Public Governance and Sustainable Urban Development under Vietnamese Law on Environmental Protection: Perspective of Cross Ownership Structures

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Public Governance and Sustainable Urban Development under Vietnamese Law on Environmental Protection: Perspective of Cross Ownership Structures

By Tran Nguyen Phuoc Thong*

ABSTRACT

Administrative management approached through the logic of cross ownership is not a familiar category within classical administrative theory, yet it opens an interdisciplinary perspective that is well suited to the context of contemporary public governance in Viet Nam. In economics and finance, cross ownership reflects the mutual holding of interests and controlling rights among actors in order to create strategic networks and disperse risk. In the field of state administration, particularly environmental governance under the Vietnamese Law on Environmental Protection of 2020, this logic can be transformed into a mechanism of shared and mutually binding responsibility among public authorities. Instead of each agency operating solely within a closed sphere of competence, this model presupposes an interweaving of legal obligations, information flows, and supervisory powers among actors such as environmental authorities, local governments, and specialised inspectorates. Within the environmental legal framework, this approach allows decisions on licensing, environmental impact assessment, and pollution control to be embedded in a network of reciprocal accountability, thereby limiting the evasion of obligations, strengthening transparency, and enhancing the effectiveness of environmental protection in the process of economic development and urbanisation.

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INTRODUCTION

The model of cross ownership in public governance may be understood as a shift from a fragmented administrative structure toward an interdisciplinary linkage in which state agencies share responsibility, resources, and decision making authority in pursuit of public objectives. This approach is consistent with the logic of network governance, in which power does not derive solely from isolated legal authority but is constructed through negotiation and interdependence among actors.[1] In the field of environmental protection in Viet Nam, this logic has been partially institutionalised in the Law on Environmental Protection 2020, as provisions on environmental impact assessment, environmental permits, and waste management require the participation and shared responsibility of multiple agencies. When agencies jointly create policy and participate in appraisal, approval, and supervision, coordination becomes more flexible and better aligned with the complexity of environmental problems linked to economic development. Although Vietnamese law has laid a foundation for interdisciplinary coordination and information sharing through regulations on the national environmental database and corporate data provision obligations, implementation still faces obstacles due to insufficient technological integration and a lack of instruments for measuring collective responsibility.[2] Overall, when situated within the context of the Vietnamese law on Environmental Protection, the model of cross ownership represents an important advance in modern governance thinking.

1. Conceptual Foundations and Analytical Framework for Cross Ownership in Environmental Governance in Viet Nam

To begin with, the environmental governance framework in Viet Nam is constructed upon a combination of centralised state management and the imperative of decentralisation in implementation. The Law on Environmental Protection 2020 establishes a multi tiered governance structure in which the Government and central ministries are responsible for policy formulation, the issuance of standards and technical regulations, and the oversight of large scale or high risk projects, while local authorities are entrusted with implementation, monitoring, and enforcement within their territorial jurisdictions. This configuration reflects a broader transition from sector based administrative management toward an integrated model of environmental

1 R A W Rhodes, *Understanding Governance: Policy Networks, Governance, Reflexivity and Accountability* (Open University Press 1997).

2 United Nations Development Programme, 'Environmental Disputes, Social Changes, and Distributive Justice in Viet Nam: Case Studies, Comparative Analysis, and policy implications' (2018). <https://www.undp.org/vietnam/publications/environmen-tal-disputes-social-changes-and-distribu-tive-justice-viet-nam-case-studies-compar-ative-analysis-and-policy>.

governance, in which environmental issues are conceptualised as cross sectoral and transregional risks requiring sustained coordination among multiple public actors.[3]

Within this context, cross ownership in public governance may be understood as an institutional arrangement in which multiple actors simultaneously hold authority, obligations, and resources in relation to a shared policy decision or regulatory process. Unlike its conventional usage in corporate law, where cross ownership refers to capital linkages and control relationships among legal entities, the concept in public governance is functional and institutional in nature. It manifests through structured overlaps in authority, responsibility, and access to information. This approach aligns with polycentric governance theory, according to which public authority is dispersed across a network of interacting institutions rather than concentrated in a single locus, thereby enhancing coordination and mitigating risks of power concentration or policy distortion. The participation of multiple actors in a decision chain also generates endogenous accountability mechanisms, as each actor simultaneously performs its designated function and exercises a monitoring role vis à vis others, thus reinforcing transparency and accountability.[4]

When situated within environmental law, the cross ownership model acquires not only theoretical significance but also concrete institutional expression. In particular, the environmental impact assessment regime requires the involvement of appraisal councils or competent authorities with intersectoral composition, including representatives from various ministries and local governments. This implies that evaluative and approval authority is not monopolised by a single entity but is instead functionally shared, reducing sectoral bias and enhancing the quality of appraisal. Furthermore, the environmental permitting system is designed along lines of conditional decentralisation, whereby authority is allocated between central and local levels based on project scale and risk, while still requiring coordination with specialised agencies during the licensing process.[5] This legislative design reflects a deliberate effort to balance centralised oversight with local flexibility, while addressing previously observed coordination failures.[6]

Importantly, the cross ownership model is further reinforced through data and monitoring institutions. The establishment of a national environmental information system and database serves not merely technical purposes but also creates a shared informational space in which state agencies, enterprises, and society can access and verify information. Data relating to emissions, environmental quality, and legal compliance is no longer monopolised by a single authority but becomes subject to multidirectional scrutiny. International experience indicates that effective

3 Daniel Slunge and Trang Thi Huyen Tran, 'Challenges to Institutionalizing Strategic Environmental Assessment: The Case of Vietnam' (2014) 48 Environmental Impact Assessment Review 53–61.

4 Mark Bovens, 'Analysing and Assessing Accountability: A Conceptual Framework' (2007) 13(4) European Law Journal 447.

5 Elinor Ostrom, 'Beyond Markets and States: Polycentric Governance of Complex Economic Systems' (2010) 100(3) American Economic Review 641.

6 World Bank, Vietnam : Toward a Safe, Clean, and Resilient Water System (World Bank Group 2019). <https://www.worldbank.org/en/country/vietnam/publication/vietnam-toward-a-safe-clean-and-resilient-water-system>.

environmental governance systems are typically grounded in the combination of data sharing, interagency coordination, and clearly defined accountability mechanisms, enabling early risk detection and reducing the costs of ex post intervention.[7]

From a policy perspective, the adoption of cross ownership structures in environmental governance in Viet Nam may be interpreted as an institutional response to the increasing complexity and intersectoral nature of environmental challenges in a context of rapid development and urbanisation. Past environmental incidents have demonstrated that fragmented, sector based management combined with limited data integration can lead to failures in early risk detection and policy coordination. The shift toward a model in which authority, information, and responsibility are distributed and shared among multiple actors thus reflects not merely a technical adjustment but a broader transformation in governance rationality, moving from linear administrative control toward risk based and evidence informed governance.

In sum, situating cross ownership within the environmental governance framework of Viet Nam reveals an important trajectory of institutional reform toward an integrated, polycentric, and information based governance system. This approach not only expands the scope of environmental law beyond technical regulation to encompass questions of power allocation and institutional responsibility, but also provides a conceptual basis for deeper analysis of regulatory effectiveness and sustainable governance in a contemporary development context. To ensure methodological coherence and to support subsequent analysis, particularly in Part IV, it is necessary to establish a consistent comparative framework that links environmental governance, cross ownership structures, and relevant international experiences within a unified analytical structure.

