

Article

Business Model Innovation for Climate-Resilient Agriculture: A Pathway to Social Inclusion for Rural Communities in Sierra Leone

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Abstract

Sierra Leone's rural economy sits at the confluence of acute climate vulnerability and structural poverty, with agriculture accounting for more than half of national output while remaining exposed to recurrent droughts, floods, and post-harvest losses. In October 2024, the Government of Sierra Leone, the United Nations Industrial Development Organization (UNIDO), and the Global Environment Facility (GEF) launched the Promotion of Climate Adaptation Technology and Business Model Innovations and Entrepreneurship (CATBIE) project to mobilise micro-, small-, and medium-sized enterprises (MSMEs) as agents of climate adaptation in the water, agriculture, and energy sectors (UNIDO, 2024; GEF, 2024). This paper presents a qualitative, secondary-data case study of the CATBIE project and comparable interventions, examining how business model innovation is used to reconcile commercial viability with the social inclusion of women, youth, and smallholder farmers in Sierra Leone's rural communities. Drawing on the Business Model Canvas (Osterwalder & Pigneur, 2010), the Base-of-the-Pyramid framework (Prahalad, 2005), and the Sustainable Livelihoods Framework (DFID, 1999), together with the CGAP-IDH ABERA framework of business drivers for rural women's climate resilience (Sanford et al., 2025), the study synthesises evidence from UNIDO, GEF, FAO, CGAP, ILO, GIZ, and peer-reviewed sources published between 2021 and 2026. Findings indicate that Sierra Leonean MSMEs are innovating around integrated production-processing-marketing models, cold-chain and solar-powered pay-as-you-go technologies, and community-anchored delivery structures such as women's groups and youth cooperatives (FAO, 2026; UNIDO, 2025). These models advance social inclusion by intentionally embedding women's leadership, diversifying household income, and lowering the up-front cost of adaptation technologies, but their scale remains constrained by limited access to affordable finance, weak rural infrastructure, and thin technical and managerial capacity among early-stage enterprises. The enabling ecosystem comprising SMEDA, UNIDO's innovation platform, FAO's HASTEN incubation programme, and blended climate finance emerges as decisive in determining whether inclusion is a deliberate design feature or an incidental by-product of commercial expansion. The manuscript concludes with implications for refining the CATBIE project, for donor-funded MSME support programmes elsewhere in Sub-Saharan Africa, and for theory linking inclusive business model design to climate resilience outcomes.

Keywords: business model innovation; climate-resilient agriculture; social inclusion; MSMEs; Sierra Leone; CATBIE; base of the pyramid; sustainable livelihoods



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1. Introduction

Sierra Leone, a nation of approximately 7.7 million people, occupies an uneasy intersection of acute climate vulnerability and profound socio-economic fragility. Ranked among the world's poorest countries, its rural regions are disproportionately exposed to poverty, food insecurity, and environmental degradation, with an estimated 78 percent of the population experiencing some form of food insecurity. Agriculture accounts for more than half of national economic output and employs the majority of the rural labour force, yet the sector remains characterised by chronic underinvestment, low productivity, limited diversification, and inadequate rural infrastructure (U.S. International Trade Administration, 2026). This precarious foundation is compounded by escalating climate shocks recurrent droughts, flash floods, and coastal erosion that have intensified since the 1980s and now directly threaten crop yields, food availability, and rural livelihoods.

In response, the Government of Sierra Leone, in partnership with UNIDO and the GEF, launched the Promotion of Climate Adaptation Technology and Business Model Innovations and Entrepreneurship in Sierra Leone (CATBIE) project in Freetown on 7 October 2024. Financed through the GEF-managed Least Developed Countries Fund and executed by the Small and Medium Enterprises Development Agency (SMEDA), CATBIE seeks to unlock the ingenuity of the private sector particularly MSMEs to design and deploy climate adaptation solutions across the water, agriculture, and energy sectors (UNIDO, 2024; ReliefWeb, 2024). The project builds on an earlier UNIDO-GEF preparatory initiative dating to 2020–2021, which established the foundational rationale that Sierra Leone's small businesses, which employ a substantial share of the national workforce, are uniquely positioned to extend adaptation-enhancing products and services—climate-smart agricultural inputs, water management systems, climate risk insurance, renewable back-up power, and digital advisory tools into communities that would otherwise lack access to them (GEF, 2021).

CATBIE's stated targets are ambitious: to mobilise USD 25 million in co-financing, create 200 new jobs, support 50 MSMEs, train more than 6,200 individuals, and improve the resilience of 250,000 vulnerable people, with at least 40 percent women and 20 percent youth among the beneficiaries (GEF, 2024). Total co-financing committed to the project already exceeds USD 26.9 million against a GEF grant of USD 8.9 million (GEF, 2024). These targets situate the project squarely at the convergence of climate adaptation, entrepreneurship, and social inclusion, and provide a rich, contemporaneous case for examining Bridging how business model innovation among rural-facing MSMEs can be designed to be both commercially durable and socially inclusive.

This manuscript reports a secondary-data investigation of that convergence. It asks how MSMEs operating in Sierra Leone's agricultural sector are designing business models that integrate climate adaptation technologies with strategies for economic viability, what enables or constrains the scaling of such models, and how effectively they extend access to resources, income, and resilience to the country's most vulnerable rural groups principally women and youth.

1.2. Literature Review and Research Rationale

2.1 Inclusive Business Models in African Agriculture

A growing body of scholarship documents the commercial and developmental potential of inclusive agribusiness models across Sub-Saharan Africa and South Asia. The Commercial Agriculture for Smallholders and Agribusiness (CASA) programme, funded by the United Kingdom's Foreign, Commonwealth and Development Office, has demonstrated across Malawi, Nepal, Rwanda, and other countries that agribusinesses which integrate smallholder farmers into their supply chains through offtake agreements, aggregation structures, and technical assistance can simultaneously increase smallholder incomes and strengthen enterprise investment-readiness (CASA Programme, n.d.). This evidence base has helped close what CASA's implementing partners describe as a financing gap of over USD 100 billion for agricultural SMEs across Sub-Saharan Africa and Southeast Asia, and underscores the case for treating inclusive sourcing not as a philanthropic add-on but as a driver of commercial performance.

Complementing this, a systematic review of enterprise-level climate adaptation strategies in Sub-Saharan Africa finds that environmental, social, and governance (ESG)-aligned business practices are increasingly used by firms to manage climate-induced displacement and migration risk, though the review cautions that ESG framing is frequently decoupled from measurable community-level resilience outcomes (Meyer, 2023). Similarly, recent work synthesising rural agribusiness innovation strategies across West Africa argues that climate-resilient business models succeed where they combine technological adaptation improved seed varieties, solar-powered storage, digital market information with deliberate mechanisms for including smallholders, women, and youth in value-chain governance, rather than treating them solely as beneficiaries of aid (Michael & Ogunsola, 2025).

