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Critical Appraisal of Articles on Cross-Border Infrastructure Development in Africa

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Abstract *Cross-border infrastructure development has become increasingly central to Africa's regional integration and economic transformation agenda, particularly under frameworks such as the African Continental Free Trade Area (AfCFTA), Agenda 2063, and the Program for Infrastructure Development in Africa (PIDA). This narrative review critically appraised existing literature on cross-border infrastructure development across Africa, focusing on transport corridors, energy networks, trade facilitation systems, financing models, governance structures, and socio-economic implications. The review revealed a broad consensus in the literature that regional infrastructure connectivity can reduce trade costs, improve market accessibility, stimulate industrialization, and strengthen intra-African cooperation. However, the literature remains fragmented across disciplines, regions, and methodological approaches. Existing studies are heavily concentrated in selected countries and sub-regions, while several parts of Central and West Africa remain underexplored. The review further identified an overemphasis on physical infrastructure development with comparatively limited attention given to soft infrastructure components such as institutional coordination, customs harmonization, border governance, and regulatory integration. Significant methodological weaknesses, theoretical inconsistencies, and limited post-implementation evaluations were also observed. In addition, emerging concerns regarding environmental sustainability, climate resilience, community displacement, and uneven socio-economic benefits remain insufficiently addressed in the current literature. Ultimately, the review demonstrates that while Africa has made considerable progress in expanding regional infrastructure networks, the translation of these investments into sustainable and inclusive outcomes of regional integration remains constrained by governance deficiencies, financing challenges, institutional fragmentation, and weak policy coordination. The study highlights the need for more interdisciplinary, context-sensitive, and empirically grounded research to address the complex realities of cross-border infrastructure development in Africa.*

Keywords *Africa, Cross-border, Development, Infrastructure.*

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Introduction

The pursuit of regional integration has increasingly become a central development strategy across Africa, particularly in response to the continent's long-standing infrastructural deficits, fragmented markets, and high trade transaction costs [1, 2] Over the past two decades, African governments and regional institutions have intensified efforts toward fostering economic cooperation and interconnected development through frameworks such as the African Union Agenda 2063 and the African Continental Free Trade Area (AfCFTA) [3, 4]. These continental initiatives are designed to promote economic transformation, industrialization, mobility, and sustainable development by enhancing regional connectivity and reducing barriers to intra-African trade [4]. Despite Africa's enormous resource endowment and growing population, intra-African trade remains comparatively low compared with other regions globally, largely due to inadequate and poorly interconnected infrastructure [2, 5]. Consequently, cross-border infrastructure development has emerged as a strategic mechanism for deepening regional integration and stimulating economic growth across the continent.

Cross-border infrastructure encompasses transnational transport corridors, railways, highways, energy transmission networks, pipelines, telecommunications systems, ports, and water resource projects that physically and economically connect two or more countries. Such infrastructure is widely recognized as a critical enabler of trade facilitation, market expansion, regional value chains, and socio-economic integration. Several scholars have argued that efficient regional infrastructure networks significantly reduce transportation and logistics costs, improve market accessibility, and enhance competitiveness within regional and global markets [6]. For instance, Calderón et al. emphasized that Africa's infrastructure gap substantially contributes to elevated trade and freight costs, thereby limiting productivity and economic integration across the continent [7]. Similarly, Fujimura highlighted that investments in regional transport and energy corridors can strengthen cross-border economic activities while fostering long-term regional cooperation [6]. These perspectives reinforce the growing consensus that infrastructure connectivity constitutes a foundational pillar for achieving the objectives of AfCFTA and broader continental development aspirations.

In recent years, scholarly interest in African cross-border infrastructure development has expanded considerably, producing a broad and multidisciplinary body of literature spanning economics, political science, development studies, engineering, geography, environmental studies, and international relations [8]. Existing studies have examined diverse themes, including transport corridor efficiency, financing mechanisms, public-private partnerships, geopolitical influences, governance structures, environmental sustainability, and the socio-economic implications of regional infrastructure projects [9]. Furthermore, significant attention has been devoted to major continental initiatives, including the Program for Infrastructure Development in Africa (PIDA), transnational railway systems, regional power pools, and strategic trade corridors linking African sub-regions [10]. Despite the increasing volume of publications, the literature remains highly fragmented in thematic orientation, methodological approaches, geographical coverage, and analytical depth [11].

