# AI, GENDER, & DEVELOPMENT IN AFRICA

*Feminist Policy Considerations*

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# Executive Summary

Artificial Intelligence (AI) is a major driver for what has now become known as the Fourth Industrial Revolution (4IR). On the African continent specifically, the discourse centres AI as a tool for leapfrogging and economic advancement (Marwala 2022). However, women and gender minorities are underrepresented in AI spaces and are disproportionately harmed by AI technologies as a result of this exclusion. There is therefore a need to evaluate if and how gender is considered in AI policies on the continent. While different countries on the continent are at various levels and stages of AI integration and implementation, a look at regional bodies – who are the standard setters – can be a first step to unpacking some gaps that currently exists in the ongoing efforts to implement AI for economic development.

This report provides a surface level look at answering whether or not the African Union (AU) and the Southern African Development Community (SADC) adequately consider gender in the AI and development discourse. By analysing protocols, model laws, strategies, and declarations related to development, technology, and gender (or all three), I find that while some at regional level, a strategic and pragmatic portrayal of AI is absent and there is inadequate gender specificity.

While some individual countries do a good job of strategically focusing on AI, and some regional documents attempt this, overall; I find that AI is lumped into other emerging technologies and not singled out as a key focus. This can make it difficult to create policies that effectively target AI technologies, thus failing to minimise harms of said technologies.

As a result of these findings, I recommend the following:

1.  Industry/sector specific mentions of AI: This would help frame AI in a more practical way for its applications on the African continent
2.  Gender mainstreaming at every stage of AI and development efforts
3.  Gender protocols need to include AI and development considerations substantially

# Introduction

Artificial Intelligence (AI) is considered to be part of the major drivers for what has now become known as the Fourth Industrial Revolution (4IR), a term that was coined by Klaus Schwab. The 4IR, "is characterized by a range of new technologies that are fusing the physical, digital and biological worlds, impacting all disciplines, economies and industries, and even challenging ideas about what it means to be human" (Schwab 2016).

This revolution is especially important for the African continent. Due to the geopolitical inequalities that for centuries have seen Africa treated as the source of raw materials and cheap inhumane labour – from the slave trade to colonisation – AI is considered a tool for rapid development. It is almost as if African economies are aiming to 'catch up' to Global North economies by harnessing the power of AI. However, it is important to recognise that, "the world of the fourth industrial revolution looks set to be one dominated by forms of knowledge and industries – like science and technology – that have long been dominated by men" (Adams 2019). As a result, it is important to consider the gender inequality inherent in this move towards relying on AI for development. Gender inequalities have already been ingrained in the development discourse, leaving women and other gender minorities excluded from moves towards economic development and empowerment.

Women and gender minorities, globally, are already excluded and disadvantaged, not just in the realm of AI, but more generally. Billions of women still do not have the same legal rights as men across the world and, "globally, differences between men's and women's total expected lifetime earnings is $172.3 trillion, equivalent to twice the world gross domestic product (GDP)" (World Bank Group 2022:1). With this reality, it is therefore important to interrogate the potential future that African countries want to have and ensure that this 'development' does not further entrench gender inequality. This policy brief adds to conversations about AI and gender equality on the African continent but interrogates the development angle a little deeper.

# Research Overview

This research was conducted through an analysis of African regional bodies instead of policy documents from individual countries. This is because a comparative study of how different African governments are dealing with the question of gender in AI and development, would require a far longer period of study. There are fifty-four African countries and they are each at different stages of the conversation on AI and development. Interrogating the regional bodies at least provides a standardised perspective, offering their own important insights to this research. They are standard setters and also direct the level of discourse regarding specific issues on the continent. By looking at how regional bodies are shaping the discourse, we can then infer what standards African countries are trying to live up to.

African Governments and regional bodies, the South African Development Community (SADC) region in particular, have done a lot in creating the necessary legal environment for the development of ICT and gender equality on the continent and regionally. The Member States of the SADC region are Angola, Botswana, the Union of Comoros, Democratic Republic of the Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, United Republic of Tanzania, Zambia, and Zimbabwe.

The various protocols, documents and agreements show that there are strategies and plans in place to address the various ICT issues including those related to gender disparities. Many countries have ratified these agreements and protocols and domesticated them to align them to their local legislations. I also chose to look at African Union and SADC to add a level of specificity to the enquiry and prevent simply painting Africa as one large mass, as much Eurocentric discourse tends to do. While as a continental bloc, the African Union has come up with protocols to assist member states, the different regions have also localised the protocols, hence the need to interrogate regional bodies such as SADC.