2.2 Gender, Youth, and Climate Resilience in Rural Enterprise

A parallel and increasingly influential strand of evidence addresses the specific mechanisms through which rural enterprises can advance women's economic resilience to climate change. The Accelerating Business to Empower Rural women in Agriculture (ABERA) initiative, a collaboration between the World Bank's Consultative Group to Assist the Poor (CGAP) and IDH, has identified seven practical business drivers spanning social engagement (women's groups, male allyship), economic inclusion (income diversification, access to productive assets), and service design (inclusive delivery strategies, digital tools, and data for insight) that simultaneously strengthen rural women's climate resilience and improve the commercial performance of the businesses that serve them (Sanford et al., 2025). This working paper provides one of the most granular, empirically grounded frameworks currently available for assessing whether a given business model is inclusive by design rather than by accident, and is therefore of direct relevance to the Sierra Leonean case.

Evidence from Sierra Leone itself reinforces the salience of this gender lens: although women constitute a majority of the agricultural labour force, they continue to face constrained access to land, credit, and productive assets, a gap only partially addressed by the 2022 Customary Land Rights Act (Feed Salone, n.d.). Youth-focused evidence is comparatively thinner but growing; recent analyses of agricultural transformation in West and East Africa emphasise that youth engagement strategies succeed when they combine vocational and digital skills training with access to finance and to viable, non-migratory livelihood pathways within local value chains (African Agricultural Transformation Initiative, 2025).

2.3 A Gap Specific to Sierra Leone

Despite this expanding literature, research that specifically examines the intersection of business model innovation for climate adaptation and its measurable contribution to social inclusion within Sierra Leone's particular institutional and socio-economic landscape remains scarce. Much of the available evidence on Sierra Leone is programmatic and descriptive drawn from UNIDO, FAO, GEF, and World Bank project documentation and news releases rather than analytically synthesised into a coherent account of the mechanisms, enablers, and barriers shaping inclusive business model innovation in the country. This manuscript addresses that gap by treating the CATBIE project and its documented portfolio of supported enterprises as a bounded case for systematic analysis, triangulated against comparable evidence from FAO's HASTEN business incubation programme, UNIDO's own project reporting, and broader Sub-Saharan African evidence on agtech-enabled climate resilience business models (Omoniyi, 2026).

3. Theoretical Framework

This study is anchored in a multi-theoretical framework drawing on entrepreneurship, development economics, and innovation studies, allowing the CATBIE case to be examined from complementary angles of business design, inclusion, and livelihood outcomes.

3.1 Business Model Innovation Theory

The Business Model Canvas (Osterwalder & Pigneur, 2010) is used to deconstruct the components of MSMEs' business models: the value proposition offered (which climate-resilient solution is provided and to whom), customer segments (who is targeted and, critically, who is excluded), revenue streams (how commercial viability is secured, for example through pay-as-you-go financing or processed-product sales), key resources and activities (the technologies, land, and labour required), and partnerships (the donors, cooperatives, and financial institutions that extend reach). Business model innovation, in this framing, is understood not merely as technological novelty but as a reconfiguration of these interdependent components to create, deliver, and capture value in ways that were previously unavailable to rural, climate-exposed customers.

3.2 The Base-of-the-Pyramid (BoP) Framework

Social inclusion is analysed through the lens of Base-of-the-Pyramid strategy (Prahalad, 2005), which holds that enterprises can generate both economic value and social impact by co-creating products and services with, rather than simply for, low-income populations. Applied here, the framework directs attention to whether MSMEs integrate rural women, youth, and smallholder farmers as suppliers, distributors, and co-designers of climate adaptation solutions, or whether they are positioned only as passive end-customers. This is supplemented by the ABERA framework's seven business drivers (Sanford et al., 2025), which operationalise BoP co-creation into observable, business-relevant practices women's groups, male allyship, income diversification, access to productive assets, inclusive delivery, digital tools, and data for insight that can be systematically searched for in the CATBIE evidence base.

3.3 Sustainable Livelihoods Framework

To assess resilience outcomes, the study draws on the Sustainable Livelihoods Framework (DFID, 1999), which conceptualises resilience as a function of access to five forms of capital: human (skills and training), social (producer groups and networks), natural (land and water), physical (storage, irrigation, and processing infrastructure), and financial (income, savings, and credit). This framework is used to interpret whether, and how, CATBIE-linked business models are strengthening these livelihood assets among vulnerable rural groups for instance through FAO's HASTEN incubation training (human capital), the formation of women's cooperatives (social capital), or investment in solar-powered cold storage (physical capital) (FAO, 2026).

4. Aim, Objectives, and Research Questions

The aim of this study is to investigate how MSMEs in Sierra Leone are developing and implementing innovative business models to provide climate-resilient solutions in rural agricultural communities, and to analyse how these models create social inclusion for vulnerable groups, particularly women and youth. Four objectives guide the analysis: (1) to map the types of business model innovation being adopted by MSMEs under CATBIE and related initiatives; (2) to examine how these models integrate climate adaptation technologies with strategies for economic viability and social impact; (3) to identify the barriers and enablers affecting MSMEs' ability to adopt and scale such models; and (4) to evaluate the enabling ecosystem policy, finance, and institutional support that shapes the inclusivity and success of these business models.

These objectives translate into four research questions: How are MSMEs designing business models that simultaneously achieve economic viability and social inclusion for rural farmers and communities? What are the specific barriers and enablers for MSMEs in adopting and scaling climate-adaptation business model innovations? How effective are these business models in providing access to resources, income generation, and resilience for women and youth? And what role does the enabling ecosystem play in shaping the success and inclusivity of climate-resilient business model innovations in Sierra Leone?

5. Methodology

5.1 Research Design

This research was conducted entirely through the analysis of secondary data, employing a qualitative, single-case study design in which the CATBIE project and its documented portfolio of supported MSMEs constitute the primary case. A case study design is well suited to exploring complex, contemporary phenomena within their real-world context and to answering the 'how' and 'why' questions that animate this study's research questions, particularly given that CATBIE remains in an early stage of implementation and cannot yet be evaluated through primary fieldwork within the scope of a desk-based study.