A major challenge within the existing scholarship lies in navigating the dispersed and uneven nature of studies addressing African regional infrastructure networks [11]. While some articles focus predominantly on economic outcomes such as trade enhancement and growth stimulation, others emphasize governance challenges, political dynamics, environmental concerns, or

financing arrangements [9]. In many instances, studies are geographically concentrated in selected regions, such as East and Southern Africa, with comparatively limited attention to Central and parts of West Africa [12]. Moreover, variations in methodological rigor, conceptual frameworks, and empirical approaches have created inconsistencies in findings and interpretations across the literature. Consequently, there remains a need for a comprehensive appraisal that synthesizes and critically evaluates the existing body of knowledge to identify prevailing trends, scholarly strengths, conceptual limitations, and unresolved research gaps.

Against this backdrop, the present narrative review seeks to critically appraise the peer-reviewed literature on cross-border infrastructure development in Africa. Specifically, the review aims to evaluate the methodological approaches employed by scholars, examine the dominant thematic areas within the literature, assess the geographical distribution of existing studies, and identify systemic gaps that require further scholarly attention. By consolidating and critically interrogating existing research, this review aims to provide a clearer understanding of how cross-border infrastructure development has been conceptualized and analyzed in African scholarship, while also highlighting areas that require more robust empirical and theoretical exploration.

The scope of this appraisal is limited to scholarly publications and relevant institutional studies published from 2000 to the present, reflecting the period during which regional integration initiatives and continental infrastructure programs gained substantial momentum in Africa. The review specifically focuses on cross-border and transnational infrastructure assets, including transportation networks, energy systems, digital connectivity infrastructure, and transboundary resource projects that facilitate regional integration among African states. Domestic infrastructure projects lacking explicit regional or transnational dimensions are excluded from the appraisal. Through this delimitation, the review seeks to maintain analytical coherence while providing a focused examination of literature addressing infrastructure connectivity within the broader context of African regional integration and development.

Methodology

This narrative review adopted a qualitative approach to evaluate existing literature on cross-border infrastructure development in Africa critically. Relevant studies published between 2000 and 2026 were identified through searches conducted using Google Scholar. Google Scholar was used to retrieve peer-reviewed journal articles and conference papers. The search strategy employed combinations of keywords and Boolean operators, including "cross-border infrastructure in Africa," "regional infrastructure development," "African transport corridors," "cross-border energy projects," "regional integration and infrastructure," "trade corridors in Africa," and "infrastructure financing in Africa." Reference lists of selected studies were also screened to identify additional relevant publications.

Included studies comprised peer-reviewed articles, policy papers, institutional reports, and conference publications focusing on regional transport, energy, ICT, or water infrastructure involving at least two African countries or regional blocs. Both qualitative and quantitative studies published in English were considered. Excluded studies included non-African infrastructure studies, publications lacking cross-border relevance, opinion articles, editorials, duplicate records, and studies without accessible full texts or clear methodological approaches. Selected studies were subsequently synthesized and critically appraised thematically according to major analytical dimensions within the literature.

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Concept of Cross-Border Infrastructure

Cross-border infrastructure (CBI) represents a critical instrument for enhancing regional connectivity, economic integration, and intergovernmental cooperation across neighboring states. These projects typically involve the construction and coordination of physical infrastructure systems – such as highways, bridges, railways, pipelines, ports, and energy networks – that extend beyond national borders to facilitate the efficient movement of goods, services, capital, and people. Beyond their physical dimension, CBI projects are increasingly viewed as strategic mechanisms for advancing regional development, strengthening political cooperation, and promoting long-term stability among participating countries. Their implementation often demands extensive collaboration among governments, regional organizations, development finance institutions, private investors, and local communities, reflecting the multidimensional and transnational nature of such initiatives [13].

A major justification for the development of cross-border infrastructure lies in its potential to address infrastructural deficiencies and logistical bottlenecks that constrain trade and economic interactions between neighboring states. In many developing regions, inadequate transport and energy linkages continue to increase transaction costs and limit market accessibility. Consequently, governments and regional institutions invest in CBI projects to stimulate trade, attract investment, and deepen economic cooperation. Such initiatives also help reduce developmental disparities between neighboring regions by promoting more inclusive patterns of economic growth and shared prosperity [13].

Existing literature discussions on the prerequisites for successful CBI development further emphasize the importance of governance and institutional coordination. Studies by Fung, García-Herrero, and Ng [14], alongside the work of Van der Geest and Nunez-Ferrer [15], identified high-level government commitment as a central requirement for the successful implementation of cross-border projects. These studies also highlighted the beneficial role of neutral third-party actors, such as regional development banks and supranational institutions, in facilitating coordination and reducing political tensions among participating countries. Additionally, local stakeholder support was recognized as essential to the project's sustainability and legitimacy. However, these analyses paid limited attention to the geographical and spatial dimensions that influence the performance and effectiveness of CBI initiatives.