From a theoretical perspective, this comparative framework is grounded in a multilayered institutional approach that integrates legal analysis with public governance analysis. It may be structured along three closely interconnected analytical dimensions. The first dimension concerns legal norms and focuses on how the law allocates authority, defines legal obligations, and constructs regulatory instruments. The second dimension addresses implementation mechanisms, examining how these norms operate in practice through institutions such as environmental impact assessment, permitting, inspection, and interagency coordination. The third dimension relates to information infrastructure, analysing the role of data systems, information sharing mechanisms, and transparency in supporting coordination and enhancing regulatory effectiveness.

These three dimensions should function as a consistent analytical reference throughout the article. Within this framework, cross ownership is not treated merely as an instance of overlapping authority but is reconceptualised as an institutional structure in which authority, responsibility, and information are distributed yet interconnected through legally grounded coordination mechanisms. This shift allows the analysis to move from the question of who holds authority to the more substantive question of how authority is allocated and coordinated to manage risk and improve governance outcomes.

7 OECD, OECD Regulatory Policy Outlook 2018 (OECD Publishing 2018) <https://www.oecd.org/en/publications/oecd-regulatory-policy-outlook-2018_9789264303072-en/full-report/the-2017-oecd-regulatory-indicators-survey-and-the-composite-indicators_g1g979be.html>.

Applying this framework to the Vietnamese context enables a clearer identification of the legislative logic underpinning the Law on Environmental Protection 2020. At the level of legal norms, the law reflects a move toward allocating authority based on project scale and risk rather than purely administrative boundaries. At the level of implementation, institutions such as environmental impact assessment appraisal councils and coordinated permitting processes exhibit intersectoral characteristics and shared responsibility. At the level of information infrastructure, the establishment of a national environmental database and mandatory disclosure requirements provides essential conditions for transparency and verifiability.

More importantly, this framework facilitates controlled comparison with international experiences referenced in the article. Rather than relying on superficial similarities in regulatory domains, the comparison focuses on institutional logic. For example, in the case of Brazil or other multilevel systems, the relevant point of comparison lies not in specific policy content but in the allocation of authority across levels of government, the establishment of data sharing obligations, and the operation of interlevel coordination mechanisms. This approach enables the extraction of transferable lessons while avoiding formalistic comparisons between legal systems operating in different contexts.

With respect to Part IV, this comparative framework functions as a normative evaluative tool. Each proposed solution or policy recommendation may be assessed along three corresponding criteria. First, whether it improves the allocation of authority and legal obligations. Second, whether it enhances the effectiveness of implementation mechanisms, particularly in terms of interagency coordination and early risk prevention. Third, whether it strengthens the information infrastructure, including data sharing capacity, transparency, and social oversight. This structured approach allows proposals to be evaluated not only for internal coherence but also for their capacity to integrate into the existing institutional system.

2. The Cross Ownership Model in Environmental Governance Under the Law on Environmental Protection 2020

2.1. The Cross Ownership Model as a Mechanism of Interdisciplinary Coordination within the Framework of the Law on Environmental Protection 2020

A salient advantage of the cross ownership model in public governance lies in its capacity to strengthen coordination among administrative bodies that have long operated according to a fragmented logic across sectors and levels. In traditional managerial structures, each agency typically pursues its own functional objectives and makes decisions based on localised interests, thereby weakening the formation of coherent policy and slowing the state's response to complex social problems. A large body of public policy scholarship has shown that such fragmentation is one of the principal causes of policy conflict and low coordination efficiency.[8] When situated

8 B Guy Peters, *Pursuing Horizontal Management: The Politics of Public Sector Coordination* (University Press of Kansas 2015).

within the framework of the Law on Environmental Protection 2020, the cross ownership model becomes an operational structure aligned with the law's emphasis on integration and interdisciplinarity, particularly through its provisions on environmental impact assessment, environmental permits, and the duty of coordination among state authorities.

From a legislative perspective, the provisions in Articles 29 and 30 of the Law on Environmental Protection 2020 on the appraisal of environmental impact assessment reports by councils or agencies involving multiple ministries and local authorities reflect a policy choice grounded in institutional risk prevention. At a deeper level, however, these provisions should be understood as part of a broader legislative response to structural coordination failures that characterised the pre 2020 regulatory framework. Rather than vesting authority in a single central agency, the legislature deliberately opted for a dispersed yet coordinated appraisal mechanism in order to mitigate risks associated with informational asymmetry, sectoral bias, and the concentration of discretionary power. This choice reflects an implicit recognition that environmental risks in contemporary development contexts are multidimensional and cannot be adequately assessed through a single institutional perspective.

The practical significance of this mechanism is evident in policy failures prior to the entry into force of the Law on Environmental Protection 2020. The Formosa Ha Tinh case is a paradigmatic illustration of the consequences of an environmental impact assessment process lacking interdisciplinarity and cross oversight. According to official government conclusions, the environmental impact assessment report for the Formosa project was found to have inadequately assessed discharge risks and waste treatment technologies, while approving authorities placed considerable emphasis on investment attraction and heavy industrial development. The result was the 2016 discharge incident, which caused severe damage to four central coastal provinces, affected the livelihoods of more than 263000 people, and compelled the enterprise to pay 500 million USD in compensation to the state and affected communities.[9]

Since the Law on Environmental Protection 2020 took effect, the appraisal council mechanism with the participation of ministries and local authorities has contributed to improving the quality and rigor of environmental impact assessment reports. Following the entry into force of the Law on Environmental Protection 2020 and its implementing regulations, Vietnam has strengthened the environmental impact assessment (EIA) appraisal process by imposing more rigorous requirements concerning emissions, land-use compatibility, biodiversity conservation, and community consultation. During the appraisal process, project proponents are frequently required to revise or supplement EIA reports to address deficiencies identified by appraisal authorities before approval can be granted, reflecting a shift toward more stringent environmental governance and regulatory oversight.[10]

9 Government News of Vietnam, Press release on serious environmental incident in central coast (2016) <https://en.baochinhphu.vn/press-release-on-serious-environmental-incident-in-central-coast-11126326.htm>.

10 Vietnam Environment Administration, Environmental and Social Management Framework (Ministry of Natural Resources and Environment 2022) <https://vea.mae.gov.vn/Data/files/Khung%20bao%20cao%20moi%20truong%20va%20xa%20hoi_Du%20an%20POP%20v%C3%A0%20Nh%C3%A3n%20sinh%20thai_01Jun22.pdf>.

In practice, enforcement cases after 2021 show that this coordination mechanism has facilitated more effective detection and sanctioning of violations. Following the 2016 marine environmental incident, Formosa Ha Tinh Steel Corporation has remained subject to special environmental supervision by the Ministry of Natural Resources and Environment. Regulatory oversight has relied on continuous environmental monitoring, technical inspections, and multidisciplinary assessments involving central authorities, local agencies, and environmental experts to evaluate compliance, assess environmental risks, and determine the corrective measures required for the company's continued operation.[11] This approach differs fundamentally from the pre 2020 period, when many violations were discovered only after they had caused serious harm to the environment and communities.

