

Gender Main Streaming in Artificial Intelligence Policy in Africa



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Background

Artificial Intelligence (AI) is transforming economies and societies globally, with significant implications for Africa. However, the intersection of AI development and gender equality remains largely unaddressed. This is critical given that gender biases in AI systems have negative impacts on women and society at large. Studies show that AI algorithms can perpetuate existing gender

stereotypes and exacerbate inequalities if not properly designed and implemented. This brief outlines the current state of gender mainstreaming in AI policies across Africa, identifies gaps and provides actionable policy recommendations to ensure that AI development contributes to reducing gender inequalities rather than exacerbating them.

Methodology

A comprehensive literature search was conducted using online databases, employing a combination of the search terms ('Gender' OR 'Women' AND 'Policy' AND 'Artificial Intelligence' AND 'Africa '). Thematic analysis was then performed on the various policy documents, strategies, and regulatory frameworks using NVIVO 14 Software. A SWOT analysis was carried out to profile the strengths, weaknesses, opportunities, and possible threats of the existing frameworks in the context of mainstreaming gender and youth empowerment. Content analysis was also conducted on a sub-set to understand the policy considerations. A total of 11 member countries from COMESA and ECOWAS were included in the analysis, ensuring a comprehensive and representative view of the region

Countries represented in the policy analysis





Key Findings



1 **Limited Policy Frameworks:** Very few countries have AI policies that incorporate gender mainstreaming. With a limited focus on women and almost no existence of information about youth and those living with disabilities.



2 **Policy Implementation:** Even where gender considerations are included in AI policies, their implementation is often weak due to insufficient funding, lack of awareness, and inadequate coordination among stakeholders.



3 **Skills and Education Programmes:** Initiatives aimed at improving gender equality in AI typically focus on providing opportunities for girls & youths in STEM fields. However, these programmes are often fragmented and lack comprehensive policy support.



4 **Data Gaps in AI:** The lack of gender-sensitive data and algorithms is a significant concern.



5 **Digital Gender Divide:** Women and girls are less likely to have access to digital technologies and the Internet, which limits their ability to benefit from AI advancements.



6 **Strengthening Data Protection:** countries have legal frameworks for personal data protection that require updating to offset biases and discrimination based on race, gender, or loss of privacy through predictive analysis.



7 **Varying Gender Equity Rating:** The gender equity rating varies across countries, with Sierra Leone having the highest rating at 0.04%, followed by Liberia at 0.14%.

Gender equity rating

Country	AI Policy/Strategy/Development Plan Referencing Gender	Themes Emerging (Gender & Diversity Related)	Gender Equity rating (% of policies explicit on gender)
Sierra Leone	National Cyber Security and Data Protection Strategy 2017 - 2022	Mainstreaming women in cyber-focused professions	0.04%
Namibia	Task Force on the Fourth Industrial Revolution "4IR as an Enabler of Green and Inclusive Industrialisation" Final Report August 2022	Addressing gender inequalities, racial biases, and income and wealth disparities	0.01%
Angola	Angola Science, Technology & Innovation Policy Review (UNDP, 2022)	Promoting women's empowerment in science and technology	0.01%
Liberia	Liberia Information and Communications Technology (ICT) POLICY (2019-2024)	Mainstreaming gender and women in ICT, promoting women-centered activities	0.14%
Cabo Verde	Digital Strategy for Cabo Verde	Strengthening broadband connectivity, enhancing knowledge and skills	0.02%
Nigeria	Nigeria ICT Innovation and Entrepreneurship Vision (NIIEV)	Encouraging women entrepreneurs and innovation, bridging digital gender divide	0.02%
Zimbabwe	National Policy for ICT 2016	Strengthening capacity development in STI, education, and human resource development	0.01%
Seychelles	National ICT Policy: Seychelles	Encouraging gender mainstreaming in ICT programmes and development	0.01%
Mauritius	Health Sector Strategic Plan (2020-2024)	Promoting health through the life course, including maternal health, neonatal, child and adolescent health, women's health	0.05%
Botswana	Botswana ICT Policy	Promoting digital inclusion and bridging the digital divide	0.01%
Ethiopia	Ethiopia ICT Policy	Promoting digital transformation and bridging the digital divide	0.01%
Ghana	Ghana ICT Policy	Promoting digital inclusion and bridging the digital divide	0.01%
Africa	Artificial Intelligence Needs Assessment Survey in Africa: United Nations (2021)	Addressing gender-related bias and discrimination in AI development and use	0.19%

SWOT analysis



Strengths

Good gender equality rating as noted by Namibia's Task Force on the Fourth Industrial Revolution.



