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Navigating Troubled Waters: A Public Administration Analysis of Governance Challenges in River Transportation Services in the Gambia

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Abstract

River transportation is a critical public good for socio-economic connectivity in riverine regions of developing nations. In The Gambia, particularly the Central River Region (CRR), it facilitates trade, access to services, and regional integration. However, the sector is plagued by persistent operational, safety, and infrastructural challenges. This study argues these are symptoms of systemic governance failures. Employing an explanatory sequential mixed-methods design with 300 respondents. These include: service users, operators, and public officials. The research diagnoses the core administrative pathologies. Findings reveal a synergistic system of fragmented regulatory oversight, deficient public financial management, pervasive corruption, and poor inter-agency coordination. The study concludes that technical interventions alone are insufficient without holistic public administration reform. It proposes an integrated reform framework centered on establishing a dedicated inland waterways authority, implementing transparent ring-fenced funding, institutionalizing robust accountability mechanisms, and fostering formalized community co-management. This framework offers a replicable model for addressing governance deficits in essential public services across data-scarce, river-dependent regions of sub-Saharan Africa.

Keywords

Public Administration, Governance, River Transportation, Service Delivery, The Gambia, Policy Implementation, Corruption, Institutional Reform

1. Introduction and Background

Inland waterway transport is a lifeline for communities across river-dependent regions of Africa. In The Gambia, the River Gambia not only defines the nation's geography but also its socio-economic dynamics, particularly in the Central River Region (CRR). Here, river transportation is indispensable for daily mobility, access to weekly markets (*Luumos*), education, healthcare, and administrative services. It is essential for bridging the north and south banks of the river. Despite its vital role, the sector is plagued by chronic challenges: dilapidated infrastructure, frequent accidents, overloading, corruption, and operational inefficiencies.

Existing literature, including reports from the World Bank (2017a) and the UN Economic Commission for Africa, often catalogs these issues in generic terms: inadequate infrastructure, sedimentation, and funding gaps, without deeply interrogating the governance and administrative roots of such failures. This study argues that the visible crises in river transportation are symptoms of systemic public administration failures. These include fragmented regulatory frameworks, ineffective policy implementation, financial mismanagement, and weak accountability mechanisms. By shifting the analytical focus from symptoms to systems, this research aims to provide actionable insights for policymakers and public managers tasked with improving this essential service.

The study is guided by the following research questions:

1) What are the principal governance and administrative failures contributing to the challenges in river transportation service delivery in CRR, The Gambia?

2) What is the impact of these administrative failures on public service delivery, citizen safety, and local economic development?

3) What public administration reforms can be proposed to enhance the governance, efficiency, and safety of river transportation services?

2. Literature Review: Governance, Institutions, and Inland Water Transport

Effective public administration is fundamental to the management of transport infrastructure. It requires robust planning, regulation, financing, and oversight (Hood, 1991). Inland waterway systems, in particular, depend on strong institutional frameworks and coherent policy implementation. Felicio et al. (2014) emphasize the need for strategic spatial planning, such as developing dry ports to decongest urban nodes; a recommendation that underscores the importance of administrative foresight and inter-agency collaboration.

Research on port and waterway management in developing contexts frequently highlights a governance deficit. Robinson (2002) argues that administrative reorientation is necessary for integrating ports into global supply chains. More broadly, studies on maritime and river transport governance in the Global South identify fragmented governance and poor coordination between subsystems (e.g., port-to-hinterland) as major obstacles to effective management (Rahayu et al., 2024). In The Gambia, World Bank (2017b) notes that congestion and inefficiency at the

Banjul port stem not only from limited infrastructure but also from operational and administrative capacity constraints. Similarly, Nguyen and Notteboom (2016) identify corruption, fraud, and logistical inefficiencies as major impediments in water transport, issues intrinsically linked to weak administrative controls and accountability mechanisms.

While literature directly examining governance in Gambian river transportation is scarce (Secka et al., 2023; Sawaneh et al., 2022), a cross-sectoral review of public service governance in The Gambia and comparable West African contexts reveals consistent, fundamental challenges that likely permeate the riverine transport sector.

2.1. Cross-Sectoral Governance Challenges: Insights for River Transport

1) Resource and Capacity Constraints

Inadequate finance, limited technical capacity, and infrastructure deficits are pervasive. For instance, digitalization efforts at The Gambia's National Water and Electricity Company (NAWEC) were critically hampered by a lack of funding, modern tools, and digital skills among personnel (Secka et al., 2023). Similarly, civil service reforms (2008-2015) faltered due to fiscal constraints, leading to low pay and insufficient resources for capacity building (Sawaneh et al., 2022). In Tanzania's rural water sector, resource constraints translated into low service quality and unsustainable infrastructure (Jiménez & Pérez-Foguet, 2010). This suggests that river transportation in The Gambia likely faces analogous challenges, such as poor dredging, lack of safety equipment, and insufficient operator training (Prince et al., 2024). These are exacerbated by a cycle of underfunding and underinvestment.

2) Institutional Weaknesses and Fragmentation

Institutional deficits, including lack of transparency, absence of performance management, and corruption, are endemic. The Gambian civil service has struggled with governance deficits inherited from colonial structures, compounded by over-expansion and patronage hiring (Sawaneh et al., 2022). Weak cross-sectoral collaboration and unclear institutional roles further cripple service delivery, as seen in studies of urban river management in Africa (Woldesenbet, 2018; Odume et al., 2022). In The Gambia's public sector, challenges such as low staff morale, political interference, and limited expertise undermine strategic plan implementation (Sawaneh & Olaiya, 2024). These insights point to a probable regulatory vacuum and coordination failures in river transport, where the mandate of the Gambia Ports Authority (GPA) may not effectively extend to remote river crossings, creating a dangerous policy implementation gap.

