North Africa has the highest average tax collection-to-GDP ratio (22.7 per cent) and Central Africa the lowest (slightly above 10 per cent) (United Nations, 2022a). The factors that contribute to the

low level of domestic revenue generation in Africa include the lack of infrastructure and capital; over-reliance on raw material exports; limited manufacturing and industrial bases; political instability; and human capacity constraints. Additionally, narrow tax bases, weak tax administration, large informal economies and illicit financial flows have contributed to lower-than-anticipated levels of tax collection on the continent.

Figure 56 shows total government revenue as a proportion of GDP in Africa. Total government revenue in Africa has remained relatively stable, increasing slightly from 22.5 per cent in 2000 to 23.0 per cent in 2021. Southern Africa has the highest total government revenue as a proportion of GDP at 36.4 per cent in 2021, while Central Africa has the lowest at 14.6 per cent. Government revenue as a proportion of GDP varied across countries in Africa from 50 per cent in Lesotho to 12 per cent in Madagascar.

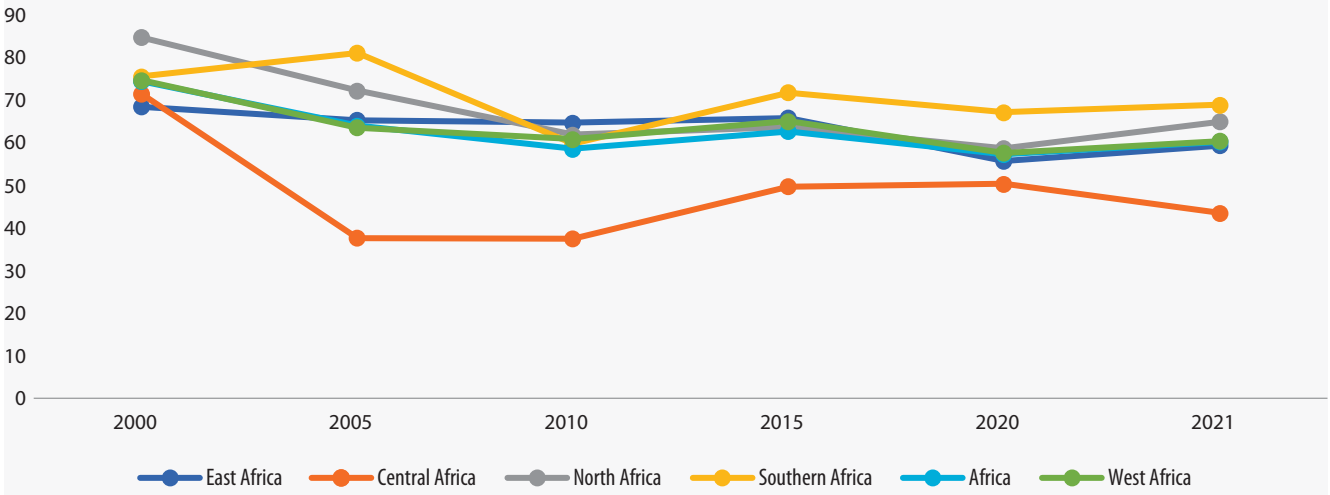
Figure 57 shows that the average proportion of African government budgets financed through domestic taxation fell significantly from 74.4 per cent in 2015 to 60.2 per cent in 2021. At the subregional level, the figure varied from 68.8 per cent in Southern Africa to 43.5 per cent in Central Africa and at the country level from 81.3 per cent and 70.9 per cent in Eswatini and Burundi, respectively, to 44.6 per cent and 42.2 per cent in the Central African Republic and Equatorial Guinea, respectively. Furthermore, Africa loses about $89 billion annually, equivalent to some 6 per cent of the continent's

Figure 56: Total government revenue as a percentage of GDP in Africa and in the five African subregions, 2000–2021



Source: United Nations (2023a).

Figure 57: Percentage of domestic revenue mobilized through domestic taxation in Africa and in the five African subregions, 2000–2021



Source: United Nations (2023a).

GDP, to illicit financial flows, which significantly reduce the domestic resources available to promote development (UNCTAD, 2020).

According to OECD, net ODA to Africa was $177.6 billion in 2021, up 3.3 per cent in real terms from the figure for 2020. Bilateral ODA to African countries by members of the Development Assistance Committee of OECD increased in real terms between 2020 and 2021 by 3.4 per cent to $35 billion, mostly owing to support for COVID-19 vaccination programmes and in-donor refugee costs. Additionally, foreign direct investment flows to Africa, which stood at some $83 billion in 2021, continue to lag significantly behind flows to other global regions such as Asia ($690 billion) and Latin America and the Caribbean ($134 billion). Political uncertainty, underdeveloped infrastructure and outdated negative perceptions of Africa have led to lower foreign direct investment compared to other developing regions. It is important to increase access to nuanced information on opportunities in Africa to boost investment.

