

Enhancing local capacity
for implementing
transboundary
revitalization policies for
the Citarum River



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1. Summary

This project aims to contribute scholarly insights and policy recommendations to advance the roles of municipalities in urban river governance in the context of global pollution challenges. Whilst local capacity is important for tackling global change problems, in practice, many sustainability challenges fail to gain traction due to limited local capacities for policy implementation. Our project explored this knowledge-practice gap by investigating governance dynamics at the municipal level which have shaped the implementation of a transboundary river policy. We focus on municipalities in the vulnerable upstream of Citarum River, Indonesia, one of the most heavily polluted in the world. The government has promoted an integrated water resource management approach, notably by enacting a Presidential Regulation in 2018 to accelerate transboundary revitalisation of the Citarum, although this has been met with implementation challenges at the local level. Against this background, we formulated our guiding research question:

“How can municipal capacities be enhanced to accelerate the implementation of sustainable urban river revitalization policies?”

Specifically, we undertook transdisciplinary and qualitative case-based research in two municipalities, Bandung Regency and Cimahi City in the upper Citarum. The Citarum flows across thirteen local jurisdictions, which have posed institutional and governance challenges in coordinating actions toward addressing heavy pollution by domestic, industrial and agricultural sectors. To complement the empirical research, we also conducted a literature review on urban governance scholarships to develop knowledge of municipal enablers. Based on this review, we synthesized a heuristic tool of municipal enablers, which we presented in our workshops with the stakeholders and guided our interview questions to investigate factors and conditions at the municipal level that shape the Citarum revitalisation outcomes. Through this research, we have examined distinct socio-institutional conditions that shape the capacity to implement river revitalization policy at the municipal level. This project offers new knowledge on municipal enablers for urban river governance and offers insights on how to connect place-based insights with basin-scale coordination for better river restoration outcomes in urbanizing contexts.

2. Objectives

We formulated the following objectives to guide our research:

- 1) Characterise and identify enablers for the implementation of river revitalisation policies at the municipal level.
- 2) Employ an action research approach to co-develop policy recommendations that can enhance municipal capacities to shape river revitalisation outcomes.

3. Outputs, Outcomes and Impacts

Below we outline our project achievements in terms of new evidence base, stakeholder engagements and publications in scientific outlets.

Table 1 – List of Project outputs, outcomes and impacts

No	Outputs	Outcomes	Impacts
1	Dissemination of 'Policy brief: Enhancing Local Capacity to Accelerate Revitalization of Citarum River, Indonesia' (in English and Bahasa Indonesia)	The policy brief identifies governance challenges and recommendations for implementing the Citarum revitalization program across municipalities. The policy brief was presented in a workshop with government stakeholders and our policy recommendations were taken up by the Citarum Taskforce Expert Team	Our project offers evidence-based policy recommendations for the government stakeholders, which has been utilized to update policy agenda for the Citarum revitalization.
2	Scientific article published in Territory, Politics, and Governance entitled 'Connecting place and multilevel governance for Urban River Restoration'	Identify a scholarly gap in the urban river restoration literature; offer conceptual and empirical contributions to the scholarship on river governance by combining place perspective with a multilevel governance framework	Our study advances place-based research in the field of river governance in urbanizing regions, which is an embryonic field of study in the existing academic literature. The practice of river governance has predominantly been conceived on basin scale, while our research provides deeper place-based insights into the territorialized characters of military interventions, jurisdictional challenges of translating policy into municipal actions, and community-based river stewardships.
3	Scientific article submitted to APN Science Bulletin entitled: 'A Synthesis of Municipal Enablers in Urban River Governance'	Develop a heuristic tool to guide studies of municipal enablers in urban river contexts, which complements basin-scale river governance mechanisms	Advance conceptualization of municipal capacities in enhancing urban river restoration outcomes and to serve as an action research tool to guide stakeholder reflections and dialogues for identifying and strengthening municipal enablers for better river governance processes
4	Three action research workshops were delivered to stakeholders in Cimahi City and Bandung Regency	Build relationships with local stakeholders; share and validate research findings; and encourage dialogues and reflections amongst stakeholders	The research co-produced knowledge on municipal barriers and enablers for the implementation of the Citarum revitalization program with the participants.

