Review on *Coordinated Eco-environmental Governance in Yangtze River Economic Belt:* Based on the Practice of Tributary Jialing River Basin

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Received: August 18, 2025 Accepted: August 25, 2025 Published: September 30, 2025

To cite this article: WU Chuanqing. (2025). Review on *Coordinated Eco-environmental Governance in Yangtze River Economic Belt*: Based on the Practice of Tributary Jialing River Basin. *Asia-Pacific Journal of Humanities and Social Sciences*, 5 (3), 189-196, DOI: 10.53789/j.1653-0465.2025.0503.022

To link to this article: https://doi.org/10.53789/j.1653-0465.2025.0503.022

Abstract: This review examines *Coordinated Eco-environmental Governance in Yangtze River Economic Belt—Based on the Practice of Tributary Jialing River Basin* by Luo Zhigao, Yang Jirui, and colleagues (American Academic Press, 2024). The book offers a comprehensive analysis of ecological governance in China's Yangtze River Economic Belt (YREB), with a focus on the Jialing River Basin as both an empirical case and a policy laboratory. Situating its arguments within China's eco-civilization discourse and recent legal innovations such as the Yangtze River Protection Law, the volume calls for a shift from fragmented, hierarchical governance to a more integrated, networked model involving multiple actors, institutions, and market incentives. The book's analytical core lies in its application of coupling coordination models and grey prediction methods to assess the synchronization of ecological, economic, and social systems. Comparative chapters further contextualize the Jialing experience through international cases such as the Thames and Rhine, underscoring lessons on long-term institutional commitment and stakeholder engagement. This review situates the book within broader global literature on watershed governance, referencing foundational works such as Ostrom's *Governing the Commons* (1990), UNEP's Atlas of International Freshwater Agreements (2002), and studies on adaptive governance (Huitema et al., 2009). The review highlights the book's strengths—its multi-scalar analysis, methodological ambition, and policy relevance—while also noting limitations in data transparency, bottom-up stakeholder perspectives, and critical analysis of institutional transferability. Overall, the book represents a significant contribution to scholarship and policy practice, particularly for researchers of ecological economics, water governance, and Chinese regional development. By foregrounding the necessity of coordinated, networked governance, it offers insights with resonance well beyond China, advancing comparative debates on how to manage large socio-ecological systems in an era of accelerating ecological stress and climate uncertainty.

Keywords: Yangtze River Economic Belt; Jialing River; ecological governance; networked governance; watershed management; China

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1. Introduction

River basins are increasingly recognized as critical socio-ecological systems that require coordinated governance across jurisdictions and sectors. Globally, the shift from fragmented, state-centered approaches toward more collaborative and adaptive governance models has been well documented (Ostrom, 1990; Huitema et al., 2009). In Europe, the Rhine River, once described as the "sewer of Europe," is now often cited as a model of transboundary cooperation (Le Marquand, 1989; UNEP, 2002). In North America, the Delaware River Basin Commission and the multi-state arrangements in the Colorado River demonstrate the challenges and

opportunities of cooperative federalism (Moss & Newig, 2010). Across Latin America, collaborative governance experiments in the Amazon and Paraná basins highlight both ecological promise and political fragility.

Against this global backdrop, China's Yangtze River Economic Belt (YREB) represents one of the most ambitious attempts to integrate ecological protection with regional economic development. The YREB accounts for nearly 40 percent of China's GDP, covers 11 provinces and municipalities, and contains some of the most densely urbanized and industrialized zones in the country. Yet it faces daunting challenges of pollution, ecological fragmentation, and governance complexity.

In this context, *Coordinated Eco-environmental Governance in Yangtze River Economic Belt—Based on the Practice of Tributary Jialing River Basin* is both timely and significant. Published by American Academic Press in 2024, the book provides a comprehensive analysis of eco-environmental governance in the YREB, with a particular focus on the Jialing River Basin, a critical tributary intersecting with the Yangtze in Chongqing. The authors argue that existing governance arrangements—dominated by administrative fragmentation and sectoral silos—are insufficient for the challenges at hand. Instead, they call for a networked model of eco-environmental governance, involving multiple actors, legal frameworks, and market incentives.

This review evaluates the book's structure, analytical contributions, and limitations. It situates the work within broader debates on watershed governance and assesses its value for both Chinese and international audiences. Ultimately, the book emerges as an important contribution, offering conceptual clarity, empirical innovation, and policy relevance, though not without shortcomings in methodological transparency and stakeholder engagement.

