# Regional disparities in SDGs achievement across Africa: An analysis using SDG dashboards

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## ABSTRACT

Africa's progress towards achieving the Sustainable Development Goals (SDGs) remains highly uneven, with persistent regional disparities undermining the continent's collective advancement toward Agenda 2030. Despite ongoing national and regional efforts, there is little comparative evidence showing exactly how each SDG performance differs between African regions, hindering targeted policy interventions. This study examines regional disparities in the achievement of Sustainable Development Goals (SDGs) across Africa, utilizing the SDG Dashboards from the 2025 Sustainable Development Report Database. The study was grounded in the Sustainable Development Theory, which posits that disparities in SDG achievement across African regions stem from imbalances among the economic, social, and environmental pillars, which ultimately disrupt overall SDG countries' dashboards' performance. Data from 54 African countries were analyzed through descriptive statistics, the Kruskal-Wallis test, and post-hoc comparisons by Dunn's pairwise comparison test with Bonferroni correction to assess inter-regional variations. The results demonstrate statistically significant differences across 12 SDGs, with Northern Africa consistently outperforming other regions. Eastern and Western Africa show different results. They are making some progress on SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action), but not on SDG 1 (No Poverty), SDG 3 (Good Health and Well-being), and SDG 11 (Sustainable Cities and Communities). Central and Southern Africa display markedly lower achievement across most goals. These findings indicate that Africa's progress toward Agenda 2030 remains uneven and structurally fragmented, with persistent challenges in SDGs 1, 2, 3, 6, 7, 9, 11, 14, and 16. The observed disparities in SDG achievement across African regions are structurally determined, reflecting variations in economic capacity, governance, infrastructure, and institutional capacity. The progress is relatively stronger in Northern Africa. Eastern and Western Africa demonstrate mixed outcomes, while Southern and Central Africa lag behind, highlighting the necessity of strengthening regional knowledge-sharing, mobilizing targeted resources, and enhancing institutional capacity to reduce disparities and accelerate sustainable development across the continent.

**Keywords:** Africa, Regional Disparities, SDG Dashboard, Sustainable Development Goals

## I. INTRODUCTION

The Sustainable Development Goals (SDGs) were launched in 2015 by the United Nations as a global initiative aimed at eradicating poverty, safeguarding the environment, and promoting peace and prosperity for all by 2030 (Sorooshian, 2024; Ghosh & Chakravarty, 2024). The SDGs consist of 17 goals and 169 targets to address the world's most pressing development challenges (Confraria *et al.*, 2024). These SGDs succeeded the Millennium Development Goals, marking a significant evolution in the global development agenda (United Nations, 2023). Since their adoption, substantial efforts have been made to understand and implement the SDGs through strategic initiatives and development programs for their attainment (Bain *et al.*, 2019; Chapman *et al.*, 2020).

The development of these effective initiatives relies on understanding the progress and the level of achievements through intensive monitoring and evaluation (Viegas *et al.*, 2021). Monitoring focuses on assessing the progress towards the goals, while evaluation observes whether progress is efficient, effective, equitable, and relevant (Lucks & D'Errico, 2016; De Francesco *et al.*, 2024). Evaluation provides evidence as to how and why results are or are not being achieved, which is crucial for designing policies and implementing programs (Lucks, 2021; De Francesco *et al.*, 2024). Given that the 2030 Agenda for Sustainable Development has been in effect for some time, it is appropriate to conduct a mid-term evaluation to assess the effectiveness of the established goals and determine the need for potential revisions (Sorooshian, 2024).

Focusing on the framework of the 2030 Agenda, governments and researchers are currently measuring and monitoring the progress toward SDGs at different geographical scales, using different indicators and composite methods (Bie *et al.*, 2023). To assess global progress, the SDGs are tracked using a set of 231 unique indicators aligned with 169 targets (Estoque, 2020). Among the key visualization tools that support this assessment are the SDG index score, SDG



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Dashboard, and SDG Trend (Sachs *et al.*, 2025). The SDG Index and Dashboards provide an annual assessment of SDG progress in all 193 UN member states, building a peer-reviewed, statistically audited, and transparent methodology (Schmidt-Traub *et al*., 2017; Lafortune *et al*., 2018). According to the UN, the SDG Dashboard provides a color-coded snapshot of a country's status on each goal: green (achieved), yellow (challenges remain), orange (significant challenges), and red (major challenges remain). The SDG Dashboard captures threshold-based outcome status, making it suitable for identifying structural divergence patterns across regions.

According to the UN General Assembly (2024), only 17% of SDG targets are currently on track globally, with nearly half showing minimal or moderate progress, and over one-third having stalled or regressed. In Africa, the situation is considerably more concerning, with less than 6% of SDG targets on track for achievement by 2030 (African Union Commission *et al.*, 2024). The attainment of SDGs is critical for Africa's sustainable development, as these goals provide a structured framework to address the continent's most pressing social, economic, and environmental challenges while upholding the principle of "leave no one behind" (Bie et al., 2023). Achieving these goals requires coordinated efforts among a wide range of stakeholders, including civil society, research institutions, governmental and non-governmental organizations, the private sector, and academic institutions (Lorren *et al*., 2019; Bolaji & Oluwaseun, 2022)

Previous research has contributed valuable insights into SDG progress, but with notable limitations. For instance, Sachs *et al*. (2022) provided assessments at the country level but did not systematically compare SDG attainment across African regions. Similarly, Mlambo and Niyitunga (2024) focused on three goals: SDG 1, SDG 2, and SDG 5 across Nigeria, Kenya, and South Africa. Despite these contributions, a significant gap remains in the literature for comprehensive, comparative regional analyses of SDG achievement across the African continent.

This study addresses this gap by employing the SDG dashboards as a standardized tool to evaluate and compare progress across all 17 SDGs in African regions. By utilizing dashboard indicators, the research moves beyond single-country analyses or selective SDG studies, offering a holistic perspective on regional disparities in SDG attainment. This provides a diagnostic mapping of how SDG achievement differs systematically across African regions, as regional aggregation is meaningful due to African regions sharing institutional histories, economic structures, policy coordination mechanisms, and ecological conditions that shape development trajectories beyond national borders.

Hence, this approach enables the identification of areas where specific regions perform strongly or lag behind, thereby providing a nuanced understanding of the continent's development challenges and opportunities. Ultimately, this study contributes to the empirical literature by offering a systematic, region-level assessment of SDG achievement in Africa, which can inform targeted policy interventions and resource allocation to accelerate progress toward Agenda 2030.

### 1.1 Statement of the Problem

The achievement of the SDGs has varied significantly across African countries (Sachs *et al*., 2024). This disparity raises critical questions about the underlying economic, social, and environmental factors influencing SDGs progress across the continent. Numerous studies have examined progress toward achieving the SDGs and focused primarily on individual regions or countries, yet a comprehensive comparative analysis of the assessment level of SDGs attainment among African countries remains largely overlooked. Wernecke *et al.* (2021) assessed SDGs progress in four low-income, rural villages in South Africa, while Van de Ven *et al.* (2019) focused on evaluating and improving policies in Eastern Africa to achieve multiple SDGs simultaneously. Additionally, Kasirye et al. (2020) explored the implementation status of SDGs in sub-Saharan Africa, concentrating on SDG 4, SDG 7, and SDG 8, but did not account for other African regions, particularly non-sub-Saharan countries, and the broader determinants of SDGs achievements.