3) Service Quality and Sustainability Failures

Governance failures ultimately manifest in poor and unreliable services. The absence of performance management systems in The Gambia's civil service directly contributed to low productivity and poor service quality (Sawaneh et al.,

2022). In river transport, this likely translates into the documented crises of overloading, frequent accidents, and operational inefficiencies, which erode public trust and hinder economic development.

2.2. Political, Historical, and Path Dependency Factors

Governance is not shaped in a vacuum. Political interests and historical legacies create path dependencies that constrain reform. In Ghana, government policies have historically favored road transport to satisfy diverse socio-political interests, entrenching it as the mainstay of public mobility (Poku-Boansi, 2020). In The Gambia, colonial administrative structures and subsequent patronage politics have created institutional inertia that is difficult to overcome (Sawaneh et al., 2022; McPherson & Radelet, 1995). This historical context is crucial for understanding why river transport, despite its socio-economic importance, may remain chronically under-prioritized in national planning and budgeting.

2.3. Synthesis: Bridging the Gap in Literature

The Gambia River Basin Development Organization (OMVG) and World Bank (2017a) reports rightly cite inadequate infrastructure, poor funding, and sedimentation as key challenges for the river. However, these diagnoses often stop at symptoms. This review argues, based on cross-sectoral evidence, that these symptoms are rooted in systemic public administration failures: fragmented regulatory frameworks, financial mismanagement, institutional corruption, and weak accountability. The reform experience from other sectors is instructive. The Gambia's Economic Recovery Programme in the 1980s succeeded due to comprehensive reforms backed by strong donor support (McPherson & Radelet, 1995), while more recent civil service reforms failed under fiscal and political constraints (Sawaneh et al., 2022). This underscores that technical fixes for river transport will fail without addressing the underlying governance pathologies.

This study builds on these foundations by applying a public administration framework directly to the river transport sector in the Central River Region (CRR). It thereby seeks to fill the identified literature gap and contribute to a deeper understanding of how governance structures determine the performance of essential public services in sub-Saharan Africa.

2.4. The Legal and Institutional Framework for River Transport in The Gambia

The fragmentation identified in this study is rooted in the statutory mandates of Gambian public institutions. The Gambia Ports Authority Act (Cap. 72:03) establishes the GPA as the primary body responsible for "the management, operation, and development of ports in The Gambia." However, the Act's definition of "ports" has historically been interpreted to apply exclusively to the Port of Banjul and its immediate environs, leaving inland river crossings, including Janjanbureh, Bansang, and Kuntaur, without a clearly designated regulatory au-

thority. The Local Government Act (2019) vests Area Councils with powers over "local infrastructure and services" but does not explicitly confer authority over water transport safety, vessel licensing, or navigation standards. The Ministry of Transport, Works, and Infrastructure retains policy oversight but lacks a dedicated department for inland waterways. The Gambia Maritime Administration, established under the Merchant Shipping Act (2007), focuses on international shipping and large commercial vessels, not artisanal canoes or small ferries operating on inland routes. Consequently, no single agency holds a comprehensive mandate for safety inspections, fare regulation, vessel registration, or accident investigation for river transport services outside Banjul. This statutory vacuum creates what policy scholars term an "institutional void" (Hajer, 2003), a space where formal rules are absent or contested, enabling inconsistent enforcement, jurisdictional disputes, and the proliferation of informal practices documented in this study.

3. Theoretical Framework

This study is anchored in four complementary theoretical perspectives that collectively illuminate the governance challenges in river transportation.

3.1. Public Administration Theory

The research applies Hood's principles of public management (Hood, 1991), particularly the congruence between authority, responsibility, and capacity. The framework helps analyze regulatory fragmentation and policy implementation gaps through the lens of institutional design and mandate clarity.

3.2. Institutional Analysis and Development Framework

Ostrom's framework informs the examination of rule systems, monitoring mechanisms, and graduated sanctions in common-pool resource management (Ostrom, 1990). The river transportation system is analyzed as a common-pool resource requiring collective action and institutional arrangements to prevent degradation.

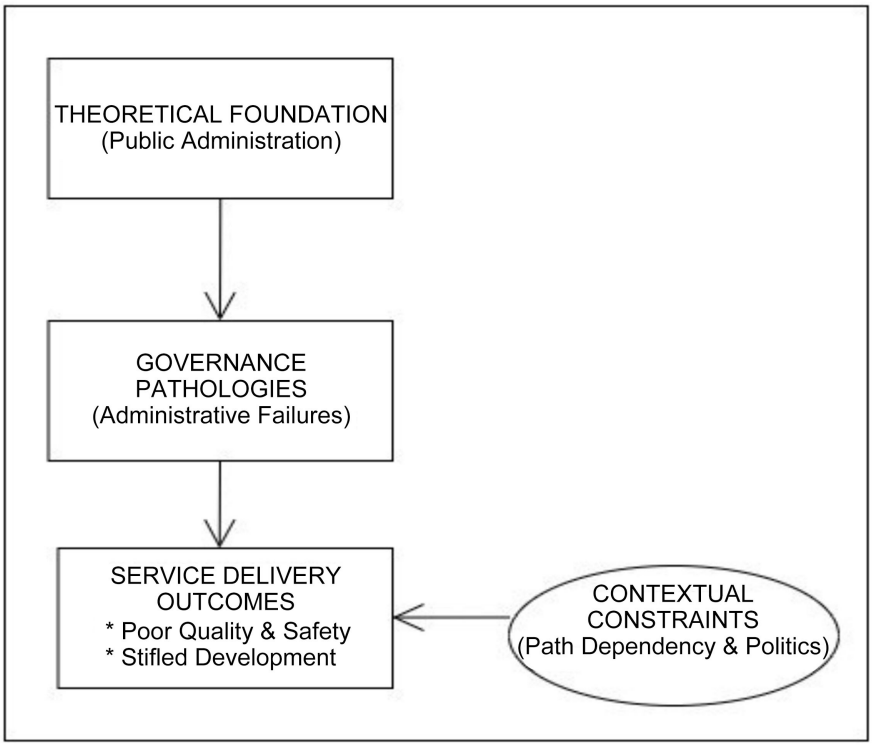
3.3. Principal-Agent Theory with Accountability Framework

