Available on: https://jmrr.ep-journals.org/ E-ISSN: 3051-3588 P-ISSN: 3051-357X

Journal of Management Research and Review

Volume: 02 Issue: 02 February-2026

Enhancing Sustainable Development Goals (SDGs) Progress in Africa: A Systematic Literature Review Focused on Risk Management Measures in Nigeria, Ethiopia, Ghana, and Kenya

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Published Date: February 18, 2026 **Article DOI: 10.65150/EP-jmrr/V2E2/2026-05**

ABSTRACT: The implementation of the United Nations (UN) Sustainable Development Goals (SDGs) in Africa is seriously being undermined by a complicated paradigm of economic, social and environmental risks. Risk management is recognised as key to sustainable development, yet there is a large shortcoming when it comes to comparative multi-country analysis that systematically addresses these risks and the corresponding mitigation. The present work fills this gap by providing a Systematic Literature Review of four strategically significant African countries, namely Nigeria, Ethiopia, Ghana and Kenya. Based on the risk management framework from ISO 31000 perspectives, this study systematically summarize studies to compare the dimensions of risk landscape. The results illustrate differentiated but related risk futures: Nigeria and Ethiopia are primarily threatened by political and economic instability, whereas Ghana and Kenya experience growing pressures from rapid urbanisation and environmental degradation. The review aggregates a set of proposed risk management actions and processes into policy and governance, technological and infrastructural, community-based, as well as finance-focused-strategies. But a key finding is that there is a massive evidence gap around the monitoring and evaluation of how effective such measures are. The paper concludes that the main message for SDG implementation is that risk management is not an add-on but a core enabler of resilient development. It presents implementation recommendation that are applicable to policy makers, development partners and researchers calling for the institutionalization of risk registries, context- specific interventions and a reinvigorated research agenda focusing on comparative and longitudinal assessments aimed at expediting SDG goal attainment in the African continent.

KEYWORDS: Africa Development, Ethiopia, Ghana, ISO 31000 Framework, Kenya, Nigeria, Resilience Planning, Risk Management, Sustainable Development Goals (SDGs), Systematic Literature Review (SLR)

1. INTRODUCTION

The UN Sustainable Development Goals (SDGs), and Agenda 2030 in Africa face complex webs of risks and uncertainties that may hamper the pursuit of these visionary agendas (Nguyen et al., 2023), in connection with the 17 UN SDGs and 169 targets till 2030 (United Nations, 2015).



Figure 1: United Nations Sustainable Development Goals (SDGs)
Image: Author compilation (Adopted from United Nations (2015)

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Sustainable
DEVELOPMENT GOALS

The inclusion of robust risk management practices is critical in addressing these challenges and promoting sustainable progress toward the overarching goal of ending poverty, protecting the planet, and ensuring peace and prosperity for everyone globally (United Nations, 2015), as stated in the SDGs demand resilient solutions that are resistant to multiple forms of risks such as natural disasters, economic shocks and social turbulence" including Manab and Aziz (2019). While literature recognises the foundational significance of risk management for the SDGs (Cernev & Fenner, 2020; Flood et al., 2022) and investigates its role in areas such as health (Ghadimi, 2018), a substantial knowledge gap remains. Most studies are cursory or remain purely theoretical, country-based or sectoral. What is missing is a targeted, comparative and systematic examination that identifies and compares the unique economic, social and environmental risks obstructing SDG achievement in the prominent African economies as well as an integration of the recommended risk management strategies based on their local contexts.

The aim of this paper, therefore, is to address these gaps by way of a Systematic Literature Review from four strategically positioned and diverse African countries, Nigeria, Ethiopia, Ghana and Kenya. Through synthesising established scholarship, it brings a comparative and nuanced comprehension of the risk context to bear on how resilience can be developed in SDG implementation. As such, it adds in a distinctive manner to debates around risk by 'going beyond "one size fits all" recommendations and the development of context-based policy support' and providing knowledge on the topic for both policy and research: reframing risk as an issue at the core, rather than periphery, to sustainable development in Africa.

