

# Literature Review on the Strategic Role of Kenya Shipyards Limited in Driving Socio-Economic Transformation and Environmental Sustainability in the Lake Victoria Region, Kenya

Evans Getembe<sup>1</sup>; Dr. Gilbert Kimutai<sup>2</sup>

<sup>1,2</sup>Maseno University

Publication Date: 2025/09/01

**Abstract:** The contribution of State-owned corporations to the development of Kenya's transport system is immense. As publicly owned bodies, State-owned corporations are expected to play important roles in the socio-economic and environmental development of the country. The Kenya Shipyards Limited (KSL) was established to improve water transport infrastructure and enhance growth around the Indian Ocean and the Lake Victoria regions. However, despite its presence around Lake Victoria since 2020, much is not known about its contribution to the improvement of water transport and the general socio-economic and environmental development of the region. Consequently, this study seeks to explore the contribution of the Kenya Shipyards Limited to the socio-economic and environmental development of the Lake Victoria region. Specifically, the study seeks to explore the role of Kenya Shipyards Limited in improving the efficiency of water transport in the Lake Victoria region; to assess how the Kenya Shipyards Limited addresses environmental challenges impacting water transport on Lake Victoria and to evaluate the socio-economic impact of KSL's operations on communities dependent on Lake Victoria.

To achieve its objectives, this study will employ a mixed method research approach, integrating quantitative and qualitative data collection techniques. Quantitative data will be gathered through structured questionnaires, while qualitative data will be obtained through key informant interviews and non-participant observation. Observation will enable the researcher to capture real-time practices, behaviors, and interactions relevant to Kenya Shipyards Limited's operations and the water transport environment. The study targets a population of 10,000, and a sample of 124 participants will be determined using the Fisher et al. (1991) formula. This sample will comprise customs officials, border security personnel, traders, and community members. Quantitative data will be analyzed using inferential statistical techniques, with results presented in pie charts and bar graphs. Qualitative data from interviews and observations will undergo thematic analysis to identify and interpret emerging patterns. Triangulation of questionnaire, interview, and observational data will enhance the validity and reliability of the findings. The study aims to provide policy-relevant insights on the contribution of Kenya Shipyards Limited to socio-economic and environmental development in the Lake Victoria region and how it can address persistent challenges in water transport and infrastructure. It will also contribute to academic discourse on the role of state-owned enterprises in advancing the blue economy and sustainable regional development.

**How to Cite:** Evans Getembe; Dr. Gilbert Kimutai (2025). Literature Review on the Strategic Role of Kenya Shipyards Limited in Driving Socio-Economic Transformation and Environmental Sustainability in the Lake Victoria Region, Kenya.

*International Journal of Innovative Science and Research Technology*, 10(7), 3748-3756.

<https://doi.org/10.38124/ijisrt/25jul1574>

## I. INTRODUCTION

Water transport remains a critical, yet historically underutilized, catalyst for economic integration, trade facilitation, and spatial equity in East Africa. This is especially true for regions with expansive inland waterways such as Lake Victoria the largest freshwater lake in Africa and a shared resource among Kenya, Uganda, and Tanzania. Despite its potential to connect riparian communities, facilitate cross-border trade, and support livelihoods based on

fishing, tourism, and transport, Lake Victoria's maritime infrastructure has long suffered from neglect, underinvestment, and institutional fragmentation. In response, the Government of Kenya established Kenya Shipyards Limited (KSL) in 2020 as a state-owned enterprise under the Ministry of Defense. KSL's mandate includes vessel construction and repair, revitalization of port infrastructure, and ecosystem-sensitive interventions aimed at rejuvenating water transport and accelerating Kenya's blue economy agenda.

This literature review interrogates scholarly knowledge on the role of state-owned enterprises (SOEs) like KSL in advancing sustainable and inclusive development in inland maritime zones. Specifically, it examines how KSL enhances transport efficiency, addresses environmental challenges including pollution, invasive species, and shoreline degradation and affects socio-economic dynamics for communities reliant on the lake. By situating KSL within a broader comparative context, including case studies from China, France, Brazil, Chile, and Eastern Europe, the review explores how SOEs function as instruments of developmental statecraft, balancing infrastructure modernization with ecological sustainability and public value generation.

Furthermore, the review highlights existing knowledge gaps regarding KSL's accountability, community engagement, environmental governance, and alignment with development strategies such as Kenya's Vision 2030 and the African Union's Blue Economy framework. The inquiry is grounded in a robust theoretical triad: Public Value Theory, which emphasizes the duty of public institutions to enhance societal well-being; Ecological Modernization Theory, which promotes integrating environmental goals into industrial processes; and Developmental State Theory, which underscores the proactive role of the state in steering economic transformation. Together, these theories provide a multidimensional lens for evaluating KSL's role, limitations, and opportunities in transforming water-based transport and fostering sustainable development in the Lake Victoria region.

## II. LITERATURE REVIEW

Water transport plays a critical role in the socio-economic development of regions with inland waterways. Lake Victoria, Africa's largest freshwater lake, presents an opportunity for enhanced regional integration, economic development, and environmental sustainability. This chapter reviews existing scholarly literature related to the study's objectives, focusing on the role of Kenya Shipyards Limited (KSL) in improving water transport efficiency, addressing environmental challenges, and influencing socio-economic outcomes in the Lake Victoria region. The review also highlights knowledge gaps in these thematic areas.