Klitgaard's corruption formula (Corruption = Monopoly + Discretion − Accountability) provides the analytical lens for examining accountability deficits (Klitgaard, 1988). This framework elucidates how monopoly power and discretionary authority, when unchecked by accountability mechanisms, enable systemic corruption.

3.4. Path Dependency and Historical Institutionalism

This perspective explains the persistence of governance failures despite reform attempts (Pierson, 2000). Colonial administrative legacies and subsequent patronage politics in The Gambia create institutional inertia that systematically underprioritizes riverine communities.

As illustrated in Figure 1, this study's theoretical framework integrates four complementary perspectives. Hood's public administration principles underpin the analysis of regulatory fragmentation and financial mismanagement (Hood, 1991). Ostrom's institutional analysis informs the examination of coordination failures and rule systems (Ostrom, 1990). Klitgaard's corruption formula operationalizes the accountability deficits (Klitgaard, 1988). Pierson's path dependency explains the historical-political constraints (Pierson, 2000). Together, these theories position administrative failures as independent variables directly influencing service delivery outcomes (dependent variables), with political economy factors acting as moderating variables that shape the strength and manifestation of these relationships.



Source: Adopted from Combined Public Admin theories.

Figure 1. Theoretical framework.

Synthesis: An Integrated Analytical Lens

This study does not apply these theories in isolation but synthesizes them into a single, integrated analytical lens. Hood's principles provide the benchmark for assessing institutional design and mandate clarity (Hood, 1991). Ostrom's IAD framework guides the examination of the operational "rules of the game" at landing sites (Ostrom, 1990). Klitgaard's formula operationalizes the critical accountability deficits that enable corruption (Klitgaard, 1988). Finally, Pierson's path dependency explains the historical inertia that makes these failures resistant to piecemeal reform (Pierson, 2000). Operationally, this synthesis positions the four core administrative pathologies (fragmentation, financial mismanagement,

corruption, and coordination failures) as the primary independent variables. Their combined effect on service delivery, safety, and economic development constitutes the dependent variable. The moderating role of political and historical context is systematically examined in the discussion. This integrated approach allows for a diagnosis that moves beyond symptoms to uncover the systemic, institutional roots of governance failure.

4. Research Methodology

This study employed an explanatory sequential mixed-methods design, chosen for its capacity to provide a comprehensive understanding of complex governance phenomena (Creswell & Plano Clark, 2018). Grounded in a pragmatic research philosophy, this approach prioritizes the research questions and integrates quantitative and qualitative phases. The four governance failures examined in this study, regulatory fragmentation, financial mismanagement, corruption, and coordination failure, were specified a priori based on the theoretical framework (Hood, 1991; Klitgaard, 1988; Ostrom, 1990) and cross-sectoral literature review (Sawaneh et al., 2022; Rahayu et al., 2024). These constructs informed the development of the quantitative survey instrument. The initial quantitative phase involved the collection and analysis of survey data to identify broad patterns and prevalence of stakeholder perceptions regarding these theoretically derived failures. This was followed by a qualitative phase of in-depth interviews and observations to explain, contextualize, and explore the "how" and "why" behind the quantitative results. This includes whether additional emergent governance failures might be identified or not. This sequential rationale allows for the generalizability of survey findings while enabling a deep investigation into the administrative processes and institutional logics at the heart of governance failure. It aligns perfectly with the study's diagnostic aim of moving beyond cataloging symptoms to understanding their systemic, public administration roots.

4.1. Study Area and Scope

The Central River Region (CRR) of The Gambia was selected as a critical case study (Flyvbjerg, 2006). Its total dependence on the River Gambia for socio-economic connectivity, with no major bridging infrastructure, makes the impacts of governance failures in river transportation starkly visible.

The target population comprised all stakeholders in the river transportation service delivery chain within CRR, including service users, operators, regulators, and local community representatives.

A multi-stage, multi-strategy sampling approach was used to ensure representativeness and depth. The total sample was 300 participants. **Table 1** details the sampling framework. The study covered five major river crossing points in CRR: Janjanbureh, Bansang, Kuntaur, Jakhaly, and Karantaba**.** These sites were selected based on their high traffic volumes, representation of both formal ferry services and informal canoe operations, and their geographic spread across the north and south banks.

Table 1. Sampling framework and achieved participant distribution.

Stakeholder Category	Sub-Category	Target (n)	Achieved (n)	Sampling Technique	Rationale
Service Users	Passengers	110	108	Stratified Random	Ensure proportional representation from five crossing points
	Traders	50	48	Stratified Random	Capture economic actors reliant on river transport
	Farmers	20	19	Stratified Random	Include agricultural users with seasonal needs
Operators	Boat Captains	30	28	Purposive + Snowball	Target individuals with direct operational control
	Canoe Paddlers	20	18	Purposive	Represent informal artisanal sector
	Vessel Owners	10	9	Purposive	Access perspective of capital owners
Public Administrators	GPA/Ministry Officials	20	19	Purposive	Select information-rich participants with policy insight
	Local Authorities (Alkalos)	15	14	Purposive	Engage those at implementation gap
Local Stakeholders	Community/Fisher Reps	15	14	Purposive	Incorporate civil society perspectives
TOTAL		**300**	**287**		**Overall Response Rate: 95.7%**

Note: The sum of achieved participants across sub-categories is 287 (108 + 48 + 19 + 28 + 18 + 9 + 19 + 14 + 14 = 287). No additional participants were added beyond these categories. Source: Research Design (2026).