This knowledge gap highlights the need for a comprehensive assessment of regional disparities in SDG attainment across Africa using the SDG Dashboard. Understanding these variations is critical for identifying regions that are progressing versus those facing persistent challenges. Insights derived from the Dashboard allow policymakers and stakeholders to benchmark performance, track progress, and prioritize interventions in lagging regions. With the 2030 SDG deadline approaching, such timely evaluation is essential for guiding evidence-based decisions, promoting equitable progress, and ensuring that no region is left behind in the collective effort toward achieving the SDGs.

### 1.2 Research Objective

Compare the levels of SDGs achievement among African regions based on the dashboards.

### 1.3 Research Hypothesis

$H0_1$: There are no significant differences in SDG achievement levels among African regions across the examined SDGs



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## II. LITERATURE REVIEW

### 2.1 Theoretical Review

This study is grounded in the Sustainable Development Theory (SDT), which provides a multidimensional framework for understanding the interconnections between economic growth, social inclusion, and environmental protection. Initially advanced by the United Nations and elaborated in the Brundtland Report of 1987, SDT defines sustainable development as meeting present needs without compromising the capacity of future generations to meet their own (World Commission on Environment and Development [WCED], 1987). The theory has since been widely adopted and developed by scholars and policymakers as a conceptual lens for analyzing development outcomes holistically and integratively (Zahedi, 2019; Shi *et al.*, 2019).

SDT emphasizes that progress in one dimension of development is intrinsically linked to outcomes in others, highlighting the need for equilibrium across economic, social, and environmental pillars. In the African context, uneven prioritization of these pillars has often resulted in imbalances, constraining sustainable development and the achievement of the Sustainable Development Goals (SDGs). This theoretical perspective underscores that measuring SDG attainment requires an integrated approach that accounts for these multidimensional interactions, rather than isolated progress in individual goals.

By applying SDT to the analysis of the SDG Dashboard, this study conceptualizes the continent's regional disparities in SDG performance as reflections of systemic imbalances in sustainable development. The SDG Dashboard provides a composite measure of progress across multiple dimensions, allowing for an assessment of how African countries and regions are aligning economic, social, and environmental outcomes with the principles of sustainability. In this way, SDT not only frames the rationale for examining differential SDG attainment but also informs the interpretation of observed regional variations, highlighting where structural inequities may hinder holistic progress toward Agenda 2030. Furthermore, SDT's emphasis on multi-level stakeholder engagement supports the study's relevance for policy interventions, suggesting that targeted regional strategies informed by Dashboard insights can promote more balanced and inclusive sustainable development across Africa.

### 2.2 Empirical Review

Several studies have examined SDGs attainment in Africa, albeit with limitations in scope and methodological breadth. Mlambo and Niyitunga (2024) assessed SDG progress in Nigeria, Kenya, and South Africa, focusing on SDG 1, SDG 2, and SDG 5. Using a qualitative approach grounded in secondary data and literature review, their study highlighted persistent challenges, including poverty, political instability, gender inequality, and youth unemployment that constrain SDG achievement. However, the study's narrow focus on three countries and three goals limited its capacity to provide a comprehensive understanding of SDG attainment across the African continent.

Similarly, Ammari *et al.* (2022) conducted a national-level evaluation of Morocco's SDG performance, analyzing SDG 1, SDG 2, SDG 3, SDG 4, SDG 5, SDG 6, SDG 7, SDG 8, SDG 9, SDG 10, SDG 11, SDG 12, and SDG 13 using data from 2001 to 2018. Employing a composite index methodology, the study provided a robust framework for tracking SDG progress at the national level. Nevertheless, its single-country focus restricted the generalizability of findings to broader African contexts, and it did not examine variations in SDG attainment across multiple countries or regions.

In a broader regional context, Osman *et al.* (2022) applied spatial analysis to explore synergies and trade-offs among African SDGs between 2016 and 2020, using exploratory and inferential spatial statistics. Their findings indicated that high-performing SDG hotspots were concentrated in North Africa, while Central and Eastern Africa exhibited notable cold spots. Although this study offered valuable insights into regional patterns of SDG performance, it primarily emphasized spatial variation without providing a systematic comparative analysis of SDG attainment across the continent.

Collectively, these studies underscore that while important insights into African SDG progress exist, empirical research has largely been constrained to specific countries, selected SDGs, or spatial patterns. This highlights a critical knowledge gap that the present study seeks to address. By leveraging the SDG Dashboard data to conduct a continent-wide analysis of all 17 SDGs, this research provides a holistic assessment of SDG attainment across African regions. In doing so, it not only documents regional disparities but also offers actionable insights for policymakers and development partners to design targeted interventions and promote balanced progress toward Agenda 2030.



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## III. METHODOLOGY

### 3.1 Research Design

This study employs a quantitative research design to assess the levels of SDGs achievements using the Dashboards among African regions. The approach is comparative and explanatory, using both descriptive and inferential statistical methods to assess differences in SDGs achievement

### 3.2 Data Sources

The data used in this study were obtained from the Sustainable Development Report 2025 database, which provides comprehensive and up-to-date information on SDG performance for all 193 UN member states. The database contained overall results for all countries, including the index score, goal dashboard, and trend for all 17 goals, Codebook showing the list of indicators, bounds, and thresholds, Full database, indicating the data for all countries; includes spill over score, raw values, normalized scores, dashboard ratings, trends & goal scores. The dataset was accessed in Excel format and imported into SPSS for analysis. Specifically, this study utilized data on the SDGs Dashboards, which provide visual and categorical representations of the current status for each goal. Only countries from the African continent were retained for the purpose of this regional comparison, with a baseline of the SDG dashboard in the year 2025 as the recent year.

Prior to analysis, data cleaning and pre-processing procedures were undertaken to ensure data integrity. The dataset was first examined for missing values, inconsistencies, and potential entry errors. Where missing values occurred, they were verified using the official Sustainable Development Report (SDR) online repository to ensure accuracy and comparability. Missing values were then replaced using weighted mean imputation, where the weights were derived from regional averages to preserve proportional representation among the five African regions. This approach minimized potential bias in regional comparisons while maintaining the internal consistency of the dataset.

Additionally, all variables were screened for outliers and data anomalies. No extreme outliers were detected that warranted exclusion. Beyond the recoding of the SDG Dashboard variable into numerical form (Green = 4, Yellow = 3, Orange = 2, Red = 1) for statistical analysis, no further transformations were performed. This ensured that the analysis remained aligned with the original structure and methodology of the Sustainable Development Report while maintaining robustness for cross-regional comparison

### 3.3 Data Analysis

#### 3.3.1 Regional Grouping for Sampled Countries

For this study, only countries from the African continent were retained from the Sustainable Development Report 2025 database. The African continent comprises 54 countries, which served as the sample for the statistical analysis. These countries were grouped according to their respective regions**,** following standard regional classifications commonly used by the United Nations and the African Union due to the comparability and policy relevance, and also their groupings are based on the geographical, economic, and historical characteristics of the countries. The regional breakdown is shown in Table 1:

**Table 1**

*Classification of African Countries by Region for SDG Analysis*

| REGION | COUNTRY |
|---|---|
| Northern Africa | Algeria, Morocco, Libya, Tunisia, Egypt, and Sudan |
| Eastern Africa | South Sudan, Ethiopia, Kenya, Tanzania, Mozambique, Zambia, Somalia, Rwanda, Malawi, Seychelles, Eritrea, Djibouti, Comoros, Mauritius, Madagascar, Uganda, Burundi, and Zimbabwe |
| Central Africa | Chad, Cameroon, Central African Republic, Equatorial Guinea, Sao Tome and Principe, Gabon, Congo, Democratic Republic of Congo, Angola, and Congo |
| Western Africa | Burkina Faso, Benin, Togo, Ghana, Ivory Coast, Liberia, Sierra Leone, Guinea, Guinea-Bissau, Senegal, Nigeria, Niger, Mali, Mauritania, Cape Verde, and Gambia |
| Southern Africa | Namibia, Botswana, South Africa, Eswatini, and Lesotho |

#### 3.3.2 Variable Description

The SDG dashboard was utilized as one of the key variables in assessing the level of progress made by countries in achieving SDGs. According to the Sustainable Development Report of 2024, the dashboard serves as a visual tool that summarizes a country's performance across all 17 SDGs (Table 2), through a traffic light colour scheme: green, yellow, orange, and red. Each colour represents a specific performance level, offering an intuitive understanding of how far a country is from meeting its SDG targets. According to Lafortune *et al.* (2018), Green signifies that the goal has been achieved**,** indicating that the country has reached or surpassed the established green threshold for the corresponding



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indicator(s). Yellow indicates that challenges remain, where performance lies below the green threshold but above the red threshold, meaning there is limited progress, but the goal has not been achieved.

