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Beyond Cleanups

Stakeholder Roles and Institutional Gaps in Managing the Iloilo–Batiano River System

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"Cleanup Drive on Sunset Boulevard, organized by the City's Environment and Natural Resources Office."

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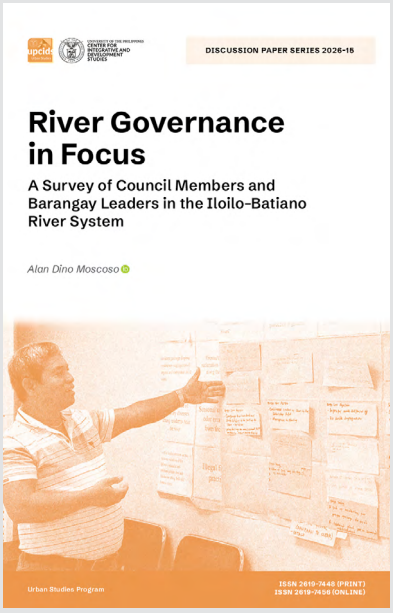

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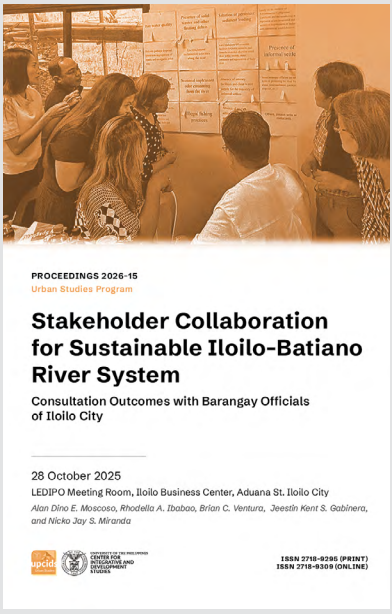

DISCUSSION PAPER

Enhancing the Institutional Arrangement to Improve the Management of the Iloilo-Batiano River System Water Quality

Beyond Cleanups

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Key Takeaways

Policy Landscape

- Urban river management in the Philippines is shaped by fragmented, multi-level governance, involving national agencies, LGUs, barangays, private sector, and civil society.
- Existing frameworks emphasize Integrated Water Resources Management (IWRM) and collaborative governance, but implementation remains weak.
- Policies such as the Philippine Clean Water Act assign regulatory roles, yet mandates are siloed (e.g., DENR, DPWH, NWRB), resulting in coordination gaps.
- River rehabilitation efforts (e.g., Iloilo River Esplanade) have focused on visible, infrastructure-driven projects, with limited impact on underlying water quality issues.
- The reactivation of the Iloilo–Batiano River Development Council (IBRDC) reflects an attempt to institutionalize multi-stakeholder coordination.

Main Argument of the Paper

- The core issue in the Iloilo–Batiano River System is not lack of participation, but unclear, uneven, and weakly institutionalized stakeholder roles.
- Participation without role clarity and accountability leads to symbolic, activity-based governance rather than real ecological improvement.
- Effective river management requires clear role definition, coordination mechanisms, and alignment between authority, capacity, and responsibility.

Methods

- Qualitative, interpretive research design focused on governance and stakeholder roles.
- Data collected from:
  - Three multi-sectoral stakeholder consultations (IBRDC members, barangays, private sector).
  - 69 survey responses on perceptions, priorities, and roles.

- Methods included:
  - Focus group discussions, participatory workshops (ranking, meta-cards).
  - Survey instruments (closed and open-ended).
- Analysis used thematic coding guided by IWRM and collaborative governance frameworks.
- Output included a stakeholder role matrix comparing mandates, practices, and gaps.

Findings

- Role imbalance across governance levels:
  - Barangays and communities perform visible, labor-intensive tasks (e.g., cleanups) but lack authority and resources.
  - City and national agencies hold formal regulatory power but face enforcement and coordination failures.
- Overemphasis on cleanup activities diverts attention from structural issues like wastewater management.
- Weak enforcement of environmental and wastewater regulations.
- Fragmented coordination among agencies leads to duplication, delays, and accountability gaps.
- Private sector participation is voluntary, creating uneven compliance and incentives for non-compliance.
- Academe and civil society are underutilized, despite their potential in monitoring, education, and policy support.
- Limited integration of scientific knowledge into policymaking.
- Persistent "coordination gap" results in blame-shifting and inefficient resource use.

Conclusion

- River degradation persists due to systemic governance failures, not lack of initiatives.

- The system exhibits symbolic collaboration rather than effective, accountable governance.
- Sustainable river management requires a shift to:
  - System-based, not project-based approaches
  - Clearly defined and enforceable roles
  - Stronger coordination and accountability mechanisms
- The IBRDC has potential to serve as a central coordinating body, if empowered with authority, data systems, and institutional support.