Weaknesses

Very limited focus on women, youths, and those living with disabilities in cyber-focused professions.

Limited gender consideration in policy documents and strategies



Opportunities

Co-developing policy guidelines to address gender bias and discrimination in AI algorithms with stakeholders.

Ensuring equal participation of all genders in the development of AI standards to protect against potential gender biases and stereotypes.



Threats

The 4IR could potentially deepen the digital divide at the global scale between regions and increase existing gender inequalities and racial bias.

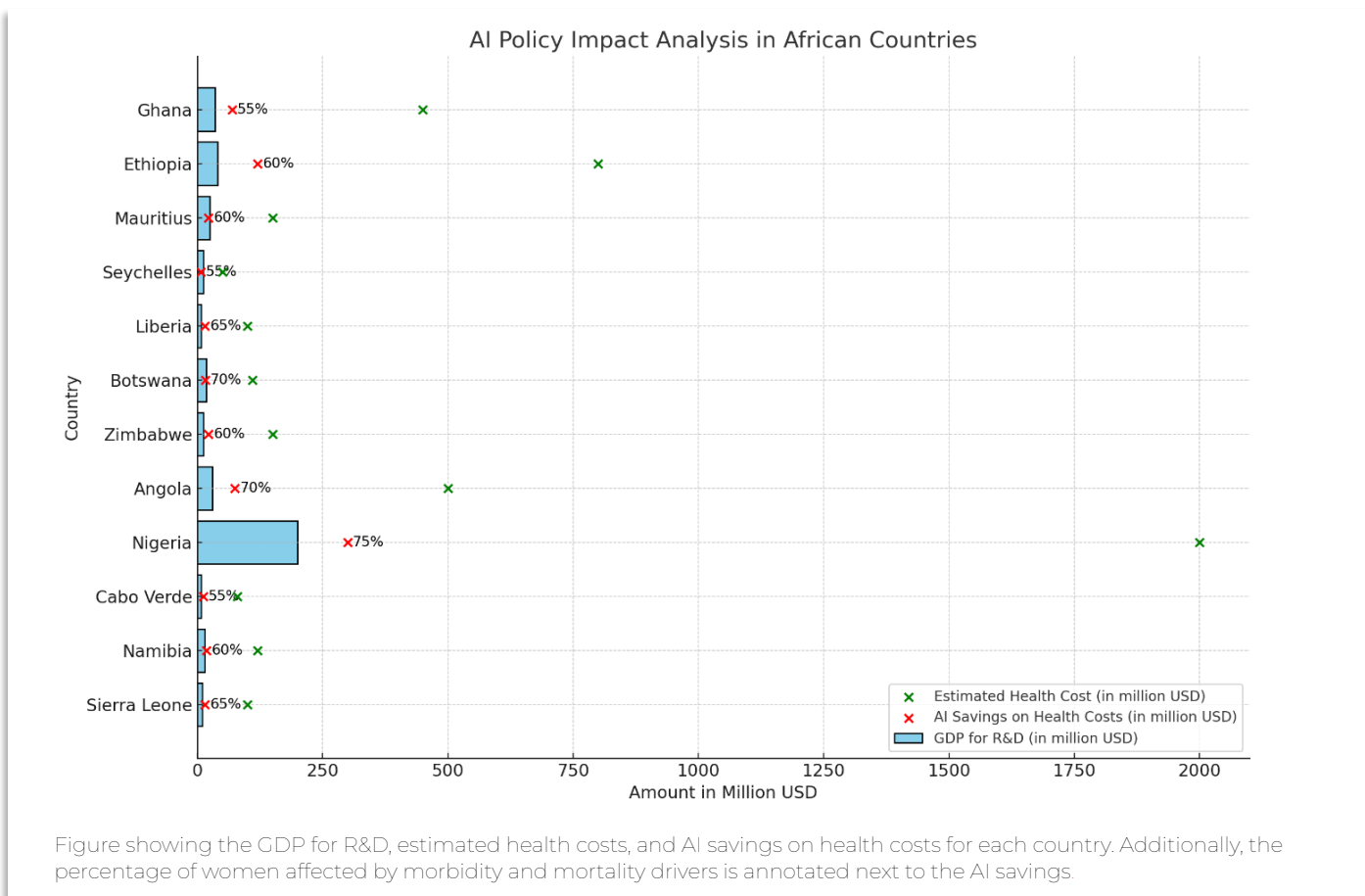
Namibia is particularly vulnerable to the effects of climate change, which could exacerbate gender inequalities.