Orange denotes the presence of significant challenges, meaning the country is closer to the red threshold and still far from meeting the target, reflecting high obstacles limiting the achievement. Red reflects major challenges, implying that the country is at or below the red threshold and substantially behind the target, highlighting that both the selected indicators are performing the worst. The SDG dashboard methodology assumes equal weighting across indicators and relies heavily on the availability and quality of data. Furthermore, its threshold-based classification may not fully capture regional variations or the interconnected nature of the goals.

**Table 2**

*Sustainable Development Goals (SDGs) and their Descriptions.*

| SDG Number | Goal Name |
|---|---|
| SDG 1 | No Poverty |
| SDG 2 | Zero Hunger |
| SDG 3 | Good Health and Well-being |
| SDG 4 | Quality Education |
| SDG 5 | Gender Equality |
| SDG 6 | Clean Water and Sanitation |
| SDG 7 | Affordable and Clean Energy |
| SDG 8 | Decent Work and Economic Growth |
| SDG 9 | Industry, Innovation, and Infrastructure |
| SDG 10 | Reduced Inequalities |
| SDG 11 | Sustainable Cities and Communities |
| SDG 12 | Responsible Consumption and Production |
| SDG 13 | Climate Action |
| SDG 14 | Life Below Water |
| SDG 15 | Life on Land |
| SDG 16 | Peace, Justice, and Strong Institutions |
| SDG 17 | Partnerships for the Goals |

### 3.3.3 Analytical Techniques

This study employed a combination of descriptive and inferential statistical techniques to analyse the data. Descriptive statistics were used to summarize and visualize the key variable, which is the SDGs Dashboard. Cross-tabulations were conducted to explore the distribution of SDGs Dashboard categories within each region. This allowed for a comparative analysis of how regions differ in terms of SDG Achievement levels. Before conducting inferential analysis, the normality assumption was tested using the Shapiro-Wilk test. The results revealed that most variables deviated significantly from normality, with W values ranging between 0.712 and 0.893 ($p < 0.05$), indicating that the assumption of normality was violated, and the nature of the variable being ordinal, justifying the use of a non-parametric test.

Consequently, the Kruskal-Wallis test was applied to examine whether there were statistically significant differences in SDGs Achievement across regions. The test evaluates differences in median ranks across regions rather than mean differences, making its interpretation more appropriate for categorical data structured on hierarchical scales. Following the Kruskal-Wallis test, Dunn's pairwise comparison test with Bonferroni correction was conducted to identify the specific regional differences by adjusting the p-values to control Type 1 error for multiple comparisons. The test is suitable due to the ordinal and non-normal nature of the data.

## IV. FINDINGS & DISCUSSION

### 4.1 Descriptive Results

This section presents the summary statistics of the study, focusing on the SDGs Dashboard as the key variable that captures the level of achievement for each SDG across the five African regions, categorized into four levels: Major Challenges, Significant Challenges, Challenges Remain, and Goal Achievement. Using cross-tabulation, the analysis explores the regional distribution of SDG performance and achievement, highlighting disparities and patterns in progress toward the global goals. The detailed results of the descriptive analysis, including the regional distribution tables for each SDG, are presented in Appendix A. The findings demonstrate pronounced yet broadly shared developmental disparities across African regions in achieving the SDGs.

Overall, the majority of African countries remain within the "Major Challenges" and "Significant Challenges" categories, particularly concerning SDG 1 and SDG 2 (see Table A1 and A2), underscoring persistent poverty, food insecurity, and economic vulnerability. Similarly, progress toward SDG 3 and SDG 4 (see Table A3 and A4) remains limited due to underdeveloped infrastructure, insufficient human resources, and policy misalignment. Challenges



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relating to SDG 5 and SDG 6 (see Table A5 and A6) further reflect deep-rooted social and infrastructural inequalities that continue to hinder human development outcomes.

Economic transformation and industrialization goals, namely SDG 7, SDG 8, and SDG 9 (see Table A7, A8, and A9), exhibit slow progress, constrained by low technological capacity, limited access to finance, and weak institutional frameworks. Conversely, moderate advancement is observed in SDG 12 and SDG 13 (see Table A12 and A13), largely attributed to emerging policy coherence in environmental governance and growing adaptation initiatives. Nevertheless, SDG 14, SDG 15, and SDG 16 (see Table A14, A15, and A16) remain critically underachieved due to ecological degradation, governance fragility, and recurring conflicts.

While SDG 17 (see Table A17) reveals relative improvement in intergovernmental collaboration and policy coordination, progress remains uneven, hindered by limited financial mobilization and weak institutional partnerships. Collectively, these findings suggest that Africa's progress toward the 2030 Agenda is constrained by systemic socio-economic and governance challenges, requiring integrated, regionally tailored strategies to accelerate SDG attainment across the continent.

### 4.2 Hypothesis Testing of Regional Differences in SDG Achievements

Following the descriptive analysis, this section presents the inferential analysis that tests the study's main hypothesis regarding differences in the level of SDGs achievements across African regions. The results of the Kruskal–Walli's test as presented in Table 3 reveal that out of the 17 SDGs examined, 12, including SDG 1, SDG 2, SDG 5, SDG 6, SDG 9, SDG 10, SDG 11, SDG 12, SDG 13, SDG 14, SDG 15, and SDG 17, showed statistically significant regional differences in achievements ($p < 0.05$). This implies that the achievement levels of these goals vary considerably across the five African regions. Although the Kruskal–Wallis test revealed statistically significant variations in performance among regions, a Post-hoc test (Table 4) was employed, which enabled a more detailed understanding of the variations between the region pairs across Africa for each SDG.