If the provisions on interdisciplinary appraisal and environmental permits based on this logic of shared authority had not been enacted, the environmental management system would be prone to reverting to a fragmented state in which each agency bears responsibility only within a narrow scope and tends to deflect accountability when incidents occur. Comparative studies of environmental governance in developing countries show that systems lacking interdisciplinary coordination mechanisms tend to have higher rates of environmental violations and lower levels of corporate compliance because the expected cost of detection and sanction is low.[12] In the context of Viet Nam's current challenges of urban air pollution and water degradation in major river basins, maintaining a governance structure based on cross ownership of information, decision making power, and responsibility as designed by the Law on Environmental Protection 2020 is a necessary condition for shifting from formalistic management to risk based and evidence based governance.

At a broader institutional level, the shift from a model of isolated agencies to an integrated model has also been reinforced by the Law on Planning 2017, which requires sectoral plans and resource use plans to be embedded within a unified framework. In the environmental domain, this integration is further strengthened by the Law on Environmental Protection 2020 through provisions on environmental protection planning and the national environmental database, enabling the sharing of spatial data, emission data, and risk data among competent authorities. These shared information infrastructures are essential for the operation of the cross ownership model, as they allow agencies to monitor one another and to adjust decisions on the basis of common evidence.

In institutional terms, the cross ownership model rests on two key pillars: joint planning and cross representation. When objectives for economic development, infrastructure,

11 Ministry of Natural Resources and Environment, 'Formosa Meets Standard Three Years after Pollution Incident: Environment Ministry' (31 July 2019) <https://scp.gov.vn/tin-tuc/t11062/formosa-meets-standard-three-years-after-pollution-inci-dent-environment-ministry.html>.

12 OECD, Ensuring Compliance with Environmental Regulations in the Eastern Partnership Countries (OECD Publishing 2024) <https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/ensuring-environmental-compliance/brochure-environmental-compliance-assurance-eap-2024.pdf>.

and environmental protection are formulated through integrated processes such as environmental impact assessment under Article 29 of the Law on Environmental Protection 2020, the risk of conflict among policy priorities is substantially reduced. At the same time, the participation of multiple agencies in appraisal councils and interdisciplinary task forces allows conflicts to be detected and addressed at the policy design stage. This mode of operation faithfully reflects the spirit of network governance, in which public organisations are viewed as mutually dependent entities that must engage in continuous negotiation in order to achieve effective coordination.[13]

In a context in which public problems are increasingly interdisciplinary, the cross ownership model provides an organisational framework aligned with the requirements of collaborative governance and sustainable development. This is consistent with Ansell and Gash's argument that consensus and synergy among agencies are essential for addressing challenges that transcend traditional functional boundaries. When linked to the concrete legal mechanisms of the Law on Environmental Protection 2020, particularly the provisions on environmental impact assessment, environmental permits, and environmental databases, the cross ownership model is not merely a technical governance innovation but becomes an institutional structure capable of enhancing coordination efficiency, reducing fragmentation, and consolidating the foundations for long term sustainable development.

2.2. Optimising Public Resources through the Cross Ownership Mechanism within the Framework of the Law on Environmental Protection 2020

Resource optimisation in public governance reflects a central orientation of the modern state to ensure that limited public resources are used in ways that generate the highest social value. When agencies share finance, personnel, and information infrastructure, the operating structure of the administrative apparatus shifts from a fragmented state toward a model of inter organisational cooperation, close to the notion of interdisciplinarity in new public governance theory, according to which agencies connect in order to exploit complementary capacities and reduce transaction costs in public service delivery.[14] In the environmental field in Viet Nam, this spirit is clearly embodied in the Law on Environmental Protection 2020, as its provisions on environmental databases and the national environmental information system require multiple agencies to jointly build, use, and update a unified data repository, thereby creating a form of cross ownership over data and managerial infrastructure. The fact that multiple actors have access to and shared responsibility for a common information system not only avoids duplicative investment but also facilitates process reengineering and limits budgetary waste.

From a legal perspective, this sharing of resources is reinforced by the Law on

13 Walter Kickert, Erik Hans Klijn and Joop Koppenjan, *Managing Complex Networks: Strategies for the Public Sector* (Sage 1997).

14 B Guy Peters and Jon Pierre, *Comparative Governance Rediscovering the Functional Dimension of Governing* (Cambridge University Press 2016).

Environmental Protection 2020 through its provisions on environmental information systems and databases, under which the state establishes a unified platform for management and requires ministries and local authorities to provide and use data from that system. This mechanism significantly reduces the phenomenon of each agency constructing its own separate database, which would otherwise lead to high maintenance and operating costs as well as risks of inconsistency. At the same time, the provisions on environmental impact assessment and environmental permits in the Law on Environmental Protection 2020 also embody a logic of sharing professional resources, as appraisal councils and licensing authorities must mobilise experts and officials from multiple fields in order to reach a joint decision. This approach is consistent with international practice in budgeting and public financial management, in which interdisciplinary projects pool resources from multiple programs to enhance efficiency of use, provided that transparency and disbursement procedures are ensured, as well as with the principle of measurable output orientation emphasised by the IMF.[15]

The practical benefits of this approach are clearly reflected in the structure and performance of appraisal councils after 2021. Under Vietnam's environmental impact assessment (EIA) framework established by the Law on Environmental Protection 2020, Decree No. 08/2022/ND-CP, and Circular No. 02/2022/TT-BTNMT, EIA reports are appraised by multidisciplinary appraisal councils comprising experts in environmental protection and other fields relevant to the proposed project. During the appraisal process, the competent authority may also seek opinions from organisations and specialists, conduct site inspections where necessary, and require project owners to revise or supplement EIA reports before approval where deficiencies in environmental protection measures or risk assessment are identified. This multidisciplinary appraisal mechanism is intended to ensure that environmental, technical, and public-interest considerations are comprehensively evaluated before project implementation.[16] If each agency had conducted appraisal only within its own sector, cross sectoral issues such as the impact of fine particulate matter on health or flood risks caused by land filling would easily have been overlooked. Mobilising interdisciplinary expertise within a common institutional setting therefore not only improves appraisal quality but also reduces the probability of erroneous decisions with high social costs.

In the sphere of inspection and supervision, the Law on Environmental Protection 2020 applies the same logic of human resource optimisation. Articles 142 to 147 allow the Ministry of Natural Resources and Environment, sectoral ministries, and local governments to jointly participate in environmental inspection activities. More specifically, these provisions can

15 OECD, Green Budgeting in OECD Countries (OECD Publishing 2024) <https://www.oecd.org/en/publications/green-budgeting-in-oecd-countries-2024_9aea61f0-en.html>.

16 Ministry of Natural Resources and Environment, Circular No 02/2022/TT-BTNMT Detailing a Number of Articles of the Law on Environmental Protection (10 January 2022) <https://english.luatvietnam.vn/circular-no-02-2022-tt-btnmt-dated-january-10-2022-of-the-ministry-of-natural-resources-and-environment-detailing-a-number-of-articles-of-the-law-on-215875-doc1.html>; Ministry of Natural Resources and Environment, Decree No 08/2022/ND-CP Elaboration of Several Articles of the Law on Environmental Protection <https://vea.mae.gov.vn/law-on-environmental-protection/12234/decree-08-2022-nd-cp-elaboration-of-several-articles-of-the-law-on-environmental-protection>.

be disaggregated into distinct normative clusters that structure coordination and authority. Certain provisions define the competence of central and local inspectorates, including the power to initiate inspections, impose administrative sanctions, and require remedial measures. Other provisions regulate interagency coordination by allowing the establishment of interdisciplinary inspection teams composed of representatives from multiple ministries and local authorities. Additional provisions address procedural aspects such as information sharing, reporting obligations, and the handling of inspection results. Through this structure, the law operationalises a model in which inspection authority is neither monopolised nor dispersed without coordination, but instead exercised through mechanisms that combine jurisdictional clarity with collaborative enforcement.