4. Key facts/figures

- Three action research workshops in a hybrid format (i.e. combining in-person and virtual attendance) have been held in Cimahi City and Bandung Region to co-produce knowledge with academic collaborators and stakeholders (see Appendices 1 and 2).
- Scientific articles have been prepared (see Appendix 3):
 - a) One peer-reviewed article published in *Territory, Politics, and Governance*.
 - b) One article submitted to *APN Science Bulletin*.
- A policy brief on enhancing local capacity for Citarum revitalization has been produced and disseminated to government stakeholders (see Appendix 4).
- One conference presentation was presented at the 24th International River symposium, 2021 (see Appendix 5).
- Place-based models for urban river governance have been developed by bringing together interdisciplinary perspectives on multilevel governance and human geography—the models were tested using the original case research (in the article published in *Territory, Politics, and Governance*).
- A heuristic action research tool on municipal enablers for urban river governance processes has been synthesized (in a manuscript submitted to *APN Science Bulletin*).

5. Publications

- Novalia, W., Suwarso, R., & Nurdin, I. 2024. Connecting place and multilevel governance for urban river restoration. *Territory, Politics, Governance*, 1–26. <https://doi.org/10.1080/21622671.2024.2336608>
- Suwarso, R., W. Novalia, I. Nurdin, T. Akbar, B. Septiansyah, & F. Taufik. 2022. Policy Brief Enhancing Local Capacity to Accelerate Revitalization of Citarum River, Indonesia.
- Novalia, W., R. Suwarso, Y. Yosafat, B.C. Rogers. A Synthesis of Municipal Enablers in Urban River Governance. Submitted to *APN Science Bulletin*.

6. Media reports, videos, and other digital content

A short video was produced to disseminate preliminary findings, presented in the Final Dissemination Workshop 20 September 2022:

https://drive.google.com/file/d/1FBHx_jwUPZkPI7FtHTHWGN6bP1ANXmAP/view?usp=sharing

7. Pull quotes

“We will reference the Policy Brief [on Enhancing Local Capacity to Accelerate Revitalization of Citarum River, Indonesia] in our Memorandum to the Taskforce Head on the development of program for Social Innovations.”

- Prof. Achmad Sjarmidi, Citarum Taskforce Expert, Indonesia

8. Acknowledgments

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9. Appendices

Appendix 1: Workshops on “Enhancing local capacity for implementing transboundary revitalization policies for Citarum River”, 12-13 December 2021 in Cimahi City and Bandung Regency

The two-day workshops were completed at two locations in Cimahi City and Bandung Regency. The workshops involved academic collaborators and stakeholders from government agencies and non-governmental actors, such as community members and non-profit environmental organizations. The interactive nature of the workshops encouraged open discussions amongst participants and generated deep insights into the river governance challenges faced by the municipalities. The following objectives were achieved through the workshops:

- Utilized the heuristic tool on municipal enablers in action research settings to stimulate reflections and discussions on the specific conditions that could enhance urban river revitalization outcomes.
- Validating preliminary findings of interview data and generating additional feedback from participants to strengthen research evidence.
- Confirming that the preliminary insights and recommendations from the research can have a positive influence on the implementation of the Citarum program.



Bandung Regency Workshop Session



Research team and participants in Bandung Regency Workshop



Research team and participants in Cimahi City Workshop; Dr Reni Suwarso as a workshop moderator

Appendix 2: Final Dissemination Workshop on “Enhancing local capacity for implementing transboundary revitalisation policies for Citarum River”, 20 September 2022

The final workshop was successfully completed in a hybrid format, involving academic collaborators and stakeholders from government agencies and non-governmental actors across Cimahi and Bandung Regency. The workshop aimed to disseminate the policy brief to the Citarum stakeholders, presented by Dr Wikke Novalia. Dr Reni Suwarso moderated the discussions and reflections from participants in an interactive manner. The workshop resulted in the policy recommendations being adopted by the Citarum Taskforce Expert team.