1.1. Research Questions

Motivated by these gaps in the literature, the review is designed to answer the following research question:

RQ1: What are the causal and paired economic, social, and environmental risks to SDG 2030 targets gathered in the literature for Nigeria, Ethiopia, Ghana and Kenya?

RQ2: What risk management measures, strategies or frameworks to address these identified risks in order to promote SDG progress in one of the four case study countries?

RQ3: From the synthesis of evidence, what are emerging gaps in current risk-informed SDG Implementation research and practice in these countries and what are potential areas for future research, policy or practice initiatives indicated?

2. LITERATURE REVIEW

2.1. The Sustainable Development Goals (SDGs) in Africa: A Context of Challenge and Opportunity

The adoption of the 2030 Agenda for Sustainable Development along with its 17 SDGs had become a commitment by all, to end poverty and ensure shared prosperity (United Nations -UN- 2015). The SDGs are closely linked to one another and include economic, social and environmental dimensions of development. Yet, the African continent has its own set of challenges in realizing these objectives. While there has been progress in some areas, the region still lags in terms of achieving most of the SDG targets by 2030 (UNDP, 2021). However, working towards these aims is challenged by multiple sources of risks and vulnerabilities that are perceived to slow progress, including widespread poverty, lack of infrastructure, and low institutional capacity (Nguyen et al., 2023; Steynor and Pasquini, 2019). Africa is also particularly vulnerable to climate change and ecological degradation, which makes existing vulnerabilities worse and adds new risks to livelihoods (IPCC, 2023; Baarsch et al., 2020). This complex environment highlights the need for resilience strategies to cope with these kinds of different shocks and pressures.

2.2. The Risk Landscape in Nigeria, Ethiopia, Ghana, and Kenya: A Comparative Analysis

The challenges are continent-wide, but then the exposure happens in a national way with different characteristics. A comparative risk analysis for Nigeria, Ethiopia, Ghana and Kenya exposes characteristic but sometimes overlapping - risk profiles that present direct challenges to SDG achievement. In order to give our readers a more succinct exposure, the key risks identified in literature for these four countries are classified and tabulated being formed as Table 1 below.

Table 1: Comparative Analysis of Key SDG Risks in Nigeria, Ethiopia, Ghana, and Kenya

Risk Category	Nigeria	Ethiopia	Ghana	Kenya
Economic Risks	Political tension, economic uncertainty, security challenges (Ukeyima, 2024).	Political and ethnic disputes, reliance on rain- fed agriculture (Clapham, 2018).		Market volatility, high public debt.
Social Risks	-	-	Poor healthcare systems, such as during outbreaks of emerging diseases (Harrison et al., 2020).	Social inequities, influences of rapid urbanization (Mutisya et al., 2019).

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Risk Category	Nigeria	Ethiopia	Ghana	Kenya
Environmental Risks	Floods, drought and desertification (Babamaaji et al., 2023; Echendu, 2020).	Potential causing erratic precipitation, drought, climate related risks on agriculture (Solomon et al.,2021)).	Environmental destruction, wanton felling of trees and unsound exploitation (Atampugre et al., 2024).	Soil degradation (Bennett et al., 2019).

Indeed, as depicted in table 1, both Nigeria and Ethiopia are affected by heavy political and governance related economic risks that can disrupt development planning and discourage investors (Clapham, 2018; Ukeyima, 2024). Environmental risks are also everywhere, with direct damage to agriculture and food security (SDG 2) from climate variability, most notably in Ethiopia and Kenya. Nigeria and Ghana experience environmental damage, while natural disasters like flooding, have a direct impact on infrastructure and livelihoods (SDG 9 and 11). Despite the rumors, in terms of society, Ghana's history of health emergencies and Kenya's fast urbanization show risks to SDG 3 (Good Health) and SDG 11 (Sustainable Cities). This comparative perspective validates the claim that an off-the-shelf method to implement SDGs would not work; risk management must be contextually grounded.

