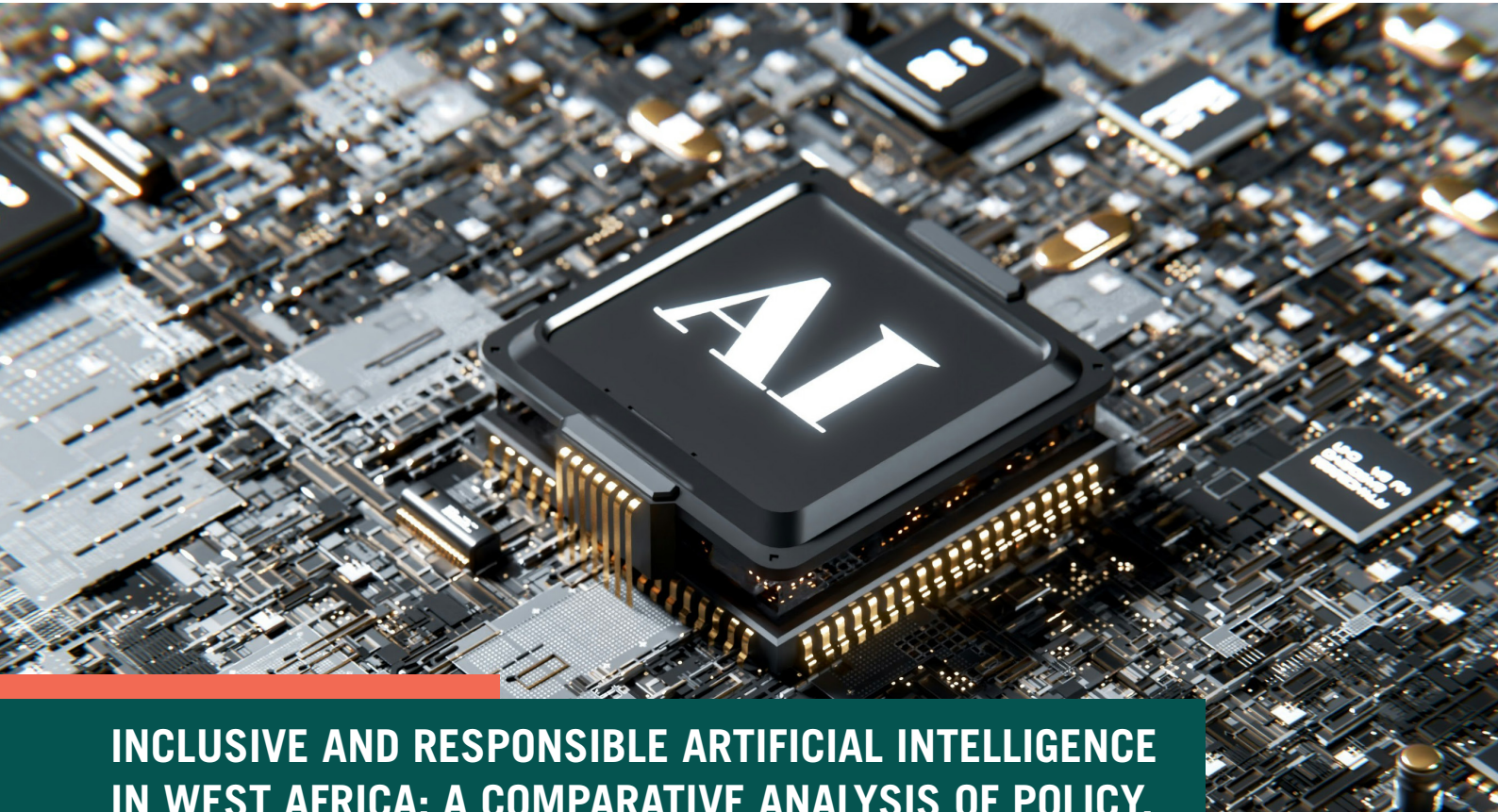




Gender and Responsible Artificial Intelligence Network -Phase 2



INCLUSIVE AND RESPONSIBLE ARTIFICIAL INTELLIGENCE IN WEST AFRICA: A COMPARATIVE ANALYSIS OF POLICY, LEGAL, AND INSTITUTIONAL FRAMEWORKS IN SENEGAL, BENIN, CÔTE D'IVOIRE, AND BURKINA FASO.

This Report is authored by the following seasoned team:

Fatou FOFANA, Legal Expert,
Mouhamed Ndiaye BOCOUM, Legal Expert,
Mamadou NIANG, Statistician,
Tamba ATHIE, Legal Expert,
Cheikh FAYE, Statistical Engineer & Project Coordinator,
Laure TALL, Agroecologist & Research Director at IPAR.

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ACRONYMS AND ABBREVIATIONS

ANSSI	National Cybersecurity Agency (France)
APDP	Personal Data Protection Authority
ARTCI	Telecommunications Regulatory Authority of Côte d'Ivoire
ARTP	Telecommunications and Postal Regulatory Authority
ASIN	Information Systems and Digital Agency
ECOWAS	Economic Community of West African States
CDP	Personal Data Protection Commission
CIL	Commission on Informatics and Liberties
WAEMU	West African Economic and Monetary Union
GEDI	Gender-Equality-Diversity-Inclusion
AI	Artificial intelligence
LOSI	Framework Law on the Information Society
OECD	Organisation for Economic Co-operation and Development
PNG	National Gender Policy
AIS	Artificial intelligence system
SNIA	National Artificial Intelligence Strategy
SNIAM	National Artificial Intelligence and Metadata Strategy
UNESCO	United Nations Educational, Scientific and Cultural Organization
AU	African Union
EU	European Union

EXECUTIVE SUMMARY

As part of Phase 2 of the GRAIN project, this report analyzes artificial intelligence governance frameworks in Senegal, Benin, Côte d'Ivoire, and Burkina Faso, with a particular emphasis on the integration of Gender, Equality, Diversity, and Inclusion (GEDI) principles.

The findings reveal varying levels of progress across the countries under study. While three of them have relatively structured national AI strategies, their level of operationalization and integration of inclusion issues remains uneven. Burkina Faso does not yet have a dedicated strategy. Overall, although existing frameworks partially align with international standards, the integration of GEDI principles is still limited - particularly regarding the consideration of gender and marginalized groups.

The analysis highlights critical gaps at three levels: (i) policy, characterized by limited integration of GEDI issues; (ii) legal and ethical, marked by the absence of AI-specific regulatory frameworks and accountability mechanisms; and (iii) institutional, characterized by limited technical capacity and low representation of women and underrepresented groups in AI governance.

The report also identifies high-impact opportunities in the agriculture, education, and local language sectors that could foster inclusive growth, provided there is better management of algorithmic bias and equitable access to technology.

In response, priority recommendations are proposed: (i) strengthening and harmonizing strategic and regulatory frameworks by explicitly integrating GEDI principles; (ii) developing legal mechanisms governing transparency, accountability, and non-discrimination in AI systems; (iii) promoting inclusive, high-quality data governance; and (iv) investing in capacity building, particularly for women and marginalized groups.

These actions serve as key levers for supporting the development of responsible and inclusive AI ecosystems in the region that are aligned with sustainable development priorities.

INTRODUCTION

1. Context – Rationale – Definitions

1.1 Context

This assignment is part of Phase 2 of the GRAIN (Gender and Responsible Artificial Intelligence Network) project - funded by IDRC and FCDO and led by a consortium comprising IPAR, Sunbird AI (Uganda), and CSEA (Nigeria) - which aims to promote responsible and inclusive artificial intelligence (AI) in sub-Saharan Africa, with a focus on empowering women and marginalized communities. Accordingly, Phase 2 focuses on the following areas:

- Creating a GEDI (Gender, Equality, Diversity, and Inclusion) framework to evaluate AI-based innovations.
- Analyzing policy gaps regarding inclusive AI.
- Supporting existing AI solutions in three key sectors: agriculture, education, and African languages.

1.2 Rationale

Artificial intelligence has permeated our daily lives. It is present everywhere and across all sectors of activity. It serves as a major driver of global economic transformation and a vehicle for wealth creation. However, while its potential is immense, its deployment is not without risk. Indeed, the use of AI raises significant issues, particularly regarding personal data protection and the increase in algorithmic biases that can exacerbate discrimination. Several studies illustrate these issues. A 2024 UNESCO study on generative AI models (such as GPT) revealed that female names were associated with family, motherhood, and marriage, whereas male names were linked to work, careers, and business. Furthermore, research has shown that facial recognition technologies perform better for white individuals than for those with darker skin tones, particularly women. These biases merely reflect social, cultural, and historical representations. Consequently, when AI systems are trained on biased datasets, they reproduce and amplify those biases. African countries face these same risks, highlighting the need to establish robust policy, legal, and institutional frameworks to prevent and mitigate discriminatory biases, especially those related to gender.

1.3 Definition of concepts

To establish a common understanding, it is necessary to define the concepts of AI and GEDI.

Artificial Intelligence (AI)

To date, there is no universally recognized definition of AI. However, several international organizations have proposed definitions of the concept. For the purposes of this study, the definition adopted is that of UNESCO, which views AI as «systems capable of processing data and information through a process resembling intelligent behavior, typically incorporating functions such as reasoning, learning, perception, anticipation, and planning.»

Gender

Drawing on the UNESCO glossary, gender is defined as «the roles, behaviors, activities, and attributes that a given society considers appropriate for men and women at a given time.»

In the field of artificial intelligence, these social constructs influence how data is produced, collected, and used, as well as the design, development, and deployment of AI systems. When these systems are trained on data reflecting existing gender stereotypes or inequalities, they can reproduce, amplify, or legitimize these biases in their outputs and decisions. Integrating a gender perspective into AI therefore aims to identify and mitigate these biases in order to promote more equitable and inclusive technologies.

Equality

Larousse defines equality as «the absence of any discrimination between human beings regarding their rights.» In the context of AI, equality refers to AI systems treating all individuals without discrimination based on sex, origin, age, disability, etc., thereby guaranteeing equal rights. It entails algorithmic fairness - meaning algorithms are designed, trained, and audited so as not to produce, reproduce, or amplify discriminatory biases.

Diversity

The concept of diversity refers to a «group of people who differ from one another in terms of their geographical, socio-cultural, or religious origins, age, sex, sexual orientation, etc., and who make up the national community to which they belong.» In the context of AI, diversity refers to the effective representation of individuals with diverse profiles—spanning gender, age, ethnicity, experiences, and perspectives—across all stages of the AI lifecycle (design, development, deployment, and governance) with the aim of preventing and avoiding discriminatory bias. Diversity is a key driver for promoting equality in AI.

Inclusion

As for inclusion, it consists of «a set of proactive practices aimed at creating an environment where everyone feels welcome, respected, and valued, while fostering their participation and sense of belonging.» In the context of AI, inclusion refers to a set of strategic measures designed to ensure that the opportunities and benefits of AI are accessible to all people, regardless of gender, origin, age, or circumstances, and to ensure that they can participate in AI governance and be protected against associated risks.

The preceding definitions form the conceptual foundation of the analysis. To enable their systematic and comparative application to the political, legal, and institutional frameworks of the four countries studied, each concept was translated into an operational definition and broken down into concrete analytical questions. The table below presents this framework, which structures the entire evaluation conducted in this report.

Table 1: GEDI conceptual framework

Dimension	Operational Definition	Questions d'analyse
Genre	The set of socially constructed roles, behaviors, and attributes considered appropriate for men and women that influence data production and the design and deployment of AI systems, and which are liable to generate gender biases in their outputs.	• Do women participate in AI governance (steering committees, ethics boards, regulatory bodies)? • Do national AI strategies explicitly incorporate the gender dimension into their objectives and action plans? • Are there indicators to measure the extent to which gender is taken into account in AI policies?
Equality	Requirement that AI systems treat all individuals without discrimination based on gender, origin, age, or disability, ensuring algorithmic fairness through the design, training, and auditing of algorithms.	• Do national legal frameworks include non-discrimination obligations applicable to AI systems? • Are there algorithmic auditing mechanisms in place to detect and correct discrimination resulting from AI? • Do the budgets allocated to national AI strategies incorporate a gender- and equality-sensitive dimension? • Are effective avenues of redress available for individuals affected by discriminatory algorithmic decisions?
Diversity	Effective representation of individuals with diverse profiles (gender, age, ethnic origin, language, geographic location) at all stages of the AI lifecycle—design, development, deployment, and governance—to prevent discriminatory bias.	• Do the data used to train AI systems reflect local cultural, linguistic, and geographic diversity? • Are vulnerable populations (people with disabilities, linguistic minorities, rural populations) taken into account in AI strategies? • Are local languages integrated into the development of AI tools deployed in target countries?
Inclusion	A set of structural measures ensuring that all people—regardless of gender, origin, age, or circumstances—access the benefits of AI, participate in its governance, and are protected against its risks.	• Do national strategies include concrete measures to reduce the gender digital divide? • Are marginalized groups (women, youth, rural populations) included in training programs for AI-related professions? • Is digital infrastructure accessible and affordable in rural and disadvantaged areas? • Do AI funding mechanisms include provisions to facilitate access for women and underrepresented groups?

1. Scope and Key Issues

2.1 Scope

This analysis covers four Francophone West African countries: Senegal, Benin, Côte d'Ivoire, and Burkina Faso. These countries were selected based on three methodological criteria considered relevant for assessing the integration of Gender, Equity, Diversity, and Inclusion (GEDI) principles into artificial intelligence policies.

First, these countries share a common official language – French – and a common regulatory heritage. They are members of the WAEMU (West African Economic and Monetary Union) and, until recently, ECOWAS (Economic Community of West African States); this has fostered the harmonization of their digital legal frameworks, particularly regarding cybersecurity and personal data protection.

Second, these countries represent a diverse range of socio-economic and digital landscapes within the sub-region. Côte d'Ivoire is the leading economic power in the WAEMU. Senegal ranks first among the target countries in terms of digital inclusion and development, closely followed by Côte d'Ivoire and Benin. In contrast, despite ongoing efforts, Burkina Faso faces greater structural challenges regarding inclusivity.

Finally, three of the countries studied have adopted national artificial intelligence (AI) strategies at different times. Benin was among the first to develop an AI strategy in 2023, followed by Senegal in 2024 and Côte d'Ivoire more recently in 2025. Burkina Faso is currently the only country in the sample that lacks a specific, formal framework dedicated to AI. This situation provides a relevant basis for comparative analysis to assess the impact of policy maturity levels on ethical, responsible, and inclusive AI.

However, a significant limitation of our methodological approach is the exclusion of Anglophone countries such as Nigeria and Ghana, which possess highly dynamic AI ecosystems. This scope was a deliberate choice, as including these countries would have broadened the comparative reach and increased the linguistic and regulatory diversity of the study. Furthermore, this report is part of a regional advocacy effort within the Francophone sphere, aiming to formulate recommendations that are directly applicable in similar institutional contexts. Notwithstanding the foregoing, to enrich our analysis, we have decided to include Kenya's national strategy in our study. Kenya was chosen over Ghana or Nigeria because its national AI strategy, adopted in 2025, places gender, inclusivity, and diversity at the forefront. This will enable us to make comparisons and highlight both best practices and regulatory blind spots.

2.2 Key Issues

Beyond the selection criteria, these four countries share cross-cutting issues relating in particular to digital sovereignty, languages, and access and inclusivity.

2.2.1 Digital sovereignty

Digital sovereignty is a major issue for the development of artificial intelligence (AI) in Africa. Since data lies at the heart of AI systems, its collection, storage, governance, and utilization have become strategic drivers of economic and technological development. However, a large proportion of data generated on the continent remains hosted abroad, while Africa still possesses limited digital infrastructure capacity—particularly regarding data centers and computing power: at least 80% of digital data collected on the African continent is hosted overseas, whereas Africa accounts for less than 1% of global data center capacity.

In the context of AI, digital sovereignty can be understood as the ability of states to control their digital infrastructure, protect the data of their citizens and institutions, and leverage national data to foster local innovation. This control is essential for developing AI solutions tailored to African realities, particularly in areas such as local languages, healthcare, education, agriculture, and public services.

Conversely, heavy reliance on foreign infrastructure, platforms, and technologies can limit African countries' ability to control their strategic data, build local AI capabilities, and fully capture the economic value generated by data. This dependency also raises concerns regarding cybersecurity, data protection, and technological autonomy.

Confronted with these challenges, several African countries have launched initiatives to strengthen their digital sovereignty through the development of local infrastructure, the adoption of national data strategies, and the implementation of appropriate governance frameworks. At the continental level, digital sovereignty is now viewed as a key lever for enabling Africa to develop an artificial intelligence ecosystem that is competitive, inclusive, and aligned with its development priorities.

2.2.2 African languages and AI

Language is a key issue in the relationship between Africa and generative artificial intelligence systems, which rely on Large Language Models (LLMs). Current estimates place the number of languages spoken across the African continent between 1,500 and 2,000. This diversity is particularly striking in West Africa alone, where hundreds of languages are recorded.

However, LLMs are fueled by linguistic data from dominant languages - such as English, French, and Chinese - while excluding African languages. When trained on data that fails to adequately represent African contexts, these models can generate biases that limit their relevance to specific local issues. This under-representation is significant: it creates structural discrimination against populations that do not speak dominant languages - primarily English and major European languages. In Africa, where a large portion of the population primarily communicates in local languages, this results in the de facto exclusion of vast segments of society from the benefits of AI. Even more concerning is the risk that, without proper guidance, LLMs could reinforce institutional languages and accelerate the decline of others. According to UNESCO, 40% of the world's languages are at risk of extinction, with hundreds of them spoken in Africa. The lack of digital representation thus exacerbates this silent extinction.

On a continent where 2,000 languages are spoken but fewer than 100 have significant digital resources, the stakes go beyond mere technical considerations; it is a matter of cultural sovereignty and identity.