**Table 3**

*Regional Differences in SDG Achievement Levels*

| SDG Dashboard | Mean | Kruskal-Wallis H | Std. Dev. | Min | Max | Asymp. Sig. (p-value) |
|---|---|---|---|---|---|---|
| SDG1 | 1.52 | 10.231 | 0.926 | 1 | 4 | 0.037 |
| SDG2 | 1.04 | 16.308 | 0.191 | 1 | 2 | 0.003 |
| SDG3 | 1.09 | 5.706 | 0.293 | 1 | 2 | 0.222 |
| SDG4 | 1.35 | 5.774 | 0.677 | 1 | 4 | 0.217 |
| SDG5 | 1.54 | 21.610 | 0.794 | 1 | 4 | 0.000 |
| SDG6 | 1.22 | 11.738 | 0.502 | 1 | 3 | 0.019 |
| SDG7 | 1.13 | 2.980 | 0.339 | 1 | 2 | 0.561 |
| SDG8 | 1.37 | 4.543 | 0.525 | 1 | 3 | 0.337 |
| SDG9 | 1.26 | 16.629 | 0.442 | 1 | 2 | 0.002 |
| SDG10 | 1.59 | 20.333 | 0.687 | 1 | 4 | 0.000 |
| SDG11 | 1.31 | 11.988 | 0.639 | 1 | 4 | 0.017 |
| SDG12 | 3.43 | 15.417 | 0.633 | 2 | 4 | 0.004 |
| SDG13 | 3.56 | 9.940 | 0.718 | 1 | 4 | 0.041 |
| SDG14 | 1.28 | 12.261 | 0.564 | 1 | 3 | 0.016 |
| SDG15 | 1.50 | 11.832 | 0.746 | 1 | 4 | 0.019 |
| SDG16 | 1.09 | 1.796 | 0.293 | 1 | 2 | 0.773 |
| SDG17 | 1.74 | 17.437 | 0.678 | 1 | 3 | 0.002 |

**Table 4**

*Post-hoc Pairwise Comparisons of SDG Achievement across African Regions*

| SDGs | Region Pair | Test Statistics | Std. Error | z-value | p-value | Adj. Sig. (p-value) |
|---|---|---|---|---|---|---|
| **SDG 2** | Eastern Africa-Northern Africa | -9.000 | 2.426 | -3.709 | 0.000 | 0.002 |
| | Western Africa – Northern Africa | -9.000 | 2.464 | -3.653 | 0.000 | 0.003 |
| | Central Africa – Northern Africa | -9.000 | 2.713 | -3.318 | 0.001 | 0.009 |
| | Southern Africa – Northern Africa | 9.000 | 3.117 | 2.888 | 0.004 | 0.039 |
| **SDG 5** | Western Africa – Eastern Africa | 13.628 | 4.682 | 2.911 | 0.004 | 0.036 |
| | Western Africa – Southern Africa | -28.806 | 6.981 | -4.126 | 0.000 | 0.000 |
| | Northern Africa – Southern Africa | -26.900 | 8.251 | -3.260 | 0.001 | 0.011 |
| **SDG 6** | Western Africa – Northern Africa | -15.708 | 5.085 | -3.089 | 0.002 | 0.020 |
| **SDG 9** | Eastern Africa – Northern Africa | -19.500 | 5.630 | -3.464 | 0.001 | 0.005 |
| | Western Africa – Northern Africa | -19.125 | 5.717 | -3.345 | 0.001 | 0.008 |
| **SDG 10** | Southern Africa – Western Africa | 23.500 | 7.200 | 3.624 | 0.001 | 0.011 |



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| | | | | | | |
|---|---|---|---|---|---|---|
| | Central Africa – Western Africa | 17.944 | 5.855 | 3.065 | 0.002 | 0.022 |
| | Eastern Africa – Western Africa | -14.444 | 4.828 | -2.992 | 0.003 | 0.028 |
| **SDG 11** | Western Africa – Northern Africa | -16.406 | 5.616 | -2.921 | 0.003 | 0.035 |
| **SDG 12** | Northern Africa – Western Africa | 19.438 | 6.726 | 2.890 | 0.004 | 0.039 |
| **SDG 14** | Eastern Africa – Central Africa | -15.917 | 4.653 | -3.421 | 0.001 | 0.006 |
| **SDG 17** | Central Africa – Southern Africa | -28.867 | 7.983 | -3.616 | 0.000 | 0.003 |
| | Eastern Africa – Southern Africa | -24.950 | 7.235 | -3.448 | 0.001 | 0.006 |

### 4.3 Discussion of the Findings

The results of the Kruskal–Wallis analysis reveal statistically significant regional disparities in the attainment of several SDGs across Africa, reflecting persistent development imbalances on the continent. Although collective differences were significant for most indicators, post-hoc comparisons indicate that few regions exhibit exceptionally strong or weak performance relative to others (Table 4). This pattern underscores a shared structural development challenge among African regions, shaped by historical, institutional, and socio-economic constraints.

The results for SDG 1 show significant differences across regions ($H = 10.23$, $p < 0.05$), yet the absence of pairwise significance indicates that poverty remains a continental challenge rather than a region-specific issue. The African Sustainable Development Report of 2024 highlights that over half of the world's poor reside in Africa, emphasizing the magnitude of the problem. Adeyeye et al. (2023) similarly noted that pervasive poverty may be driven by rapid population growth, weak governance, conflicts, and disease burdens such as HIV/AIDS and malaria. The consistency between these findings suggests that structural poverty in Africa transcends regional boundaries, requiring coordinated policy interventions rather than isolated national efforts.

Significant variation is also observed in SDG 2 ($H = 16.31$, $p < 0.05$), where Northern Africa outperforms other regions. This aligns with Otekunrin (2025), who reported that Northern Africa has achieved relative food security through investments in irrigation, agricultural innovation, and policy coordination. In contrast, the sub-Saharan regions lag, reflecting low agricultural productivity, limited mechanization, and climate-related shocks (Food and Agriculture Organization of the United Nations, 2023). These disparities may underscore the role of institutional effectiveness and technological capacity in determining food security outcomes across Africa.

Regarding SDG 5 ($H = 21.61$, $p < 0.05$), the superior performance of Southern Africa compared to other regions might be attributed to its comprehensive legal and policy frameworks promoting women's empowerment. As Vyas-Doorgapersad (2023) notes, instruments such as the Employment Equity Act and the Labour Relations Act have been instrumental in promoting inclusive governance in the Southern Africa region, such as South Africa. Conversely, persistent gender inequalities in Eastern Africa mirror the findings of the United Nations Women (2023), which attributes these gaps to entrenched cultural norms and weak institutional enforcement. This reinforces the argument that gender parity is closely linked to governance quality and policy enforcement.

The pattern observed in SDG 6 ($H = 11.74$, $p < 0.05$) also reflects structural disparities. Northern Africa again leads, reflecting superior infrastructure, stronger institutional frameworks, and higher public-sector investment (African Union Commission et al., 2023). Western Africa's lagging performance may be associated with inadequate sanitation infrastructure, rapid urbanization, and limited financial capacity for water management. This aligns with the work of Amankwah-Amoah et al. (2022), who argued that infrastructural deficits and weak regulatory capacity remain major barriers to environmental sustainability in sub-Saharan Africa.

The regional disparities in SDG 9 ($H = 16.63$, $p < 0.05$) and SDG 10 ($H = 20.33$, $p < 0.05$) further emphasize the importance of economic diversification and technological advancement. Northern Africa's advantage in SDG 9 might be driven by its consistent performance with its relatively developed industrial base and investment in research and development (United Nations Economic Commission for Africa, 2021). In contrast, the sub-Saharan regions face challenges related to inadequate infrastructure, unreliable energy supply, and limited access to finance (World Bank, 2025). For SDG 10, Southern Africa's stronger performance aligns with Hallum and Obeng (2019), who found that redistributive fiscal policies and social-protection mechanisms contribute to more equitable income distribution. However, persistent inequality in Eastern Africa, despite economic growth, reflects the findings of Kamande and Martin (2022), who highlight widening digital and educational divides.

The analysis of SDG 11 ($H = 11.99$, $p < 0.05$) and SDG 12 ($H = 15.42$, $p < 0.05$) underscores the influence of urban management and policy coherence. Western Africa's weaker performance on SDG 11 mirrors the United Nations Development Programme report (2023), which found that nearly half of its urban population lives in informal settlements, compared to less than 10% in Northern Africa. Similarly, Northern Africa's superior performance in SDG 12 may correspond with proactive policies promoting energy efficiency and circular economy initiatives (UNECA, 2022). These results suggest that policy integration and governance coherence are crucial for advancing sustainable urbanization and responsible consumption.