Policy Recommendations

- Strengthen governance and coordination
  - Establish an Inter-Agency Technical Working Group (TWG) for regular coordination.
  - Empower IBRDC members with binding decision-making authority.
- Adopt a unified river basin approach
  - Develop a Unified River Basin Policy integrating mandates across agencies.
  - Align national and local investments with a basin-wide master plan.
- Improve enforcement and accountability
  - Implement joint enforcement operations (DENR, LGU, PNP, barangays).
  - Introduce third-party audits and annual river summits for transparency.
- Enhance data and knowledge systems
  - Create an Open-Access River Data Portal for real-time information sharing.
  - Institutionalize a scientific advisory committee and knowledge broker.

- Reform private sector engagement
  - Introduce mandatory compliance mechanisms (e.g., River-Friendly Certification).
  - Provide incentives and financing for wastewater treatment investments.
  - Establish a Business Stewardship Council for sustained engagement.
- Support barangays and communities
  - Strengthen capacity, resources, and enforcement linkages.
  - Shift from activity-based participation to behavioral and cultural change.
- Institutionalize role of academe
  - Embed research into decision-making processes.
  - Expand environmental education across all levels.
- Shift from project-based to system-based governance
  - Ensure infrastructure projects include long-term operation and maintenance plans.
  - Align funding with measurable river health outcomes, not just project outputs.

Introduction

Urban rivers function as important ecological corridors, economic resources, and cultural landmarks. However, they are among the most degraded ecosystems worldwide due to pollution, encroachment, and poorly coordinated urban development. In the Philippines, the decline of urban rivers is closely linked to rapid urban growth, limited wastewater infrastructure, and fragmented environmental governance. The Iloilo–Batiano River System (IBRS), which begins in the Municipality of Oton as the Batiano River and flows through Iloilo City before reaching the Iloilo Strait, clearly illustrates the complex social and environmental challenges of managing urban rivers.

Over the last twenty years, Iloilo City has invested heavily in river rehabilitation projects, most notably the Iloilo River Esplanade, transforming parts of the

riverbank into public recreational spaces. While these projects improved the visual appeal of the river, water quality monitoring continues to show high fecal coliform levels, low dissolved oxygen, and nutrient pollution. These results indicate that deeper and unresolved structural problems remain. In response, the Iloilo City Government reactivated the Iloilo–Batiano River Development Council (IBRDC) in 2025 as a multi-sector body tasked with coordinating river management efforts across agencies and sectors.

This paper addresses a common concern raised during recent stakeholder consultations: although many actors are involved in river-related activities, their roles and responsibilities remain unclear and unevenly institutionalized. The main objective of this paper is to analyze and clarify the roles of stakeholders involved in managing the Iloilo–Batiano River System, using insights from stakeholder consultations and relevant governance literature. By doing so, the paper aims to support local policy development while also contributing to broader academic discussions on collaborative governance in urban river management.

Conceptual and Governance Framework

This study is guided by two complementary frameworks: Integrated Water Resources Management (IWRM) and collaborative governance (Global Water Partnership et al. 2000; Ansell and Gash 2007). Together, these frameworks help explain how different actors interact, share responsibilities, and influence decision-making in complex urban river systems. Integrated Water Resources Management emphasizes the coordinated planning and management of water, land, and related resources to achieve social and economic benefits without damaging ecosystems. A core principle of IWRM is that water problems do not follow administrative boundaries. As a result, effective river management requires coordination across sectors, participation from multiple stakeholders, and adaptive decision-making that responds to changing environmental and social conditions (Global Water Partnership et al. 2000). Collaborative governance refers to arrangements in which public agencies actively involve non-state actors in a shared decision-making process aimed at developing and implementing public policy (Ansell and Gash 2007). In the context of urban rivers, collaborative governance highlights the importance of shared responsibility among local governments, communities, private businesses, civil society organizations, and knowledge institutions. When applied together, IWRM and collaborative governance provide a useful lens to examine how stakeholder roles in the Iloilo–Batiano River System are formally defined, practically implemented, and constrained by institutional arrangements.

Literature Review

Stakeholder Participation in Urban River Management

Existing research consistently identifies stakeholder participation as a key element of sustainable river basin management. Participatory approaches are widely recognized for improving policy legitimacy, encouraging compliance with environmental regulations, and incorporating local knowledge into decision-making processes. When communities and stakeholders feel involved, they are more likely to support and sustain management interventions.

However, scholars also emphasize that participation alone does not guarantee effective outcomes. Without clearly defined roles, decision-making authority, and accountability mechanisms, participation risks becoming symbolic rather than meaningful. Power imbalances among stakeholders can further limit the influence of weaker actors, particularly communities and local governments with limited resources.

Multi-Level Governance and Role Clarity

Urban river systems typically involve multiple levels of governance, including national agencies, local governments, and community-based organizations. Studies show that unclear role allocation across these levels often leads to duplicated efforts, gaps in regulation, and weak accountability. In many cases, agencies operate independently, focusing on their own mandates without adequate coordination.

Effective river governance requires aligning formal responsibilities with actual institutional capacity and incentives. Clear role definition ensures that each actor understands its responsibilities, reduces conflict between agencies, and improves coordination across governance levels (Rola et al. 2015).