The African Union has fully grasped this reality. Its Continental Strategy on Artificial Intelligence, adopted in August 2024, enshrines linguistic diversity as one of its guiding principles, notably by recommending the development of AI applications that respect linguistic diversity, the promotion of investment in natural language processing for local and indigenous African languages, and the formulation of policies for the preservation of indigenous languages.

Concrete initiatives are beginning to emerge on the ground. Masakhane, a pan-African community established in 2019, now brings together hundreds of researchers and developers across more than 30 countries. Over five years, this network has produced over 60 open-source translation models for dozens of African languages - such as Igbo, Zulu, Hausa, and Twi - without the massive budgets of tech giants.

In West Africa, pioneering public-sector initiatives are taking shape. In Benin, the government launched the «J'aime ma langue» (I Love My Language) project in Cotonou on November 10, 2025. Spearheaded by the Agency for Information Systems and Digital Technology (ASIN) and the Institute for Inclusive Digital Africa (IIDIA), with support from the Gates Foundation and Sèmè City, the project aims to train an AI capable of understanding and speaking Beninese languages by building a national voice database from citizen contributions. The initiative thus incorporates Fon, Yoruba, Bariba, and other national languages as strategic assets in the global contest for the digital presence of cultures.

In Senegal, the effort is being driven by the private sector. Founded in 2024, the startup Andakia launched AWA, an AI capable of understanding and speaking Wolof, a language widely used in Senegal. The goal is to facilitate access to digital services for populations with low literacy levels or those who do not speak French, thereby removing language barriers. Developers are working to gradually expand the system to include other African languages such as Pulaar and Hausa, with the ambition of making AWA a truly multilingual AI.

2.2.3 Access and digital inclusiveness

Beyond issues of sovereignty and linguistic representation, Africa - and West Africa in particular - faces a profound digital divide that shapes its overall development prospects regarding artificial intelligence. While the overall rate of internet usage among African individuals has risen from 25% in 2019 to 38% in 2024, significant disparities remain. In West and Central Africa, only about 40% of the population uses the internet, yet approximately 70% of non-users live in areas already covered by existing infrastructure.

The gender divide represents an equally concerning dimension. According to the GSMA's Mobile Gender Gap 2025 report, the gender gap in mobile internet usage in sub-Saharan Africa narrowed from 36% in 2022 to 29% in 2024, driven by an increase in usage among women from 36% to 39%. Despite this improvement, approximately 205 million women in the region - representing 61% of the adult female population - still do not use mobile internet. This exclusion is fueled by multiple obstacles, including low literacy rates, online insecurity, and economic constraints. Low female literacy is the third leading factor contributing to the gender digital divide in Africa, following cost and inadequate infrastructure.

As mentioned in the previous section, generative AI systems and digital service content are predominantly produced outside the African continent, in languages that do not reflect local realities. This situation creates structural algorithmic biases and reinforces a technological dependency that limits the emergence of truly endogenous innovation. The populations most affected by this exclusion - regarding both access and creation - are precisely those that stand to gain the most from an inclusive digital landscape: women, rural communities, small-scale farmers, and entrepreneurs. To transform digital technology and AI into drivers of inclusive development, it is therefore imperative to act simultaneously on several fronts: deploying accessible infrastructure in rural areas, developing tailored training programs in local languages, designing algorithmic tools rooted in African realities, and producing content relevant to populations furthest removed from the digital world. This transformation also requires monitoring mechanisms to measure the actual impact of public policies on vulnerable populations.

These issues, combined with the rapid expansion of the AI market in Africa - estimated at USD 2 billion in 2025 and projected to reach USD 16.5 billion by 2030 - lend particular urgency to this study. At a time when AI offers opportunities to address the continent's challenges - particularly in agriculture, healthcare, and innovation - establishing robust and appropriate policy, regulatory, and institutional frameworks is an essential prerequisite for promoting ethical, responsible, and inclusive AI grounded in GEDI principles.

3. Study objectives

The specific objectives of the study are to:

- Map and analyze AI policy and regulatory frameworks;
- Identify policy gaps and barriers to the equitable and inclusive adoption of AI technologies;
- Assess the regulatory framework regarding AI;
- Formulate concrete recommendations for public authorities and stakeholders within the AI ecosystem, particularly innovators and organizations.

To achieve these objectives, the analysis will be structured around the GEDI principles.

4. GEDI and inclusive approach: What does this actually mean?

The GEDI (Gender, Equality, Diversity, and Inclusion) approach serves as the analytical framework for this report. It provides an operational framework for assessing the extent to which AI-related policies, legislation, and institutions effectively address these dimensions - particularly the interests, needs, and rights of all populations, especially those most vulnerable to the risks of algorithmic discrimination.

In the context of AI, it is evident that AI systems are not neutral. Trained on data that reflects existing social, cultural, and historical inequalities, they can both reproduce and amplify them. These algorithmic biases are not accidental; they stem from factors such as human choices, biased datasets, and a lack of diversity within design teams.

The GEDI approach is employed in this report precisely to prevent such issues and to guide public policy.

Across these four dimensions, the approach examines: (i) how the national AI strategies of the four target countries incorporate or overlook gender dimensions - both in their stated ambitions and in their action plans; (ii) the ethical and legal measures adopted to ensure algorithmic fairness; and (iii) the actions taken to ensure representation across all social strata throughout the AI lifecycle.

Applying this framework makes it possible to assess the level of integration of GEDI principles in the countries studied.

At the policy level, the integration of GEDI principles remains largely rhetorical: strategic documents lack monitoring indicators, gender-responsive budgeting, and mechanisms for inclusive participation. From a legal standpoint, none of the four countries has a specific AI regulatory framework mandating non-discrimination or algorithmic transparency. Institutionally, the underrepresentation of women and marginalized groups in digital and AI governance bodies remains a persistent issue, compounded by the absence of dedicated regulatory authorities. However, these shortcomings coexist with genuine opportunities - particularly in the agriculture, education, and local language sectors - where AI could help reduce existing inequalities if developed in accordance with GEDI principles. Ambitious national strategies, dynamic local innovation ecosystems, and the growing attention paid to these issues at continental and international levels -notably through the AU Continental AI Strategy (2024) - serve as the foundations for the recommendations made in this report.

In the West African context, this approach addresses specific realities, such as the gender digital divide, reliance on technology solutions developed outside the continent, and the failure to incorporate local languages into large language models.

The GEDI approach is essential for ensuring that AI policies are relevant and effective in adapting to local realities, reducing discrimination, and fostering inclusion, thereby helping countries in the region achieve their established Sustainable Development Goals.

5. Research Methodology

The chosen methodology is based on an in-depth document analysis using a comparative approach across the four countries, focusing on a critical assessment of policy and regulatory texts.

Initially, an exhaustive literature review will be conducted, followed by an analysis of the collected data.

5.1 Data Collection

Data required to analyze policy effectiveness and gaps, as well as to assess the regulatory environment, will be gathered from various sources.

All legal texts currently in force in each target country addressing themes directly or indirectly related to AI, data protection, cybersecurity, cybercrime, gender, ethics, and inclusion will be examined.

Regarding the policy framework, strategies adopted by the target countries in the fields of AI and the digital sector in general will be analyzed. Sector-specific policies and strategies adopted in these countries - particularly in agriculture, education, and culture (with a focus on African languages) - will also be studied.

Reports and studies, including qualitative and quantitative surveys conducted by government bodies, research institutes, or non-governmental organizations, will also be utilized.

In addition, technical and academic sources on AI governance, as well as resources from the GRAIN project, will be incorporated.

The collection of texts, documents, and information will rely on consulting reliable sources, such as the official websites of governments, research institutes, and non-governmental organizations. This will be supplemented by the use of scientific databases and platforms such as Google Scholar, Google Books, Worldwide Science, and Cairn.info, among others.

5.2 Data analysis

The analysis of legal and policy frameworks regarding artificial intelligence and GEDI aspects in the countries under study will rely on two complementary approaches:

Thematic analysis: This will involve examining, for each country studied, how AI-related policy and legal frameworks address themes concerning gender, equality, inclusion, diversity, and - more broadly- rights and the prevention of discrimination. This approach will make it possible to identify priorities, implemented measures, and the extent to which these principles are integrated into national policies. It will be combined with a SWOT analysis applied to the GEDI framework to identify key gaps.

Comparative analysis: Once the themes have been identified, they will be compared across the countries

studied to highlight convergences, divergences, and national specificities. This comparative process will allow for an assessment of the levels of progress, regulatory directions, and mechanisms employed to integrate GEDI principles into AI governance. Furthermore, a second level of comparison will be conducted with Kenya, whose AI strategy soundly incorporates GEDI aspects.

5.3 Methodological limitations

The study relies exclusively on a document-based analysis. Consequently, it does not allow for an assessment of the effectiveness of the implementation of public policies regarding AI, nor of the perceptions of the relevant stakeholders.

II. OVERVIEW OF THE POLICY, LEGAL, AND INSTITUTIONAL FRAMEWORKS RELATING TO AI IN THE FOUR TARGET COUNTRIES

In recent years, African states have demonstrated a clear commitment to supporting the development of artificial intelligence by formulating national strategies aimed at maximizing its benefits while managing associated risks. West Africa is fully engaged in this trend: within the span of three years, four countries in the sub-region have adopted and published national AI strategies.

These specific instruments align with existing strategic frameworks in the digital sector, particularly digital development strategies, as well as policies regarding data and cybersecurity. From a regulatory standpoint, in the absence of legislation specifically dedicated to artificial intelligence, existing digital regulations remain applicable to AI technologies, subject to their adaptation to the unique characteristics of these systems. This section aims to provide an overview of the policy, legal, and institutional frameworks regarding artificial intelligence in the four target countries.



SENEGAL

Table 2: Summary of Senegal's political, legal and institutional framework in terms of AI and digital technology

Dimension	Existing instruments/ institutions	Key contributions to AI	Level of integration of GEDI principles
Policy framework	- National AI Strategy 2024–2028 - National Data Strategy 2024–2028 «Technological New Deal» Digital Strategy 2025–2034 - National Cybersecurity Strategy 2017–2022	- National AI vision; - Human capital development; - Data governance; - Digital sovereignty; - Trustworthy AI; - Digital inclusion.	Moderate: inclusion and universal access mentioned, but few targeted gender/diversity measures.
legal framework	Framework Law on the Information Society; - Personal Data Protection Law; - Electronic Transactions Law; - Cybercrime Law; - Copyright and Related Rights Law.	- Regulation of data processing - Combating cybercrime - Regulation of digital exchanges - Protection of works	Moderate: protection of fundamental rights and privacy, but a lack of specific rules regarding algorithmic bias, fairness, AI accountability, etc.
Institutional framework	- CDP; - Directorate General for Encryption and Information Systems Security (DCSSI); - SODAV ; - ARTP.	Personal data regulation, digital oversight and cybersecurity, copyright protection	Low to medium: absence of a specialized body dedicated to the ethical and inclusive governance of AI. Issues of ethics, equity, and inclusion are addressed indirectly through existing institutions.

Senegal possesses a relatively well-developed institutional and strategic framework compared to several other countries in the sub-region. At the policy level, the country has initiated a structured approach through the adoption of strategies dedicated to AI, data, and the digital sector, reflecting a clear commitment to leveraging AI as a driver of sovereignty, competitiveness, and the modernization of public services.

The legal framework relies primarily on the «digital package» adopted in 2008, which provides a solid foundation for regulating digital activities—particularly regarding personal data protection, cybersecurity, and electronic transactions. However, these regulations predate recent developments in artificial intelligence and do not yet explicitly address issues such as algorithmic transparency, liability for AI systems, or discriminatory bias.



At the institutional level, several authorities participate in digital governance, notably the CDP, the DCSSI, and the SODAV. However, the absence of a structure specifically dedicated to AI governance continues to limit the coordination of public policies and the management of emerging technological risks.

Finally, although national strategies refer to inclusion, ethics, and universal digital access, the operational integration of GEDI principles remains limited; these principles would benefit from being more fully incorporated into the implementation, monitoring, and evaluation mechanisms for AI-related public policies.

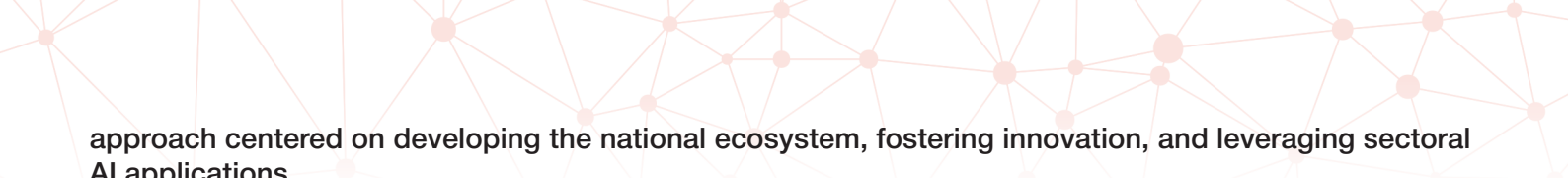


BENIN

Table 3: Overview of Benin's policy, legal, and institutional framework regarding AI and the digital sector

Dimension	Existing instruments/ institutions	Key contributions to AI	Level of integration of GEDI principles
Policy framework	- National Artificial Intelligence and Big Data Strategy (SNIAM) 2023–2027 “Benin 2060 Alafia” Vision - National Digital Security Strategy 2023–2026 - Government Action Program (PAG) 2021–2026 - Other sectoral strategies (e-agriculture, education, digital sector)	- National vision for AI and big data; - Development of the AI ecosystem; - Data valorization; - Human capital development; - Innovation and research; - Integration of AI into priority sectors; - Strengthening cybersecurity and digital trust.	Moderate: the strategy promotes digital inclusion and skills development but contains few explicit measures regarding gender, diversity, or the inclusion of vulnerable groups.
Legal framework	- Digital Code (personal data protection, cybersecurity, electronic transactions) - Law on copyright and related rights	- Supervision of the processing of personal data; - Protection of privacy - Fight against cybercrime; - Securing information systems; - Protection of intellectual property and digital content	Medium to high: enhanced protection of fundamental rights, privacy, and personal data; however, an absence of specific provisions regarding algorithmic bias, AI system transparency, or algorithmic fairness.
Institutional framework	- Personal Data Protection Authority (APDP) - Information Systems and Digital Agency (ASIN) - BUBEDRA	- Personal data regulation; - Oversight of automated processing compliance; - Cybersecurity and protection of digital infrastructure; - Support for digital transformation; - intellectual property protection.	Low to moderate: absence of an authority specifically dedicated to AI governance; issues of ethics, equity, and inclusion are addressed indirectly through existing institutions.

Benin possesses a relatively advanced framework for digital and data governance. It stands out for having a national strategy specifically dedicated to artificial intelligence and big data, making the country a sub-regional pioneer in structuring a public policy focused on AI. The SNIAM 2023–2027 strategy adopts an



approach centered on developing the national ecosystem, fostering innovation, and leveraging sectoral AI applications.

An analysis of the policy framework also reveals the integration of artificial intelligence into national development policies, notably through the «Benin 2060 Alafia» vision. This approach reflects a commitment to embedding AI within a long-term economic transformation process.

From a legal standpoint, the Digital Code adopted in 2017 provides a relatively modern and integrated framework. Provisions regarding personal data protection are particularly relevant to artificial intelligence systems, especially concerning automated processing, impact assessments, and data security. The legal framework thus enables the management of certain risks associated with AI usage, even in the absence of specific, dedicated legislation.

However, as is the case in Senegal, the incorporation of relevant principles remains largely indirect. The texts analyzed place greater emphasis on general digital inclusion and the protection of fundamental rights than on specific mechanisms designed to prevent algorithmic discrimination or promote inclusive AI governance.

Finally, the absence of an institution specifically dedicated to AI regulation or governance represents a major limitation of the current institutional framework.

Table 4: Summary of Côte d'Ivoire's policy, legal, and institutional framework regarding AI and the digital sector

Dimension	Existing instruments/ institutions	Key contributions to AI	Level of integration of GEDI principles
Policy framework	- National Artificial Intelligence Development Strategy 2030 - National Data Governance Strategy 2030 - National Digital Development Strategy 2021–2025 - National Cybersecurity Strategy 2021–2025	- National AI vision; - promotion of inclusive, ethical, and responsible AI; - development of human capital and skills; - digital and data infrastructure; - digital sovereignty; - data governance; - sectoral integration of AI; - AI transparency and governance; - bridging the digital divide	High: the AI strategy explicitly incorporates concepts of inclusion, ethics, responsibility, training, transparent governance, and the protection of individuals. However, gender issues are not addressed through clearly identified specific measures.
Legal framework	- Law on the Information Society (2017) - Law on the Protection of Personal Data (2013) - Law on Electronic Transactions (2013) - Law on Combating Cybercrime (2013) - Law on Copyright and Related Rights (2016)	- Regulation of personal data processing; - protection of fundamental rights and privacy; - securing electronic communications; - combating cybercrime; - protection of intellectual property; - promotion of an inclusive and secure information society.	Moderate: the legal framework protects fundamental rights, privacy, and equal access to digital technology. However, it does not yet include specific provisions regarding algorithmic transparency, algorithmic non-discrimination, or liability for AI systems.
Institutional framework	- Telecommunications Regulatory Authority of Côte d'Ivoire (ARTCI) - National Agency for Information Systems Security (ANSSI)	- Personal data regulation; - supervision of the digital sector; - cybersecurity and protection of critical infrastructure.	Moderate: The strategy provides for the creation of institutions dedicated to AI and incorporates responsible governance objectives. However, these structures are not yet operational, and no specialized body currently oversees AI.



Côte d'Ivoire stands out as having developed the most comprehensive strategic framework for artificial intelligence among the countries studied. The National Artificial Intelligence Development Strategy 2030 explicitly anchors AI in the principles of inclusion, ethics, responsibility, and digital sovereignty. These guiding principles are reinforced by the simultaneous adoption of a National Data Governance Strategy 2030, which serves as a vital foundation for AI system development.