The following documents witness to this effort in relation to the continent:
- African Union Strategy for Gender Equality and Women's Empowerment (2018-2028)
- ITC African Continent Integrated Plan (2015-2020)
- Digital Transformation Strategy for Africa (2020 - 2030)
- African Union Convention on Cybersecurity and Personal Protection (1997)
- Science Technology and Innovation Strategy for Africa 2024 (STISA 2024)
- Policy Guidelines on Digitising and Teaching and Learning in Africa

With regard to the SADC region the following are pertinent:
- SADC Declaration on Information Communication and Technology (August 2021)
- Gender and Development Declaration by Heads of States and Governments of SADC
- Draft SADC Model Law on Data Protection
- SADC Protocol on Gender and Development (2008)
- SADC Regional Indicative Strategic Development Plan 2020-2030 (October 2020)
- SADC Protocol on Science, Technology and Innovation
- Regional Infrastructure Development Master Plan (RIDP): Information and Communication Technologies (ICT) Sector Plan (August 2012)
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These documents were analysed for their framing of AI for development and for how they centre gender in framing the region's awareness and progress towards the development of ICT, especially AI. These documents are essential to setting the ground for better understanding the landscape of AI on the African continent and in the SADC region more specifically. From creating regional gender sensitive protocols and legal frameworks for the development of ICT to the development of gender sensitive planning and infrastructure development; these documents help understand, not just the expected role of AI in development, but how gender is mainstreamed as well; if at all. This research analysed these documents for a specific framing of AI, and not just ICT. This is because while AI requires ICT to be deployed, AI is just one area of ICT and not its entirety.

# Research Findings

*Absence of a strategic and pragmatic understanding of AI*

The first observation that is important to highlight, is that the very understanding and implementation of AI in regional policy documents is not detailed and rarely includes pragmatic considerations of the sectors that would benefit the most from well implemented AI. While definitions of AI are often ambiguous, the absence of any clear definition and framing in these specific documents affects policymaking, and in turn, affects the implementation of such technologies (Murdick, Dunham, and Melot 2020). Murdick et al (2020), created "three pragmatic definitional principles to consider when supporting policymakers" (Murdick et al. 2020:3). Those principles are:

1. Capture the distributed judgments from a large group of skilled practitioners (i.e., the expert crowd) continuously or at least at regular intervals;
2. Compose a set of sub-areas of methods and tasks with active research and practitioner communities formed around them; and
3. Link AI and its sub-areas to specific tangible examples of AI-relevant articles—and eventually, patents and products.

While in this analysis, it is not possible to tell whether the first two principles were applied or not, a content analysis of the documents shows that the third principle particularly, is missing. For example, the ICT African Continent Integrated Plan (2015-2020) which had the purpose to, "coordinate, promote and facilitate the development of Post & ICT sectors" to 'accelerate the integration of Socio-Economic development of the continent" does not mention AI at all[1]. It thus remains unclear how AI can play a role in the integration of development on the continent. Additionally, while the plan proposes to promote gender-inclusive education frameworks and policies to boost education opportunities and skills development for women and girls in STEM subjects to narrow the gender digital divide; it does not tie this back to AI and its role in development.

As AI and machine learning are becoming more prevalent, "the vast majority of programming around these technologies is being performed by men" (Kumar 2019). Research by the International Research Centre for AI (IRCAI), under the auspices of UNESCO, looked at "three key stakeholders involved in AI capacity building in SSA, namely, Centres of Higher Education and Training, Governments, and the broader AI community in the region" (International Research Centre for Artificial Intelligence (IRCAI) 2021:7). The results showed that "students who had graduated from AI-related courses and qualifications were predominantly male, at both the undergraduate (80%) and postgraduate (83%) levels" (International Research Centre for Artificial Intelligence (IRCAI) 2021:23). That the ICT African Continent Integrated Plan does not specify how it will cover this capacity gap and how it ties directly to AI leaves it wanting and minimises its effectiveness as a tool for guiding the implementation of AI for development.

The SADC Protocol on Science, Technology and Innovation, which aims to "foster cooperation and promote the development, transfer, and mastery of science, technology, and innovation" (Southern African Development Community (SADC) 2008a:4) in member states does not specifically mention AI. While it can be argued that 2008 was rather early in the policy discourse on the continent to centre AI, the protocol has not been amended since. The Protocol does however, do a good job of specifying where gender equity and equality in the Science and Technology sector needs to be focused on: "in teaching and learning of basic science and mathematics at all levels of the education system"(Southern African Development Community (SADC) 2008a:5).

