

Pladu Tradition and Technocratic Regulation: Toward Collaborative Governance in Brantas River Dam Flushing Policy

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Abstract

This study analyzes the political sociology of power relations between technocratic state regulation and grassroots community autonomy in the context of the annual dam flushing policy along the Brantas River, East Java, Indonesia. Focusing on the traditional “Pladu” mass fish-catching practice, the research explores how riparian communities actively resist and negotiate centralized hydrological policies that prioritize infrastructure efficiency and securitization while marginalizing local socio-economic realities. Adopting a qualitative case study design, the researcher conducted non-participant observations during flushing events, semi-structured in-depth interviews with dam managers, government officials, village youth leaders, and fishermen, alongside analysis of official documents and digital community interactions. The data were examined through an interactive analytical model with triangulation for validity. The qualitative data were further quantified into intensity scales and visualized through thematic heatmap and network analysis using Python with Seaborn and NetworkX libraries. The findings reveal a profound contestation in which the state's rigid technocratic and securitized approach repeatedly fails to contain civil society's robust agency. Communities demonstrate sophisticated autonomy by decentralizing information via digital networks, self-organizing fishing zones, managing informal parking retribution for communal welfare, and implementing effective peer-based safety and conflict resolution mechanisms. These informal governance practices often prove more legitimate and functional than formal bureaucratic instruments, highlighting the erosion of state coercive authority at the local level and the emergence of an informal “shadow” social order. Drawing on Ansell and Gash's collaborative governance framework, the study argues that the long-dominant centralized technocratic paradigm has reached obsolescence. A genuine shift toward collaborative governance—through inclusive forums that integrate hydrological expertise with local social wisdom and recognize community sovereignty—offers a more equitable and sustainable resolution. Such a transition is essential to reconcile ecological infrastructure maintenance with the welfare rights of marginal workers, thereby advancing social justice in water resource governance.

Keywords: Brantas River, Collaborative Governance, Dam Flushing, Pladu Tradition, Technocratic Regulation

Abstrak

Penelitian ini menganalisis sosiologi politik hubungan kekuasaan antara regulasi teknokratik negara dan otonomi komunitas akar rumput dalam konteks kebijakan pengurusan bendungan tahunan di Sungai Brantas, Jawa Timur, Indonesia. Fokus pada praktik tradisional penangkapan ikan massal “Pladu”, penelitian ini mengeksplorasi bagaimana komunitas pesisir sungai secara aktif melakukan perlawanan dan negosiasi terhadap kebijakan hidrologi terpusat yang memprioritaskan efisiensi infrastruktur dan sekuritisasi, sekaligus meminggirkan realitas sosial-ekonomi masyarakat setempat. Pada penggunaan desain studi kasus kualitatif, peneliti melakukan observasi non-partisipan selama peristiwa pengurusan bendungan, wawancara mendalam semi-terstruktur dengan pengelola bendungan, pejabat pemerintah, pemimpin karang taruna desa, dan nelayan, serta analisis dokumen resmi dan interaksi komunitas digital. Data dianalisis melalui model analitik interaktif dengan teknik triangulasi untuk menjamin validitas. Data kualitatif tersebut selanjutnya dikuantifikasi ke dalam skala intensitas dan divisualisasikan melalui heatmap serta analisis jaringan

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menggunakan Python dengan pustaka Seaborn dan NetworkX. Temuan penelitian mengungkap kontestasi yang mendalam di mana pendekatan teknokratik dan sekuritisasi negara yang kaku berulang kali gagal membendung agensi masyarakat sipil yang kuat. Komunitas menunjukkan otonomi yang canggih melalui desentralisasi informasi via jaringan digital, pengaturan mandiri zona penangkapan ikan, pengelolaan retribusi parkir informal untuk kesejahteraan komunal, serta penerapan mekanisme keselamatan dan resolusi konflik berbasis pengawasan antar sesama. Praktik tata kelola informal ini sering kali terbukti lebih legitimate dan fungsional dibandingkan instrumen birokrasi formal, yang menunjukkan pelemahan otoritas koersif negara di tingkat lokal serta munculnya tatanan sosial “bayangan” yang informal. Berpijak pada kerangka collaborative governance Ansell dan Gash, penelitian ini berargumen bahwa paradigma teknokratik terpusat yang telah lama mendominasi telah mencapai titik usang. Peralihan yang sesungguhnya menuju tata kelola kolaboratif—melalui forum inklusif yang mengintegrasikan keahlian hidrologi dengan kearifan sosial lokal serta mengakui kedaulatan komunitas—menawarkan solusi yang lebih adil dan berkelanjutan. Transisi tersebut sangat diperlukan untuk mendamaikan pemeliharaan infrastruktur ekologis dengan hak kesejahteraan pekerja marginal, sekaligus memajukan keadilan sosial dalam tata kelola sumber daya air.