As at 31 May 2023, of the 70 countries worldwide in or at risk of debt distress, 38 were in Africa (9 in debt distress, 12 at high risk and 17 at moderate risk) (International Monetary Fund, 2023). Debt service costs as a proportion of the revenue earned on exports of goods and services in Africa excluding North Africa increased from 9.6 per cent in 2019 to 10.7 per cent in 2020 before decreasing slightly to 10.4 per cent in 2021. Many Governments faced increasing health costs as a result of the pandemic and had to borrow more to meet their financing needs, leaving many countries in danger of not meeting their debt obligations.

6.1.2 Technology

Target 17.6: Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism

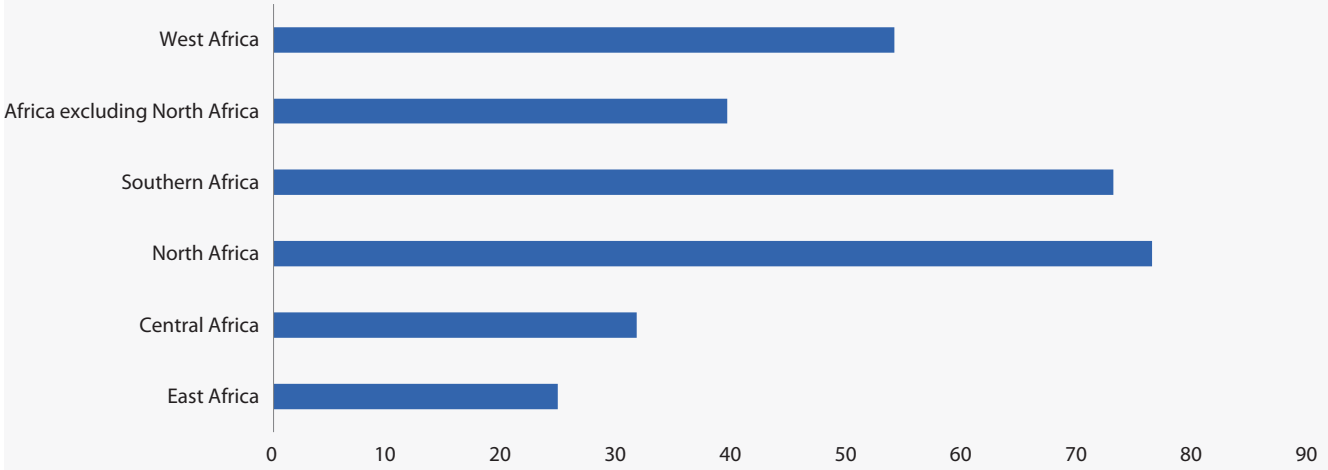
Target 17.7: Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed

Target 17.8: Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology

Although Internet use increased rapidly during the COVID-19 pandemic, Africa and other low-income regions continue to lag behind high-income regions in terms of Internet use. Africa excluding North Africa had 0.64 fixed broadband subscriptions per 100 inhabitants in 2021, significantly lower than the global average of 16.92. In 2021, there were 31 broadband subscriptions per 100 inhabitants in Europe, 29.07 in East Asia, 16.70 in Latin America and the Caribbean and 2.93 in South Asia. Low incomes, inadequate infrastructure, and limited skills and local content have prevented Africa from fully realizing the benefits of increased Internet connectivity.

Figure 58 shows the proportion of individuals using the Internet in Africa in 2022 and illustrates that there are notable differences among the African subregions. The proportion of individuals using the Internet in Africa excluding North Africa increased from 34.9 per cent in 2021 to 39.4 per cent in 2022, led by Southern Africa (72.3 per cent in 2022) and West Africa (53.9 per cent). Internet usage also varied among African countries, with high usage in Morocco (88.6 per cent) and Seychelles (81.5 per cent) and low usage in a number of countries including Uganda (10.3 per cent) and Burundi (5.8 per cent). Africa still invests relatively little in environmentally sound technologies compared with other global regions, including Latin America and the Caribbean, and invest-

Figure 58: Percentage of the population using the Internet in Africa excluding North Africa and in the five African subregions, 2022



Source: United Nations (2023a).

ments in those technologies actually declined in Africa from $8.71 billion in 2015 to only $6.05 billion in 2020 (United Nations, 2023a).

6.1.3 Capacity-building

Target 17.9: Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the Sustainable Development Goals, including through North-South, South-South and triangular cooperation

Total ODA to Africa decreased slightly to $10.53 billion in 2021 from $10.54 billion in 2020. That figure is lower than the equivalent figure for Asia ($13.9 billion) but higher than Latin America and the Caribbean ($8.2 billion) (United Nations, 2023a). Although some African countries have made considerable progress in terms of capacity-building in the past decade, individual, organizational, and institutional capacity limitations in various areas continue to impede efforts by African countries to implement the 2030 Agenda and Agenda 2063. Capacity-building and political will at all levels are critical. Cross-cutting components of policy choices and implementation frameworks are key enablers in efforts to achieve the Sustainable Development Goals and the related aspirations, goals and targets of Agenda 2063. In that context, North-South, South-South and triangular cooperation frameworks are being used to build and share knowledge, expertise, technology, and financial resources (target 17.16) and to foster public-private and civil society partnerships (target 17.17).