The concept of transport or economic corridors expands the understanding of cross-border infrastructure by incorporating both physical and functional dimensions. Physically, these corridors comprise interconnected transport routes linking strategic economic, political, and social centers across regions or countries. Functionally, they facilitate economic interaction by integrating transportation systems, trade logistics, and associated services into a unified framework. Such corridors typically include roads, railways, ports, airports, and logistics hubs designed to improve connectivity, reduce transportation costs, and accelerate the movement of goods and people. In this regard, transport corridors are increasingly regarded as catalysts for regional trade expansion, investment promotion, and economic transformation [16].

According to the African Development Bank, the developmental influence of corridors extends progressively over time. Initially, a transport corridor may primarily affect areas located immediately along its route. However, as complementary infrastructure – such as border posts, industrial parks, urban settlements, and logistics facilities – develops around the corridor, its

economic and social impact expands significantly. Economic activity begins to flow both into and out of the corridor, stimulating trade, urbanization, and broader regional development. This dynamic interaction ultimately enhances social and economic integration across participating regions [16].

Development corridors are therefore increasingly conceptualized as integrated spatial development frameworks that combine infrastructure investments with institutional coordination to stimulate regional growth and connectivity. Their effectiveness depends not only on transport infrastructure but also on efficient logistics and trade facilitation mechanisms, including customs administration, warehousing, and freight management systems. Furthermore, industrial clusters and economic hubs often emerge along these corridors, attracting investment, generating employment, and supporting manufacturing and commercial activities. Given their transnational nature, effective institutional and regulatory cooperation among participating states becomes indispensable for harmonizing policies, coordinating infrastructure development, and facilitating trade flows. Equally important is multimodal connectivity, which integrates road, rail, maritime, and air transport systems into cohesive networks that improve efficiency and reduce logistical constraints. Supporting services such as telecommunications, electricity, and water infrastructure also contribute to the sustainability of corridor development and the welfare of communities located along these routes [16].

A notable example of such a development corridor is the Ethiopia-Djibouti Corridor, which links landlocked Ethiopia to the Port of Djibouti. This corridor serves as a critical trade route supporting Ethiopia’s import and export activities through integrated road, railway, and port infrastructure systems. By improving logistics efficiency and reducing transportation costs, the corridor has become a strategic component of regional integration and economic development within the Horn of Africa.

Despite their developmental potential, cross-border and transport corridor projects continue to face significant structural and operational challenges. Regional political instability remains one of the most critical constraints, as conflicts and political unrest disrupt project continuity, discourage investment, and undermine long-term infrastructure planning [17]. Additionally, the underperformance or absence of efficient transport modes – particularly railway systems – has intensified dependence on road transport and private vehicle usage, thereby increasing congestion, accelerating infrastructure deterioration, and raising transportation costs for both passengers and freight [17].

Institutional inefficiencies further impede infrastructure development. Weak policy frameworks, inadequate planning processes, and ineffective project management frequently result in delayed implementation, resource misallocation, and poor prioritization of infrastructure needs. Financing also remains a persistent challenge, as both public and private investments are often insufficient to support the maintenance, expansion, and modernization of transport infrastructure. Consequently, deteriorating infrastructure systems struggle to meet increasing economic and demographic demands, thereby constraining regional growth and competitiveness [17].

Regulatory and institutional barriers equally contribute to escalating project costs and delays. Bureaucratic inefficiencies and weak governance structures often hinder the execution of capital budgets and limit governments' capacity to address infrastructure deficiencies effectively. Moreover, a substantial gap persists between the development of regional transport infrastructure and advances in human capital. The availability of skilled professionals

capable of managing, maintaining, and innovating transport systems remains essential for sustaining regional corridor initiatives and addressing emerging infrastructural challenges [17].

Overall, transport and economic corridors constitute fundamental drivers of regional integration, trade facilitation, and economic development. By improving connectivity and lowering transportation costs, these corridors stimulate investment, enhance economic competitiveness, and unlock regional productive capacities. Beyond economic gains, they also contribute to poverty reduction, employment generation, and inclusive development by strengthening economic linkages among participating countries. Importantly, such infrastructure networks are increasingly recognized as essential foundations for Africa's effective participation in global value chains and broader continental integration efforts [18].

