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# A COMPARATIVE REVIEW OF THE GHANA NATIONAL WATER POLICY AND THE AFRICAN DEVELOPMENT BANK WATER AND SANITATION POLICY: IMPLICATIONS FOR SUSTAINABLE DEVELOPMENT

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**Abstract** 

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### Article history:

**Article Info** 

Received: 09 June 2023 Revised: 24 June 2023 Accepted: 8 July 2023 Published: 14 August 2023 **Purpose** — This review examines the Ghana National Water Policy and the African Development Bank (AfDB) Water and Sanitation Policy, focusing on their objectives, key focus areas, implementation strategies, and overall effectiveness in promoting sustainable water and sanitation governance.

**Methods** — The study through desk study and content analysis analyses the strengths, achievements, challenges, and gaps in both policies and provides recommendations for enhancing their impact.

**Findings** — The review finds that the Ghana National Water Policy emphasizes integrated water resources management, equity, stakeholder engagement, and monitoring mechanisms. It highlights the policy's achievements in improving water access and sanitation services, promoting participatory approaches, and establishing institutional frameworks.

Conclusion & Recommendation — The study underscores the need for collaboration among stakeholders, adequate financial resources, and continuous learning and knowledge sharing to address the challenges and gaps in water and sanitation policies.

**Keywords** — Water Governance, Sustainable Development, Ghana National Water Policy, African Development Bank

#### Introduction

Background and Significance of Water and Sanitation Policies

Access to safe water and adequate sanitation services is fundamental to human well-being, public health, and sustainable development (UNDP, 2020). Unfortunately, millions of people worldwide, particularly in developing countries, still lack access to these essential services (World Bank, 2018). In response to this global challenge, governments and international organizations have recognized the need for comprehensive water and sanitation policies to guide effective governance, resource management, infrastructure development, and service delivery (UNDP, 2015).

Water and sanitation policies play a crucial role in addressing the complex and multifaceted issues surrounding water resources and sanitation management (Amponsah, 2019). These policies provide a strategic framework that sets out objectives, principles, and guidelines to achieve sustainable and equitable access to water and sanitation services (Abiye, Darkwah and Adu-Mensah, 2019). They aim to ensure the efficient and effective utilization of water resources, the protection of water quality, the provision of adequate infrastructure, and the inclusion of marginalized and vulnerable populations (Hutton and Varughese, 2016).

#### Purpose and Scope of the Review

The purpose of this comprehensive review is to critically analyze and compare the Ghana National Water Policy and the African Development Bank (AfDB) Water and Sanitation Policy. Both policies have been developed to address the specific water and sanitation challenges faced by Ghana and other African countries, but they may differ in their objectives, approaches, and strategies (Appiah and Darkwah, 2018). This review aims to assess the strengths, weaknesses, and areas of complementarity between the Ghana National Water Policy and the AfDB Water and Sanitation Policy. By undertaking this comparative analysis, we can gain valuable insights into the policy frameworks and identify opportunities for synergy and improvement in water and sanitation governance. The scope of this review encompasses a thorough examination of the objectives, approaches, and strategies outlined in the Ghana National Water Policy and the AfDB Water and Sanitation Policy. The analysis will focus on key areas such as integrated water resources management, equity and access to services, stakeholder engagement, and policy implementation mechanisms. Additionally, the review will explore the alignment of these policies with the Sustainable Development Goals (SDGs) and their potential to contribute to the broader development agenda. Through this comprehensive analysis, the review aims to provide policymakers, practitioners, and stakeholders with an in-depth understanding of the strengths, weaknesses, and potential areas for improvement in water and sanitation governance in Ghana and other African countries. The findings and recommendations derived from this review can inform evidence-based decision-making, policy formulation, and implementation strategies to enhance water and sanitation management, ultimately contributing to sustainable development and improved quality of life for communities across the region.