6.1.4 Trade

Target 17.10: Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda

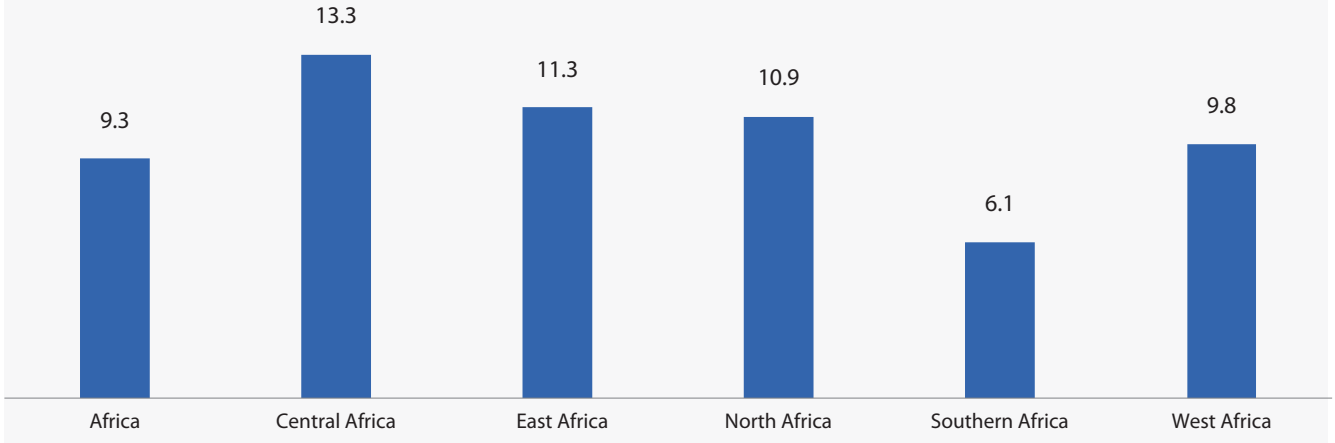
Target 17.11: Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020

Target 17.12: Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access

The African continent's worldwide weighted tariff average increased from 7.5 per cent in 2020 to 9.3 per cent in 2021 (figure 59). The weighted tariff average was highest in Central Africa (13.3 per cent) and East Africa (11.3 per cent). Clothing and textiles, beverages and tobacco and agricultural products were subject to the highest tariff rates, at about 27.0 per cent, 21.6 per cent and 12.7 per cent, respectively.

The continent's share of global exports in 2021 was extremely low, at 2.5 per cent (compared to 42.9 per cent for Asia and 5.4 per cent for Latin America and the Caribbean) (United Nations, 2023a). African

Figure 59: Worldwide weighted tariff-average (weighted mean) for Africa as a whole and the five African subregions, 2021 (Percentage)



Source: International Trade Centre. Market Access Map (n.d.).

exports are highly concentrated in raw materials, with low export levels along critical value chains.

It is expected that the adoption of the Agreement Establishing the African Continental Free Trade Area will lead to a diversification in African exports and boost intra-African trade, thereby helping to reduce the continent's dependence on other regions for critical goods and generating large returns for African economies.

6.1.5 Policy and institutional coherence

Targets 17.13: Enhance global macroeconomic stability, including through policy coordination and policy coherence

Target 17.14: Enhance policy coherence for sustainable development

Target 17.15: Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development

Cross-cutting policies and implementation frameworks are vital for achieving the Sustainable Development Goals in Africa, although institutional reforms are still needed in many countries. A number of organizations are now coordinating efforts to combat illicit financial flows and recover lost assets. Furthermore, ECA has developed 14 institutional tools to help African countries reduce tax avoidance. Those tools have yet to be put into action by most African countries.

The Secretary-General of the United Nations has called for the mobilization of $500 million to accelerate the achievement of the Sustainable Development Goals in developing countries. That stimulus package could include concessional funding provided by multilateral banks, debt relief provided through the Debt Service Suspension Initiative, the

Box 9: Strategy adopted by Malawi to foster policy and institutional coherence

Malawi has established a national coordination framework to address the challenges posed by siloed implementation and policy incoherence. The country has also amended the Political Parties Act, pursuant to which political parties are now required to align their political programmes with the country's National Development Plan. This ensures continuity of implementation when power changes hands between political parties. Malawi has, moreover, incorporated the Sustainable Development Goals into the National Development Plan and the achievement of most of the Goals by 2030 has been set as one of the country's key objectives. Furthermore, the National Statistical Office is now implementing the 2019–2023 National Statistical System Strategic Plan to address data gaps, which continue to undermine the country's development efforts.

Source: Malawi, National Planning Commission (2023).

use of special drawing rights to enhance liquidity and resources raised through specialized funds, including the Global Alliance for Vaccines and Immunization and the Green Climate Fund.