In practice, interdisciplinary inspection campaigns have enabled the detection and handling of many violations that a single force would have difficulty addressing alone. Environmental inspections in Vietnam increasingly rely on interdisciplinary cooperation among environmental authorities, technical agencies, and local governments. Inspection activities combine environmental monitoring data, on-site inspections, and technical assessments to detect violations relating to wastewater discharge, hazardous waste management, and other environmental protection obligations. This coordinated enforcement approach strengthens regulatory oversight by enabling competent authorities to identify environmental risks and require timely corrective measures.[17]

Without mechanisms for mobilising and using interdisciplinary personnel as designed by the Law on Environmental Protection 2020, the environmental management system would be prone either to personnel overload in high risk fields or to waste of resources in sectors with few projects. International experience shows that environmental governance systems based on rigid sectoral staffing often lead to high administrative costs but low monitoring effectiveness. World Bank reports on environmental governance reform in Brazil and Chile indicate that the creation of interdisciplinary expert teams significantly reduced the cost of external consultancy and shortened project appraisal time while still improving risk assessment quality.[18] These reforms, however, were closely linked to broader changes in environmental governance frameworks, including the strengthening of environmental impact assessment procedures, the modernisation of environmental licensing systems, and the establishment of more integrated monitoring and compliance regimes. In Brazil, reforms focused on improving the coordination between federal and state licensing authorities and enhancing data integration within environmental agencies. In Chile, reforms targeted the institutionalisation of environmental impact assessment as a central decision making tool and the creation of specialised agencies responsible for evaluation and supervision.

17 Báo Đồng Nai, '268 trường hợp vi phạm pháp luật tài nguyên, môi trường' (31 January 2023) <https://baodongnai.com.vn/kinhte/202301/268-truong-hop-vi-pham-phap-luat-tai-nguyen-moi-truong-3155255/>.

18 World Bank, 'Federal Spending on Social Assistance Programs in Brazil' (2018) <https://documents1.worldbank.org/curated/en/705861614344028456/pdf/Background-Chapter-of-the-2018-Expenditure-Review-A-Fair-Adjustment-Efficiency-and-Equity-of-Public-Spending-in-Brazil.pdf>.

Environmental data constitute the domain in which the benefits of cross ownership of resources are most clearly visible. When each agency builds its own data system on emissions, water quality, or biodiversity, operating and synchronisation costs rise rapidly, while information quality becomes fragmented. The Law on Environmental Protection 2020 provision on the national environmental database enables ministries and local authorities to use a common platform, thereby reducing costs and improving policy making quality because decisions are based on a complete and consistent dataset. The European Union's digital government experience likewise shows that data integration is a prerequisite for ensuring efficiency and transparency in public service delivery.[19]

In urban development, pooling budgets for environment, infrastructure, and planning in line with the integrated approach mandated by the Law on Environmental Protection 2020 and the Law on Planning 2017 helps reduce duplicative investment and improve project quality through interdisciplinary perspectives. When departments use common environmental data, mobilise experts jointly, and negotiate budget allocation together, costs are reduced while ecological and economic effectiveness is enhanced, in line with recommendations on integrated urban governance by UN Habitat.[20]

2.3 Transparency and Accountability in Environmental Governance under the Cross Ownership Mechanism of the Law on Environmental Protection 2020

Enhancing transparency and accountability through cross ownership mechanisms reflects a fundamental shift in modern public governance from linear control toward multidimensional oversight. In fragmented administrative models, responsibility is often dispersed along functional lines, creating accountability gaps and increasing the risk of bureaucratic inertia and self interested behavior. When multiple agencies share access to information and jointly bear responsibility for a decision or project, an endogenous monitoring mechanism emerges, analogous to the principle of checks and balances in a rule of law state.[21] In the environmental sector in Viet Nam, this spirit is clearly institutionalised in the 2020 Law on Environmental Protection through provisions on public disclosure of environmental information, community consultation, and reporting obligations, thereby compelling regulatory authorities and project owners to operate within a transparent space subject to scrutiny from multiple directions.

The provisions in Articles 6, 29, and 30 of the 2020 Law on Environmental Protection do not constitute isolated technical commands but form a deliberate legal architecture designed to address the institutional root of many past environmental disasters in

19 European Commission, 'Access to Environmental Information and Data Protection in the EU' (2021).

20 UN Habitat, 'World Cities Report 2020: The Value of Sustainable Urbanization' (United Nations Human Settlements Programme 2020).

21 Liesbet Hooghe and Gary Marks, *Community, Scale, and Regional Governance: A Post-functionalist Theory of Governance* (Oxford University Press 2016).

Viet Nam, namely the lack of information transparency and the monopolisation of data by certain regulatory bodies and enterprises. Prior to the promulgation of the 2020 Law, concealment of discharge data and formalistic environmental impact assessment reports were widespread. The 2016 Formosa Ha Tinh marine pollution incident exposed significant weaknesses in environmental monitoring and regulatory oversight. Following extensive investigations involving more than 100 scientists and experts from domestic and international institutions, the Vietnamese Government concluded that toxic wastewater discharged by Formosa Ha Tinh Steel Corporation had caused the mass mortality of marine life along the coasts of Ha Tinh, Quang Binh, Quang Tri, and Thua Thien Hue. In response, Formosa accepted responsibility and agreed to pay USD 500 million in compensation, while the Government subsequently strengthened environmental monitoring and oversight mechanisms to prevent similar incidents.[22] It was in this context that the legislature classified acts of concealing or falsifying environmental information as prohibited conduct under Article 6, treating such behavior as a fundamental breach of accountability and positioning environmental data at the core of state governance.

Linking Article 6 with the environmental impact assessment mechanism in Articles 29 and 30 reveals the legislature's deeper objective of dismantling the capacity of any single actor to control the entire chain of information and decision making. The environmental impact assessment process under the 2020 Law requires reports to be prepared, appraised, and approved with the participation of multiple specialised agencies and with community consultation. This structure reflects a decentralised model of informational power in which data on technology, emissions, and social impacts must be accessed and cross verified by many actors. Practical implementation shows that this mechanism has generated clear control effects. The impact of this mechanism is also evident in adjudication and enforcement. In several cases after 2020, enterprises were heavily sanctioned for providing untruthful environmental data. Under Vietnam's environmental protection framework, enterprises subject to automatic and continuous monitoring are required to install monitoring systems and transmit wastewater and emission data to the competent environmental authorities. During the trial operation of waste treatment facilities and subsequent environmental supervision, competent authorities may compare automatically transmitted monitoring data with reports submitted by project owners to assess compliance and identify violations. This data-driven oversight mechanism strengthens regulatory enforcement by enabling objective verification of environmental performance through continuous monitoring systems rather than relying solely on enterprise self-reporting.[23] This case demonstrates that when data are stored and shared on a common platform, the possibility of

22 Government of Vietnam, 'Press Release on Serious Environmental Incident in Central Coast' (4 July 2016) <https://en.baochinhphu.vn/press-release-on-serious-environmental-incident-in-central-coast-11126326.htm>.