Commitment to GEDI principles appears generally stronger here than in the other countries analyzed. The strategy places particular emphasis on social inclusion, bridging the digital divide, skills development, and individual protection. However, gender and diversity dimensions have not yet been translated into specific mechanisms or indicators.

From a legal standpoint, Côte d'Ivoire possesses a relatively comprehensive regulatory framework covering the information society, personal data protection, electronic transactions, cybercrime, and intellectual property. However, this framework remains largely general in nature and does not yet include provisions specifically dedicated to artificial intelligence.

Finally, at the institutional level, Côte d'Ivoire relies primarily on the ARTCI for digital regulation and personal data protection, and on the ANSSI for cybersecurity and information system protection. Copyright and related rights fall under the purview of the Ivorian Copyright Office (BURIDA). These institutions help oversee various AI-related issues, notably data protection, digital security, and intellectual property. However, no specialized body is currently tasked with the governance or regulation of artificial intelligence. The National AI Strategy 2030 nevertheless provides for the creation of the National Artificial Intelligence Institute (INIA) and a future dedicated regulatory authority.



BURKINA FASO

Table 5: Summary of Burkina Faso's policy, legal, and institutional framework regarding AI and the digital sector

Dimension	Existing instruments/ institutions	Key contributions to AI	Level of integration of GEDI principles
Policy framework	- National Digital Economy Development Strategy 2018–2027 - National Cybersecurity Strategy 2019–2023 - Cybercrime Combating Strategy 2025–2029	- Development of digital infrastructure; - Data governance; - Human capital development; - Promotion of innovation and entrepreneurship; - Legal and ethical framework for AI; - Digital trust and cybersecurity; - International cooperation	Medium to high: the digital strategy explicitly incorporates the principles of inclusion, gender equality, cultural diversity, and digital trust. However, these principles have not yet been translated into a formally adopted AI strategy.
Legal framework	- Law No. 001-2021/AN on the protection of individuals with regard to the processing of personal data - Law No. 014-2024/ALT on information systems security - Book VII of the Penal Code relating to cybercrime - Law No. 048-2019/AN on the protection of literary and artistic property	- Personal data protection; - Regulation of automated processing; - Explicit consideration of certain AI-based processing operations; - Cybersecurity and incident management; - Combating cybercrime; - Protection of intellectual property and copyright.	High: Burkina Faso is the only country studied whose legislation on personal data explicitly refers to processing based on artificial intelligence and the right to information regarding this processing. However, no specific regulation of AI yet exists.
Institutional framework	- Commission on Informatics and Liberties (CIL) - National Agency for Information Systems Security (ANSSI-BF) - Burkinabe Copyright Office (BBDA)	- Personal data regulation; - Cybersecurity and protection of digital infrastructure; - Cyber incident management; - Protection of copyright and related rights	Low to moderate: existing institutions cover issues related to personal data, cybersecurity, and intellectual property, but no structure is specifically dedicated to the governance or regulation of artificial intelligence.

Burkina Faso stands out for its relatively mature digital framework, despite the current absence of an adopted national strategy for artificial intelligence and data. However, work underway to develop an AI strategy demonstrates a political will to gradually regulate AI through an approach combining innovation, data governance, ethics, and skills development. Furthermore, an AI ecosystem is emerging, driven by private - sector players such as the “Maison de l'Intelligence Artificielle” (MIA) (House of Artificial Intelligence) - a hub for learning, innovation, and co-creation.

At the policy level, the national strategy for digital economy development serves as a key foundation for the future integration of AI. It is notable for explicitly incorporating principles of inclusion, gender equality, cultural diversity, and digital trust, reflecting a stronger commitment to GEDI principles than is seen in several other countries covered by the study.

The legal framework appears particularly advanced regarding personal data protection. The 2021 law expressly mandates enhanced oversight of AI-based predictive processing and recognizes a right to information regarding AI-driven processing activities. This approach represents a distinctive feature within the West African region.

The country has also strengthened its cybersecurity measures by adopting a specific law on information system security in 2024, alongside a new strategy to combat cybercrime for the 2025–2029 period. These instruments help prepare for the regulation of future risks associated with AI technologies, particularly regarding security, digital sovereignty, and infrastructure resilience.

Finally, at the institutional level, the CIL, ANSSI-BF, and BBDA are responsible for personal data protection, cybersecurity, and copyright protection, respectively. However, as is the case in other countries, no specialized authority is currently responsible for the governance or regulation of artificial intelligence.

5. Identification of convergences and divergences between the frameworks of the four countries

An analysis of the policy, legal, and institutional frameworks regarding artificial intelligence (AI) in the four countries studied reveals a progressive trend of AI adoption in West Africa, albeit with varying levels of advancement. All the states now recognize AI as a strategic driver of economic transformation, administrative modernization, innovation, and digital sovereignty. However, the approaches adopted differ depending on the level of maturity of their digital policies, regulatory frameworks, and institutional structures.

5.1 On the policy framework

Senegal, Benin, and Côte d'Ivoire now have specific national AI strategies, reflecting a clear political commitment to regulating and fostering AI development. Senegal is pursuing an integrated approach centered on innovation, digital sovereignty, and «trustworthy AI,» while Benin is prioritizing the gradual development of its AI and big data ecosystem. Côte d'Ivoire is adopting a more ambitious and structured approach - grounded in inclusion, ethics, governance, and strategic investment - with plans to establish a national AI regulatory authority and a national AI institute.

In contrast, Burkina Faso does not yet have a finalized national AI strategy, although work is underway to develop a roadmap covering the 2026–2028 period. Nevertheless, the country is already incorporating principles of inclusion, gender equality, technological neutrality, and ethics into its national digital development strategy.

Table 6: Comparative table of national AI strategies and policies

countries	AI Strategy	Horizon	Main vision	Priority sectors	GEDI integration level
Senegal	National AI Strategy	2024-2028	Ethical and trustworthy AI for development	Administration, innovation, digital economy	Low to moderate
Benin	SNIAM	2023-2027	IA comme levier de croissance sectorielle	Santé, agriculture, éducation, sécurité	Low
Côte d'Ivoire	National AI Strategy	2030	Inclusive, ethical, and responsible AI	Agriculture, health, education, public services	Moderate
Burkina Faso	NA	NA	NA	NA	NA

5.2 On the legal framework

From a legal standpoint, the four states possess relatively advanced frameworks regarding personal data protection, cybersecurity, cybercrime, and electronic transactions. These measures constitute the primary legal foundations available for regulating AI systems. Senegal and Côte d'Ivoire rely mainly on sectoral laws adopted in 2008 and 2013, whereas Benin has opted for an integrated Digital Code. Burkina Faso stands out due to the recent modernization of its data protection framework and the explicit inclusion of AI-based processing in its 2021 legislation.

However, despite these advances, none of the four countries yet possesses comprehensive, specific legislation governing AI systems—particularly regarding algorithmic transparency, system auditing, algorithmic accountability, or the management of discriminatory bias. Ethical governance mechanisms remain in their infancy, and institutional capacity is limited in the face of emerging risks associated with generative AI, automated profiling, and potential infringements of fundamental rights.

Table 7: Comparative table of legal frameworks applicable to AI

Legal information	Senegal	Benin	Côte d'Ivoire	Burkina Faso
Data protection law	Yes	Yes	Yes	Yes
Data protection authority	CDP	APDP	ARTCI	CIL
Cybercrime law	Yes	Yes	Yes	Yes
Electronic transactions	Yes	Yes	Yes	Yes
Regulation of algorithmic bias	No	NO	NO	NO
Algorithmic transparency	NO	NO	NO	Yes
AI-specific regulation	No	No	NO	No
Digital intellectual property protection	Yes	Yes	Yes	Yesi

5.3 On the institutional framework

An analysis of institutional frameworks reveals that, at this stage, none of the four countries studied possesses a fully operational authority specifically dedicated to artificial intelligence governance.

In Senegal, the governance of AI-related issues relies primarily on institutions already responsible for digital affairs, data protection, and cybersecurity - notably the Data Protection Commission and the Directorate General for Encryption and Information Systems Security. Despite the adoption of a national

AI strategy, no specialized body has yet been established.

In Benin, the institutional oversight of AI is also handled indirectly by existing bodies, primarily the Personal Data Protection Authority and the Agency for Information Systems and Digital Technology. The national AI strategy does not yet provide for an autonomous authority specifically dedicated to AI governance.

Côte d'Ivoire is the most advanced country regarding institutional planning for AI; its national AI strategy includes the creation of a National Artificial Intelligence Institute. However, this entity remains at the proposal stage and is not yet operational.

Finally, in Burkina Faso, the absence of an AI-specific authority is even more pronounced, as the national AI strategy itself is still under development. Current governance relies essentially on the Commission on Informatics and Liberties and the National Agency for Information Systems Security.

Overall, this situation demonstrates that institutional governance of AI in the countries studied remains largely integrated into conventional structures for digital affairs, cybersecurity, and personal data protection. It also highlights a growing need for specialized institutional mechanisms capable of ensuring specific coordination, oversight, and regulation of artificial intelligence systems.

Table 8: Comparative table of institutional and governance frameworks

Institutional elements	Senegal	Benin	Côte d'Ivoire	Burkina Faso
Data Protection Authority	Data Protection Commission (CDP)	Personal Data Protection Authority (APDP)	Telecommunications/ ICT Regulatory Authority of Côte d'Ivoire (ARTCI)	Commission on Informatics and Liberties (CIL)
Cybersecurity agency/ structure	General Directorate for Figures and Information Systems Security (DGCSSI)dss	Information Systems and Digital Agency (ASIN)	National Agency for Information Systems Security (ANSSI)	National Information Systems Security Agency (ANSSI-BF)
Copyright organization	Senegalese Society of Copyright and Neighboring Rights (SODAV)	Beninese Office of Copyright and Neighboring Rights (BUBEDRA)	Ivorian Copyright Office (BURIDA)	Burkinabè Copyright Office (BBDA)
Institution specifically dedicated to AI	No	No	No	No

5.4 Summary conclusion

An analysis of the policy, legal, and institutional frameworks in Senegal, Benin, Côte d'Ivoire, and Burkina Faso reveals a broad regional trend toward the gradual adoption of artificial intelligence and digital transformation. All four countries now recognize the strategic importance of AI, particularly as a driver for modernizing public services, fostering economic growth, and ensuring digital sovereignty.

However, progress remains uneven. Senegal, Benin, and Côte d'Ivoire have already adopted or are currently implementing national AI strategies, whereas Burkina Faso is still in the design phase. While Benin has chosen to incorporate data-related aspects into its digital strategy, Senegal and Côte d'Ivoire have developed separate data strategies that are intended to complement their AI strategies. From a legal standpoint, these nations rely primarily on existing digital frameworks - covering data protection, cybersecurity, cybercrime, and electronic transactions - which provide a solid foundation but are insufficient to fully address the specific challenges posed by AI, particularly regarding algorithmic transparency, liability, and risk management.

At the institutional level, governance relies mainly on data protection authorities and digital agencies; none of the countries studied has yet established a fully operational authority dedicated specifically to artificial intelligence. This situation limits the capacity for specialized regulation in the face of emerging challenges associated with AI systems.

Finally, the analysis reveals that the principles of gender, equality, diversity, and inclusion (GEDI) are still not sufficiently taken into account. Although some frameworks incorporate principles of inclusion and the reduction of the digital divide, their operational implementation remains limited, particularly regarding women, rural populations, and vulnerable groups. The absence of monitoring indicators, gender-responsive budgeting mechanisms, and assessment tools reinforces this conclusion.

Thus, while solid foundations for digital governance exist, the effective integration of an ethical, inclusive, and fundamental-rights-centered artificial intelligence framework remains a work in progress. It is therefore essential to strengthen the harmonization of regulatory frameworks, consolidate institutional capacities, and operationalize GEDI principles to ensure truly inclusive and equitable AI development in West Africa.

III. COMPARATIVE ANALYSIS OF THE POLICY AND LEGAL FRAMEWORKS OF THE FOUR TARGET COUNTRIES AND KENYA

1. Level of compliance with international, continental, and regional frameworks (UNESCO-OECD-AU-ECOWAS)

1.1 Degree of alignment of policies and regulations with international normative instruments on AI

1.1.1 Overview of international normative instruments

a. UNESCO Recommendation on the Ethics of AI

By adopting the Recommendation on the Ethics of Artificial Intelligence in 2021, UNESCO provided the international community with its first global normative instrument in this field. This text serves as both an ethical guide and a normative reference framework, aiming to protect and promote human rights and human dignity.

The Recommendation pursues a dual objective:

- To establish a universal reference enabling AI systems to serve humanity, individuals, societies, the environment, and ecosystems;
- To prevent harm and foster the peaceful use of AI.
- More specifically, the Recommendation aims to:
- Provide States with a universal framework of values, principles, and actions to guide the development of their legislation, policies, and instruments regarding AI, in accordance with international law;
- Protect, promote, and respect human rights and fundamental freedoms, human dignity, and equity - including gender equality - as well as the interests of present and future generations.

All actors in the AI lifecycle are required to uphold the following fundamental values:

- Respect for, protection of, and promotion of human rights, fundamental freedoms, and human dignity;
- Ensuring diversity and inclusion.

The Recommendation sets out ten ethical principles, including:

- **Proportionality and safety:** The use of an AI system must be justified, proportionate to the objective pursued, and scientifically grounded. In the event of serious risk, the final decision must rest with a human.
- **Fairness and non-discrimination:** The benefits of AI must be accessible to all, including vulnerable groups, in order to promote social justice at national, regional, and international levels.
- **Privacy and data protection:** Privacy must be protected throughout the AI system lifecycle through appropriate legal, organizational, and procedural frameworks, including ethical and societal impact assessments.
- **Responsibility and accountability:** AI actors and States bear an ethical and legal responsibility to respect human rights and protect the environment, supported by adequate monitoring, evaluation, and oversight mechanisms.
- **Multi-stakeholder and adaptive governance:** States must regulate data generated within their territory in accordance with international law to protect human rights, particularly privacy.

The Recommendation identifies eleven strategic areas for the implementation of its values and principles, including ethical impact assessments, ethical governance and management, data policies, gender equality, education, and research. Regarding gender equality, States are called upon to integrate a gender perspective into their digital policies, support women's participation in scientific and technological fields, prevent bias and stereotypes in AI systems, and promote women's presence in AI-related research, entrepreneurship, and decision-making roles.

a. The 2024 United Nations Resolution on AI and Sustainable Development

In 2024, the United Nations adopted a resolution titled "Seizing the opportunities of safe, secure and trustworthy artificial intelligence systems for sustainable development."

This text reaffirms that the development and use of AI must:

- Respect human rights and contribute to sustainable development;
- Ensure equitable access to digital technologies, particularly for developing countries and vulnerable groups;
- Bridge the digital divide - including the gender digital divide - by enhancing access, digital skills, and online security;
- Integrate gender and racial equality dimensions into public policies and AI governance frameworks;
- Prevent algorithmic bias and discrimination, and adopt inclusive governance frameworks that ensure equality, non-discrimination, and equitable participation for all.

b. The OECD AI Principles (2019, updated in 2024)

Adopted in 2019 and updated in 2024, the OECD AI Principles aim to guide stakeholders in the development of trustworthy AI and to inform policymakers in the formulation of effective policies.

These principles are as follows:

- Inclusive growth and sustainable development;
- Human rights and democratic values, including fairness, privacy, non-discrimination, equality, freedom, dignity, and individual autonomy;
- Transparency and answerability;
- Robustness, security, and safety;
- Accountability.

The OECD has issued recommendations to policymakers, particularly regarding the need to invest in research and development and to establish an inclusive system and an interoperable governance environment.

1.1.2 Analysis of the alignment of the national AI strategies of Senegal, Benin, and Côte d'Ivoire

Overall, the national AI strategies of Senegal, Benin, and Côte d'Ivoire demonstrate a satisfactory level of alignment with the aforementioned international instruments. However, this alignment remains partial, and gaps persist regarding the requirements set out in these texts.

a. Points of alignment with international benchmarks

The three national strategies share several points of convergence with international frameworks.

In the case of Senegal, the SNIA - specifically its fourth strategic direction, dedicated to «AI with confidence» - faithfully reflects several values set out in the UNESCO Recommendation, notably lawfulness, fairness, non-discrimination, transparency, precaution, accountability, and sustainability. Strategic direction No. 3, concerning the regional hub, aligns with UNESCO's multilateral vision of fostering greater collective mastery of AI technologies by States. International cooperation is also a pillar of the strategy.

The five OECD principles are explicitly cited in the strategy as reference texts, demonstrating a commitment to grounding the strategy in international standards.

As for Benin, the SNIAM aligns with international recommendations, particularly regarding respect for human life, privacy protection, accountability, and sustainability. Strategic objective No. 4, focusing on ethics and accountability, highlights the importance of human dignity and privacy; it also provides for concrete mechanisms for algorithmic accountability through the adoption of a legal instrument that will formalize and institute impact assessments and oversight for AI solutions throughout their lifecycle.

The strategy shows strong alignment with the first OECD principle, given its resolute focus on sustainable development. In the case of Côte d'Ivoire, the SNIA stands out for its particular emphasis on social inclusion and equity, explicitly addressing rural areas, women, youth, and marginalized populations.

It incorporates algorithmic audits and prohibits authoritarian uses of AI, demonstrating a genuine commitment to the principle of proportionality. To this end, the strategy outlines the establishment of a dedicated AI legal framework that classifies AI systems by risk level and mandates transparency obligations. Plans are also in place to develop ethical principles that address equity and algorithmic transparency.

Regarding responsibility and accountability, the strategy provides for the creation of a national AI authority responsible for oversight.

In line with the OECD's principle of inclusive growth, the SNIA includes a dedicated inclusion pillar and sector-specific applications in agriculture, education, and health. A specific component is also devoted to international cooperation.

a. Shortcomings of AI strategies regarding international instruments

Despite this overall alignment, shortcomings have been identified in each of the three strategies that diminish their compliance with the requirements of international frameworks.