2.3. Risk Management as a Catalyst for SDG Achievement

The complex risk scene described above provides a strong argument to embed disaster risk management into development planning in a systematic manner. Risk management, whereby risks are systematically identified, analyzed and ranked vis-à-vis the likelihood of occurrence is not just a defensive game; it is an enabler for implementing the SDGS (Michael, 2020). There is considerable empirical evidence that it deserves.

Researchers contend that applying an efficient risk management is essential for SDGs related to the inter linkages like water, energy, food security sectors (KOS2050) (Marouani et al., 2020; Amorim et al., 2018)). In addition, SDG 3 (Good Health and Well-being) is facilitated by risk management as it contributes to the response of health risks through investment in infrastructure and early warning systems (Alemu & Mukinda, 2019). It is the principle that practical activities are showing to be the truth in practice, for example, in Africa. The provision of rainfall insurance schemes has been demonstrated to induce smallholder farmers in many African countries to purchase agricultural inputs leading to increased productivity and food security (SDG 2) and building climate-resilience into their systems (Ariom et al., 2022). Community disaster preparedness programs also have the potential to build resilience and decrease people's vulnerability to natural hazards, promoting proactive risk management at the community level (Kayamba-Phiri et al., 2023).

Incorporating risk management principles into SDG implementation frameworks will enable this transition from a reactive toa proactive posture by stakeholders. It facilitates the recognition and management of potential threats as well as the utilization of opportunities for transformative change while making development gains, sustainable and resilient (Amponsah and Acquah, 2020; Bandari et al., 2022). This synthesis confirms that risk management is a keystone of sustained develoment activity in Africa. However, as posited in the introduction, these aspects are frequently treated separatedly by the literature. Accordingly, this review provides critical background to the study herein: a comprehensive consolidation of this knowledge to yield an actionable, comparative appreciation of risk and response for four strategically important African countries.

3. THEORETICAL FRAMEWORK

The perspective taken by this research is rooted in the Theoretical framework and ISO 31000:2018 Risk Management Guidelines. The ISO 31000 standard offers an internationally acknowledged, principles-based generic framework to manage risk of any type and scale in any sector and organization, running from national development planning (ISO, 2018). This framework was selected because it goes beyond the generic conceptualization of 'Risk Management' and provides a structured, iterative approach that may be readily operationalised to consider how risks to the SDGs can be more systematically addressed.

The nucleus of the ISO 31000 procedure is a set of prescribed activities: identification, analysis and evaluation as well as treatment of risk based on supporting iterations through these stages that also ensure periodic communication, monitoring and review of decisions made throughout all steps (including establishing context). This method is borrowed in this paper as the point of view to examine and integrate the literature.

The implementation rationale and the conduct of this SLR are modelled according to the standard ISO 31000 principles:

1. Establishing the Context: In Nigeria, Ethiopia, Ghana and Kenya (the focus of this review), the pursuit of the SDGs explicitly sets out the internal and external context within which risks are being analysed as mandated by ISO 31000.

2. Risk Assessment (RQ1): The process of SLR is basically a systematic risk identification exercise. This paper acts in a large scale the ISO 31000 identification step for its best practices by means of evidence gathering and synthesis from literature. The second part of risk typology (Identification, Analysis and Evaluation) was to categorize the risks into economic, social or environmental type and analyzed by all four countries in order to give an overall comparative view in risk issues.

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3. Risk Treatment (RQ2): This synthesis of proposed risks mitigation measures, risk management approaches and frameworks within literature is equivalent to the "Risk Treatment" stage as defined by ISO 31000. This review compiles the "measures of treatment" proposed by researchers and clinicians to intervene in the present identified risk factors.

4. Monitoring, Review and Communication (RQ3): The last part of this SLR regarding gaps & future directions can be one example form for the principle which is "Monitoring and Review". This study examines the overall quality or healthiness and completeness of a "risk management system" (where risks are managed) for the SDGs in the literature based on an ISO 31000 framework related to risk management, and strive for improving it.