### ➤ *Kenya Shipyards Limited and the Efficiency of Water Transport in the Lake Victoria Region*

Water transport remains one of the most cost-effective and environmentally sustainable modes of transportation, particularly for bulk goods and cross-border trade in inland regions (Rodrigue, Comtois, & Slack, 2020). In the context of Lake Victoria Africa's largest inland freshwater lake water transport holds strategic potential for enhancing regional integration and economic activity. Yet, infrastructural limitations, outdated vessels, and weak institutional coordination have historically hindered its efficiency (Mitullah et al., 2017). The emergence of Kenya Shipyards Limited (KSL), a state-owned enterprise (SOE) tasked with vessel construction, ship repair, and infrastructural rehabilitation, marks a critical policy intervention. Understanding KSL's role in this sector requires drawing on

broader debates about SOEs and state-sponsored development.

### ➤ *The Role of State-Owned Enterprises (SOEs) in Infrastructure and Transport Efficiency*

Globally, SOEs have played pivotal roles in enhancing infrastructure in strategic sectors, especially where private sector investment is limited due to long-term returns or high risk. As documented in *The Ascendancy of State-Owned Enterprises in China* (Lin & Milhaupt, 2014), SOEs in China have been instrumental in developing large-scale transportation infrastructure to drive regional economic integration and improve logistics efficiency. This mirrors Kenya's establishment of KSL as a development-oriented enterprise expected not only with shipbuilding but with revitalizing neglected transport routes on Lake Victoria.

Fox Z. Y. Hu and George C. S. Lin (2014) emphasize the regional development logic behind the transformation of Chinese SOEs, particularly in northeast China, where maritime and heavy industries were repositioned to serve both economic and social objectives. Similarly, KSL's presence in Kisumu and other lakeside towns suggests a targeted regional development strategy aimed at restoring neglected marine infrastructure. Like their Chinese counterparts, KSL's is expected to merge national security priorities with commercial and developmental goals—a hybrid model of state intervention.

Gilles Pinson and Christelle Morel Journal (2016) introduce the concept of "state-local cooperation," highlighting how French urban development corporations blend economic and social outcomes. KSL's collaboration with devolved county governments in the Lake Region Economic Bloc (LREB) could be interpreted through this lens. These collaborations will enable KSL to identify localized transport inefficiencies such as inaccessibility of piers or poorly maintained docking infrastructure and provide tailored infrastructural interventions. However, empirical evidence of these partnerships' outcomes remains limited in academic literature.

### ➤ *Strategic State Intervention and the Case of Lake Victoria*

In their comparative study, Macheda and Liu (2022) argue that SOEs in transitional and developing economies are uniquely positioned to promote high-quality economic development, particularly where markets fail to allocate infrastructure efficiently. Kenya's blue economy strategy, as articulated in national policy, aligns with this observation by emphasizing SOEs like KSL as drivers of regional transport connectivity, port infrastructure, and vessel production (MOD Kenya, 2022).

Zhang and Liu (2021) explore how state-sponsored city-regional development in China is increasingly funded through innovative financing mechanisms and coordinated planning between state, municipal, and financial actors. While Kenya lacks such sophisticated fiscal arrangements, the creation of KSL under the Ministry of Defence with direct government budgetary support suggests an effort to use

national capacity to stimulate regional transformation in line with city-regional development paradigms.

In Eastern Europe, Anil Duman and Lucia Kureková (2021) note that Hungary and Slovakia adopted industrial policies in which the state proactively directed investments toward strategic sectors, including logistics. These models underscore the role of SOEs in overcoming market failures, a rationale that equally applies to Kenya's historically underutilized inland water transport sector.

➤ *Limitations of the SOE Model in Practice: Implications for KSL*

While the global experience affirms the developmental potential of SOEs, concerns about operational inefficiencies, politicization, and lack of performance accountability persist. Lin & Milhaupt (2014) warn that China's SOEs often suffer from overcapacity and limited innovation due to protected market positions. Similarly, unless KSL's commercial functions are independently evaluated and performance metrics introduced, there is a risk of inefficiency or mission drift.

Ricz (2019), writing on Brazil, warns of continuity rather than transformation in SOE reform—despite liberalization narratives, the state often remains deeply enmeshed in business operations, leading to blurred lines of accountability. This is relevant in Kenya's context where KSL, as a military-affiliated SOE, may operate outside conventional civilian oversight, limiting public scrutiny into its cost-effectiveness or service delivery in water transport.

➤ *Social Missions of Infrastructure Enterprises: A Hidden Lever*

Benefit corporations and tribal business structures, as discussed by Dancer (2023), illustrate how corporations—whether public or hybrid—can embed social objectives such as sovereignty, community development, and access equity. Although KSL is not a benefit corporation, its infrastructure projects (e.g., construction of Homa Bay and Mbita piers) serve marginalized lakeside communities. These projects carry latent social functions: improved market access, safer transit, and reduction in transport costs for small traders and fishermen—though these benefits remain under-documented in literature.

Carla Martinez and Daniel Franks (2014) emphasize that company-sponsored infrastructure projects, when aligned with local needs, can boost a company's social license to operate. For KSL, continued community engagement and alignment with local development goals could enhance its legitimacy and ensure sustainability of its operations in Lake Victoria. However, no current studies investigate community perceptions of KSL's transport interventions—highlighting a gap in social impact assessments.

➤ *Regional Trade and Integration through Efficient Water Transport*

Inocent Moyo (2021) discusses how informal cross-border trade along the African Great Lakes depends heavily on accessible and efficient transport corridors. By improving

docking infrastructure and rehabilitating vessels, KSL is expected to have the potential to reduce the logistical burden on small traders, many of whom operate across the Kenya–Uganda–Tanzania corridor. Improved water transport efficiency not only enhances formal trade but also provides safer, faster routes for informal cross-border trade, contributing to livelihoods and regional trade integration under the African Continental Free Trade Area (AfCFTA). However, literature on this link between KSL's projects and regional trade facilitation remains nascent.