Regarding Senegal, it must be noted that the protection of personal data—specifically «by design» within AI—is not sufficiently addressed in the strategy. This issue, a fundamental requirement of the UNESCO Recommendation, is deferred in the strategy to future work on cybersecurity. Furthermore, algorithmic governance is underdeveloped. Audits of AI systems and obligations regarding impact assessments are envisaged only for certain as-yet-unidentified AI applications, which contradicts OECD principles. The strategy is silent on individual avenues of redress for persons harmed by algorithmic decisions, though it does mention the possibility of establishing collective redress mechanisms for damages of this nature.

For Benin, a major shortcoming regarding international instruments is the failure to account for the gender dimension and inclusion issues. Moreover, while algorithmic transparency is mentioned, it is not operationalized. There is no mention of a registry of deployed AI systems, nor is there a mechanism for auditing algorithmic bias, as recommended by the OECD.

Regarding Côte d'Ivoire's SNIA, the identified shortcomings relate to the insufficient treatment of system robustness and post-deployment monitoring. These two elements are only briefly touched upon in the

strategy, despite being key recommendations of UNESCO and the OECD. The former recommends establishing a protocol for assessing systemic risks, while the latter mandates monitoring throughout the AI lifecycle.

1.2 Level of policy and regulatory compliance with continental instruments

1.2.1 AI Strategic Framework Developed by the AU

For over a decade, the African Union has pursued a growth trajectory in which digital technology serves as a key driver of economic and social development across the continent. Consequently, several strategic documents have been developed to establish a policy framework that inspires and guides all African nations.

a. Agenda 2063 – «The Africa We Want» serves as the cornerstone

Agenda 2063 is the long-term development strategy adopted in 2013. It outlines a vision for Africa's development, aspiring notably to a prosperous continent built on inclusive growth and sustainable development. To this end, the strategy places significant emphasis on digital technology, particularly regarding the development of human capital. In terms of inclusive growth, it targets investments in science, technology, research, and innovation, as well as gender equality and youth empowerment, among other objectives. It also envisions a modern, productive agricultural sector driven by science, technology, innovation, and local knowledge.

b. Strategy for Gender Equality and Women's Empowerment (GEWE)

Adopted for the 2018–2028 period and aligned with Agenda 2063, this strategy aims to mitigate - or even eliminate - the major obstacles hindering gender equality and women's empowerment. Under its first pillar, the strategy encourages the adoption of technological solutions and platforms that advance gender equality and women's empowerment.

a. Digital Transformation Strategy for Africa (2020–2030)

Its objective is to harness digital technologies and innovation - including AI - to transform African societies and economies, thereby promoting African integration, generating inclusive economic growth, bridging the digital divide, and eradicating poverty. Through this strategy, the AU calls on Member States to explore ways to leverage emerging technologies to facilitate digital transformation, while establishing legal frameworks to protect users and society as a whole.

b. African Union Digital Agriculture Strategy

This strategy establishes a framework for the digital transformation of African agriculture for the 2024–2030 period, building upon the goals and priority areas defined in Agenda 2063. Through this strategy, the Union aims to ensure that cross-cutting issues - such as gender equality, climate resilience, youth employment, and rural financial inclusion - are consistently promoted and upheld. The strategy also seeks to prevent and mitigate digital divides between regions, businesses, and population groups. Regarding AI, Goal D.2 provides for the promotion of cutting-edge smart technologies, such as artificial intelligence, blockchain, IoT, machine learning, and big data.

c. Continental Education Strategy for Africa (2026–2035)

Initially adopted for the 2016–2025 period, this strategy has recently been updated to cover the 2026–2035 period, with a greater focus on integrating digital and emerging technologies, particularly AI. The AU views these technologies as essential drivers for improving access to education, enhancing the quality of learning, and preparing young people for the jobs of the future. The strategy encourages investment in 21st-century and labor market skills, including those related to ICT and AI. Aligned with GEDI principles, it promotes the inclusion of displaced persons and people with disabilities, while advocating for inclusive education and equity-focused approaches. Indeed, strategic area No. 6 is dedicated exclusively to issues of gender, equity, and inclusion.

a. Data Strategic Framework

The AU Data Strategic Framework aims to establish harmonized, secure, and inclusive data governance as the foundation for the development of artificial intelligence (AI) on the continent.

This framework recognizes that data is an essential resource for developing high-performing and relevant AI systems. In this regard, it emphasizes the need for data that is of high quality, accessible, and representative of African realities.

With a focus on inclusion, the framework highlights the importance of:

- ensuring equitable population representation in datasets to minimize algorithmic bias;
- promoting the integration of local languages and cultural contexts to ensure the relevance of AI solutions;
- strengthening personal data protection, particularly for vulnerable groups;
- facilitating equitable access to data and digital infrastructure to reduce inequalities between countries and within populations.

The Union also urges States to ensure that the framework's implementation is inclusive and equitable, that it offers opportunities and benefits to all Africans, and that it seeks to redress national and global inequalities by taking into account the voices of those marginalized by technological developments.

a. Continental Strategy on Artificial Intelligence

This strategy builds upon Agenda 2063 and the Digital Transformation Strategy for Africa, which place the digital sector at the heart of the continent's development. It aims to harness responsible and ethical AI as a tool for inclusive growth and improved living conditions. Its mission is to leverage AI to accelerate social and economic transformation, inclusive growth, and the promotion of Africa's cultural renaissance; to minimize the risks AI poses to African populations and countries; and to accelerate the development of necessary AI capabilities within Member States.

The strategy is based on guiding principles that incorporate GEDI principles, including:

- **Inclusion and diversity:** the production, development, use, and evaluation of AI in Africa will be inclusive and non-discriminatory, leaving no one and no place behind, and will benefit everyone while respecting the diversity of African peoples, cultures, languages, gender dimensions, and nations. AI will not be subject to discrimination based on sex, gender, race, ethnic origin, pregnancy status, economic situation, age, any form of disability, language, religion, political opinion, or any other ground envisaged in regional and international human rights frameworks.
- **Human rights:** The production, development, use, and evaluation of AI systems in Africa will always respect human dignity, gender equality, and all human rights set out in the African Charter on Human and Peoples' Rights.

Regarding the objectives pursued, the strategy aims in particular to:

- «Implement robust AI governance, regulation, standards, codes of conduct, and best practices to manage AI-related risks and promote its growth»;
- «Accelerate the integration of AI into key sectors outlined in the digital transformation strategy, particularly sectors with high social and economic value, including agriculture and education»;
- «Adopt and implement ethical principles for AI that respect human rights, gender equality, and the dignity of Africans, as well as African diversity, inclusion, culture, and values.»

1.2.2 Alignment of national strategies with the continental strategy

Analyzing the alignment of national strategies with the African Union's continental strategy is essential for ensuring coherence and continental integration. Given the rapid transformations driven by artificial intelligence, digitalization, and the skills demands of the 21st century, it is crucial for states to align their national policies with the guidelines set by the AU. Such alignment not only fosters the harmonization of educational and technological standards but also ensures the inclusion of all social groups - particularly

women, girls, marginalized populations, and persons with disabilities. Consequently, this analysis aims to assess the extent to which national strategies reflect the principles of gender, equality, inclusion, and diversity promoted by the continental strategy, and to identify gaps and best practices that could strengthen the harmonized implementation of the African vision.

The table below outlines the level of alignment of our target countries with the vision and recommendations set forth in the continental strategy on AI, specifically regarding issues of gender, equality, diversity, and inclusion.

Table 9: Level of alignment of target countries with the continental AI strategy

	SENEGAL	COTE D'IVOIRE	BENIN	BURKINA
Develop national AI strategies	✓	✓	✓	✗
Prioritize the development of a national AI talent pool	✓	✓	✗	✗
Set AI as a national priority	✓		✓	✗
Develop innovative and flexible regulatory instruments and frameworks to address safety and security challenges associated with AI systems.	✓	✓	✓	✗
Ensure that the adoption and development of AI in Africa are inclusive, benefit everyone—particularly women and girls—and respect the continent's rich cultural and linguistic diversity.	✗	✓	✗	✗
Develop AI technologies for the benefit of vulnerable individuals and communities.	✗	✓	✗	✗
Formulate policies and regulatory measures aimed at reducing gender, socio-economic, and rural-urban disparities.	✗	✓	✗	✗
Guarantee equity, justice, and equal opportunities for all African citizens regarding the development and adoption of AI systems.	✗	✓	✓	✗
Promote the use of AI to preserve African cultural heritage and indigenous languages.	✗	✓	✗	✗

An analysis of the alignment between national strategies and the continental strategy reveals that the implementation of mechanisms enabling target countries to comply with African Union (AU) recommendations remains limited. In particular, aspects relating to gender, equality, cultural and linguistic diversity, and the inclusion of vulnerable communities are not sufficiently addressed.

This results in a significant gap between the ambitions stated at the continental level and their translation into national policies, particularly regarding GEDI issues. This low level of alignment is largely due to timing: some countries, such as Senegal and Benin, developed their strategies before the continental strategy was formally adopted.

Conversely, the case of Côte d'Ivoire - which shows a relatively higher level of alignment - can be attributed to the fact that its strategy was developed after the AU's, thereby allowing for better integration of continental guidelines.

Below, we present a detailed country-by-country analysis of the alignment of national AI strategies with the continental strategy.

a. Senegal's level of alignment

	INCORPORATION OF THE RECOMMENDATION	COMMENTS
Develop national AI strategies	✓	Adoption of a national strategy in 2024
Prioritize the development of a national AI talent pool	✓	The strategy plans to train nearly 90,000 Senegalese individuals in Data Science (DS) and AI by 2028, with 20%—or 18,000 people—receiving training at the DUT, Licence, BTS, DiSEP, Master's, or engineering level in these fields;
Set AI as a national priority	✓	Stated in the preamble
Develop innovative and flexible regulatory instruments and frameworks to address safety and security challenges associated with AI systems	✓	Addressed in Specific Objective 4
Ensure that the adoption and development of AI in Africa are inclusive, benefit everyone—particularly women and girls—and respect the continent's rich cultural and linguistic diversity	✗	The strategy incorporates inclusion and diversity in a broad sense but does not include actions specifically targeting women, girls, culture, or languages.
Develop AI technologies for the benefit of vulnerable people and communities	✗	Not taken into account
Formulate policies and regulatory measures aimed at reducing gender, socio-economic, and rural-urban disparities	✗	Symbolic integration without concrete actions
Ensure equity, justice, and equal opportunities for all African citizens in the development and adoption of AI systems		Symbolic integration without concrete actions
Promote the use of AI to preserve African cultural heritage and indigenous languages		Symbolic integration without concrete actions

a. Level of alignment of Côte d'Ivoire

	INCORPORATION OF THE RECOMMENDATION	COMMENTs
Develop national AI strategies	✓	Adopted strategy
Prioritize the development of a national AI talent pool	✓	Included in the investment pillars
Set AI as a national priority	✗	No explicit mention of AI as a national priority
Develop innovative and flexible regulatory instruments and frameworks to address safety and security challenges associated with AI systems	✓	Included in Pillar 3 (governance)
Ensure that the adoption and development of AI in Africa are inclusive, benefit everyone—particularly women and girls—and respect the continent's rich cultural and linguistic diversity	✓	Included in the guiding principles and the investment and inclusion pillars
Develop AI technologies for the benefit of vulnerable people and communities	✓	Included in the guiding principles, the inclusion pillar, and the mandate of the governance body (ANIA)
Formulate policies and regulatory measures aimed at reducing gender, socio-economic, and rural-urban disparities	✓	Included in the investment and inclusion pillars
Ensure equity, justice, and equal opportunities for all African citizens in the development and adoption of AI systems.	✓	Included in the guiding principles and the investment and governance pillar set governance,
Promote the use of AI to preserve African cultural heritage and indigenous languages	✓	Reiterated in the strategy's mission, included in the guiding principles and the inclusion pillar—with a specific focus dedicated to arts and culture

a. Benin's level of alignment

	INCORPORATION OF THE RECOMMENDATION	COMMENTS
Develop national AI strategies	✓	Adopted strategy
Prioritize the development of a national AI talent pool	✗	Strategic Objective 2 provides for strengthening human capital without specifically mentioning the measures to be implemented to develop domestic talent
Set AI as a national priority	✓	Stated implicitly in the introduction
Develop innovative and flexible regulatory instruments and frameworks to address AI system safety and security challenges	✓	Addressed in Strategic Objective 4
Ensure that AI adoption and development in Africa are inclusive, benefit everyone—particularly women and girls—and respect the continent's rich cultural and linguistic diversity	✗	Not addressed
Develop AI technologies for the benefit of vulnerable people and communities	✗	Not addressed
Formulate policies and regulatory measures aimed at reducing gender, socio-economic, and rural-urban disparities	✗	Not addressed
Ensure equity, justice, and equal opportunities for all African citizens in the development and adoption of AI systems	✓	Addressed in Action 4.1
Promote the use of AI to preserve African cultural heritage and indigenous languages	✗	Not addressed

2. Level of integration of GEDI principles into policy and regulatory frameworks

2.1 Recognition of GEDI principles in strategies

The analysis of the level of integration of GEDI principles into national artificial intelligence strategies begins by examining their explicit recognition within strategic documents. This step makes it possible to assess the extent to which issues of equality, diversity, and inclusion are taken into account when formulating public policy on artificial intelligence.

An analysis of policy frameworks - specifically national AI strategies -reveals that GEDI principles are only partially recognized in the drafting of these documents.

In Senegal, the strategic document outlines - right from the preamble - its ambition to ensure inclusive and sustainable growth through the defined roadmap. The country affirms its commitment to promoting the research, development, and application of AI solutions that are inclusive, equitable, and beneficial to all. Senegal also acknowledges the vital role of AI in digital inclusion and highlights the risks of discrimination arising from bias in AI systems. Furthermore, the essential role and stated commitment of working groups to broadly integrate inclusion into the strategy's formulation were noted.

Regarding gender, it is worth noting the limited - or even absent-recognition of this principle in the document. Indeed, the concept of «gender» appears only in the introductory section, specifically when presenting ongoing projects initiated by certain organizations. The concept of «gender» is not explicitly mentioned in the body of the strategy, nor is the concept of «equality,» which appears in only a single paragraph of the document. However, the potential impact on gender equality - should AI systems be poorly designed or trained on biased data - was briefly addressed.

Regarding diversity, the significant emphasis placed on young people, including young women, is noteworthy. Furthermore, the very vision of the strategy centers on youth creativity. It also acknowledges the barriers to the inclusion of rural populations, as well as the opportunities AI can offer them - particularly regarding field-based training. However, it is worth noting a complete failure to consider certain vulnerable groups, such as people with disabilities or linguistic and ethnic minorities.

In the case of Côte d'Ivoire, the national AI strategy sets out its ambition - right from the introductory phase - to build a robust and inclusive technological ecosystem. This is reflected in the vision statement: «to make inclusive, ethical, and responsible AI the accelerator of digital transformation for a united and prosperous Côte d'Ivoire by 2030.» This inclusive vision is underpinned by the strategy's mission: «to foster an inclusive technological, economic, and social transformation.» The country recognizes AI as a strategic lever for addressing national challenges, particularly regarding equitable access to efficient public services in sectors such as health, education, and transport. Furthermore, inclusion is a key principle upon which the strategy is built. It entails promoting AI that reduces social, geographic, and economic inequalities by fostering equitable access to digital technologies for all citizens - especially women, youth, and vulnerable populations. Finally, an entire pillar is dedicated to inclusion in all its dimensions, highlighting the crucial role this principle plays in the strategy's roadmap. The strategy addresses the specific needs of rural areas and incorporates the expectations of youth, women, and marginalized or vulnerable groups by outlining measures to reduce inequality and discrimination and to combat algorithmic bias.

In Benin, the national AI and big data strategy recognizes the need to involve all stakeholders - government, the private sector, and users - in the strategy's design, implementation, and monitoring and evaluation. Moreover, regarding its strategic objective concerning human capital, the strategy aims to raise awareness about digital technology and AI among all ecosystem stakeholders (public and private sectors, civil society, and users). Linguistic considerations are also factored into the use cases. However, unlike in Senegal and Côte d'Ivoire, the concept of “inclusion” is entirely absent from the development of the document. Furthermore, the document does not appear to explicitly incorporate vulnerable groups - such as youth, women and girls, the elderly, and persons with disabilities, as well as rural populations - into its approach to diversity.

Regarding gender and equality issues, a notable initial observation is the complete absence of any mention of terms such as «gender,» «women,» «discrimination,» or «bias» throughout the strategic document. The same applies to the concepts of «equality» and «equity,» which appear only in the section outlining existing sectoral strategies.

This highlights a significant failure to incorporate or acknowledge GEDI principles during the formulation of the strategic document.

As for Burkina Faso, the country does not yet have an artificial intelligence strategy, making it impossible to analyze the extent to which GEDI principles have been integrated. However, the dimension of inclusion is addressed in its digital development strategy.

Discussing artificial intelligence inevitably entails addressing data-related issues. Recognizing these stakes, countries have developed parallel strategies for data management that also incorporate GEDI principles. For instance, Côte d'Ivoire aims to achieve inclusive and sustainable growth through effective

data management, while also prohibiting the discriminatory or unfair use of data. Senegal follows a similar approach, seeking to «make data a driver of socio-economic growth, inclusivity, innovation, and international openness by 2028.» The country also dedicates a specific strategic pillar to inclusive growth. Benin, meanwhile, has opted to combine its AI and data management strategies.

Ultimately, it is evident that the target countries vary in the extent to which they acknowledge GEDI principles when formulating their strategies. Côte d'Ivoire appears to be the leader, particularly regarding inclusion in its broadest sense. Conversely, principles related to gender and equality seem to be completely overlooked by the other countries. As recognition is insufficient to assess the level of integration of GEDI principles, it is necessary to examine their level of operational integration.