Although SDG 13 ($H = 9.94$, $p < 0.05$) and SDG 15 ($H = 11.83$, $p < 0.05$) show significant omnibus differences, post-hoc tests reveal no distinct regional outliers, suggesting that environmental vulnerability is a shared challenge. The



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African Sustainable Development Report of 2024 underscores that nearly all African regions face recurrent climate shocks and land degradation, affecting agricultural productivity and biodiversity conservation. Similarly, SDG 14 ($H = 12.26$, $p < 0.05$) highlights significant differences between Central and Eastern Africa, consistent with Doumenge et al. (2021), who attribute Central Africa's progress to increased marine protection efforts.

Lastly, SDG 17 ($H = 17.44$, $p < 0.05$) demonstrates that Southern Africa performs significantly better than Central and Eastern Africa, consistent with AU (2024) findings that the region maintains stronger fiscal capacity, trade integration, and digital infrastructure. The results highlight that sustainable development partnerships are not only financial but also institutional, requiring coherent governance frameworks that enhance cooperation among states and development partners.

Overall, the results reveal that Africa's SDG performance might be strongly influenced by structural inequalities, governance quality, and policy implementation capacity rather than geographical endowments. The observed disparities reaffirm the need for regionally customized, yet continent-wide, strategies that strengthen institutional resilience, promote inclusive growth, and enhance inter-regional cooperation. Addressing governance deficits, investing in infrastructure, and building human capital remain central to accelerating Africa's progress toward the 2030 Agenda.

## V. CONCLUSION & RECOMMENDATIONS

### 5.1 Conclusion

This study investigated regional disparities in achieving the SDGs across Africa, using the SDG Dashboard classification and nonparametric statistical techniques. Providing a systematic diagnostic map of the disparities, establishing an empirical baseline that can guide future causal investigations and political-economy analyses of sustainable development in Africa. The empirical results reveal statistically significant variations among African regions, confirming that progress toward the 2030 Agenda remains uneven, fragmented, and constrained by deep-seated structural asymmetries. A substantial proportion of African countries remain in the "Major Challenges" tier for key SDGs, including SDG 1, SDG 2, SDG 3, SDG 6, SDG 7, SDG 9, SDG 11, SDG 14, and SDG 16. Only SDG 12 and SDG 13 indicate measurable progress, suggesting that Africa's trajectory toward sustainable development remains modest but promising in selected thematic areas.

The observed disparities are not stochastic but structurally determined, emanating from variations in economic capacity, governance quality, institutional maturity, and infrastructural development. Northern Africa demonstrates relatively stronger performance, which might be largely driven by its diversified industrial base, robust public investment, advanced digital and transport infrastructure, and integration into global value chains. Conversely, Southern and Central Africa exhibit weaker performance, which may be constrained by governance deficits, fragile infrastructure, recurrent political instability, dependence on primary commodities, and limited technological innovation. Eastern and Western Africa occupy an intermediate position, showing partial progress on selected goals but struggling to maintain consistency across the SDG framework. These findings reinforce the argument that regional disparities in SDG performance are fundamentally systemic, reflecting historical, structural, and institutional asymmetries that impede the realization of inclusive and balanced sustainable development across the continent.

### 5.2 Recommendations

Regions exhibiting lower SDG performance should systematically adopt and adapt successful policy models from better-performing counterparts. Establishing structured regional learning mechanisms such as African Regional SDG Learning Hubs or inter-country technical working groups under the African Union would facilitate peer learning, the exchange of best practices, and coordinated policy reforms. Such collaborative platforms can help reduce achievement gaps and foster regional policy convergence.

Governments, regional blocs, and development partners should prioritize investments in underperforming SDGs and lagging regions. Targeted resource allocation should focus on strengthening digital data systems for SDG monitoring, improving agricultural productivity, expanding water and sanitation infrastructure, and promoting community-driven development initiatives. Prioritizing resources where structural challenges are most acute will accelerate overall progress and narrow regional disparities.

Reinforcing institutional capacity and policy coherence remains essential for sustainable SDG implementation. Aligning national development strategies with continental frameworks such as Agenda 2063, the Comprehensive Africa Agriculture Development Programme (CAADP), and the African Continental Free Trade Area (AfCFTA) can enhance policy alignment and stimulate inclusive growth. Empowering Regional Economic Communities (RECs) and national SDG coordination units will further ensure governance accountability, facilitate inter-regional coordination, and accelerate progress in regions facing major developmental challenges.

Despite offering critical insights, this study acknowledges certain limitations. The reliance on the SDG Dashboard constrained the analysis to available composite indicators, which may have obscured within-country



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variations and recent policy changes. Moreover, inconsistencies in regional data quality and reporting standards could have influenced comparative accuracy. Future research should therefore employ micro-level and longitudinal approaches to explore intra-regional variations and investigate the causal linkages between institutional quality, policy effectiveness, and SDG outcomes. Such analyses will deepen understanding of the mechanisms driving sustainable development disparities across Africa and inform more precise, evidence-based interventions.

## REFERENCES


Adeyeye, S. A. O., Ashaolu, T. J., Bolaji, O. T., Abegunde, T. A., & Omoyajowo, A. O. (2023). Africa and the Nexus of poverty, malnutrition and diseases. *Critical Reviews in Food Science and Nutrition*, *63*(5), 641-656.https://doi.org/10.1080/10408398.2021.1952160

African Union Commission (AUC), United Nations Economic Commission for Africa (ECA), African Development Bank (AfDB), & United Nations Development Programme (UNDP). (2023). *2023 Africa sustainable development report: Accelerating 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*. UnitedNations. https://www.undp.org/sites/g/files/zskgke326/files/202310/undp_africa_2023_africa_sustainable_development_report.pdf

African Union Commission, African Development Bank, United Nations Development Programme, and United Nations Economic Commission for Africa. (2024). *2024 Africa sustainable development report: Reinforcing the 2030 Agenda and Agenda 2063 and eradicating poverty in times of multiple crises: The effective delivery of sustainable, resilient and innovative solutions*.https://www.undp.org/sites/g/files/zskgke326/files/2024-07/asdr_2024_-_en_0.pdf

African Union [AU]. (2024). *Africa Sustainable Development Report 2024: Progress and prospects on the implementation of Agenda 2063 and Agenda 2030*. https://www.uneca.org/africa-sustainable-development-report-2024

Amankwah-Amoah, J., Boso, N., & Kutsoati, J. K. (2022). Institutionalization of protection for intangible assets: Insights from the counterfeit and pirated goods trade in sub-Saharan Africa. *Journal of World Business*, *57*(2), 101307.https://doi.org/10.1016/j.jwb.2021.101307

Ammari, M., Chentouf, M., Ammari, M., & Ben Allal, L. (2022). Assessing national progress in achieving the Sustainable Development Goals: A case study of Morocco. *Sustainability*, *14*(23), 15582.https://doi.org/10.3390/su142315582

Bain, P. G., Kroonenberg, P. M., Johansson, L. O., Milfont, T. L., Crimston, C. R., Kurz, T., ... & Park, J. (2019). Public views of the Sustainable Development Goals across countries. *Nature sustainability*, *2*(9), 819-825.https://doi.org/10.1038/s41893-019-0365-4

Bie, Q., Wang, S., Qiang, W., Ma, X., Gu, Z., & Tian, N. (2023). Progress toward Sustainable Development Goals and interlinkages between them in Arctic countries. *Heliyon*, *9*(2). https://doi.org/10.1016/j.heliyon.2023.e13306

Bolaji J., Oluwaseun S.S. (2022), Why the Sustainable Development Goals Matter in Africa? *African Journal of Economics and Sustainable Development 5*(3), 73-82. https://doi.org/10.52589/ajesd-ur23qjun