Of the 287 total participants, 230 completed the structured survey (175 service users and 55 operators). The remaining 57 participants took part only in semi-structured interviews: 19 public administrators, 14 local authorities (Alkalos), 14 community/fisheries representatives, and 10 operators who were not captured in the survey phase due to their irregular schedules. All five landing sites (Janjanbureh, Bansang, Kuntaur, Jakhaly, and Karantaba) were covered. The survey response rate among targeted service users and operators was 95.8% (230 out of 240 approached), while the interview acceptance rate was 95.0% (57 out of 60 approached).

4.2. Instrument Development, Validation, and Data Collection

The study operationalized five core constructs based on the theoretical framework. Each was measured using multi-item Likert-scale indices (1 = Strongly Disagree to 5 = Strongly Agree) to ensure reliability and validity.

Regulatory Fragmentation: Defined as the degree to which oversight authority for river transportation is dispersed across multiple agencies without clear jurisdictional boundaries or coordinated mandates. Measured using a 5-item composite scale (Cronbach's $\alpha = 0.84$) covering: 1) clarity of which agency has authority at river crossings, 2) overlap or gaps in regulatory mandates, 3) consistency of enforcement across sites, 4) existence of unified operational guidelines, and 5) jurisdictional ambiguity in emergency situations.

Financial Mismanagement: Defined as deficiencies in the planning, allocation, disbursement, execution, and accountability of public funds intended for river

transport infrastructure and operations. Measured using a 6-item composite scale (Cronbach's $\alpha = 0.89$) covering: 1) timeliness of budget releases, 2) alignment of expenditures with intended purposes, 3) transparency of revenue collection, 4) existence and effectiveness of audit mechanisms, 5) adequacy of maintenance funding, and 6) perceived waste or leakage.

Corruption Incidence: Defined as the systematic abuse of public authority for private gain within river transport operations, operationalized using Klitgaard's formula (Monopoly + Discretion – Accountability) (Klitgaard, 1988). Measured using a 5-item composite scale (Cronbach's $\alpha = 0.91$) covering: 1) frequency of informal payments for boarding priority, 2) prevalence of ticket fraud, 3) selective enforcement of safety rules, 4) bribery for licenses or permits, and 5) perceived impunity for corrupt acts.

Coordination Failure: Defined as the absence of effective information sharing, joint planning, and synchronized operations among agencies with overlapping responsibilities for river transport. Measured using a 4-item composite scale (Cronbach's $\alpha = 0.82$) covering: 1) frequency of inter-agency meetings, 2) alignment of schedules (ferry timetables vs. market days), 3) information sharing across agencies, and 4) existence of joint problem-solving mechanisms.

Service Quality (Dependent Variable): Defined as the perceived reliability, safety, accessibility, and affordability of river transportation services from the user perspective. Measured using a 6-item composite scale (Cronbach's $\alpha = 0.88$) covering: 1) schedule reliability, 2) vessel safety and maintenance, 3) boarding efficiency, 4) affordability relative to income, 5) accident frequency, and 6) overall user satisfaction.

For all composite scales, item scores were summed and averaged to produce a continuous variable ranging from 1 to 5 for each construct. Higher scores indicated greater perceived dysfunction for the governance variables (fragmentation, mismanagement, corruption, coordination failure) and higher perceived quality for the service quality outcome.

A. Quantitative Instrument (Structured Survey)

Development: Items were generated based on the theoretical framework (e.g., Hood's principles, Klitgaard's formula) and literature review constructs (regulatory fragmentation, accountability, etc.).

Validation: The questionnaire underwent expert review by three scholars in public administration and pilot testing with 30 respondents. Reliability was confirmed with a Cronbach's Alpha score > 0.80 for all scaled sections.

Content: Included Likert-scale questions (1=Strongly Disagree to 5=Strongly Agree) and closed-ended questions on service quality, safety, corruption frequency, regulatory awareness, and satisfaction.

B. Qualitative Instruments

Semi-Structured Interviews: Guides were used with open-ended questions to explore institutional challenges, coordination mechanisms, and experiences with constraints.

Non-Participant Observation: This method provided an unfiltered view of on-ground realities, mitigating the potential bias of self-reported data. A protocol guided the documentation of infrastructure conditions, boarding processes, and official passenger interactions at key landing sites.

Document Analysis: Policy documents, GPA reports, and audit reports were systematically reviewed.

4.3. Data Analysis Procedures

Data analysis proceeded in two streams corresponding to the mixed-methods design. The qualitative findings were then used to explain, contextualize, and give meaning to the quantitative results. This fulfills the explanatory sequential design. Triangulation across all data sources strengthened the credibility of the conclusions drawn.

A. Quantitative Analysis

Survey data were analysed using SPSS (Version 26).

Descriptive Statistics: Frequencies, percentages, means, and standard deviations were calculated to summarize the data (e.g., Table 2 perceptions).

Inferential Statistics: Correlation analysis was used to examine relationships between key governance variables (e.g., fragmentation vs. service quality). Regression analysis was conducted to test the predictive power of identified administrative failures on service delivery outcomes.