#### **Methods and Materials**

Overview of the African Development Bank Water and Sanitation Policy

To conduct a thorough comparative analysis, it is important to also examine the African Development Bank (AfDB) Water and Sanitation Policy. This policy, developed by the AfDB in consultation with regional member countries, aims to provide strategic guidance and support for water and sanitation projects and programs across Africa. The AfDB policy aligns with the Bank's overall goal of promoting inclusive and sustainable development on the continent (AfDB, 2018). The AfDB Water and Sanitation Policy focuses on key areas such as water resources management, water supply and sanitation infrastructure development, governance and capacity building, and regional cooperation. It sets out clear objectives and strategies to address the water challenges faced by African countries and promote sustainable development in the water and sanitation sector (AfDB, 2018).

The policy recognizes the importance of integrated water resources management as a fundamental principle for sustainable water governance. It encourages African countries to adopt integrated approaches that consider social, economic, and environmental factors in managing water resources. The policy also emphasizes the need to address water-related risks and vulnerabilities, such as climate change impacts and water-related disasters. Equity and access to water and sanitation

services are central considerations in the AfDB policy. The policy calls for the promotion of inclusive approaches that prioritize the needs of underserved and vulnerable populations. It emphasizes the importance of gender equality, social inclusion, and community participation in water and sanitation projects and programs.

Stakeholder engagement and participation are also key elements of the AfDB Water and Sanitation Policy. The policy recognizes the value of engaging various stakeholders, including governments, civil society organizations, communities, and the private sector, in decision-making processes. It encourages collaboration and partnerships to leverage resources, knowledge, and expertise for effective project implementation. The AfDB policy emphasizes the importance of good governance, institutional capacity building, and policy coherence. It calls for the strengthening of institutional frameworks, regulatory systems, and financial management mechanisms to ensure effective implementation of water and sanitation projects. The policy also underscores the role of regional cooperation and knowledge sharing to address transboundary water issues and promote regional integration.

#### **Results and Discussion**

#### Overview of the Ghana National Water Policy

The Ghana National Water Policy serves as a strategic framework for water resources management and the provision of water and sanitation services in Ghana (GoG, 2008). It outlines key objectives, approaches, and strategies to address the country's water challenges and ensure sustainable development. This section provides a comprehensive overview of the policy, highlighting its policy objectives and key focus areas, integrated water resources management approach, equity and access considerations, stakeholder engagement and participation, as well as policy implementation and monitoring mechanisms.

#### Policy Objectives and Key Focus Areas

The Ghana National Water Policy sets forth several overarching objectives that guide water management and service delivery in the country. These objectives include ensuring sustainable water resources management, improving water supply and sanitation services, promoting equity and access to water, enhancing environmental protection and conservation, and fostering effective governance and institutional capacity. These objectives serve as guiding principles for the formulation of strategies and actions outlined in the policy (GoG, 2008).

To achieve these objectives, the policy focuses on key areas such as integrated water resources management, water supply and sanitation infrastructure development, water quality management, water-related disaster risk reduction, and stakeholder engagement. By addressing these key focus areas, the policy aims to holistically address the water challenges faced by Ghana and promote sustainable and equitable water and sanitation practices.

#### Integrated Water Resources Management Approach

The Ghana National Water Policy adopts an integrated water resources management (IWRM) approach as a central pillar for sustainable water management. This approach recognizes the interconnectedness of water resources, ecosystems, and human activities. It emphasizes the need for comprehensive planning, coordination, and management of water resources to ensure their sustainable use, allocation, and protection (UNDP, 2020).

Under the IWRM approach, the policy encourages the adoption of basin-level planning and management, taking into account social, economic, and environmental considerations. It promotes the integration of water resources assessment, monitoring, and modelling to support decision-making processes. Additionally, the policy emphasizes the importance of stakeholder involvement and

participation in water resources management, recognizing the need for collaboration and coordination among different sectors and stakeholders (UNEP, 2018).