There is a recognition that AI is important to the development discussion on the African continent but a lot of it remains high level and intangible and only siloed to AI conversations and some ICT ones, but not integrated into development conversations. Additionally, this recognition is often steered by Western and Asian Big Tech companies as well as bodies such as the European Union. Further research can investigate the connection between the sources of funding behind AI conversations in Africa and their related reports and strategies. It is important to consider these connections to come up with African specific approaches to framing AI.

### Inadequate Gender Specificity

There is an absence of recognition of specific gendered harms that AI can perpetuate and/or create in policy guidance. The AU Convention on Cybersecurity simply reaffirms the commitment "of member states to fundamental freedoms and human and people's rights contained in various conventions, declarations and other instruments adopted within the framework of the AU and UN". The convention does not mainstream gender, and such oversight is what can open up women and other gender minorities to gendered harms.

In the SADC region specifically, the SADC Regional Indicative Strategic Plan (RISDP) 2020-2030 puts emphasis, "on intensified gender equality, empowerment, and development through the accelerated equal participation of women, men, and especially youth in regional development, socio-economic, and political processes at both the national and regional levels'' (Southern African Development Community (SADC) Secretariat 2020:10). While gender is indeed a cross cutting issue, as the Plan states, the lumping together of women, together with men and youth reduces the impact that a gender specific plan can make. The plan does, however, mention the need to effectively gender mainstream at both national and regional levels of key interventions.

Where specific industries are mentioned, that are considered to buttress development, the gender aspect within those sectors is not highlighted. The RISDP is strong in its consideration of infrastructure development as a pillar of regional integration. Under the previous RISDP of 2015-2020, the aim was, "the attainment of assimilated, cost effective, unified, and efficient transnational infrastructure networks and services, to serve as enablers of regional integration and economic development towards poverty reduction" (Southern African Development Community (SADC) Secretariat 2020:31). The 2020-2030 plan reports some successes made in these areas such as noting that, "five Member States (Botswana, Eswatini, Namibia, South Africa, and Tanzania) have already achieved the 2025 SADC broadband target of providing 80% of their population with access to broadband services" (Southern African Development Community (SADC) Secretariat 2020:31). While this is an achievement, the report does not highlight how women are still disadvantaged. For example, "only 17% of women in Tanzania have mobile internet access compared to 35% of men" (UNESCO 2021).

Thus, the extrapolation of recommendations from general technology to AI for development more specifically will remain incomplete if policymaking and influential bodies such as SADC do not recognise the gender inequality inherent within the already existing tech framework on the continent.

While planning for development is impressive there is still need for more gender sensitive action or any planned action, if this development initiative is to be speeded up and bear fruit. In fact, most of the ICT progress made shows little if any deliberate thrust towards development of AI.

# Recommendations

*Industry/sector specific in mentions of AI*

Due to the absence of a unified understanding of what AI is or the industries and spaces in which it is most prevalently used, I argue for an industry specific framing of AI and how it is applied in specific industries. This specificity will help minimise the gaps through which women and other gender minorities might fall. Currently, AI is rarely mentioned in development and gender policies, strategies, protocols, and other legal documents. The generalisation of phrases such as 'ICT', 'technology', and 'digital technology' mean that women and gender minorities can continue to be underrepresented and harmed in the development and use of AI technologies on the continent. While the goal of closing the gender technology gap is necessary and urgent; it is also important that AI and AI-related skills be specified. I suggest that, at policy level, a definition of what AI is, and relevant undertakings be outlined in the process of creating ICT policies. Only then can a conscious effort be made to improve the practical application especially with regards to gender mainstreaming.

*Gender mainstreaming at every stage of AI and development efforts*

Future AI-related protocols and strategies need to include gender mainstreaming at every stage of monitoring, evaluation, and learning procedures; in the same way that other protocols have been effective in setting out effective monitoring and evaluation mechanisms that centre gender. As well as better monitoring and evaluation, it is also important that specific targets and recommendations be set to increase the number of women and gender minorities in AI-related fields just as targets for gender equality and equity have been set in other spaces such as health provision and education. The number of women and gender minorities in ICT and AI needs to be urgently increased because there is the danger of increased gender bias in AI.

As machine learning is currently a male dominated field, leaving women behind will only distort the reality of AI. Beyond increasing the number of women and gender minorities in ICT and AI related fields, it also important to increase availability of gender mainstreamed data and gender related research to address the marginalisation of women and gender minorities by AI actors (Yeboah 2021:11).