Evolution of Cross-Border Infrastructure Development in Africa

Cross-border infrastructure development in Africa has undergone significant transformation over the past two decades, evolving from fragmented national approaches to coordinated regional initiatives through major continental programs like PIDA and NEPAD. Akinleye (2026) provides the most comprehensive continental assessment, documenting remarkable achievements, including ICT infrastructure that exceeded targets by 150% and transport connectivity, delivering 16,066km of roads and 120 One Stop Border Posts across multiple countries [5]. However, this study reveals a critical disconnect between physical infrastructure and trade facilitation, with persistent high trade costs despite improved connectivity. Haruna (2025) offers valuable comparative insights through their analysis of East and Southern Africa, identifying transport, energy, telecommunications, and water as key integration sectors, highlighting institutional fragmentation and asymmetric connectivity as enduring challenges, and noting the evolution toward supranational coordination mechanisms drawn from Latin American experiences [19]. The energy sector has seen notable innovation, with Ikiomoworio (2021) documenting the emergence of Greenfield gas projects and cross-border energy collaboration as strategic priorities for regional security and sustainable development [20].

The financing landscape has diversified significantly beyond traditional development aid. Robert & Ombati (2023) analyze China's Belt and Road Initiative across five African countries, including Uganda, Kenya, Egypt, Djibouti, and Mozambique, revealing substantial infrastructure benefits alongside challenges, including procurement corruption, stakeholder exclusion, and increasing debt burdens [21]. Mathieu (2018) emphasizes the growing role of public-private partnerships, while noting that cross-border projects face heightened political risks and coordination complexities that require strong governmental backing and intergovernmental platforms for effective implementation [22]. Despite this progress, fundamental obstacles persist as established by Calderón & Serven (2008), who documented Sub-Saharan Africa's consistently poor infrastructure performance relative to other developing regions, findings that remain relevant today [23].

Contemporary challenges identified by Victor (2026) include limited private-sector participation at only 3% in PAP 1, low project bankability, with only 25% achieving feasibility, and inadequate institutional coordination, hampering policy harmonization [5]. Salum (2025) further highlights misaligned tariffs, rural infrastructure gaps, and ineffective policy coordination as persistent barriers that require adaptive frameworks grounded in African realities and South-South cooperation [24]. Recent innovations show promise, with the African

Development Bank pioneering integrated, multi-sectoral approaches and Gutman (2015) documenting the evolution toward innovative financing mechanisms that incorporate private capital. The reviewed multi-country studies demonstrate methodological diversity, from quantitative institutional analysis to qualitative comparative approaches, collectively revealing that while Africa has achieved significant physical connectivity improvements, translating infrastructure investments into economic integration outcomes remains challenging, requiring enhanced governance frameworks and stronger institutional coordination mechanisms to realize the full potential of cross-border infrastructure for regional development and trade facilitation [25].

Beyond Concrete and Cables: The Critical Interplay of Hard and Soft Infrastructure in African Cross-Border Trade Facilitation

A critical appraisal of cross-border infrastructure in the African context reveals a fundamental truth that extends far beyond the traditional focus on physical structures: effective trade facilitation requires a sophisticated interplay between tangible assets and the institutional frameworks that govern their operation. The literature examining African trade dynamics demonstrates a clear dichotomy between "hard" and "soft" infrastructure, with mounting evidence from across the continent that their synergistic relationship ultimately determines trade performance outcomes and regional integration success.

The most comprehensive evidence on Africa comes from Tandrayen-Ragoobur (2022), who examined bilateral trade flows using a panel of 51 African countries from 2003 to 2015 [1]. Their infrastructure-augmented gravity model revealed that "both hard and soft infrastructures matter for trade in Africa," with particularly important findings regarding their relative importance. The study constructed separate indices for soft and hard infrastructure, as well as an effective infrastructure measure that combines both components, thereby providing robust empirical evidence of the continent's infrastructure-trade relationship.

Hard infrastructure's role in African trade facilitation shows distinct patterns that reflect the continent's development challenges and opportunities. Tandrayen-Ragoobur (2022) found that, when disaggregating hard infrastructure components, "the electricity composite index has a greater impact on trade flows relative to transport and ICT infrastructures," highlighting the critical bottleneck that unreliable energy systems pose for African trade [1]. This finding aligns with broader evidence from Portugal-Perez & Wilson (2012), whose analysis of developing countries demonstrated that "investment in physical infrastructure" significantly improves export performance, with particular relevance for African economies seeking to enhance their global trade integration [24].

