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Debt Crisis and Climate Change in West Africa

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Abstract

Debt Crisis and climate change are two of the biggest problems faced by developing regions with far reaching implications for development. These twin problems of debt burden and climate vulnerability are by far more pronounced in the West African sub region. However, the nexus between debt crisis and climate change particularly climate response capacity in West Africa has received limited attention in research. Therefore, this study undertakes a situational analysis of the debt profile and climate vulnerability of selected West African states; analyses the impact of unsustainable debt on the climate change responses of West African states; and appraises the role of climate diplomacy as a tool for securing debt relief for selected West African states. The study employed secondary data from scholarly articles, government reports, policy briefs, estimates and projections from the World Bank and International Monetary Fund, and other web sources. The study analysed the data using content and descriptive analyses. The study found an intricate link between debt crisis and climate change. The result showed that climate change is a "threat multiplier" that exacerbates existing problems including debt crisis and dependence in West African countries. Also, the study showed that the capacity of West African countries to effectively respond to issues of climate change is strongly impacted by the crisis of debt. The research concludes that without innovative debt-for-climate financing models, strengthened institutions and hard policy choices, climate action in the sub-region is less likely to meet set targets.

Keywords: Debt Crisis; Climate Change; West Africa

1. Introduction

While they are not exactly new, climate change and debt crisis are issues that have featured most prominently in the discourse of development or underdevelopment in the global south over the last five decades. In the age of global capitalism and interdependence, developing countries have struggled to exercise their agency effectively especially in response to emerging problems of the twenty first century. Although no country is immune to the effects of climate change, the impact is most felt in countries and regions considered less developed particularly Africa. The existential threat and risk posed by the change in climate is compounded by the grave absence of capacity by the most affected regions.

Over the last half a century, climate change and the urgency to combat it has been widely acknowledged by states and non-state actors. Multilateral conferences such as the 1972 United Nations Conference on the Human Environment held in Stockholm brought to the fore, a global agenda for environmental protection and climate change solutions. Also, the Montreal Protocol

of 1989 was massively adopted globally to gradual phase-out the production of materials that affect the ozone layer such as chlorofluorocarbons (CFCs) (Maslin, et al., 2023). The global movement toward effective action to mitigate the effects of climate change continued with the landmark Earth Summit of 1992, held in Rio de Janeiro, Brazil which marked renewed efforts by states in the world to combat climate change by stabilising the atmospheric concentrations of greenhouse gases (GHGs) at levels that would not have significant interference with the climate system (Jackson, 2007).
Two of the most significant milestones in the effort to combat climate change in the 20th and 21st century were the Kyoto Protocol of 1997, and the Paris Agreement of 2015 (Maslin, et al., 2023). Nations committed themselves to legally binding agreement to pursue the achievement of climate targets. Since 1995, over 180 countries continue to converge annually in what is known as the Conference of the Parties (COP) to assess climate progress and further commit themselves to a green and sustainable planet.

In the same vein, the accumulation of debt to unsustainable levels are having far reaching impact on the social, political, economic and environmental sustainability of many developing countries. Most notably, West African governments borrow continuously and unsustainably in ways that have impacted their ability to repay. In 2021, the International Monetary Fund (IMF) (cited in Chatham House, 2022) reported that about 20 low-income African states were at risk or in debt crisis. By implication, around 40% of African countries lack the wherewithal to fulfil their loan obligations and are potentially at risk of slipping into a crisis of debt. According to Vines et al. (2022), Africa's total foreign debt grew five times greater from 2000 to 2020, amounting to about US$696 billion. Among the top 10 countries in Africa with the highest debt-GDP ratio, Cape Verde and Ghana make the list according to the IMF (IMF, 2026).

As the world strives to mitigate the effects of human-instigated climate change, the African continent in addition to climate change, grapples with debt crisis which continues to weaken the economic and political capacities of African states. As Vines et al. (2022) posits, the situation in Africa is likely to cripple the ability of several African states to acquire the necessary funds required to respond to climate change. The United Nations Conference on Trade and Development (UNCTAD) 2023 report highlighted a mutual relationship between debt crisis and climate change; marked by the unsustainable debt status of West African states constituting a hindrance to adequate investment in infrastructures and a post disaster situation where already devastated countries are forced into more external borrowing for reconstruction which only worsens their foreign debt status and reinforces their underdeveloped status (UNCTAD, 2023). Furthermore, the UN Environment Programme's (UNEP, 2022) noted that developing countries may need about US$340 billion by 2030 to adapt annually to the changes caused by climate change. This projection has the potential of causing further strain on the already weakened national budgets of West African states. Also, when an over-indebted country is hit by an extreme climate event such as severe droughts and flooding, existing debts make response to such emergency more difficult and the implications stretch beyond the present, as pre-existing debt and reconstruction costs worsen the possibility of economic recovery in the future.

Studies abound on the impacts of climate change for African states in terms of food shortage, conflicts, drought, floods, food security, and adverse environmental consequences (Moseley 1992, Molly et al. 2009; Vines et al. 2022, and Stavros 2022; Tamale, N., & Majekolagbe, A., 2022; Tsomb, E. I., & Nsoga, M. H., 2023; Leykun, 2024). Molly et al. (2009) posited that climate change threatens the ability of African states to compete in the global food system. They particularly examined the links between African states and climate change in the context

of global markets and growing food shortage and insecurity on the continent. Vines et al. (2022a) analysed the phenomenon of debt distress in Africa and the crucial role played by China in providing relief. These scholars approached the discourse from the perspective of China's involvement as both a lender and a provider of debt relief to many African states.
Existing literature have also examined the implications of debt crisis for the economies, stability and development of African states. For instance, Moseley (1992) focused on how debt crisis and foreign exchange have impacted the structure and performance of manufacturing sectors in West Africa while Stavros (2022) draws attention to the risk climate change poses to fiscal stability by highlighting divergent climate risks to advanced economies. Tsomb et al. (2023) examined how climate vulnerability drives conflicts and migration. Whereas, the thrust of Leykun's (2024) investigation focused on investigating the influence of climate vulnerability on the external debt vulnerability in sub-Saharan Africa. However, extensive work has not been done on the intricate nexus between the debt crisis in West Africa and the sub region's climate change response. Therefore, this study aims to bridge this gap by interrogating the nexus between debt crisis and climate change in selected West African countries.

Beyond the gap in research, the African Development Bank (AfDB, 2025) highlights the critical debt situation within the West African subregion where public debt has risen astronomically by almost 170 percent to USD1.8 trillion from 2010 to 2024 and states using substantial part of their revenue to service external debt thus their ability to adequately finance education and other sectors in a manner that reduces fragility and improves resilience. In the same vein, many countries such as Burkina Faso, Cote d'lvoire and Senegal in the sub-region have low capacity to adapt and high exposure to climate change (AfDB, 2025a). This combined burden and the risk they pose to sustainable development in West Africa justify this study.

2. Literature Review

2.1 Debt Crisis and Climate Response: A Review

There is a plethora of words (debt distress, debt burden) used interchangeably with debt crisis that rather than offer clarity, add to the complexity of what constitute a crisis, when a crisis starts and ends. In "Foreign Aid, the Third World's Debt Crisis and the Implication for Economic Development: The Nigerian Experience", Aluko & Arowolo (2010) defined debt crisis as "a situation of irredeemable debt", a situation of persistent request of and dependence on foreign loans until countries are unable to pay back the principal debts owed. Debt crisis is also described as a situation in which countries are caught up in a financial trap where a significant percentage of their GDP is used to service foreign debt, once they default on the payment of the principal loan, leading to severe negative impact on the domestic economy. While Aluko et al. made some valuable clarifications especially in relation to the serious economic condition in the country facing crisis, its inability to repay and persistent trap in the debt cycle with no result or worsening condition, their definition appeared narrow and institutional. It ignores the fact that the unsustainable debt situation is structural, designed and therefore inevitable.
Rustomjee (2017) definition aligns closely with Aluko et al. He conceptualized debt crisis "as a situation in which the public debt of a country significantly exceeds its GDP", where the debt-to-GDP ratio is significantly high. He referenced the IMF and World Bank term "debt distress" to describe debt crisis as being in debt distress or at a very high risk of debt distress, which is when there was a very high risk of default on public debt by a country. For Rostumjee, debt crisis equals increase in public indebtedness, an increase in debt-to-GDP ratio, an absence of adequate debt relief mechanisms, and an accompanying global financial structure that accentuated the accumulation of public debt.