2. Content Overview

Chapters 1–2: Eco-civilization Discourse and Governance Mechanisms. The first two chapters situate the study within China's evolving eco-civilization discourse. Beginning with early environmental protection laws of the 1970s, the authors trace the gradual institutionalization of ecological priorities, culminating in the 2021 Yangtze River Protection Law and the 2022 ten-year fishing ban. These policies embody China's new "ecological civilization" paradigm, which treats nature not merely as a resource but as a foundation for sustainable development (Qi & Zhang, 2022).

The book then introduces governance modalities applied to basins: hierarchical governance, reflecting China's administrative tradition; market-based mechanisms, including pollution trading and eco-compensation; autonomous governance, involving community-level initiatives; and networked governance, which integrates multiple actors across scales. The typology resonates with broader international discussions of state-market-community hybrids in environmental governance (Araral & Wang, 2013; Ostrom, 1990). The authors contend that while hierarchical and market mechanisms remain central, only networked approaches can address the complexity of basin-wide ecological challenges.

Chapters 3–4: Yangtze River Economic Belt and Jialing River Basin. Chapters 3 and 4 provide a detailed overview of the YREB and the Jialing River Basin. The YREB is presented not just as an economic powerhouse but as an ecological lifeline whose sustainability underpins China's modernization project. The Jialing River Basin, spanning multiple provinces and intersecting with Chongqing, is described as both ecologically fragile and

strategically vital.

These chapters highlight problems such as industrial overcapacity, water pollution, and ecological fragmentation. A recurring theme is fragmented governance: basin management remains largely organized along administrative boundaries, producing "tragedies of the commons" where upstream exploitation generates downstream costs (Ren, 2008). This diagnosis echoes global observations that river basins are quintessential collective action problems, requiring institutional mechanisms for cooperation across space and scale (Wolf, 2002).

Chapters 5–7: Industrial Coordination, Coupling Models, and Ecological Pressure. The empirical chapters represent the book's analytical core. Chapter 5 discusses industrial coordination and ecological industrialization, arguing that economic upgrading must be aligned with ecological imperatives. Chapter 6 develops an environment – economy – society coupling coordination model, designed to measure how well ecological, economic, and social subsystems evolve in synchrony. Chapter 7 applies a grey prediction model to forecast ecological pressures in the Jialing Basin, identifying worrying features of possible unsustainable development.

These models illustrate the book's methodological ambition. Coupling coordination provides a framework for assessing balance across systems, while grey prediction enables scenario planning under conditions of data uncertainty. Together, they aim to operationalize concepts of resilience and sustainability (Folke et al., 2005). The analyses suggest that without stronger coordination, the Jialing River Basin risks entering states of ecological overshoot, threatening both regional development and basin-wide ecological health.

Chapters 8–9: Comparative Perspectives. Chapters 8 and 9 broaden the analysis through comparative perspectives. Chapter 8 examines the Thames River, tracing its transformation from the notorious "Great Stink" of the 19th century to a model of restoration and urban ecological renewal. The Thames case underscores the importance of long-term institutional commitment, stringent regulation, and public engagement (Baker, 2012). The comparison suggests that China, while facing different political and social conditions, can draw lessons on how sustained investment and legal frameworks can reverse ecological decline.

Chapter 9 compares the Jialing and Wujiang rivers, two tributaries of the upper Yangtze. While both face ecological pressures, their industrial structures and governance arrangements differ. The Wujiang's hydropower development contrasts with the Jialing's more diversified industrial profile, allowing the authors to underscore the heterogeneity of tributary governance challenges within the YREB. This comparative perspective highlights that "one-size-fits-all" governance models are inadequate; instead, basin-specific strategies must be devised within broader coordinated frameworks.

Chapter 10 and Appendices: Toward Networked Governance. The concluding chapter makes the normative case for networked eco-environmental governance in the Jialing River Basin. Drawing lessons from the Rhine's International Commission and the Delaware River Basin Commission in the United States, the authors argue that effective governance requires multi-actor participation, legal frameworks, and market mechanisms to align incentives. They propose a framework encompassing government agencies, enterprises, social organizations, and local communities, emphasizing shared responsibility and benefit-sharing mechanisms.

The appendices extend the analysis to the Yellow River and Taihu Lake, reinforcing the need for differentiated yet coordinated governance strategies across China's major basins.