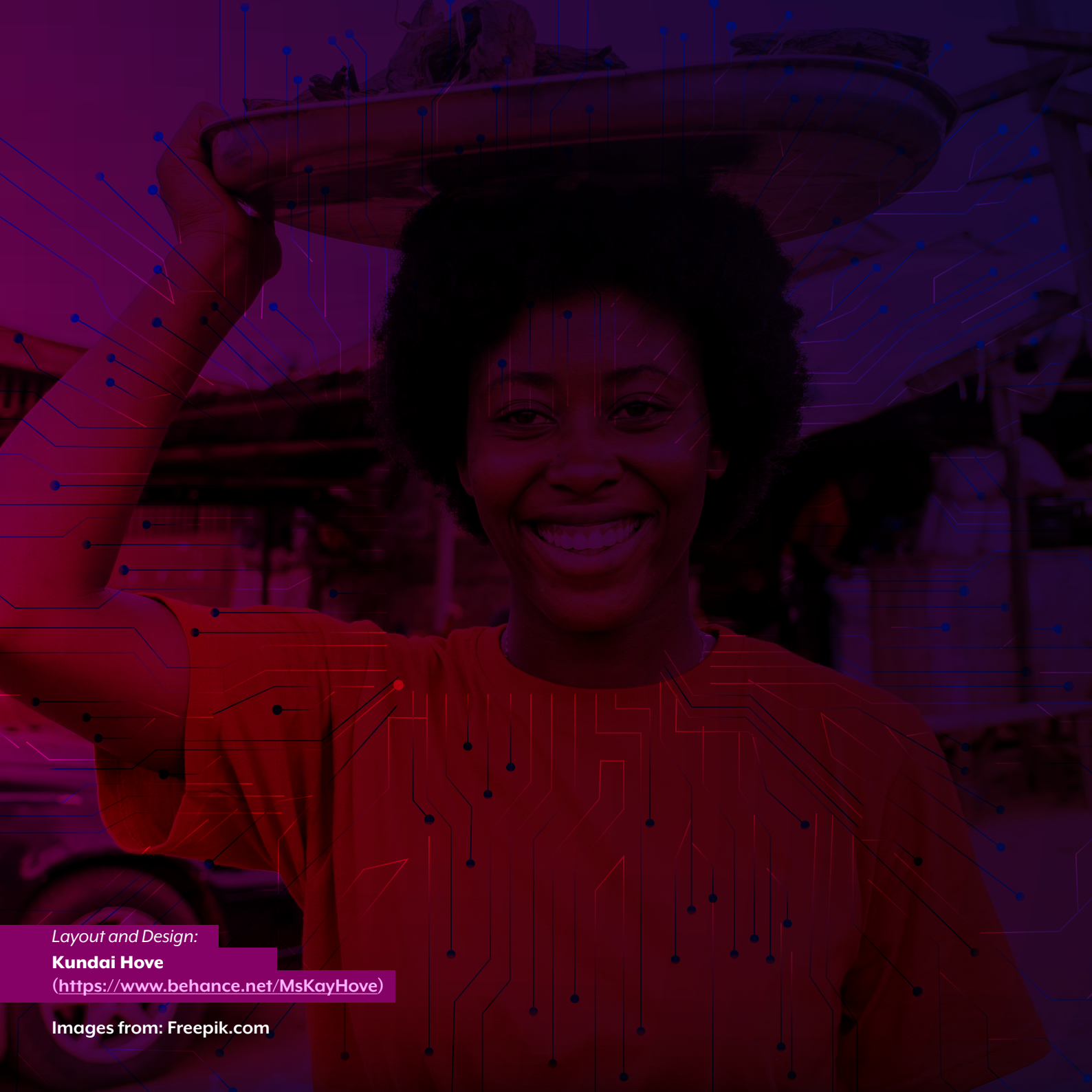*Gender protocols need to include AI and development considerations substantially*

All gender protocols that relate to development need to integrate AI in order to holistically mainstream gender in the development discourse. The 2008 SADC Protocol on Gender and Development contains a plan of action and sets targets and timeframes for achieving gender equality and equity. The protocol aims " to provide for the empowerment of women…through the development and implementation of gender responsive legislation, policies, programmes and projects" (Southern African Development Community (SADC) 2008b:10). While the protocol effectively addresses key areas of development such as Health and HIV and AIDS, Media, Information, and Communication, there is a clear lack of the consideration of how AI can impact and hinder equality across these different areas. I recommend that gender protocols also include AI and its role in gender inequality. By so doing, AI would not be an afterthought in the development discourse but can be better integrated in gender and development conversations.

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