However, the African experience reveals that physical infrastructure alone proves insufficient for optimal trade facilitation outcomes. Tandrayen-Ragoobur (2022) provided the most compelling African evidence that "soft infrastructure matters most and complements hard infrastructure in the region." This finding suggests that institutional frameworks may actually be the more decisive factor in determining whether African countries can translate infrastructure investments into meaningful trade gains. The study emphasized that "targeted policies and resources should be channeled towards improving energy infrastructure and soft infrastructure in terms of streamlining trading rules and procedures to propel better and maximize the benefits of intra-African trade."

Concrete evidence of the critical importance of soft infrastructure emerges from regional studies in specific African contexts. Zimano &

Ruffin (2018) examined four road entry points to Zimbabwe's territorial borders within the Southern African Development Community (SADC), surveying 345 participants, including truck drivers and small and medium entrepreneurs [26]. Their findings traced the perpetuation of delays specifically to "failure to tie together hard and soft infrastructure components of entry point management systems," which "consequently disturbs the supply chain of goods in the Southern African development community." This empirical evidence demonstrates how the disconnection between physical infrastructure and institutional systems creates tangible barriers to regional trade integration.

The complementary relationship between hard and soft infrastructure proves particularly crucial in the African context, where resource constraints make optimal utilization of existing investments essential. Maurel (2016) found that "a huge part of the missing bilateral trade fixed effect of North African countries is accounted for by soft and hard infrastructure," suggesting that addressing both dimensions simultaneously could unlock significant untapped trade potential across the continent [27]. Kingombe (2014) contributed to this understanding through a focused analysis of African infrastructure development patterns, though the specific findings require deeper examination to fully grasp the continent's unique challenges [28].

The African evidence consistently demonstrates that effective cross-border infrastructure requires coordinated development of both physical systems and institutional frameworks. Zimano & Ruffin (2018) emphasized "the importance of marrying hard and soft infrastructure for optimum efficiency," with their SADC analysis showing that supply chain performance depends critically on this integration [26]. The study's recommendations focused on how "road entry point management systems can be improved, in order to enhance regional integration," providing actionable insights for African policymakers.

Despite robust evidence from Africa on hard-soft infrastructure complementarity, significant gaps remain in the understanding of specific institutional mechanisms and political economy dynamics across the continent. The available sources lack detailed analysis of the implementation of One-Stop Border Posts (OSBPs) across African borders, comprehensive customs harmonization strategies within regional economic communities, and systematic approaches to reducing non-tariff barriers that particularly affect intra-African trade. More critically, the political economy dimensions examining how national sovereignty concerns conflict with continental infrastructure mandates under initiatives like the African Continental Free Trade Area remain largely unaddressed in the current literature.

The accumulated African evidence overwhelmingly supports the conclusion that effective cross-border infrastructure requires simultaneous and coordinated investment in both physical systems and institutional frameworks, with Tandrayen-Ragoobur (2022) providing definitive evidence that soft infrastructure serves as the critical enabler determining whether hard infrastructure investments translate into meaningful improvements in intra-African trade facilitation and continental integration outcomes [1].

Critical Appraisal of Analytical Dimensions in African Cross-Border Infrastructure Research: Assessing Methodological Approaches to Financing, Socio-economic, and Environmental Impact Analysis

The critical appraisal of analytical dimensions in African cross-border infrastructure research reveals significant methodological gaps and uneven scholarly attention across financing, socio-economic,

and environmental domains. Current literature demonstrates substantial analytical limitations that constrain comprehensive understanding of project impacts and operational realities.

Regarding financing and investment models, the literature shows mixed analytical depth. Handayani (2025) synthesized empirical and theoretical studies (PPPs), finding that governance frameworks are critical to success, though developing countries face equity challenges when profitability takes precedence over social outcomes [29]. Besaiso (2025) analyzed 618 peer-reviewed articles (1999-2023), identifying governance and management as dominant themes but noting "limited integration of environmental and social dimensions" and "thematic fragmentation." [30] The role of external actors receives attention through BRI scholarship [31] though evidence "does not clearly favor one model over another in terms of achieving welfare-enhancing outcomes" [31]. Gutman (2015) examined three major external financing sources for African infrastructure but highlighted challenges in compiling comparable financing data, indicating persistent analytical gaps in understanding financing flows and their effectiveness [25].

Socio-economic and welfare impact analysis remains underdeveloped. Quium (2019) found transport infrastructure can positively impact growth and poverty, but cautioned that "distribution of impacts can be uneven" and "there can be important trade-offs between economy and welfare and environmental quality [32]." Idu (2025) identified opportunities for poverty alleviation through regional energy integration but noted persistent challenges in "regulatory harmonization, financing, and institutional capacity." [33] However, the literature lacks specific empirical evidence on gendered impacts and informal cross-border trade interactions with formal infrastructure, representing significant analytical blind spots.