Barangay-Level Environmental Governance in the Philippines

In the Philippine setting, barangays play an important role in environmental governance, particularly in solid waste management, community mobilization, and local enforcement. Barangay-led initiatives such as cleanup drives are highly visible and often form the backbone of local environmental action.

Despite their active involvement, barangays often lack the authority, technical capacity, and financial resources needed to address more complex pollution sources. Structural problems such as wastewater discharges from households and commercial establishments typically fall outside barangay control and require intervention from higher levels of government.

Role of Academe and Knowledge Institutions

Universities and research institutions increasingly serve as intermediaries that translate scientific knowledge into information useful for policy and planning. In urban river management, academic institutions can contribute through environmental monitoring, technical assessments, policy advice, and evaluation of interventions.

Within the IBRDC, the primary role of the academe is to provide scientific and technical guidance to support integrated river basin planning. By drawing on multidisciplinary expertise, academic institutions help inform evidence-based decision-making.

Beyond technical advice, the role of the academe as an environmental educator is equally important. Integrating environmental education into basic education curricula is essential for developing long-term environmental responsibility. It was noted that a number of polluters in the city are children who dispose of garbage indiscriminately - a behavior that will persist if environmental stewardship is not systematically taught from an early age.

Methodological Basis

This discussion paper is based on qualitative empirical data generated from a series of stakeholder consultations conducted in 2025 under the project titled "Revitalizing an Urban River: Stakeholders' Engagement to Improve the Water Quality of the Iloilo–Batiano River Basin." The study adopts a qualitative and interpretive research design, which is appropriate for examining governance structures, stakeholder perceptions, and institutional roles in complex social and environmental systems.

Data Sources

Primary data were collected from three main stakeholder consultations. The first involved selected members of the Iloilo–Batiano River Development

Council, including representatives from city government offices, national government agencies, and planning and environmental committees, with twenty-seven participants attending in person. The second consultation engaged barangay representatives from Iloilo City and the Municipality of Oton, including elected officials and community leaders located along the river system, with 26 in-person participants. The third consultation involved representatives from the Iloilo Hotels, Restaurants and Resorts Association, representing private sector users of river-related amenities, with five in- person participants.

These consultations were supplemented by pre-activity survey questionnaires administered to selected participants to gather individual perceptions of river conditions, priority issues, and stakeholder responsibilities. A total of sixty-nine survey responses were collected.

Data Collection Methods

Multiple qualitative methods were used to strengthen analytical depth and ensure triangulation. Structured presentations were followed by open forums and facilitated focus group discussions to capture both shared and differing perspectives. Participatory workshop techniques such as ranking exercises, meta-cards, and group reporting were used to identify priority issues and perceived stakeholder roles. Survey instruments included both closed-ended and open-ended questions to capture measurable responses and explanatory narratives.

All discussions were documented through detailed proceedings, facilitator notes, and synthesized workshop outputs. Although verbatim transcripts were not produced, the documentation was sufficiently detailed to support systematic qualitative analysis.

Analytical Approach

The analysis followed a thematic coding process informed by the principles of collaborative governance and Integrated Water Resources Management. Initial coding focused on identifying references to stakeholder roles, responsibilities, and interactions. These codes were then grouped into broader themes, including role concentration, role gaps, coordination challenges, and accountability mechanisms. The study does not aim to measure policy effectiveness or environmental outcomes quantitatively. Instead, it provides an analytically grounded interpretation of how stakeholders understand and carry out their roles within the existing governance framework.

Limitations

As a qualitative discussion paper, the study does not attempt to quantify stakeholder influence or assess the direct effectiveness of specific interventions. The findings are context-specific and rely on self-reported perceptions, which may be shaped by institutional position and personal experience. Nevertheless, the consistency of perspectives across multiple stakeholder groups strengthens the credibility and relevance of the analysis for research on environmental governance.

Stakeholder Role Matrix and Clarification

To address the repeated concerns raised during the consultations, this section summarizes the empirical findings using a stakeholder role matrix (Table 1). The matrix distinguishes among formal mandates, current practices, and key challenges faced by different stakeholder groups. Its purpose is not to assign authority, but to clarify how responsibilities are currently understood and exercised across governance levels.

Table 1. Stakeholder Role Matrix for the Iloilo-Batiano River System

Stakeholder Group	Core Mandates/ Expected Roles	Dominant Current Practices	Key Gaps and Challenges
City/ Municipal LGUs	Policy formulation; land-use planning; enforcement of environmental, zoning, and wastewater regulations; inter-agency coordination	Infrastructure development; coordination of cleanup initiatives; selective enforcement	Weak or lack of wastewater/ septage ordinance enforcement; fragmented coordination with NGAs; political and development pressures
Barangay LGUs	Solid waste management; community mobilization; local monitoring and reporting	Regular cleanup drives; waste segregation campaigns; community awareness activities/ IEC dissemination	Limited authority over commercial/ industrial polluters; insufficient resources for monitoring and enforcement, reliance on LGUs for major river management actions

