CIVIC MOBILISATION FOR POLYCENTRIC RIVER GOVERNANCE:

The Save Jalangi West Bengal movement became a river's voice

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Abstract

River degradation in India is examined chiefly through major rivers such as the Ganga, Yamuna, and Brahmaputra, while medium-sized rivers supporting agriculture, fisheries, wetlands, aquifer recharge, and cultural life receive far less scholarly and policy attention. The Jalangi River, a distributary of the Padma–Bhagirathi system, illustrates this neglect. Reduced headwater discharge, sedimentation, pollution, bank encroachment, destructive fishing, wetland disconnection, and groundwater stress have degraded its ecological condition and riparian livelihoods. This paper examines the emergence, strategies, achievements, and limitations of Save Jalangi West Bengal (SJWB), a citizen-led initiative established in 2019. Using a qualitative case-study approach, the study draws on participant observation, organisational records, administrative correspondence, 48 semi-structured interviews, and indigenous-knowledge mapping undertaken during 2019–2026. Findings indicate that SJWB has evolved from a civic response into a multi-scalar socio-ecological platform promoting 'river citizenship' and influencing state action through illegal *bandhal* removal, eco-friendly idol immersion, floodplain litigation, infrastructure oversight, and *Jalangi Divas*. However, mobilisation has not produced basin-scale restoration. Interventions remain episodic, the *Jalangi Action Plan* lacks dedicated implementation funding, and headwater flow constraints persist amid inter-state hydro-politics. SJWB is therefore an ongoing experiment in polycentric, participatory river governance, offering transferable lessons for medium-river rejuvenation across the Global South.

Keywords: Jalangi River; participatory river governance; environmental movements; polycentric governance; citizen science; Rights of Nature.

1. Introduction

Rivers shape landscapes, sustain biodiversity, and anchor agrarian economies and cultural identity across South Asia. Urbanisation, pollution, unregulated extraction, and climate variability have placed unprecedented stress on river ecosystems (Nilsson, Reidy, Dynesius, & Revenga, 2005). State-led conservation in India has historically concentrated on large, symbolic rivers — the Ganga Action Plan, the National River Conservation Plan, and *Namami Gange* — directing capital toward major arterial channels. Yet river-basin management is itself a contested, historically contingent concept (Molle, 2009), and colonial-era hydraulic interventions in eastern India show that centralised engineering can generate new vulnerabilities even while claiming to resolve old ones (D'Souza, 2008). Contemporary scholarship instead emphasises Integrated River Basin Management (IRBM), environmental flows, and polycentric, community-based governance (Global Water Partnership [GWP], 2009; Poff & Zimmerman, 2010).

India also has a rich history of citizen-led environmental movements, from the Narmada Bachao Andolan (Baviskar, 1995) to urban river drives for the Yamuna and Mithi, showing that ecological governance need not be the state's exclusive responsibility. Such movements typically counter a centralised, top-down hydraulic paradigm — concentrated on major arterial rivers, engineering solutions, and high statutory expenditure — with a polycentric, civic-led model built on community stewardship, citizen science, and locally embedded knowledge.

Medium-sized rivers remain largely invisible in research and policy despite linking arterial systems with agrarian hinterlands, sustaining floodplain wetlands, recharging aquifers, and supporting inland fisheries (Rudra, 2018; Das & Bhattacharya, 2020; Das et al., 2025). The Jalangi River exemplifies this neglect (Figure

1). A distributary of the Padma–Bhagirathi system in Murshidabad district, it traverses the agrarian heartlands of Murshidabad and Nadia before joining the Bhagirathi near Swarupganj. It has suffered progressive degradation from reduced headwater inflow, sedimentation, pollution, riverbank encroachment, destructive fishing, and aquifer over-extraction.

Figure 1: A rural ghat on the Jalangi River used by local fishermen. (Photo courtesy: Subhabrata Maitra.)

In response, a citizen-led platform, *Save Jalangi (Nodi Somaj)*, emerged in 2019, obtaining formal registration on 10 May 2023 as Save Jalangi West Bengal (SJWB) — the abbreviation used throughout this paper for both phases. Formalisation established governance structures and legal standing for engaging state agencies and academic partners without diluting the movement's grassroots character. This paper asks: (1) how SJWB emerged and evolved across informal and formal phases; (2) how it engaged stakeholders, academia, and the state to co-produce knowledge and advocate for restoration; and (3) what its achievements and limitations reveal about the boundaries of participatory river governance in the Global South.