Economic impact of addressing gender-specific health needs

A simulation using rough estimates from Perplexity (an AI chatbot-powered research search engine) illustrates that addressing gender-specific needs using AI-powered systems (for purposes of this simulation, focused on preventative and diagnostic improvements only) has positive economic impacts through reduced healthcare costs, highlighting the need for developing and implementing gender-sensitive policies in the focus countries to ensure that AI-powered

health systems and services are designed and deployed in a way that is equitable and responsive to the needs of both men and women. **Note the estimated savings are hypothetical and based on the assumption that implementing AI could lead to a 10-15% reduction in healthcare costs in these areas. These estimates are derived from published literature on AI's impact on healthcare cost reduction.**



Country	Estimated Health-care Costs (USD)	Estimated AI Savings in Healthcare (USD)	Main Drivers of Morbidity and Mortality (% Women Affected)
Sierra Leone	\$1 billion	\$100 million	Infectious diseases (60%)
Namibia	\$800 million	\$80 million	HIV/AIDS (55%)
Cape Verde	\$300 million	\$30 million	Cardiovascular diseases (50%)
Nigeria	\$30 billion	\$3 billion	Malaria (65%)
Angola	\$10 billion	\$1 billion	Respiratory infections (58%)
Zimbabwe	\$2 billion	\$200 million	Tuberculosis (60%)
Botswana	\$1 billion	\$100 million	HIV/AIDS (55%)
Liberia	\$500 million	\$50 million	Malaria (65%)
Seychelles	\$100 million	\$10 million	Cardiovascular diseases (50%)
Mauritius	\$500 million	\$50 million	Diabetes (55%)
Ethiopia	\$20 billion	\$2 billion	Malnutrition (60%)
Ghana	\$5 billion	\$500 million	Malaria (65%)

Recommendations

- 1 Development of Standardised Regional Policy Blueprints, Strategies, and AI Regulatory Frameworks:** Building the capacity of policymakers and experts to understand and address country-specific needs and landscapes across Africa.
- 2 Development of context-specific Gender Mainstreaming Instruments in AI and Data Science:** Clearly define measurable targets and identify specific groups of women, youth, and at-risk populations, their skills, sets, implementation matrix, and budgets for operationalisation.
- 3 Multi-Stakeholder Consultation for Gender Policy Development:** Collaboration among responsible ministries for Technology and Innovation, Gender, and Finance to co-develop, co-implement, and co-monitor gender policy, strategies, and instruments with multi-stakeholder engagement from the design stage onwards.
- 4 Awareness Campaigns and Advertising Opportunities for Vulnerable Communities:** Most of these policies targeting women and youths are not popularised. Prioritising awareness campaigns and advertising opportunities to reach vulnerable communities in rural areas without well-established technology infrastructure.
- 5 Synchronisation of Global and Regional Policy Frameworks:** Adapting global policies to regional and national contexts and considering structural differences among countries to own the policy formulation process. To achieve this is a need to own the policy formulation process by financing it, providing the technical expertise across gender and age groups to influence the terms and references of these instruments
- 6 Multilateral Science Policy & Practice Assessment:** Collaboration across and beyond Africa to promote science policy and practice assessment.
- 7 Promotion of Inclusivity, Equity, and Bridging the Digital Divide:** Leveraging enhanced capacity to drive inclusivity and equity and connecting technology and innovation to address challenges across various socio-economic, environmental, and political contexts.
- 8 Embedding a Culture of Learning and Sharing Best Practices:** Promoting a culture of learning and sharing best practices supported by sound governance through exchange programmes in Africa.
- 9 Reinforcement of Science Diplomacy for Socio-Economic Development:** Positioning science diplomacy at the heart of Africa's socio-economic development and growth.

Conclusion

Addressing gender bias in AI systems is crucial for promoting gender equality, human rights and harnessing the full potential of AI in Africa. By mainstreaming gender, youth, and diversity into AI policies, we can ensure that AI systems are designed and implemented in a way that respects human rights and promotes gender equality. Additionally, including gender equity in AI health policy is crucial for addressing gender-specific health needs, reducing biases, enhancing preventive care, improving health equity, and achieving economic benefits. By implementing the recommendations outlined in this brief, African countries can develop inclusive AI policies that empower women and contribute to sustainable development.

References

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