Climate response on the other hand is conceived as "a response to climate change and a strategic action plan to develop the adaptative capabilities and climate resilience of nations and people" (Chevallier, 2022). It a strategic action plan aimed at achieving long-term, low-emission climate development for countries. For Chevallier, climate response is 'an inclusive and holistic, process encompassing the rules and procedures guiding a country's reaction to climate change, including the country's priorities in combating climate disasters, the outline for cooperation and collaboration on climate-related matters, strategies to identify opportunities and challenges from climate change and a specific timeframe to achieve both short-term and long-term climate gains. In summary, climate response is a "framework" for action.

Also, Bacchus (2019) viewed climate response as a means of countering climate change. Bacchus recognised and considered the differences in states' priorities on matters relating to climate change, especially for developed and developing countries. Bacchus defined climate response as "an equivalent of a state's domestic climate change mitigation measures with the aim of achieving its nationally determined contributions (NDCs), as stated under article 4.2 of the Paris Agreement". Bacchus believed that for developing countries, climate response could mean limiting their climate mitigation and adaptation measures to the voluntary NDCs which they pledged under the Paris Agreement. Bacchus in his conceptualisation of climate change response believed that, "National measures not yet envisaged may prove to be the most effective kinds of response measures to climate change" because climate response does not exempt the future.

Sack & Phoré (2022) on their part, defined climate response as the climate policy of states aimed at mitigating the effects of climate change, improving the climate adaptation of countries, and increasing their climate resilience, all within a specific period. They further described climate response as consisting of a national and an international dimension, where the international aspect focuses on the importance of global collaboration in the fight against climate change which could include strategic plans to enhance climate resilience, leverage renewable energy resources, achieve carbon neutrality, harness natural resources and nature-based solutions.

Chavellier, Bacchus, Sack and Phore all offer useful, nuanced insights on how to think about climate response. Perhaps most instructive is Bacchus strong submission on the need to accommodate future response even as climate threats rapidly increase and cities are being re-forged to promote and preserve a healthy ecosystem. A major challenge seem to be the state-centric nature of their definitions, ignoring the diverse, even unknown initiative that groups and communities have been playing historically. The danger lies in promoting a top-down approach when evidence suggest that grassroots mobilization can and do have great impacts. In any case, climate response may differ from country to country, region to region and community to community.

2.2 The Debt Crisis-Climate Change Nexus

The works of Stern, 2008; Molly et al., 2009; Tamale, N., & Majekolagbe, A., 2022; Tsomb, E. I., & Nsoga, M. H., 2023; Leykun, 2024 demonstrates that the link between climate change and debt burden is well documented in literature. Tamale and Majekolagbe for instance examined the tripartite relations between debt, climate finance and vulnerability. Most African countries already choked by debt and struggling economies lack the capacity to finance projects and programs to address climate vulnerability. In reality, many countries on the continent but even moreso, countries in the Sahel region are faced with the multiple threats of rapidly changing climate, heavy debt which contribute to fueling insecurity and migration crisis. As Tsomb and Nsoga observed, climate change vulnerability and conflicts in Africa are intertwined. Intractable conflicts combined with other grave socioeconomic challenges such as

being experienced in the Sahel region are often exacerbated by growing debt burden. Developing countries emerging from disasters such as the Ebola crisis, Covid-19 pandemic or economic depressing often have limited options beyond seeking credit to address immediate impacts of the disaster (Hirsch, 2021). However, in doing so, they plunged further into debt making it literally difficult to meet their debt obligations. Yet, the estimated cost required to address climate change in sub-Saharan Africa remains staggering. This estimate indicated what Stern (2008) described as "the challenge of adaptation", where developing countries require extra resources to cope with the consequences of climate change but are unable to acquire such extra funding.

The above position by Stern explained the interrelation between debt crisis and climate change, where developing or underdeveloped countries struggled with debt crisis, unable to repay foreign debts while in dire need of resources to combat climate change. In such a scenario, the financial and economic status of such a country would affect its climate change response. Furthermore, Stern (2008) noted that, "…the challenge of climate change is especially difficult because it covers so much of the economy, is so long term, is so full of risk and uncertainty, is so demanding internationally, and is so urgent…".

In addition, there has been a long-standing relationship between debt crisis and climate change through international trade. According to Stern, international trade offers incentives to poor countries in the fight against climate change, known as "carbon trading", where developed countries would maintain an openness to international trade and price levels which would incentivise developing states to remain committed to CO2 reduction targets to combat climate change. This position on the debt crisis-climate change link is however weak, as it offered little in terms of the number of developing countries which benefit and whether such incentives have direct positive impact on a state's climate. The submission also generalised using a binary of developed and developing countries, with no acknowledgment of other category of countries, which may be more prone to debt crisis and thus, possibly have weak climate change responses.

Furthermore, AfronomicsLaw (2021) argued that there is indeed an intricate nexus between debt crisis and climate change especially in relation to "climate financing" and rising debt in Africa, and in the particular instance, Nigeria. Like many developing countries, the report noted that Nigeria's debt servicing prevented it from responding to climate-related issues. It stated that "the burden of Nigeria's immense debt and repayment obligations prevent the country from responding effectively to current and developing crises". It argued that given Nigeria's underfunding of many other critical sectors, financing climate change-induced developments would prove difficult. While AfronomicsLaw identified a mutual connection between debt crisis and climate change, where debts prevented effective funding of climate response and climate finance in the form of loans increased the debt burdens of African countries, its generalization based a single country case study appeared flawed. There could be internal and external factors unique to Nigeria which affect its debt crisis-climate change interrelation, which may not be present in other countries in West Africa.

Similarly, UNCTAD (2022) highlight a strong the link between debt crisis and climate change especially regarding how climate shocks increase the external borrowing of states. Also, it noted that the damages to states' infrastructures and economies by climate shocks often led to increased external borrowing. It also highlights the underlying global political economy structure that condition certain countries' capacity for effective response to climate crisis. From the literature examined, it is incontrovertible that climate change and debt crisis are linked and this is more evident in developing regions that have to grapple with multiple crises which further exacerbates their debt and climate conditions.

2.3 Theoretical Framework

Political Economy of Climate Change

The theory is widely associated with Marxist and broadly, critical theorists who include Jason W. Moore, Peter Newell, Bohm, S., & Dabhi, S. It argues that developing countries' climate vulnerability is a result of deliberate colonial and neocolonial exploitative activities by the developed global North countries. This is enabled and sustained by unequal global power structure that shapes global policies on finance and the environment (Bohm & Dabhl, 2009; Paterson & P-Laberge, 2018). In relation to West Africa, the theory is useful for explaining how West African countries have been trapped into debt by the biggest polluters who make them take huge loans to address climate shocks only to be plunged into more debt and dependency on the providers of these 'financial interventions'.

2.3.1 Post-Keynesian Economic Theory

Post-Keynesian theory is built on the foundational ideas of John Maynard Keynes. Major contributors include: Nicholas Kaldor, Michal Kalecki, Hyman Minsky and Jan Kregel. Its central argument is that unbridled market-driven growth negatively impacts the environment and advocated 'balance of emissions constraint' in investments and demands (Jimenez and Woodgate, 2025; Skott, 2026). This theory is relevant because it highlights how unsustainable debt constraints governments from being able to exercise fiscal capacity. Because many African countries are already burdened by debt servicing obligations, they are unable to significantly and independently mobilise funding to combat critical environmental challenges. This is particularly true for many West African countries which are caught in the throes of debt and have little room to finance climate related projects due to the constraining terms and conditions attached to the loans. Equally important for this study is that whether as a matter of choice or design, many countries in the region often resort to market-based solutions that prioritizes growth. The result has always left these countries deeper in debt and unable to finance climate sustainability projects.