Kata kunci: Sungai Brantas, Tata Kelola Kolaboratif, Pembersihan Bendungan, Tradisi Pladu, Regulasi Teknokratis

INTRODUCTION

The Brantas River stands as a vital ecological infrastructure, supporting the lives of millions of people in East Java Province. The central government has designated this river as a strategic national asset requiring centralized water management. State institutions, through state-owned enterprises, maintain full control over the management of these water resources. A technocratic approach often dominates every policy formulation related to the operation of dams along the river. The managing authorities tend to prioritize technical efficiency and optimal reservoir capacity over considering socio-cultural dynamics. This paradigm of physical development implicitly marginalizes the role of riparian communities who have long coexisted with the river (He et al., 2024).

The policy of flushing dam sediment or “flushing” has become an unavoidable operational routine for the management authorities. Massive accumulation of sedimentation material constantly threatens the lifespan of the reservoir infrastructure. This release of colossal volumes of water primarily aims to clean the dam's bed to restore its maximum function. This artificial flood automatically triggers drastic changes in the aquatic ecosystem of the downstream river basin. The wild currents disrupt fish habitats due to the surge in water pressure and a decrease in oxygen levels. This hydrological event is purely designed as a solution for infrastructure improvement without mature social mitigation planning (Bassi & Gallagher, 2019).

Bureaucratic apparatuses respond to this dam water release rigidly, through the lens of public safety and order. Local governments often perceive the presence of residents along the riverbanks during flushing as a serious safety threat. Official institutions typically issue circulars containing warnings prohibiting activities around the river during the process. This securitization approach positions civilians purely as a vulnerable group that must be kept away from potential disaster. Security personnel are often deployed to specific locations to prevent crowds from approaching the river's edge. This unilateral regulation, unfortunately, often fails to grasp the sociological reality of communities who have their own agendas regarding this natural event.

Grassroots communities, however, respond to this hydrological policy through expressions of social mobilization known as the ‘Pladu’ tradition. Residents flock to the riverbanks when

stunned fish surface due to the strong currents. Thousands of local inhabitants ignore government warnings of danger because they view this moment as a communal economic opportunity. This practice of mass fish hunting creates an open contestation arena involving various interest groups from surrounding villages. Civilian actors spontaneously establish a system for dividing fishing zones without involving formal law enforcement authorities. This phenomenon clearly demonstrates a direct clash between the order prescribed by state regulations and the autonomous order of the community (Tallman et al., 2024).

Previous academic studies have largely dissected river governance issues from a purely hydrological or ecological perspective. Some earlier environmental sociology research also tended to portray riparian communities as passive victims of infrastructure development policies (Choi et al., 2025; Gwimbi & Rakuoane, 2019; Xu et al., 2024; Zhu et al., 2026). Existing literature rarely highlights the agency capacity of civilians when negotiating with water resource management authorities. Theoretical constructs regarding cultural resistance and communal governance autonomy in riparian areas are still minimally explored. This literature gap necessitates a new interpretation using the lenses of political sociology and public policy innovation. Researchers consider it urgent to dismantle the dominant narrative that has consistently favored a technocratic viewpoint over the sociological reality of the people.

The autonomy capacity of communities appears to work very effectively when state regulatory instruments encounter impasses on the ground. Village youth groups typically take on a crucial role as regulators of new economic circulations, such as managing parking lots. Civil society also successfully decentralizes information about dam gate opening schedules through digital media networks independently. Bureaucratic information monopolies are successfully broken, making access to natural resource exploitation more egalitarian for all residents. Peer safety monitoring systems among fellow fishers prove far more functional than remote warnings from official personnel. These sociological facts demonstrate that marginalized communities are capable of formulating autonomous governance of order without coercive intervention (Beck et al., 2021).

This research primarily aims to unravel the push-and-pull dynamics between technocratic state regulations and civil society autonomy. Political sociology analysis is comprehensively employed to dissect the power relations of actors directly involved in the river arena. The author strives to map the survival strategies of local communities when confronting massive-scale water governance policy interventions. This article also intends to offer ideas for transitioning public management models from a rigid security approach to collaborative governance. Legal recognition of community sovereignty is expected to bridge the gap between the interests of reservoir infrastructure and the wisdom of grassroots communities. The final conclusions of this research are projected to enrich the scientific discourse on public governance with a social justice perspective.