Integration of environmental and climate resilience shows the weakest analytical development. Handayani (2025) noted environmental sustainability is "increasingly embedded" in PPP projects, but "integration remains uneven across regions." [29] Clark (2018) highlighted the disconnection between available climate finance and actual sustainable development investment, noting "fragmented and often sectoral" approaches [34]. Akram (2024) acknowledged environmental challenges in BRI projects but offered limited analytical frameworks for integrating climate adaptation [35]. The literature lacks systematic approaches to integrating climate change adaptation into cross-border project planning, with minimal evidence on decarbonized pathways or resilient design methodologies.

Overall, researchers have approached these projects through fragmented analytical lenses, with financing models receiving the most scholarly attention while environmental integration remains critically under-examined. The analytical dimensions reveal a field requiring more comprehensive, integrated methodological approaches that simultaneously address economic, social, and environmental outcomes.

Methodological Deficiencies and Theoretical Misalignments: A Critical Assessment of Structural Flaws in African Infrastructure Research

The existing literature on African infrastructure development reveals many structural flaws that undermine the field's analytical rigor and policy relevance, beginning with stark geographical imbalances where Van Zyl (2026) found research concentrated more in just five countries – Nigeria, Ethiopia, Tanzania, South Africa, and Kenya – despite covering 27 African countries, with studies "fragmented across 51 journals" and characterized by "loosely connected author networks" that limit Africa-

specific conceptualizations [12]. This geographical bias is compounded by a troubling colonial legacy in authorship patterns, as Gregory and Sovacool (2019) discovered that "authors at institutions in Europe and North America accounted for a sobering 59% of the sample, with Africa (as a whole) only at 27%" in their systematic review of 101 studies, suggesting much work is "perhaps desk based and/or done at institutions with vested interests in the region (shaped by patterns of colonialism and imperialism)" [36]. Methodologically, the field suffers from what can only be described as academic negligence, with Gregory and Sovacool (2019) finding that "while the most popular utilized method among all articles examined was a qualitative geographic case study, the second most dominant method was none at all – studies that had no detectable research design or methods section," while only about 5% utilized "human centered, original data collection methods such as interviews, surveys, or experiments." These methodological shortcomings are further complicated by fundamental econometric challenges identified by Straub (2011) who noted that "despite all this accumulated evidence, the link between infrastructure availability and economic productivity or growth is still subject to considerable uncertainty and debate" due to endogeneity problems, measurement errors, and inadequate treatment of reverse causality [37].

The theoretical foundations prove equally problematic, as Stein and Nissanke (1999) argue that "neo-classical economic micro-foundations, associated intermediate propositions and theories underlying adjustment seriously mis-specify the nature of African economies" [38], while Ayogu (1970) observed that "considerable resources have been expended in the pursuit of this marginally important issue" of whether infrastructure matters, when "the crucial issue – understanding policymaking processes in infrastructure – remains little understood and largely under-researched" [39]. However, emerging literature suggests potential pathways forward, with Müller-Mahn (2020) calling for "post- and de-colonial positions and 'theory from the south'" and Lottu (2024) emphasizing "context-specific strategies" and "adaptable frameworks that address regional challenges and opportunities" [40].

Conclusion

Cross-border infrastructure development remains an essential driver of regional integration, trade expansion, and economic transformation across Africa. The reviewed literature demonstrates that transport corridors, regional energy systems, and integrated logistics networks possess significant potential to enhance connectivity and support continental development goals. However, the existing literature remains fragmented, geographically imbalanced, and overly focused on physical infrastructure, often overlooking the critical roles of governance, institutional coordination, and soft infrastructure systems. Persistent challenges relating to financing, policy harmonization, environmental sustainability, and community-level impacts continue to limit the effectiveness of many projects. Consequently, achieving meaningful and inclusive regional integration will require stronger governance frameworks, improved institutional collaboration, and more context-specific, empirically rigorous research to address Africa's complex infrastructural realities.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Ethical Approval

Ethical Approval does not apply to this paper.

Data Availability

Not Applicable.

Author Contributions

Afolabi O. M. conceptualized this study, Finbarr J.Z. and Olufunto O.A. critically revised and corrected the manuscript for important intellectual content and supervised the study. Afolabi O.M. and Olufunto O.A conceived and drafted the review outline and contributed to manuscript writing. Afolabi O.M., Finbarr J.Z., Olufunto O.A, and Muhammed M.N. participated in the literature review and contributed significantly to writing and revising the manuscript. All authors read and approved the final version of the manuscript.