Stakeholder Group	Core Mandates/ Expected Roles	Dominant Current Practices	Key Gaps and Challenges
Local Communities	Household waste management; participation in river protection activities	Participation in cleanups; informal monitoring	Inconsistent behavior change; limited access to sanitation services, lack of financial capacity to comply with environmental regulations (e.g., septage disposal)
National Government Agencies	Standard setting; water quality monitoring; major infrastructure implementation	Monitoring and project implementation	Weak coordination with LGUs; limited feedback mechanisms
Private Sector (Hotels, Restaurants, Waste Services)	Compliance with environmental standards; responsible river use; investment in mitigation measures	Voluntary participation; selective compliance	Limited regulation of wastewater discharges; reliance on incentives rather than enforcement
Academe/ Research Institutions	Environmental education. scientific assessment; monitoring support; policy advice; facilitation of dialogue	Research studies; stakeholder facilitation; advisory roles	Emphasis of environmental education in the curriculum, knowledge inputs not systematically embedded in decision-making, more collaboration with the decision-makers
Civil Society/ NGOs	Advocacy; community engagement; supplementary monitoring	Awareness campaigns; project-based engagement	Limited scale and continuity

The role matrix highlights a strong concentration of visible activities at the barangay and community levels, particularly cleanup drives and awareness campaigns. Simultaneously, it reveals major gaps in enforcement, wastewater management, and coordination at higher governance levels. The matrix

also shows the underutilization of knowledge institutions and civil society organizations, despite their potential contributions to monitoring, education, and accountability.

Overall, the matrix serves as an analytical tool that exposes structural imbalances in the governance of the Iloilo–Batiano River System. It demonstrates how responsibility for daily action is often placed on actors with the least authority, while those with regulatory power face institutional and coordination constraints that limit effective enforcement.

Clarifying Stakeholders' Roles in the Iloilo-Batiano River System

City and Municipal Local Government Units

City and municipal governments are generally recognized as the primary authorities responsible for river management. Their roles include policy development, land-use planning, infrastructure provision, enforcement of environmental regulations, and coordination among agencies. However, the consultations revealed that enforcement remains weak, especially with respect to wastewater discharge and zoning regulations.

This weakness is largely attributed to institutional fragmentation and political pressures. Jurisdiction over major commercial and industrial polluters often lies with national agencies such as the Department of Environment and Natural Resources - Environmental Management Bureau (DENR-EMB), which limits the ability of local governments to act quickly. As a result, violations are often addressed slowly or inconsistently, undermining accountability and public trust.

Barangay Local Government Units

Barangays serve as the frontline actors in river-related activities, particularly in solid waste management and community mobilization. Regular cleanup drives have become the most visible expression of barangay involvement and have helped raise environmental awareness among residents. However, these activities also risk diverting attention from deeper pollution sources that are beyond barangay authority. Survey results indicate that barangay officials who are geographically distant from the river are less aware of localized issues such as informal settlements along riverbanks. This suggests that effective river

management requires better integration of local observations with technical monitoring tools, including remote sensing and spatial analysis, to ensure that less visible problems are addressed.

Local Communities

Local communities are both contributors to and beneficiaries of river management. Their roles include household waste management, participation in cleanup activities, and informal monitoring of river conditions. Stakeholders widely agreed that long-term river rehabilitation depends on sustained community participation.

Despite this recognition, consistent behavior change remains difficult without strong enforcement, incentives, and access to basic sanitation services. Community participation in cleanup drives is often driven by compliance with local directives rather than by deeply rooted environmental values. To ensure long-term sustainability, community engagement strategies must move beyond organizing activities and focus on cultivating environmental responsibility and stewardship.

Local communities also play an important role in shaping Iloilo's image as a riverfront city and eco-tourism destination. Their daily practices directly influence the river's condition and have contributed to national and international recognition like the Townscape Award (2024), the Galing Pook Award (2012, 2018), and Asia Riverprize Finalist (2013) (Lena 2024; Lena 2018; GMA 2013). To ensure this positive image is sustained, community actions must align with municipal regulations. However, current participation in initiatives like cleanup drives often appears to be driven more by regulatory compliance than by a genuine, internalized commitment to environmental promotion. To secure long-term sustainability, environmental programs must evolve beyond mere activity coordination to become catalysts for deep-seated behavioral change within the community.

National Government Agencies

National agencies, particularly those responsible for environmental regulation and public works, play critical roles in setting standards, monitoring water quality, and implementing infrastructure projects. A recurring issue raised in consultations is the limited coordination between national agencies and local governments, resulting in misaligned priorities and implementation gaps. It

is perceived that while some national agencies conduct monitoring, they lack definitive plans to resolve the challenges facing the Iloilo-Batiano River system. This is evidenced by the persistent issue of water pollution, which remains unaddressed by concrete measures since the IBRDC's inception in 2002.