RESEARCH METHOD

This research employs a qualitative case study design to thoroughly dissect the social phenomena surrounding the Brantas River in Blitar, Tulungagung, and Kediri, East Java, Indonesia. The case study design was chosen because the researcher aims to explore the direct tension between formal state regulations and the autonomous practices of civil communities (Gaikwad, 2017). The researcher utilizes Ansell and Gash's (2008) collaborative governance framework as an

analytical lens to examine the power relations between these groups. This political sociology theory helps the researcher understand the failures of rigid technocratic approaches when applied to dynamic riparian communities. The conceptual framework of civil society autonomy is also applied as a supporting theory when analyzing the community's ability to create order independently. This blend of theoretical foundations allows the researcher to interpret sociological negotiations acutely, without being trapped by the biases of purely governmental institutional perspectives.

The material object of this research focuses on the mass fish-catching tradition that occurs when water resource management authorities release dam sediment. The researcher selected informants from two main groups: *first*, dam managers and government officials, who represent the bureaucratic face and technocratic regulations; *second*, youth organization administrators, parking lot managers, and fisherman during 'pladu', who represent the actors of community autonomy. The researcher directly served as the primary instrument in collecting essential information from relevant parties in the field of observation. Semi-structured interview guides and field observation protocols were strictly developed as standard parameter measures to maintain the validity of data collection (Freire et al., 2025).

The primary data collection procedure involved a series of non-participant observations conducted during the dam flushing events that triggered large crowds of riparian residents. These observations were then complemented by in-depth semi-structured interviews with key informants around the riverbank locations. The researcher utilized a semi-structured interview guide containing specific questions for the informants, which were systematically derived from the research objectives. This interview guide focused on exploring the perceptions and practices of technocratic regulation by dam managers and government officials, the manifestations and mechanisms of community autonomy in information dissemination, spatial organization, economic governance, and conflict resolution during the Pladu tradition, as well as the power relations and negotiation processes between state actors and local communities, including the possibilities for collaborative governance in Brantas River water resource management. Secondary data such as official bureaucratic circulars prohibiting activities along the river and records of citizen social network group conversations were also systematically collected. The data analysis adopted Miles, Huberman, and Saldaña's (2014) interactive model, which involved data condensation from the beginning of the investigation. The results of the analysis were presented through structured narrative text to construct causal patterns between rigid government policies and citizen adaptation. Finally, the researcher drew conclusions based on triangulation of multiple data sources to ensure the validity and reliability of the findings.

In this study, the researcher served as the primary research instrument and performed a quantitizing process by transforming the qualitative data into an intensity scale ranging from 0 to 3, guided by the analytical framework of Miles, Huberman & Saldaña (2014) and thematic coding protocol of Braun & Clarke (2017). This approach enabled systematic mapping of theme strength from absent to highly dominant. All coded data were then processed using the Python programming language, with the Seaborn library employed to generate a thematic heatmap that visually represents the gradation of intensity across dimensions, and the NetworkX library used to conduct network analysis that illustrates the structure and strength of interconnections between aspects (Tang & Wang, 2025; Waskom, 2021). These complementary visualization techniques produced

measurable and structured insights while preserving the depth and richness of qualitative interpretation.

RESULTS AND DISCUSSION

Empirical studies on the dam flushing phenomenon in the Brantas River basin reveal complex sociological dynamics between water resource management authorities and riparian communities. Field realities demonstrate that technocratic state policies frequently clash directly with the local wisdom of residents who possess their own autonomous systems. The central government tends to prioritize infrastructure efficiency and rigid security approaches to ensure the smooth operation and maintenance of reservoirs. Grassroots communities, conversely, respond to these regulations through a series of well-organized social mobilization strategies, devoid of hierarchical instructions. An in-depth analysis of these interactions exposes the weaknesses of unilateral public governance that often disregards the potential for community collaboration. The findings are structured into four main sub-sections to address the research questions comprehensively and systematically.

The perspective of collaborative governance is applied to examine the gap between formal state regulations and the adaptive tactics of civil society. The riparian communities of Brantas are proven not merely to be passive recipients of policy, but active agents capable of formulating their own order. Field facts, collected and contextualized with contemporary sociological literature, yield new scientific insights. These research findings convincingly challenge the conventional securitization paradigm that has long dominated the literature on river basin-based disaster management. The subsequent discussion will unravel each element of this tension, along with the cultural resolutions created by local residents.