➤ *Kenya Shipyards Limited and Environmental Challenges in Water Transport*

Water transport in Lake Victoria is deeply affected by persistent environmental challenges, including eutrophication, water hyacinth infestation, shoreline pollution, and ecosystem degradation—factors that hinder navigation, damage biodiversity, and reduce socio-economic utility (Njiru et al., 2008; Odada et al., 2004). While much of the scholarly focus has been on these symptoms, fewer studies have critically examined how state actors—specifically, industrial SOEs like Kenya Shipyards Limited (KSL)—are institutionally expected to respond to these challenges.

➤ *Environmental Governance through SOEs: Global Lessons for KSL*

Globally, SOEs have historically been deployed as tools not only for economic development but also for achieving broader social and environmental objectives. For instance, Pinson and Journal (2016), in their analysis of French urban development corporations, demonstrate that state–local cooperation models enable SOEs to merge economic growth with ecological stewardship. These hybrid logics challenge the narrow view of SOEs as purely commercial actors and argue for a model in which infrastructure agencies, like KSL, expected to embed sustainability into operations through partnerships with local governments and environmental bodies.

Similarly, Hu and Lin (2014), studying Northeast China's transformation, found that regional SOEs could act as mediators between state directives and local environmental realities, particularly when central government mandates align with local ecological priorities. In the Lake Victoria context, this suggests that KSL could be a vehicle for operationalizing Kenya's national environmental goals—such as those articulated in Kenya Vision 2030 or the Lake Region Economic Bloc's (LREB) development strategy.

Yet, Kenya Shipyards Limited's current operational narratives centered around shipbuilding, dredging, and port modernization lack clear ecological benchmarks, and scholarly inquiry into its alignment with environmental planning remains minimal. While KSL has carried out projects like the deepening of the Mbita Causeway or the rehabilitation of Kisumu and Homa Bay piers, their environmental impact assessments (EIAs), mitigation strategies, or pollution controls are either underreported or not integrated into peer-reviewed studies.

### ➤ *The Political Economy of SOEs and Environmental Accountability*

A critical insight comes from *The Ascendancy of State-Owned Enterprises in China* (Naughton, 2014), which outlines how Chinese SOEs have historically prioritized national development over ecological concerns—often delaying or downplaying environmental obligations in the pursuit of industrial output. This reflects a broader risk: unless guided by strong regulatory enforcement, SOEs may reinforce environmentally harmful patterns, particularly in emerging economies with weak environmental oversight. KSL, operating under Kenya’s Ministry of Defense, may face similar challenges of transparency and accountability.

Moreover, Francesco Macheda and Junxi Liu (2022) argue that high-quality development—where environmental sustainability and inclusive growth coalesce—requires state enterprises to adopt proactive ESG (Environmental, Social, Governance) standards. However, there is limited evidence that KSL’s governance structures incorporate such models. Without independent environmental audits, strategic climate-risk disclosures, or community-based monitoring frameworks, KSL risks replicating the extractive logic criticized in earlier SOE models across the Global South.

### ➤ *Regional Perspectives: Environment, Community, and the Social License to Operate*

A useful comparative study is provided by Martinez and Franks (2014), who explored state-sponsored mining companies in Chile and their engagement with communities to gain a social license to operate. They found that SOEs that integrated community-based environmental safeguards were more likely to succeed in fragile ecological zones. By contrast, those that ignored environmental harm risked public backlash and long-term sustainability loss.

KSL’s operations in Lake Victoria—an ecologically sensitive and politically strategic area—face a similar calculus. Communities reliant on fishing, tourism, and transport are often the first to be affected by dredging operations, oil leakages, or disruption of fish breeding grounds. Yet, academic literature does not document whether KSL engages in consultative environmental governance, nor whether it is held accountable by agencies like NEMA (National Environment Management Authority). This lack of scrutiny forms a significant research gap.

### ➤ *The Role of Legal and Economic Models in Environmental Integration*

Legal frameworks such as benefit corporations—as explored by Dancer (2024) in the context of U.S. tribal business structures—demonstrate how corporate designations can embed environmental and social obligations into an SOE’s operational core. While Kenya has no direct equivalent to benefit corporations, public interest provisions under Kenya’s Environmental Management and Coordination Act (EMCA) could serve a similar function for institutions like KSL if rigorously enforced.

In Hungary and Slovakia, Duman and Kureková (2021) document how industrial policies embedded in state-

run enterprises were reshaped to align with EU environmental directives. This top-down pressure improved environmental performance without compromising strategic industries. KSL could benefit from similar regional or continental frameworks—for example, through the African Union’s African Blue Economy Strategy, which advocates for environmental sustainability in maritime and inland waterway infrastructure.

### ➤ *Evaluating the Socio-Economic Impact of Kenya Shipyards Limited (KSL) on Communities Dependent on Lake Victoria for Trade, Fishing, and Tourism*

State-Owned Enterprises (SOEs) are increasingly being repositioned as tools for promoting inclusive development and reducing regional disparities. In the Lake Victoria region, Kenya Shipyards Limited (KSL)—a state corporation under Kenya’s Ministry of Defense—has been strategically involved in vessel construction, pier rehabilitation, and maritime infrastructure development. This section evaluates how similar institutions have historically shaped socio-economic outcomes and examines whether KSL is playing a transformative role for communities reliant on water-based livelihoods in Lake Victoria.