2. Literature Review and Theoretical Framework

This study integrates five theoretical strands to analyse SJWB: Social Movement Theory, Participatory Governance and Polycentricity, Integrated River Basin Management, Rights of Nature, and Citizen Science Knowledge Co-production.

2.1 Social Movement Theory and Participatory Governance

Resource Mobilization Theory (McCarthy & Zald, 1977) holds that grievances alone rarely sustain movements; success requires organising capacity and institutional access. SJWB mobilised non-material capital — voluntary labour, student enthusiasm, local knowledge, and administrative access. Political Opportunity Structure (Tarrow, 1998) explains how receptive administrators and statutory forums (the District Ganga Committee) enabled SJWB to convert advocacy into policy, while New Social Movement theory (Melucci, 1996; Touraine, 1981) illuminates its identity- and culture-based repertoire, evident in *Jalangi Divas* and *padayatra* river walks. Broader analyses of Indian environmental movements (Baviskar, 1995) caution against a simple development-versus-resistance binary, reflected in SJWB's strategy of working with infrastructure agencies and farmers rather than against them (Section6). Arnstein's (1969) ladder of participation, from tokenism to genuine partnership, is evident in the joint *bandhal* removal (Section7.1), while Gaventa's (2006) power analysis distinguishes 'invited' spaces (Action Plan meetings) from 'claimed' spaces (postcard campaigns). Ostrom's (1990, 2010) polycentric governance describes SJWB's position within a network linking Panchayats, district administration, the River Research Institute, and judicial forums.

2.2 River Basin Management and Rights of Nature

IRBM holds that a river must be managed as a holistic ecosystem rather than an isolated conduit (GWP, 2009; UNEP, 2012; Molle, 2009). Environmental-flow maintenance is central: flow alteration is linked to declines in fish and macroinvertebrate diversity (Poff & Zimmerman, 2010; Islam et al., 2025b), and fragmentation now affects most large river systems worldwide (Nilsson et al., 2005). SJWB mirrors these principles, linking flow restoration to wetland rejuvenation, aquifer recharge, and fisheries management. The Rights of Nature paradigm challenges anthropocentric legal treatment of ecosystems as property (Stone, 1972; Cullinan, 2011); influenced by precedents such as New Zealand's Te Awa Tupua Act and the Uttarakhand High Court's 2017 rulings, SJWB applies this ethic through advocacy, framing the Jalangi as a living entity with an intrinsic right to flow.

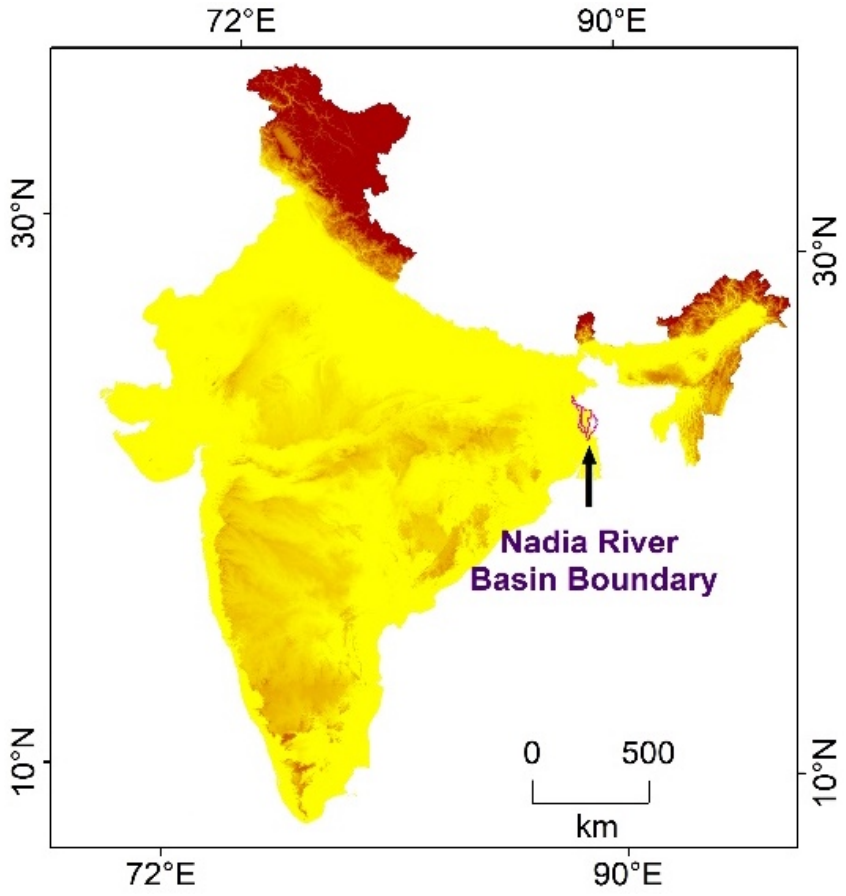
2.3 Citizen Science and Knowledge Co-Production