#### Equity and Access to Water and Sanitation Services

Equity and access to water and sanitation services are central principles in the Ghana National Water Policy (GoG, 2008). The policy recognizes the importance of providing universal and affordable access to safe drinking water and adequate sanitation for all segments of society, including marginalized and vulnerable populations.

To promote equity, the policy emphasizes the need to bridge the gap between urban and rural areas in terms of water supply and sanitation services. It calls for targeted interventions to improve access in underserved communities, including the implementation of appropriate technologies, community-based approaches, and capacity-building initiatives. The policy also highlights the importance of affordability and affordability mechanisms to ensure that water and sanitation services are accessible to all, regardless of income level.

#### Stakeholder Engagement and Participation

The Ghana National Water Policy recognizes that effective water resources management and service delivery require the active participation of stakeholders at various levels. The policy emphasizes the importance of engaging government agencies, local communities, civil society organizations, non-governmental organizations (NGOs), private sector entities, and development partners in decision-making processes (GoG, 2008).

Stakeholder engagement is encouraged throughout the policy formulation, implementation, and monitoring stages (WHO, 2018). The policy emphasizes the role of local communities as custodians of water resources and encourages their involvement in water management and governance. It also promotes multi-stakeholder platforms, participatory approaches, and partnerships to foster collaboration, knowledge sharing, and consensus-building among different stakeholders (World Bank, 2019).

#### Policy Implementation and Monitoring Mechanisms

The Ghana National Water Policy outlines mechanisms for effective policy implementation and monitoring. It highlights the importance of institutional capacity building, policy coordination, and inter-agency collaboration to ensure the successful implementation of policy objectives and strategies. The policy calls for the establishment of a dedicated institutional framework for water resources management and service delivery. It emphasizes the role of the Ministry of Sanitation and Water Resources, along with other relevant government agencies and institutions, in coordinating and implementing the policy. The establishment of specialized agencies, such as the Water Resources Commission and the Ghana Water Company Limited, is also highlighted to facilitate the implementation and regulation of water-related activities.

To ensure effective monitoring and evaluation of the policy, the Ghana National Water Policy emphasizes the need for robust data collection, analysis, and reporting mechanisms. It underscores the importance of developing monitoring indicators and benchmarks to assess progress towards policy objectives. Additionally, the policy calls for regular reviews and updates to adapt to changing circumstances and emerging water challenges. The implementation of the policy also recognizes the importance of financial resources and sustainable financing mechanisms (Kamga and Darkwa, 2019). The policy encourages innovative financing approaches, including public-private partnerships, user fees, and donor support, to ensure adequate funding for water and sanitation projects and programs. Overall, the Ghana National Water Policy provides a comprehensive framework for water resources management and the provision of water and sanitation services in Ghana. By integrating principles of integrated water resources management, equity and access, stakeholder engagement, and effective implementation and monitoring mechanisms, the policy sets

the stage for sustainable water governance and improved access to water and sanitation for all Ghanaians.

# Comparative Analysis of the Ghana National Water Policy and African Development Bank Water And Sanitation Policy

To conduct a comprehensive comparative analysis between the Ghana National Water Policy and the African Development Bank (AfDB) Water and Sanitation Policy, examined various aspects of the two policies. This analysis sheds light on their similarities, differences, and areas of complementarity, providing insights into their strengths and potential areas for improvement. By understanding these aspects, policymakers and stakeholders can identify opportunities for collaboration and synergy to enhance water and sanitation governance in Ghana.

#### Policy Objectives and Key Focus Areas

Both the Ghana National Water Policy and the AfDB Water and Sanitation Policy share similar objectives in terms of promoting sustainable water resources management, improving water supply and sanitation services, and enhancing governance and institutional capacity. They recognize the importance of integrated approaches and stakeholder engagement for effective water governance. However, there are slight differences in their specific focus areas. The Ghana National Water Policy places significant emphasis on equity and access to water and sanitation services, particularly in bridging the urban-rural divide and ensuring affordability. It also highlights water-related disaster risk reduction as a key area of concern. On the other hand, the AfDB policy emphasizes regional cooperation and knowledge sharing, as well as the importance of good governance and policy coherence across African countries.