### ➤ *SOEs as Catalysts for Local Economic Empowerment*

SOEs globally have played significant roles in regional development, particularly by stimulating employment, improving access to markets, and supporting infrastructure projects. According to Macheda and Liu (2022), SOEs are critical in promoting “high-quality economic development” because they can align national strategic objectives with localized implementation. This model, evident in China’s industrial planning, shows how SOEs are embedded in state-led development to balance economic productivity and social redistribution (The Journal of Contemporary China, 2014).

Applying this lens to Kenya, KSL’s construction of port facilities such as in Homa Bay and Kisumu enhances logistical support for fishers, traders, and transporters. As Martinez and Franks (2014) observe in the Chilean context, state or company-sponsored infrastructure development can secure community support, generate employment, and enable sustainable livelihoods.

This has direct relevance for KSL’s interventions in the Lake Victoria region, where economic dependency on the lake is high.

However, while China’s SOEs often implement social welfare components like housing, healthcare, and education in tandem with industrial output (Fox & Lin, 2013), there is little documented evidence of KSL deploying a similar integrated model of community development. This reveals a gap in Kenya’s approach, where infrastructure is often prioritized without strong institutional support for surrounding social structures.

### ➤ *SOEs and Blended Economic-Social Objectives*

French Urban Development Corporations (UDCs) present another example of how SOEs can blend economic efficiency with social cohesion goals. Pinson and Morel Journal (2016) describe how French UDCs evolved beyond



neoliberal frameworks to incorporate inclusive growth objectives, achieved through state–local cooperation. Similarly, KSL could serve as a local development agency by creating maritime-linked employment hubs and vocational training for boat builders, welders, and marine engineers within the region.

In contrast to the French example, Kenya's KSL lacks robust institutional mechanisms for coordinating with county governments or community-based organizations. As such, while KSL builds vessels and repairs jetties, its socio-economic integration into the Lake region communities remains largely unexamined in academic literature—posing a critical research gap.

#### ➤ *Lessons from Central and Eastern Europe and Brazil*

Central European countries such as Hungary and Slovakia offer additional insights. Duman and Kureková (2019) point out that industrial policy in post-socialist economies has seen SOEs play a vital role in stabilizing employment and facilitating local innovation systems. The Hungarian experience, for instance, emphasizes SOEs as vehicles for balanced regional growth—something KSL could emulate in Kenya by promoting downstream and upstream maritime economies such as boat part manufacturing, water-based logistics, and fish preservation.

In Brazil, state ownership has been central to shaping regional development through institutionalized state influence. Ricz (2019) highlights how Brazil used SOEs to control key economic levers in underdeveloped regions. Yet, she cautions that without transparency and community participation, SOEs can reproduce existing inequalities. This concern resonates in Kenya, where KSL's operations are largely opaque and centrally managed by the Ministry of Defense, limiting civic oversight or public accountability.

#### ➤ *Community Development, Social License, and the African Context*

From an African perspective, Moyo (2023) emphasizes that trade and development policies like the African Continental Free Trade Area (AfCFTA)—must actively integrate informal and local economic actors. In the context of Lake Victoria, many fishing and trading activities remain informal. KSL's operations could potentially improve safety and access to formal markets by modernizing transport vessels and piers. However, Martinez and Franks (2014) argue that development interventions by state or corporate actors must earn a "social license to operate" by directly engaging affected communities. There is insufficient evidence that KSL has adopted such an approach, despite the transformative potential of its interventions.

Dancer (2023) similarly advocates for institutional models—such as benefit corporations—that incorporate social and environmental metrics alongside profit. If KSL were to adopt such a model, its legitimacy and developmental impact on Lake Victoria's marginalized communities could be enhanced.

### III. RESEARCH GAPS

Despite growing recognition of the importance of inland water transport in regional development, there is limited academic research that critically examines the role of Kenya Shipyards Limited (KSL) in enhancing the efficiency and reliability of water transport on Lake Victoria. While various studies have highlighted the infrastructural challenges and underutilized potential of water-based transport in East Africa, few have focused on the institutional contributions of state-owned enterprises like KSL. Specifically, there is a lack of empirical evidence assessing how KSL's interventions such as vessel construction, repair services, and port rehabilitation in Mbita, Kisumu, and Homa Bay have improved the frequency, safety, and logistical efficiency of water transport. Moreover, scholarly inquiry has yet to explore KSL's institutional design, operational capacity, and partnerships with county governments or regional trade actors, which are essential factors in determining its overall effectiveness. This presents a clear gap in understanding the mechanisms through which KSL contributes to or hinders the modernization of inland maritime transport systems in Kenya.

Environmental sustainability is a critical dimension of water transport, especially in ecologically sensitive ecosystems such as Lake Victoria. However, existing literature has largely overlooked how infrastructure-focused state entities like KSL integrate environmental considerations into their planning and operations. Although environmental issues such as water hyacinth infestation, pollution, and climate variability are widely documented, there is no scholarly work evaluating whether KSL incorporates environmental safeguards such as Environmental Impact Assessments (EIAs), climate resilience measures, or ecosystem-sensitive dredging technologies. Additionally, KSL's collaboration with environmental regulatory bodies, local communities, or civil society organizations remains undocumented. The lack of environmental performance metrics or sustainability frameworks associated with KSL's projects reveals a significant research gap. This omission is especially concerning given the growing global emphasis on embedding environmental, social, and governance (ESG) principles into public sector operations, particularly in the context of the blue economy and sustainable development goals.