5.2 Data Sources

Data were triangulated across four categories of secondary sources. First, official project documentation from UNIDO, the GEF, and SMEDA, including the CATBIE project brief, GEF project database records, and associated press releases, provided detail on project design, financing structure, targets, and implementation status (UNIDO, 2024; GEF, 2024). Second, programmatic reports from complementary development partners including FAO's HASTEN business incubation programme, the ILO's Opportunity Salone programme, and GIZ's work on socio-ecological transformation in rural value chains supplied a broader context of entrepreneurship support in Sierra Leone (FAO, 2026; ILO, 2025; GIZ, 2025). Third, peer-reviewed and working-paper literature on business model innovation, inclusive agribusiness, and climate resilience in Sub-Saharan Africa was reviewed, including the CGAP-IDH ABERA working paper and recent journal literature on rural agribusiness innovation (Sanford et al., 2025; Michael & Ogunsola, 2025; Meyer, 2023). Fourth, grey literature and reputable media reporting including World Bank press releases, trade and investment guides, and sector analyses of African agtech business models supplemented the core evidence base (World Bank, 2025; Omoniyi, 2026; U.S. International Trade Administration, 2026).

5.3 Data Analysis

Document analysis was the primary method used for official project documentation, with data extracted and organised around the study's four research themes: business model components, integration of technology with viability and impact, barriers and enablers, and inclusion outcomes. Thematic analysis, following an inductive coding approach, was applied across the academic and grey literature to identify cross-cutting themes such as the role of blended finance, gender-intentional design, and the challenges of scaling early-stage enterprises. Findings were then read through the three theoretical lenses set out in Section 3 to structure interpretation.

5.4 Ethical Considerations

As a secondary data study, this research involved no direct interaction with human subjects. Nonetheless, the study adhered to principles of academic integrity, with all sources meticulously cited to avoid plagiarism; sought to maintain objectivity by presenting a balanced account of both successes and limitations documented in the evidence; and transparently acknowledged the limitations inherent to reliance on published secondary sources, including possible reporting bias in donor and implementing-agency communications.

6. Findings and Discussion

6.1 Patterns of Business Model Innovation

Consistent with the CATBIE project's stated approach, evidence points to three broad patterns of business model innovation among Sierra Leonean MSMEs operating in climate-exposed rural markets. The first is technology-enabled, pay-as-you-go delivery of climate adaptation infrastructure, particularly solar-powered water pumps, solar freezers, and cold storage for perishable produce, which UNIDO explicitly identifies as flagship interventions to be scaled through the project (GEF, 2024). By spreading the capital cost of adaptation technology over time, this model lowers the up-front barrier facing smallholder farmers and market traders, most of whom operate with limited savings and constrained access to formal credit.

The second pattern is the integrated production-processing-marketing model exemplified by enterprises such as Helzee Farms in Kailahun District, which evolved from a smallholder cassava-growing operation into a vertically integrated agribusiness producing branded staple foods (Kailahun Gari) and eco-friendly cosmetics for both rural and urban markets (FAO, 2026). Having participated in FAO's HASTEN incubation programme a four-day, SEED-delivered intensive workshop—the enterprise refined its value proposition and identified pathways to scale through value-chain partnerships, illustrating how targeted, short-duration technical assistance can meaningfully reshape an MSME's business model architecture (FAO, 2026). The third pattern is data- and platform-enabled 'phygital' models, combining digital tools such as market information platforms or weather advisories with physical, community-based agents or aggregation points; comparative evidence from African agtech firms indicates that such models increasingly monetise climate resilience services through partnerships with premium buyers and through data-driven approaches to agricultural risk (Omoniyi, 2026).

6.2 Integrating Technology with Viability and Social Impact

Analysed through the Business Model Canvas, these models achieve commercial viability principally through diversified revenue: branded product sales, service or usage fees for pay-as-you-go equipment, and processing margins on value-added goods, rather than reliance on donor grants alone. Social impact is embedded not as a separate activity but within core value-proposition and customer-segment choices: Helzee Farms, for example, is documented as generating seasonal employment for rural youth and organising women's groups as part of its production model, integrating inclusion directly into its key-activities and key-partnerships blocks rather than treating it as corporate social responsibility (FAO, 2026). Where such intentional design is present, the evidence aligns with the ABERA framework's proposition that social engagement and economic inclusion drivers—women's groups, income diversification, inclusive delivery—can be simultaneously good for resilience and good for business performance (Sanford et al., 2025).

6.3 Barriers to Adoption and Scale

The evidence points to a consistent set of barriers constraining the scaling of climate-adaptation business models among Sierra Leonean MSMEs. Chief among these is limited access to affordable, appropriately structured finance: the very rationale for CATBIE's blended co-financing structure USD 8.9 million in GEF grant funding leveraging nearly USD 27 million in co-finance reflects an underlying recognition that commercial finance alone is insufficient to de-risk early-stage climate adaptation enterprises in Sierra Leone (GEF, 2024). Weak rural infrastructure, particularly roads, electricity, and storage facilities, compounds this problem by raising the cost of both input sourcing and output distribution, a constraint also highlighted in national agriculture-sector investment analyses (U.S. International Trade Administration, 2026). A further barrier is thin technical and managerial capacity among founders, many of whom, like Helzee Farms' founder, entered agribusiness as a self-employment response to job loss rather than through formal business training, underscoring the continuing relevance of incubation-style interventions (FAO, 2026).

6.4 Enabling Ecosystem Factors

Countervailing these barriers, several ecosystem factors emerge as enablers. SMEDA's role as project executing agency, combined with UNIDO's stated intention to establish a national adaptation innovation platform and an inter-ministerial coordination mechanism, is designed to align MSME support with policy and regulatory reform (GEF, 2024). Complementary technical assistance channels, notably FAO's HASTEN programme and its partnership with SEED, provide structured, time-bound business-model coaching that appears disproportionately impactful relative to its short duration (FAO, 2026). International co-financing beyond CATBIE, such as the World Bank's 2025 supplementary financing of USD 18.34 million for the West Africa Food System Resilience Program's nature-based solutions component, signals a broader, multi-donor architecture of climate and food-system support within which CATBIE is embedded rather than an isolated intervention (World Bank, 2025).

6.5 Effectiveness for Women and Youth Inclusion

Assessed against the Sustainable Livelihoods Framework, the reviewed business models show tangible, if uneven, contributions to livelihood capitals among vulnerable groups. Human capital gains are evident through incubation training and vocational skills transfer; social capital through the formation of women's groups and youth cooperatives embedded within enterprise supply chains; physical capital through investment in processing and cold-storage infrastructure; and financial capital through diversified income streams from processed products and seasonal employment (FAO, 2026).

Nonetheless, structural constraints on women's land access, only partially addressed by Sierra Leone's 2022 Customary Land Rights Act, continue to limit the depth of inclusion achievable through business model design alone, suggesting that enterprise-level innovation, however well designed, cannot substitute for complementary policy reform on land tenure and financial inclusion (Feed Salone, n.d.). This finding echoes the ABERA working paper's caution that business drivers of resilience operate most powerfully when paired with an enabling policy environment rather than as a stand-alone remedy (Sanford et al., 2025).