#### Integrated Water Resources Management Approach

Both policies adopt an integrated water resources management (IWRM) approach as a guiding principle for sustainable water management. They recognize the interconnectedness of water resources, ecosystems, and human activities, and emphasize the need for holistic planning and management. The Ghana National Water Policy emphasizes basin-level planning and the integration of social, economic, and environmental considerations in decision-making. It underscores the role of stakeholder participation and collaboration to achieve IWRM objectives. Similarly, the AfDB Water and Sanitation Policy emphasizes integrated approaches, particularly in addressing transboundary water issues and promoting regional integration.

#### Equity and Access to Water and Sanitation Services

Equity and access to water and sanitation services are central considerations in both policies. They recognize the importance of providing universal and affordable access to safe drinking water and adequate sanitation for all segments of society. The Ghana National Water Policy places particular emphasis on addressing the urban-rural divide and ensuring access for underserved communities. It promotes community-based approaches, appropriate technologies, and affordability mechanisms to enhance equity. The AfDB policy also emphasizes inclusive approaches and the needs of vulnerable populations, highlighting the importance of gender equality, social inclusion, and community participation.

#### Stakeholder Engagement and Participation

Both policies emphasize the significance of stakeholder engagement and participation in water governance processes. They recognize the value of involving government agencies, local communities, civil society organizations, and the private sector in decision-making and implementation. The Ghana National Water Policy highlights the role of local communities as custodians of water resources and encourages their active involvement in water management. It

promotes multi-stakeholder platforms and participatory approaches to foster collaboration and consensus-building. The AfDB policy also emphasizes stakeholder engagement, particularly through partnerships and knowledge sharing, to leverage resources and expertise for effective project implementation.

#### Policy Implementation and Monitoring Mechanisms

Both policies outline mechanisms for policy implementation and monitoring to ensure the achievement of policy objectives. They emphasize the importance of institutional capacity building, policy coordination, and financial sustainability. The Ghana National Water Policy calls for the establishment of dedicated institutions, such as the Water Resources Commission and the Ghana Water Company Limited, to facilitate policy implementation and regulation. It emphasizes the need for robust data collection, monitoring, and evaluation. The AfDB policy emphasizes the importance of good governance, institutional capacity building, and regional cooperation in policy implementation. It also highlights the need for adequate financial resources and sustainable financing mechanisms to ensure the successful implementation of water and sanitation projects.

While both policies share similar objectives and approaches in policy implementation and monitoring, there are differences in their emphasis. The Ghana National Water Policy focuses on the establishment of dedicated institutions at the national level, emphasizing the coordination and regulation of water resources management and service delivery. It highlights the importance of data collection, monitoring, and evaluation to track progress and inform decision-making. The AfDB Water and Sanitation Policy, on the other hand, emphasizes the importance of governance and institutional capacity building, particularly at the regional level. It recognizes the need for coordination and policy coherence among African countries to address water challenges collectively. The policy emphasizes the importance of financial sustainability and innovative financing mechanisms to support the implementation of water and sanitation projects.

#### **Conclusions**

Strengths and Achievements of the Ghana National Water Policy

The Ghana National Water Policy demonstrates several strengths and achievements. Firstly, its strong emphasis on equity and access to water and sanitation services has contributed to significant improvements in service delivery, particularly in urban areas. The policy has implemented measures to bridge the urban-rural divide and ensure affordability, leading to increased access to clean water sources and improved sanitation facilities for underserved communities.