The Technocratic Face of State Regulation: Between Infrastructure Efficiency and Citizen Securitization

Perum Umum Jasa Tirta (PJT) I represents the state authority in executing the routine agenda of dam sediment flushing, commonly known as "flushing." This managerial decision is strictly executed based on technical parameters to restore the reservoir's diminished storage capacity caused by mud deposits. The managing institution positions the river flow solely as infrastructure supporting macro-scale electricity operations and irrigation. This positivistic viewpoint renders policymakers oblivious to the long history of cultural and economic attachment of agrarian communities to the river's hydrological cycle. The planning of these infrastructure maintenance projects ultimately generates exclusive policies that are insensitive to the social realities of the surrounding communities. This orientation towards the efficiency of physical assets places riparian residents as outsiders who potentially disrupt the smooth execution of the state's routine agenda.

Local governments, through district apparatuses and the police, also adopt this technocratic perspective when responding to fishing activities by residents. Local bureaucracy prioritizes physical security procedures by issuing advisory letters prohibiting residents from approaching the riverbanks during the water release process. Public officials often perceive the presence of thousands of fishers as a direct threat to public order and civilian safety. This threat-based enforcement effort reflects the dominant character of bureaucracy, which feels entitled to monopolize community safety standards. The subtly repressive approach, conveyed through official circulars, proves irrelevant when confronted with the communal economic motives of

village residents. The failure of these bureaucratic instruments is clearly recorded in the confession of a district official regarding the routine prohibition policy.

"The Pladu tradition in the Brantas River, especially in Karangrejo, Blitar, has been going on for a long time. It is usually done during dam flushing by Perum Jasa Tirta (PJT). The district government often issues warnings for people to be vigilant when 'pados iwak' (fishing), because dangerous incidents, such as accidents in the river, have occurred." (Mr. S, District Official in Tulungagung, 2025)

These findings demonstrate that the state is trapped in an administrative routine of issuing warnings without providing alternative solutions for the residents' livelihoods. Bureaucratic authorities reduce the complexity of mass fish hunting to merely a matter of violating danger zones. Policymakers fail to grasp that riparian communities possess an economic rationality that compels them to brave the risks of strong currents. Political sociology views this situation as a form of structural disparity where the state imposes compliance without guaranteeing the welfare of the affected population. This unilateral prohibition actually accentuates the distance between the government as a formal regulator and the community as holders of cultural sovereignty. This securitization approach ultimately lacks sociological binding power in the eyes of marginalized community groups.

This river area enforcement policy further reinforces the existence of a bureaucratic state that is reluctant to engage with the working-class popular culture. Public officials often use the pretext of national legislation on water territory spatial planning management to justify the expulsion of village residents. This formal legal argument empirically collides strongly with the reality that the riverbank area is an open economic zone with a long historical value. State apparatuses insist that all forms of non-procedural activities around vital national infrastructure constitute an undeniable violation. This rigid security standard narrows the discourse space for problem resolution because the government closes the door to compromise on granting access to utilize abundant resources. This institutional superiority fosters a sense of apathy among rural communities towards disaster warning instructions issued by uniformed agencies.

The reservoir management institution has indeed attempted to socialize standard operating procedures before executing the massive water discharge agenda. Formal notifications are sent to various inter-district government agencies, ranging from Blitar, Tulungagung, Kediri, to the downstream area of Mojokerto. State authorities also coordinate security measures with police forces to blockade vulnerable crowd points along the river. This centrally designed public communication strategy, unfortunately, flows one-way, offering no room for negotiation for grassroots communities. The dominant narrative constructed by the state-owned company always culminates in orders to clear water areas of civilian activities. This is directly confirmed by a representative of the dam management regarding their policy information dissemination model to the public.

"Announcements are conveyed through letters to agencies traversed by the river, such as Tulungagung, Kediri, up to Mojokerto, and there is also prior socialization. Coordination with the police and community leaders is also carried out to maintain security. We ask the public to stay away from the riverbanks during flushing because the water current is very dangerous." (Mr. SNY, Official of Perum Jasa Tirta I, 2025)

The explicit assertion of authority by the dam management body demonstrates that water governance in the Brantas River continues to be dominated by rigid bureaucratic tendencies. The formal involvement of community leaders in coordination processes remains largely tokenistic, serving primarily as a procedural formality to legitimize technocratic programs on paper rather than enabling genuine participation (Ansell & Gash, 2008). Field realities, however, reveal a stark contrast: residents actively reject compliance with the state's security-driven scenario, instead perceiving the flushing event as a significant economic opportunity for harvesting natural resources. This fundamental clash between the state's safety-oriented bureaucratic rationality and the residents' profit-oriented economic rationality produces widespread disregard for formal legal prohibitions.