Equally important, the socio-economic impact of KSL's operations on communities dependent on Lake Victoria for trade, fishing, and tourism remains empirically unexplored. While global scholarship increasingly positions state-owned enterprises as tools for inclusive and equitable development, there is a dearth of localized studies assessing how KSL has influenced employment generation, income stability, market access, or improved quality of life in riparian communities. No academic study has systematically analyzed KSL's effect on livelihoods in areas such as Homa Bay, Mbita, and Kendu Bay, where lake-based economic activity is central. Moreover, there is no evidence of community engagement, participatory development frameworks, or social impact assessments guiding KSL's infrastructure

projects. Issues of gender inclusion, youth participation, and equitable access to economic opportunities linked to KSL's maritime infrastructure remain largely unaddressed. These gaps limit the ability of policymakers and scholars to evaluate whether KSL's operations contribute meaningfully to the socio-economic upliftment of the region or merely serve a technical-industrial function detached from community needs.

In summary, while global literature emphasizes the developmental potential of SOEs in advancing infrastructure, environmental responsibility, and socio-economic inclusion, scholarly work on Kenya Shipyards Limited remains narrowly focused and largely descriptive. There is an urgent need for empirical research that investigates KSL's impact across these three critical dimensions: transport efficiency, environmental sustainability, and community development. Addressing these gaps will not only enrich academic understanding but also inform more effective policy and institutional reforms within Kenya's maritime and inland water transport sectors.

In summary, Kenya Shipyards Limited operates within a global context where state-owned enterprises are increasingly expected to deliver both economic and social value. Comparisons with China, France, Brazil, Chile, and Eastern Europe reveal that SOEs can drive regional development when guided by inclusive frameworks. However, in the case of Lake Victoria, there remains a significant gap in understanding how KSL's activities affect local livelihoods, informal trade, and community well-being. Further research is needed to explore how KSL can embed participatory development models, track its social impact, and align with broader sustainable development goals.

#### IV. THEORETICAL FRAMEWORK

This study is grounded in an integrated theoretical framework comprising Public Value Theory, Ecological Modernization Theory, and Developmental State Theory. These frameworks are instrumental in analyzing the role of Kenya Shipyards Limited (KSL) in enhancing water transport efficiency, promoting environmental sustainability, and fostering socio-economic development within the Lake Victoria region.

##### ➤ *Public Value Theory*

Public Value Theory, developed by Mark Moore (1995), provides a foundational lens for understanding the role of public institutions, including state-owned enterprises (SOEs), in delivering services that contribute to societal well-being. Rather than focusing solely on profit or operational output, Moore contends that public managers should pursue the creation of public value—services and outcomes that respond to citizen needs, uphold democratic principles, and strengthen institutional legitimacy. This theory is particularly relevant to the objective of examining Kenya Shipyards Limited's (KSL) role in improving the efficiency of water transport in the Lake Victoria region. It allows the study to assess KSL's work not merely in terms of technical or logistical improvements, but also in relation to broader public

outcomes such as increased accessibility, safety, and affordability in maritime transportation.

Moore (1995) emphasizes that the success of SOEs lies in their ability to engage stakeholders, align their activities with public priorities, and develop strategic partnerships that enhance service delivery. Applying this to KSL's operations, the theory encourages an evaluation of how the company's investments in shipbuilding, vessel maintenance, and marine infrastructure contribute to public value by supporting regional connectivity and economic inclusion. In doing so, KSL's work can be seen not just as industrial activity, but as a state-led effort to improve citizens' quality of life through reliable and sustainable water transport systems on Lake Victoria.

##### ➤ *Ecological Modernization Theory*

Ecological Modernization Theory (EMT) offers a useful framework for analyzing how economic development and environmental protection can be integrated through institutional reform, technological innovation, and state-led planning (Mol & Sonnenfeld, 2000; Hajer, 1995). This theory is directly relevant to the objective of assessing how Kenya Shipyards Limited (KSL) addresses environmental challenges impacting water transport on Lake Victoria. EMT suggests that rather than viewing environmental degradation as an inevitable consequence of industrialization, modern institutions including SOEs can adopt cleaner technologies, resource-efficient practices, and sustainability-oriented governance to reduce ecological harm while supporting economic goals.

In the context of Lake Victoria, where water hyacinth infestation, pollution, and shoreline degradation have undermined water transport, KSL's ability to incorporate green technologies and collaborate with environmental agencies becomes essential. EMT posits that such integration of environmental responsibility into industrial operations signals a shift toward "ecological rationality" in governance (Mol, 1995). Therefore, this theory allows for a critical analysis of whether KSL is merely a technical actor or an agent of ecological reform—engaged in environmental impact assessments (EIAs), climate adaptation planning, and long-term sustainability strategies. It also helps identify governance gaps if such environmental priorities remain weakly institutionalized in KSL's mandate or operations.

##### ➤ *Developmental State Theory*

Developmental State Theory provides another essential lens for examining state-owned enterprises like KSL, particularly in relation to socio-economic transformation. Rooted in the work of scholars such as Chalmers Johnson (1982), Peter Evans (1995), and more recently, Edigheji (2010), this theory emphasizes the active role of the state in guiding economic development, especially through targeted industrial policies and institutional investments. In this study, the theory supports the third objective: to evaluate the socio-economic impact of KSL's operations on communities dependent on Lake Victoria for trade, fishing, and tourism.