Utilizing the normative standard of ISO 31000, this research shifts beyond passive literature review in providing a more active and systematic investigation on what risk means to implementing African SDGs, yet how some understand them. This provides solid, standardized and theoretically based ground for the whole research project.

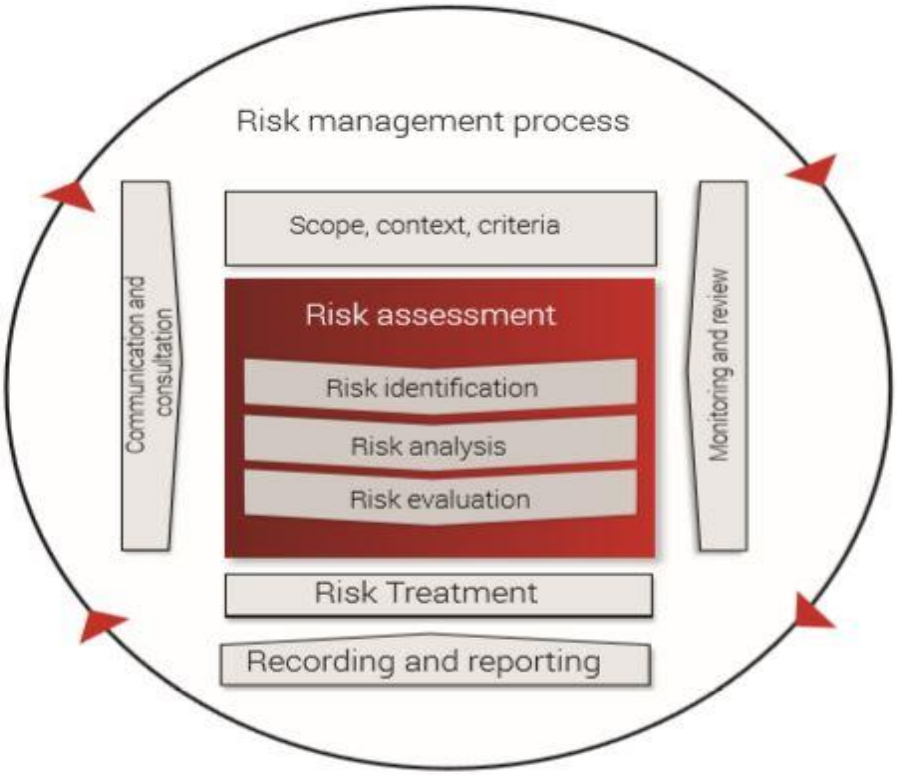


Fig 2: ISO 31000:2018 Risk Management Guidelines

4. RESEARCH METHODOLOGY

4.1. Research Design

The research is based on a Systematic Literature Review (SLR). SLR is a rigorous, transparent and systematic psych formatted way of identifying, evaluating, and synthesizing existing research relevant to the research question (Kitchenham & Charters, 2007). An SLR differs from a narrative review in that it is conducted based on predefined criteria to avoid bias and to provide as complete coverage of the literature as possible. This method was chosen as it would ensure a robust and auditable summary of the current knowledge base regarding risk and SDG progress in the focal countries and directly serve to address this identified research gap.

4.2. Review Protocol

A protocol was prepared in advance of the review to specify the search strategy and inclusion/exclusion criteria, so that the review could be done with reliability and repeatability. The protocol was developed according to the PCC (Population, Concept, and Context) framework (Stovold et al., 2019), which is recommended for scoping reviews and systematic evidence syntheses.

a) Population/setting: The four African countries- Nigeria, Ethiopia, Ghana and Kenya were the geographical emphasis.

b) Concepts: The main concepts are (1) Risks to the SDG and 2.Risk management measures.

c) Context: The targeted phenomena are the adoption and performance of SDGs.