3. Methodology

The study is a qualitative research. It relied primarily on secondary data specifically, official publications/reports from Central banks, Ministries of Finance of selected countries, international financial institutions such as the World Bank, IMF and the African Development Bank and national, regional global climate-focused institutions. Also, scholarly journal articles, books, web documents among others were consulted. With a primary focus on external debt from 2021 to 2025, the study selects three West African countries namely: Cabo Verde, Ghana, and the Gambia as representative sample. 2021 marked an important shift in global economy due to the impact of COVID-19 pandemic and succeeding years have focused on recovery. Interrogating how major events during the period have shaped the economic and climate choices of developing countries is important. In the period under review, the three countries have been consistently listed among the top five West African countries with the highest external debt-to-GDP ratios which are close to or surpass the 40-55% IMF-World bank threshold for medium debt carrying capacity countries (IMF-World Bank 2025a; IMF Library, 2025a).

Similarly, the three countries have been consistently classified as being in debt distress or at high risk of debt distress, the only exception being 2023 when Cape Verde was listed as 'moderately' at risk of debt distress owing to a strong reserves and favorable terms of its debt restructuring. Notwithstanding, the country's significantly high public debt levels meant that its remained high (IMF, 2024). Notably, their external debt service-to-revenue ratios either

surpass or is close to the 23% IMF-World bank threshold. Although, there are other West African countries with higher total debt stock and debt service-to-revenue ratio such as Nigeria, Cote d'Ivoire, and Senegal, none has been consistently classified as being in debt distress or at risk of debt distress over the period under review hence the selection. Added to this is the fact that the external debt (by percentage) owed by the three countries' is among highest top six in the sub-region eventhough Ghana's share of external debt has been falling since 2024. Data obtained were analysed using content analysis.

4. Findings and Discussion

4.1 Situational Analysis of West Africa's Debt Profile and Climate Change Risks

West Africa's debt statistics are among the world's most concerning due to multiple reasons including the unhealthy imbalance in debt-to-GDP ratio, debt-to-export ratio, debt-revenue ratio and debt servicing commitments. This has significant implications for the region's prospect of achieving the Agenda 2030. For a region grappling with insecurity, corruption, high inflation and weak infrastructure, rising debt with eroding fiscal capacity are compounding existing socioeconomic problems, altering priorities and weakening response ability of most governments in the sub-region. The situation justifies the characterization of some countries' debt situation in the sub-region as a crisis. To underscore the severity of the sub-regions vulnerability in relation to debt, of the 39 countries classified as Heavily indebted Poor Countries (HIPC) by the World Bank (World Bank Open Data, 2025 Update), 14 are West African countries, (that is more than a third of the total).

Table 1: Total Public Debt in US$ Billion, 2021-2025

Total public debt in current US dollars, calculated as (debt-to-GDP % × nominal GDP in US$) for each year, using IMF WEO-based nominal GDP

Country (US$ bn)	2021	2022	2023	2024	2025
Benin	$7.56bn	$8.96bn	$10.40bn	$11.48bn	$12.80bn
Burkina Faso	$8.67bn	$10.20bn	$12.24bn	$13.25bn	$14.41bn
Cabo Verde	$2.79bn	$2.56bn	$2.99bn	$3.14bn	$3.36bn
Cote d'Ivoire	$35.91bn	$42.13bn	$47.13bn	$51.84bn	$57.36bn
Gambia	$1.54bn	$1.63bn	$1.76bn	$1.88bn	$1.91bn
Ghana	$58.64bn	$51.67bn	$52.23bn	$49.50bn	$58.55bn
Guinea	$7.32bn	$8.56bn	$9.90bn	$11.70bn	$13.09bn
Guinea-Bissau	$1.09bn	$1.32bn	$1.51bn	$1.81bn	$2.13bn
Liberia	$1.84bn	$2.07bn	$2.38bn	$2.64bn	$2.82bn
Mali	$10.69bn	$12.14bn	$13.33bn	$14.46bn	$16.68bn
Niger	$6.27bn	$7.24bn	$8.42bn	$9.22bn	$10.51bn
Nigeria	$95.77bn	$100.22bn	$108.23bn	$94.23bn	$110.97bn
Senegal	$18.66bn	$21.90bn	$25.88bn	$38.74bn	$41.20bn
Sierra Leone	$3.07bn	$3.70bn	$4.49bn	$3.25bn	$3.48bn
Togo	$4.91bn	$5.70bn	$6.48bn	$7.36bn	$8.27bn

Source: IMF World Economic Outlook (April 2026 vintage), Debt Management Office (DMO) Nigeria, quarterly Total Public Debt reports (dmo.gov.ng), Ghana Ministry of Finance (MoFEP),
Note: Figures will not exactly match some single national debt-office bulletin because of GDP-vintage and exchange-rate timing differences, but are internally consistent across the table.

Table 2: Domestic vs. External Public Debt, US$ Billion

Country	2021	2022	2023	2024	2025
Ghana — Domestic (US$ bn)	$30.30bn	$22.40bn	$22.09bn	$21.09bn	$30.48bn
Ghana — External (US$ bn)	$28.34bn	$29.27bn	$30.14bn	$28.41bn	$28.06bn
Nigeria — Domestic (US$ bn)	$55.78bn	$54.12bn	$65.73bn	$48.44bn	$59.12bn
Nigeria — External (US$ bn)	$39.99bn	$46.10bn	$42.50bn	$45.78bn	$51.56bn
Senegal — Domestic (US$ bn)	$6.53bn	$7.23bn	$8.02bn	$10.85bn	$11.95bn
Senegal — External (US$ bn)	$12.13bn	$14.67bn	$17.86bn	$27.89bn	$29.25bn
Cote d'Ivoire — Domestic (US$ bn)	$13.29bn	$15.17bn	$16.50bn	$17.63bn	$19.50bn
Cote d'Ivoire — External (US$ bn)	$22.62bn	$26.96bn	$30.63bn	$34.21bn	$37.86bn
Gambia — Domestic (US$ bn)	$0.59bn	$0.60bn	$0.63bn	$0.66bn	$0.67bn
Gambia — External (US$ bn)	$0.95bn	$1.03bn	$1.13bn	$1.22bn	$1.24bn
Cabo Verde — Domestic (US$ bn)	$0.78bn	$0.69bn	$0.78bn	$0.79bn	$0.84bn
Cabo Verde — External (US$ bn)	$2.01bn	$1.87bn	$2.21bn	$2.35bn	$2.52bn

Source: Debt Management Office (DMO) Nigeria, quarterly Total Public Debt reports (dmo.gov.ng), Ghana Ministry of Finance Annual Public Debt Report 2024; IMF Article IV/DSA reports for Senegal, Côte d'Ivoire, The Gambia, and Cabo Verde (2022–2025)

Table 3: Domestic vs External Public Debt, Percentage

Country	2021	2022	2023	2024	2025
Ghana — Domestic	51.7%	43.4%	42.3%	42.6%	52.1%
Ghana — External	48.3%	56.6%	57.7%	57.4%	47.9%
Nigeria — Domestic	58.2%	54.0%	60.7%	51.4%	53.3%
Nigeria — External	41.8%	46.0%	39.3%	48.6%	46.7%
Senegal — Domestic	35.0%	33.0%	31.0%	28.0%	29.0%
Senegal — External	65.0%	67.0%	69.0%	72.0%	71.0%
Cote d'Ivoire — Domestic	37.0%	36.0%	35.0%	34.0%	34.0%
Cote d'Ivoire — External	63.0%	64.0%	65.0%	66.0%	66.0%
Gambia — Domestic	38.0%	37.0%	36.0%	35.0%	35.0%
Gambia — External	62.0%	63.0%	64.0%	65.0%	65.0%
Cabo Verde — Domestic	28.0%	27.0%	26.0%	25.0%	25.0%
Cabo Verde — External	72.0%	73.0%	74.0%	75.0%	75.0%

Source: Debt Management Office (DMO) Nigeria, quarterly Total Public Debt reports (dmo.gov.ng), Ghana Ministry of Finance Annual Public Debt Report 2024; IMF Article IV/DSA reports for Senegal, Côte d'Ivoire, The Gambia, and Cabo Verde (2022–2025)