Citizen science engages volunteers in scientific monitoring, offering a pathway to hydrological knowledge where formal monitoring is sparse (Silvertown, 2009; Buytaert et al., 2014), while knowledge co-production brings formal science and indigenous knowledge together (Corburn, 2005; Jasanoff, 2004). SJWB operationalises both through student-led monitoring, kayak-based mapping, and partnerships with the RRI and University of Manchester (Section
6.3).

3. Study Area and Methodology

3.1. Study Area

The Jalangi River is an important distributary within the lower Ganga–Brahmaputra deltaic plain (Das, 2013). Originating from the Padma near Jalangi town in Murshidabad, it flows south-southwest for about 233 km across Murshidabad and Nadia before joining the Bhagirathi at Swarupganj, draining a basin of roughly 2,815 km² of low-lying alluvial terrain (Table 1, Figure 2).



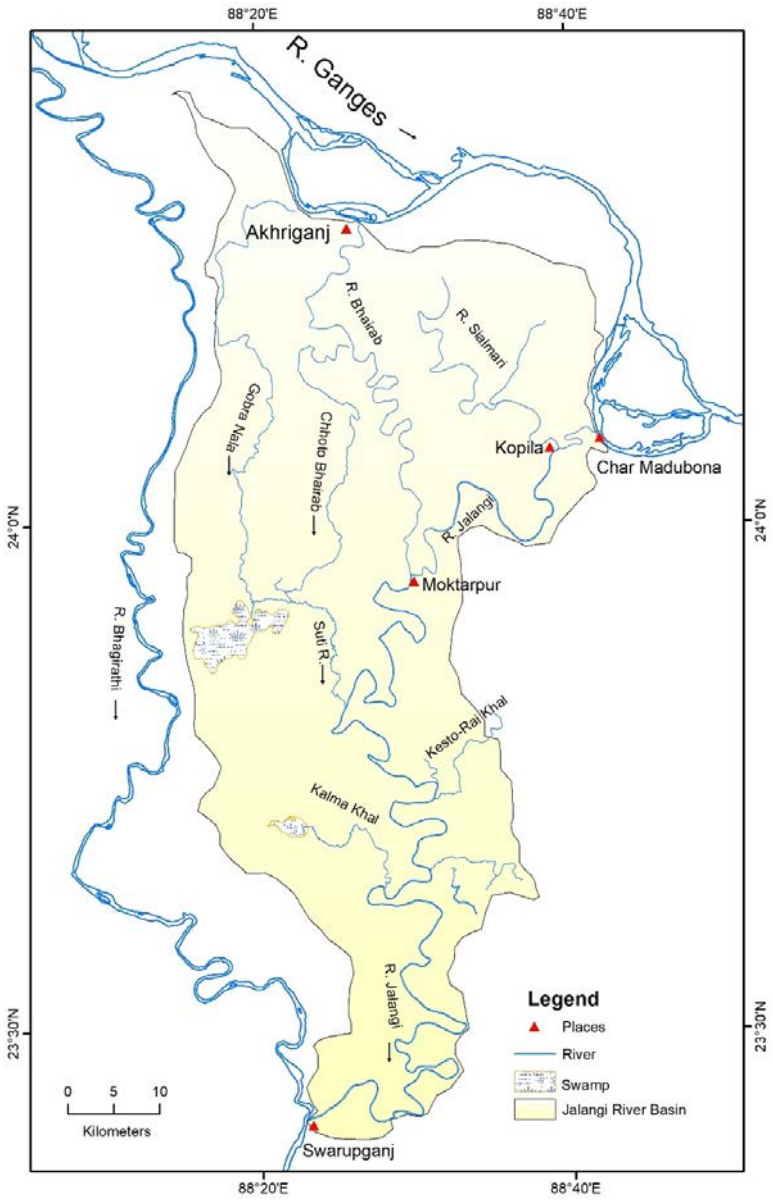


Figure 2: Location of the Jalangi River basin

Table 1. Geographical and socio-hydrological characteristics of the Jalangi basin