The theory argues that developmental states strategically use institutions—including SOEs—to stimulate local industries, create employment, and reduce regional disparities. In East Asia, for instance, state-owned shipyards were pivotal in building export capacity and modernizing logistics infrastructure (Johnson, 1982). Applying this to Kenya, KSL's operations in Kisumu, Homa Bay, and Mbita can be evaluated as instruments of spatially targeted development. Yet, as Evans (1995) highlights, for SOEs to achieve developmental outcomes, they must be embedded in local communities and accountable to public interests not merely agents of technocratic planning. This framework thus helps assess whether KSL's investments have generated inclusive benefits such as youth employment, gender-responsive development, skills training, and growth in local fisheries and tourism industries around Lake Victoria.

#### ➤ *Theoretical Integration*

The intersection of these three theories provides a comprehensive framework for evaluating KSL's operations. Public Value Theory establishes the normative expectation for KSL to serve the public interest and enhance transport efficiency. Ecological Modernization Theory introduces a governance lens that emphasizes environmental sustainability and institutional adaptation to ecological challenges. Developmental State Theory broadens the analysis by highlighting the state's role in using KSL to achieve socio-economic transformation in line with Kenya's Vision 2030 and the African Union's blue economy goals. Together, these frameworks allow the study to critically analyze KSL's performance from strategic, environmental, and developmental perspectives, offering a well-rounded theoretical basis for assessing its role in transforming Lake Victoria's water transport system.

## V. CONCEPTUAL FRAMEWORK

The conceptual framework for this study illustrates the dynamic interaction between Kenya Shipyards Limited's (KSL) operations and their effects on water transport efficiency, environmental sustainability, and socio-economic development in the Lake Victoria region. It is anchored in three interrelated theoretical pillars: Public Value Theory (Moore, 1995), Ecological Modernization Theory (Mol & Sonnenfeld, 2000; Hajer, 1995), and Developmental State Theory (Johnson, 1982; Edigheji, 2010). These theories collectively provide a multidimensional analytical lens through which the strategic, environmental, and developmental implications of KSL's operations are evaluated.

At the core of the framework is the independent variable, which is expected to encompass the operations undertaken by KSL. These should include shipbuilding and vessel repair, development of maritime infrastructure (such as piers, dry docks, and slipways), enhancements in maritime safety protocols, and partnerships with both public and private stakeholders. Additionally, KSL is expected to engage in environmental mitigation practices, such as waste control and efforts to reduce the spread of invasive species like the water hyacinth. These operational components will reflect the

state's strategic investment in transport and infrastructure, much like the role of state-owned enterprises (SOEs) in China, France, and Brazil where SOEs are vehicles for regional development and modernization (Lin & Fox, 2013; Pinson & Journeel, 2016; Zhang & Liu, 2023).

The dependent variables are categorized into three main dimensions. First, water transport efficiency refers to outcomes such as improved navigability, reduced transportation costs, enhanced safety, increased vessel availability, and greater accessibility of services. Rodrigue, Comtois, and Slack (2020) emphasize that water transport, when efficiently managed, offers one of the most cost-effective and energy-efficient forms of transportation, particularly in regions with expansive inland waterways like Lake Victoria.

Second, the dimension of environmental sustainability includes the reduction of pollution, sustainable shipyard practices, containment and control of aquatic invasive species, and adherence to environmental regulatory frameworks. These aspects are critical in maintaining the ecological balance of the lake and are aligned with the tenets of Ecological Modernization Theory, which proposes that economic development and environmental preservation can be mutually reinforcing through technological and institutional innovation (Mol & Sonnenfeld, 2000; Hajer, 1995).

Third, the socio-economic development outcomes of KSL's operations are expected to reflect in local employment creation, promotion of trade and tourism, participation of youth and women in blue economy activities, and infrastructure improvement in the counties bordering Lake Victoria. Evans (1995) and Martinez & Franks (2014) argue that SOEs, when embedded in community-responsive planning, can serve as catalysts for inclusive economic transformation, particularly in underdeveloped or marginalized regions.

The intervening variables include the influence of government policy, political will, public investment, regional cooperation mechanisms (such as those under the East African Community), and the extent of community engagement in project design and implementation. These moderating factors will significantly shape the outcomes of KSL's initiatives, mirroring the importance of state capacity and institutional alignment emphasized by Johnson (1982) and Edigheji (2010) in studies of developmental states.

The conceptual linkage embedded in this framework posits that KSL's operations, guided by a deliberate state-led development model, can produce measurable improvements in transport logistics, ecological integrity, and community well-being around Lake Victoria. This integrated approach supports a holistic understanding of how state agencies, especially SOEs, can simultaneously address multiple developmental goals. By drawing from Public Value Theory, the framework prioritizes the responsiveness of KSL's services to public needs (Moore, 1995). Through Ecological Modernization Theory, it acknowledges the necessity of

environmentally sustainable practices (Mol & Sonnenfeld, 2000). Meanwhile, Developmental State Theory situates KSL's role within the broader national and regional agenda

for economic transformation (Johnson, 1982; Lin & Fox, 2013).