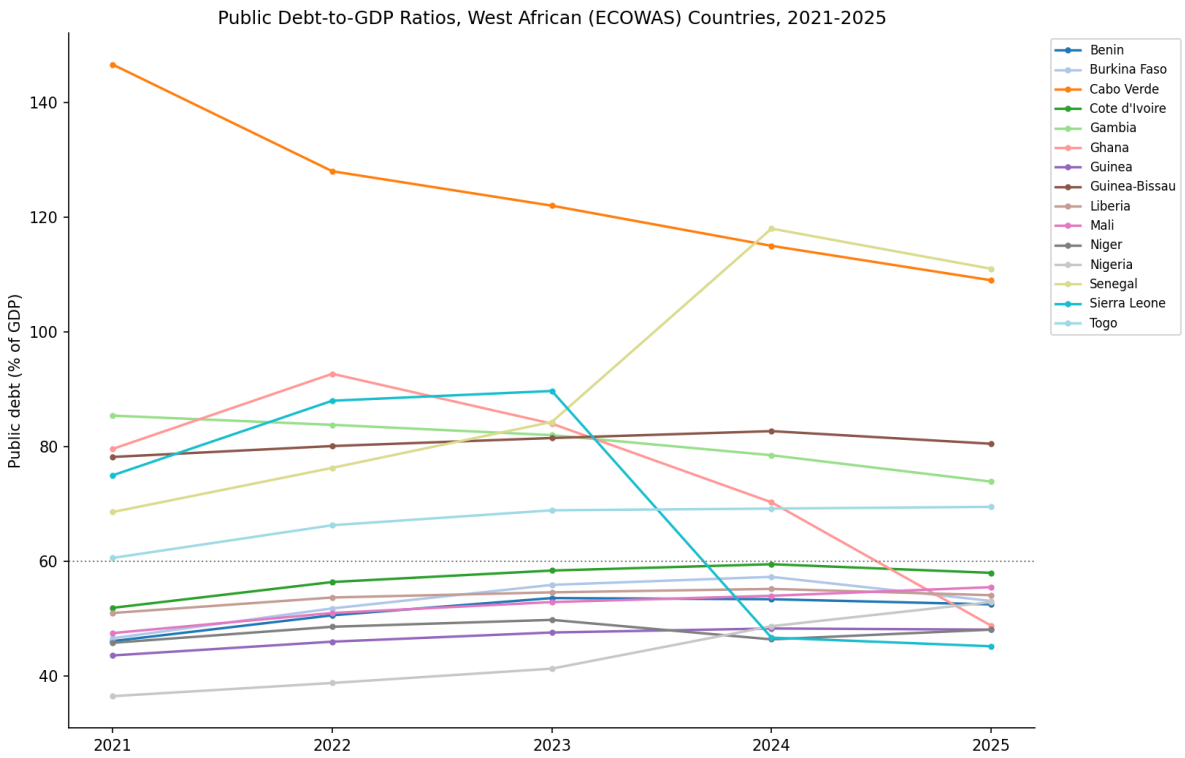


Figure 1: Debt-to-GDP Ratios, All ECOWAS/AES Countries (Chart)

Source: IMF World Economic Outlook (April 2026); Trading Economics/IMF snapshots (July 2026); IMF REO Sub-Saharan Africa (2024–2025); Ghana MoF Annual Public Debt Report (2024). Grey dotted line marks the 60% reference level commonly used in WAEMU/regional debt discussions.

As shown in the table above, steady rise in the debt profile of West African countries since 2021 is particularly noticeable. However, recent major developments such as the Covid-19 pandemic, Russian-Ukraine conflict and Israel-Iran war have deepened development challenges and response capacities of developing regions like Africa and West African sub-region in particular more than any other region. Rising debt concerns remain a recurring phenomenon across the sub-region, but the vulnerabilities also overlap with some countries more affected than others. Some are facing debt distress, some moderate distress and some others are perennially on the brink of distress. In 2024, four of the ten countries with 69 percent of the Africa's total external debt stock were in West Africa, namely Nigeria, Ghana, Cote d'Ivoire and Senegal (Afreximbank, 2025a, One Data, 2025). More importantly, Cabo Verde, the Gambia, Guinea Bissau Liberia, Sierra Leone and Togo are among African countries classified as having a high risk of debt distress while Benin Burkina Faso, Guinea, Mali, Niger and Senegal are at moderate risk of distress (Afreximbank, 2025).

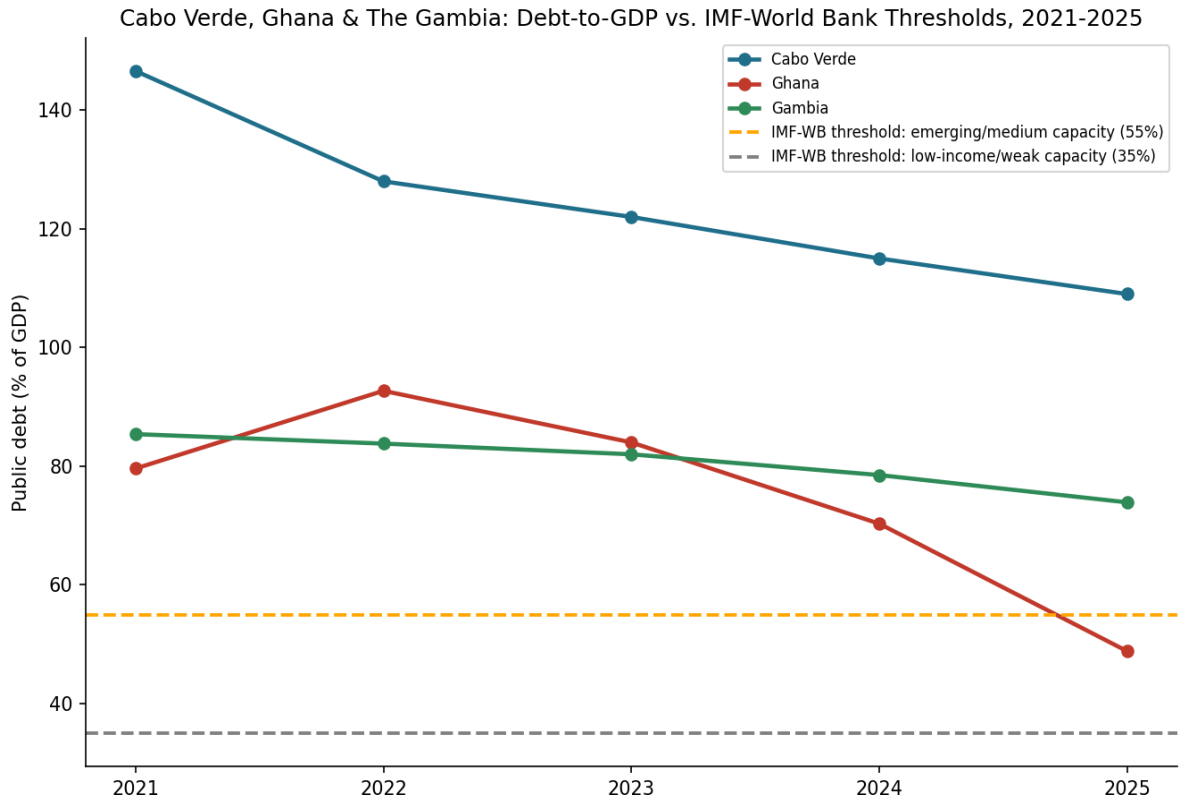


Figure 2: Cabo Verde, Ghana & The Gambia: Debt-to-GDP vs. IMF-World Bank Thresholds

Under the IMF-World Bank Debt Sustainability Framework for Low-Income Countries (LIC-DSF, 2025 Update), the indicative present-value-of-public-debt-to-GDP benchmark is 55% of GDP for countries with 'moderate' (medium) debt-carrying capacity, and 35% of GDP for countries with 'weak' debt-carrying capacity.

Source: IMF Fiscal Monitor (April 2026) for the global interest-to-revenue proxy; IMF Regional Economic Outlook: Sub-Saharan Africa analytical note (median interest payments rose from 4.6% of revenue in 2012 to over 10% by 2022–2023); the West Africa figure covers only 6 of 15 countries, 2024.