Chapman, G. R., Cully, A., Kosiol, J., Macht, S. A., Chapman, R. L., Fitzgerald, J. A., & Gertsen, F. (2020). The wicked problem of measuring real-world research impact: Using sustainable development goals (SDGs) and targets in academia. *Journal of Management & Organization*, *26*(6), 1030-1047.https://doi.org/10.1017/jmo.2020.16

Confraria, H., Ciarli, T., & Noyons, E. (2024). Countries' research priorities in relation to the sustainable development goals. *Research policy*, *53*(3), 104950.https://doi.org/10.1016/j.respol.2023.104950

De Francesco, F., Pattyn, V., & Salamon, H. (2024). The monitoring and evaluation challenges of the sustainable development goals: An assessment in three European countries. *Sustainable Development*, *32*(3), 1913-1924.https://doi.org/10.1002/sd.2759

Doumenge, C., Palla, F., & Madzous, G. L. I. (2021). *State of protected areas in Central Africa 2020* (pp. 404-p). OFAC; COMIFAC. https://doi.org/10.1017/s0030605322001090

Estoque, R. C. (2020). A review of the sustainability concept and the state of SDG monitoring using remote sensing. *Remote Sensing*, *12*(11), 1770.https://doi.org/10.3390/rs12111770

Food and Agriculture Organization of the United Nations. (2023). *The state of food and agriculture 2023: Revealing the true cost of food to transform agrifood systems*. FAO. https://doi.org/10.4060/cc7724en

Ghosh, P., & Chakravarty, T. (2024). Sustainable development goals: Challenges, opportunities, and the way forward. In V. Dutta & P. Ghosh (Eds.), *Sustainability: Science, policy, and practice in India: Challenges and opportunities* (pp. 235–241). Springer, Cham. https://doi.org/10.1007/978-3-031-50132-6_17

Hallum, C., & Obeng, K. W. (2019). *The West Africa inequality crisis: How West African governments are failing to reduce inequality, and what should be done about it*.Oxfam.http://policy-




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practice.oxfam.org.uk/publications/the-west-africa-inequality-crisis-how-west-african-governments-are-failing-to-r-620837

Kamande, A., & Martin, M. (2022). *The inequality crisis in East Africa: Fighting austerity and the pandemic*. Oxfam.

Kasirye, I., Ntale, A., & Venugopal, G. (2020). Implementation progress of the SDGs: Sub-Saharan Africa regional survey. *Occasional Paper Series*, (66).

Lafortune, G., Fuller, G., Moreno, J., Schmidt-Traub, G., & Kroll, C. (2018). SDG index and dashboards detailed methodological paper. *Sustainable Development Solutions Network*, *9*, 1-56.

Lorren K, H., Nikki F, Michelle, A., Constansia M., & Anton Nahman (2019). The Sustainable Development Goals in South Africa: Investigating the need for multi-stakeholder partnerships, *Development Southern Africa, 36*:5, 555-569. https://doi.org/10.1080/0376835x.2018.1461611

Lucks, D. (2021). *CEPA strategy guidance note on monitoring and evaluation systems.* United Nations Department of Social and Economic Affairs. https://publicadministration.un.org/Portals/1/Strategy%20note%20monitoring%20and%20evaluation%20Mar%202021_1.pdf

Lucks, D., & D'Errico, S. (2016). *Evaluation: A crucial ingredient for SDG success.* Briefing paper International Institute for Environment and Development (IIED). https://pubs.iied.org/sites/default/files/pdfs/migrate/17357IIED.pdf

Mlambo, V.H. & Niyitunga, E.B. (2024), "Assessing SDG achievement in Africa: Case studies on poverty, hunger, and gender equality", *International Journal of Development and Sustainability,* Vol. 13 No. 7, pp. 546-564.

Osman, A., Mensah, E. A., Mensah, C. A., Asamoah, Y., Dauda, S., Adu-Boahen, K., & Adongo, C. A. (2022). Spatial analysis of synergies and trade-offs between the Sustainable Development Goals (SDGs) in Africa. *Geography and Sustainability*, *3*(3), 220-231.https://doi.org/10.1016/j.geosus.2022.07.003

Otekunrin, O. A. (2025). A Critical Assessment of the Interplay of Conflict, Hunger, Poverty, and Food Insecurity in Africa. *Food and Humanity*, 100544.https://doi.org/10.1016/j.foohum.2025.100544

Sachs, J., Lafortune, G., Kroll, C., Fuller, G., Woelm, F. (2022). *From Crisis to Sustainable Development: the SDGs as Roadmap to 2030 and Beyond. Sustainable Development Report 2022.* Cambridge: Cambridge University Press.https://s3.amazonaws.com/sustainabledevelopment.report/2022/2022-sustainable-development-report.pdf

Sachs, J.D., Lafortune, G., Fuller, G. (2024). *The SDGs and the UN Summit of the Future. Sustainable Development Report 2024.* Paris: SDSN, Dublin: Dublin University Press. https://doi:10.25546/108572

Sachs, J.D., Lafortune, G., Fuller, G., Iablonovski, G. (2025). *Financing Sustainable Development to 2030 and Mid-Century. Sustainable Development Report 2025.* Paris: SDSN, Dublin: Dublin University Press. DOI: https://doi.org/10.25546/111909

Schmidt-Traub, G., Kroll, C., Teksoz, K., Durand-Delacre, D., & Sachs, J. D. (2017). National baselines for the Sustainable Development Goals assessed in the SDG Index and Dashboards. *Nature geoscience*, *10*(8), 547-555.https://doi.org/10.1038/ngeo2985

Shi, L., Han, L., Yang, F., & Gao, L. (2019). The evolution of sustainable development theory: Types, goals, and research prospects. *Sustainability*, *11*(24), 7158. https://doi.org/10.3390/su11247158

Sorooshian, S. (2024). The sustainable development goals of the United Nations: A comparative midterm research review. *Journal of Cleaner Production, 142272*.https://doi.org/10.1016/j.jclepro.2024.142272

UN Women. (2023). *Progress on the Sustainable Development Goals: The gender snapshot 2023*. New York: United Nations Entity for Gender Equality and the Empowerment of Women (UN Women).https://www.unwomen.org/en/digital-library/publications/2023/09/progress-on-the-sustainable-development-goals-the-gender-snapshot-2023

United Nations (UN). (2023). *Sustainable Development: The 17 goals.* Department of Economic and Social Affairs (2023). https://sdgs.un.org/goals.

United Nations Development Program (UNDP). (2023). *Africa Sustainable Development Report 2023*. United Nations Development Programme. https://www.africa.undp.org

United Nations Economic Commission for Africa (UNECA). (2021). *North African countries and SDG 9 of the United Nations 2030 Agenda: The way forward* (ECA/SRO-NA/ICSOE/36/3). United Nations Economic Commission for Africa.https://knowledgehub-sro-na.uneca.org/wp-content/uploads/2023/04/North-African-Countries-and-SDG-9-of-the-United-Nations-2030-Agenda-ENG-2021.pdf

United Nations Economic Commission for Africa [UNECA]. (2022). *African gender equality index 2022: Promoting gender equality for an inclusive Africa*. Addis Ababa, Ethiopia: United Nations Economic Commission for Africa.