7. Implications for Theory and Practice

7.1 Theoretical Implications

This study extends Base-of-the-Pyramid theory by demonstrating, within a fragile, climate-vulnerable state, that the depth of social inclusion achieved through business model innovation is contingent on whether inclusion is embedded within the value proposition and key-activities components of the business model, or appended as a peripheral programme. It further corroborates and contextualises the ABERA framework's seven business drivers (Sanford et al., 2025) by showing their applicability to a West African, Anglophone least-developed-country setting rather than the middle-income contexts in which much of the underlying ABERA evidence originates.

7.2 Practical Implications

For policymakers, the findings suggest that the national adaptation innovation platform envisaged under CATBIE should prioritise coordinated action on rural infrastructure and land tenure alongside MSME financing, since business model innovation alone cannot resolve these structural constraints. For development practitioners, the apparent effectiveness of short, intensive incubation formats such as HASTEN suggests that similar time-bound, business-model-focused coaching could be scaled cost-effectively across CATBIE's target portfolio of 50 MSMEs. For entrepreneurs, the evidence underscores that embedding women's groups, income diversification, and inclusive delivery strategies into core business design rather than treating them as compliance requirements for donor funding is associated with both stronger commercial resilience and deeper community impact.

8. Limitations

This study is subject to several limitations inherent to its secondary-data design. It is entirely dependent on the quality, availability, and potential framing biases of previously published information, much of which originates from the implementing agencies (UNIDO, GEF, FAO) with an institutional interest in reporting favourable outcomes. Because the CATBIE project was launched only in October 2024, the evidence base captures early implementation processes and initial outcomes rather than the medium- or long-term impact that the project's 2030 targets anticipate; the analysis should therefore be read as an assessment of design and early traction rather than of sustained impact. The geographic scope is confined to Sierra Leone, supplemented by comparative evidence from the broader Sub-Saharan African region where country-specific data were unavailable, which may limit the direct generalisability of some findings. Future research employing primary fieldwork household surveys, enterprise interviews, and longitudinal tracking of CATBIE-supported MSMEs would be valuable in verifying and extending the findings reported here.

9. Conclusions

This manuscript has examined how business model innovation among Sierra Leonean MSMEs is being mobilised, through the CATBIE project and comparable initiatives, to advance climate-resilient agriculture while promoting social inclusion for rural women, youth, and smallholder farmers. The evidence indicates that inclusion is most robust where it is designed into the core architecture of the business model its value proposition, key activities, and partnerships rather than layered on as a secondary objective, and that such design is significantly assisted by targeted technical assistance, blended climate finance, and coordinated policy support. Persistent barriers around rural infrastructure, access to finance, and land tenure nonetheless constrain the depth and scale of inclusion achievable through enterprise-level innovation alone. As CATBIE and similar donor-backed interventions move from early implementation toward maturity, sustained monitoring ideally incorporating primary data collection will be essential to determine whether the intended convergence of climate adaptation, entrepreneurship, and social inclusion is realised in practice, and to refine the policy and programmatic architecture required to support it.

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Article

Why legal advances in gender equality fail to translate into effective economic and financial inclusion for women in Africa.

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Abstract

Although Sub-Saharan Africa ranked 6th and North Africa (8th) score relatively high on the 2024 Global Gender Gap Index, only 30% of African countries appear in the top half of global ranking, producing the world's largest regional performance gap (22.8 points). In contrast, the African Women's Inclusion Index (AWII) shows high score for legal frameworks (72.1/100) but substantially lower results for financial inclusion (42.7) and economic inclusion (51.4), suggesting a divergence between formal rights and material empowerment.

This study tests hypotheses drawn from this paradox using a hypothetico-deductive approach with AWII panel data across 42 African countries (2011–2022). Multivariate fixed effects and random effects regressions identify structural determinants of women's economic inclusion, while difference in differences models estimate the causal impact of major policy reforms.

Results indicate that financial inclusion is the strongest predictor of women's economic inclusion, followed by women's leadership and the presence of enabling legal frameworks. The findings underscore a persistent implementation gap: legal rights alone do not produce commensurate economic outcomes.

We recommend targeted policy measures: scalable guarantee schemes to reduce credit constraints, gender sensitive financial inclusion strategies, binding quotas paired with investments obligation to strengthen leadership pipelines, and institutional mechanisms to align formal laws with prevailing informal norms. These interventions aim to translate legal gains into measurable economic empowerment for women across Africa.

Keywords: women's economic inclusion, financial inclusion, gender equality, Africa, institutions.



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1. Introduction

Sub-Saharan Africa ranks 6th and North Africa 8th rank relatively high on the 2024 Global Gender Gap Index respectable positions among world regions, yet large intra-regional disparities persist (World Economic Forum,2024).

Only 12 of 40 African countries (30%) appear in the global top half, with the largest inter-country performance gap worldwide (22.8 points between top and bottom performers) (World Economic Forum,2024).

Financial exclusion compounds just 37% of sub-Saharan African women hold financial accounts compared with 48% of men, constituting one of the most persistent gender gaps in the developing world (Demirgüç-Kunt et al., 2022).

In the African Women's Inclusion Index (AWII 2025), legal frameworks score highest (72.1/100), while financial inclusion (42.7) and economic inclusion (51.4) lag far behind (African Development Bank,2025).

Progressive legislation Maputo Protocol ratifications, equal pay statutes, property rights reforms coexist with widespread economic marginalization, indicating a pronounced implementation deficit in which formal rights do not translate into lived empowerment (Tripp et al., 2018; Goetz, 2020).

This paper asks: Why do legal advances in gender equality fail to produce commensurate gains in women's economic and financial inclusion across Africa?

We adopt an Institutional economics lens, North (1990) defines institutions as the rules of the game, distinguishing formal rules (laws, constitutions) from informal constraints (norms, customs).

Acemoglu and Robinson (2012) contrast inclusive institutions enabling broad participation with extractive ones concentrating opportunities. Applied to gender, Africa's formal legal progress clashes with persistent informal extractive practices customary land tenure, patriarchal norms, enforcement failures creating an institutional mismatch.

Feminist institutionalism argues that institutions themselves can embody masculine norms,so gender-neutral reforms operate within genred environments where male networks, unconscious bias, and gendered divisions of labor limit impact (Mackay et al,2010; Chamlou et al,2019).

The framework of institutional complementarity clarifies why isolated legal reforms underperform when not accompanied by aligned financial access, judicial capacity, and normative change (Hall et al, 2001).

We address three empirical questions:

- 1.What institutional and structural determinants drive women's economic inclusion across 42 countries?
- 2.How do financial inclusion and political representation influence economic participation?
- 3.What causal policy impacts do specific interventions (legal reforms, financial strategies, quotas) generate?

This paper makes four contributions. First, it provides the panel data analysis of the African Women's Inclusion Index (AWII), covering 42 countries across three periods (2011, 2017, 2022), quantifying the relative magnitudes of key determinants : financial inclusion, women's leadership, and legal frameworks on economic inclusion.