3. Evaluation

3.1 Strengths

Multi-scalar perspective. The book succeeds in linking local basin dynamics to national strategies and international experiences. By situating the Jialing River Basin within the YREB and comparing it to cases like the Thames and Rhine, the authors underscore that ecological governance must transcend administrative boundaries and scale mismatches (Moss & Newig, 2010).

Methodological innovation. The use of coupling coordination and grey prediction models reflects an effort to move beyond descriptive accounts toward predictive, system-level analysis. This quantitative approach resonates with global attempts to model socio-ecological resilience (Folke et al., 2005). It provides policymakers with analytical tools to anticipate ecological tipping points.

Policy relevance. The book is explicitly policy-oriented. Its recommendations on legal frameworks, cross-jurisdictional mechanisms, and networked governance provide actionable insights for policymakers. This practical orientation enhances its value beyond academia.

3.2 Limitations

Data transparency. The empirical chapters rely heavily on secondary data, with limited discussion of data quality, robustness checks, or alternative specifications. For an international scholarly audience, greater transparency would enhance credibility.

Limited stakeholder perspectives. While the book emphasizes networked governance, it devotes little attention to the voices of local communities, NGOs, or other non-state actors. This omission is striking given the global literature's emphasis on participatory governance and legitimacy (Huitema et al., 2009; Ostrom, 1990).

Transferability of lessons. The discussion of international experiences (e.g., Thames, Rhine) is insightful but largely descriptive. A more critical analysis of the institutional preconditions for transfer—such as differences in political systems, civil society capacity, and regulatory cultures—would strengthen the comparative framework.

Position in the Literature. The book aligns with and contributes to key debates in global watershed governance. It echoes Ostrom's (1990) insights on the importance of polycentric governance and collective action. It reflects the adaptive governance literature that emphasizes flexibility and learning (Huitema et al., 2009). It also resonates with scholarship on China's environmental governance transition, which highlights the state's growing commitment to ecological protection amid enduring institutional challenges (Mol & Carter, 2006).

At the same time, the book leaves unaddressed certain themes, such as the role of finance in shaping basin governance, the political economy of hydropower development, and the implications of climate change for basin hydrology. These gaps represent opportunities for further research.

4. Interpreting China's Green Transformation with Basin Miniatures

One of the most distinctive contributions of this book lies in its ability to interpret China's green transformation through universal theories that integrate global governance perspectives with indigenous analytical innovation. By applying networked governance theory, the book elucidates how multi-actor collaboration across government agencies, enterprises, and local communities can overcome the fragmentation of traditional basin management. The incorporation of the coupling coordination model further demonstrates how ecological, economic, and social subsystems can be measured in terms of their synchronization, revealing both tensions and opportunities for achieving balance in the Yangtze River Economic Belt. In addition, the use of grey prediction models provides a forward-looking analytical lens that anticipates ecological pressures under conditions of data uncertainty, underscoring the necessity of preemptive, adaptive policy interventions. Taken together, these frameworks offer a nuanced picture of the Yangtze's green transition, moving beyond descriptive accounts toward a systematic theorization of sustainable development.

What is particularly noteworthy is that the book deploys these methods not merely as technical tools but as vehicles for telling China's story in an intelligible and compelling manner to the international community. The authors explicitly link the ecological transformation of the Yangtze River Economic Belt to China's broader eco-civilization project, thus translating domestic policy innovations into a language accessible to worldwide readers or scholars. In doing so, the volume resonates with President Xi Jinping's call (2016) to construct a philosophy and social science system with "Chinese characteristics, Chinese style, and Chinese spirit." Rather than uncritically adopting Western theories, the book demonstrates how China's own practices—eco-compensation schemes, cross-jurisdictional coordination, industrial ecologization—can be theorized and communicated through innovative frameworks that combine both local experience and universal analytical rigor with proper language and content forms across cultures and borders.

This methodological and discursive strategy has important implications for international discourse construction. In a global context where positive, English-language narratives of China's ecological policies remain scarce—especially in the era of generative artificial intelligence—the book represents a valuable contribution to shaping China's national image in the international community. It highlights that China's developmental success cannot be adequately understood or interpreted through conventional Western paradigms alone, and that theoretical innovation is indispensable for articulating the deeper rationalities behind Chinese policy. The book not only enriches academic debates in ecological governance but also enhances the social value of scholarship, contributing to the construction of China's international discourse system and national images, and offering intellectual resources for other developing countries seeking to draw lessons from China's path of green modernization.