This collision, coupled with the security apparatus's limited capacity to enforce prohibitions across dozens of kilometers of riverbanks during peak flushing periods, results in a situational weakening of coercive enforcement. In practice, state officials frequently shift toward calculated tolerance rather than direct confrontation. Such dynamics create a temporary vacuum that allows civil society to exercise *de facto* spatial and social regulation during the Pladu events. Importantly, this does not indicate a permanent or generalized erosion of state authority, but rather reflects context-specific state-society relations shaped by strong communal economic incentives and mass mobilization in a socio-ecological setting (Amengual & Dargent, 2020; Migdal, 2023). These empirical patterns challenge several assumptions in the collaborative governance literature. While Ansell and Gash (2008) emphasize that effective collaboration usually requires state-initiated institutional design and face-to-face dialogue, the Brantas case illustrates that robust informal governance mechanisms can emerge "from below" even within a persistently technocratic environment. In contrast to the Cochabamba Water Wars in Bolivia, where community resistance escalated into open confrontation and political crisis, the Pladu tradition represents a form of "quiet encroachment" that generates functional order without outright rejection of the state (Bayat, 2010; Bobo, 2025). Similarly, this case diverges from many top-down participatory experiments, such as those in the Ayuquila River Basin in Mexico, where formally established participatory structures often remained superficial and tokenistic (Bilalova et al., 2025). By demonstrating how digital information networks, self-organized spatial management, and communal economic practices enable effective autonomy, the Brantas-Pladu case extends collaborative governance theory. It highlights the importance of distinguishing between "invited spaces" of participation engineered by the state and "invented spaces" created by communities themselves (Yasmin et al., 2022). This distinction appears particularly relevant for understanding water governance in the Global South, where strong cultural and economic attachments to resources can drive the emergence of hybrid governance arrangements even under dominant technocratic regimes (Dakyaga et al., 2023).

Decentralization of Information and Mobilization of Civil Society

The advancement of information technology in the digital era has brought about structural changes in how rural communities respond to governmental hydrological policies. Notification documents containing the precise schedule for dam gate openings no longer exclusively reside on the desks of bureaucratic officials. Village youth groups independently leverage instant messaging applications to disseminate this information across various online community groups. This highly open circulation of information successfully breaks the monopoly of knowledge previously often

controlled by certain village elites. This decentralization of digital communication simultaneously marks a shift in governance power, where ordinary citizens are able to seize access to public information. Transparency based on citizen initiatives ultimately fosters economic equality for all segments of society, regardless of administrative boundaries.

The dissemination of news regarding dam flushing schedules via social media triggers massive mobilization of crowds from various surrounding districts. Communities from outside the immediate area respond to this digital information by flocking to the banks of the Brantas River precisely on the day of the event. This cross-regional movement of crowds is neatly organized, requiring no centralized command system akin to formal organizational mobilization structures. Citizen communication networks operate with accuracy comparable to official early warning systems, providing real-time updates on surges in water discharge. This information transparency is acknowledged by local residents as a primary factor transforming the scale of the traditional gathering compared to the past. The vital role of social media in triggering mass mobilization from diverse regions is clearly articulated by an informant:

"During Pladu, fish are easier to catch because many are stunned by the strong water flow. This is different from normal conditions, where fish are difficult to catch. Now Pladu is much more crowded because the information spreads through social media, unlike when I was a child. [...] Now many people come from outside, like Tulungagung and Kediri, not just local residents." (Mr. YP, Brantas River Riparian Resident in Blitar, 2025).

The resident's statement confirms that digital communication technologies have played a pivotal role in transforming rural riparian communities from passive recipients into active agents of social self-organization. The rapid circulation of dam flushing schedules through instant messaging applications and community groups significantly accelerates mass mobilization across districts, transcending geographical and administrative boundaries (Mattoni, 2020). This phenomenon goes beyond mere information sharing; it constitutes a subtle form of resistance against the state's historically closed and centralized model of ecological resource governance. By democratizing access to critical hydrological information, communities challenge the bureaucratic monopoly over knowledge that has long characterized technocratic water management.