Parameter	**Characteristic**
Total channel course length	≈ 233 km
Total catchment area	≈ 2,815 km²
Administrative coverage	Murshidabad and Nadia districts, West Bengal, India
Primary basin topography	Active-to-inactive lower Bengal deltaic floodplain; low elevation
Major floodplain wetlands (beels)	Nowpara, Chuakhali, Chand, Baghakhali, and Hasadanga Beels
Primary sub-surface risk	Geogenic arsenic contamination in unconfined alluvial aquifers
Dominant agrarian livelihoods	Paddy, jute, and vegetable cultivation; inland capture fisheries

3.1.1 Hydrology, Groundwater, and Wetland Dynamics

Geomorphologically the basin shows a meandering channel, oxbow lakes, and extensive floodplain wetlands (*beels*). Deltaic shifts and siltation have choked the Jalangi's primary Padma off-take, leaving it dependent on monsoon rainfall and tributary inflow — consistent with the global trend toward river fragmentation (Nilsson et al., 2005). Sharp dry-season discharge decline fragments the channel into stagnant pools, reducing self-purification and fish migration (Poff & Zimmerman, 2010), while siltation, encroachment, and lost canals (*khals*) have decoupled many *beels* from the main channel. Groundwater, the main source of drinking water and irrigation, faces similar stress: intensive *boro* paddy cultivation has driven extraction beyond recharge in parts of Nadia, which also lies within West Bengal's geogenic arsenic belt, where testing shows many tube wells exceeding WHO guideline values (Chakraborti et al., 2009; Islam et al., 2024, 2025); excessive extraction can further mobilise arsenic into shallow aquifers, making river–wetland interaction a public-health priority.

3.1.2 Positionality, Ethics, and Limitations

The primary researcher's sustained participant-observation role within SJWB provided depth of access but also a potential source of bias, mitigated through independently verifiable evidence (government orders, appellate rulings, media reports) and interviews external to the organisation. Participants gave oral consent; private individuals' quotations are anonymised, while officials' statements carry their designation. No data involving minors were collected, and photographs were reproduced with consent. Limitations: single-case transferability should be assessed against local context; embeddedness may leave residual bias despite triangulation; and some administrative claims in Section7 rely on documents obtained through SJWB's advocacy relationships rather than independent records requests.

3.2. Methodology

This study uses a qualitative, single-case, embedded case-study design (Yin, 2018) to analyse SJWB's emergence, strategies, achievements, and limitations from 2019 to 2026 (Figure 3).

Data collection relied on five sources: participant observation (2019–2026); organisational archives (minutes, filings, field logs); correspondence and administrative records (DM/ADM directives, District Ganga Committee minutes, NHAI orders, land-reforms orders); 48 semi-structured interviews across fishers (12), farmers (10), student volunteers (10), academic collaborators (6), and officials (10); and field surveys and indigenous-knowledge mapping, including kayak/boat documentation of *bandhal* barriers, effluent, and erosion. Data were analysed thematically — mobilisation, co-production, institutional engagement, socio-ecological outcomes — and cross-verified against official documents and media reporting (Figure 3).