Secondly, the policy's integrated water resources management approach has been instrumental in promoting sustainable water management practices. The emphasis on basin-level planning and stakeholder participation has fostered collaboration and coordination among various actors involved in water governance. This approach has helped to address the complex challenges of water allocation, pollution control, and ecosystem protection.

Lastly, the Ghana National Water Policy's focus on policy implementation and monitoring mechanisms has enhanced accountability and transparency in the water sector. The establishment of dedicated institutions, such as the Water Resources Commission and the Ghana Water Company Limited, has facilitated effective regulation, planning, and service provision. The policy's emphasis on data collection, monitoring, and evaluation has enabled evidence-based decision-making and the tracking of progress towards policy goals.

Strengths and Achievements of the AfDB Water and Sanitation Policy

The AfDB Water and Sanitation Policy also demonstrates notable strengths and achievements. Firstly, its emphasis on regional cooperation and knowledge sharing has fostered collaboration

among African countries. The policy has facilitated the exchange of experiences, best practices, and lessons learned, thereby promoting cross-learning and the adoption of successful approaches in water and sanitation governance.

Secondly, the policy's focus on good governance and policy coherence has contributed to improved water sector governance across Africa. By advocating for transparent and accountable institutions, the policy has helped strengthen governance structures and promote effective decision-making processes. The emphasis on policy coherence among African countries has facilitated harmonization and alignment of water and sanitation strategies, contributing to regional integration and cooperation. Lastly, the AfDB policy's emphasis on financial sustainability and innovative financing mechanisms has facilitated increased investments in the water and sanitation sector. By promoting public-private partnerships, mobilizing domestic resources, and leveraging external financing, the policy has facilitated the implementation of infrastructure projects and the expansion of water and sanitation services.

#### Areas of Complementarity and Synergy

While the Ghana National Water Policy and the AfDB Water and Sanitation Policy have their respective strengths, there are areas where they complement each other and can create synergies. The Ghana National Water Policy's strong focus on equity, community-based approaches, and disaster risk reduction can complement the AfDB policy's emphasis on regional cooperation, governance, and knowledge sharing.

The integration of regional cooperation and knowledge sharing elements from the AfDB policy into the Ghana National Water Policy can enhance collaboration among African countries, promote cross-learning, and facilitate the adoption of successful approaches in water governance (Gyimah and Adu, 2012). This would strengthen the policy's effectiveness in addressing transboundary water challenges, promoting regional integration, and improving water and sanitation governance at both national and regional levels.

#### Challenges and Gaps in both policies

Despite their strengths, both the Ghana National Water Policy and the AfDB Water and Sanitation Policy face certain challenges and gaps. In the case of the Ghana National Water Policy, challenges include the need for increased investment in infrastructure development, particularly in rural areas, to ensure universal access to safe water and adequate sanitation. There is also a need to strengthen regulatory frameworks and enforcement mechanisms to address issues such as water pollution and unsustainable water resource use.

The AfDB Water and Sanitation Policy faces challenges related to the coordination and implementation of regional projects and initiatives. Despite efforts to promote regional cooperation, there is a need for enhanced mechanisms for policy coordination and harmonization among African countries (Osei-Hwedie and Swiderski, 2016). Additionally, the World Bank (2017) posits that there is a need to ensure sustainable financing mechanisms to support the implementation of water and sanitation projects and programs Both policies also face challenges in terms of capacity building and human resource development. There is a need to enhance technical skills and knowledge among water sector professionals to effectively implement and monitor the policies. Furthermore, stakeholder engagement and participation, while emphasized in both policies, require further improvement to ensure the meaningful involvement of communities, civil society organizations, and other key stakeholders (Teye and Agyeman, 2017). Addressing these challenges and filling the gaps in the policies will require collaborative efforts from various stakeholders, including government agencies, development partners, civil society organizations, and local communities.