2.2 Operational integration of GEDI principles into policy frameworks

Operational integration refers to the extent to which GEDI principles are incorporated into the programs and action plans outlined in the strategies.

Senegal implements its roadmap through four strategic directions that appear to partially incorporate GEDI principles at an operational level. Regarding human capital, the first strategic objective aims to strengthen and scale up skills in data science and AI - particularly among young women - by aligning training programs with the SDGs and inclusivity. The proposed quantitative target is to train nearly 90,000 Senegalese citizens in data science and AI, and 1 million people in data-related skills, by 2028. This ambitious goal encompasses professions across all socio-economic sectors (crafts, industry, commerce, services, etc.) and promotes a multidisciplinary approach (involving public decision-makers, regulatory authorities, teachers, trainers, social leaders, civil society organizations, chambers of commerce, professional associations, informal sector actors, youth organizations, etc.). To achieve this, planned actions include - in collaboration with the AI ecosystem - the development of a tool to measure development indicators, such as poverty metrics. Action 4.1 entails categorizing different types of AI based on their potential risks to human rights or societal well-being. However, it should be noted that the actions defined in the strategy do not, on the whole, explicitly incorporate GEDI principles.

In the case of Benin, an analysis of the programs and actions reveals that GEDI principles are not taken into account during the implementation of the four strategic directions, regarding either human capital or specific use cases. Côte d'Ivoire appears to stand out regarding the operational integration of GEDI principles. Under the investment pillar, measures are planned to support career transitions, specifically by assisting workers with retraining. Regarding infrastructure, the plan includes deploying high-speed telecommunications networks - particularly in underserved areas - to enable access to AI tools and applications. In line with this approach, the strategy aims to ensure that digital infrastructure is affordable and accessible to schools, hospitals, small businesses, and local communities. Implementing these actions will significantly reduce regional disparities. Regarding data collection, the strategy plans to map local needs and involve local communities in the data-gathering process to ensure the data reflects citizens' actual requirements. To promote inclusive and responsible AI, the strategy plans to establish regular processes for assessing bias in AI systems used in critical sectors. It also aims to ensure that the databases used reflect the country's cultural, social, and geographic diversity.

Under its second pillar focusing on inclusion, the strategic document aims to expand internet connectivity and introduce digital education programs in rural areas. Plans are also in place to actively involve women and young people in technology initiatives and to develop AI solutions tailored to family and small-scale farms. These actions primarily target the health and agriculture sectors. Also within the scope of inclusion, the country intends to bridge the digital divide by ensuring equitable access to AI technologies - including in rural and disadvantaged areas - and by developing specific programs to empower women and youth in the field of AI. Implementing these measures ensures that all citizens, regardless of where they live, benefit from technological advancements.

Overall, an analysis of policy frameworks across the various target countries reveals a low level of operational integration of GEDI principles. However, regarding inclusion, Côte d'Ivoire stands out, with plans for several initiatives designed to enable all citizens to benefit from AI technologies.

2.3 Level of integration into legal frameworks

As noted earlier in the overview of policy and legal frameworks, the target countries do not currently have a specific legal framework governing AI systems. Consequently, the adopted strategies include plans to establish a legal framework that is tailored to the context and incorporates GEDI principles.

With this in mind, Senegal plans to adopt legislation containing provisions aimed at preventing social injustice, discrimination, and various forms of bias. These measures would also require AI developers, manufacturers, and service providers to assess the potential negative impacts of AI applications on human rights and fundamental freedoms, and to adopt a precautionary approach based on appropriate risk prevention and mitigation measures.

Côte d'Ivoire also plans to implement ethical principles aimed at promoting algorithmic fairness and transparency, as well as protecting citizens' rights.

As for Benin, Strategic Objective No. 4 entails adopting legislation to regulate AI in the country, establishing a controlled environment for developing AI initiatives, and defining and deploying a big data management model.

However, it should be noted that other legal instruments exist which enshrine fundamental principles encompassing GEDI principles.

One of the most significant risks associated with artificial intelligence systems (AIS) lies in the reproduction and amplification of discriminatory biases. This risk stems from the very nature of the data used: far from being neutral reflections of the world, such data are the product of human choices, social trade-offs, and historical contexts that determine their structure and content. In this sense, no data is intrinsically objective; data crystallizes presuppositions, blind spots, and sometimes systemic biases that, once integrated into an algorithmic model, can be reproduced and amplified. The tangible consequences are becoming well documented. An audit of ten credit-scoring algorithms deployed in Nigeria, Kenya, and South Africa revealed that women-led SMEs were consistently underfunded by 37% compared to equivalent male-led businesses, demonstrating how pre-existing inequalities can be mechanically perpetuated by tools presented as objective. Non-discrimination is a fundamental right guaranteed by several international instruments - most of which have been ratified and cited in the preambles to the constitutions of Senegal, Côte d'Ivoire, Benin, and Burkina Faso.

Article 2 of the 1948 Universal Declaration of Human Rights states that «Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.» This principle is reaffirmed by Article 2 of the 1981 African Charter on Human and Peoples' Rights in the following terms: «Every individual shall be entitled to the enjoyment of the rights and freedoms recognized... without distinction of any kind such as race, ethnic group, color, sex, language, religion, political opinion...» Furthermore, the Convention on the Elimination of All Forms of Discrimination against Women stipulates that «States Parties condemn discrimination against women in all its forms, agree to pursue by all appropriate means and without delay a policy of eliminating discrimination against women.» This Convention even requires States to adopt legislative and other appropriate measures - including sanctions where necessary - prohibiting all discrimination against women.

At the national level, Article 7 of the Senegalese Constitution establishes the principle of equality between men and women. This principle is reinforced by the prohibition of any discrimination between men and women regarding employment, wages, and taxes, as well as by the recognition of equal access to land possession and ownership. The Senegalese Constitution also advocates for the inclusion of rural areas by guaranteeing access to healthcare services and well-being for families living in rural settings. Furthermore, Article 3 of the Framework Law on the Information Society stipulates that «the information society is a human-centric, inclusive, and socially cohesive society that is open, transparent, and secure (...).»

In Côte d'Ivoire, Article 4 of the Constitution establishes the principle of non-discrimination in all its forms, stating that «No one may be privileged or discriminated against on the grounds of race, ethnicity, clan, tribe, skin color, sex, region, social origin, religion or belief, opinion, wealth, cultural or linguistic difference, social status, or physical or mental condition.» This principle has been reaffirmed in the

context of employment through the prohibition of any «discrimination regarding access to employment or the exercise thereof based on sex, ethnicity, or political, religious, or philosophical opinions.» The fundamental charter also enshrines the protection of vulnerable persons by mandating that the State take the necessary measures to prevent the vulnerability of children, women, mothers, the elderly, and persons with disabilities. Specifically regarding the digital sector, Côte d'Ivoire's Framework Law on the Information Society enshrines fundamental principles such as the universal and fundamental nature of access to the Internet and electronic communication networks. Moreover, the law recognizes that the ICT environment must «foster the sharing of information and knowledge without restriction or discrimination, in compliance with applicable laws and regulations.»

Indeed, Article 7 of the Beninese Constitution affirms that «The rights and duties proclaimed and guaranteed by the 1981 African Charter on Human and Peoples' Rights (...) form an integral part of this Constitution and of Beninese law.» Furthermore, the fundamental law guarantees everyone «equality before the law without distinction as to origin, race, sex, religion, political opinion, or social status» and enshrines the principle of equality between men and women. Additionally, Article 379 of Book V of the Digital Code stipulates that information technology is to serve humanity and must not infringe upon human identity, human rights, privacy, or individual or public liberties.

In Burkina Faso, Article 1 of the Constitution prohibits «discrimination of any kind, particularly that based on race, ethnicity, region, color, sex, language, religion, caste, political opinion, wealth, or birth.» This prohibition against discrimination also applies to employment and remuneration. Moreover, much like Beninese legislation regarding personal data protection, the 2021 Burkinabe law on personal data enshrines the principle that information society activities must not infringe upon human identity, privacy, individual liberties, or human rights.

In summary, the four target countries possess constitutional and legal safeguards ensuring respect for fundamental rights, notably non-discrimination, equality, and the protection of privacy. However, in light of new challenges regarding fundamental rights arising from the development of emerging technologies - such as artificial intelligence systems (AIS) - it appears necessary to draft specific provisions to regulate potential abuses.

2.4 GEDI (Gender, Equality, Diversity, and Inclusion) Comparison

An analysis of national artificial intelligence strategies alone reveals that GEDI principles are still only marginally addressed in the countries studied.

Côte d'Ivoire stands out as the most advanced country in this regard. Its national AI strategy explicitly refers to «inclusive, ethical, and responsible» AI and establishes social inclusion as one of its core pillars. Bridging the digital divide and ensuring equitable access to the benefits of AI are also among the adopted strategic priorities.

Senegal takes a more indirect approach. Its strategy focuses on human capital development, improving living conditions, and fostering «trustworthy AI,» yet lacks specific measures targeting gender, diversity, or the reduction of algorithmic bias.

In Benin, the SNIAM strategy focuses primarily on structuring the AI ecosystem, capacity building, innovation, and sectoral use cases. Considerations regarding gender, diversity, or equity do not explicitly appear in the strategic priorities analyzed.

Finally, Burkina Faso has not yet adopted a national AI strategy. Although preparatory work mentions the need for an ethical and responsible framework, it is not yet possible to concretely assess the extent to which GEDI principles have been integrated.

Table 10: Comparative table of AI institutional and governance frameworks

Countries	Genre	Equity	Diversity	Inclusion	Overall Appreciation
Senegal	Low	Medium	Low	Medium	The 2024–2028 AI strategy focuses on improving living conditions, developing human capital, and AI «for all,» but lacks specific measures regarding gender or diversity.
Benin	Low	Low	Low	Medium	The SNIAM 2023–2027 focuses primarily on the development of the AI ecosystem, innovation, research, and sectoral use cases. GEDI principles are not explicitly mentioned.
Côte d'Ivoire	Medium	High	Medium	High	The AI 2030 strategy is based on the principles of inclusive, ethical, and responsible AI. Social inclusion, bridging the digital divide, and improving access to the benefits of AI are explicit objectives.
Burkina Faso	Not assessable	Not assessable	Not assessable	Not assessable	No national AI strategy has yet been adopted. The draft strategy for 2026–2028 addresses the responsible and inclusive use of AI but remains at a preliminary stage. Private-sector initiatives aimed at fostering an AI ecosystem do exist, such as the Maison de l'Intelligence Artificielle (MIA).

Legend:

- **High:** the principle is explicitly enshrined in the AI strategy and translates into dedicated guidelines, objectives, or actions.
- **Medium:** the principle is taken into account indirectly or partially through general objectives (access, human development, digital inclusion, etc.), without specific measures.
- **Low:** the principle is not explicitly mentioned and emerges only indirectly from certain strategic guidelines.
- **Not assessable:** absence of an adopted national AI strategy or insufficient information to assess the extent to which the principle is taken into account.

NB: The assessment is based primarily on the content of national artificial intelligence strategies; other strategic documents and legal frameworks are used only to provide supplementary context for the analysis.

Strengths	Downsides
• Adoption of national AI strategies by the three target countries • Adoption of national data strategies • Existence of robust digital policies • Alignment of strategies with international and continental normative instruments regarding AI • Existence of a digital legal framework (personal data protection, cybersecurity, electronic transactions) • Explicit inclusion of AI systems in certain legal frameworks (Benin and Burkina Faso) • Presence of a functional digital regulatory authority • Existence of national policies on gender and inclusion • Presence of digital infrastructure such as data centers and supercomputers	• Absence of an AI policy framework in Burkina Faso • Absence of a specific legislative framework for AI • Legal framework ill-suited to fully address AI systems • Absence of a dedicated AI regulatory authority • Limited technical and human capacity among regulatory authorities to oversee AI development • Insufficient consideration of gender aspects in national AI strategies • Absence of mechanisms such as algorithmic audits • Limited operationalization of GEDI principles within strategies • Weak alignment between national gender policies and AI policies • Absence of a regional AI policy and legal framework • Infrastructures not fully operational • Shortage of AI talent and research programs
Opportunities	Threats
• Existence of a continental policy framework for the digital sector in general, and AI in particular, incorporating gender and inclusion components • Clearly expressed intent by countries to regulate AI through the adoption of legal instruments • Political commitment by countries to leverage digital technology and AI for development • Integration of AI into sectors such as agriculture, education, and culture • Vibrant local innovation ecosystems driven by start-ups, incubators, and community-led initiatives • Willingness of countries to strengthen human capital in the field of AI • Potential to establish regulatory sandboxes to foster the maturity of AI innovations	• Risks of bias or discrimination due to a lack of control over AI training data; reliance on imported solutions raising data sovereignty issues • Persistent digital divide between urban and rural areas, and between men and women • Shortage of AI human resources • Amplification of cyber threats by AI

4. Comparative analysis with Kenya's national AI strategy

Kenya's national artificial intelligence strategy (2025–2030) places particular emphasis on inclusion. The country plans a dedicated inclusion program aimed at ensuring that all citizens - including vulnerable and marginalized groups - can access opportunities linked to AI and digital development. This dimension is also integrated into the strategy's guiding principles and overarching vision, which promote a human-centric approach and equitable access to emerging technologies.

Like our target countries, Kenya recognizes that the digital divide - particularly between urban and rural areas and among marginalized communities - poses a major challenge to the inclusive adoption of AI technologies.

However, the strategy does not specifically address gender equality, even though it acknowledges the significant underrepresentation of women and minorities in the field of AI.

Action Program for Inclusive AI in Kenya

Objective	Flagship Projects	Intermediate Outcomes	KPIs
7.1 Promote ethical, responsible and inclusive AI development and deployment	7.1.1 Establish a mandatory ethical impact assessment process for AI technologies for public sector 7.1.2 Update and develop guidelines for accountable public sector AI procurement and deployment 7.1.3 Develop sector-specific standards and requirements on ethical AI development and deployment that are aligned to the national values and includes vulnerable groups 7.1.4 Develop a complaints and redress mechanism for citizens to report AI-related concerns (e.g., Commission on Administrative Justice / Ombudsman)	1. More humancentric, safer and inclusive AI solutions	Reduction in reported No. of incidents involving unsafe or harmful AI behaviours (such as data breaches, privacy violations, etc.)
7.2 Promote inclusivity and national values in AI development and deployment	7.2.1 Implement data labelling and classification policies that address bias 7.2.2 Develop an ethical framework and define AI rights, ethical principles and considerations 7.2.3 Sponsor and spearhead inclusivity in the data value chain 7.2.4 Maintain a public repository of ethical AI use-cases and best practices to guide development and deployment of AI in the country 7.2.5 Implement a framework for inclusivity in AI including gender mainstreaming and representation of persons with disabilities (PWDs) and other underrepresented groups	2. Increased participation of previously marginalized groups within the local AI ecosystem	- Increased % of representative datasets - Number of ethical AI use-cases % of women represented in AI % of PWDs and underrepresented groups in AI
7.3 Enhance public AI literacy	7.3.1 Launch a public awareness campaign on AI rights, disinformation, misinformation, protection and safe development while showcasing the benefits of AI 7.3.2 Educate government employees on ethical, equitable and inclusive AI	3. Increased foundational awareness of AI	% increase of public awareness of AI

Although gender-related principles are not sufficiently taken into account, Kenya's national artificial intelligence strategy demonstrates a concrete commitment to inclusivity and ethics through a set of flagship projects, including:

- mandatory ethical impact assessments for AI technologies in the public sector,
- guidelines for the responsible deployment of AI,
- sector-specific standards that include vulnerable groups,
- an inclusivity framework incorporating gender and persons with disabilities,
- and awareness-raising and training mechanisms regarding ethical and inclusive AI.

These measures serve as a concrete model for promoting human-centric AI that respects societal values and is accessible to all.

The target countries - with the exception of Côte d'Ivoire, which has already made efforts regarding inclusion - could draw inspiration from this approach by integrating similar programs into their own national strategies. Such a move would not only strengthen inclusion and equity in AI development but also ensure responsible and transparent governance, while emphasizing the participation of women, persons with disabilities, and marginalized groups.

Regarding education and agriculture, the Kenyan strategy identifies these as priority sectors, as do Senegal, Benin, and Côte d'Ivoire. In education, the focus is specifically on prioritizing intelligent tutoring systems and multilingual teacher training modules to improve access to and the quality of education. In agriculture, emerging use cases include converting existing data into audio formats accessible to farmers in local languages and developing AI-based fertilizer recommendation systems.

These sectors are considered strategic for maximizing the social and economic impact of AI while fostering inclusion. As with the target countries, Kenya's strategy also lacks a means of measuring inclusion-related aspects and contains no quantitative indicators.

IV. ANALYSIS OF GAPS AND OPPORTUNITIES FOR INCLUSIVE AND RESPONSIBLE AI

1. Identification of policy, legal, and institutional gaps

An analysis of the policy and regulatory frameworks regarding artificial intelligence (AI) in the countries studied reveals a set of structural gaps. These largely share common characteristics, although certain national specificities were also noted.

1.1 Identified policy gaps

(i) Insufficient consideration of gender, equality, diversity, and inclusion dimensions

One of the main gaps observed in national AI strategies is the limited integration of issues related to gender, equality, and inclusion. With the exception of Côte d'Ivoire - whose strategy demonstrates a stronger awareness of these dimensions, in line with international and continental standards - the other countries lag significantly behind.

In Senegal, although the strategy mentions training for youth and women, this approach remains unstructured and amounts more to a statement of principle than an operational commitment. In Benin, such considerations are largely absent from AI-related strategic documents.

This situation stands in contrast to the existence of national policies promoting gender equality in these countries. In Senegal, the national strategy for gender equity and equality, as well as the long-term development framework (Agenda 2050), explicitly incorporate a gender-sensitive approach. Similarly, in Benin, the Government Action Program (2021–2026) and the National Development Plan (2018–2025) establish the promotion of gender equality as a priority objective. However, these policies are not sufficiently aligned with the strategies dedicated to artificial intelligence.