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References

[1]. Abe O. Towards a human rights-based approach to energy transition in Africa. Bus Hum Rights J. 2025;10(1):11-33. Available from: https://doi.org/10.1017/bhj.2025.5

[2]. Olney W. Intra-African trade. Rev World Econ. 2020;158:25-51. Available from: https://doi.org/10.1007/s10290-021-00421-6

[3]. DeGhetto K, Gray J, Kiggundu M. The African Union's Agenda 2063: Aspirations, challenges, and opportunities for management research. Afr J Manag. 2016;2:116-193. Available from: https://doi.org/10.1080/23322373.2015.1127090

[4]. Elganainy A. Trade integration in Africa. Departmental Papers. 2023. Available from: https://doi.org/10.5089/9798400232794.087

[5]. Victor A. Unlocking Africa's regional trade potential: Evaluating PIDA and NEPAD infrastructure investments on intra-African trade efficiency and cross-border links. Res Innov. 2026;2(2).

[6]. Fujimura M. Cross-border transport infrastructure, regional integration and development. ADBI Discussion Paper No. 16. Tokyo: Asian Development Bank Institute; 2004. Available from: https://hdl.handle.net/10419/53503

[7]. Calderón C, Canales M, Chuhan-Pole P. Infrastructure development in Sub-Saharan Africa: A scorecard. 2018:1-47. Available from: https://doi.org/10.1596/1813-9450-8425

[8]. Chiyemura F, Gambino E, Zajontz T. Infrastructure and the politics of African state agency: Shaping the Belt and Road Initiative in East Africa. Chin Polit Sci Rev. 2022;8:105-131. Available from: https://doi.org/10.1007/s41111-022-00214-8

[9]. Lisinge R, Van Dijk M. Regional transport infrastructure programmes in Africa: What factors influence their performance? Can J Afr Stud. 2021;56:99-121. Available from: https://doi.org/10.1080/00083968.2021.1896369

[10]. OECD. The Paris Declaration on Aid Effectiveness. OECD Publishing; 2005. Available from: https://www.oecd.org/dac/effectiveness/parisdeclarationandaccraagendaforaction.htm

[11]. Thorn J, Bignoli D, Mwangi B, Marchant R. The African Development Corridors Database: A new tool to assess the impacts of infrastructure investments. Sci Data. 2022;9. Available from: https://doi.org/10.1038/s41597-022-01771-y

[12]. Van Zyl FJ, Goedhals Gerber LL, Van Eeden J. Dry ports research on African countries: A systematic literature review and bibliometric analysis. Case Stud Transp Policy. 2026;23:101694. Available from: https://doi.org/10.1016/j.cstp.2025.101694

[13]. Sarah K, Ahmed A. Cross-border infrastructure projects and regional peacebuilding. J Reg Connect Dev. 2023;2(1).

[14]. Fung KC, García-Herrero A, Ng F. Foreign direct investment in cross-border infrastructure projects. SSRN Electron J. 2011. Available from: https://doi.org/10.2139/ssrn.1800472

[15]. Van der Geest W, Nunez-Ferrer J. Managing multinational infrastructure: An analysis of EU institutional structures and best practices. SSRN