#### Recommendations

• Enhancing Policy Alignment with Sustainable Development Goals

To further strengthen the Ghana National Water Policy and the AfDB Water and Sanitation Policy, it is recommended to enhance their alignment with the Sustainable Development Goals (SDGs). The SDGs provide a comprehensive framework for sustainable development, including targets related to water and sanitation. By aligning the policies with the SDGs, Ghana and other African countries can ensure a holistic and integrated approach to water and sanitation governance, and track progress towards internationally recognized targets.

• Strengthening Integrated Water Resources Management Approaches

Both policies emphasize the importance of integrated water resources management (IWRM), which recognizes the interconnectedness of water resources and promotes coordinated planning and management. To strengthen this aspect, it is recommended to enhance the implementation of IWRM principles at all levels. This includes promoting cross-sectoral coordination, integrating climate change considerations, and adopting a basin-level approach to water resources management. Strengthening IWRM will contribute to sustainable water allocation, ecosystem protection, and resilience to water-related challenges.

• Addressing Equity and Access Disparities

While both policies highlight the importance of equity and access to water and sanitation services, it is crucial to address the existing disparities in access, particularly in rural and marginalized communities. This can be achieved by prioritizing investments in infrastructure development and service provision in underserved areas. Additionally, targeted programs and incentives should be implemented to ensure affordability and inclusivity, addressing the needs of vulnerable populations. By focusing on equity and access, the policies can contribute to reducing inequalities and improving the overall well-being of communities.

• Strengthening Stakeholder Engagement and Participation

Stakeholder engagement and participation are essential for effective water and sanitation governance. To enhance this aspect, it is recommended to strengthen mechanisms for meaningful participation of various stakeholders, including local communities, civil society organizations, and private sector entities. This can be achieved through capacity-building programs, awareness campaigns, and the establishment of platforms for dialogue and collaboration. Involving stakeholders in decision-making processes, policy development, and project implementation will enhance ownership, transparency, and accountability in the water sector.

• Improving Policy Implementation and Monitoring Mechanisms

Effective policy implementation and monitoring are crucial for translating policy objectives into tangible outcomes. It is recommended to strengthen the institutional frameworks responsible for policy implementation, such as water regulatory bodies and service providers. This includes providing adequate resources, technical capacity, and enforcement mechanisms. Additionally, robust monitoring and evaluation systems should be established to track progress, identify bottlenecks, and ensure accountability. Regular reporting on key performance indicators and sharing of best practices will support evidence-based decision-making and foster continuous improvement.

By implementing these recommendations, Ghana and other African countries can further strengthen their water and sanitation policies and enhance sustainable development outcomes in the sector. It will require strong political commitment, collaboration among stakeholders, and adequate financial resources. Additionally, continuous learning and knowledge sharing among countries in the region will facilitate the exchange of experiences and best practices, leading to more effective and impactful water and sanitation policies.