(ii) Lack of indicators to measure gender, inclusion, and equality aspects

Despite observed progress - particularly in Côte d'Ivoire - a major gap persists across all the countries studied: the absence of indicators to concretely measure the actual integration of, and progress regarding, gender and inclusion.

For instance, although Senegal is planning training for women in the digital sector, no quantified targets regarding the proportion or rate of female participation have been defined. Similarly, initiatives for training in STEM professions remain insufficiently operationalized.

In Côte d'Ivoire, while several inclusion-focused projects are mentioned, there are no precise indicators to assess their impact on gender equity. In general, national strategies remain silent on key elements such as:

- women's representation in AI governance bodies (steering committees, ethics committees, regulatory bodies);
- the share of funding allocated to AI initiatives led by women;
- or quantitative indicators regarding the reduction of digital divides, particularly in rural areas.

(iii) Absence of gender- and equality-responsive budgeting

While budget allocations have been set aside for the implementation of national AI strategies—notably in Senegal, Benin, and Côte d'Ivoire—these do not take the gender dimension into account.

Indeed, there is no budget breakdown that identifies resources specifically allocated to initiatives promoting equality or reducing structural inequalities between men and women. This lack of gender-responsive budgeting acts as a significant barrier to the effective implementation of policy commitments in this area.

(iv) Insufficient integration of GEDI principles into training, awareness-raising, and funding policies

National strategies rightly recognize the central role of human capital in AI development and, to this end, provide for training and awareness-raising activities. However, these initiatives lack mechanisms to ensure their inclusivity.

In particular, the following are observed:

- an absence of measures facilitating access for vulnerable groups (women, youth, persons with disabilities, rural populations);
- a lack of quotas or quantified participation targets;
- a failure to integrate gender equality modules into digital and AI training programs.

Furthermore, although some countries—such as Senegal and Côte d'Ivoire—plan to hold national consultations, the modalities for inclusive participation are not specified.

Finally, the strategies remain silent on mechanisms for accessing funding for women working in the AI sector, as well as on incentive measures capable of addressing existing imbalances.

(v) Absence of provisions regarding data neutrality and fairness

Data is a central issue in the development of artificial intelligence. While Benin incorporates data into its AI strategy, and Senegal and Côte d'Ivoire favor distinct yet complementary strategies, a significant gap remains.

None of the strategies explicitly include requirements regarding data neutrality. Yet, establishing representative databases and fair algorithmic systems is essential to ensuring AI that is inclusive and respectful of fundamental rights. Although Côte d'Ivoire's national data strategy plans to establish frameworks and guidelines concerning data limitations and biases, as well as the types of technologies, algorithms, and automated systems used by the State, specific mandates on neutrality and fairness are lacking.

Although countries such as Senegal and Côte d'Ivoire enshrine the principle of data sovereignty in their national policies and possess infrastructure like data centers, the regulatory framework surrounding this issue remains inadequate. In practice, a significant portion of locally generated data still falls outside the scope of national regulations.

Furthermore, a shortage of local data is evident, leading to artificial intelligence models being trained on data that is predominantly non-African, thereby heightening the risk of cultural bias.

(vi) Absence of a specific national AI strategy in Burkina Faso

Unlike the other countries studied, Burkina Faso does not currently have a national strategy dedicated to artificial intelligence. AI-related issues are addressed through the national digital development strategy (2018–2027), which enshrines principles such as non-discrimination, inclusion, and gender equality.

However, as is the case in the other countries, these principles remain insufficiently operationalized. This situation reflects a weakness in Burkina Faso's policy framework regarding the effective integration of gender and inclusion considerations into AI development.

1.2 Identified legal and ethical gaps

Several legal and ethical gaps were identified following an analysis of the normative frameworks of the countries covered by the study.

(i) Absence of binding legislation specific to AI at the continental, regional, or national level,

The most significant legal gap lies in the absence of laws and binding legal frameworks regarding artificial intelligence at the continental, regional, and national levels. This situation is concerning given that AI systems pose proven risks to human rights, necessitating an appropriate regulatory framework. By way of comparison, the European Union has adopted a specific AI regulation (the AI Act), establishing a classification of AI systems accompanied by obligations proportionate to each identified risk level.

(ii) Inadequacy of the existing legal framework to address AI-related risks, particularly regarding non-discrimination

The target countries possess an operational legal framework for the digital sector that applies, by extension, to AI systems. However, this framework proves insufficient to cover the full range of legal risks specific to AI. With the exception of Burkina Faso and Benin - whose personal data protection laws incorporate specific provisions for AI - national legislation in this area requires substantial updating. Such updates are also necessary at the continental and regional levels, particularly regarding the African Union Convention on Cyber Security and Personal Data Protection and Supplementary Act A/SA.01/01/10 of 16 February 2010 on personal data protection. It should be noted that the adoption of a specific AI law cannot substitute for the updating of existing digital frameworks.

(iii) Lack of regulation on algorithmic transparency and of audit and redress mechanisms

As a corollary to the absence of specific AI rules, the target countries do not mandate algorithmic transparency. Yet, such a requirement would make the factors influencing automated decisions intelligible—both to users of the systems in question and to individuals affected by those decisions. Rooted in the principle of answerability, algorithmic transparency is a vital tool for preventing discrimination. Similarly, there are no mandatory audit mechanisms or effective avenues for redress regarding discrimination resulting from AI systems.

(iv) Low adoption of regulatory sandboxes

The absence of regulatory sandboxes - controlled, temporary environments allowing AI-based technologies to be tested without being immediately subject to the full scope of regulatory constraints - represents a significant gap. This mechanism is, however, advocated by the African Union in its continental AI strategy. Only Senegal has planned to implement one; the strategies of Côte d'Ivoire and Benin make no mention of it. Yet, such a mechanism would be highly valuable, particularly for assessing gender bias in AI tools deployed in sectors like agriculture or education prior to large-scale rollout.

(v) Absence of ethical rules

Although under consideration, the countries in question have not yet developed ethical frameworks aligned with international standards to guide AI development. At the continental level, the African Union adopted Resolution ACHPR/Res. 473 in 2021, calling for a study on human and peoples' rights in the context of AI, robotics, and emerging technologies in Africa. While this resolution does not in itself constitute a body of ethical rules, it lays the groundwork for the future adoption of guidelines for inclusive and responsible AI. At the regional level, a complete lack of such rules persists.

1.3 Institutional Gaps

(i) Absence of an AI-specific regulatory authority

An analysis of national strategies reveals that Senegal, Benin, and Côte d'Ivoire have each planned for the creation of a regulatory authority dedicated to AI. However, this ambition has not yet materialized; to

date, none of the four target countries possesses such an authority. Furthermore, even if established, the relationship between these bodies and personal data protection authorities would need to be clarified to avoid any overlap in jurisdiction.

(ii) Limited capacity of data protection authorities regarding AI

All the target countries have established a personal data protection authority. In principle, AI systems that utilize personal data fall within their jurisdiction. However, these authorities remain ill-equipped to address the specific challenges posed by AI and require significant strengthening, both technically and in terms of qualified human resources. A revision of personal data legislation is also necessary to expand and consolidate their mandates. Additionally, these authorities would benefit from raising awareness regarding gender issues, enabling them to effectively detect and address gender-based bias and discrimination in AI systems.

(iii) Low representation of women in digital sector decision-making bodies

Decision-making bodies in the digital sector are characterized by the persistent under-representation of women, a situation linked to the low proportion of women in STEM fields. According to UNESCO, women account for only 35% of STEM graduates and 26% of the workforce in AI and data fields in sub-Saharan Africa. This under-representation poses a structural risk to the integration of gender considerations into public policies regarding the digital sector and AI.

2. Opportunities for inclusive and responsible AI in the agriculture, education, and language sectors

In the target countries - namely Senegal, Benin, Côte d'Ivoire, and Burkina Faso - strategic directions regarding artificial intelligence highlight a shared commitment to leveraging artificial intelligence systems (AIS) as a driver of economic and social transformation. However, the level of strategic structuring and the explicit integration of inclusion issues vary from one country to another.

Against this backdrop, several opportunities emerge in priority sectors such as agriculture, education, and languages.

2.1. Agriculture

Agriculture is a strategic sector across all the countries studied, in terms of both employment and food security. National strategies -particularly those of Côte d'Ivoire and Senegal - highlight the potential of digital technologies, including AI, to modernize this sector.

Identified opportunities include:

- the use of AI solutions to support agricultural decision-making, such as weather forecasting to help farmers plan their activities and reduce losses caused by climate-related risks;
- input optimization using predictive algorithms;
- crop management via drones and sensors to monitor soil and crop conditions in real time;
- the development of digital services accessible to smallholder farmers;
- the optimization of agricultural value chains through data analysis.

In this regard, Côte d'Ivoire ranks agriculture as the top priority sector within its strategy. Furthermore, to fully leverage the opportunities offered by AI in this field, the strategy recommends:

- Strengthening infrastructure by expanding internet connectivity in rural areas and investing in standardized agricultural databases.
- Promoting precision agriculture by scaling up the use of sensors and drones to monitor crops and encouraging the use of AI software to optimize crop management.
- Developing human capacity by training farmers in the use of AI technologies.
- Introducing digital education programs in rural regions.

- Creating a regulatory framework.
- Encouraging social inclusion:
- Actively including women and youth in technology initiatives.
- Developing AI solutions tailored to family-run and small-scale farms.

In Senegal, the national data strategy includes agricultural use cases that involve deploying AI-powered applications capable of automating various backend tasks, thereby making data easier for users to utilize. Furthermore, numerous Senegalese startups are seeking to help farmers make more informed decisions, optimize the use of inputs and water, and improve both yields and farming practices. A notable example is Tolbi, an AgriTech startup developing innovative solutions based on AI and satellite imagery; these solutions translate field-level inputs into actionable insights to support climate-smart agriculture. In Côte d'Ivoire, the startup Jool International has developed a tool called «My Assistant Agro,» designed to help farmers detect diseases and anomalies on their plots.

However, widespread adoption of these services by farmers depends on several factors—all of which represent distinct areas for public policy intervention: access to mobile internet (at least 3G), very low mobile data costs, and affordable access to the AgriTech services themselves (or shared access within a community).

Table 12: Agriculture use cases envisaged by Benin's AI strategy

USE CASES	DESCRIPTIONS
Forecasting resource availability (water, soil, inputs, etc.) and production planning based on market outlets	Enable better management and allocation of land, water, and inputs, as well as improved production planning. Objectives: • Identify high-potential agricultural zones • Predict water consumption by zone • Predict market demand for a specific agricultural product Metric: • Prediction accuracy rate Data: • Weather-related data – Historical production and market demand data – Any other sector-specific data
Detection of various crop diseases	This system will detect the portion of the crop affected by disease, allowing for better resource management and avoiding the application of pesticides to the entire crop. Objectives: • Identify diseased plants using drone imagery Metric: • Crop yield Data: - Drone imagery - Any other plant imagery that can help train the AI
Sorghum yield prediction using drones and machine learning	Tools integrating data on crops, weather, and historical records
Rice disease detector	AI solution to help producers anticipate the treatments needed to ensure production

With a focus on inclusion, these initiatives must pay particular attention to the accessibility of tools for family farms - which predominate in these countries - as well as to bridging the rural digital divide.

2.2 Education

The digital policies of the target countries recognize the central role of education in developing an AI ecosystem. Senegal and Benin, in particular, emphasize strengthening digital skills and training in emerging technologies.

Artificial intelligence systems (AIS) offer significant opportunities to foster more inclusive education, provided their deployment is designed equitably and adapted to local (national) realities.

AI can help to:

- reduce learning inequalities through adaptive learning tools that take into account learners' proficiency levels, learning paces, and specific needs;
- improve access to education in rural and remote areas via remote digital solutions, including those compatible with low-connectivity environments;
- enhance the inclusion of vulnerable groups—such as girls, people with disabilities, and marginalized populations—through adapted educational tools (voice interfaces, accessible content, etc.);
- promote the use of local languages in educational content, thereby contributing to better understanding and greater linguistic inclusion;
- support teachers by providing tools to assist with pedagogical decision-making, while taking into account resource and training constraints.

AI can also be used to personalize student learning based on individual learning styles and progress. Such personalized tracking can begin as early as preschool—exemplified by Djehuty, a gamified intelligent tutoring system (ITS) that uses AI to help children learn handwriting via a mobile app developed in Senegal. In Burkina Faso, an AI-powered app called «Fasomaths» enables learners to deepen their mathematical knowledge.

However, realizing these opportunities depends on several structural conditions, notably:

- improving access to digital infrastructure (connectivity, electricity, equipment);
- developing inclusive and contextualized educational content;
- strengthening the digital skills of teachers and learners;
- explicitly integrating principles of equity, gender, and accessibility into public policies.

Table 13: Use cases in the education sector envisaged by Benin's AI strategy

USE CASE	DESCRIPTIONS
Proposed assignments based on aptitudes and choices	By leveraging a learner's educational history and the choices made by other learners with similar backgrounds, AI could recommend potential career or study paths. Objective: • Provide a comprehensive list of possible paths, ranked from most to least relevant. Metrics: • Evaluate student satisfaction regarding choices made based on system recommendations. • Evaluate employability rates associated with choices made based on recommendations. • Evaluate student success within the chosen path. Data: • All data related to the learner's educational history. • All data related to the paths of other learners who have completed their programs, all data related to the job market. • Any other necessary data.
Prediction of academic performance	AI solution to support academic staff and facilitate student guidance
Personalized pathways	AI-powered personalized learning solutions designed to significantly assist teachers in implementing differentiated instruction methods. Objectives: • Adapt exercise difficulty levels to the learner's proficiency; • Provide teachers with a smarter dashboard based on data collected from learners. Metric: • Success rate or system evaluation by teachers and learners. Data: • Learning-related data, platform usage data, and other relevant data.
Behavioral prediction of learners	Understand the risk factors that could lead a student into absenteeism or school dropout, and intervene proactively by alerting the educational community and reorganizing the support staff structure. Objectives: - predict the likelihood of a student dropping out - identify specific at-risk behaviors. Metric: - actual dropout rate based on system predictions. Data: - student history data - data on other students - all relevant data.

Natural language processing (e.g. translation of local languages into French), voice recognition	AI solution to facilitate digital adoption among populations that do not speak or write French.
Fraud detection	Cheating detection for online assessments Objective : to detect whether or not a learner is committing fraud and trigger an inspection Data : data related to the hardware used for the online exam - other relevant data

2.3. Languages

In the target countries, linguistic diversity represents both a cultural asset and a major challenge for inclusion in digital environments. Indeed, Senegal has highlighted the risk that the use of AI could exacerbate social and geographical divides if these systems do not utilize local languages.

Despite this, national artificial intelligence strategies still give limited consideration to issues surrounding local languages; this risks widening inequalities in access to digital services and marginalizing certain populations. It can also hinder technology adoption and amplify biases stemming from the under-representation of local languages in data.

In this context, artificial intelligence systems (AIS) offer significant opportunities to foster greater linguistic inclusion.

In particular, AI can help to:

- facilitate access to information and essential services through the development of machine translation tools and multilingual interfaces that incorporate local languages;
- reduce language barriers to accessing public services, particularly in the fields of education, health, and administration;
- include populations with low literacy levels through speech recognition and speech synthesis technologies adapted to national languages;
- promote and preserve local languages by contributing to their digitization and the creation of linguistic resources;
- enhance equity in digital environments by curbing the exclusive dominance of international languages in digital content and services.

In its health and education use cases, Benin plans initiatives to promote local languages while prioritizing inclusion and diversity. These initiatives include, notably, the development of natural language processing solutions to facilitate digital access for populations that are not proficient in French. They also focus on implementing artificial intelligence solutions that serve as an interface between healthcare professionals and populations located far from major hospital centers, in order to improve access to care.

Carrying on further this approach, the Beninese government launched the «J'aime Ma Langue» project in late 2025, aiming to introduce local languages into the realm of artificial intelligence. In practical terms, the project relies on the crowdsourcing of voice data. Citizens are invited to contribute to the initiative by reading sentences in their own languages on the jaimemalangue.bj platform - a method that will enable the creation of representative voice databases. These recordings, validated by linguists and engineers, will be used to train artificial intelligence models capable of understanding and reproducing Beninese languages.

However, realizing these opportunities requires overcoming several key structural challenges, notably:

1. the limited availability of linguistic data for local languages, which are often under-resourced;
2. the lack of investment in the collection, annotation, and standardization of such data;
3. the need for collaboration among public, academic, and technology stakeholders;
4. the explicit integration of linguistic diversity as a strategic priority within AI policies.

V. RECOMMENDATIONS AND INTEGRATION GUIDELINES.

1. Recommendations for incorporating GEDI principles into AI-related policy, legal, and institutional frameworks

In light of the identified gaps - specifically the insufficient consideration of gender, equality, diversity, and inclusion (GEDI) dimensions, shortcomings in legal and regulatory frameworks, and limitations observed in governance and capacity-building mechanisms - it is necessary to formulate structured, priority recommendations. These aim to guide policymakers, regulators, and all stakeholders toward better integration of GEDI principles into artificial intelligence strategies and policies, paying particular attention to the needs of vulnerable populations and rural communities, which are often marginalized regarding access to and use of digital technologies.

These recommendations focus on strengthening normative and institutional frameworks, operationalizing gender-responsive monitoring and budgeting tools, establishing ethical and technical guidelines for AI systems, and promoting more inclusive participation - particularly by women and underrepresented groups - in decision-making bodies. Furthermore, specific recommendations will be proposed for priority sectors such as agriculture and education to ensure that the deployment of artificial intelligence effectively contributes to reducing inequalities and fostering inclusive development. These recommendations constitute a strategic deliverable of the project. They are complemented by guidelines for the equitable integration of AI into sectors such as agriculture, education, and languages, which translate these strategic directions into concrete, directly applicable measures. The two components complement each other.