Realized Qualitative Sample: A total of 57 semi-structured interviews were completed: 19 public administrators (GPA officials, Ministry of Transport, local council staff), 14 local authorities (Alkalos), 14 community representatives (fisher association leaders, women's group representatives), and 10 operators (boat captains and vessel owners) who were not captured in the survey phase due to their irregular schedules. Interviews lasted between 35 and 90 minutes, with a mean duration of 52 minutes. All interviews were conducted in either English or Mandinka (the predominant local language), with translation performed by a trained research assistant and verified through back-translation.

Coding Process: Thematic analysis followed Braun and Clarke's six-phase framework (Braun & Clarke, 2006). Two researchers independently coded the first five transcripts to establish intercoder reliability, achieving a Krippendorff's α of 0.87 after resolving discrepancies through discussion. The remaining transcripts were coded by the primary researcher, with weekly peer debriefing sessions to review coding decisions and emerging patterns. Coding was conducted using NVivo 14 software. Initial codes were inductive, derived from participant language, and then organized under the four theoretically specified governance failures (regulatory fragmentation, financial mismanagement, corruption, and coordination failure) as higher-order themes. A fifth theme, "community coping strategies", emerged inductively and was integrated into the analysis as a contextual factor.

Saturation Assessment: Thematic saturation was assessed using the information power framework (Malterud et al., 2016). Given the study's specific aim (diagnos-

ing governance failures), dense sample specificity (stakeholders with direct experience), established theoretical framework, and strong dialogue quality across interviews, saturation was achieved after 45 interviews, with the remaining 12 interviews confirming existing themes and yielding no new substantive insights. This was verified through a saturation grid documenting the point at which each theme was first identified and subsequently confirmed.

B. Qualitative Analysis

Interview transcripts and field notes were analysed using Thematic Analysis (Braun & Clarke, 2006).

Familiarization: Repeated reading of transcripts.

Coding: Generation of initial codes capturing key ideas.

Theme Development: Collation of codes into potential themes (e.g., "financial leakage", "accountability voids").

Review and Refinement: Ensuring themes accurately reflected the dataset.

Triangulation: Qualitative themes were explicitly used to explain and give deeper meaning to the quantitative results, fulfilling the explanatory sequential design.

Table 2. Data collection matrix.

Method	Target Participants (n)	Actual (n)	Primary Data Collected	Purpose
Structured Survey	Service Users and Operators (240)	230	Quantifiable data on perceptions, frequencies, and satisfaction levels.	Establish prevalence and patterns of governance challenges.
Semi-Structured Interviews	Administrators and Local Stakeholders (60)	57	Detailed narratives on policy ambiguity, resource constraints, political interference, and institutional processes.	Explain the how and why behind quantitative patterns.
Non-Participant Observation	At five landing sites (N/A)	N/A	Direct, unfiltered data on operational realities, adherence to rules, and physical infrastructure.	Triangulate self-reported data and reveal on-ground practices.
Document Analysis	Institutional Documents	N/A	Contextual data on formal rules, budget allocations, strategic plans, and historical challenges.	Compare formal policy frameworks with actual implementation.

Source: Research Design (2026).

4.4. Ethical Considerations

The study received ethical approval from the Review Board of the University of The Gambia. Informed consent was obtained from all participants. For illiterate participants, the consent form was read aloud, and verbal consent was witnessed and documented. Anonymity and confidentiality were strictly maintained throughout data handling and reporting.

5. Findings

5.1. Quantitative Results: Patterns and Perceptions

The survey data provide strong quantitative evidence of stakeholder perceptions and the relationships between key governance variables (Table 3).

Table 3. Stakeholder perceptions of challenges and solutions (n = 240).

Perception Statement	Agree/Strongly Agree	Neutral	Disagree/Strongly Disagree
A. Key Challenges			
Poor infrastructure is the biggest challenge.	98%	1%	1%
Inadequate funding is the primary cause of problems.	100%	0%	0%
These challenges have slowed local economic opportunities.	84%	11%	5%
B. Viable Solutions			
Improved infrastructure could significantly address challenges.	96%	2%	2%
Better inter-agency coordination could improve the system.	98%	1%	1%
Community engagement could be an effective part of the solution.	86%	11%	3%

Note: Percentages may not sum to 100% due to rounding.

A correlation analysis was conducted to examine the relationships between the core governance failures identified in the qualitative phase.

While these descriptive statistics confirm the widespread perception of crisis, the study sought to go further by quantifying the statistical relationships between the core governance failures identified in the literature and the perceived quality of service delivery. The following correlation analysis tests the hypothesis that these failures are not isolated but constitute a synergistic system.

Interpretation: Table 4(a) shows that all four governance dysfunctions are strongly and positively intercorrelated, suggesting they form a synergistic system. More critically, each dysfunction is strongly negatively correlated with Service Quality, confirming their strong statistical association with lower service quality.

Multivariate Regression Analysis:

To extend the bivariate correlations and test the relative predictive power of the four governance dysfunctions on service quality, a multiple linear regression analysis was conducted. Service quality (continuous composite score) served as the dependent variable. Regulatory fragmentation, financial mismanagement, corruption incidence, and coordination failure (all continuous composite scores) were entered as independent predictors.

Model Specification:

Service Quality = $\beta 0 + \beta 1$ (Fragmentation) + $\beta 2$ (Mismanagement) + $\beta 3$ (Corruption) + $\beta 4$ (Coordination) + εService Quality = $\beta 0 + \beta 1$ (Fragmentation) + $\beta 2$ (Mismanagement) + $\beta 3$ (Corruption) + $\beta 4$ (Coordination) + ε.

Interpretation: The model explains 83.5% of the variance in perceived service quality (Adjusted $R^2 = 0.832$), indicating strong collective predictive power. All four governance dysfunctions emerge as statistically significant negative predictors. Financial mismanagement exerts the strongest unique effect ($\beta = -0.341$, $p < 0.001$), followed by corruption incidence ($\beta = -0.246$, p = 0.001), coordination failure ($\beta = -0.176$, $p = 0.009$), and regulatory fragmentation ($\beta = -0.142$, $p = 0.024$).