More importantly, these citizen-initiated online networks evolve into practical instruments of collective safety and risk mitigation (Ansell & Gash, 2008). Community members voluntarily share real-time updates on dangerous water conditions, with upstream fishers routinely warning downstream peers about sudden surges in water discharge. This peer-based monitoring system has proven more responsive and effective than formal state early warning mechanisms, such as security sirens (de Paula et al., 2017; Schneider et al., 2025; Wati et al., 2025). The high level of social cohesion and mutual concern among participants gradually reduces reliance on official disaster management apparatuses (Gongora-Svartzman & Ramirez-Marquez, 2022).

Furthermore, the transparent flow of information facilitated by these informal networks effectively prevents potential conflicts over fishing grounds. Equitable sharing of spatial knowledge reduces suspicion and accusations of area monopolization, which are common triggers of tension in mass resource harvesting (Gomez-Andujar et al., 2024; Wade et al., 2023). This finding challenges the common assumption among state security experts that large, spontaneous crowds in resource-scarce settings are inherently prone to anarchic behavior. Instead, the Pladu case demonstrates

how digital-enabled transparency can foster social solidarity and self-regulation among diverse groups of agricultural workers. Comparatively, while many studies on digital activism in environmental governance emphasize its role in large-scale political mobilization (Manwaring & Holloway, 2023; Mattoni, 2020), the Brantas case illustrates a more localized yet highly functional application: the conversion of digital networks into everyday governance tools for safety and conflict management in a technocratic setting. This extends existing literature by showing that in Global South riparian contexts, digital tools do not merely facilitate protest, but can generate durable informal institutions that complement — and sometimes substitute — formal state functions during recurrent socio-ecological events (Yasmin et al., 2022).

Community Autonomy in Economic Governance and Conflict Resolution

The vacuum in the enforcement authority of official apparatuses in the riparian areas is, in fact, utilized by residents to create highly productive communal economic systems. The arrival of thousands of motorized vehicle users necessitates the urgent provision of representative and secure parking spaces. Village-level youth organizations proactively respond to this opportunity by taking over traffic management along the steep embankments of the dam's retaining walls. These militant youths issue self-made retribution tickets and collect fees for motorized vehicle safekeeping, operating entirely without formal taxation or licensing regulations. The operations of this self-managed financial circulation proceed orderly and peacefully, free from indications of friction, thuggery, or illegal land mafia conflicts. The state demonstrably incurs revenue losses due to its apparatus's reluctance to embrace the pulse of this grassroots shadow economy, born from local innovation and autonomous sovereignty.

The management of parking retribution funds, unique in its lack of a legal legislative basis, is governed by a remarkably clean moral accountability, achieving full transparency. Youth groups strictly prohibit the embezzlement of temporary collection funds for the personal indulgence of a few daily security managers. The entire accumulated cash revenue from the fish harvest retribution is handed over openly to the community treasurer to subsidize village programs. These self-help funds, historically, are projected to finance entertainment events such as August celebrations, including traditional *wayang* and *jaranan* performances. This practice of nurturing the communal circular economy strongly refutes the suspicions of elitist bureaucrats, proving the high integrity of the community in organizing grassroots welfare distribution. Empirical evidence of the efficacy of autonomous cash management is clearly explained by local residents witnessing this cycle of income generation.

"During Pladu, fish are easier to get because many are stunned by the strong water flow. This is different from ordinary conditions, where fish are hard to catch. Now Pladu is much more crowded because the information spreads through social media, unlike when I was a child. [...] Now many people come from outside, like Tulungagung and Kediri, not just local residents. The income from parking is also substantial, reaching millions of rupiah, which is used for neighborhood activities, such as jaranan performances on August 13th. This parking is usually managed by local youth." (Mr. LB, Brantas River Riparian Resident in Blitar, 2025)

The resident's statement dispels the bureaucratic stigma that often accuses informal economic activities in rural communities of being rife with corrupt practices and prone to conflict. Citizen sovereignty in regulating parking money circulation compensates for government

weaknesses, which often fail to provide annual budget allocations for local cultural preservation. Self-funding for community art activities demonstrates a high degree of village fiscal independence when the momentum of natural resource harvesting arrives, mitigating inequality. The state, which positions the river solely as physical infrastructure to dispose of sediment, demonstrably fails to see the potential for a public-driven, creative, and independent economic cycle. Brilliant agrarian working-class communities convert the emergency situation of disaster prohibitions, as dictated by authorities, into an engine for cultural development, fostering capital circulation for community welfare. The autonomous power of financial management at the grassroots level demonstrates a class of resilience for marginalized civilizations, enduring the monopoly of environmental exploitation by capital city rulers.