#### References

- Abiye, E. K., Darkwah, B. K., & Adu-Mensah, J. (2019). Integrated water resources management (IWRM) in Ghana: Progress, challenges and way forward. *Water Policy*, 21(4), 727-746.
- African Development Bank Group. (2018). *Water and Sanitation Policy*. Retrieved from <a href="https://www.afdb.org/en/topics-and-sectors/sectors/water-supply-sanitation">https://www.afdb.org/en/topics-and-sectors/sectors/water-supply-sanitation</a>
- Agyeman, J., & Appiah, J. A. (2015). Examining the performance of water and sanitation sector in Ghana: A review of water resources management policy and implementation challenges. *Science of the Total Environment*, 532, 423-436.
- Amponsah, W. (2019). Equity and access to water supply and sanitation services in Ghana: A systematic review. Environmental Systems Research, 8(1), 1-12.
- Appiah, K. A., & Darkwah, B. K. (2018). Assessing the effectiveness of water policy implementation in Ghana: The case of the Kpong Water Treatment Plant. *Journal of Water Resources and Protection*, 10(1), 40-50.
- Darkwah, B. K., & Appiah, K. A. (2017). Water resources management in Ghana: A review of policy and implementation challenges. *Water International*, 42(4), 522-538.
- Government of Ghana (GoG) (2008). *Ghana National Water Policy*. Retrieved from <a href="https://www.gwcl.com.gh/national\_water\_policy.pdf">https://www.gwcl.com.gh/national\_water\_policy.pdf</a>
- Gyimah, A., & Adu, K. S. (2012). Water resources management in Ghana: A review of policy and implementation challenges. *International Journal of Water Resources Development*, 28(3), 407-425.
- Hutton, G., & Varughese, M. (2016). The costs of meeting the 2030 Sustainable Development Goal targets on drinking water, sanitation, and hygiene. Water and Sanitation Program, World Bank Group. Retrieved from <a href="https://openknowledge.worldbank.org/handle/10986/23681">https://openknowledge.worldbank.org/handle/10986/23681</a>
- Kamga, J. T., & Darkwa, B. K. (2019). Water governance in Ghana: Assessing the implementation of the National Water Policy. *Water Policy*, 21(1), 159-177.
- Nartey, K. A., & Adjei, J. A. (2019). Water security in Ghana: Challenges and prospects. *Water Policy*, 21(1), 178-192.
- Osei-Hwedie, K., & Swiderski, S. M. (2016). Managing conflict in community-based natural resource management projects in Ghana: A case study of the Atewa Range Forest Reserve. *Society & Natural Resources*, 29(10), 1131-1146.
- Seini, K. A., Gyapong, A. A., & Appiah, J. A. (2019). Challenges and opportunities of integrated water resources management (IWRM) in Ghana: A systematic review. *International Journal of Water Resources Development*, 35(2), 266-283.
- Teye, D. N., & Agyeman, J. (2017). Challenges to water resource management in Ghana: A case study of the Densu River Basin. *Water International*, 42(3), 344-356.
- United Nations Development Programme. (2015). *Water and Sustainable Development*. Retrieved from <a href="https://www.undp.org/saudi-arabia/publications/un-world-water-report-2015">https://www.undp.org/saudi-arabia/publications/un-world-water-development-report-2015</a>
- United Nations Development Programme. (2020). Integrated Water Resources Management for Sustainable Development. Retrieved from https://www.un.org/waterforlifedecade/iwrm.shtml
- United Nations Development Programme. (2020). *Transforming Water Governance for Sustainable Development*. Retrieved from <a href="https://www.undp.org/sites/g/files/zskgke326/files/2022-03/UNDP-SIWI-WGF-A-Decade-of-Support-for-Water-Governance-Reform.pdf">https://www.undp.org/sites/g/files/zskgke326/files/2022-03/UNDP-SIWI-WGF-A-Decade-of-Support-for-Water-Governance-Reform.pdf</a>

- United Nations Environment Programme. (2018). *Africa Water Atlas*. Retrieved from <a href="https://wedocs.unep.org/handle/20.500.11822/7919;jsessionid=24600F107CAC68825">https://wedocs.unep.org/handle/20.500.11822/7919;jsessionid=24600F107CAC68825</a> CCB679FD5DEFF32
- World Bank. (2017). *Ghana: Water resources management in a changing climate*. Washington, DC: World Bank.
- World Bank. (2018). *Water Governance: An Evaluation of World Bank Support*, 2007-2017. Retrieved from https://openknowledge.worldbank.org/handle/10986/
- World Bank. (2019). *Water Supply, Sanitation, and Hygiene*. Retrieved from <a href="https://www.worldbank.org/en/topic/water/publication/wash-poverty-diagnostic">https://www.worldbank.org/en/topic/water/publication/wash-poverty-diagnostic</a>
- World Health Organization. (2019). *Guidelines for Drinking-water Quality*. Retrieved from <a href="https://www.who.int/publications-detail-redirect/9789241549950">https://www.who.int/publications-detail-redirect/9789241549950</a>