Instructively, the three countries – Ghana, the Gambia and Cabo Verde, which are the focus of this study are classified as HIPCs and facing high risk of debt distress since 2021. While only Ghana and the Gambia are listed under the World Bank's HIPCs, Cabo Verde's debt-to-GDP ratio is the highest among the three and one of the highest in Africa at over a 100 percent in 2025 with a 21.68 percentage point increase between 1997 and 2025 (Statista, 2026). The country's economy depends largely on tourism and it hugely depends on food and energy imports (COFACE, 2025). Despite this, the country's debt service to revenue and export ratios are below the IMF-World Bank threshold owing to concessional features of the country's external debt (IMF, 2026a). Although the country remains vulnerable due to high debt-to-GDP ratio, its debt is regarded as sustainable. Beyond Cabo Verde's debt status, the country is an archipelago which makes it climate-sensitive. Its unique geographical features mean it is not risk averse and can be potentially affected by rise in sea level and other natural climate related shocks.

At approximately USD49 billion in total public debt in 2025 (Ministry of Finance, 2025), Ghana had the second highest public debt in the sub-region and remains among the top ten

indebted countries on the continent. In 2022, the government defaulted in its debt obligations, forcing it into a complex restructuring process under the G20 Common Framework (Financial Times, 2024, World Bank, 2023). Its debt-service to revenue ratio is extremely high and burdensome making it difficult for the country to attend to many critical sectors. Rising debt service costs imply that essential services are underfunded, undercutting the ability of the country to improve socioeconomic conditions of its youthful population. In particular, it suffers from continuing dependence on commodity exports, fiscal indiscipline, external shocks, defaulting on some of debt obligations and structural weaknesses such as lack of diversified exports (Abotebuno, 2023; Shakir, 2026). This has overall adverse effect on the economy in the short and long-term.

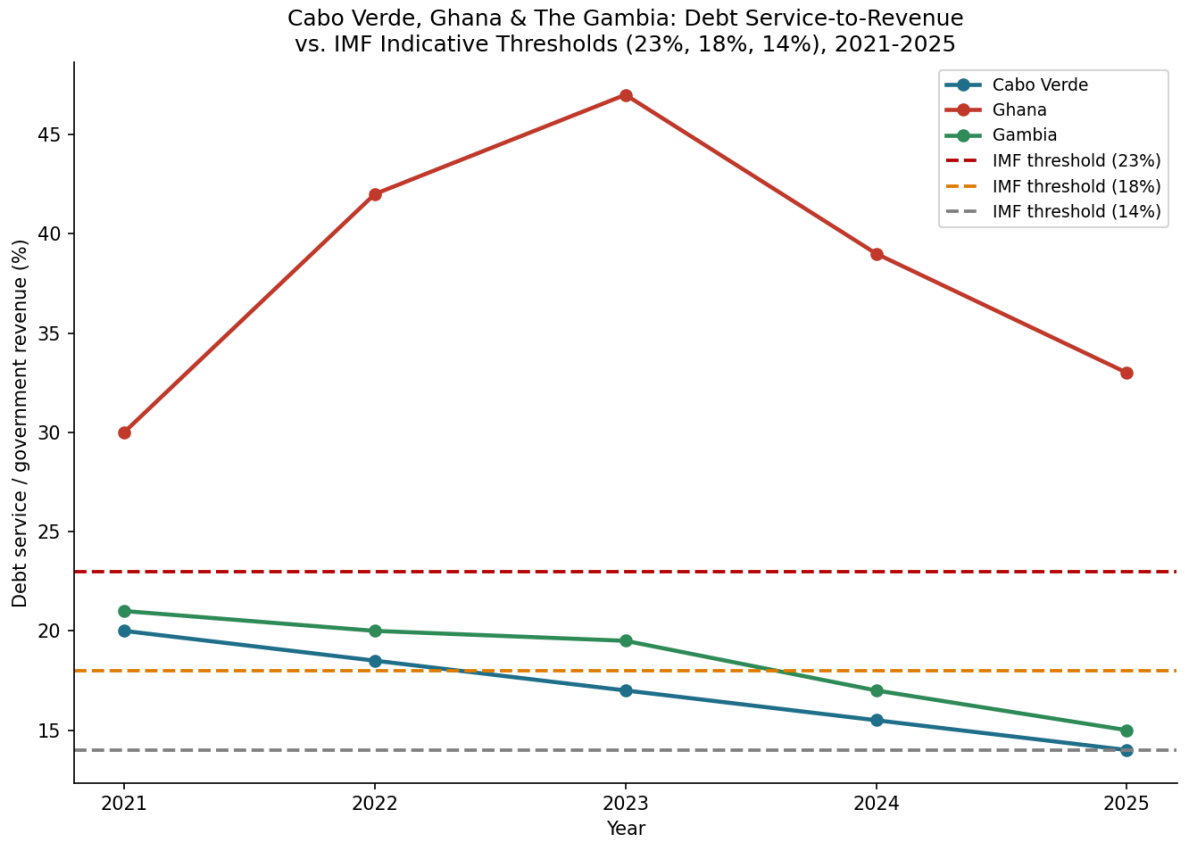


Figure 3: Cabo Verde, Ghana & The Gambia: Debt Service-to-Revenue vs. IMF Threshold.

Source: IMF Article IV/DSA reports for Ghana and The Gambia, which apply an 18% external-debt-service-to-revenue threshold specifically, alongside the more general 23% benchmark referenced for comparison; Cabo Verde figures are IMF-consistent estimates.

Ghana's debt problem is not just about magnitude but also structure because the country relies heavily on export commodity and loans primarily from China in exchange for resources such as oil and cocoa. This reinforces structural dependency and explains Ghana's vulnerability to fluctuating prices in the global market. Underpinning this arrangement is a cycle of loan fixation, debt accumulation and servicing at grave cost to current and future generations of Ghanaians. The country's major climate challenges include food insecurity given its heavy reliance on rainfall; encroachment on coastal cities due to rise in sea level and extreme temperature in its northern region (Awuni et al., 2023, World Bank, 2024). Ghana's debt burden has implications for its ability to mitigate the varying effects of its environment.

Table 4: Climate Vulnerability Index – Cabo Verde, Ghana and the Gambia – 2021-2025

	Climate Vulnerability	*Climate Change Readiness*	*Overall Rank*
Cabo Verde	**/181**	**/181**	**/181-187**
2025	92	80	108
2024	82	N/A	108
2023	92	76	108
2022	77	76	82
2021	104	76	108
Ghana	**/181**	**/181**	**/185**
2025	84	120	108
2024	84	120	108
2023	114	120	108
2022	84	117	108
2021	84	108	108
The Gambia	**/181-182**	**/181-192**	**/181**
2025	144	151	143
2024	147	151	141
2023	152	151	143
2022	141	129	143
2021	148	143	148

Source: Climate Vulnerability Index - The Notre Dame Global Adaptation Initiative (ND-GAIN), 2021 – 2025 rankings, https://gain.nd.edu

According to the Gambia Participates (2026), while the Gambia's debt-to-GDP ratio decreased from 85.97 percent in 2020 to 74.67 percent in 2024, the figure is one of the highest in the region. At the same time, debt servicing costs weigh heavily on public finances accounting for 26.64 percent of total government revenue in 2024 (Gambia Participates, 2026). Projected debt servicing costs is expected to reach a cumulative USD846.48 million between 2025 and 2031 (World Bank, 2025) for a country with a GDP of USD2.4 billion (2024 estimates, Georank, 2026) debt at USD1.9 billion and a budget of approximately USD470 million for 2025 (MFEA, 2025), the country's fiscal capacity is severely constrained. High on the country's list of climate concerns are drought, flood, coastal erosion, food security, destruction of infrastructure and losses to fishing communities (Han and Kirabaeva, 2024; Global Center on Adaptation, 2026). The Gambia faces dual vulnerabilities from debt burden and climate change threats. Its dependence on external loans exposes makes it susceptible to debt trap and dependence and weakens its ability to combat existential climate problems.

4.2 The Impact of Indebtedness on the Climate Change Response of Ghana, Cabo Verde and the Gambia

Despite contributing significantly little to human-induced climate change through GHG emissions, Ghana, Cabo Verde and the Gambia have become major victims of climate change as the evidence of climate change impact is widespread. This includes rising sea levels which threaten coastal cities, irregular rainfall which affect agriculture, pastoral activities and livelihood. As aptly put by One Data (2025), high debt servicing costs put pressure on government budgets and increase borrower's vulnerability to global financial shocks, divert

resources away from critical public services. As a threat multiplier, climate change exacerbates existing problems exposing the debt-climate nexus. In the specific instance of Ghana, Cabo Verde and the Gambia, it has impacted their borrowing despite already struggling with debt distress, and therefore lacking funds to address climate disasters.