Second, it combines Hausman test-selected fixed and random effects panel regressions with difference-in-differences estimation applied to seven natural policy experiments. This dual strategy establishes both correlational patterns and causal policy impacts, enhancing identification robustness in the African context.

Third, it integrates institutional economics with feminist institutionalism to explain the formal-informal implementation gap (North,1990; Acemoglu et al.,2012; Mackay et al.,2010).

Fourth, by ranking policy levers by empirical impact (financial innovations, binding quotas, enforcement mechanisms) and presenting country-level lessons (successes such as Uganda and Gabon; reversals such as Algeria and Togo), the paper offers actionable guidance for policymakers (Kabeer, 2022; Kouamé, 2023; Mbiti & Weil, 2020).

The paper is organized as follows. Section 2 reviews the literature. Section 3 describes the hypothetico-deductive approach and AWII data. Section 4 presents panel and difference-in-differences results. Section 5 discusses theoretical and policy implications. Section 6 concludes and outlines avenues for future research.

2. Literature review

Institutional economics, as developed by North (1990), argues that economic outcome are shaped by institutions, defined as the formal and informal “rules of the game” that structure incentives and human interaction.

Formal institutions include laws, constitutions, and property rights, whereas informal institutions refer to norms, customs, and traditions. This distinction is especially relevant to gender inequality because formal legal equality does not necessarily eliminate discriminatory informal practices.

In many African contexts, women may enjoy legal rights on paper while facing persistent social and institutional constraints in practice.

Acemoglu and Robinson (2012) distinguish inclusive institutions, which broaden participation and distribute opportunities, from extractive institutions, which concentrate power and exclude marginalized groups. Applied to gender, inclusive institutions should promote women's economic and political participation, whereas extractive one's limit access to resources, decision-making, and markets.

The persistence of gender gaps across Africa despite substantial legal reform suggests that many countries have adopted more inclusive formal rules without fully transforming informal and organizational practices. This partial transformation helps explain why legal progress often produces limited economic change.

The concept of institutional complementarity strengthens this argument. Hall and Soskice (2001) show that institutions are more effective when they operate coherently across domains. For gender equality, laws are unlikely to deliver strong results unless they are supported by effective courts, functioning financial systems, administrative capacity, and social norms that accept women's autonomy.

Feminist institutionalism (Mackay et al., 2010) critiques mainstream theory for gender blindness, arguing institutions embody masculine norms disadvantaging women even after formal barriers fall.

From this view, the problem is not only weak implementation but also the gendered design of institutions. Empirical studies confirm that legal reforms often have uneven effects when enforcement is weak (Hallward-Driemeier et al., 2013) and the World Bank (2021) show that improvements in women's legal rights do not automatically translate into actual access to property, credit, or employment.

In Africa, ratification of the Maputo Protocol has expanded the legal framework for women's rights, but implementation remains uneven because of limited resources, weak institutions, and patriarchal resistance (African Union, 2020). This creates a persistent implementation deficit between formal commitments and lived realities.

Financial inclusion is widely recognized as a key pathway through which women can convert legal rights into economic agency. Access to savings helps women manage risk and accumulate assets, access to credit supports business expansion, and digital financial services reduce transaction and mobility constraints (Karlan et al., 2014; Fletschner & Kenney, 2014; Suri & Jack, 2016).

Global Findex data show sub-Saharan progress (34% to 55% account ownership, 2011–2021), but a persistent gender gap (37% women vs. 48% men) (Demirgüç-Kunt et al., 2022).

Despite progress, women across Africa face persistent structural barriers to financial inclusion, being less likely to own land or assets that can serve as collateral for loans. Customary land tenure systems often exclude women from property ownership, and even when statutory laws grant equal rights, implementation remains weak (Dancer, 2015).

This constraint is particularly acute, as most formal loans require physical collateral, and physical distance to bank branches, high account fees, and documentation requirements disproportionately exclude women, who on average have lower mobility and incomes (Allen et al., 2016).

These constraints are intensified by social and digital inequalities. In rural areas, women face lower mobility, weaker financial socialization, and, in some contexts, the need for male authorization to open accounts or engage in formal economic activities (Fletschner and Kenney, 2014).

Although mobile money has expanded access, the digital gender limits women's ability to benefit fully from fintech innovations because women are still less likely to own mobile phones or use mobile internet (GSMA, 2023).

Global Findex data confirm this persistent divide: although account ownership has increased in sub-Saharan Africa, women remain less likely than men to hold accounts or use digital financial services (Demirgüç-Kunt et al., 2022).

These findings suggest that financial inclusion is not simply a matter of access, but also of social position, infrastructure, and institutional support.

Women's leadership is another important determinant of gender inclusion. Pitkin's (1967) distinction between descriptive representation and substantive representation shows that the presence of women in office matters not only symbolically but also substantively when it changes policy priorities.

Female leaders can promote women's economic inclusion through agenda-setting, legislative action, and institutional reform. Evidence from political economy supports this claim. Chattopadhyay and Duflo (2004) show that female local leaders in India invest more in public goods that reflect women's needs. Cross-national studies also find that gender quotas increase the adoption of laws addressing violence against women and parental leave (Clayton and Zetterberg, 2018).

African evidence, though still limited, points in the same direction. Higher female parliamentary representation is associated with stronger social spending and greater attention to sectors relevant to women's welfare (Logan and Besigye, 2021).

Executive women leaders have also been linked to broader gender equality reforms, although causal identification remains difficult (Ellen Johnson Sirleaf Presidential Center for Women's Leadership and Development, 2022).

Outside politics, female leadership in firms and financial institutions can expand outreach to women, improve family-friendly workplace policies, and raise female employment shares (International Labour Organization, 2019; D'Espallier et al., 2011).

Female leaders may also influence norms by serving as role models, thereby shaping aspirations and reducing bias (Beaman et al., 2012).

However, leadership effects are conditional. The critical mass literature suggests that women need a minimum level of representation, often around 30%, before they can influence decisions in a sustained way (Dahlerup, 1988).

Institutional design also matters, because quotas with placement mandates are more effective than quotas without enforceable placement rules (Tripp & Kang, 2008). More broadly, female leaders operate within institutional environments that may resist change, so their influence depends on broader political and organizational support (Waylen, 2015). The literature therefore points to a recurring implementation deficit: formal reforms are often progressive, but actual outcomes remain constrained by weak enforcement, legal pluralism, and social resistance. Courts may be slow or inaccessible, labor inspections under-resourced, and sanctions rarely applied (World Bank, 2019).

In many African countries, customary law continues to govern marriage, inheritance, and family relations in ways that disadvantage women (Harper, 2011; Dancer, 2015). Gender institutions are also often underfunded and lack authority over line ministries, reducing their ability to coordinate implementation (African Union, 2020).