1.1 General Recommendations

1.1.1 Strengthening strategic and institutional frameworks

Revision of national AI strategies

States are encouraged to update their national artificial intelligence strategies by explicitly and cross-cuttingly integrating principles of gender, equality, diversity, and inclusion (GEDI). This integration must translate into clear objectives, dedicated areas of intervention, and concrete, measurable measures aimed at reducing structural inequalities in AI access, use, and governance. For countries that do not yet have a national strategy - such as Burkina Faso - developing a strategic framework is a priority, drawing on participatory processes that involve public, private, and civil society stakeholders.

Establishment of institutional governance mechanisms

It is recommended to create or strengthen institutional structures dedicated to AI governance (such as national agencies, inter-ministerial committees, or regulatory authorities). These entities must have clear mandates covering the ethical, legal, social, and economic dimensions of AI, including the promotion of inclusion and non-discrimination. They must also ensure coordination across different sectors (digital, education, agriculture, health, etc.) and levels of governance (national, regional, local).

Alignment with international and continental frameworks

National strategies and policies must align with international instruments and African continental frameworks regarding AI, data governance, and human rights. This entails, in particular, adopting principles such as transparency, accountability, equity, security, and respect for privacy. States are also

encouraged to participate actively in regional and international initiatives to strengthen the coherence of approaches and benefit from the sharing of experiences and best practices.

1.1.2. Strengthening the legal and regulatory framework

Developing AI-specific legislation

States should develop legal frameworks specific to artificial intelligence to govern its development and use. Such legislation must include binding provisions regarding algorithmic transparency, stakeholder accountability, risk management, and protection against discrimination. It must also define the obligations of AI system designers and users.

Integrating principles of fairness and non-discrimination

Existing legal frameworks (data protection, digital rights, human rights) must be strengthened to explicitly incorporate requirements for algorithmic fairness and bias prevention. This includes the obligation to conduct fundamental rights and gender equality impact assessments prior to deploying high-impact AI systems.

Establishing transparency, auditing, and redress mechanisms

It is essential to establish mechanisms ensuring the transparency of AI systems, particularly through the documentation of algorithms and the data used. Independent auditing systems must be implemented to assess system compliance with ethical and legal standards. Furthermore, citizens must have access to redress mechanisms in the event of harm resulting from the use of AI.

Promoting responsible innovation

States are encouraged to develop mechanisms such as regulatory sandboxes, enabling AI innovations to be tested within a controlled environment. These mechanisms must incorporate requirements regarding ethics, inclusion, and risk management in order to balance innovation with the protection of rights.

1.1.3. Systematic integration of GEDI principles

Institutionalization of the GEDI approach

Principles of gender, equality, diversity, and inclusion (GEDI) must be systematically integrated into all policies and programs related to AI and the digital sector in general. This entails adopting cross-cutting approaches (gender mainstreaming) and taking into account the specific needs of different population groups from the policy design phase onwards.

Implementation of gender-responsive budgeting mechanisms

Some states have initiated gender-responsive budgeting approaches through program-based budgeting. These approaches should be extended to AI-related investments to ensure equitable resource allocation for responsible AI. Operationalizing gender-responsive budgeting for AI-related investments involves developing budget analysis tools and building the capacity of public administrations (ministries of finance and digital affairs) to integrate gender markers into budget planning and programming systems.

Definition of monitoring indicators

It is recommended to develop specific indicators to measure progress regarding equality and inclusion in the field of AI. This involves, for example:

- defining GEDI indicators integrated into national digital monitoring frameworks (e.g., women's participation rates in AI training, women's access to STEM jobs, differentiated access to and use of digital services);
- systematically integrating data disaggregation (by gender, age, rural/urban setting, and education level) into national statistical systems;
- conducting periodic assessments of the impact of AI policies on gender inequalities. Promoting inclusive participation

As outlined in certain national strategies, the participation of women and underrepresented groups in AI-related decision-making processes - particularly within public institutions, regulatory bodies, and governance structures - can be strengthened through the implementation of inclusive representation mechanisms. Similarly, the engagement of women and young people in innovation ecosystems (start-ups, tech hubs, incubators) can be supported through dedicated programs.

1.1.4. Data governance and AI ethics

Development of national ethical frameworks

States are encouraged to adopt national ethical frameworks for AI that align with international standards. These frameworks must define guiding principles (fairness, transparency, accountability, answerability) and provide practical guidance for public and private sector stakeholders.

Implementation of data governance policies

National data governance policies must be developed to ensure the quality, security, integrity, and representativeness of the data used by AI systems. Particular attention must be paid to preventing bias in datasets.

Strengthening data protection authorities

The technical, human, and financial capacities of data protection authorities must be strengthened to enable them to effectively oversee AI systems and ensure the protection of citizens' rights.

1.1.5. Capacity building and digital inclusion

AI skills development

States should implement artificial intelligence training programs for public administration, the private sector, and civil society, incorporating specific modules on ethics, algorithmic bias, and inclusion. Particular attention should be paid to capacity building for women through targeted initiatives aimed at increasing their participation and representation in AI-related fields - specifically via tailored training, mentorship programs, and support mechanisms that facilitate access to technical skills and professional opportunities.

Support for research and inclusive innovation

It is recommended that AI research be supported through targeted funding for projects that incorporate social and inclusive dimensions. Incentive measures - such as grants, mentorship, and innovation support - must be implemented to boost the participation of women and young researchers, thereby fostering diverse and equitable AI ecosystems.

Public awareness and inclusion

Awareness-raising campaigns must be launched to inform citizens about the opportunities and risks associated with AI, with a focus on vulnerable groups. The goal is to foster inclusive adoption of digital technologies.

1.1.6. Monitoring, evaluation, and cooperation

Implementation of monitoring and evaluation frameworks

States must establish robust monitoring and evaluation mechanisms for AI policies, incorporating indicators that measure economic, social, and equality-related impacts - including the participation of women, vulnerable populations, and rural communities. These frameworks will help guide policy adjustments, enhance transparency, and ensure that AI deployment contributes to inclusive and responsible ecosystems.

Strengthening regional and international cooperation

Cooperation among African states should be encouraged to pool resources, harmonize regulatory frameworks, and share best practices regarding AI governance. African states - and target countries in

particular - are encouraged to actively participate in international AI initiatives to ensure African priorities are heard and to contribute to the development of more inclusive global standards.

Table 14 : General recommendations

Strategic focus	Recommendation	Key actions	Responsible parties	Monitoring indicators
Strategic and institutional frameworks	Develop/revise national AI strategies by integrating GEDI principles	- Integrate GEDI across the board - Engage stakeholders - Define measurable objectives	Governments Ministries of digital affairs Planning	Existence of an AI strategy integrating GEDI; level of stakeholder participation
AI Governance	Establish dedicated governance structures	- Establish an AI authority or committee - Define clear mandates - Ensure cross-sector coordination	Government, regulators	Existence of an AI authority; operational coordination mechanisms
Legal and regulatory framework	Develop AI-specific legislation	- Regulate transparency and accountability - Integrate non-discrimination - Define the obligations of stakeholders	Parliament, ministries of justice, regulators	Laws adopted; number of oversight mechanisms established
Transparency and accountability	Set up audit and recourse mechanisms	- Independent audits - Algorithm documentation - Accessible avenues of appeal	Regulatory authorities, the justice system	Number of audits conducted; existence of grievance mechanisms
GEDI Integration	Institutionalize the gender and inclusion approach	- Gender mainstreaming - Women's participation - Inclusion of vulnerable groups	All sectoral ministries	Women's participation rate; policies integrating GEDI
Gender-responsive budgeting	Integrate GEDI into public budgets related to AI.	- Budget analysis - Equitable resource allocation	Ministries of Finance	Share of the budget allocated to inclusive initiatives
Data and ethics	Develop ethical and data governance frameworks	- Data quality standards - Bias prevention - Protection des données	Data authorities, regulators	Existence of an ethical framework; system compliance

Capabilities and training	Strengthen AI skills	- Technical training - Bias awareness - Inclusive programs	Ministries of Education and Universities	Number of people trained; diversity of beneficiaries
Monitoring and evaluation	Set up monitoring systems	- Disaggregated - indicators Regular evaluations	Public institutions	Monitoring reports available; GEDI indicators tracked

1.2 Recommendations for the agricultural sector

1.2.1 Integrating inclusive AI into agricultural policies

States are encouraged to explicitly integrate principles of gender, equality, diversity, and inclusion (GEDI) into national strategies for agricultural and digital transformation. This entails designing and deploying artificial intelligence solutions tailored to the realities of smallholder farmers - particularly rural women, who make up a significant portion of the agricultural workforce in Africa. AI applications (such as agronomic advice, weather forecasting, and crop management) must be accessible, notably through the use of local languages, low-cost digital tools, and interfaces adapted to varying levels of digital literacy.

1.2.2 Inclusive and equitable agricultural data governance

It is essential to establish agricultural data governance frameworks that ensure the quality, representativeness, and inclusivity of the data used by AI systems. In this regard, States should promote the collection of data disaggregated by gender, age, and location to better reflect the diversity of agricultural realities. Oversight mechanisms must also be implemented to ensure that algorithms used in agricultural services—such as those for access to credit, agricultural insurance, or technical recommendations - do not reproduce or amplify discriminatory biases.

1.2.3 Equitable access to resources, technologies, and financing

Public policies should include targeted financial support mechanisms to foster the adoption of AI solutions by women farmers, youth, and smallholder farms. This may include grants, preferential-rate loans, or dedicated incubation programs. Furthermore, integrating GEDI criteria into agricultural innovation funding schemes would help ensure a more equitable distribution of resources and support inclusive initiatives.

1.2.4 Capacity building and stakeholder support

Skills development is a key driver for the inclusive adoption of AI in agriculture. It is recommended that targeted training programs in digital agriculture and artificial intelligence be established, with particular attention paid to women and rural youth. Agricultural extension services must also be strengthened and equipped to integrate AI technologies, while providing localized support that takes into account the beneficiaries' socio-economic and cultural constraints.

1.2.5 Monitoring and evaluation

States should establish monitoring and evaluation mechanisms to measure the impact of AI solutions not only on agricultural productivity but also on the reduction of inequalities. The use of disaggregated indicators will make it possible to assess the extent to which policies effectively contribute to the empowerment of women and the inclusion of vulnerable groups.

Table 15: Sector-specific recommendations for the agriculture sector

Sector	Strategic focus	Recommendations	Key actions	Responsible parties	Indicators
Agriculture	Inclusion and access	Deploying accessible and inclusive AI solutions	Tools in local languages Technologies adapted for smallholders Digital accessibility	Ministries of Agriculture NGOs Startups	Adoption rates among women and smallholders
Agriculture	Data	Ensure inclusive governance of agricultural data	- Disaggregated data - Bias control - Quality of the data	Statistical institutes, agricultural agencies	Availability of disaggregated data
Agriculture	Funding	Facilitating equitable access to resources	- Targeted grants - Support for women and youth - GEDI criteria	Governments, donors	Number of beneficiaries from vulnerable groups
Agriculture	Capabilities	Strengthen digital agriculture skills	- Targeted training - Digital agricultural extension	Agricultural services, training centers	Number of people trained (disaggregated)

1.3 Recommendations for the Education Sector

1.3.1 Integrating AI and GEDI principles into education policies

Education systems must integrate AI education in a structured manner, incorporating reflection on ethical, social, and gender-related issues. This integration should take place at various levels (secondary, technical, and higher education) and aim to prepare learners to navigate inclusive digital environments. Particular attention must be paid to reducing inequalities in access to digital education, especially between girls and boys, as well as between urban and rural areas.

1.3.2 Ethical and regulatory framework for AI use in education

National guidelines must be developed to regulate the use of AI tools in education (such as automated assessment systems, academic guidance, and adaptive learning platforms). These frameworks must ensure algorithmic transparency, the protection of learner data, and the prevention of discriminatory bias. Audit and redress mechanisms must also be established to protect users' rights.

1.3.3 Promoting equitable access to learning tools

States should encourage the development and deployment of AI-based educational solutions tailored to local contexts, particularly in areas with low connectivity. This includes the use of offline technologies, content in national languages, and devices accessible to vulnerable learners. Furthermore, specific programs must be implemented to encourage the participation of girls and young women in science, technology, and artificial intelligence fields.

1.3.4 Capacity building for teachers and education stakeholders

Teachers play a key role in integrating AI into education systems. It is therefore essential to strengthen their skills through initial and continuing training focused on the pedagogical use of AI tools, as well as on ethical issues, algorithmic bias, and inclusion. Education system decision-makers and administrators must also receive training to better oversee and manage the integration of these technologies.

1.3.5 Monitoring, evaluation, and data generation

Finally, establishing monitoring and evaluation systems is essential to measure the impact of AI on the quality and equity of education. States should develop indicators to analyze the effects of these technologies on academic performance, access to education, and the reduction of inequalities. Collecting data disaggregated by gender, geographic area, and socioeconomic status is crucial for guiding public policies and ensuring their effectiveness.

Table 16: Sector-specific recommendations for the education sector

Sector	Strategic focus	Recommendations	Key actions	Responsible parties	Indicators
Education	Curricula	Integrating AI and EDI into educational programs	- Courses on AI and ethics - Bias awareness	Ministries of Education	Programs integrating AI and EDI
Education	Ethics and regulation	Regulating the use of AI in education	- Guidelines - Audit of educational tools	Education authorities	Existence of standards and audits
Education	Access	Reduce inequalities in access to digital education	- Offline solutions - Content in local languages	Governments, tech partners	Access rate for girls and rural areas
Education	Participation	Promoting women in STEM and AI	- Incentive programs - Scholarships	Ministries, universities	Female participation rate
Education	Capabilities	Training teachers in AI	- Continuing education - Ethics and inclusion modules	Training institutions	Number of teachers trained
Education	Monitoring	Assessing the impact of AI on educational equity	- Disaggregated indicators - Performance analysis	Ministries of Education	Reducing performance gaps

1.4 Recommendations for incorporating local languages into AI development

1.4.1 Integrating local languages into national AI strategies

States should explicitly integrate objectives regarding the development of local languages into national artificial intelligence strategies. This integration could take the form of setting specific targets, such as digitizing major national languages, developing multilingual AI applications, or making digital public services available in the most widely spoken languages. National roadmaps should also include dedicated budgets for developing local language resources.

1.4.2 Building national linguistic databases

Governments should support the creation of national linguistic data corpora comprising texts, audio content, and terminology databases in local languages. These resources should be developed in partnership with universities, linguistic institutes, research centers, and local communities. Particular attention should be paid to ensuring balanced representation of women, men, youth, the elderly, and diverse communities in order to reduce the risk of bias in AI systems.

1.4.3 Developing AI applications in local languages

National innovation support programs should prioritize solutions that utilize local languages, particularly in sectors such as education, health, agriculture, and public administration. Examples include developing voice assistants in Wolof, Dioula, Fon, Mooré, or Fulfulde; machine translation tools; agricultural information platforms; and digital health services accessible to populations who do not speak the official languages.

1.4.4 Supporting research on African languages

States should fund research programs dedicated to the automated processing of African languages and encourage the establishment of laboratories specializing in this field. Partnerships between universities, research centers, and technology companies should be established to develop speech recognition, speech synthesis, and translation models tailored to national linguistic realities. Regional cooperation could also be encouraged for cross-border languages such as Fulfulde, Dioula, or Hausa.

1.4.5 Promoting linguistic digital sovereignty

National policies should encourage the local hosting and management of linguistic data to reduce reliance on foreign platforms. In particular, States could establish national linguistic data repositories and define rules governing their sharing and reuse. This approach would help strengthen digital sovereignty while ensuring that the AI systems developed better reflect local cultural, social, and linguistic realities.

1.4.6 Setting up of monitoring indicators

National strategies should include indicators to assess progress made regarding linguistic inclusion. These indicators could cover the number of local languages integrated into public digital services, the volume of linguistic data produced, the number of AI applications available in national languages, the proportion of funding allocated to language projects, or the number of beneficiaries using these services. Such monitoring mechanisms would make it possible to concretely measure AI's contribution to reducing linguistic and digital inequalities.

Table 17: Sector-specific recommendations for the language sector

Strategic focus	Recommendations	Key Actions	Responsible Parties	Indicators
Governance and Public Policy	Integrating local languages into national AI strategies	- Define objectives for the digitization of national languages - Allocate dedicated budgets - Integrate local languages into AI roadmaps	Ministries of Digital Affairs, Culture, and Education	Number of strategies incorporating linguistic objectives; budget allocated to linguistic projects
Linguistic data	Build inclusive national linguistic databases	- Collection of texts and audio content - Creation of national corpora - Balanced representation of women, men, and communities	Governments, universities, research centers, language academies	Number of corpora compiled; volume of linguistic data disponibles; diversity of the groups represented
Innovation and digital services	Developing AI applications in local languages	- Voice assistants in national languages - Machine translation tools - Multilingual agricultural, educational, and health applications	Start-ups, technology companies, incubators, states	Number of applications available in local languages; number of users
Research and development	Strengthen research on African languages and NLP	- Funding of research projects - Creation of specialized laboratories - Regional cooperation on cross-border languages	Universities, research centers, ministries of research	Number of funded projects; scientific publications; language models developed
Digital sovereignty	Strengthening linguistic digital sovereignty	- Local hosting of linguistic resources - Creation of national linguistic data repositories - Set a framework for data sharing	States, data protection authorities, digital agencies	Percentage of linguistic data hosted locally; existence of national repositories
Inclusion and equity	Reducing inequalities in access to digital services through language	- Development of multilingual digital public services - Solutions tailored to populations with low literacy levels - Accessible voice interfaces	Governments, local authorities, technical partners	Number of public services available in local languages; utilization rate in rural areas

Monitoring and evaluation	Set up mechanisms for monitoring linguistic inclusion	• Development of dedicated indicators • Collection of disaggregated data • Periodic impact assessment	Sectoral ministries, statistical institutes, digital observatories	Number of languages integrated into digital services; number of beneficiaries; changes in access to services
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2. Guidelines for the equitable integration of AI in the key sectors of agriculture, education, and languages

These guidelines aim to operationalize the directions developed in this report regarding the equitable integration of AI into priority sectors such as agriculture and education.