6.1.6 Multi-stakeholder partnerships

Target 17.16: Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries

Target 17.17: Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships

North-South, South-South and triangular cooperation frameworks are being used to build and share knowledge, expertise, technology and financial resources, and to foster public-private and civil society partnerships. The number of countries reporting progress in multi-stakeholder monitoring frameworks that support the achievement of the Sustainable Development Goals increased from 14 in 2016 to 17 in 2018. Partnerships established through innovative public procurement or public-private partnerships will provide the investment, risk-sharing and expertise needed for transformative interventions. Full implementation of the 2030 Agenda requires strengthened collective action and a collaborative approach, leveraging the combined strengths of diverse partners to achieve impact at scale. Building partnerships that generate shared value, transform systems, empower local actors, and leverage digital platforms will be key in making transformative change that ensure that no one is left behind.

6.1.7 Data, monitoring and accountability

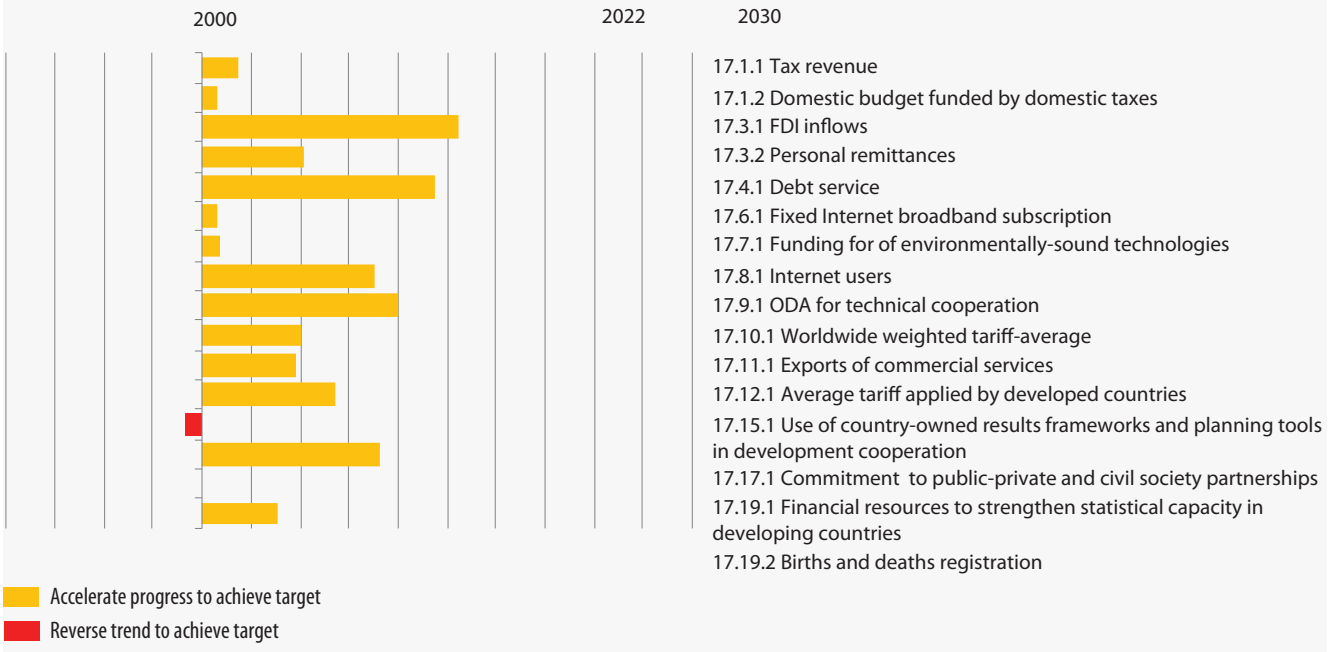
Target 17.18: By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts

Target 17.19: By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries

The African Charter on Statistics and the Strategy for the Harmonization of Statistics in Africa are key frameworks that underpin efforts to strengthen the capacity of national statistical systems in Africa. The frameworks, together with the Fundamental Principles of Official Statistics adopted by the United Nations and the Cape Town Global Action Plan for Sustainable Development Data, create an enabling environment for the enactment of national statistical laws and national strategies for the development of statistics. The availability and accessibility of Africa-country data and statistical information on green growth, the digital economy and human rights, all key for Sustainable Development Goal reporting, are insufficient to support informed decision-making, however, and African countries must redouble their efforts if they are to achieve the Goal 17 targets in that area.

An overview of the performance of African countries on the Goal 17 indicators is provided in figure 60.

FIGURE 60: Action that must be taken on the Goal 17 indicators for African countries to achieve the Goal 17 targets by 2030



Source: United Nations (2023b).