23 Government of Vietnam, Decree No 45/2022/ND-CP Providing Penalties for Administrative Violations against Regulations on Environmental Protection (2022) <https://english.luatvietnam.vn/decree-no-45-2022-nd-cp-providing-penalties-for-administrative-violations-against-regulations-on-environmental-225156-doc1.html>; Hoa Phat Group, 'Annual Report 2021' (2022) <https://file. hoaphat.com.vn/hoaphat-com-vn/2022/05/hpg-annual-report-2021.pdf>.

concealment is significantly narrowed and accountability becomes enforceable.

Without Articles 6, 29, and 30 and the obligation to update environmental data, the environmental management system would continue to face a structural risk of decisions being based on incomplete or manipulated information. International experience shows that countries lacking mechanisms for data sharing and cross verification often bear enormous remediation costs because violations are detected too late. OECD studies on environmental and risk governance emphasise that transparent access to environmental information, effective data sharing, and meaningful stakeholder participation strengthen governments' capacity to identify environmental risks at an early stage, improve regulatory decision-making, and enhance the effectiveness of risk management and response. These governance principles support more timely interventions and more coordinated environmental oversight across public authorities and affected stakeholders.[24] In the context of Viet Nam's rapid growth in industrial and urban projects, the legislature's choice of a governance model based on data sharing and cross monitoring therefore carries not only legal significance but also represents an economic and social strategy to minimise environmental disasters that impose very high costs on both communities and the state.

24 OECD, Open Government for the Green Transition: Panorama of Good Practices Towards Meaningful Citizen Participa-tion (OECD Publishing 2025) <https://doi.org/10.1787/bfa02935-en>; OECD, Managing Emerging Critical Risks: Case Studies and Cross-Country Synthesis Report (OECD Publishing 2025) <https://doi.org/10.1787/1f9858ea-en>; OECD, Governance as an SDG Accelerator: Country Experiences and Tools (OECD Publishing 2019) <https://doi.org/10.1787/0666b085-en>.

This approach aligns with the trend toward network based accountability in modern administrative systems, where responsibility is defined not only vertically but also through obligations of information sharing and mutual oversight. International standards on fiscal transparency and public data emphasise that information must circulate among agencies to ensure early detection of wrongdoing.[25] In environmental governance, when data on emissions, environmental permits, and monitoring results are integrated and disclosed under the 2020 Law on Environmental Protection, each agency becomes both a user and an object of scrutiny by other agencies, creating an internal control structure far more effective than mere ex post inspection.

3. Intersectoral Cross Ownership in the Governance of Urban Projects under the Framework of the 2020 Law on Environmental Protection

Applying the cross ownership model to the management of urban development projects reflects an effort to shift from sectoral vertical governance toward a polycentric coordination mechanism in which agencies such as the Department of Transport, the Department of Construction, and the Department of Natural Resources and Environment jointly participate in planning, monitoring, and adjusting projects as an integrated system. This approach is particularly consistent with the framework of

25 ibid.

the 2020 Law on Environmental Protection, which requires decisions on urban infrastructure development to be closely linked with environmental protection obligations. The provisions on environmental impact assessment in Articles 29 and 30 of the 2020 Law on Environmental Protection compel sectoral agencies to jointly participate in appraisal and to share responsibility for the ecological consequences of projects, thereby forming a form of cross ownership over information, decision making authority, and legal obligations.

During the planning phase, the creation of a unified project dossier integrated with the environmental impact assessment report under the 2020 Law on Environmental Protection reduces coordination costs and the risk of goal conflict compared with the approach in which each agency prepares a separate plan. When the objectives of infrastructure development, transport, and environmental protection are integrated into a single strategic document, public value is maximised because decisions are no longer driven by the parochial interests of individual departments but must serve the overall interests of the city and the affected community.[26] The provisions on community consultation in the preparation and appraisal of environmental impact assessment reports under Article 33 of the 2020 Law on Environmental Protection also create a form of soft institutional constraint that obliges agencies to continuously negotiate and adjust objectives in light of social feedback.

However, beyond this general architecture, urban governance in Viet Nam reveals a series of concrete and recurrent coordination failures that demonstrate why such integration is not merely desirable but necessary. In rapidly expanding metropolitan areas, transport planning has often proceeded independently of environmental carrying capacity assessments, leading to persistent air pollution hotspots concentrated along major traffic corridors. Similarly, construction licensing has in some instances been granted without sufficient integration of drainage and flood control data, contributing to recurrent urban flooding following heavy rainfall events. These problems are not abstract but arise from identifiable gaps in the synchronisation of sectoral decision making, where environmental considerations are incorporated too late or only in a formalistic manner. The cross ownership model, when operationalised through legally binding coordination requirements, directly targets these deficiencies by requiring that environmental risk be assessed at the same stage and with equal weight as economic and infrastructural objectives.

The mechanism of cross representation in environmental impact assessment appraisal councils and in urban project management boards creates a space for multidimensional oversight and policy dialogue. When officials from different departments participate in a common institutional arrangement as required by the 2020 Law on Environmental Protection, information asymmetries among agencies are narrowed and the capacity for timely policy adjustment is enhanced, consistent with empirical evidence on collaborative governance in Latin American cities.[27]

26 Mark Moore, *Creating Public Value : Strategic Management in Government* (Harvard University Press 1995).

27 Suely Mara Vaz Guimarães de Araújo, Antonio Sergio Araújo Fernandes and Denilson Bandeira Coêlho, 'Does Metropolitan Area Management Matter in Brazil? Elements of a Complex Issue' (2016) 52(2) disP – The Planning Review 17 <https://www.researchgate.net/publication/303905061_Does_Metropolitan_Area_Management_Matter_in_Brazil_Elements_of_a_Complex_Issue>.

However, in the absence of a coordinating body with clearly defined authority, diversity of policy priorities may translate into delay and conflict in decision making. This institutional tension is particularly visible in large scale urban projects where competing objectives such as traffic efficiency, land value maximisation, and environmental protection generate conflicting policy preferences that cannot be resolved through informal coordination alone.

The sharing of budgets and collective responsibility in urban projects linked with environmental obligations also reflects the solidarity principle of multilevel governance. Projects on wastewater treatment, air quality improvement, or green infrastructure often combine funding from transport, construction, and environmental sources, similar to the way multilevel welfare programs operate. Experience from Bolsa Família shows that multi source budgets help disperse risk and enhance sustainability, but they also require strict accountability mechanisms to avoid situations in which no agency assumes responsibility when errors occur.[28] To clarify the analytical basis of this comparison, it should be emphasised that the relevance of Bolsa Família lies not in its substantive policy domain but in its institutional logic of interlevel budgetary governance, where financial flows are distributed across administrative tiers and linked to accountability obligations. The analogy therefore operates at the level of governance structure rather than regulatory content. This clarification also highlights the limits of the comparison and underscores the need to supplement it with more directly comparable environmental mechanisms. In this respect, instruments such as river basin funds or financing schemes for green infrastructure provide closer functional parallels, as they similarly rely on pooled resources, shared oversight, and coordinated allocation decisions across sectors and jurisdictions. The 2020 Law on Environmental Protection helps mitigate governance risks associated with shared budgets through provisions on information disclosure, reporting, and inspection of environmental permit implementation, thereby subjecting users of shared financial resources to intersectoral scrutiny and reducing the likelihood of accountability gaps.