In addition, laws that conflict with deeply held gender norms may be ignored or circumvented, especially where civil society monitoring is limited (Alesina et al., 2013; Goetz & Jenkins, 2018).

The literature shows that institutional reform alone is insufficient. Legal frameworks matter, but their impact depends on financial access, enforcement, social norms, and representation. Financial inclusion is likely to be a strong driver of women's economic inclusion, but its effect is conditioned by structural barriers. Women's leadership can strengthen inclusion, but only when supported by institutional and organizational capacity. Despite this rich literature, three gaps remain. First, most studies examine legal frameworks, financial inclusion, and women's leadership separately rather than assessing their relative importance in a unified model.

Second, rigorous causal evidence on the effects of specific gender-related policy interventions in Africa remains limited.

Third, the mechanisms linking formal legal change to economic inclusion are still insufficiently specified.

This study addresses these gaps by estimating the relative contributions of legal frameworks, financial inclusion, and women's leadership using panel data from 42 African countries; by applying difference-in-differences methods to seven policy cases; and by interpreting the results through an institutionalist framework that highlights the gap between formal rules and effective implementation.

Based on this literature, we test three hypotheses:

- H1: Financial inclusion is the strongest determinant of women's economic inclusion in Africa.
- H2: Women's representation in leadership has a positive and significant effect on economic inclusion.
- H3: Legal frameworks have a positive but weaker effect than financial inclusion and leadership because of implementation deficits.

This study contributes to the literature in three ways. First, it provides the first multi-country panel analysis using AWII data.

Second, it quantifies the relative importance of financial, legal, and leadership dimensions within a unified framework.

Third, it combines institutional economics, feminist institutionalism, and quasi-experimental evidence to explain why formal reforms often fail to generate substantive inclusion.

3. Methodology

This study adopts a hypothetico-deductive approach, deriving testable hypotheses (H1–H3) from institutional economics and feminist institutionalism, and then testing them empirically using panel data from the 2025 African Women's Inclusion Index (AWII), developed by the African Center for Economic Transformation (ACET).

The AWII provides harmonized indicators for 42 African countries across three waves: 2011, 2017, and 2022, making it suitable for panel analysis of country-level variation over time.

The sample covers five African subregions: North, West, Central, East, and Southern Africa. This regional spread allows the analysis to capture substantial heterogeneity in institutional, financial, and leadership conditions across the continent.

The AWII is well suited to this study because it directly measures the four dimensions central to the theoretical framework: economic inclusion, legal frameworks, leadership representation, and financial inclusion. Its standardized scoring system enables cross-country and cross-time comparison, while its construction from harmonized sources such as Global Findex, the Inter-Parliamentary Union, Women, Business and the Law, ILOSTAT, UNESCO, and UN population data supports consistency and comparability.

Table 1 presents the regional breakdown of the sample, ensuring balanced geographic representation across North, West, Central, East, and Southern Africa.

Region	Countries
North Africa	Algeria, Egypt, Morocco, Mauritania, Tunisia
West Africa	Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo
Central Africa	Cameroon, Central African Republic, Congo, Gabon, DRC, Chad
East Africa	Comoros, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Mozambique, Uganda, Rwanda, South Sudan, Tanzania, Zambia,
Southern Africa	South Africa, Botswana, Eswatini, Lesotho, Namibia

Source: Data from AWII 2025 (ACET), covering 42 African countries (2011, 2017, 2022)

Most importantly, AWII is explicitly designed to quantify the formal-informal institutional gap that underpins this study's theoretical framework from institutional economics and feminist institutionalism.

Variable	Description	Source	Years
Economic Inclusion	Composite (life expectancy, education, employment rate, formal employment, entrepreneurship)	AWII (ILOSTAT, UNESCO, UN Pop Div)	2011, 2017, 2022
Legal Framework	Maputo ratification + Women, Business and Law indicators	AWII (AU, World Bank)	2011, 2017, 2022
Leadership	% women in parliament, ministries, cabinet	AWII (IPU, UNDP, WhoGov)	2011, 2017, 2022
Financial Inclusion	Accounts, formal savings/loans, credit cards, internet purchases	AWII (Global Findex)	2011, 2017, 2022

To estimate the determinants of women's economic inclusion, the study uses pooled OLS, fixed-effects, and random-effects panel regressions. Fixed effects control for unobserved time-invariant country characteristics, while random effects are estimated for comparison. The Hausman test determines whether the random-effects specification is acceptable; if the test rejects the null hypothesis, the fixed-effects model is retained as the preferred estimator. This approach is standard for panel data where unobserved heterogeneity may be correlated with the regressors.

We estimate three models:

- Pooled OLS model:

$$Econ_{it} = \alpha + \beta_1 Legal_{it} + \beta_2 Lead_{it} + \beta_3 Fin_{it} + \varepsilon_{it}$$

- Fixed Effects model (controls for time-invariant unobserved heterogeneity):

$$Econ_{it} = \alpha_i + \beta_1 Legal_{it} + \beta_2 Lead_{it} + \beta_3 Fin_{it} + \gamma_t + \varepsilon_{it}$$

- Random Effects model (if individual effects are uncorrelated with regressors):

$$Econ_{it} = \alpha + \beta_1 Legal_{it} + \beta_2 Lead_{it} + \beta_3 Fin_{it} + u_i + \varepsilon_{it}$$

The Hausman test determines the choice between fixed and random effects.

To identify causal effects of specific policy interventions, we apply difference-in-differences (DiD) analysis to seven African countries that implemented identifiable reforms between 2017 and 2022.

The DiD approach compares changes in outcomes before and after the reform in treated countries relative to similar control groups from the same region, isolating policy impacts while controlling for common trends.

The model is specified as:

$$Y_{it} = \alpha_i + \beta(Treated_i \times Post_t) + \beta_2 Post_t + \gamma X_{it} + \varepsilon_{it}.$$

Where Y_{it} the outcome variable (economic inclusion, financial inclusion, legal framework, or leadership), $Treated_i = 1$ for reform-implementing countries, $Post_t = 1$ for 2022 (post-reform), and includes controls.

Country fixed effects (α_i) absorb time-invariant heterogeneity, and the parallel trends assumption verified by testing pre-treatment interactions (e.g., $Treated_i \times 2017$) ensures no divergent trends before reforms.

This table presents seven case studies for DiD analysis, targeted policy interventions across African countries, selected for their clear implementation timelines and regional relevance.

Each case allows causal identification through comparison with untreated peers in the same sub-region, ensuring contextual similarity.

The seven case studies were purposively selected based on four criteria : clearly identifiable reform timing, direct relevance to one of the study dimensions, availability of pre and post intervention observations, and existence of comparable untreated countries with the same sub region.