6.2 Conclusion

Overall, Africa has made little progress on Goal 17 and accelerated action is required if African States are to meet most of the Goal 17 targets by the 2030 deadline. To help mitigate the impact of the multiple crises that have recently affected African countries, including the COVID-19 pandemic, climate change and the ongoing conflicts in Ukraine and the Sudan, and the long-term risk of reduced ODA, it is essential for countries to provide predictable financing through enhanced domestic resource mobilization. In addition, the global response to the COVID-19 pandemic has placed a heavy debt burden on many African countries, with average debt servicing costs as a proportion of exports of goods and services increasing from 9.4 per cent in 2019 to 12.6 per cent in 2021 (United Nations, 2023a). This in turn has led to shrinking fiscal space for African Governments, leading many countries to shift vital resources away from financing measures to support development. Access to finance for African countries is impeded by their higher borrowing costs and other less favorable terms than those offered to other countries with similar risk profiles. This so-called "Africa premium" is attributable to unfavorable ratings by the three leading international credit rating agencies, which have, to date, rated only 31 African countries. Although the methodologies, operations and regulation of credit rating agencies have been criticized, financial market regulators still require countries to have a credit rating from at least one of the three leading agencies to borrow from capital markets.

A combination of limited expenditure on research and development, inadequate Internet, power generation and other infrastructure, skills shortages, and an unfriendly policy and regulatory environment in most countries in Africa continue to undermine the adoption of technology and innovation on the continent. Financial and logistical resources are needed at all levels of administration to develop and implement disaster risk reduction strategies, along with policies, plans, laws and regulations in all relevant sectors, including food security, health care, financial services and industry.

Although Africa is producing increased quantities of data on the Sustainable Development Goals, data are still lacking for 52 indicators. The COVID-19 pandemic revealed that African statistical systems are fragile because of weak institutional set-ups, poor infrastructure, and weak capacity to apply in a timely manner the solutions that are critically needed by decision makers. It is essential to strengthen cooperation and collaboration among relevant stakeholders to address data gaps and weaknesses in African statistical systems.

6.3 Policy recommendations

To accelerate the achievement of Goal 17 and the related goals of Agenda 2063, African countries and development partners should:

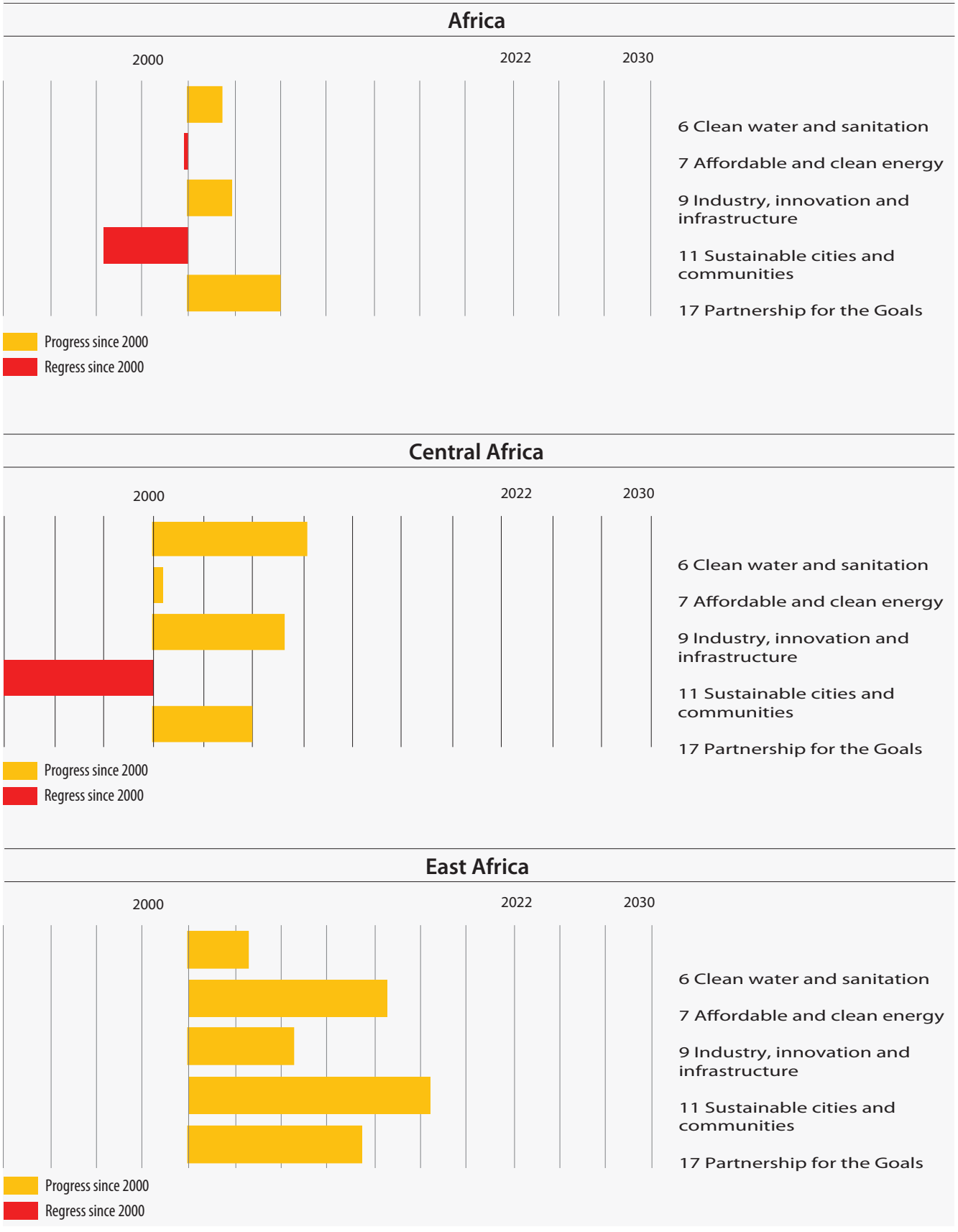
- Strengthen domestic resource mobilization through private financing, sustainable public borrowing and the use of innovative financial instruments, including special drawing rights, impact investing, blended finance and green bonds. This will increase the resources available to support development and strengthen the capacity of African countries to address fiscal constraints;
- Enhance data and statistics by modernizing national statistical systems with a view to providing enhanced disaggregated data to inform the Goal 17 indicators and related goals of Agenda 2063;
- Tackle lingering debt vulnerabilities by mobilizing concessional financing, negotiating debt relief packages in exchange for economic reforms, and improving access by African countries to finance, including new sources of climate-related finance, on the basis of fair and transparent criteria;
- Boost trade by accelerating implementation of the Agreement Establishing the African Continental Free Trade Agreement, reducing tariff and non-tariff barriers, negotiating simplified rules of origin, improving trade infrastructure, developing regional value chains, and coordinating standards and regulations to promote intra-African trade.