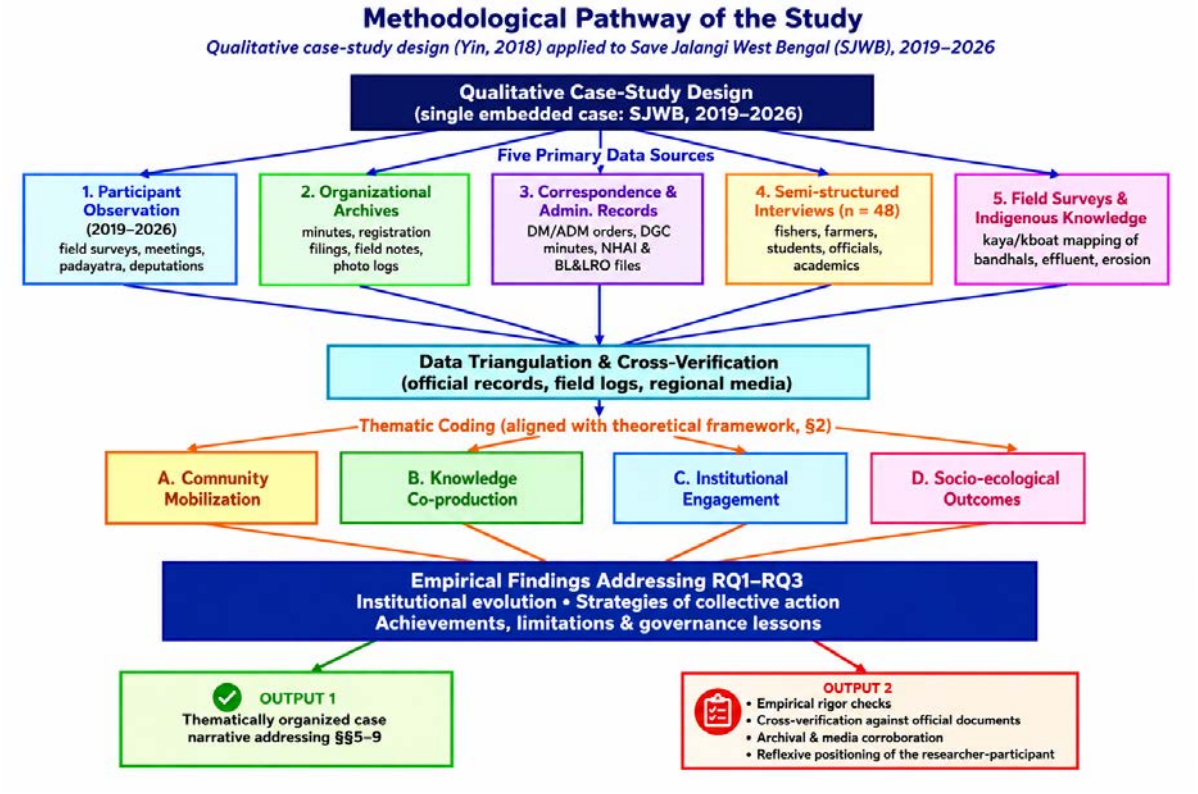


Figure 3: Methodological pathway of the study, following Yin's (2018) qualitative case-study protocol.

5. Origins and Institutional Evolution: From Civic Platform to Registered Society

SJWB's emergence unfolded across three phases: an informal civic awakening (2019–2020) as *Save Jalangi (Nodi Somaj)*; evidence generation and community mobilisation (2021–2022), including anti-*bandhal* drives; and formal registration as *Save Jalangi West Bengal* from 10 May 2023, bringing institutional co-governance and academic alliances.

5.1 Phase 1: Civic Awakening (2019–2020)

In 2019 residents, educators, researchers, and activists formed *Save Jalangi (Nodi Somaj)* in response to visible ecological decline — seasonal drying, falling fish yields, and floodplain loss (Sarkar & Das, 2022). The Jalangi River Conclave (25 August 2019) set a founding principle: rejuvenation requires a basin-wide strategy integrating groundwater recharge, wetland restoration, and livelihoods, not isolated channel cleaning.

5.2 Phase 2: Evidence Generation and Mobilization (2021–2022)

SJWB shifted to systematic documentation: kayak and boat expeditions mapped pollution, illegal kilns, erosion, and *bandhal* barriers, feeding directly into advocacy. The movement launched *Jalangi Divas* (17 February 2021) and the 'Hello DM' postcard campaign (Figure 4), building visibility that contributed to the anti-*bandhal* operations of late 2021 and the *Jalangi Action Plan* begun in March 2022.

(a) Community march for the Jalangi River **(b) 'Hello DM' postcard campaign**

Figure 4 (a): A community march calling for the rejuvenation and protection of the Jalangi River; (b): students posting postcards during the 'Hello DM' campaign. (Photo courtesy: Save Jalangi [W.B.]).

5.3 Phase 3: Institutional Formalization (2023–2026)

On 10 May 2023 the organisation obtained formal registration as Save Jalangi West Bengal, gaining standing to petition agencies, sit on statutory committees, and partner with research institutions. Formalisation strengthened credibility without shifting the movement toward top-down bureaucracy: SJWB retained its decentralised, volunteer-based structure while using formal status to ensure accountability.