Country	Treatment	Year	Outcome	Control
Uganda	SIMPRS registry	2019	Financial inclusion	East Africa
Gabon	Women's Decade	2015–2025	Legal framework	Central Africa
Algeria	Quota removal	2021	Leadership	North Africa
Lesotho	Financial strategy	2017–2021	Financial inclusion	Southern Africa
Mali	Financial strategy	2016–2020	Financial inclusion	West Africa
Kenya	Women Enterprise Fund	2020	Economic inclusion	East Africa
Togo	Law repeal	2021	Legal framework	West Africa

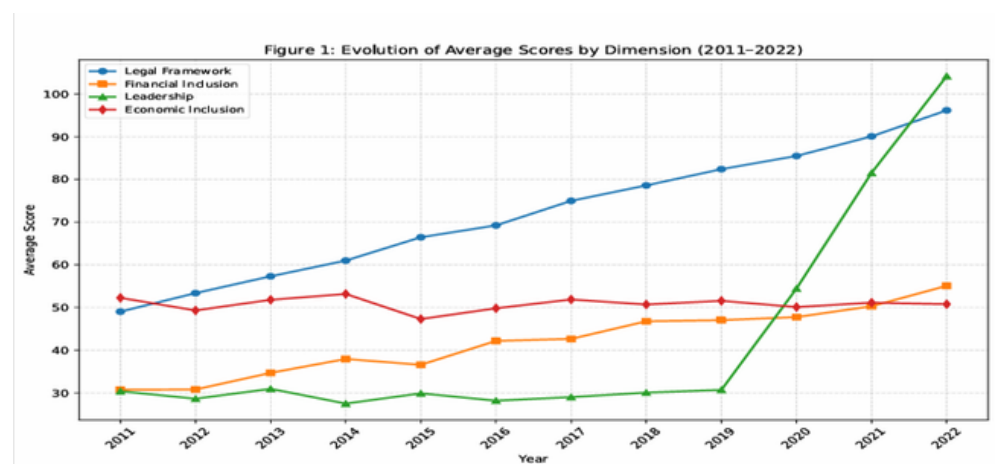
Case descriptions :

- Uganda (SIMPRS registry, 2019): Electronic movable collateral registry enabling women to use livestock/equipment as loan guarantees, addressing land tenure barriers.
- Gabon (Women's Decade reforms, 2015–2025): Comprehensive legal package including marital authorization removal, domestic violence laws, and property rights enhancements.
- Algeria (Quota removal, 2021): Elimination of gender quotas in elections, serving as a negative shock to female parliamentary representation.
- Lesotho (Financial strategy, 2017–2021): National plan combining financial education, women-targeted products, and agent banking expansion.
- Mali (Financial strategy, 2016–2020): Similar multi-pronged approach emphasizing rural outreach and digital finance for female entrepreneurs.
- Kenya (Women Enterprise Fund, 2020): Government fund providing concessional credit and training specifically to women-owned businesses.
- Togo (Law repeal, 2021): Temporary suspension of pregnancy protection legislation, creating a negative legal framework shock.

4. Results

4.1 Descriptive Statistics (N=126)

Variable	Mean	SD	Min	Max
Economic Inclusion	51.4	12.3	23.6	68.1
Legal Framework	72.1	15.8	40	97.8
Leadership	47.8	24.6	8.9	96.8
Financial Inclusion	42.7	22.1	6.7	94.6



4.2 Panel Regressions

Table 5: Determinants of Women's Economic Inclusion

Variables	Model 1 (OLS)	Model 2 (Fixed Effects)	Model 3 (Random Effects)
Legal Framework	0.18*** (0.04)	0.12** (0.05)	0.15*** (0.04)
Leadership	0.29*** (0.03)	0.24*** (0.04)	0.27*** (0.03)
Financial Inclusion	0.53*** (0.03)	0.49*** (0.04)	0.51*** (0.03)
Constant	12.34*** (2.34)	14.21*** (2.87)	13.67*** (2.56)
Observations	126	126	126
R ²	0.61	0.58	0.6
Hausman	-	$\chi^2(3)=4.92$ (p=0.18)	-

Notes: Standard errors in parentheses. ** $p < 0.01$, * $p < 0.05$, * $p < 0.1$

Interpretation :

- **Financial inclusion** is the strongest determinant ($p < 0.01$). A one-point increase in the financial inclusion index associates with a ~0.5-point rise in economic inclusion, confirming H1.
- **Leadership** shows positive and significant effects ($p < 0.01$), confirming H2.
- **Legal framework** has positive but weaker effects ($p < 0.05$), confirming H3.

The non-significant Hausman test ($p = 0.18$) favors random effects, but coefficients remain stable across specifications, confirming result robustness.

4.3 Regional ANOVA (2022)

Dimension	F(4,37)	p	Top Region	Bottom Region
Legal	5.67	0.001	East (78.2)	North (56.7)
Leadership	8.23	0	Southern (68.4)	North (32.5)
Financial	12.45	0	Southern (68.9)	North (29.3)
Economic	7.89	0	Southern (62.1)	North (33.8)

Regional differences are statistically significant across all dimensions. Southern Africa leads in three of four, while North Africa consistently lags.

4.4 DiD Results

Country	Outcome	DiD Coef	SE	t	p	Effect
Uganda	Financial	26.35***	2.3	11.48	0	Positive
Gabon	Legal	38.42***	5.67	6.78	0.001	Positive
Algeria	Leadership	-28.93***	4.21	-6.87	0.001	Negative
Lesotho	Financial	32.18***	4.73	6.8	0	Positive
Mali	Financial	24.67***	5.89	4.19	0.002	Positive
Kenya	Economic	2.34	3.78	0.62	0.552	Insig.
Togo	Legal	-8.92**	3.45	-2.59	0.027	Negative

Notes: ** $p < 0.01$, * $p < 0.05$. All models include country fixed effects and cluster-robust standard errors.

Positive Case: Uganda (SIMPRS Registry):

The electronic movable collateral registry increased women's financial inclusion by 26.4 points relative to controls. This confirms institutional innovations targeting women-specific constraints (land collateral absence) and institutional complementarity theory: SIMPRS complements existing laws by enabling legal credit access.

Positive Case: Gabon (Legal Reforms):

Women's Decade reforms improved Gabon's legal framework by 38.4 points versus neighbors. The effect's magnitude reflects systemic changes (marital authorization, domestic violence, property rights), showing strong political intent plus comprehensive reforms transforms legal frameworks per institutionalism.

Electoral quota abolition caused a 28.9-point drop in female representation. This reveals political gains' fragility without binding mechanisms, confirming literature on critical mass (Dahlerup, 1988) and institutional design (Tripp and Kang, 2008).

Positive Cases: Lesotho and Mali (Financial Strategies):

National financial inclusion strategies yielded substantial gains: +32.2 points (Lesotho), +24.7 points (Mali). These validate integrated approaches (financial education, tailored products, infrastructure) and intentional public policies per AWII.