The efficacy of national interventions in Iloilo and Batiano River management is often undermined by a lack of public transparency, leading to public scrutiny. This issue of non- disclosure was amplified in 2025 when "ghost" and substandard flood control projects became a national scandal. During the barangay consultation, residents proposed installing additional modular sewage treatment plants to combat pollution. While the Department of Public Works and Highways (DPWH) has implemented such a project in Dungon Creek, its long-term effectiveness has not been validated through public consultation. Furthermore, the disposal of hazardous hospital waste and the discharge of commercial/industrial effluents into the river occur without public disclosure, raising concerns about collusion between industry and regulators.

The management of the Iloilo–Batiano River system is hindered by the siloed mandates of national agencies, where the DENR regulates pollution, the DPWH oversees infrastructure, and the National Water Resources Board (NWRB) controls water allocation—all with limited operational synergy. To overcome this fragmentation, a Unified River Basin Policy should be developed, spearheaded by the DENR in coordination with other agencies under the Philippine Clean Water Act. This framework would harmonize regulations on key areas such as effluent standards, riverside zoning, and water extraction limits. Complementing this policy reform, a streamlined "one-stop" Environmental Compliance Shop should be established for the basin. This mechanism would allow businesses to obtain a single, integrated permit covering wastewater (DENR-EMB), water use (NWRB), and easement compliance (DPWH), thereby reducing bureaucratic delays and closing regulatory loopholes.

A persistent issue is that national government agency (NGA) interventions tend to be "project- based" rather than "system-based," often lacking long-term operational plans or integration with local land-use strategies. Furthermore, critical environmental data is frequently not shared in actionable formats with local government units (LGUs), hampering informed decision-making. The IBRDC should champion two key initiatives to address these systemic gaps. First, it must advocate for the establishment of an Open-Access Iloilo-Batiano River Data Portal, led by the DENR-EMB and PAG-ASA. This shared hub would provide real-time and historical data on water quality, rainfall, river

flow, and pollution sources, making essential information accessible to the council, LGUs, the academe, and the public for transparent planning and accountability. Second, the council should institutionalize the co-ownership model exemplified by the recent Dungon Creek Modular Sewage Treatment Plant (MSTP) project. Under this model, any infrastructure project led by an agency like the DPWH must include a clear transition protocol for long-term operation and maintenance, co-developed from the outset with the recipient city and barangay LGUs to ensure sustainability beyond the construction phase.

While national agencies control significant budgets and have access to international climate financing, these funds are often allocated to agency-specific, politically driven projects rather than a unified, strategic investment plan for the IBRS. This misalignment dilutes the impact of major expenditures. To ensure financial resources directly support integrated river management, it is suggested that the Department of Budget and Management (DBM) must mandate that all infrastructure allocations to agencies like the DPWH or DENR for the Iloilo-Batiano River be explicitly justified by, and aligned with, the strategic priorities outlined in the proposed revised IBRDC Master Plan. Meanwhile, the DENR could administer a competitive grant fund for LGUs and People's Organizations (POs) to implement approved components of the river basin plan, such as riverbank bioengineering, community-based monitoring, or establishing materials recovery facilities.

The most frequently cited problem in the IBRS is the critical “coordination gap” among stakeholders, resulting in blame-shifting, delayed enforcement, and wasted resources. To address this systemic failure, a multi-level strategy is required. First, at the governance level, the national agency representatives (DENR, DPWH, BFAR, DOT, etc.) on the IBRDC must be empowered with binding decision-making authority, moving beyond a mere advisory role. Their institutional performance metrics should be directly tied to achieving the IBRDC’s strategic goals. Second, operational coordination should be institutionalized by establishing an Inter-Agency Technical Working Group (TWG). This group would consist of dedicated focal persons from each major agency, meeting monthly to synchronize projects, resolve jurisdictional conflicts, and present consolidated recommendations to the council. Finally, to translate policy into action, enforcement must become collaborative. For instance, the DENR-EMB should co-lead field operations with the City Environment and Natural Resources Office (ENRO), the Philippine National Police (PNP), and the affected barangay on major violations. This approach

builds local enforcement capacity, presents a unified government front, and ensures sustained follow-through.

National agencies possess the critical mandate to audit, monitor, and enforce accountability across all governance levels. However, current oversight is often passive, reactive, and perceived as punitive, undermining its constructive potential. To transform this dynamic, oversight must be made proactive and collaborative. A key mechanism would be an Annual Iloilo-Batiano River Summit, chaired by the Office of the DENR Regional Director, where all implementing agencies and LGUs are required to publicly present their progress against the basin plan, using data from the shared Open-Access Data Hub. Furthermore, accountability should be reinforced by establishing an independent Third-Party Audit Panel—comprising academic, civil society, and business representatives—to impartially assess the effectiveness of major government projects, with its findings submitted directly to the IBRDC and relevant congressional oversight committees.

Ultimately, this signals the necessary evolution of the national government's role. Moving beyond the paradigms of a distant regulator or a sporadic project implementer, national agencies must adopt a model of "subsidiarity with support." This means actively empowering local governance bodies like the IBRDC with real authority, while concurrently providing the indispensable backbone of strategic policy, integrated data, scalable finance, and relentless inter- agency coordination. Success must therefore be redefined: it should be measured not by the volume of projects completed, but by tangible improvements in river health metrics and the demonstrable strength of the local governance system they have helped to build and sustain.