The circulation of tens of millions of rupiah during the annual fish harvest celebrations entirely bypasses local government coffers. The state fails to capitalize on this massive logistical movement as a source of official retribution revenue due to an 'a priori' attitude that prohibits all forms of public activity in the waters. Fiscal authorities at the district and regency levels lose the opportunity to manage temporary entertainment taxes because security agencies have already deemed these activities illegal. This ironic reality of governance underscores the weakness of a technocratic vision that overly glorifies the fear of physical safety risks, thereby stifling the intelligence needed to identify opportunities for welfare distribution. Riparian rural communities, in fact, fully assume the responsibility of generating independent funds, a responsibility that centralized government administration avoids. The reversal of the capital circulation axis challenges development dogma, confirming the superiority of informal economic systems in securing the continuity of cultural events for marginalized communities.

The successful implementation of village economic governance proceeds harmoniously, hand-in-hand with the sociological capacity to mitigate horizontal friction and prevent disputes over productive fishing zones. Thousands of individuals, carrying fishing nets, jostle along the narrow, deadly-current riverbanks, highly susceptible to sparks of fighting over a sliver of water. The absence of peacekeeping police forces in such disputes necessitates the swift group instinct of citizens to formulate an unwritten constitutional draft of conventions to prevent conflict over livelihoods. A system of rules for dividing foraging areas, based on pillars of tolerance, empathy for suffering, and shared struggle, has been firmly established, prohibiting 'tough guy' behavior or displays of physical dominance by thugs. Indigenous residents generously allocate fishing spots to waves of incoming migrant laborers who have traveled dozens of kilometers, enduring hardships. This mechanism of reasoned dispute resolution, founded on solidarity, reduces crime rates to an absolute minimum, entirely without the presence of official prison sentences or laws.

This mechanism of reasoned dispute resolution, grounded in solidarity and mutual recognition, effectively minimizes conflicts and maintains order during the Pladu events without depending on formal legal sanctions or state law enforcement (Alia et al., 2024). Culturally defined fishing boundaries are enforced through immediate social sanctions, ranging from verbal warnings to temporary exclusion from fishing groups. These informal sanctions prove highly effective in preventing attempts to monopolize productive fishing spots, often outperforming the deterrent power of distant judicial threats. Such practices demonstrate the capacity of civil society to self-regulate under conditions of high uncertainty and resource competition (Suparman & Septiadi, 2021).

Comparatively, while formal state institutions often struggle to maintain order during mass gatherings due to limited personnel and legitimacy, the Pladu case shows how deeply embedded social norms and relational accountability can produce effective governance outcomes. This finding supports the argument that in certain socio-cultural contexts, informal institutions may function as viable alternatives or complements to formal regulatory systems (Ansell & Gash, 2008; Migdal, 2023). The differing characteristics of public space management during the Pladu tradition can be systematically compared through a thematic matrix contrasting bureaucratic and community-based approaches. The table below summarizes key dimensions of regulation, supported by empirical evidence from observations and interviews.

Table 1. Thematic Matrix: Comparison of Regulatory Approaches of Authority and Community Autonomy in the Pladu

Aspect	Authority		Community Autonomy		Comparative Interpretation
	Approach	Evidence	Approach	Evidence	
Policy Objective Focus	Infrastructure efficiency and physical asset security	Public warned to stay away from the river area because it is dangerous	Economic access and socio-cultural harvest celebration	Fish are easier to catch; income from parking activities	Authority prioritizes safety and infrastructure; community prioritizes livelihood and cultural value
Information Distribution	Centralized, formal, and slow dissemination	Official letters and coordination with police	Decentralized and rapid through digital social networks	Information spreads through social media and group networks	Authority communication is top-down; community communication is fast and informal
Security and Risk Management	Repressive prohibition and deployment of security forces	District government issues warnings and restrictions	Peer-to-peer monitoring and real-time early warnings	Upstream fishers warn downstream peers	Authority relies on control and enforcement; civilians rely on mutual vigilance
Spatial Management	Blanket prohibition and attempted evacuation of riverbanks	Official circulars prohibiting activities	Culturally negotiated division of fishing zones	Self-organized zoning system from local practice	Authority applies restrictive spatial regulation; community creates flexible territorial arrangements
Economic Governance	No formal mechanism to utilize or redistribute local economic benefits	Absence of policy scheme in official responses	Informal parking retribution managed by youth for village welfare	Revenue used for local cultural performances	Authority does not institutionalize benefits; community develops informal local redistribution