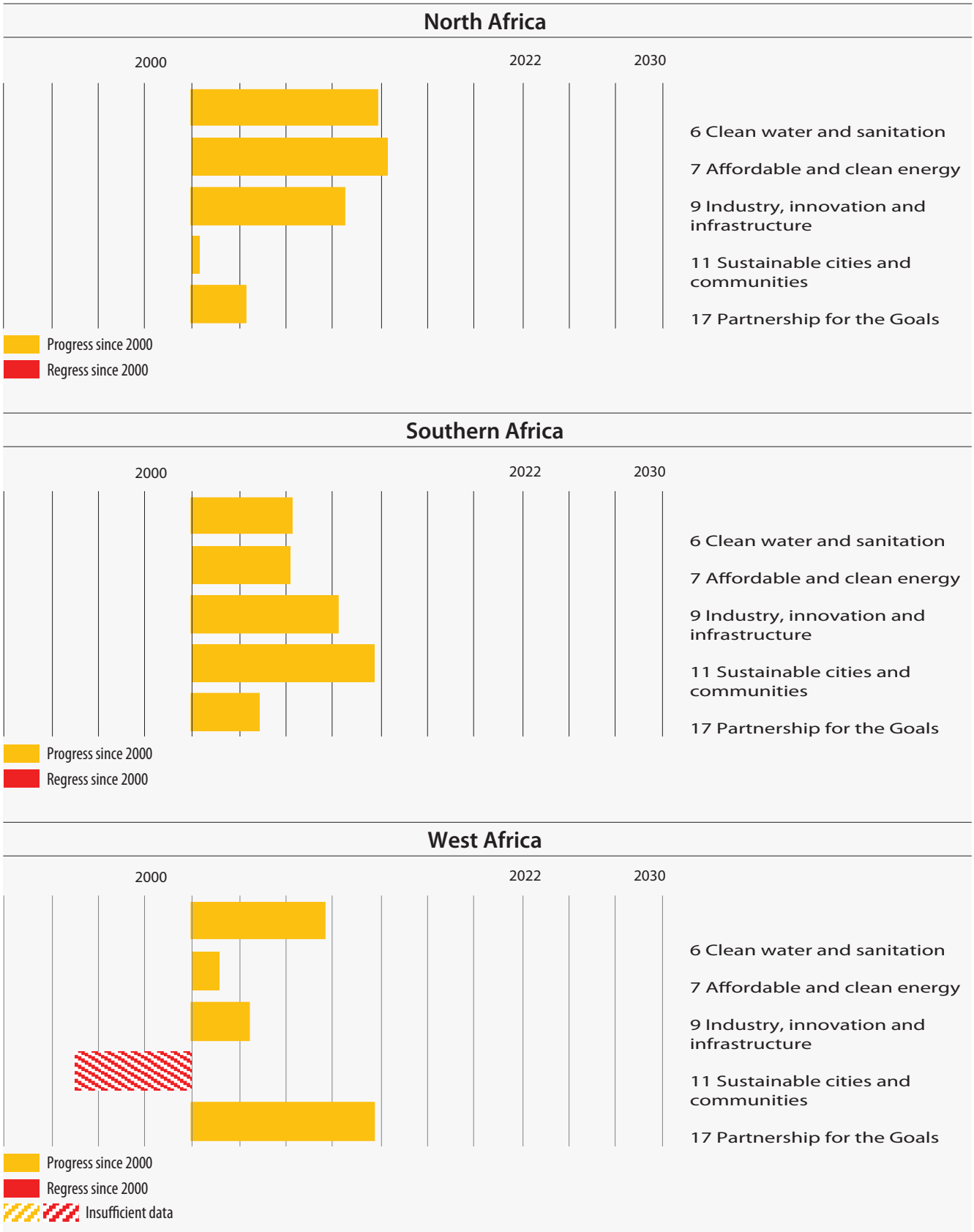
Chapter 7: Sustainable Development Goals 6, 7, 9, 11 and 17 – Summary of implementation status