Private Sector Actors

Businesses along the river—including hotels, restaurants, and waste service providers—are increasingly recognized as stakeholders whose operations directly affect water quality. While some private actors express willingness to participate in river rehabilitation, their roles remain largely voluntary and weakly regulated, particularly with respect to wastewater treatment. The scale of the infrastructure deficit was highlighted during consultations; of the four business stakeholders present, merely one confirmed the installation and operation of a sewage treatment facility (STP) at their premises.

This highlights a significant opportunity and a major gap in the integrated management of the Iloilo-Batiano River System. On one hand, there is a growing acknowledgment that the private sector is not merely an external entity but a core stakeholder; its daily operations (e.g., water consumption, waste discharge) have immediate and cumulative impacts on river health. Their willingness to participate based on their responses during the stakeholder consultation suggests a foundation of corporate social responsibility (CSR) and recognition of a shared interest in a clean environment, which is a vital asset for tourism-based businesses like hotels and restaurants. In return, the business sector has requested stronger enforcement of solid waste regulations from the LGU, arguing that effective waste management is directly tied to their economic interest. They emphasized that the riverfront's scenic appeal and ambience are integral to their customers' dining experience and that litter and pollution directly degrade this valuable asset.

However, the current framework of voluntary engagement represents a critical governance failure. It creates an uneven playing field where responsible companies may incur higher costs than non-compliant competitors, leading to a "race to the bottom" where, for example, responsible hotels and restaurants who have invested in proper wastewater treatment plants (STPs) will stop maintaining the facility or look for cheaper alternatives to cut costs and match prices, because other companies decide to dump untreated wastewater into the storm drain leading to Iloilo River to lower their operating costs. Over time, more and more businesses are forced to neglect environmental safeguards to stay competitive, resulting in a dramatic increase in water pollution.

It also makes long-term planning for river rehabilitation unreliable, as it depends on the fluctuating goodwill of individual businesses rather than enforceable standards. The specific mention of wastewater treatment points to a high-impact area where inadequate infrastructure or practices lead directly to nutrient loading, chemical pollution, and degraded ecosystems.

To encourage accountability from the business sector, the regulatory framework must be strengthened and enforced. It is suggested that the Iloilo City LGU, in coordination with DENR, develop a mandatory compliance and incentive program for riverside businesses or even all businesses. For example, the Iloilo City LGU may require all commercial establishments to obtain and publicly display a "River-Friendly Business" certification. To qualify, a hotel must prove it has a functional STP or is reliably connected to a sewer line, submits regular effluent quality reports, and implements a solid waste segregation program.

Another possible action is to offer a 5-10 percent discount (green tax incentive) on business permit fees or local taxes for companies that exceed compliance standards - for example, a restaurant that installs a state-of-the-art grease trap, uses biodegradable packaging, and sponsors a monthly riverbank cleanup for its staff.

A key issue identified during consultations is the limited and inconsistent engagement between the city LGU and riverside businesses. Current interactions are confined to ad hoc, activity-based projects like cleanup drives, with no established mechanism for regular dialogue. To address this, it is proposed to create an Iloilo River Business Stewardship Council. This formalized body would serve as a structured platform for continuous communication, enabling collective action, shared responsibility, and peer accountability among private sector stakeholders.

The council could tackle specific barriers identified by businesses. For example, to overcome the prohibitive cost of individual sewage treatment plants, the council could broker a joint investment in a communal modular treatment facility for a cluster of small and medium enterprises (SMEs) in a riverside barangay. It could also negotiate discounted service rates with waste management providers for members—another frequently cited concern in the consultations. Furthermore, with technical support from the academe, the council could develop and disseminate a "Green Operations Manual" for the local hospitality industry, providing clear, localized guidelines on sustainable water use, non-toxic chemicals, and proper waste oil disposal.

The Iloilo City LGU can harness the power of transparency and market forces by launching a publicly accessible "Environmental Performance Dashboard" for riverside businesses. This dedicated website would allow citizens and tourists to verify a hotel or restaurant's "River-Friendly Certification" status, review its latest water quality audit results, and see its participation in stewardship programs. To amplify its impact, the City Tourism Office could collaborate with local tour operators to promote and partner exclusively with businesses that achieve high-performance ratings on the dashboard. This system creates a powerful market incentive; for example, a prominent riverside hotel could leverage its high rating to market itself as a "Certified Green Stay," directly appealing to the growing segment of eco-conscious tourists and event planners.

Recognizing that small and medium enterprises (SMEs) often lack capital and technical expertise, the Iloilo City LGU should establish a Technical Assistance and Micro-Grant Program in partnership with development banks.

This initiative would provide direct support, beginning with complimentary wastewater and waste audits for qualifying SMEs to identify priority pollution sources and cost-effective remedies. Furthermore, the program should facilitate access to dedicated green financing, such as low-interest "Clean River Loans" offered by partner financial institutions, to help businesses invest in compliant infrastructure like grease traps, water-efficient fixtures, or modular sewage treatment systems.