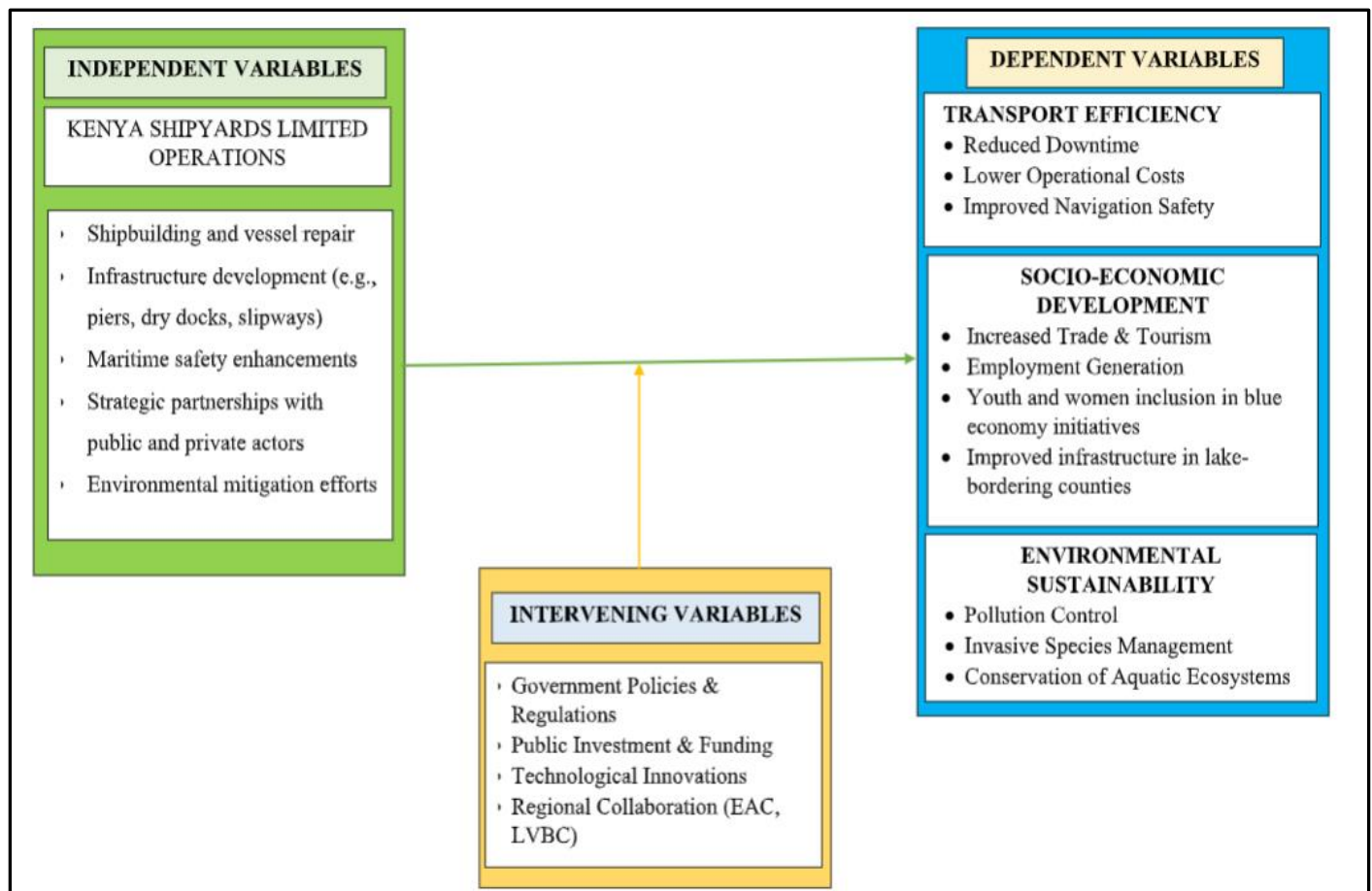


Fig 1 Conceptual Framework

## VI. CONCLUSION

In summary, this literature review underscores the strategic significance of Kenya Shipyards Limited (KSL) as a state-owned enterprise (SOE) capable of catalyzing socio-economic transformation and environmental stewardship in the Lake Victoria region. Positioned at the intersection of infrastructure development and public service delivery, KSL has the potential to drive inclusive growth, enhance regional connectivity, and revitalize neglected inland maritime systems. Drawing from international experiences particularly in China, France, Brazil, and Eastern Europe—it becomes evident that well-managed SOEs can serve as instruments for delivering public value. When effectively governed, SOEs can expand infrastructure, promote environmental innovation, reduce regional inequalities, and foster participatory development. However, these benefits are not guaranteed. Global case studies also reveal that SOEs may face inefficiency, politicization, lack of transparency, and weak public accountability—risks particularly acute in emerging economies with limited institutional oversight.

In KSL's case, scholarly engagement remains limited, with insufficient empirical evidence assessing its contribution to key developmental goals. There is little research on how

KSL's shipbuilding and port rehabilitation projects have impacted livelihoods in riparian communities, improved market access, or supported informal economies dependent on water-based transport. Similarly, there is limited insight into the environmental governance mechanisms—if any—that guide its operations in ecologically sensitive zones of Lake Victoria. The absence of robust environmental impact assessments (EIAs), community engagement strategies, or inclusive development frameworks points to critical research and policy gaps.

As Kenya advances its blue economy agenda, future academic inquiry should examine whether KSL integrates public value, sustainability, and participatory governance into its operational model. This includes assessing its alignment with Kenya's Vision 2030, the African Union's Agenda 2063, and the Lake Region Economic Bloc's strategies. Addressing these gaps will enrich academic discourse and inform more transparent, accountable, and inclusive maritime development frameworks. In doing so, KSL could emerge as a model for balancing infrastructure-led growth with community empowerment and ecological responsibility contributing meaningfully to national and regional sustainable development goals.