4.3. Eligibility Criteria

The following predefined criteria were used to select studies:

Inclusion Criteria:

a) Articles published in peer-reviewed journals, proceedings of conferences and relevant reports from international organisations (such as UNDP, World Bank).

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b) Papers in English published from the time of the adoption of the SDGs in 2015 until now (2024).
c) Papers that refer explicitly to a combination of at least one of the four countries AND one or more SDGs AND component of risk or risk management.

Exclusion Criteria:

a) Studies not conducted in at least one of the four countries criteria.
b) Articles published prior to 2015 or in a language other than English.
c) Opinion papers, editorials and non-academic publications that do not demonstrate a clear methodological foundation.
d) Research just citing "sustainability" is too general and uses SDG as a jargon.

4.4. Information Sources and Search Strategy

A specific protocol was applied conducting systematic searching on three major databases: Scopus, Web of Science, and ScienceDirect to obtain a good coverage. Forward and backward searches were conducted in Google Scholar to locate further literature.
A search strategy was developed using a combination of keywords and Boolean operators specific to the PCC construct. The site was searched using the following search translated to the require languages for each database to be interrogated.

Sample Search String:

("Nigeria" OR "Ethiopia" OR "Ghana" OR "Kenya") AND ("risk management" OR "risk assessment" OR "risk mitigation" OR "+resilience") + (“Sustainable Development Goal” or “SDG”)

4.5. Study Selection Process

The process of selection studies was conducted in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statement (Page et al., 2021. The process involved four stages:

Identification: Database search and records identified.
Screening: First screening of titles and abstracts based on eligibility.
Inclusion: Full texts of potentially relevant studies in final eligibility assessment.
Eligibility: Studies that was included in the qualitative synthesis.
All initial screening was done by the first author, and a second researcher verified a random sample of excluded studies to maximize consistency and minimize bias.

4.6. Data Extraction and Synthesis

Data from the selected studies were entered into a predesigned data extraction form according to the Cochrane protocol and using Microsoft Excel. Key information extracted included:

Details of the bibliographic reference: Author(s), year of publication, article title, source.
Characteristics: Country focus; main SDG discussed; type of research.
Risk Information: Identified risk (whether it is Economic, Social, Environmental) and action deactivated on SDGs.
Risk Management Information: Particular risk management interventions, strategies or models suggested or reviewed.

Key findings and conclusions

Considering that the included studies were expected to be diverse (e.g., in terms of methodological approaches; foci on different SDGs), a thematic narrative synthesis was used. This process included summarizing, sorting and interpreting the extracted data to find themes and patterns that directly address the research questions (RQ1, RQ2, and RQ3). The results are reported in a way that allows for comparisons between the four countries and three levels of risk.

5. RESULTS AND FINDINGS

5.1. Systematic Search Results

This review of the literature aims at synthesizing existing knowledge on risks to SDG achievement and risk management in Nigeria, Ethiopia, Ghana, and Kenya. The first search of academic databases and relevant organisational websites returned a literature base; following screening, qualitative synthesis was conducted of these source studies. The search strategy aimed to identify the most recent and influential research published in post-2015 since the inception of the SDGs.

5.2. Descriptive Overview of the Included Literature

The synthesized evidence indicates an accumulating involvement of academia and the advancement of not only academic but also practical contributions regarding this nexus between risk management and impact on the SDGs in the focus countries. The evidence indicates that:

a) Temporal distribution: Publications, which had been increasing over time, became more concentrated starting from 2018 as the complexity of SDG implementation became visible and the first progress reviews were published.
b) Geographic focus: The literature is strong in terms of each specific country, with a much larger number of studies on Nigeria and Kenya. But one central conclusion of this review is the lack of directly comparative studies exploring risks and responses across two or more of the four nations concurrently.
c) Methods: Evidence is primarily drawn from qualitative case studies and policy analyses (e.g., Clapham, 2018; Ukeyima, 2024), supplemented by quantitative work modelling the impacts of climate (e.g., Solomon et al., 2021) and documenting social change (e.g., Mutisya et al., 2019).