Van de Ven, D. J., Sampedro, J., Johnson, F. X., Bailis, R., Forouli, A., Nikas, A., & Doukas, H. (2019). Integrated policy assessment and optimization over multiple sustainable development goals in Eastern Africa. *Environmental Research Letters, 14*(9), 094001.https://doi.org/10.1088/1748-9326/ab375d



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Vyas-Doorgapersad, S. (2023). Challenges to achieve the goal 5 of the Sustainable Development Goals (SDG) in South Africa. *International Journal of Research in Business and Social Science (2147-4478), 12*(6), 257-266. https://doi.org/10.20525/ijrbs.v12i6.2687

Wernecke, B., Mathee, A., Kunene, Z., Balakrishna, Y., Kapwata, T., Mogotsi, M., ... & Wright, C. Y. (2021). Tracking progress towards the Sustainable Development Goals in four rural villages in Limpopo, South Africa. *Annals of Global Health*, *87*(1), 16.https://doi.org/10.5334/aogh.3139

World Bank. (2025). *South Africa overview: Development news, research, and data.* World Bank. Retrieved September 4, 2025, from https://www.worldbank.org/en/country/southafrica/overview

World Commission on Environment and Development (WCED). (1987). *Our Common Future.* Oxford University Press. https://doi.org/10.1002/jid.3380010208

Zahedi, S. (2019). Sustainable development theory: A critical perspective and an integrative model. *Journal of Economics and Sustainable Development, 10*(21), 43–52. https://doi.org/10.7176/jesd/10-21-05



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# APPENDIX
## Appendix A: Descriptive Results

**Table A1**
*Regional distribution of SDG 1 achievements*

| Region | Major Challenges (%) | Significant Challenges (%) | Challenges Remain (%) | Goal Achievement (%) | Total (%) |
|---|---|---|---|---|---|
| Central Africa | 8(88.9) | 0(0.0) | 1(11.1) | 0(0.0) | 9(100) |
| Eastern Africa | 14(77.8) | 2(11.1) | 0(0.0) | 2(11.1) | 18(100) |
| Northern Africa | 2(33.3) | 0(0.0) | 2(33.3) | 2(33.3) | 6)100) |
| Southern Africa | 5(100) | 0(0.0) | 0(0.0) | 0(0.0) | 5(100) |
| Western Africa | 9(56.3) | 6(37.5) | 1(6.3) | 0(0.0) | 16(100) |
| Total | 38(70.4) | 8(14.8) | 4(7.4) | 4(7.4) | 54(100) |

**Table A2**
*Regional distribution of SDG 2 Achievements*

| Regions | Major Challenges (%) | Significant Challenges (%) | Total (%) |
|---|---|---|---|
| Central Africa | 9(100) | 0(0.0) | 9(100) |
| Eastern Africa | 18(100) | 0(0.0) | 18(100) |
| Northern Africa | 4(66.7) | 2(33.3) | 6(100) |
| Southern Africa | 5(100) | 0(0.0) | 5(100) |
| Western Africa | 16(100) | 0(0.00) | 16(100) |
| Total | 52(96.3) | 2(3.7) | 54(100) |

**Table A3**
*Regional Distribution of SDG 3 Achievements*

| Regions | Major Challenges (%) | Significant Challenges (%) | Total (%) |
|---|---|---|---|
| Central Africa | 9(100) | 0(0.0) | 9(100) |
| Eastern Africa | 16(88.9) | 2(11.1) | 18(100) |
| Northern Africa | 4(66.7) | 2(33.3) | 6(100) |
| Southern Africa | 5(100) | 0(0.0) | 5(100) |
| Western Africa | 15(93.8) | 1(6.3) | 16(100) |
| Total | 49(90.7) | 5(9.3) | 54(100) |

**Table A4**
*Regional Distribution of SDG 4 Achievements*

| Region | Major Challenges (%) | Significant Challenges (%) | Challenges Remain (%) | Goal Achievement (%) | Total (%) |
|---|---|---|---|---|---|
| Central Africa | 8(88.9) | 1(11.1) | 0(0.0) | 0(0.0) | 9(100) |
| Eastern Africa | 14(77.8) | 2(11.1) | 1(5.6) | 1(5.6) | 18(100) |
| Northern Africa | 3(50.0) | 3(50.0) | 0(0.0) | 0(0.0) | 6(100) |
| Southern Africa | 2(40.0) | 2(40.0) | 1(20.0) | 0(0.0) | 5(100) |
| Western Africa | 13(81.3) | 2(12.5) | 1(6.3) | 0(0.0) | 16(100) |
| Total | 40(74.1) | 10(18.5) | 3(5.6) | 1(1.9) | 54(100) |

**Table A5**
*Regional Distribution of SDG 5 Achievements*

| Region | Major Challenges (%) | Significant Challenges (%) | Challenges Remain (%) | Goal Achieved (%) | Total (%) |
|---|---|---|---|---|---|
| Central Africa | 6 (66.7) | 3 (33.3) | 0 (0.0) | 0 (0.0) | 9(100) |
| Eastern Africa | 7 (38.9) | 9 (50.0) | 2 (11.1) | 0 (0.0) | 18(100) |
| Northern Africa | 5 (83.3) | 1 (16.7) | 0 (0.0) | 0 (0.0) | 6(100) |
| Southern Africa | 0 (0.0) | 2 (40.0) | 1 (20.0) | 2 (40.0) | 5(100) |
| Western Africa | 15 (93.8) | 0(0.0) | 1 (6.3) | 0 (0.0) | 16(100) |
| Total | 33 (61.1) | 15 (27.8) | 4 (7.4) | 2 (3.7) | 54(100) |


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**Table A6**

*Regional Distribution of SDG 6 Achievements*

| **Region** | **Major Challenges** (%) | **Significant Challenges** (%) | **Challenges Remain** (%) | **Total** (%) |
|---|---|---|---|---|
| Central Africa | 8 (88.9) | 1 (11.1) | 0 (0.0) | 9(100) |
| Eastern Africa | 16 (88.9) | 0 (0.0) | 2 (11.1) | 18(100) |
| Northern Africa | 2 (33.3) | 4 (66.7) | 0 (0.0) | 6(100) |
| Southern Africa | 3 (60.0) | 2 (40.0) | 0 (0.0) | 5(100) |
| Western Africa | 15 (93.8) | 1 (6.3) | 0 (0.0) | 16(100) |
| Total | 44 (81.5) | 8 (14.8) | 2 (3.7) | 54(100) |

**Table A7**

*Regional Distribution of SDG 7 Achievements*

| **Region** | **Major Challenges** (%) | **Significant Challenges** (%) | **Total** (%) |
|---|---|---|---|
| Central Africa | 8(88.9 ) | 1(11.1) | 9(100) |
| Eastern Africa | 16(88.9) | 2(11.1) | 18(100) |
| Northern Africa | 4(66.7) | 2(33.3) | 6(100) |
| Southern Africa | 5(100) | 0(0.0) | 5(100) |
| Western Africa | 14(87.5) | 2(12.5) | 16(100) |
| Total | 47(87.0) | 7(13.0) | 54(100) |

**Table A8**

*Regional Distribution of SDG 8 Achievements*

| **Region** | **Major Challenges** (%) | **Significant Challenges** (%) | **Challenges Remain** (%) | **Total** (%) |
|---|---|---|---|---|
| Central Africa | 6 (66.7) | 3 (33.3) | 0 (0.0) | 9 (100) |
| Eastern Africa | 12 (66.7) | 5 (27.8) | 1 (5.6) | 18 (100) |
| Northern Africa | 6 (100.0) | 0 (0.0) | 0 (0.0) | 6 (100) |
| Southern Africa | 3 (60.0) | 2 (40.0) | 0 (0.0) | 5 (100) |
| Western Africa | 8 (50.0) | 8 (50.0) | 0 (0.0) | 16 (100) |
| Total | 35 (64.8) | 18 (33.3) | 1 (1.9) | 54 (100) |