These guidelines are addressed to:

- Public decision-makers responsible for developing and implementing national AI strategies and sectoral policies;
- Innovators, start-ups, and developers of AI solutions in the agriculture, education, and African languages sectors;
- Regulatory authorities in the target countries;
- Civil society organizations, particularly those advocating for the rights of women and vulnerable groups.

These guidelines - which are both cross-cutting and sector-specific - address identified gaps and cover, in particular:

- AI system design;
- Governance;
- Data management;
- Inclusive financing;
- Algorithmic transparency;
- Institutional capacity building.

2.1 Cross-cutting guidelines

2.1.1 Integrating inclusivity from the AI system design stage

Artificial intelligence systems deployed in priority sectors must incorporate GEDI principles from the design phase.

To this end, it is necessary to:

- conduct a gender impact assessment prior to deployment, including the identification of target populations, potential biases, and planned corrective measures;
- ensure gender diversity within development and steering teams;
- guarantee the disaggregation of training data based on relevant variables such as gender, age, geographic location, and education level.

2.1.2 Inclusive AI governance

AI governance mechanisms must reflect social diversity.

It is recommended to:

- set a minimum quota for women's representation (between 40% and 50%) in national and regional AI governance bodies;
- ensure the participation of women from diverse social backgrounds;
- involve women farmers, rural communities, and vulnerable groups in national consultations on AI;
- integrate gender expertise into national ethics committees.

2.1.3 Algorithmic transparency and redress mechanisms

In the absence of a binding legal framework, stakeholders must adopt voluntary transparency measures.

To this end, it is necessary to:

- develop algorithmic transparency sheets for high-impact systems, specifying in particular:
- the system's objectives;
- the data used;
- the populations affected;
- bias prevention measures;
- designate an «ethics» focal point responsible for receiving reports of discrimination;
- conduct bias detection tests prior to any large-scale deployment;
- establish redress mechanisms accessible to users;

2.1.4. Data quality and representativeness

To limit biases associated with the use of non-representative data, it is necessary to:

- define a minimum threshold for local data representativeness;
- adopt protocols for collecting disaggregated data (gender, age, geographic area, language);
- establish minimum data quality standards in each sector.

2.1.5 Inclusive AI financing

Financing mechanisms must incorporate GEDI principles.

It is necessary to:

- integrate a GEDI assessment framework into calls for proposals;
- create financing schemes dedicated to women innovators;
- promote a parity target (at least 40%) for access to incubators and accelerators;
- incorporate social impact criteria, particularly regarding women and rural populations.

2.1.6 Alignment of AI and gender policies

National AI strategies must be aligned with national policies promoting gender equality.

Gender-related indicators and guidelines must inform the design and implementation of public AI programs.

2.1.7. Capacity building for regulatory authorities

It is necessary to strengthen the capacity of authorities responsible for GEDI matters.

To this end, it is necessary to:

- develop practical guides for bias analysis;
- implement training programs on algorithmic audits;
- increase women's representation within regulatory authorities (50% target);
- explicitly integrate GEDI competencies into the mandates of future AI authorities.

2.1.8. Regional cooperation

Regional cooperation must be strengthened to harmonize approaches.

It is necessary to:

- update regional legal frameworks to incorporate AI-related issues;

- promote exchanges between regulatory authorities;
- develop a common GEDI assessment framework applicable at the regional level;
- encourage the establishment of a regional «inclusive AI» label.

2.2 Sector-specific guidelines

2.2.1 Promoting inclusive agriculture through AI

Agricultural policies must integrate GEDI principles into the use of AI.

In particular, it is necessary to:

- implement monitoring and evaluation mechanisms that include gender-disaggregated indicators;
- ensure the accessibility of AI tools (local languages, SMS, voice messages);
- make funding conditional on the measurable consideration of GEDI principles;
- integrate inclusion criteria into research funding schemes.

2.2.2 Reducing gender inequalities in education

AI must contribute to reducing gender inequalities in the education sector.

To this end, it is necessary to:

- conduct bias audits prior to the deployment of educational tools;
- develop educational content that incorporates national languages;
- evaluate school guidance systems through gender-balanced committees;
- train teachers on issues regarding algorithmic bias and inclusion;
- promote mentorship programs for girls in STEM fields;
- integrate disaggregated monitoring indicators into educational statistical systems.

2.2.3. Promoting linguistic inclusion through AI

AI should serve as a driver for linguistic inclusion.

To this end, it is recommended to:

- fund the collection and annotation of data in local languages, following the example of the Beninese project «J'aime ma langue» (I love my language);
- develop multilingual interfaces for digital public services;
- make the inclusion of local languages a condition for eligibility in calls for projects.
- ensure that training data for Large Language Models (LLMs) representatively and equitably include female voices, minority accents, and various forms of speech or language impairments, in order to reduce bias, improve system inclusivity, and guarantee equitable performance for all users.

VI. CONCLUSION

This report presents an in-depth analysis of the policy, legal, and institutional frameworks regarding artificial intelligence in Senegal, Benin, Côte d'Ivoire, and Burkina Faso, evaluating them against GEDI principles and prevailing international standards. The findings reveal a nuanced picture, characterized by both genuine progress and persistent gaps.

All four countries demonstrate a strong political commitment to integrating digital technology and artificial intelligence into their development trajectories. Three of them—Senegal, Benin, and Côte d'Ivoire—have adopted national AI strategies that are broadly aligned with international recommendations. These strategies lay the groundwork for responsible AI governance, particularly regarding ethics, data security, and social inclusion. Existing digital legal frameworks, while predating the AI era, also provide a reasonably solid normative foundation upon which targeted reforms can be built.

However, this report highlights structural challenges that limit the ability of these states to ensure AI that is truly inclusive and compliant with GEDI principles. First, the absence of AI-specific legislation across the countries analyzed creates a concerning legal vacuum, leaving risks such as algorithmic discrimination and liability issues associated with AI systems unregulated. Second, the integration of gender considerations into AI policies remains largely superficial and lacks sufficient operationalization; with few exceptions, existing strategies barely address issues such as gender bias, equal access to technology, or equitable representation in governance bodies. Third, the institutional capacities - human, technical, and financial - of regulatory bodies appear inadequate to meet the challenges posed by AI.

Furthermore, a comparison with Kenya - an English-speaking country that has recently developed a national strategy for inclusive AI - highlights the scope for improvement and transferable best practices, particularly regarding the institutionalization of inclusion, participatory governance, and the integration of local languages into AI systems.

In light of these findings, this report sets out a series of recommendations that require a cross-cutting approach to be fully effective. The goal is not merely to address sectoral gaps but to fundamentally transform how states design, regulate, and deploy artificial intelligence. This entails embedding GEDI principles from the very outset of policy and AI system design, strengthening inclusive governance mechanisms, and engaging all stakeholders - public authorities, the private sector, civil society, the academic community, and affected populations - in an open and structured dialogue.

Artificial intelligence offers a historic opportunity for West African countries to reduce structural inequalities, improve access to essential services, and accelerate economic and social development. However, this opportunity can only be fully realized if AI systems are designed and deployed with respect for fundamental rights, human dignity, and equity among all members of society. Only then can AI become a genuine driver of inclusive economic transformation for these four countries and for West Africa as a whole.

VII. BIBLIOGRAPHY

POLITICAL AND STRATEGIC DOCUMENTS

National Artificial Intelligence Strategy (Senegal), summary of Senegal's AI strategy | Ministry of Communication, Telecommunications and the Digital Economy (numerique.gouv.sn)

National Digital Development Strategy, Technological New Deal (Senegal) <https://www.newdealtechnologique.sn/>

Economic Development Strategy: 2050 Transformation Agenda (Senegal) — Senegal 2050: National Transformation Agenda – SND | Ministry of Economy, Planning and Cooperation

National Data Strategy (Senegal), Summary of Senegal's National Data Strategy. | Ministry of Communication, Telecommunications and the Digital Economy (numerique.gouv.sn)

National Cybersecurity Strategy (2017–2022) (Senegal) : <http://www.numerique.gouv.sn/mediatheque/documentation/strategie-nationale-de-cyberscurite-snc2022#:~:text=Minist%C3%A8re%20de%20l'%C3%89conomie%20Num%C3%A9rique%20et%20des%20T%C3%A9l%C3%A9communications,-Menu&text=La%20pr%C3%A9sente%20%C2%AB%20Strat%C3%A9gie%20nationale%20de,aux%20objectifs%20de%20la%20SN2025>

Gender Equity and Equality Strategy 2016–2026 (Senegal)

Education/Training Quality, Equity, and Transparency Improvement Program 2018–2030 (Senegal)

National Food Sovereignty Strategy (Senegal).

National Artificial Intelligence Strategy 2030 (Côte d'Ivoire).

National Data Governance Strategy 2030 (Côte d'Ivoire)

National Digital Development Strategy 2021–2025 (Côte d'Ivoire)

National Development Plan 2021–2025 (Côte d'Ivoire), <https://docplayer.fr/228030345-Strategie-d-innovation-de-la-cote-d-ivoire.html>

National Innovation Strategy (2021–2025) (Côte d'Ivoire)

National Cybersecurity Strategy (2021–2025) (Côte d'Ivoire)

National Women's Empowerment Strategy 2020–2030 (Côte d'Ivoire)

National Artificial Intelligence and Big Data Strategy 2023–2027 | Digital Portal – Benin (gouv.bj) National Development Plan 2018–2025 (Benin)

Government Action Program 2021–2026 (Benin)

Burkina Faso, https://anssi.bf/fileadmin/user_upload/SNCS_BF.pdf

National Digital Agriculture Strategy (Benin) 2021-2025

National Digital Economy Development Strategy (Burkina Faso)

National Economic Development Plan 2021-2025 (Burkina Faso)

National Gender Strategy 2020-2024 (Burkina Faso)

National Artificial Intelligence Strategy (Kenya)

Digital Transformation Strategy for Africa (2020-2030)

Continental Artificial Intelligence Strategy

AU Strategy for Gender Equality and Women's Empowerment

Stratégie d'agriculture numérique de l'Union africaine`

African Union Digital Agriculture Strategy

Agenda 2063: The Africa We Want (foundational pillar)

Continental Education Strategy for Africa 2026-2035

Data Policy Framework

CEDEAO-Strategie-regionale-cybersecurite-cybercriminalite-FR.pdf

ECOWAS Regional Cybersecurity and Cybercrime Strategy

National Cybersecurity Strategy (2019-2023), Burkina Faso, https://anssi.bf/fileadmin/user_upload/SNCS_BF.pdf

REGULATORY AND LEGISLATIVE TEXTS

Constitutions

Constitution of Senegal

Constitution of Benin

Constitution of Côte d'Ivoire

Constitution of Burkina Faso

Laws and regulations

Law No. 2008-10 of January 25, 2008, establishing the framework law on the Information Society (LOSI) (Senegal)

Law No. 2008-12 of 25 January 2008 on the protection of personal data (Senegal);

Law No. 2008-08 of January 25, 2008 on Electronic Transactions (Senegal);

Law No. 2008-11 of January 25, 2008 on Cybercrime (Senegal)

Law No. 2008-09 of January 25, 2008, on Copyright and Related Rights (Senegal)

Law No. 2016-29 of November 8, 2016, amending the Penal Code (Senegal)

Law No. 2012-03 of January 3, 2012, amending and supplementing Law No. 2004-21 of July 21, 2004, on the organization and operation of statistical activities (Senegal)

Law No. 2013-546 of July 30, 2013, on electronic transactions (Côte d'Ivoire)

Law No. 2013-451 of June 19, 2013, on combating cybercrime (Côte d'Ivoire)

Law No. 2013-450 of July 19, 2013, on the protection of personal data (Côte d'Ivoire)

Law No. 2013-537 of July 30, 2013, on the organization of the statistical system (Côte d'Ivoire)

Law No. 2017-20 of June 13, 2017, establishing the Digital Code (Benin)

Law No. 99-014 of April 12, 2000, on the organization and operation of the National Statistics Council (Benin)

Law No. 045-2009/AN of November 10, 2009, on the regulation of electronic services and transactions (Burkina Faso)

Law No. 001-2021/AN of March 31, 2021, on the protection of individuals with regard to the processing of personal data (Burkina Faso)

Law No. 12-2007/AN of May 31, 2007 on statistical activities (Burkina Faso)

Law No. 025-2018 of May 31, 2018 establishing the Penal Code (Burkina Faso)

Law No. 2008-09 of January 25, 2008 on copyright and related rights (Senegal)

Law No. 2016-555 of July 26, 2016 on copyright and related rights (Côte d'Ivoire)

Law No. 032-99 AN of December 22, 1999 on copyright and related rights (Burkina Faso)

Law No. 2005-30 of April 5, 2006 on copyright and related rights (Benin)

Law No. 2009-17 of March 9, 2009 establishing the Code of Ethics for Health Research (Senegal)

Law No. 2010-40 of December 8, 2010 on ethics and professional conduct in health research (Benin)

Law No. 2020-01 of January 6, 2020 on the creation and promotion of startups (Senegal)

Law No. 2023-901 of November 23, 2023, on the promotion of digital startups (Côte d'Ivoire).

Regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence (Artificial Intelligence Act and amending certain Union legislative acts)

Implementing Decree No. 2008-721 of 30 June 2008 implementing Law No. 2008-12 of 25 January 2008 on the protection of personal data (Senegal)

Decree No. 2015-79 of 4 February 2015 establishing the procedures for filing declarations, submitting applications, and granting and withdrawing authorizations for the processing of personal data (Côte d'Ivoire)

Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act) (Text with EEA relevance).

INTERNATIONAL INSTRUMENTS ON AI

Recommendation on the Ethics of Artificial Intelligence , UNESCO, novembre 2021 ,21 p. https://unesdoc.unesco.org/ark:/48223/pf0000380455_fre/PDF/380455fre.pdf.multi

United Nations Résolution “Seizing the opportunities of safe, secure and trustworthy artificial intelligence systems for sustainable development”

“The OECD Principles on Artificial Intelligence”.

ARTICLES

Darich Eyni Kakindé, “The Rise of Artificial Intelligence: Opportunities and Challenges”, CMAF-2024_3_Intelligence_artificielle.pdf

COLLET, Isabelle “Gender bias inartificial, 2018, Portal.”

Diakité, Nanamoudou ; Diallo, Ibrahima; Sene, Babacar; Sene, Omar, octobre 2025 Digital Divide and Access to Basic Services in West Africa: Empirical Evidence on Socioeconomic Determinants

« The Pact for Egalitarian Artificial Intelligence » – (Laboratoire de l'Egalité)

”Africa’s digital sovereignty, beyond data localization “, Folashadé souldé PB_no.185FR.pdf

Digital Sovereignty in BRICS Countries: How the Global South and Emerging Power Alliances are transforming digital Governance, pp 81-102, <https://doi.org/10.1017/9781009531085.006>

Data sovereignty in Africa: steering digital transformation between China and the West, <https://doi.org/10.1365/s43439-025-00165-1> International Cybersecurity Law Review (2026)

«Taking digital inequalities seriously for digital public infrastructure and data governance » - Research ICT Africa

Ozor, N., Nwakaire, J., Salifu, D. et al. An integrated approach to gender equality, diversity, and inclusion in the development of artificial intelligence tools in agriculture and food system in Africa. *AI & Soc* 41, 2769–2781 (2026). <https://doi.org/10.1007/s00146-025-02722-y>

David ifeoluw adelinai, [2507.00297] Natural language processing for African languages

REPORTS AND STUDIES

Challenging systematic prejudices: an investigation into bias against women and girls in large language models - UNESCO Digital Library

The 2025 AI Index Report | Stanford HAI

“Bridging the gender digital divide in Africa through education”

Measuring digital development, The ICT Development Index 2025

Inclusive Digital Economy Scorecard (IDES) Report -Burkina Faso - UN Capital Development Fund (UNCDF)

“The French language in the world”, Edition 2026.pdf

“Atlas of the world’s languages in danger” – UNESCO Digital Library

State of Digital Development in Africa (UIT, 2024–2025), Publications

PublicationsMeasuring digital development Facts and Figures: Focus on Least Developed CountriesMarch 2023, International

The mobile Gender Gap Report, 2025, Gender Gap - GSMA

INTERNET SITES CONSULTED

Artificial Intelligence in Africa | Africa Data Protection

<https://www.larousse.fr/dictionnaires/francais/genre/36604>

https://www.nserc-crsng.gc.ca/_doc/Colleges-Colleges/cci-workshop-icc-ateliers_f.pdf

<https://ar-journal.com/index.php/pub/article/view/76>

« Data sovereignty: The race for Data centers in Africa – Tech in Africa

“Africa and the challenge of sovereign innovation in Artificial intelligence” - aisigil.com

Masakhane - “AWA, the artificial intelligence that speaks Senegal’s Wolof – OSIRIS”

“West and Central Africa: 40% of critical data will be hosted...(…)” - OSIRIS

Mahuna Akplogan, « The scientist who wants to bring Benin into the era of digital sovereignty »

« Mapping African digital technology ; Expanding Infrastructure , Sovereignty in question - INCYBER NEW

“ The Risks related to the lack of digital sovereignty - Sainte LUCIE -The channel reserved for your province.”

Gender – Glossary – UNESCO World Heritage Centre

(Artificial Intelligence and Gender Equality | UN Women)

Intelligence Artificial applied to Education : Faso Maths with AI assistant facilitates Mathematics Learning in Burkina – Digital Magazine Burkina.