7.1 Progress at the Goal level

As mentioned above, the year 2023 marks a critical juncture, namely the midway point for the implementation of the 2030 Agenda for Sustainable Development. Overall, African countries have made modest progress on Goals 6, 9 and 17 since 2000, but progress has, in fact, been negative on Goals 7 and 11, as illustrated in figure 61. At the subregional level, a dramatic reversal in progress on Goal 11 has occurred since 2000 in Central Africa. In contrast, East Africa has made more progress on Goal 11 than on other Goals, although the progress achieved still falls short of that required to achieve Goal 11 by the 2030 deadline. Modest progress has also been made on Goal 11 in East, North, and Southern Africa. Progress on each Goal is uneven across the subregions, however. North Africa, for example, has made most progress on Goal 7, while Central Africa has made particularly good progress on Goal 6.

FIGURE 61: Progress on Sustainable Development Goals 6, 7, 9, 11 and 17 in Africa as a whole and in the five African subregions





Source: United Nations (2023b).

FIGURE 62: Africa dashboard: action that must be taken by African countries on the Sustainable Development Goal targets in order to achieve those targets by the 2030 deadline, Goals 6, 7, 9, 11 and 17

Goal 6		Goal 7		Goal 17	
6.1	Safe drinking water	7.1	Access to energy services		
6.2	Access to sanitation and hygiene	7.2	Share of renewable energy	17.1	Tax and other revenue collection
6.3	Water quality	7.3	Energy efficiency	17.2	ODA commitments by developed countries
6.4	Water-use efficiency	7.a	International cooperation on energy	17.3	Additional financial resources
6.5	Transboundary water cooperation	7.b	Investing in energy infrastructure	17.4	Debt sustainability
6.6	Water-related ecosystems			17.5	Investment promotion for least developed countries
6.a	International cooperation on water and sanitation			17.6	International cooperation on science, technology and innovation
6.b	Participatory water and sanitation mgmt.			17.7	Technology transfer
				17.8	Capacity building for ICT
				17.9	Capacity building for the Sustainable Development Goals

Goal 9		Goal 11			
9.1	Infrastructure development	11.1	Housing and basic services	17.11	Exports of developing countries
9.2	Sustainable/inclusive industrialization	11.2	Public transport systems	17.12	Duty-free market access for least developed countries
9.3	Access by small-scale industries to finance	11.3	Sustainable urbanization	17.13	Global macroeconomic stability
9.4	Sustainable and clean industries	11.4	Cultural and natural heritage	17.14	Policy coherence for sustainable development
9.5	Research and development	11.5	Resilience to disasters	17.15	Respect for countries' policy space
9.a	Resilient infrastructure	11.6	Urban air quality and waste management.	17.16	Global partnership for sustainable development
9.b	Domestic technology development	11.7	Urban green and public spaces	17.17	Public, public-private and civil society partnerships
9.c	Access to ICT and the Internet	11.a	Urban planning	17.18	National statistics availability
		11.b	Disaster risk management policies	17.19	Statistical capacity
		11.c	Sustainable resilient buildings		

Maintain progress to achieve target	**Accelerate progress to achieve target**
Reverse trend to achieve target	**Insufficient data available to determine status**

Source: United Nations (2023b).

7.2 Progress at the target level

Some Sustainable Development Goal targets were set to be achieved by 2017 or 2020, some by 2025 and the remainder by 2030. Of the Goals considered in the present report, Africa is on track only to meet target 9.c, on access to ICT and the Internet, by the 2030 deadline. As illustrated in figure 62, African countries must accelerate their efforts to achieve all other Goal 6, 7, 9, 11 and 17 targets, especially those set out in table 6, which African States should have achieved by 2017 or 2020. Particular efforts are needed to reverse negative trends in connection with targets 7.2, 9.1, 9.4, 9.b, 11.5, 11.6, 17.7 and 17.15.

Table 6: Status of Sustainable Development Goal targets set to be achieved in 2017 and 2020, African countries, 2022

Sustainable Development Goal	Target	Status in 2022
Goal 6	6.6: By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes	Not met
Goal 9	9.c: Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020	Met
Goal 11	11.b: By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels	Not met
Goal 17	17.8: Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology	Met
Goal 17	17.11: Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020	Not met
Goal 17	17.18: By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts	Insufficient data available to determine status

Source: Based on data from United Nations (2023c).