6. Strategies of Collective Action and Major Interventions

SJWB organises action across four domains: primary stakeholder engagement, participatory public mobilisation, knowledge co-production, and institutional advocacy.

6.1 Engaging Farmers and Fishermen

Farmers were key partners since agricultural practice shapes water quality directly: traditional jute retting — submerging stalks in low-flow channels — causes hypoxia and fish kills. SJWB introduced modern retting machines from 2022 and promoted CRIJAF SONA microbial retting and off-stream farm ponds (Figure 5 upper panel), alongside organic farming and wetland re-excavation for groundwater recharge.

Fishing communities, affected by declining fish diversity, were a second key stakeholder group. SJWB helped fishermen secure identity cards and welfare-scheme access while advocating against illegal *bandhal* barriers and fine-mesh nets through deputations to fisheries officials. The *Meen Kalyan* fish-ranching programmes (2020–2021) released fish seed with community participation (Figure 5 lower panel), alongside continuing advocacy for wetland restoration at sites such as Baghakhali Beel.

Figure 5: (Upper panel) Introduction of a modern jute-retting machine to local farmers as an alternative to conventional retting practices; (lower panel) the Meen Kalyan fish-ranching programme conducted with local fishermen. (Photo courtesy: Save Jalangi [W.B.]/Subhabrata Maitra.)

6.2 Public Mobilisation and Cultural Advocacy

From 2–8 January 2024, SJWB organised the Walk for the Flow, a seven-day, 150-km *padayatra* from Char Moktarpur to Swarupganj across two districts, ten blocks, and twenty-nine Gram Panchayats, building a shared narrative around flows, encroachment, and recharge. During 2021–2022 the 'Hello DM' campaign engaged Nadia schools, with students delivering over 10,000 postcards to the District Magistrate. SJWB also uses cultural and athletic events — the play *O Nadire*, Run for River half-marathons, cycle rallies, and World Water/Wetlands/Environment/Rivers Day observances — to sustain engagement.

6.3 Knowledge Co-Production and Academic Partnerships

SJWB bridges science, indigenous knowledge, and policy through partnerships summarised in Table 2: academic alliances (Krishnagar Women's College, Dwijendralal College, Aliah University) hosting seminars (2024–2025) on river hydrology; direct collaboration with the River Research Institute informing a basin IRBM framework; and an April 2025 workshop with the University of Manchester ('LINKS') documenting *char*-dweller knowledge, feeding into climate-adaptation models (Buytaert et al., 2014).

Table 2. Academic and research partnerships of SJWB

Partnership Type	Institution(s)	Focus
Regional academic alliances	Krishnagar Women's College; Dwijendralal College; Aliah University	Scientific conferences, field studies, seminar hosting
Research-institute collaboration	River Research Institute (RRI), Haringhata	Joint IRBM framework; scientific flow assessments
International collaboration	University of Manchester (LINKS project)	Indigenous adaptation models; *char*-dweller knowledge documentation

7. Empirical Evidence of Governance Impact: Major Achievements

Between 2019 and 2026, SJWB achieved several concrete governance milestones, summarised in Table 3 and discussed below.

Table 3. Interventional domains, administrative triggers, and empirical outcomes

Interventional Domain	Administrative / Legal Trigger	Empirical Outcome
Anti-*bandhal* (barrier removal)	Deputation to DM Nadia (16 July 2021); Memo No. 601(5)/GL	Joint police/SDO operations removed barriers at Char Shambhunagar and Tehatta (Nov–Dec 2021)
Institutional *Jalangi Action Plan*	SJWB technical assessment to DM, Nadia	Jalangi Action Plan–I convened 31 March 2022; reviewed by DGC (2024–2025)
Eco-friendly idol immersion	Civic advocacy and clean-ups at Kadamtala Ghat	Krishnanagar Municipality installed crane-based retrieval system, 5 October 2022
Infrastructure oversight (NHAI)	Representations to NHAI PIU (Mar–Apr 2024)	NHAI 'Most Urgent' order (25 June 2024) for riverbed debris clearance
Floodplain protection	Appeal under Land Reforms Act, 1955	ADM appellate order set aside unauthorised riverbank conversion in Karimpur
Jalangi Divas	Initiative honouring Jibanananda Das (17 Feb 2021)	Annual district-wide river festival uniting schools and civic bodies
Nature-based water management	School recharge pits; 'Tree Care 365 Days'	Recharge pits built; 40,000+ saplings planted with survival tracking