Electron J. 2011. Available from: https://doi.org/10.2139/ssrn.1886247
[16]. Hope A, Cox J. Economic and Private Sector Professional Evidence and Applied Knowledge Services Topic Guide: Development Corridors. 2015. Available from: http://partnerplatform.org/eps-peaks [Accessed 27 July 2024].
[17]. Adero N, Aligula E. Challenges facing transport infrastructure in the East African Community. 2012. Available from: https://www.researchgate.net/publication/235951776 [Accessed 27 July 2024].
[18]. United Nations Conference on Trade and Development. Trade and Development Report. Geneva: United Nations; 2021.
[19]. Haruna SM, Agostinho VN, Guambe CAH, Omar MA, Paya ED. Comparative analysis of infrastructure integration and development in East and Southern Africa and Latin America. Technium Soc Sci J. 2025;76. ISSN 2668-7798.
[20]. Ikiomoworio ND, Fidelis OO, Wags ND, Musa AA. Strategic reviews of greenfield gas projects in Africa: Lessons learned for expanding regional energy infrastructure and security. GSC Adv Res Rev. 2021;8(1):187-195. Available from: https://doi.org/10.30574/gscarr.2021.8.1.0156
[21]. Komakech RA, Ombati TO. Belt and Road Initiative in developing countries: Lessons from five selected countries in Africa. Sustainability. 2023;15(16):12334. Available from: https://doi.org/10.3390/su151612334
[22]. Mathieu V. Public-private partnership for cross-border infrastructure development. MPDD Working Paper Series WP/18/05. United Nations Economic and Social Commission for Asia and the Pacific (ESCAP); 2018.
[23]. César C, Luis S. Infrastructure and economic development in Sub-Saharan Africa. Policy Research Working Paper No. 4712. Washington (DC): World Bank; 2008. Available from: openknowledge.worldbank.org
[24]. Portugal-Perez A, Wilson JS. Export performance and trade facilitation reform: Hard and soft infrastructure. World Dev. 2012;40(7):1295-1307. Available from: https://doi.org/10.1016/j.worlddev.2011.12.002
[25]. John G, Sy A, Chattopadhyay S. Financing African infrastructure: Can the world deliver? Washington (DC): Brookings Institution; 2015.
[26]. Zimano FR, Ruffin F. Palpable linkage of supply chain performance to hard and soft infrastructure marriage: The case of SADC road entry point management systems. Int J Logist Syst Manag. 2018;30(3):349-365. Available from: https://doi.org/10.1504/IJLSM.2018.092614 (inderscience.com)
[27]. Maurel M, Lapeyronie H, Meunier B. Impact of hard and soft infrastructure: Evidence from the EU partners, North Africa and CEECs. Working Paper P148. FERDI; 2016.
[28]. Christian KMK. Hard and soft infrastructure development in Africa. In: Multi-year Expert Meeting on Transport, Trade Logistics and Trade Facilitation. World Trade Organization; 2014. p. 1-39.
[29]. Taufiqurokhman, Handayani IT. Public-private partnerships in infrastructure development: Governance, financing, and sustainability challenges. Politeia J Public Adm Polit Sci Int Relat. 2025;3(3):205-218. Available from: https://doi.org/10.61978/politeia.v3i3.968
[30]. Besaiso H, Abualqumboz M, Cheng X. Review of studies on sustainability of public-private partnership projects: A bibliometric analysis. Sustain Dev. 2025;33(S1):1551-1575. Available from: https://doi.org/10.1002/sd.70025
[31]. Quah E, Tan JR, Nursultan I. A comparative analysis of the Belt and Road Initiative with other global and regional infrastructure initiatives: Prospects and challenges. J Risk Financ Manag. 2025;18(6):338. Available from: https://doi.org/10.3390/jrfm18060338
[32]. Quium ASMA. Transport corridors for wider socio-economic development. Sustainability. 2019;11(19):5248. Available from: https://doi.org/10.3390/su11195248
[33]. Okojokwu-Idu JO, Abioye RF, Ihwughwavwe SI, Enow OF, Okereke M, Filani OM, et al. Harnessing intra-African energy trade for poverty alleviation: Opportunities and barriers in the

context of the African Continental Free Trade Area (AfCFTA). Int J Multidiscip Res Growth Eval. 2025;6(5):394-408. Available from: https://doi.org/10.54660/.IJMRGE.2025.6.5.394-408 (allmultidisciplinaryjournal.com)

[34]. Clark R, Reed J, Sunderland T. Bridging funding gaps for climate and sustainable development: Pitfalls, progress and potential of private finance. Land Use Policy. 2018;71:335-346. Available from: https://doi.org/10.1016/j.landusepol.2017.12.013

[35]. Akram KT. Belt and Road Initiative as a catalyst for international cooperation. Hong Kong Rev Belt Road Stud. 2024;2:33-49. Available from: https://doi.org/10.63596/oborjournal.2.2024.33-49

[36]. Gregory J, Sovacool BK. The financial risks and barriers to electricity infrastructure in Kenya, Tanzania, and Mozambique: A critical and systematic review of the academic literature. Energy Policy. 2019;125:145-153. Available from: https://doi.org/10.1016/j.enpol.2018.10.026

[37]. Straub S. Infrastructure and development: A critical appraisal of the macro-level literature. J Dev Stud. 2011;47(5):683-708. Available from: https://doi.org/10.1080/00220388.2010.509785

[38]. Stein H, Nissanke M. Structural adjustment and the African crisis: A theoretical appraisal. East Econ J. 1999;25(4):399-419.

[39]. Ayogu MD. Infrastructure and economic development in Africa: A review. J Afr Econ. 2007;16(Suppl 1):75-126. Available from: https://doi.org/10.1093/jae/ejm024

[40]. Müller-Mahn D. Envisioning African futures: Development corridors as dreamscapes of modernity. Geoforum. 2020;115:156-159. Available from: https://doi.org/10.1016/j.geoforum.2019.05.027