Academe and Research Institutions

The academe, like the University of the Philippines Visayas, has emerged as key knowledge partners, supporting evidence-based planning and facilitating stakeholder dialogue being a member of the IBRDC. The consultations underscore the potential of academe to provide scientific assessments, monitoring frameworks, and neutral spaces for deliberation, provided that these roles are formally embedded in governance structures.

Ever since the higher education institutions (HEIs) in Iloilo City and nearby municipalities have served as the primary source of evidence-based knowledge including research and monitoring studies on water quality, biodiversity and climate change impacts. To ensure long term sustainability, it integrates river ecology and management in its formal education curriculum and provides training and workshops to the LGU and barangay officials and leads in public awareness through its extension and public service programs.

The role of the academe in environmental stewardship extends beyond higher education institutions (universities and colleges) to include primary and secondary schools. Integrating sustainability into basic education curricula is vital for instilling long-term pro-environmental habits—a strategic priority yet to be fully realized in Iloilo City. Empirical support for this strategy is strong; a landmark meta-analysis (Van De Wetering et al. 2022) of 169 studies spanning five decades and 43 countries found that environmental education reliably improves the knowledge, attitudes, intentions and behaviors of children and adolescents, thereby cultivating a generation of change agents.

Governance Gaps and Role Ambiguities

Despite a consensus on the value of collaboration, significant governance gaps remain. A primary concern is the overemphasis on short-term, visible activities like cleanup drives, which diverts resources from systemic interventions

targeting the root causes of pollution, such as wastewater management and land-use regulation. Furthermore, critical input is often overlooked. As noted earlier, residents living adjacent to the river observe issues like informal settlements, which are less apparent to residents of more distant barangays. This underscores the necessity for local governments to prioritize the planning insights of these riverside communities, whose lived experience provides essential and accurate information for effective management.

Second, ambiguities in the mandates of city, barangay, and national agencies create accountability gaps, especially in enforcement. Barangay officials report observing environmental violations by commercial and industrial establishments within their jurisdiction but possess limited authority to act, as these entities fall primarily under DENR oversight. To address this, a more effective inter-agency protocol should be developed, one that formally incorporates local community reporting to enable swifter and more decisive enforcement of environmental laws.

Third, while scientific knowledge is valued, mechanisms for integrating research findings into policy decisions remain ad hoc. It is suggested that the IBRDC create a dedicated standing mechanism to guarantee continuous knowledge exchange. For example, a scientific advisory committee can be formed with members from relevant universities and research institutes in Iloilo province that would have a formal role in reviewing all major river plans and policies. This advisory committee can produce a regular "State of the Iloilo/Batiano River" report and policy briefs that translate complex research into actionable recommendations for IBRDC agendas. Conversely, the IBRDC can develop joint research agenda and co-production, shifting from academics studying topics in isolation to collaboratively defining research priorities with policymakers. Through this, the research agenda aligns directly with the IBRDC's knowledge gaps and the produced policy or outputs are more likely to be used because the decision-makers helped define the question. Finally, to bridge the oft-cited coordination gap among members, the IBRDC should appoint a designated knowledge broker. This role would be responsible for liaising across all bodies, synthesizing research findings, and facilitating their integration into policy discussions. Supporting this, a shared digital platform should be established where members can securely post data needs, reports, visualizations, and briefs in accessible formats, thereby streamlining communication and significantly reducing the transaction costs of information management.

Conclusion

This discussion paper examined the governance of the Iloilo–Batiano River System through the lens of stakeholder role clarity, drawing on qualitative evidence from multi-sectoral consultations and informed by Integrated Water Resources Management (IWRM) and collaborative governance theory. The analysis demonstrates that while Iloilo City has made notable progress in river rehabilitation—particularly through visible urban renewal initiatives—persistent water quality degradation reflects deeper, systemic governance challenges rather than a lack of stakeholder participation per se.

The findings reveal an imbalance in role execution across governance levels. Barangay governments and local communities shoulder the most visible and labor-intensive responsibilities, primarily through cleanup drives and awareness activities, despite having limited authority and resources to address structural pollution sources such as wastewater discharges and land-use violations. In contrast, city governments and national agencies retain formal regulatory mandates but face coordination failures, enforcement bottlenecks, and fragmented accountability, resulting in regulatory gaps that undermine river health outcomes. The private sector, while increasingly aware of its stake in river sustainability, remains largely engaged on a voluntary basis, creating inequities and disincentives for environmental compliance. Meanwhile, the academe's potential contribution—as a provider of scientific evidence, environmental education, and policy support—remains under-institutionalized within formal decision-making processes.