According to the 2025 Financial Stability Review, 'Ghana faces escalating exposure to floods, droughts, heat stress, land degradation and declining hydropower reliability, with measurable macroeconomic consequences. The review observed that the country needs an estimated USD9.3 billion to effectively implement its climate adaptation and mitigation targets under its revised NDCs by 2030. For Ghana, the impact of rising debt on the country's ability to respond effectively to climate change is defining. As at 2022, only 5 percent of the country's climate finance was being met (Climate Policy Initiative, 2023). Despite showing commitment to ambitiously pursue efforts towards green energy, sustainable agriculture and cities, preventable measures etc., through its National Climate Change Adaptation Strategy, the government of Ghana has been greatly restricted in fulfilling the policy aspirations contained in the document due largely to fiscal constraint. The constraint is also due largely to repayment obligations that take a chunk of the country's revenue. In a bid to address the country's growing debt and shrinking revenue sources, it now pursues austerity measures that limits its public expenditures including implementation of its national climate policy (IMF, 2025).

Similarly, the potential for enhanced response capacity is limited because in a bid to meet its debt obligations and raise critically needed revenue, the country expand its reliance on extractive commodities such as oil thereby delaying the transition to clean, safe and sustainable energy sources and undercutting efforts to address the ills of climate change. Coupled with this is the fact that accessing additional loans is challenging given the conditionalities attached to its previous loans and repayment. The link between climate change and debt burden is therefore quite evident because the government is strained by its debt obligations and at the same time, cannot attract significant financial interventions that can enable it undertake considerable climate action. As Nxumalo and Dhusyanth (2022) revealed, Ghana climate associated risks can affect the country's long-term economic outlook, potentially leading to a GDP loss of between 8 and 30 percent by 2050. Losses due to flood may increase to about USD200 million with worsening outcome for the agriculture sector. Mitigating the effects of climate change is inextricable tied to Ghana's ability to exercise some considerable degree of financial autonomy and adopt innovative financing models.

Besides the fact that the Gambia, like Ghana and Cabo Verde face similar climate related threats, there is also significant convergence around the debt-linked constraints limiting them from robustly combating climate dangers. Similar to Cabo Verde and in particular, Ghana, the Gambia faces stringent conditions that make it difficult to attract new loans for green investments. The country is also unable muster the fiscal strength needed to meet its Nationally Determined Contribution (NDC) targets as well as other related environmental needs. When climate disaster such as flood and droughts occur as they often do, the country has no choice but to seek concessional loans that traps it in the debt cycle and dependency. Despite the constraints, the Gambia has adopted the debt-for-climate and debt-for development swaps, turning debt into climate resilience projects that aim to reduce poverty and inequality (Global Shield Report, 2025), thus helping to ease the country's debt burden.
As noted earlier, Cabo Verde experiences largely the same constraints (challenge in obtaining new loans to finance green projects and continuing debt cycle due to excessive reliance on concessional loans) to its capacity for effective response to climate vulnerabilities despite having one of the lowest greenhouse emissions per capita in the world at around 0.99Tco$_2$eq/

(Lopes and Brito, 2024). While Cape Verde fares better than Ghana and the Gambia's debt conditions, due to its fiscal maneuverability and favourable terms on its concessionary loans (i.e. the completed EUR140 million debt-for-climate swap deal with Portugal and the IMF Resilience and Sustainability Facility (RSF) programs) (AfDB, 2025a), it needs between USD140 million and USD213 million annually till 2030 to achieve its climate change goals and USD30 million to attain its green growth agenda outlined in the National Adaptation Plan 2021 (IMF, 2025c; World Bank, 2025b). In the third NDCs submitted by Cape Verde in November, 2025, an estimated USD3.4 billion (around USD230 million yearly) is needed to reach net-zero carbon infrastructure by 2050 and USD2.3 billion through 2030 (UNDP, 2026; AfDB, 2025c). At the same time, three to five percent of GDP is required for adaptation by 2035. Some sources claim the country needs an estimated USD2 trillion to meet its climate mitigation and adaptation targets by 2034 at USD18 million yearly (MFFE, 2022; IMF, 2024). This brings to the fore, one of the most critical challenges facing small countries like Cabo Verde, which though has improved debt restructuring, still needs more access to capital to meet its climate targets.

More importantly is the inability to raise significant funds from the private sector despite the innovative approach by the government in capital mobilization. Being a country that depends a lot on ocean resources and the rich geographical landscapes for tourism, challenges have not prevented the government from demonstrating commitment to exploring innovative sources of funding outside traditional creditors.

Overall, debt burden and response to climate change in Ghana, Cabo Verde and the Gambia are mutually intertwined. This is not to suggest that high risk debt is the exclusive reason for weak or limited capacity to respond to climate challenges nor is the former the sole factor reinforcing the other. Besides the fact that there are also variations within the countries examined in terms of climate impact, what is incontrovertible is that there is an established nexus between debt and climate. Rising debt and the obligations that come with it limit the capacity of the three countries investigated and perpetuates dependency. As posited by Joshua, et al. (2023), 'debt burden persistence limits resources towards curbing the impacts of climate change and moreso for developing countries.

Unlike Cape Verde which has a service-based economy generating significant foreign exchange earnings and improving government's revenue from tourism, Ghana relies on commodity product exposing the economy to global shocks. The country also has weak tax base, growing public wage bills in addition to a huge debt servicing commitment all of which undermine its ability to improve its revenue generation despite expansive spending on ambitious public projects. Cape Verde on the other hand, has been able to maintain debt sustainability and secure favourable concessionary loans at very low interest rates that allows it more fiscal space to spend on critical development needs such as climate. In any case, the country recognizes how crucial its geography is to its economic survival and has strengthen economic and political institutions that make it to continue to attract funding from multilateral financial institutions.

The debt-for-climate swap deal by both the Gambia and Cape Verde is an important milestone in innovatively dealing with climate challenges in the face of debt burden. Among the three countries, the Gambia remains the most vulnerable due to its weaker financial resource base, struggling institutions and excessive dependence. While all three countries have adopted strong policy frameworks, acknowledging climate threats and financing challenges, they remain trapped in the cycle of debt and dependence. This is because increasing debt servicing force

these countries to continue to enter into negotiations with creditors for more concessional debt, that though provide relief, are tied to conditionalities that perpetuate dependence.

4.3 Climate Change Diplomacy as a Tool for Debt Relief in West Africa

While it may seem difficult for developing countries to navigate the landscape of international climate negotiation, it is also for the same reason that they should prioritise and maximise especially, multilateral platforms, exercising and leveraging soft power to get climate deals that do not attend exclusively to climate issues but part of a broader whole essential for sustainable development. One of such platforms is the Conference of the Parties (COP) which brings together more than 180 nations to discuss climate relation issues and solutions. With more than 30 COP held to date, the West African sub-region can set common agenda that is likely to have a forceful appeal in addition to individual country's priorities.

Countries in the West African sub-region have contributed little to GHG relative to their counterparts in the global north. While climate related aid had been largely North-South, it is crucial for the rich industrialised countries to do more to incentivize struggling countries in the South. Yet, this is not likely to just happen. It will rather depend on the ability of countries in dire need to articulate a position that shows that incentives without straining conditionalities from already industrialised countries is in the mutual interest of all. More importantly, such interventions will be more effective if it comes in the form of debt relief to these countries that are heavily burdened by external debt.

Beyond this, it is pertinent to acknowledge that much has changed and is changing within the global aid architecture as the flow of aid, particularly multilateral aid is rapidly dwindling. As such, West African countries have to find creative ways to bridge the funding gap created by the substantial withdrawal of the United States. There must be a long-term strategy to find home grown solutions to domestic problems with international dimension thereby reducing dependency. At the African Union (AU) and Economic Community of West African States (ECOWAS) levels, existing instruments, conventions and protocols needs comprehensive review and new commitments from Member States. This will include harnessing renewable energy resources, developing indigenous technology and mobilizing human resources for quicker and cost-friendly transition. Accelerating the process of operationalizing the Africa Continental Free Trade Area with sensitivity to the environment can serve the purpose of empowering communities, reducing dependence on aid and expanding opportunities for increased revenue without cost to the environment.