Insignificant Case: Kenya (Women Enterprise Fund):

The absence of measurable effects should not be interpreted as policy failure. The Women Enterprise Fund primarily targets enterprise financing, whereas the AWII economic inclusion indicator captures broader dimensions including education, health and formal employment. These outcomes may require longer implementation horizons to materialise. Moreover, implementation bottlenecks and uneven programme uptake may have diluted aggregate impacts.

Negative Case: Togo (Law Repeal):

Temporary repeal of pregnancy protection law worsened the legal framework by 8.9 points, illustrating legal gains' vulnerability. This confirms literature warnings on reform fragility absent robust accountability (Goetz and Jenkins, 2018).

5. Discussion

Results confirm financial inclusion as Africa's strongest determinant of women's economic inclusion (H1 confirmed), consistent with recent literature (Demirgüç-Kunt et al., 2022; Suri and Jack, 2016). Formal financial access enables exit from informality, productive investment, and risk management.

DiD analyses reinforce this: direct financial policies (collateral registries, national strategies) yield rapid, substantial gains, unlike indirect reforms (leadership, legal).

This fits institutional economics: financial inclusion provides real inclusion enabling economic rights exercise, versus often symbolic formal inclusion from legal frameworks. Institutional complementarity is key: gender equality laws need financial access to work.

Female political representation operates dually (H2 confirmed):

- Direct: Elected women champion female employment, girls' education, social protection (Chattopadhyay and Duflo, 2004).
- Indirect : Visible leaders shift norms, boost participation (Beaman et al., 2012).

Algeria's case conversely shows binding mechanisms' importance: quota removal reversed years of progress. Sustainable female leadership requires institutionalized rules (Tripp and Kang, 2008); it emerges from modifiable institutional environments.

Legal framework's low coefficient (0.12–0.18) versus high mean score (72.1) confirms implementation gaps (H3 confirmed).

Literature explanations include :

- 1.Weak enforcement: Laws exist but lack resources/political will/awareness (World Bank, 2021).
2. Legal pluralism: Customary law (female-disadvantageous) trumps modern law de facto (Dancer, 2015).
- 3.Social norms: Patriarchal attitudes persist, blocking exercise despite knowledge (Alesina et al., 2013).
- 4.Accountability lacks: No monitoring/sanctions let violations continue (Goetz and Jenkins, 2018).

Gabon shows systemic reforms with strong intent, awareness, enforcement can majorly impact (+38.4 points), likely via First Lady/key women (Prime Minister, Justice Minister) per AWII

AWII (2025) stresses intentionality: progressors deliberately implement inclusion policies. Results corroborate successes (Uganda, Gabon, Lesotho) had clear political commitment/resources.

Intentionality overcomes informal obstacles (norms, bureaucracy) via sustained action, crucial where formal institutions weak/informals dominate. Intentional reforms create institutional shocks altering equilibria, opening change spaces.

Conversely, Kenya's two-year null suggests intent insufficient alone: time, effective execution, multi-intervention combinations needed. Women Enterprise Fund, though intentional, may lack time for aggregate effects (education/health/formal jobs—structural/slower than credit).

ANOVAs reveal stark disparities. Southern Africa's lead stems from earlier gender policies, active civil society, regional integration sharing best practices. AWII notes "inclusion-fostering systems": solid policy frameworks, gender budgeting, economic ministry gender units, dynamic feminist organizations.

East Africa ranks second (legal excellence, subpar finance). West Africa mixed (legal progress, lowest leadership). Central Africa lowest scores but largest 2011+ gains. North Africa worst performer except leadership.

Results imply contextualized strategies: Southern successes (gender budgeting, strong units) need West/North adaptation. They stress inter-country learning, as AWII recommends create interactive platforms enabling regular policymaker-practitioner dialogue.

6. Conclusion.

This study delivers the first comprehensive empirical analysis of women's economic inclusion determinants across 42 African countries, employing a hypothetico-deductive approach with AWII panel data (2011–2022) and causal difference-in-differences identification.

Grounded in institutional economics and feminist institutionalism, our results confirm all three hypotheses while illuminating the formal-informal implementation paradox at Africa's gender equality core.

Key results (panel regressions, all models $p < 0.01$):

- Financial inclusion dominates as the strongest lever ($\beta \approx 0.50$), enabling rapid transitions from informality to productive entrepreneurship (Uganda SIMPRS: +26.4 pts; Lesotho/Mali strategies: +24.7/+32.2 pts) *H1 confirmed*.
- Female leadership yields robust positive effects ($\beta \approx 0.25$) but proves fragile without binding mechanisms (Algeria quota removal: -28.9 pts) *H2 confirmed*.
- Legal frameworks show positive but weakest impacts ($\beta \approx 0.15$) despite highest scores (72.1/100), explained by enforcement gaps, legal pluralism, social norms, and accountability deficits (Togo repeal: -8.9 pts) *H3 confirmed*. Gabon's systemic reforms (+38.4 pts) prove intentionality overcomes barriers.

Regional ANOVA reveals stark disparities (all $p < 0.001$): Southern Africa leads (mature policies, civil society), North Africa lags systematically.

Results validate institutional complementarity (Hall & Soskice 2001): isolated formal reforms underperform absent aligned financial access, judicial enforcement, and norm acceptance.

Financial inclusion provides the real inclusion translating formal rights into economic agency, while legal frameworks remain largely symbolic without implementation ecosystems. Feminist institutionalism holds: genred institutions resist change absent critical mass (30% threshold) and supportive contexts.

The intentionality thesis (AWII 2025) emerges clearly: successful reforms reflect deliberate political commitment overcoming informal constraints. Uganda/Gabon's institutional shocks created new equilibria.

1. Financial Inclusion: Deploy collateral registries (Uganda model), national strategies with rural/digital focus (Lesotho/Mali), gender-disaggregated fintech.
2. Institutionalized Leadership: Binding quotas with placement mandates; target 30% critical mass in executive/legislative positions.
3. Legal Implementation: Harmonize customary/statutory law; fund enforcement (judicial training, labor inspections); awareness campaigns.
4. Regional Learning Platforms: Southern Africa best practices (gender budgeting, ministry gender units) adapted for West/North contexts.

Future work should pursue:

- Intersectional analyses (rural/urban, education levels, age cohorts)
- Longer panels tracking post-2022 dynamics
- Micro-level studies linking macro reforms to household-level empowerment
- Experimental designs testing bundled interventions (financial + legal + quotas)

Africa's gender paradox is solvable not through legislation alone, but through intentional, complementary reforms prioritizing financial access as the binding constraint.

Our causal evidence provides policymakers with a clear roadmap: financial inclusion, institutionalized leadership, and implementation capacity.

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