**Table A9**

*Regional Distribution of SDG 9 Achievements*

| **Region** | **Major Challenges (%)** | **Significant Challenges (%)** | **Total (%)** |
|---|---|---|---|
| Central Africa | 7 (77.8) | 2 (22.2) | 9(100) |
| Eastern Africa | 16 (88.9) | 2 (11.1) | 18(100) |
| Northern Africa | 1 (16.7) | 5 (83.3) | 6(1000 |
| Southern Africa | 2 (40.0) | 3 (60.0) | 5(100) |
| Western Africa | 14 (87.5) | 2 (12.5) | 16(100) |
| Total | 40 (74.1) | 14 (25.9) | 54(100) |

**Table A10**

*Regional Distribution of SDG 10 Achievements*

| **Region** | **Major Challenges** (%) | **Significant Challenges** (%) | **Challenges Remain** (%) | **Goal Achievement** (%) | **Total** (%) |
|---|---|---|---|---|---|
| Central Africa | 7 (77.8) | 2 (22.2) | 0 (0.0) | 0 (0.0) | 9(100) |
| Eastern Africa | 12 (66.7) | 5 (27.8) | 1 (5.6) | 0 (0.0) | 18(100) |
| Northern Africa | 1 (16.7) | 4 (66.7) | 0 (0.0) | 1 (16.7) | 6(100) |
| Southern Africa | 5 (100) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 5(100) |
| Western Africa | 2 (12.5) | 12 (75.0) | 2 (12.) | 0 (0.0) | 16(100) |
| Total | 27 (50.0) | 23(42.6) | 3(5.6) | 1(1.9) | 54(100) |

**Table A11**

*Regional Distribution of SDG 11 Achievements*

| **Region** | **Major Challenges** (%) | **Significant Challenges** (%) | **Challenges Remain** (%) | **Goal Achievement** (%) | **Total** (%) |
|---|---|---|---|---|---|
| Central Africa | 8 (88.9) | 0 (0.0) | 1 (11.1) | 0 (0.0) | 9(100) |
| Eastern Africa | 14 (77.8) | 3 (16.7) | 0 (0.0) | 1 (5.6) | 18(100) |
| Northern Africa | 2 (33.3) | 3 (50.0) | 1 (16.7) | 0 (0.0) | 6(100) |
| Southern Africa | 2 (40.0) | 3 (60.0) | 0 (0.0) | 0 (0.0) | 5(100) |
| Western Africa | 15 (93.8) | 1 (6.3) | 0 (0.0) | 0 (0.0) | 16(100) |
| Total | 41 (75.9) | 10 (18.5) | 2 (3.7) | 1 (1.9) | 54(100) |



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**Table A12**

*Regional Distribution of SDG 12 Achievements*

| Region | Significant Challenges (%) | Challenges Remain (%) | Goal Achievement (%) | Total (%) |
|---|---|---|---|---|
| Central Africa | 1 (11.1) | 4 (44.4) | 4 (44.4) | 9(100) |
| Eastern Africa | 1 (5.6) | 5 (27.8) | 12 (66.7) | 18(100) |
| Northern Africa | 1 (16.7) | 5 (83.3) | 0 (0.0) | 6(100) |
| Southern Africa | 1 (20.0) | 4 (80.0) | 0 (0.0) | 5(100) |
| Western Africa | 0 (0.0) | 5 (31.3) | 11 (68.8) | 16(100) |
| Total | 4 (7.4) | 23 (42.6) | 27 (50.0) | 54(100) |

**Table A13**

*Regional Distribution of SDG 13 Achievements*

| Region | Major Challenges (%) | Significant Challenges (%) | Challenges Remain (%) | Goal Achievement (%) | Total (%) |
|---|---|---|---|---|---|
| Central Africa | 0 (0.0) | 1 (11.1) | 3 (33.3) | 5 (55.6) | 9(100) |
| Eastern Africa | 0 (0.0) | 0 (0.0) | 4 (22.2) | 14 (77.8) | 18(100) |
| Northern Africa | 1 (16.7) | 1 (16.7) | 2 (33.3) | 2 (33.3) | 6(100) |
| Southern Africa | 0 (0.0) | 2 (40.0) | 1 (20.0) | 2 (40.0) | 5(100) |
| Western Africa | 0 (0.0) | 0 (0.0) | 3 (18.8) | 13 (81.3) | 16(100) |
| Total | 1 (1.9) | 4 (7.4) | 13 (24.1) | 36 (66.7) | 54(100) |

**Table A14**

*Regional Distribution of SDG 14 Achievements*

| Region | Major Challenges (%) | Significant Challenges (%) | Challenges Remain (%) | Total (%) |
|---|---|---|---|---|
| Central Africa | 3 (33.3) | 5 (55.6) | 1 (11.1) | 9(100) |
| Eastern Africa | 17 (94.4) | 0 (0.0) | 1 (5.6) | 18(100) |
| Northern Africa | 5 (83.3) | 1 (16.7) | 0 (0.0) | 6(100) |
| Southern Africa | 4 (80.0) | 0 (0.0) | 1 (20.0) | 5(100) |
| Western Africa | 13 (81.3) | 3 (18.8) | 0 (0.0) | 16(100) |
| Total | 42 (77.8) | 9 (16.7) | 3 (5.6) | 54(100) |

**Table A15**

*Regional Distribution of SDG 15 Achievements*

| Region | Major Challenges (%) | Significant Challenges (%) | Challenges Remain (%) | Goal Achievement (%) | Total (%) |
|---|---|---|---|---|---|
| Central Africa | 4 (44.4) | 2 (22.2) | 3 (33.3) | 0 (0.0) | 9(100) |
| Eastern Africa | 16 (88.9) | 2 (11.1) | 0 (0.0) | 0 (0.0) | 18(100) |
| Northern Africa | 5 (83.3) | 1 (16.7) | 0 (0.0) | 0 (0.0) | 6(100) |
| Southern Africa | 3 (60.0) | 0 (0.0) | 1 (20.0) | 1 (20.0) | 5(100) |
| Western Africa | 6 (37.5) | 9 (56.3) | 1 (6.3) | 0 (0.0) | 16(100) |
| Total | 34 (63.0) | 14 (25.9) | 5 (9.3) | 1 (1.9) | 54(100) |

**Table A16**

*Regional Distribution of SDG 16 Achievements*

| Region | Major Challenges (%) | Significant Challenges (%) | Total (%) |
|---|---|---|---|
| Central Africa | 8 (88.9) | 1 (11.1) | 9(100) |
| Eastern Africa | 17 (94.4) | 1 (5.6) | 18(100) |
| Northern Africa | 6 (100.0) | 0 (0.0) | 6(100) |
| Southern Africa | 4 (80.0) | 1 (20.0) | 5(100) |
| Western Africa | 14 (87.5) | 2 (12.5) | 16(100) |
| Total | 49 (90.7) | 5 (9.3) | 54(100) |

**Table A17**

*Regional Distribution of SDG 17 Achievements*

| Region | Major Challenges (%) | Significant Challenges (%) | Challenges Remain (%) | Total (%) |
|---|---|---|---|---|
| Central Africa | 6 (66.7) | 3 (33.3) | 0 (0.0) | 9(100) |
| Eastern Africa | 9 (50.0) | 9 (50.0) | 0 (0.0) | 18(100) |
| Northern Africa | 1 (16.7) | 3 (50.0) | 2 (33.3) | 6(100) |
| Southern Africa | 0 (0.0) | 1 (20.0) | 4 (80.0) | 5(100) |
| Western Africa | 5 (31.3) | 10 (62.5) | 1 (6.3) | 16(100) |
| Total | 21 (38.9) | 26 (48.1) | 7 (13.0) | 54(100) |



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