While the correlation matrix (Table 4) established strong pairwise associations, the regression analysis reveals that financial mismanagement and corruption are the most critical levers for intervention. The high R^2 also confirms that the four governance dysfunctions, measured as a system, collectively account for the vast majority of variation in service quality outcomes. This supports the study's central argument that isolated technical fixes will fail without systemic administrative reform targeting these interconnected pathologies.

Table 4. (a) Correlation matrix of governance dysfunctions (n = 240); (b) Multiple regression results (n = 230).

(a)

Variable	1. Fragmentation	2. Financial Mismanagement	3. Corruption	4. Coordination Failure	5. Service Quality
1. Regulatory Fragmentation	1.000				
2. Financial Mismanagement	0.784**	1.000			
3. Corruption Incidence	0.692**	0.845**	1.000		
4. Coordination Failure	0.721**	0.789**	0.812**	1.000	
5. Service Quality (Outcome)	**−0.823**	**−0.901**	**−0.867**	**−0.845**	1.000

(b)

Predictor	Unstandardized B	Standard Error	Standardized β	t	p-value
(Constant)	5.421	0.298		18.19	<0.001
Regulatory Fragmentation	−0.187	0.082	−0.142	−2.28	0.024
Financial Mismanagement	−0.412	0.091	−0.341	−4.53	<0.001
Corruption Incidence	−0.294	0.087	−0.246	−3.38	0.001
Coordination Failure	−0.208	0.079	−0.176	−2.63	0.009

(a) ** $p < 0.01$; (b) Model Fit: R = 0.914, $R^2 = 0.835$, Adjusted $R^2 = 0.832$, F (4, 225) = 285.3, $p < 0.001$.

5.2. Qualitative Results: Thematic Insights

The qualitative phase was designed to explain and contextualize the quantitative patterns. While the four governance failures were initially specified from theory and measured in the survey, the thematic analysis of interviews and observations served to validate, deepen, and refine these constructs, revealing how they manifest in practice and interact synergistically. No additional major governance failure categories emerged beyond the four theoretically derived constructs, confirming the adequacy of the a priori framework.

Thematic analysis of interviews and observations provided depth to the quan-

titative patterns, revealing four core pathologies:

Regulatory Fragmentation: The Gambia Ports Authority's (GPA) mandate is concentrated on the Banjul port, creating a vacuum at remote crossings like Janjanbureh. As one District Chief noted, "*We see the overloading, but our authority stops at the riverbank. The GPA rules are papers in Banjul.*"

Public Financial Mismanagement: Beyond budget scarcity, the issue is dysfunctional execution. An official explained: "*The dredging funds are released in November, after the rains. We must spend it or lose it by December, so it often goes to office repairs, not the river.*"

Pervasive Corruption & Accountability Deficits: Corruption is systematized, not incidental. A frequent trader described: "*At Barra, the ferry is always 'full.' But if you find the crewman and add* 50 *dalasis to the fare, a space appears.*" This reflects Klitgaard's formula: monopoly power + discretion − accountability.

Poor Inter-Agency Coordination: Operations are silos. A GPA scheduler stated, "*We set the ferry timetable. The local council sets the Luumo* (*market*) *days. Nobody meets to align them. The result is chaos every week.*"

5.3. Data Triangulation: Integrated Analysis

The mixed-methods design allowed findings to converge powerfully:

Quantitative: 100% of users cited "inadequate funding" (Table 5), and it had the strongest negative correlation with service quality (r = −0.901, Table 5).

Qualitative: Interviews revealed this was less about the amount and more about mismanagement (late releases, misallocation).

Conclusion: The problem is not merely budget size but pathological Public Financial Management (PFM), a finding solidified by triangulation.

Table 5. Triangulation: integrated analysis.

Governance Factor	Quantitative Finding	Qualitative Mechanism	Policy Implication
PFM Dysfunction	r = −0.90 with service quality; strongest predictor in regression	End-of-year budget "use-it-or-lose-it" rules diverting funds from dredging to unrelated expenses; revenue leakage at the point of collection.	Ring-fenced fund (to address perceived misalignment between revenue and expenditure); quarterly public reporting (to increase transparency); independent audit (to strengthen accountability mechanisms).
Fragmentation	r = −0.82	GPA's mandate legally ends at the port; local authorities lack enforcement powers and technical training for riverine safety.	Create IIWA; standardize codes; inspection cadre.
Corruption	r = −0.87	Systematized informal payments facilitated by official discretion and the absence of citizen complaint mechanisms; the ticketing system is opaque.	Citizen reporting channels, compliance unit; KPI-linked contracts.
Coordination Failure	r = −0.85	Ferry timetables set by GPA in Banjul without consultation on local market days, resulting in predictable peak-hour gridlock and safety risks.	Standing coordination committee; seasonal timetable.

6. Discussion: Unpacking the Administrative Roots of Systemic Failure

This study set out to diagnose the governance pathologies afflicting river transportation in The Gambia's Central River Region. Moving beyond a symptomatic analysis, the findings provide strong evidence that the visible crises like dilapidated infrastructure, accidents, and inefficiency, are closely associated with deeper, interconnected public administration failures, as reported by stakeholders and supported by statistical analysis. This discussion synthesizes the evidence to directly address the study's research questions, weaving together empirical findings, theoretical insights, and the broader literature to explain the systemic nature of the collapse.

6.1. Principal Governance and Administrative Failures

The first research question sought to identify the core governance failures. The findings reveal a synergistic quartet of dysfunctions.