Engagement with critical stakeholders beyond the state such as Civil Society Organisations and Regional Economic Communities (RECs) on developing common strategies that take into consideration not just the urgency of the response to climate threats but the changing landscape of international politics, building consensus around water security and food security, institutional capacity, community involvement, more up-to-date data and building a database of best practices for diverse African communities.

5. Conclusion and Recommendations

Sustainable livelihoods for current and future generations depend not only on an ecosystem that is well nurtured, managed and preserved but on fiscal capacity that help nations make the right choices that serve long-term sustainability rather than short-term gain. That capacity is currently being undermined by the rising debt levels in the sub-region. Climate change

contributes to debt accumulation and debt burden increases the risk of little or no action on climate challenges. Consequently, the goal of sustainable development is undermined and unattainable for the vast majority of countries in West Africa. Economic and human development are vulnerable to climate change in many West African countries and the threat of debt distress puts countries on edge. Particularly for small countries like the Gambia and Cape Verde, navigating the landscape of the debt-climate nexus requires long-term planning but also innovative financing models at a time of global decline in aid. Ghana and Cape Verde are able to reduce their external debt burden over the last two years but they remain constrained to make hard choices on climate action.

This study recommends further research into the debt crisis-climate change nexus to uncover new dimensions to this relationship. One of the emerging developments in the region is the resort to heavy domestic borrowing in the light of the difficult conditionalities attached to new loans which is not without its own risks. This study recommends that West African countries develop innovative ways to leverage the transnational nature of climate change to demand debt relief which would help reduce their debt burden and raise funds to implement their climate pledges. It recommends that West African countries prioritise the pursuit of climate change agendas that afford them the opportunity to become leaders in the green and blue economy.

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References

Abotebuno Akolgo, I., (2023). Ghana's debt crisis and the political economy of financial dependence in Africa: History repeating itself?. *Development and Change*, 54(5), pp. 1264-1295.

AfDB (2025c). African Development Bank launches Cabo Verde Country Focus report 2025. 5 August, 2025. Afdb.org/en/news-and-events/African-development-bank-launches-cabo-verde-country-focus-report-2025-85891

AfDB (2025). Africa's Macroeconomic performance and outlook. Update. African Development Bank Group. November 2025.

AfDB (2025b). Cabo Verde's economic recovery: Strong growth and structural progress. blogs.afdb.org/economic-growth/cabo-verdes-economic-recovery-strong-growth-and-structural-progress-403.

AfDB (2023). Cabo Verde: Mobilising private sector financing for climate and green growth. Country focus report 2023.

AfDB (2025a). Improving climate governance in West Africa: Three calls for inclusive climate action in Burkina Faso, Cote d'Ivoire and Senegal. Afdb.org/en/news-events/improving-climate-governance-west-africa-three-calls-f0r-inclusive-climate-action-burkina-faso-cote-divoire-senegal-85393

AfDB. Country Economic Outlook pages: Ghana, Nigeria, Burkina Faso, Cabo Verde. Accessed July 2026.

Afreximbank (2025a). State of play of debt burden in Africa and the Caribbean. Afreximbank research. Cairo.

Afreximbank (2025b). African Debt outlook: A ray of optimism. Market update, Volume 3, Afreximbank flashnote, Afreximbank research. https://www.afreximbank.com/research-and-knowledge/publications

AfronomicsLaw. (2021, May 19). *Is Climate Action Worsening Nigeria's Debt?* afronomicslaw.org/category/african-sovereign-debt-justice-network-afsdjn/climate-action-worsening-nigerias-debt

Aluko, F. & Arowolo, D. (2010). Foreign aid, the Third World's debt crisis and the implication for economic development: The Nigerian experience. *African Journal of Political Science and International Relations, 4*(4), 120-127. http://www.academicjournals.org/ajpsir

Awuni, Stephen; Adarkwah, Francis; Ofori, D. Benjami; Purwestri, Chrismiari Ratna; Bernal, Diana Hertasand Hajek, Miroslav (2023). Managing the challenges of climate change mitigation and adaptation strategies in Ghana. *Heliyon,* 18(5), doi:10.1016/j.hliyon.2023.e15491 Desjonquesres, Chloe; Zhao, Hongxi,\; Kosmidou-Bradley, Walter and Corral, Paul (2024).

Bacchus, J. (2019). What Should Be Included in the Definition of a Climate Response Measure? In *What Is a Climate Response Measure?: Breaking the Trade Taboo in Confronting Climate Change* (pp. 11–19). Centre for International Governance Innovation. http://www.jstor.org/stable/resrep24970.11

Bohm, s., & Dabhi, S. (2009). *Upsetting the offset: The political economy of carbon markets*. London, England: Mayfly.

Chatham House (2022). Addressing debt distress in Africa. chathamhouse.org/2022/01/addressing-debt-distress-africa

Chevallier, R. (2022). Africa's Common Climate Response and Action Plan. *South African Institute of International Affairs.* http://www.jstor.org/stable/resrep41926

Climate Policy Initiative (n.d.). climate finance in Ghana. https://www.climatepolicyinitiative.org

COFACE (2025). News, economy and insights. Business risk dashboard. Cabo Verde. coface.uk/news/economy-and-insights/business-risk-dashboard/country-risk-files/cabo-verde

Debt Management Office (DMO) Nigeria, quarterly Total Public Debt reports (dmo.gov.ng),

Financial Stability Review (2025): From stress to stability, staying on course. Financial Stability Council, 2026.

Financial Times (2024). Ghana will exit default after two years with debt restructuring. October 3, 2024. ft.com/content/23950989-3d90-4114-8273-23d450fd3945?syn-25a6b1a6=1

Gambia Participates (2026). Unpacking public debt management in The Gambia. gambiaparticipates.org/publications/unoacking-public-debt-management-in-the-gambia/

Georank (2026). Economy of Gambia vs Nigeria: GDP & debt. Updated April 20, 2026.

Ghana's climate vulnerability profile. World Bank Group. https://documents1.worldbank.org

Ghana Ministry of Finance (2025). The Annual Public Debt Report for the 2024 Financial Year. Accra: MoFEP, 2025.

Global Center on Adaptation: Technical report series. The Gambia. https://www.gca.org

Global Shield against Climate Risks: The Gambia*: Global shield in-country process* – stocktake and gap analysis report. August 2025. Prepared by the government of the Gambia and Global Shield against Climate Risks.

Han, Xuehui and Kirabaeva, Koralai (2024). *Climate change vulnerabilities and strategies. The Gambia.* IMF selected issues paper, African Department. The Gambia national climate hazard assessment. Global Center on Adaptation. https://gca.org

Hirsch, T. (2021). Climate change, debt and covid-19: Analysing the triple crisis with a new climate and debt risk indicator and building forward for a resilient recovery, Based on climate justice. Brot fur die Welt

IMF (2024). Cabo Verde: Fourth review under the extended credit facility arrangement, request for modifications of performance criteria, and first review of the arrangement under the resilience and sustainability facility and request of rephrasing of availability dates – press release: and staff report. IMF Country Report no. 24/257

IMF (2026a). Cabo Verde: Staff report for the 2025 Article IV consultation, Seventh review under the extended credit facility arrangement, and third review under the resilience and sustainability facility arrangement – debt sustainability analysis. IMF eLibrary. elibrary.imf.org/view/journals/002/2026/053/article-A002-en.xml

IMF (2024). The Gambia: Staff Report for the 2023 Article IV Consultation and DSA. IMF Country Report No. 24/015, 2024.

IMF (2024). Ghana: 2023 Article IV Consultation and Reviews under the Extended Credit Facility. IMF Country Reports No. 24/30, 24/213, 24/334, 2024.