7.1 Community-Led Removal of Illegal Bandhal Fishing Barriers

Illegal bamboo fishing barriers (*bandhal*) blocked fish migration and accelerated siltation. SJWB's boat surveys (January 2021) produced the basin's first spatial inventory, feeding a deputation to the District Magistrate (16 July 2021). Following administrative directives, a joint team of police, fisheries officials, and SJWB volunteers dismantled major barriers at Char Shambhunagar and Tehatta (Nov–Dec 2021), a precedent for coordinated citizen–state action (Figure 6).

Figure 6: Removal of a bandhal at Char Shambhunagar on the Jalangi River. (Photo courtesy: Subhabrata Maitra.)

7.2 Institutionalizing the Jalangi Action Plan

SJWB's advocacy made river conservation an administrative priority: District Magistrate Shashank Shetty, IAS, directed a river assessment that led to the Jalangi Action Plan–I meeting (31 March 2022), convening the Irrigation, Fisheries, Forest, and Agriculture Departments, the RRI, academics, and SJWB, subsequently institutionalised through District Ganga Committee reviews (2024–2025).

7.3 Eco-Friendly Idol Immersion at Biswarjan Ghat

Traditional idol immersion introduced synthetic paints, heavy metals, and plastics into the river (198 Puja committees registered in Krishnanagar Sadar in 2024 alone). Sustained SJWB advocacy from 2020 led Krishnanagar Municipality to introduce a crane-based mechanical retrieval system at Biswarjan Ghat (5 October 2022; Figure 7), reconciling tradition with environmental protection.

Figure 7: Eco-friendly idol immersion at Krishnanagar Biswarjan Ghat on the Jalangi River. (Photo courtesy: Subhabrata Maitra.)

7.4 Infrastructure Oversight: Post-Bridge Channel Restoration

Construction of a new NH-34/NH-12 bridge near Dwijendra Setu deposited excavated soil and rubble within the river channel. SJWB's evidence-based campaign escalated from initial representations (March 2024) to a 'Most Urgent' NHAI order (25 June 2024) mandating riverbed clearance, illustrating a gap between scrutiny at approval and post-construction monitoring.

7.5 Legal Protection of Floodplain Integrity in Karimpur

When Karimpur residents raised concerns over unauthorised riverbank construction (2023), SJWB's field verification triggered a joint inspection halting construction pending review. SJWB then filed an appeal under the West Bengal Land Reforms Act, 1955; the appellate authority restored the land records, though the order is now challenged before a higher forum and remains *sub judice* — illustrating both the potential and limits of participatory legal accountability.

7.6 Cultural Institution-Building and Nature-Based Solutions

To build long-term stewardship, SJWB established *Jalangi Divas*, an annual festival on 17 February commemorating poet Jibanananda Das and embedding conservation in Bengal's literary heritage through clean-ups, seminars, and school events since 2021. In parallel, rainwater-harvesting recharge pits in schools (Figure 8) support aquifer recharge, while 'Tree Care 365 Days' has planted and actively maintained over 40,000 native saplings basin-wide, countering typical plantation-drive mortality through ongoing care and survival audits.

Figure 8: Rainwater harvesting at a primary school, promoting water-conservation awareness among students. (Photo courtesy: Save Jalangi [W.B.]).

8. Achievements, Challenges and Lessons

8.1 Achievements and Continuing Challenges

SJWB's most significant achievement has been transforming the Jalangi from a neglected issue into a subject of sustained public and institutional discourse. The *bandhal* removal, the Jalangi Action Plan, eco-friendly immersion, and NHAI oversight (Section7) show that citizen mobilisation combined with evidence and

administrative engagement produces concrete governance outcomes. *Jalangi Divas*, rainwater harvesting, tree plantation, sustainable jute retting, and academic partnerships have further expanded its agenda toward groundwater security, biodiversity, and knowledge co-production. SJWB has thus been more successful as a movement-building institution than as a direct agent of ecological restoration.