First, regulatory fragmentation creates a dangerous vacuum. The Gambia Ports Authority's (GPA) de facto confinement to the Banjul port leaves remote riverine communities in a governance shadow, as detailed in Section 2.4. The Gambia Ports Authority Act and Local Government Act create a statutory vacuum that leaves inland crossings without a clearly mandated regulator. This is not merely a resource issue but a fundamental failure in institutional design and mandate clarity. This is violating a core principle of effective public management: the congruence between authority, responsibility, and capacity (Hood, 1991). The resulting "policy implementation gap" is a classic symptom of what Matland (1995) describes as conflictual policy implementation, where unclear goals and contested authority lead to variable local outcomes, in this case, lax safety enforcement.

Secondly, public financial mismanagement perpetuates a cycle of disrepair and distrust. The issue transcends simple budget scarcity to encompass the entire PFM chain, from unrealistic planning and delayed disbursements to opaque execution and a lack of expenditure feedback. This aligns with Schick's analysis of PFM weaknesses in developing economies, where control and compliance mechanisms are weak (Schick, 1998). These are allowing resources to leak from their intended purposes. The failure to visibly reinvest collected revenues shatters the essential social contract between service provider and user, a phenomenon observed in other failing Gambian public enterprises like NAWEC (Secka et al., 2023).

Thirdly, pervasive corruption and accountability deficits operationalize the governance failure at the human level. The reported practices like ticket fraud, informal payments, and selective enforcement are enabled by the monopoly power and discretion of officials at isolated landing sites, precisely as predicted by Klitgaard's corruption framework, in the absence of accountability (Klitgaard, 1988). These were widely reported as not isolated acts but systemic features, reflecting a culture perceived by participants as characterized by weak vertical accountability (to citizens) and horizontal accountability (through internal controls), allowing malfeasance to

persist (Sawaneh et al., 2022). This erodes the very legitimacy of the state in delivering a critical public good.

Fourthly, poor inter-agency coordination ensures that these fragmented, under-resourced, and corruptible systems cannot function cohesively. The lack of synchronization between GPA schedules, local government market days, and security deployments exemplifies Peters' "problems of coordination", where agencies operate in silos with divergent priorities and information asymmetries (Peters, 1998). This prevents the development of holistic solutions, such as integrated demand management, echoing the fragmented governance that cripples the river and port management across Africa (Rahayu et al., 2024; Woldesenbet, 2018).

6.2. Impact on Service Delivery, Safety, and Development

The second research question concerns the impact of these administrative failures. The consequences are severe and multidimensional.

For public service delivery, the outcome is chronic unreliability and dangerously low quality. The perceived absence of performance management and accountability was consistently linked by participants to the documented overloading, irregular schedules, and infrastructure decay. This mirrors the outcome of similar governance failures in The Gambia's civil service, which directly contributed to low productivity and poor service quality (Sawaneh et al., 2022). The service becomes a source of frustration and risk rather than a facilitator of well-being.

Citizen safety is the most immediate casualty. Participants reported that corruption enables overloading, financial mismanagement contributes to unmaintained vessels and absent safety gear, and regulatory fragmentation means no single agency consistently enforces rules. This creates a perfect storm for accidents, turning an essential service into a lethal hazard. This direct link between governance failure and physical safety in transport is well-documented globally (Nguyen & Notteboom, 2016).

For local economic development, the impact is profoundly stifling. Participants described how unreliable and costly transport constrains market access for farmers and traders, increases the price of goods, and discourages investment. As shown in **Table 2**, 84% of respondents believe challenges have slowed economic opportunities. The river, a potential artery for commerce, becomes a bottleneck. This neglect can be understood through the lens of path dependency (Poku-Boansi, 2020). Historical policy choices favoring road transport and colonial administrative legacies have created an institutional inertia that systematically underprioritizes riverine communities, locking them into a cycle of underdevelopment.

6.3. The Path Forward: Reconciling Diagnosis with Reform

Addressing the third research question requires moving from diagnosis to prescription. The findings make it unequivocally clear that isolated technical fixes like a new ferry or a dredging project will fail if the administrative ecosystem that crippled the previous interventions remains unchanged. Reform must be systemic,

simultaneously targeting the four identified pathologies. The proposed recommendations in Section 6 are designed to be mutually reinforcing: a dedicated authority (addressing fragmentation) with ring-fenced funding (addressing financial mismanagement) and strong oversight (addressing corruption), operating within a master plan developed through coordinated planning (addressing silos). This holistic approach is necessary to break the cycle of decline and rebuild the service on principles of good governance: transparency, accountability, responsiveness, and effective coordination.

6.4. Study Limitations

While this study provides a detailed diagnostic study of governance challenges in Gambian river transport, several limitations should be acknowledged. First, the sample, though diverse and stratified, is confined to the Central River Region. While CRR is a critical case, findings may not be fully generalizable to all riverine communities in The Gambia or to other national contexts. Secondly, the reliance on self-reported data in surveys and interviews carries an inherent risk of social desirability bias, particularly concerning sensitive topics like corruption. Although non-participant observation helped triangulate some findings, this bias cannot be fully eliminated. Thirdly, the study's cross-sectional design provides a deep snapshot of the system at a point in time but cannot definitively establish causal relationships or track the evolution of governance pathologies over time. Future longitudinal studies could strengthen causal inferences. Finally, the research focused on governance and administrative systems; a deeper investigation into the political economy dynamics that sustain these failures was beyond its scope, but represents a vital avenue for further research.