IMF (2025). Ghana: Fifth review under the arrangement under the extended credit facility, requests for modification of the monetary policy consultation clause and program extension, and financing assurances review – debt sustainability analysis. International Monetary Fund. 22 December 2025. elibrary.imf.org/configurable/content/journals

IMF (2025a). Ghana: Fourth review under the extended credit facility, request for modification of performance criteria, financing assurances review, and monetary policy consultation – debt sustainability analysis. International Monetary Fund, African Department. 10th July, 2025. IMF eLibrary, elibrary.imf.org/view/journals/002/2025/175/article-A002-en.xml

IMF (2025c). Cabo Verde: Sixth review under the extended credit facility arrangement, request for extension and augmentation of the arrangement, request for extension of the arrangement under the resilience and sustainability facility, rephrasing of Availability dates, and modification of a reform measure-press release; staff report; and statement by the Executive Director for Cabo Verde. IMF eLibrary. elibrary.imf.org/view/journals/002/2025/274/1rticle-A001-en.xml;

IMF (2026). Fiscal Monitor: Fiscal Policy under Pressure — High Debt, Rising Risks. April 2026. Washington, DC: IMF.

IMF. World Economic Outlook Database, April 2026. Washington, DC: IMF.

IMF. Regional Economic Outlook: Sub-Saharan Africa. 2023–2025 editions. Washington, DC: IMF.

IMF. Regional Economic Outlook: Sub-Saharan Africa. A tepid and pricey recovery. 2024 April. Washington, DC: IMF.

IMF-World Bank (2024). Debt sustainability framework for low-income countries (LIC-DSF), 2018 framework as updated 2024.

IMF-World Bank (2025a). Debt sustainability framework for low-income countries (LIC-DSF), updated 2025.

Jackson, P. (2007). From Stockholm to Kyoto: A Brief History of Climate Change. *UN Chronicle*, *44*(2). https://www.un.org/en/chronicle/article/stockholm-kyoto-brief-history-climate-change

Joshua, Shem; Jong, Yungong Theophilus; Kanoyangwa, Samantha; Mbaye, Delia and Ogada, Tom (2023). Escalating debt burden in Africa and its human rights implications: An African civil society perspective. *African Forum and Network on Debt and Development*. https://afrodad.org

Jimenez, Valerie and Woodgate, Ryan (2025). *The balance-of-emissions constraint on growth: Pathways to net-zero greenhouse gas emissions in a simple post-Keynesian model.* Working paper series 2507, Post-Keynesian Economics Society. March 2025.

Leykun, Fentaw (2024). Climate change and external debt vulnerability: the case of sub-Saharan Africa. *Journal of Innovation and Entrepreneurship*, 13(1), 1-27. DOI: 10.1186/s13731-024-00416-1

Lopes, J. and Brito, J. (2024). Breaking the cycle of debt in small island developing states: the Cabo Verde experience. London: *ODI*. https://odi.org/en/publications/breaking-the-cycle-of-debt-in-small-island-developing-states/

Maslin, M, Lang, J. and Harvey, F. A. (2023) a short history of the successes and failures of the international climate change negotiations. Open Environment, 2023;(5):08 https://doi:10.14324/111.444/ucloe.000059

Ministry of Finance, Ghana: 2025 Debt Data. January – June. https://www.mofep.gov.gh

Ministry of Finance and Economic Affairs MFEA (2025). Budget performance report. 1st quarter 2025. Monitoring and Reporting Unit, Directorate of Budget. https://mofea.gov.gm/budget/

Molly, E. B., Best, H., & Nathaniel, H. (2009). Markets, climate change and food security in West Africa, *Environmental Science & Technology*, *43*(21), 8016-8020. https://doi.org/10.1021/es901162d

Moseley, K. P. (1992). West African industry and the debt crisis. *Journal of International Development*, *4*(1), 1-27. https://doi.org/10.1002/jid.3380040102

Notre Dame Global Adaptation Initiative, Vulnerability ranking, University of Notre Dame. https://gain.edu

Nxumalo, Mpumelelo and Raju, Dhusyanth (2022). Shocks and social safety net program participation in Ghana – Descriptive Evidence from linking climate risk maps to programs beneficiary rolls. Washington, DC: World Bank. https://openknowlegde.worldbank.org/handle/10986/37024 One Data (2025). African Debt: Overview. data.one.org/analysis/african-debt

Paterson, Matthew & P-Laberge, Xavier (2018). Political economies of climate change. WIREs Climate Change, 9(2). doi.org/10.1002/wcc.506

Rustomjee, C. (2017). Debt Sustainability in African HIPCs Deteriorating Prospects. *Centre for International Governance Innovation.* http://www.jstor.com/stable/resrep05196

Sack, H., and Phoré, S. (2022). Korea and Africa: Partnerships on Climate and Energy. *South African Institute of International Affairs*. http://www.jstor.org/stable/resrep43035

Shakir, Sarah (2026). Why Ghana is facing a debt crisis again and the social, political and economic consequences of the current crisis. *LSE Journal of Geography & Environment*. 4, 195-203.

Skott, Peter (2026). *Climate change and economic analysis.* Working paper series 2605. Post-Keynesian Economics Society. February 2026. https://www.postkeynesian.net

Statista (2026). Ratio of national debt to GDP of Cape Verde from 1997-2031. Statista.com/statistics/727133/national-debt-of-cabo-verde-in-relation-to-gross-domestic-product-gdp/?srsltid=AfmBOoqD83XAEBE8V8A1yGmL4Rb27XQFMJz2MTC1d7m3egnlc8IJJ_Vg

Stern N. (2008). The Economics of Climate Change. *American Economic Review*, *98*(2), 1-37. https:/doi.org/10.1257/aer.98.2.1

Tamale, N., & Majekolagbe, A., (2022). Debt, climate finance and vulnerability: A brief on debt on debt and climate vulnerable countries in Africa. Canada: *AfronomicsLaw*

The Gambia Participates (2026). Unpacking public debt management in The Gambia. Open budget survey. https://www.gambiaparticipates.org

Tsomb, E. I., & Nsoga, M. H., (2023). Climate change vulnerability and conflicts in Africa: Evidence from the migrations channel; Cyrille Dominick Biting. *Environment, Development and Sustainability*, 1-44

UNDP: Global Climate Promise, 2026 climatepromise.undp.org/what-we-do/where-we-work/cabo-verde)

United Nations Conference on Trade and Development. (2022). *Tackling debt and climate challenges in tandem: A policy agenda* (Policy Brief No. 104). https://unctad.org/publication/tackling-debt-and-climate-challenges-tandem-policy-agenda

United Nations Conference on Trade and Development. (2023). *Global debt and climate crises are intertwined: here's how to tackle both*. https://unctad.org/news/global-debt-and-climate-crises-are-intertwined-heres-how-to-tackle-both

United Nations Environment Programme. (2022). *Too Little, Too Slow: Climate adaptation failure puts world at risk.* Adaptation Gap Report 2022. https://www.unep.org/resources/adaptation-gap-report-2022

World Bank Open Data (2025 Update). Heavily indebted poor countries https://data.worldbank.org

World Bank (2025b). Ambitious climate action will reap large dividends for Cabo Verde. Press release, January 15, 2025. worldbank.org/en/news/pree-release/2025/01/15/ambitious-climate-action-will-reap-large-dividends-for-cabo-verde

World Bank (2025). Cabo Verde: Joint World Bank-IMF debt sustainability analysis. World Bank Group. December, 2025.

World Bank (2025a). The Gambia: Joint World Bank-IMF debt sustainability analysis. World Bank Group. December 2025.

World Bank (2026). List of LIC DSAs for PRGT-Eligible countries as of March 31, 2026. https://data.worldbank.org

Worldometers. GDP by Country in Africa (2024, 2025), sourced from IMF World Economic Outlook, April 2026. Accessed July 2026.

Vines, A., Butler, C., & Jie, Y. (2022). *Addressing debt distress in Africa*. Chatham House. January 17, https://www.chathamhouse.org/2022/01/addressing-debt-distress-africa

Vines, A., Butler, C., & Jie, Y. (2022a). *The response to debt distress in Africa and the role of China,* [Research Paper]. London: Royal Institute of International Affairs. https://doi.org/10.55317/9781784135201

Zenios S. A. (2022). The risks from climate change to sovereign debt. *Climatic Change,* 172, Article 30. https://doi.org/10.1007/s10584-022-03373-4