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5.3. Thematic Results

Key Risks to SDG Attainment (RQ1) Theme 1 - Clarity for implementation of the goals/prioritization It is widely acknowledged that the goals are multifaceted and it was agreed by participants that to assure achievement, targets must be clearly articulated.

The synthesis illustrates a nuanced and interconnected risk environment that poses direct challenges to achieving the SDGs. The results for RQ1 are presented in Table 3, which contains a comparison of the main economic, social and environmental risks revealed by the literature assessed.

Table 2: Synthesized Findings on Key SDG Risks (Based on Literature Review)

Risk Category	Nigeria	Ethiopia	Ghana	Kenya
Economic Risks	Political uncertainty, economic insecurity and security risks (Ukeyima, 2024) that disrupt the development planning and discourage investments with demolishing effect on SDG 8 (Decent work) and SDG 16 (Peaceful societies).	Economic fragility, as well political and ethnic tensions (Clapham, 2018) coupled with relatively high dependence on rain-fed agriculture also undermine SDGs 2 (Zero Hunger), 9 (Industry and Innovation).	Unstable markets and how that affects the cost of imports, i.e. lifesaving medications and technology are a major threat to SDG 3 (Good Health) and SDG 9.	High levels of public debt (World Bank, 2021) also constrain fiscal space for investment in social programmes (SDG 1, 3), and essential infrastructure (SDG 9).
Social Risks	Notwithstanding, weak health systems especially in rural settings are a major constraint to attainment of SDG 3 (Pona et al., 2021).	Poor access to quality education in the rural areas deters the development of human capital and SDG 4. "Cidadauc massaia seke ni"; or, "too many can occur": gender violence and the war on daughters in Democratic Republic of Congo With issues such as child rape and forced marriage still being a major challenge to SDG 5 (Gender Equality).	The lack of a strong health system, glaring during pandemics has direct relevance with SDG 3 (Harrison et al., 2020).	Pressures of hasty urbanization without accompanying planning contribute to increasing inequalities and present a threat to the achievement of SDG 11 (Sustainable Cities) (Mutisya et al., 2019).
Environmental Risks	Cyclic flooding undermines infrastructure (SDG 9) and leads to human fatalities (SDG 3), as desertification in the north challenges malnutrition (SDG 2) security (Babamaaji et al., 2023; Echendu, 2020).	Drought and erratic rainfall events are common risks caused by climate change leading to crop failures and livestock losses with direct implications for SDG 2 and even more poverty, that is SDG 1 (Solomon et al., 2021).	Destruction of the environment, deforestation and unsustainable use of resources (Atampugre et al., 2024) are threats to ecosystem integrity and progress towards SDG15 (Life on Land), SDG12 (Responsible Consumption).	The consequences of deforestation, soil erosion and water scarcity (Bennett et al., 2019) are critical for agriculture (SDG 2), biodiversity (SDG 15) and availability to clean water (SDG 6).

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5.4. Themed Findings: Risk Control Measures (RQ2)

The risk management interventions listed in the literature can be classified into three types.

1. **Policy and Governance Interventions:** A crosscutting intervention emerged in the literature which is around mainstreaming risk assessment into national and sub-national development planning (Amponsah & Acquah, 2020). For example, in Ethiopia establishment of drought early warning systems is a common practice related to safeguarding agricultural livelihoods and the attainment of SDG2 (Egeru, 2016).
2. **Biophysical and Infrastructural Schemes:** Addressing environmental hazards, the empirical cases of Nigeria and Kenya suggest that investments in climate resilient infrastructure, including irrigation facilities as well as flood control walls, play a pivotal role for securing SDG 9 (Industry, Innovation and Infrastructure) and SDG 11 (Sustainable Cities) from climate-induced hazards.
3. **Community-Based and Financial Measures:** Literature effectively shows the usefulness of community based disaster risk reduction committees in increasing local resilience and reducing vulnerability to natural hazards (Kayamba-Phiri et al., 2023). In mitigating economic uncertainty, it is recommended through studies to diversify an economy like Ghana's which depends on commodities as a way of withstanding global shocks in commodity prices (Osabohien et al., 2020). As well, market-based instruments such as rainfall insurance schemes have been demonstrated to motivate smallholder farmers to purchase agricultural inputs and boost productivity and food security (SDG 2) (Ariom et al., 2022).