7. Conclusion

This study has argued that the troubled waters of The Gambia's river transportation system are a reflection of troubled governance. Through a mixed-methods investigation in the critically dependent Central River Region, the research has systematically traced pervasive service delivery failures, which are infrastructural decay, safety hazards, and operational chaos, tracing them back to their roots in public administration. The core conclusion is that the sector is crippled by a synergistic system of fragmented regulatory oversight, deficient public financial management, pervasive corruption, and poor inter-agency coordination. These are not isolated bureaucratic shortcomings but interconnected pathologies that form a self-reinforcing cycle of institutional failure.

The study contributes to the literature by moving beyond the standard diagnosis of "inadequate infrastructure and funding" to uncover the administrative dysfunctions that cause and perpetuate these material deficits. It provides evidence that in the Gambian context, as in many similar sub-Saharan African settings, the quality of essential public services is perceived by stakeholders to be fundamentally shaped by the strength and integrity of the governance structures tasked with

their delivery. The neglect of the river transport sector itself emerges as a symptom of deeper historical path dependencies and political economy factors that marginalize certain regions and modes of transport.

Ultimately, the plight of riverine communities awaiting an overloaded, unsafe ferry is a powerful vignette of governance failure. It underscores that development is not merely a function of capital investment but of the administrative systems that translate resources into reliable, equitable public goods. However, this diagnostic evidence, grounded in stakeholder perspectives and triangulated across methods, is not a counsel of despair. It provides a necessary empirical foundation for reform. By systematically identifying the specific administrative pathologies that cripple the sector, this study provides a clear, evidence-based roadmap for reform. The choice now rests with policymakers and public managers: to continue with piecemeal, technical fixes that have historically failed, or to embrace the courageous and coherent systemic reform required to finally unlock the river's potential as a safe, reliable, and equitable engine of connectivity and development for all Gambians.

8. Recommendations for Public Administration Reform

Based on the evidence from stakeholder perceptions, statistical associations, and qualitative explanations, transforming river transportation will likely require targeted, holistic public administration reforms that address the systemic issues identified:

1) Establish an Integrated Inland Waterways Authority (IIWA): To combat regulatory fragmentation, the government should legislate the creation of a dedicated IIWA. This body should be vested with a clear mandate for all inland waterways beyond the Port of Banjul. It would help to centralize regulatory oversight, standardize safety and operational codes, and professionalize inspection services. Its semi-autonomous status, with a governing board inclusive of key ministries, local government, and community representatives, would help shield it from political capture while ensuring coordinated policy implementation.

2) Implement a Transparent, Ring-Fenced Funding Model: To break the cycle of financial mismanagement and rebuild trust, a legislative instrument must mandate that all revenues from river transport (tickets, licenses, fines) be paid into a dedicated River Transport Development Fund. This ring-fenced fund would be legally protected from diversion, with allocations for infrastructure maintenance, safety equipment, and capacity building made transparent through quarterly public reports. This model, echoing successful earmarked funding mechanisms in other utility sectors, directly addresses the disconnect between revenue collection and service investment.

3) Institutionalize Robust Anti-Corruption and Accountability Mechanisms: To dismantle the culture of impunity, the IIWA must house an independent, well-resourced Inspectorate and Compliance Unit. This should be complemented by the establishment of multiple, accessible channels for citizen feedback and reporting, including a toll-free hotline and a simple mobile-based platform. Further-

more, integrating key performance indicators such as accident rates, user satisfaction scores, and revenue collection efficiency into the performance contracts of IIWA managers will foster a culture of results-oriented accountability.

4) Foster Formalized Community and Inter-Agency Co-Management: Addressing coordination failures requires formalizing collaboration. Structured co-management agreements should be developed between the IIWA and Local Government Authorities, delegating specific responsibilities for landing site management, crowd control, and local fee collection to councils. These should be backed by training and resource transfers. Simultaneously, a mandatory inter-agency coordination committee, convening the IIWA, local councils, police, and market authorities, should meet regularly to plan for peak periods (markets, festivals) and resolve operational conflicts.

5) Develop and Adopt a Comprehensive River Transport Master Plan: To move from ad-hoc reactions to strategic foresight, a participatory master plan must be developed. This plan should integrate spatial planning (e.g., designating sites for dry ports as suggested by Felicio et al., 2014), demand management, climate adaptation strategies, and a long-term investment programme. This plan will provide the essential blueprint for coordinated action, guide the ring-fenced investments, and ensure the sector's development is sustainable, resilient, and aligned with broader national development goals.

These five recommendations are designed as a mutually reinforcing, sequenced package. The first step is establishing the IIWA, which creates the institutional vehicle for all subsequent reforms. The ring-fenced funding model (recommendation 2) provides the financial foundation, while the accountability mechanisms (recommendation 3) ensure its integrity. Formalized co-management (recommendation 4) builds local ownership and implementation capacity, and the master plan (recommendation 5) provides the strategic direction. This sequencing recognizes that institutional capacity is built over time and that political will is best sustained through early, visible wins, such as the transparent allocation of a ring-fenced fund.

These reforms are ambitious yet essential. They require political will, sustained investment in administrative capacity, and a commitment to participatory governance. By implementing this framework, The Gambia can begin to navigate a new course, transforming its river transportation from a symbol of neglect into a model of accountable, effective public service delivery.

Ethical Consideration

This study followed the ethical standards set by the institutional Ethical Boards of The Gambia, NAQAA, UTG, and UEG. All procedures adhered to ethical standards for research with human participants were strictly followed.

Informed Consent

Written informed consent was obtained from all literate participants. For non-literate participants, the information sheet and consent form were read aloud in

the local language, and witnessed verbal consent was obtained and documented.

Data Availability

The quantitative datasets generated during this study are available from the corresponding author upon reasonable request. Qualitative interview transcripts are not publicly available to protect participant confidentiality.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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