Progress on the targets for Sustainable Development Goals 6, 7, 9, 11 and 17 by the five African subregions has been uneven. Central Africa, for example, has made significant progress on target 6,4 on water-use efficiency, whereas progress in North Africa on target 6.4 has actually been negative in recent years. East Africa is the only region that has effectively maintained its share of renewable energy in the total energy mix (target 7.2), whereas other regions must reverse current energy use trends in order to achieve that target by 2030. Improvements in access to ICT and the Internet (target 9.c) is on track in the West, Southern, and North Africa, while progress on that target has been insufficient in Central and East Africa. In East and Southern Africa, improvements to urban air quality and waste management (target 11.6) are on track, whereas the remainder of Africa is regressing. Good progress is being made with regard to debt sustainability (target 17.4) and public, public-private and civil society partnerships (target 17.17) in Central and East Africa, but is far from adequate in North Africa and Southern Africa.

7.3 Conclusion

Although Africa is making progress toward the achievement of the Sustainable Development Goals, the number of on-track targets is less than the number of targets that require acceleration or reversal. Further efforts are therefore needed to ensure that Africa achieves the Goals by the 2030 deadline. It is, moreover, important to promote knowledge sharing among African States and other relevant stakeholders to determine why some African countries and subregions are on track to meet certain Sustainable Development Goal targets while progress in other countries and subregions on the same targets has been far slower than required.

Annex: Methodology used to track progress towards the achievement of the Sustainable Development Goals

The present report uses two principal indices to assess regional and subregional progress towards the achievement of the Goals, namely:

(a) Current status index, which has been used to measure progress towards achieving a specific Goal target since 2000;

(b) Anticipated progress index, which is used to measure the gap between the predicted value of an indicator and a specified target value, thereby providing a basis for ascertaining the likelihood that the target value will be achieved by 2030.

Both indices are elaborated at the subindicator level (series, disaggregation, or subcomponents of an indicator) and can be aggregated at indicator, target and Goal levels.

A. Current status index

If a target value is set for an indicator, the indicator values for the current year and the year 2000 can be used to construct a metric that measures progress made since 2000 and estimates the further progress that must be made in order to achieve the relevant Goal target by 2030.

Denoting indicator values for 2000 and the current year by I_0 and I_{cv} and the target value for 2030 by "TV", and setting the normalized values of the indicator at 2000 and 2030 at 0 and 10, respectively, the current status index is calculated as follows:

For parity indicators, the value is:

$$I_{cv}^{N} = \frac{I_{cv} - I_0}{|TV - I_0|} \times D \quad in\ which$$

$$D = \begin{cases} 10 & increasing\ is\ desirable \\ -10 & decreasing\ is\ desirable \end{cases}$$

$$I_{cv}^{N} = \begin{cases} 10 - \frac{|TV - I_{cv}|}{|TV - I_0|} \times 10 & if \quad |TV - I_{cv}| \leq \quad |TV - I_0| \\ \frac{|I_{cv} - I_0|}{|TV - I_0|} \times (-10) & Otherwise \end{cases}$$

The current status index is normalized to be in the interval [-10;10]. When the average overall normalized values under each Goal provide an index range between 0 and 10, it means that the region/subregion has made progress, while negative values indicate that the region/subregion has regressed. Moreover, if the current value of an indicator has already reached or exceeded the target value, the index is automatically set to 10.

B. Anticipated progress index

This index compares the predicted (anticipated) progress with the desired progress. By predicting the indicator value for the target year and benchmarking the predicted value against the desired value, we can identify how close we can get to the desired value by the end of the target year (2030), assuming the previous pace of progress.

Denoting the predicted value of the indicator I for the target year by I_t, and value in the base year by Ib, one can approximate the progress gap by P when no regression has occurred, and by 100 - P when the indicator value has regressed since the base year. If desirable direction is clear from the target, the value of P is defined as:

$$P = \frac{|TV - I_t|}{|TV - I_b|} \times 100$$

In the case of parity indicators, we consider no regression has occurred if $|TV - I_t| \leq |TV - I_b|$.

The anticipated progress index only needs to be calculated for indicators that are not expected to achieve the desired outcome. Indicators for which the predicted value has already reached or is expected to reach the target value by 2030, or exceeded the achievement value are automatically classified as "will be achieved" and the anticipated progress index is set to 0.

Based on expected progress, the value of P ranges from 0 to 100. If there is a predicted regression from the current level, P will be greater than 100.

P may be interpreted as the extra effort or acceleration needed to meet the target when the value is less than or equal to 100, and 100 - P is the size of regression when it is greater than 100. Indicators are classified into three predefined achievement levels:

$$\begin{cases} 0 \le P \le 10 & (\textit{Will meet the target with current rate or minor extra effort}) \\ 10 < P \le 100 & (\textit{Need to accelerate the current rate of progress to achieve the target}) \\ P > 100 & (\textit{Regression or no progress expected}) \end{cases}$$

Aggregation

The average of the progress indexes is calculated to measure the overall progress at the regional/subregional level. When more than one variation for an indicator exists (for example, indicator 17.10.1: Worldwide weighted tariff-average, most-favoured-nation status, by type of product (per cent)), all variants are used in calculations. Each variant of indicator is weighted such that the sum of the weights under each indicator is one. Finally, a weighted average of the progress indices is computed as a progress index for that indicator.

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