Policy brief presentation and moderation by Dr Wikke Novalia and Dr Reni Suwarso



Hybrid workshops including in-person and Zoom participants



Interactive discussions with research participants



Research team with stakeholders at the Citarum Taskforce Head Office

Appendix 3: Scientific Articles

1. Connecting place and multilevel governance for urban river restoration (published)

Abstract

Urban river restoration faces multiple pressures and increased governance complexities. Although basin-scale policy integration has been widely promoted, it is not well tested in urbanising rivers and implementation success remains disjointed across jurisdictions. Linking the multi-level governance lens with place perspective we offer a deeper examination of the unique assemblages of socio-material configurations that embed restoration practices across diverse locations. Employing an embedded qualitative case study of the Citarum revitalisation in Indonesia, where a territorialised military operation co-existed with multi-level arrangements, we show that variability, rather than consistency, of governance approaches persisted across geographies. Different place-based configurations appear critical in influencing restoration practices and governance processes, including place leadership, attachment to river, neighbourhood stewardships, issue-based networks, and a sense of legitimacy. Our study challenges the normative primacy of the basin-scale integration, while offering a more robust and critical approach in gathering place-based evidence of governance complementarity and inconsistency.

2. A Synthesis of Municipal Enablers in Urban River Governance (Submitted to *APN Science Bulletin*)

Abstract

Urban river pollution is a global challenge with serious impacts on human and ecological health. Research has examined river governance in terms of complex processes requiring multi-level coordination at a basin scale. The integrated principle of water management has been promoted through basin-wide governance mechanisms, predominantly led by the state institutions. Yet, poor legitimacy and poor enforceability of formal prescriptions are common at the municipal level. Although local capacity is properly acknowledged as a critical ingredient of river governance, there is a dearth of knowledge on what constitutes enabling capacities for municipalities addressing urban river challenges. Our case-study oriented review synthesises a suite of interrelated enablers at the municipal level, including awareness, commitments, authorities, leaders and front-liners, boundary spanners, and community participation. The urban cases include diverse governance systems around the globe, demonstrating the plurality of enablers for municipal river governance. The proposed categories, whilst non-exhaustive, offer a heuristic approach to examine variations of enablers shaping local implementation outcomes, which may complement the basin-level governance approach. This synthesis of enablers must be viewed within their specific place-based contexts, which calls for a closer examination of the interplay between distinct socio-material conditions of given municipalities and basin-wide governance processes.

Appendix 4: Policy Brief Enhancing Local Capacity to Accelerate Revitalization of Citarum River, Indonesia

Executive Summary

Since 1989, countless efforts have been made and numerous funds have been spent to revitalize Citarum River. Each government regime has suggested different programs and has their own achievements. Nevertheless, Citarum River has remained polluted, compared with pre-existing conditions such as in upstream Cisanti, which is caused by, among others, governance failure. Citarum River governance is very complex in the context of varied technical and non-technical issues shaped by various local specific conditions, such as geographical, geological, topographical, physiographical, socio-economic and cultural backgrounds, government systems and political considerations, and the availability of resources and funds for river revitalization programs.

Our suggested recommendations are based on empirical findings in Bandung Regency and Cimahi City on how capacity for policy implementation at the Regency/City level has been constrained and at the same time supported by certain socio-institutional conditions. These findings are then generalized and conceptualized to help solve governance problems that hinder policy implementation in the Citarum River. These problems are: 1) Top-down coordination within the framework of regional autonomy; 2) The conflict of interest of the public versus the market in the midst of the duality of actor-roles; 3) A lack of comprehensive approach to river governance (IWRM) and superhero institutions with limited authority and minimal budget; and 4) Military quick wins and concerns about the sustainability of the program, which are related to the reduced work commitment of local officials and reduced community participation.

Three recommended governance perspectives for improving policy implementation are: 1) Thinking beyond the command-and-control concept and moving towards systematic change; 2) Facilitating and assisting the participation of non-state actors; 3) Bridging the gap between science and the state and society (science-state-society) through active frontline leadership.

The three governance perspectives to improve the implementation of this policy requires six enabling factors, namely: 1) Awareness of shared problems; 2) Political and financial commitments; 3) Exercise of authorities based on laws and law enforcement; 4) Committed leaders and active front-liners; 5) Key actors/organizations that can act as boundary spanners; and 6) Strong community participation.

Appendix 5: Conference & Academic Presentation

Topic	Presenter	Conference	Year
Mind the Gap! What about Municipal Actors in River Governance?	Dr Wikke Novalia	24 th International Riversymposium Brisbane, 27 – 30 September 2021 Theme: Recovery to Resilience – Leveraging Partnerships	2021
Connecting place and multilevel governance	Dr Wikke Novalia	Monash Indonesia Academic Workshop	2024