Within the structure of the 2020 Law on Environmental Protection, the provisions on the national environmental information system and database are designed as a legal infrastructure to operationalise network based governance rather than vertical administrative control. The legislative intent behind this choice derives from years of practice showing that conflicts among transport planning, urban development, and environmental protection largely stem from each agency operating on separate, uncoordinated, and hard to verify datasets. When data on emissions, flooding, air quality, or land use status are standardised and placed on a shared platform, ministries and local authorities are compelled to make decisions based on the same empirical picture, thereby limiting the space for adjusting plans to serve parochial interests. In terms of practical effectiveness, this mechanism enables near real time policy adjustment as environmental fluctuations are immediately reflected in the data system. For example, reports from the Ministry of Natural Resources and Environment indicate that the automatic air monitoring network generated more than 20 million data records between 2021 and 2023, enabling localities such as Ha Noi and Ho Chi Minh City to promptly impose vehicle restrictions and adjust

28 Kathy Lindert and others, 'The Nuts and Bolts of Brazil's Bolsa Família Program : Implementing Conditional Cash Transfers in a Decentralized Context' (World Bank 2007).

construction activities during severe pollution episodes, thereby significantly reducing the number of days with poor air quality indices compared with the pre 2020 period. Without this shared data mechanism, each department would continue to rely on fragmented datasets, leading to situations in which transport plans are still approved in areas that have exceeded environmental carrying capacity, resulting in remediation costs many times higher than prevention costs.

This approach is also consistent with modern theories of urban systems that view cities as networks of interconnected subsystems, in which transport, construction, and environment interact nonlinearly and require data driven coordination tools to avoid cascading negative effects. When environmental data are integrated into budgeting and project approval processes, the state can allocate resources according to actual levels of risk and impact rather than political or administrative pressure. This explains why Vietnamese legislators have chosen a centralised data governance model that allows multiple actors to access and bear responsibility, because only such a structure can balance the right of access to information with the duty of accountability in a context of rapid and complex urban development.

Nevertheless, challenges remain when roles and powers overlap, prolonging decision making. If the 2020 Law on Environmental Protection and its guiding instruments are not implemented together with clear mechanisms for allocating responsibility among agencies at each project stage, the system may fall into a state of excessive coordination, a phenomenon observed in many intersectoral institutions in Brazil and other developing countries.[29] In urban contexts, this risk is particularly acute in projects requiring simultaneous approval across multiple domains, where unclear sequencing of authority can delay both investment and environmental protection measures.

The application of technologies such as blockchain in urban governance may help address these limitations by creating transparent and immutable records of environmental data, project progress, and budget expenditure. When integrated with the environmental database under the 2020 Law on Environmental Protection and with a coordinating body possessing clear legal authority, blockchain facilitates responsibility tracing, information synchronisation among agencies, and reduced monitoring costs, as digital government research has indicated.[30]

For the cross ownership model to operate stably in urban development, principles of coordination, incentives and sanctions, and task allocation must be embedded in regulations on public investment, budgeting, and project approval procedures, and must be closely linked with environmental protection obligations under the 2020 Law on Environmental Protection. Only with such a legal foundation will intersectoral cooperation cease to depend on the goodwill of individual agencies and instead become a durable institutionalised mechanism, consistent with the trajectory of urban governance reform recommended by UN Habitat.[31]

29 Peters and Pierre (n 14) 19.

30 Jamie Berryhill, Théo Bourgery and Angela Hanson, 'Blockchains Unchained: Blockchain Technology and Its Use in the Public Sector' (2018) OECD Working Papers on Public Governance No 28 < https://www.oecd.org/content/dam/oecd/en/publications/reports/2018/06/blockchains-unchained_fcbd568f/3c32c429-en.pdf>.

31 UN Habitat (n 20) 33.

3.1. Polycentric Environmental Governance in the 2020 Law on Environmental Protection in Comparison with Brazil's Bolsa Família Model

Rearticulating the preceding discussion through the three dimensional comparative framework allows for a more precise evaluation of how the cross ownership model operates within Viet Nam's environmental governance while preserving the empirical grounding provided by existing data. This approach clarifies not only the internal coherence of the model but also the conditions under which its practical effectiveness can be sustained.

At the level of legal norms, the cross ownership model is concretised through the allocation of authority and responsibility embedded in the 2020 Law on Environmental Protection. Articles 4 and 5 establish a foundational principle that environmental protection is a shared responsibility across all levels of government, while the State maintains a coordinating role. This principle is operationalised more concretely in the provisions on environmental impact assessment and environmental permitting, particularly in Articles 30 to 35 and Articles 39 and 40, which distribute competence between the central level and provincial authorities according to project scale and environmental risk. This allocation reflects a deliberate legislative strategy rather than administrative convenience. By assigning approximately 35 percent of environmental impact assessment reports to central appraisal and 65 percent to local authorities between 2021 and 2023, the law ensures that large scale and high risk projects are subject to stricter central scrutiny, while allowing local authorities to manage projects with more localised impacts.[32]

At the level of implementation mechanisms, the effectiveness of cross ownership becomes evident in the expansion of enforcement capacity and the improved detection of violations. Between 2021 and 2023, local authorities identified and handled more than 35,000 environmental violations, with total fines exceeding 3.6 trillion VND, representing an increase of nearly 40 percent compared with the period from 2017 to 2019. This quantitative shift is not merely indicative of increased non compliance but reflects enhanced institutional capacity for monitoring and enforcement, facilitated by clearer allocation of responsibilities and greater interagency coordination. Mechanisms such as intersectoral appraisal councils, coordinated permitting procedures, and joint inspection activities translate the legal framework into operational practice, enabling multiple actors to participate in oversight. At the same time, comparative insights from Brazil's Bolsa Família program highlight that such multilevel arrangements are effective only when supported by enforceable procedural obligations. Audit findings from the Tribunal de Contas da União revealed that delays and inaccuracies in data updates at the municipal level undermined program targeting, due to the absence of binding timelines, proportionate sanctions, and real time data interoperability.[33]

Integrating these three dimensions reveals that the cross ownership model

32 Marta Arretche, 'Democracia, Federalismo e Centralização no Brasil' (Editora FIOCRUZ/ Editora FGV 2012).

33 Fábio Veras Soares, Rafael Perez Ribas and Rafael Guerreiro Osório, 'Evaluating the Impact of Brazil's Bolsa Família' (2010) 45(2) Latin American Research Review 173.

in Viet Nam operates as a coherent institutional strategy that combines differentiated allocation of authority, coordinated implementation mechanisms, and shared information infrastructure. The empirical data on enforcement, appraisal, and monitoring demonstrates that this model has already produced measurable improvements in regulatory capacity. The handling of more than 35,000 violations, the structured distribution of over 6,000 environmental impact assessment reports, and the generation of tens of millions of environmental data records collectively indicate that the system is moving toward a more integrated and responsive form of governance. At the same time, the comparative analysis with Brazil highlights that the sustainability of these outcomes depends on addressing underlying vulnerabilities, particularly those related to enforceability of data governance obligations and clarity of responsibility across levels.[34] From an analytical perspective, the three dimensional framework thus reveals both the strengths and the conditional nature of the cross ownership model. Its effectiveness lies in its ability to transform fragmented administrative structures into interconnected systems of oversight and coordination. Its limitations arise when the legal, procedural, and informational components are not fully aligned. Where legal norms clearly define responsibilities, implementation mechanisms ensure coordinated action, and information infrastructure provides reliable and timely data, cross ownership enhances both efficiency and accountability. W here these elements are incomplete or weakly enforced, the model risks generating ambiguity, delays, and fragmented outcomes. Only through such alignment can the model fully realise its potential as a mechanism for managing complex environmental risks while maintaining accountability across a multilevel governance system.[35]