5. Conclusion

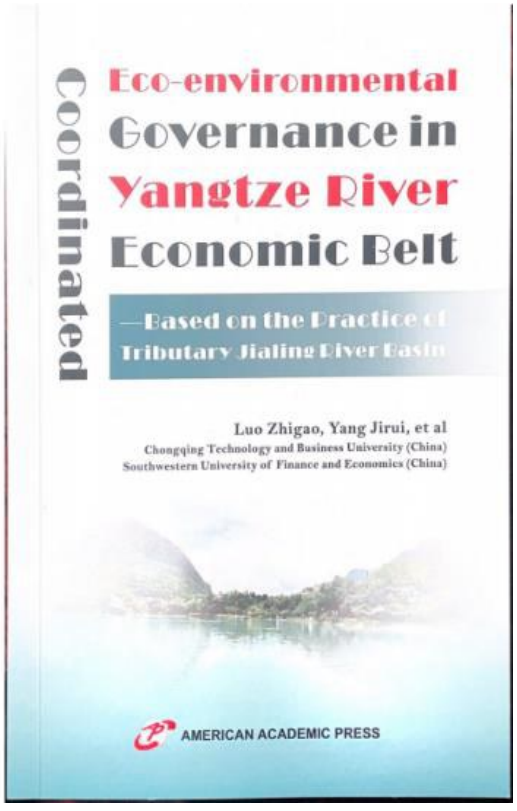
By articulating the necessity of coordinated, networked governance, the book contributes to international dialogues on how to manage large socio-ecological systems in an era of rapid urbanization, climate change, and

ecological fragility.

This work represents a significant addition to the literature on watershed governance. Its integration of theoretical frameworks, empirical modeling, and comparative insights makes it valuable for both academics and policymakers. While the book could engage more deeply with stakeholder perspectives, methodological transparency, and critical analysis of institutional transferability, it convincingly demonstrates that fragmented, top-down governance is not so sufficient for the challenges faced by China's major basins.

Ultimately, the book affirms that coordinated, networked governance—anchored in legal frameworks, multi-actor collaboration, and ecological priority—is indispensable for ensuring the sustainable development of the Yangtze River Economic Belt and, by extension, China's broader ecological modernization.

This volume will be of particular interest to scholars of environmental governance, ecological economics, and Chinese regional development, as well as practitioners engaged in river basin management. It provides a rich empirical case study of the Jialing River while situating it within broader theoretical and comparative contexts. For graduate students, it offers an accessible introduction to China's eco-civilization discourse and global watershed governance debates.



References

Araral, E., & Wang, Y. (2013). Water governance 2.0: A review and second generation research agenda. *Water Resources Management*, 27(11), 3945-3957.

Baker, D. (2012). The Thames transformed: Environmental governance and river restoration. *Water Policy*, 14(4), 589-603.

Folke, C., Carpenter, S., Walker, B., Scheffer, M., Elmqvist, T., Gunderson, L., & Holling, C. S. (2005). Regime shifts,

resilience, and biodiversity in ecosystem management. *Annual Review of Ecology, Evolution, and Systematics*, 35, 557−581.

Huitema, D., Mostert, E., Egas, W., Moellenkamp, S., Pahl-Wostl, C., & Yalcin, R. (2009). Adaptive water governance: Assessing the institutional prescriptions of adaptive (co-) management from a governance perspective and defining a research agenda. *Ecology and Society*, 14(1), 26.

Le Marquand, D. (1989). Developing river and lake basins for sustainable economic growth and social progress. *Natural Resources Forum*, 13(2), 127−138.

Mol, A. P. J., & Carter, N. T. (2006). China's environmental governance in transition. *Environmental Politics*, 15(2), 149−170.

Moss, T., & Newig, J. (2010). Multilevel water governance and problems of scale: Setting the stage for a broader debate. *Environmental Management*, 46(1), 1−6.

Ostrom, E. (1990). *Governing the commons: The evolution of institutions for collective action.* Cambridge University Press.

Qi, Y., & Zhang, X. (2022). Ecological civilization: China's pursuit for sustainable development. *Sustainability*, 14(3), 1132.

Ren, M. (2008). Fragmentation phenomenon and causes analysis of public governance in Chinese river basins. *Journal of Wuhan University (Philosophy & Social Sciences Edition)*, 61(4), 580−584.

United Nations Environment Programme (UNEP). (2002). Atlas of international freshwater agreements. Nairobi: UNEP.

Wolf, A. T. (2002). Atlas of international freshwater agreements. United Nations Environment Programme.

(Editors: LI Ruobing & Bonnie WANG)