6. DISCUSSION

6.1. Interpretation of the Synthesized Risk Landscape

This review of the literature provides clear evidence that in Nigeria, Ethiopia, Ghana and Kenya the road to the SDGs is characterised by deeply rooted and inter-related risks. The examination of hazards shows that they do not exist in isolation; rather, they are intertwined. A still-cutting threat that magnifies economic and social vulnerabilities is climate-related environmental risks, which are present in all four countries. For example, in Ethiopia drought (Solomon et al., 2021) contributes to economic risk (poverty) and social risk (forced migration and conflict over resources) directly, while flooding in Nigeria causes damage to infrastructure (SDG 9) as well endangers public health (SDG 3). It illustrates the integrated nature of the targets and their obstacles, confirming that an advance in one target may easily be counteracted by unmitigated risk within another.

In addition, Table 2's comparative perspective demonstrates that while every country is still challenged across all three risk categories, their predominant burden varies. Both Nigeria and Ethiopia face serious political and governance risks, which are extremely damaging, weakening the foundation for any development activity. Ghana and Kenya, on the other hand, given their own political risks, are under distinct pressure from rapid urbanisation and environmental degradation. This variation conclusively proves that a one size fits all approach to the implementation of the SDGs will not work as, context-specific risk management strategies would be necessary for impact.

6.2. Discussion Based on the ISO 31000 Framework

These results are framed within the language of ISO 31000 risk management and highlight a sharp asymmetry between current literature as well as practice. The synthesis also displays a relative large amount of effort on Risk Identification (answering RQ1), demonstrated through the explicit recording of risks in Table 3. A lot of attention is also paid to Risk Treatment alternatives (to answer RQ2), where different policy, industrial and societal actions are proposed. Nevertheless, the synthesis identifies a significant gap in the Monitoring and Review (MR) dimension of ISO 31000. Very few studies focus on monitoring and evaluating the efficacy of fielded risk treatments against identifiable SDG indicators. The literature abounds with suggestions for early warning systems and climate-resilient infrastructure, but such approaches remain largely untested in terms of their long-term effects on SDG advancement. This is a big disconnect between proposed policy and what the data suggest, so there isn't much help for policymakers in terms of knowing what works or why. This bias indicates that the current mode of risk-informed SDG application is usually inadequate. The risk management system is simply not capable of learning, evolving and improving over time without a robust feedback loop for monitoring and review -it would be impotent in the face of this range and type of challenge.

6.3. Answering RQ3: Critical Gaps and Future Research Directions

Need still exist a body of research investigating intervention effects on mood-related outcomes after OMT. Three significant gaps in the evidence base for and practice of risk-informed SDG implementation emerge from the synthesis:

1. **The Implementation-Evaluation Disconnect:** As mentioned, there is a dearth of longitudinal quantitative studies that you can look at and say 'This intervention caused this to happen on this risk management indicator for these reasons', right? The science is strong on what we should do but weak on demonstrating what works.
2. **The Comparative Analysis Gap:** There is no shortage of country specific case studies yet there is a disturbing shortage of true comparative, cross-country work. Such studies would be able to evaluate why a particular risk treatment works in one setting (for example, Kenya's community-based strategies) and why the same risk treatment does not work or is never tried elsewhere (eg Nigeria) and promoting learning.
3. **The public sector integration gap:** Most studies seek to address the role of governments, NGOS and communities. The use of private-sector risk management instruments, i.e., supply chain resilience, impact investing and ESG (Environment, Social & Governance) frameworks as possible direct contributors to public SDG targets is vastly underexplored.