4. Policy Implications

4.1. Evaluating Cross Ownership in Environmental Governance: Normative Foundations, Operational Dynamics, and Institutional Limits

From a legal standpoint, the strengths of the cross ownership model within the framework of the Law on Environmental Protection 2020 can be assessed along three interrelated dimensions corresponding to the analytical structure developed in this study. First, at the level of legal norms, the model facilitates a more differentiated allocation of authority based on functional criteria such as project scale, environmental risk, and technical complexity. Provisions governing environmental impact assessment and environmental permitting exemplify this approach by distributing appraisal and licensing competences between central and local authorities while preserving requirements for interagency consultation and information exchange. This form of

34 World Bank, 'Federal Spending on Labor Market Programs in Brazil' (2018) <https://documents1.worldbank.org/curated/en/841291614373144982/pdf/Federal-Spending-on-Labor-Market-Programs-in-Brazil-Background-Chapter-of-the-2018-Expenditure-Review-A-Fair-Adjustment-Efficiency-and-Equity-of-Pub-lic-Spending-in-Brazil.pdf>.

35 United Nations, 'Global Progress Report on Sustainable Development Goal 16: Indicators on Peaceful, Just and Inclusive Societies' (UN Publishing 2025) <https://www.undp.org/publications/global-progress-report-sustainable-development-goal-16-indicators-peaceful-just-and-inclusive-societies>.

conditional decentralisation mitigates the shortcomings of excessive centralisation, which may result in administrative congestion and detachment from local conditions, as well as unstructured decentralisation, which can give rise to regulatory capture and uneven enforcement.

Second, at the level of implementation mechanisms, cross ownership strengthens the capacity for early risk identification and adaptive regulatory response. The participation of multiple agencies in appraisal bodies, inspection processes, and monitoring systems increases the probability that inconsistencies, omissions, or distortions in environmental data will be detected before they lead to irreversible harm. This internalised monitoring dynamic reflects a dense accountability environment in which actors are subject to overlapping forms of scrutiny from institutional counterparts and external stakeholders. Comparative evidence from environmental governance systems suggests that such arrangements are associated with higher levels of compliance and reduced long term enforcement costs, as they reorient regulatory practice from ex post sanctioning toward ex ante prevention.

Third, at the level of information infrastructure, the effectiveness of cross ownership depends decisively on the availability of integrated, accessible, and reliable data systems. The development of a national environmental database under the Law on Environmental Protection 2020 provides a technical foundation for this model by transforming data from a fragmented administrative asset into a shared governance resource. When environmental information is standardised, regularly updated, and accessible across institutions, it reduces informational asymmetries and constrains opportunistic conduct. In this sense, data integration represents not merely a technical enhancement but a structural prerequisite for coordinated decision making in complex regulatory environments.

When these principles are effectively embedded within the legal framework, cross ownership can operate as a mechanism for transforming environmental governance from a reactive system into one that is preventive and adaptive. By enabling early risk detection, facilitating information exchange, and distributing oversight across multiple actors, the model reduces the likelihood of large scale environmental failures and lowers the long term costs associated with remediation. At the same time, it cultivates a culture of shared responsibility that is essential for addressing environmental challenges that transcend administrative and sectoral boundaries.

4.2. Intergovernmental Governance Law for Social and Environmental Programs

Provision on the Allocation of Responsibility:

Designing an intergovernmental governance law that stratifies responsibility for collecting, verifying, and approving environmental data along the axis of city, province, and central level reflects a policy choice with clear practical and theoretical foundations in the context of increasingly complex environmental risk management in Viet Nam. The core objective of this solution is to address simultaneously two institutional bottlenecks that have become evident over more than a decade. The first is information asymmetry between the grassroots level where pollution arises and the level that makes final decisions. The second is responsibility shifting when data are distorted or concealed, leading to serious

environmental consequences. Articles 95 and 121 of the 2020 Law on Environmental Protection require the establishment of a unified national environmental information system and database, yet they do not clearly determine who bears ultimate legal responsibility for each layer of data in the chain of information production and use. Assigning cities responsibility for collection and updating, provinces responsibility for appraisal and integration, and the central level responsibility for policy standardisation and budgetary assurance would fill this gap with an accountable responsibility structure.

The reason lawmakers and policymakers must pursue this model arises directly from failures of data governance in major environmental incidents. In the 2016 Formosa Ha Tinh case, local monitoring stations were not promptly connected to the central database, and emission data from the enterprise were concealed for a long period, delaying the detection of pollution and allowing damage to spread across four central coastal provinces. An independent UNDP assessment reported that more than two hundred and sixty thousand people lost their livelihoods directly and that total socioeconomic damage far exceeded the five hundred million US dollars in compensation paid by the enterprise to the Government of Viet Nam.[36] Had there been a clear legal obligation at that time holding city and provincial authorities individually and institutionally responsible for the completeness and integrity of environmental data transmitted to the national system, the cost of concealing information would have been far higher and the likelihood of early detection much greater.

Conversely, the proposed stratification of responsibility generates measurable practical benefits. When cities are responsible for data collection according to uniform criteria, data more accurately reflect local conditions where pollution occurs. When provinces must appraise and integrate such data into environmental permit dossiers under Articles 40 and 41 of the 2020 Law on Environmental Protection, the intermediate level has incentives to control data quality because any inaccuracy may trigger legal responsibility in the licensing process. The central level, with authority over policy approval and budget allocation, then possesses tools to reward or sanction localities based on compliance and data reliability. Brazil's experience in operating the Cadastro Único for the Bolsa Família program shows that when data entry responsibility lies with municipalities while budgetary control remains federal, data quality improves significantly and fraud rates decline sharply. The World Bank recorded that between 2006 and 2014 the standardisation and stratification of data responsibility eliminated more than one million duplicate records and saved hundreds of millions of dollars in public funds each year.[37] A similar structure applied to environmental governance in Viet Nam would increase the reliability of the national environmental database and thereby enhance the effectiveness of licensing and inspection.

Provision on Interlevel Dispute Resolution Mechanisms:

The proposal to establish an interlevel coordination and arbitration institution in environmental governance arises from

36 United Nations Development Programme (n 2).

37 World Bank, 'A Fair Adjustment: Efficiency and Equity of Public Spending in Brazil' (2017).

a clear institutional gap in the current legal system. For conceptual clarity, this institution should be understood not as a judicial body in the strict sense but as a specialised administrative coordination mechanism endowed with limited authority to issue temporary binding decisions in situations of intergovernmental conflict. Its function is therefore quasi adjudicative in nature, operating within the executive branch to prevent harm before formal administrative or judicial procedures are completed. Articles 162 and 163 of the 2020 Law on Environmental Protection establish mechanisms for handling complaints, denunciations, and disputes related to environmental violations, but these provisions mainly operate according to an ex post logic, intervening only after damage has occurred or is occurring. In the context of increasingly interprovincial and intersectoral urban and infrastructure programs, the greatest risk lies not in the absence of sanctions after violations but in delays in decision making when multiple levels of government dispute over authority or responsibility. The core purpose of an interlevel arbitration body is therefore to create an early intervention mechanism capable of issuing temporary binding decisions to prevent environmental harm during periods of institutional conflict.