The river's ecological condition nonetheless remains a concern. Illegal *bandhal* barriers have reappeared absent sustained surveillance, showing governance requires continuous vigilance, not a single intervention. The Jalangi Action Plan has generated coordination without yet producing a fully resourced restoration programme, and eco-friendly immersion remains confined to one ghat. Riverbank encroachment and soil cutting persist despite repeated complaints, underscoring the need for stronger land-use regulation and monitoring.

8.2 The Governance Gap and Lessons for Practice

These patterns point to a persistent gap between episodic administrative action and long-term governance, compounded by the risk that rejuvenation becomes visible chiefly around electoral cycles rather than as a continuous commitment — at odds with the multi-decade timescale recovery requires. Five lessons follow: communities are sources of knowledge and governance capacity, not merely beneficiaries; evidence strengthens advocacy beyond generalised demands; public mobilisation opens institutional doors but must connect to implementation; isolated interventions are insufficient, since recovery requires a basin-wide strategy addressing flow, sediment, wetlands, groundwater, and land use together; and civil society cannot restore a river alone — sustained state investment, scientific planning, and political commitment remain indispensable. SJWB is best understood not as a movement that has 'saved' the Jalangi, but as an ongoing experiment in participatory governance.

9. Discussion: Reconceptualizing Grassroots River Governance

SJWB's experience offers theoretical insight into participatory environmental governance in the Global South, read here through three interpretive lenses: redefining movement 'success' beyond channel-physical metrics to institutional space; bridging the science–policy–community divide through knowledge co-production; and fostering 'river citizenship' through cultural anchoring.

9.1 Reframing Success, Knowledge, and Citizenship

Judged only by physical restoration, SJWB's impact appears incomplete: the Jalangi remains stressed by low dry-season flows and persistent runoff. Judged through a socio-ecological lens, SJWB built a durable constituency for a neglected river, established evidence-based advocacy models, and influenced formal policy — an ongoing experiment in polycentric governance that has created the social capital and institutional space for long-term restoration, rather than an organisation that has single-handedly restored its river. Central to this is knowledge co-production bridging science, policy, and community: experiential data feeds through citizen-science mapping into academic and RRI synthesis, informing District Ganga Committee policy, consistent with global evidence that citizen science strengthens research and advocacy together (Buytaert et al., 2014). By anchoring *Jalangi Divas* to poet Jibanananda Das's birth anniversary, SJWB also embedded conservation in regional literature, transforming residents from resource users into active custodians and fostering a durable 'river citizenship' across generations.

10. Policy Recommendations and Conclusion

10.1 Strategic Policy Recommendations

Based on these findings, this study offers five recommendations for decentralised river governance.

i. Establish a statutory Jalangi River Basin Authority, with dedicated budget, interdepartmental authority, and representation for civil society, fishing unions, and farmer cooperatives.
ii. Institutionalise citizen science by formally incorporating citizen-generated spatial data and field mapping into official river-assessment frameworks.
iii. Mandate statutory environmental flows through off-take dredging, regulated groundwater extraction, and protection of connected floodplain wetlands.

iv. Scale sustainable agricultural technologies, such as CRIJAF SONA microbial jute-retting and off-stream retting tanks, without harming farm incomes.
v. Replicate culturally anchored conservation models, using festivals such as *Jalangi Divas* to build lasting public commitment to stewardship.

10.2 Conclusion

Between 2019 and 2026, SJWB evolved from an informal civic platform into a formally registered, multi-scalar organisation, achieving milestones — removing illegal fishing barriers, institutionalising the Jalangi Action Plan, establishing eco-friendly immersion, enforcing infrastructure accountability, protecting floodplain land, and embedding conservation in cultural life. Persistent challenges — enforcement decay, implementation gaps, unregulated soil cutting, unresolved headwater flow constraints — show grassroots movements alone cannot fully restore degraded hydraulic systems; that requires sustained state commitment, statutory basin management, and dedicated investment. SJWB's contribution lies in showing how civil society can build the public constituency, evidence base, and accountability needed to drive that process, offering a transferable model as medium-sized rivers across the Global South face growing ecological pressure.

Declarations

Positionality. The primary researcher was an embedded participant-observer within SJWB (Section4.1); findings should be read accordingly.
Funding. No dedicated external funding was received.
Conflict of interest. The researcher's involvement with SJWB is a potential conflict, addressed through the measures in Section4.1.
Data availability. Interview data are not publicly available, to protect confidentiality; administrative orders cited in Section7 are held in SJWB's archive and available on request.
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