Consequently, future research should urgently:

a) Use quasi-experimental and longitudinal designs to robustly assess the contribution of specific risk treatment interventions to SDG outcomes.

b) Create and implement comparative case study approaches to systematically examine risk governance criticalities and treatment effectiveness across national borders 68.

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c) Focus on the relationship between corporate risk management, ESG performance and public SDG advancement and examination of models for effective public-private collaboration.

6.4. Implications for Policy and Practice

The researchers argued that for policymakers and practitioners to support risk governance in Nigeria, Ethiopia, Ghana and Kenya is essential as a matter of urgency. What our work demonstrates is that risk cannot be managed in the silos of sectors: an environmental risk such as flooding necessitates a response from ministries in agriculture, health, infrastructure and finance. Moreover, this paper strongly recommends that the ISO 31000 framework should be operationalised through national SDG risk registries. These registries would establish an active, organized process to track and monitor the most critical obstacles on the path to 2030. Institutionalizing this process would allow governments to transition from an ad-hoc, reactive response towards a proactive (strategic), evidence-based one that will protect SDG progress. This means not only planning and implementing but learning from the results of those actions quickly to shape a more resilient development trajectory.

7. CONCLUSION AND RECOMMENDATIONS

7.1. Summary of Key Insights

The aim of the present SLR was to map the complex risk environment and draw out the risk response strategies necessary for SDG attainment in four major African economies Nigeria, Ethiopia, Ghana and Kenya. The study makes clear that these countries are confronted with complex and intertwined economic, social and environmental vulnerabilities. The report indicates that although all these countries face climate vulnerabilities, their risk profiles look markedly different - from the political and economic instability in Nigeria and Ethiopia, to urbanization and environmental degradation pressures in Ghana and Kenya. Additionally, the review distilled a compendium of advocated risk management strategies with an emphasis on policy and governance reforms, investments in technology and community-based initiatives. But more importantly is the consistent absence of evidence around monitoring and evaluation of the effectiveness of these measures, suggesting that there is a lack of complete application of the risk management cycle into practice.

7.2. Theoretical and Practical Contribution

In theory, this article contributes to the literature by not merely recognizing risk in generic terms. The systematic use of the ISO 31000 risk management framework, it offers a uniform and iterative perspective with which to approach and examine challenges in achieving SDGs. This approach has facilitated a step-by-step move from the passive review of literature to an active, systematic analysis of how risk is defined and managed in the context of African SDGs. At a pragmatic level, this study provides an integrated comparative evidence base for policymakers in the focus countries and international development partners. It synthesizes the scattered academic knowledge into a condensed synthesis and points to commonalities and differences of experiences which can inform development actors in designing more resilient, contextually adjusted SDG interventions.

7.3. Actionable Recommendations

To operationalise the results of this study for policy, donors and academia, the paper recommends the following:

1. **Stop:** Governments should cease treating the implementation of the SDGs and risk management as two distinct issues. Risk-informed: From the beginning, national and sub-national development plans that address SDGs have to be structured with an explicit resource allocation for risk assessment and mitigation.
2. **Start:** Governments and development partners should begin institutionalizing the ISO 31000 framework by developing and maintaining national SDG risk registries. Such dynamic mechanisms would allow the systematic identification, assessment, treatment and perhaps most importantly monitoring of key bottlenecks to the 2030 Agenda – closing that vital feedback loop identified in this paper.
3. **Continue:** The academic and development community will need to continue producing context-specific evidence but with an updated strategic attention to comparative, transferable insights. Longitudinal studies of effectiveness of interventions and cross-country comparisons are needed for research agendas to accelerate learning and to transfer successful risk treatments across the African continent.

If these suggestions are embraced, all the role players could work together to ensure that risk management in Africa becomes a theory into a core and leading implementer of resilient and sustainable development.

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