The practical significance of this solution is evident in interregional environmental cases in Viet Nam where jurisdictional disputes have directly aggravated consequences. In the 2019 Da River pollution incident, determining responsibility between Hoa Binh Province and Ha Noi City for the discharge source took many days, during which millions of residents of the capital used unsafe water. Reports by the Ministry of Construction and the Ministry of Natural Resources and Environment indicated that the main cause of delay was not the absence of legal rules but the lack of an authority empowered to coordinate and issue immediate decisions across local administrative boundaries.[38] Had there been an interlevel coordination body with power to suspend polluting activities immediately or compel localities to share data and response plans, public health risks could have been substantially reduced.

Comparative experience from Brazil and India further supports the rationality of this solution, although the comparison is grounded in the logic of interlevel coordination and temporary decision making authority rather than the specific regulatory fields involved. In the Bolsa Família program, disputes over data and budget allocation between federal and municipal levels are resolved through interlevel coordination committees empowered to issue provisional decisions on fund flows and data validity before audit procedures are completed. This mechanism prevents disruption of welfare payments due solely to administrative conflicts.[39] Similarly, in India under MNREGA, grievance redress committees may require local authorities to take immediate remedial action upon detecting irregularities.[40] While these examples arise from social policy and labor governance, their analytical relevance lies in demonstrating how temporary decision making powers within an administrative framework can mitigate harm caused by institutional delay.

Provision on the Common Project Fund and Budget Allocation:

Linking the Common Project Fund to environmental finance principles set out

38 Ministry of Natural Resources and Environment, 'Report on the 2019 Da River Water Pollution Incident' (2020).

39 Lindert and others (n 28) 11.

40 Jean Drèze and Reetika Khera, 'Recent Social Security Initiatives in India' (2017) 98 World Development 555.

in Articles 149 and 150 of the 2020 Law on Environmental Protection reflects a preventive and long term oriented policy choice. The deeper purpose of this solution is not only to ensure that public funds are used for genuine environmental objectives but also to internalise the polluter pays principle and the principle of sustainable development into the operational mechanisms of interlevel programs. When projects are financed from a common fund, the greatest risk is that localities or ministries seek to shift environmental risks and remediation costs onto the shared budget, thereby weakening fiscal discipline and creating moral hazard. Requiring the fund to prioritise activities that reduce emissions, treat waste, and restore ecosystems helps prevent this tendency and transforms the environmental budget into a behavioral regulatory tool rather than a mere spending source.

The practical relevance of this solution is clear from major environmental incidents in Viet Nam. In the 2016 Formosa Ha Tinh case, the use of compensation of up to five hundred million US dollars raised serious questions about allocation and oversight of spending for ecosystem restoration and livelihood recovery. A supervision report of the National Assembly Standing Committee showed that the absence of a unified environmental accounting and auditing mechanism made disbursement opaque and difficult to evaluate in terms of real environmental effectiveness.[41] Had there been a Common Project Fund tightly bound by environmental finance criteria and subject to independent interlevel audit, the scope for misallocation would have been significantly reduced.

International experience further reinforces the rationality of establishing interlevel accounting and auditing mechanisms for environmental funds. In the European Union, structural funds and green recovery funds must comply with a unified accounting and auditing system under the EU Financial Regulation, under which all environmental spending must demonstrate measurable ecological impact.[42] In the United States, the Superfund under CERCLA operates on the basis of environmental accounting and independent auditing to ensure that revenues are used directly to remediate contaminated sites.[43] These models illustrate how financial governance can be aligned with environmental objectives through enforceable standards.

4.3. Digital Evidence and Public Electronic Transactions Law in Environmental Governance

The proposal to recognise the legal value of environmental data recorded on blockchain platforms arises directly from the digital governance logic established in Articles 121 and 122 of the 2020 Law on Environmental Protection concerning monitoring systems and environmental databases. The core purpose of this solution is to address a structural weakness of current environmental management, namely dependence on data supplied by the very entities being regulated and the risk that such data may be altered, delayed,

41 Standing Committee of the National Assembly, 'Report on the Supervision of Remedial Measures for the Central Coast Marine Environmental Incident' (2019).

42 European Court of Auditors, 'Climate Spending in the 2014–2020 EU Budget: Not as High as Reported' (Special Report No 09/2022, European Court of Auditors 2022) <https://www.eca.europa.eu/Lists/ECADocuments/SR22_09/SR_Climate-mainstreaming_EN.pdf>.

43 United States Environmental Protection Agency, 'Superfund Annual Report' (2020).

or distorted during reporting. When emissions, wastewater, and solid waste monitoring data are recorded directly on a distributed ledger, each entry is linked to the digital identity of the enterprise or regulatory authority, thereby creating an inerasable chain of responsibility. In the context where administrative sanctions for environmental violations under Articles 162 and 163 of the 2020 Law depend heavily on technical evidence, recognising blockchain as a form of digital evidence with legal value equivalent to conventional electronic evidence would fundamentally transform the enforcement capacity of environmental law.

The practical significance of this solution is evident in disputes and environmental violation cases in which monitoring data have been questioned for reliability. In the Formosa Ha Tinh Steel Corporation case, legal debates over identifying the source and timing of discharges revealed the limitations of centralised monitoring and data storage systems when parties could not access a complete, immutable, and independently verifiable data chain. A report of the Ministry of Natural Resources and Environment on the incident showed that measurement data were collected from multiple systems without a technical mechanism to ensure that data were not altered after recording, which increased the burden of proof on state authorities and weakened the deterrent effect of the law.[44] If a blockchain system had been applied, each monitoring index would have been time stamped and stored immutably, allowing inspectors, courts, and even the public to verify independently the origin and integrity of the data.

CONCLUSION

To translate the theoretical values of the cross ownership model into sustainable practical outcomes, the legal architecture must be designed in an integrated and interdisciplinary manner, in which digital governance and environmental governance do not exist as separate axes but are interwoven within a single institutional logic. The 2020 Vietnamese Law on Environmental Protection has laid the foundation for this approach by establishing principles of sustainable development, prevention, and transparency of environmental information in Articles 4 and 6, while also requiring construction of a national environmental database system and mechanisms for information sharing among state agencies in Articles 121 and 114. In that context, legislation regulating cross ownership must not only delineate competences and establish intergovernmental financial mechanisms but also create the legal basis for electronic evidence, data protection, and technical standards for intergovernmental platforms increasingly used to manage emissions, grant environmental permits, and supervise compliance. This approach is consistent with network governance thinking, in which power and responsibility are distributed in a polycentric manner and based on mutual dependence among actors. When disputes arise over responsibility for updating emissions data, allocating budgets for pollution treatment, or delays in environmental licensing, an independent coordinating institution capable of issuing interim decisions will help maintain policy continuity, consistent with the requirements to ensure the right to live in a healthy environment and the right of access to information under the 2020 Law on Environmental Protection.

44 Vietnam News Agency, 'Regular Continuous Supervision over Formosa's Activities' VietnamPlus (13 July 2016) <https://en.vietnamplus.vn/regular-continuous-supervision-over-formosas-activities-post96083.vnp>.

Network governance experience shows that the absence of effective dispute resolution mechanisms often leads to stalemate and protracted bargaining, thereby weakening policy effectiveness. Only within such an institutional structure can the cross ownership model operate in a stable, equitable manner and remain sufficiently adaptive to the intersectoral and intergenerational challenges of contemporary public governance.

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