## REFERENCES

- [1]. Dancer, M. M. (2023). Benefit Corporations—A Tool for Economic Development and Fostering Sovereignty in Tribal Business Structures. *American Indian Law Review*, 48(2), 259-300.
- [2]. Dancer, M. M. (2023–2024). Benefit Corporations—A Tool for Economic Development and Fostering Sovereignty in Tribal Business Structures. *American Indian Law Review*, 48(2), 259–300.
- [3]. Dancer, M. M. (2024). Benefit Corporations—A Tool for Economic Development and Fostering Sovereignty in Tribal Business Structures. *American Indian Law Review*, 48(2), 259–300.
- [4]. Duman, A., & Kureková, L. (2021). *The Role of the State in Development of Socioeconomic Models in Hungary and Slovakia*. Central European University Press.
- [5]. Edigheji, O. (2010). *Constructing a Democratic Developmental State in South Africa: Potentials and Challenges*. HSRC Press.
- [6]. Evans, P. (1995). *Embedded Autonomy: States and Industrial Transformation*. Princeton University Press.
- [7]. Fox Z. Y. Hu & George C. S. Lin (2014). Placing the Transformation of State-Owned Enterprises in North-east China: The State, Region and Firm in a Transitional Economy.
- [8]. Fox, Z. Y., & Lin, G. C. S. (2013). Placing the Transformation of State-owned Enterprises in North-east China. *Journal of Contemporary China*, 23(85), 161–182.
- [9]. Fox, Z. Y., & Lin, G. C. S. (2013). Placing the Transformation of State-Owned Enterprises in North-East China. *Geoforum*, 46, 103–112.
- [10]. Gilles Pinson & Christelle Morel Journal (2016). Beyond Neoliberal Imposition: State–Local Cooperation and the Blending of Social and Economic Objectives in French Urban Development Corporations.
- [11]. Hajer, M. (1995). *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*. Oxford University Press.
- [12]. Hu, F. Z. Y., & Lin, G. C. S. (2014). Placing the Transformation of State-Owned Enterprises in North-east China. *Geoforum*, 53, 183–194.
- [13]. Johnson, C. (1982). *MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925–1975*. Stanford University Press.
- [14]. Lin, G. C. S., & Fox, Z. Y. H. (2013). Placing the transformation of state-owned enterprises in North-east China. *Geoforum*, 46, 157–168.
- [15]. Lin, L., & Milhaupt, C. J. (2014). The Ascendency of State-Owned Enterprises in China: Development, Controversy and Problems. *Journal of Contemporary China*, 23(85), 161–182.
- [16]. Macheda, F., & Liu, J. (2022). The Role of State-Owned Enterprises in Promoting High-Quality Economic Development. *Economic Development Journal*.
- [17]. Martinez, C., & Franks, D. M. (2014). Does mining company-sponsored community development influence social licence to operate? Evidence from Escondida mine in Chile. *Resources Policy*, 41, 83–93.
- [18]. Martinez, C., & Franks, D. M. (2014). Does Mining Company-Sponsored Community Development Influence Social Licence to Operate?
- [19]. Mol, A. P. J. (1995). *The Refinement of Production: Ecological Modernization Theory and the Chemical Industry*. Van Arkel.
- [20]. Mol, A. P. J., & Sonnenfeld, D. A. (2000). *Ecological Modernisation Around the World: Perspectives and Critical Debates*. Frank Cass.
- [21]. Mol, A. P. J., & Sonnenfeld, D. A. (2000). *Ecological Modernisation Around the World*. Routledge.
- [22]. Moore, M. H. (1995). *Creating Public Value: Strategic Management in Government*. Harvard University Press.
- [23]. Moyo, I. (2021). The African Continental Free Trade Area and Informal Cross Border Trade: Implications on Socio-Economic Development in Africa.
- [24]. Moyo, I. (2023). The African Continental Free Trade Area and Informal Cross-Border Trade: Implications on Socio-Economic Development in Africa.
- [25]. Naughton, B. (2014). The Ascendency of State-Owned Enterprises in China. *Journal of Contemporary China*, 23(85), 161–182. <https://doi.org/10.1080/10670564.2013.809990>
- [26]. Njiru, M., et al. (2008). Management of Water Hyacinth in Lake Victoria. *African Journal of Aquatic Science*, 33(1), 105–111.
- [27]. Odada, E. O., et al. (2004). Mitigation of Environmental Problems in Lake Victoria, East Africa. *Ambio*, 33(1), 13–23.
- [28]. Pinson, G., & Journal, C. M. (2016). Beyond neoliberal imposition: State–local cooperation and the blending of social and economic objectives in French urban development corporations. *European Urban and Regional Studies*, 23(4), 364–378.
- [29]. Pinson, G., & Journal, C. M. (2016). Beyond Neoliberal Imposition: State–Local Cooperation. *Territory, Politics, Governance*, 4(3), 277–295.
- [30]. Pinson, G., & Morel Journal, C. (2016). Beyond Neoliberal Imposition: State–Local Cooperation and the Blending of Social and Economic Objectives in French Urban Development Corporations. *Territory, Politics, Governance*, 4(1), 1–19.
- [31]. Ricz, J. (2019). Strong State Influence in the Brazilian Economy: Continuity or Change? In M. Szanyi (Ed.), *Seeking the Best Master: State Ownership in the Varieties of Capitalism*. Central European University Press.
- [32]. Rodrigue, J. P., Comtois, C., & Slack, B. (2020). *The Geography of Transport Systems* (5th ed.). Routledge.
- [33]. Zhang, M., & Liu, Y. (2021). Global Financial Networks, Municipal Offshore Financing and State-Sponsored City-Regional Development.
- [34]. Zhang, M., & Liu, Y. (2023). Global financial networks and state-sponsored regional development in China. *Urban Studies*, 60(2), 207–225.