These patterns underscore a central insight: participation without clearly defined, enforceable, and coordinated roles risks reproducing symbolic governance rather than producing ecological improvement. The Iloilo–Batiano case aligns with broader scholarship showing that collaborative governance structures are ineffective when roles, incentives, and accountability mechanisms are ambiguous. As Ansell and Gash's framework suggests, genuine collaboration requires more than consultation; it demands sustained, reciprocal engagement supported by institutional arrangements that enable shared decision-making and joint responsibility. The stakeholder role matrix developed in this paper provides a practical analytical tool for diagnosing governance gaps and reorienting river management from activity-based responses toward system-based solutions. Clarifying roles does not imply rigid compartmentalization; rather, it facilitates coordination, reduces duplication, and strengthens accountability across actors operating at different scales. In this regard, the revitalized Iloilo–Batiano River Development Council represents

a critical institutional opportunity. If empowered with binding authority, supported by integrated data systems, and anchored by sustained science–policy interfaces, the council can serve as the fulcrum for aligning mandates, resources, and actions across sectors.

Ultimately, the long-term sustainability of the Iloilo–Batiano River System will depend on a shift from fragmented, project-driven interventions to a governance model grounded in subsidiarity with support—where national agencies provide strategic coherence and oversight, local governments enforce and implement, communities internalize stewardship, businesses are held to consistent standards, and knowledge institutions continuously inform policy. By clarifying stakeholder roles and embedding them within a genuinely collaborative governance framework, the Iloilo–Batiano experience offers not only local policy insights but also broader lessons for managing urban rivers in rapidly urbanizing contexts.

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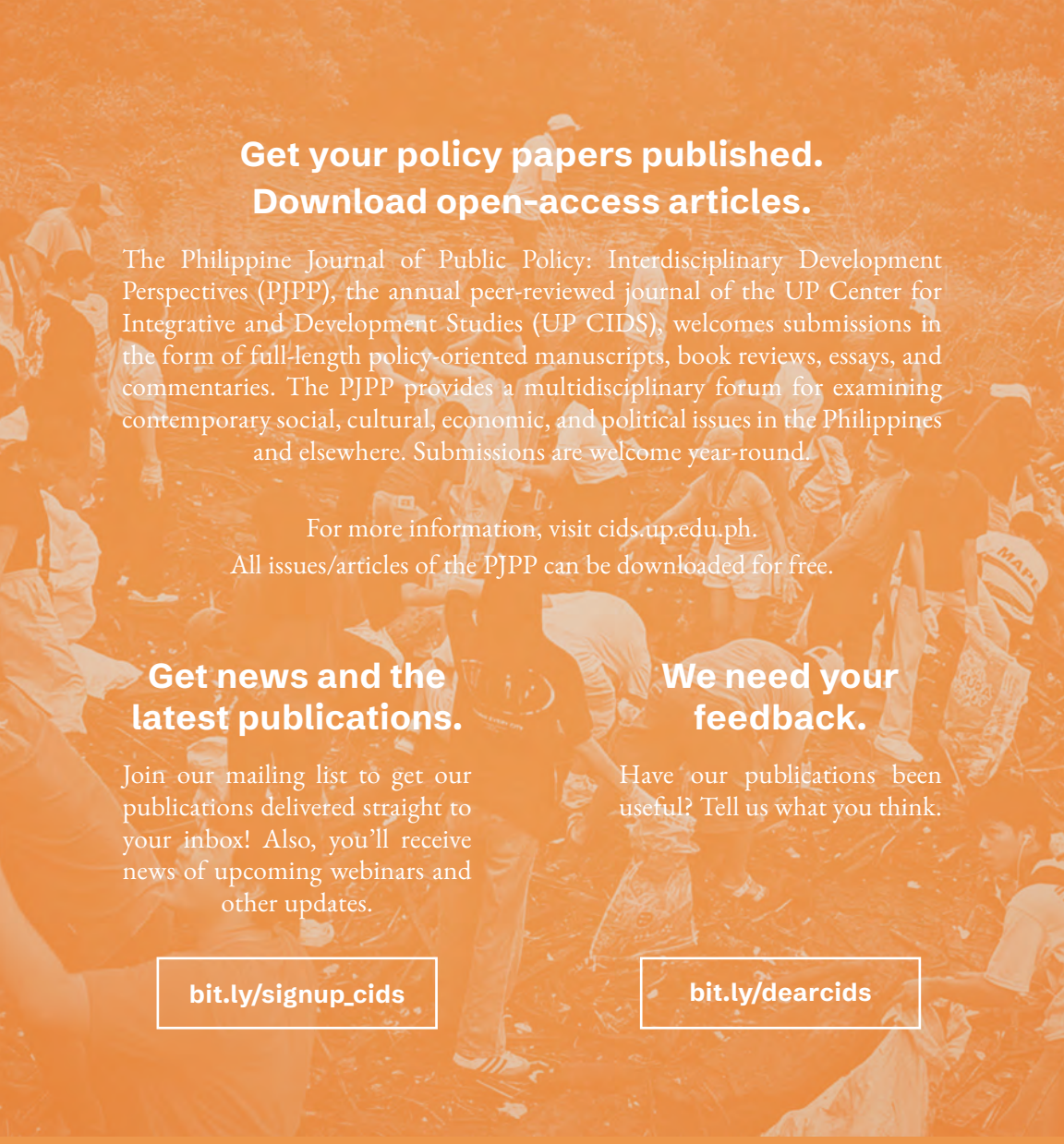

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