Table 1 presents a thematic matrix comparing the regulatory approaches of state authorities and riparian communities in the Pladu tradition, developed through a reflexive thematic analysis approach (Clarke & Braun, 2017). By systematically juxtaposing five core themes — policy objective focus, information distribution, security and risk management, spatial management, and economic governance — the matrix illuminates the fundamental contrasts between technocratic governance and community autonomy. While the state authorities emphasize infrastructure efficiency, centralized control, repressive safety measures, and formal prohibitions, supported by official circulars and bureaucratic coordination, the communities demonstrate adaptive, decentralized, and relational practices through digital information networks, peer-based risk monitoring, culturally negotiated fishing zones, and informal economic redistribution. This comparative

thematic matrix not only enhances analytical transparency but also reveals how informal community mechanisms often prove more responsive and legitimate than formal bureaucratic instruments in addressing the immediate socio-economic realities during dam flushing events.

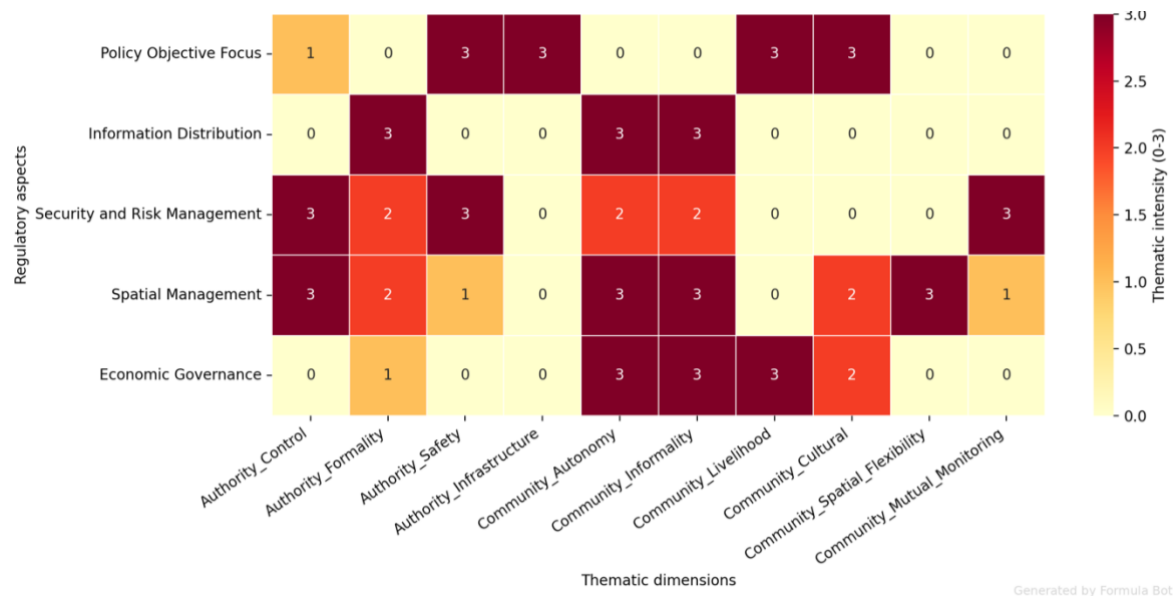


Figure 1. Thematic Heatmap: Regulatory Approaches and Community Autonomy in the Pladu

To further illustrate the contrasting intensity of each regulatory dimension, the researcher transformed the thematic matrix into a heatmap visualization using the Seaborn library (Figure 1), following Waskom's approach (2021) to statistical data visualization that emphasizes clarity, intuitive color gradients, and effective pattern recognition. The heatmap employs a sequential color palette ranging from light yellow (intensity 0) to dark red (intensity 3), enabling immediate visual identification of thematic dominance. In terms of Policy Objective Focus, technocratic approaches exhibit high intensity in safety and infrastructure (3), while community autonomy strongly emphasizes livelihood and cultural aspects (3). On Information Distribution, community informality and autonomy register high scores (3), contrasting sharply with the authority's formality (3). For Security and Risk Management, the authority approach is dominated by control and safety (3), whereas the community relies on mutual monitoring (3). In Spatial Management, community autonomy and spatial flexibility show strong presence (3), compared to authority control (3). Finally, Economic Governance is overwhelmingly dominated by community autonomy, livelihood, and informality (all scoring 3), while technocratic approaches show minimal engagement (0–1). This heatmap effectively reveals the divergence between rigid technocratic regulation and adaptive community practices, visually reinforcing the emergence of hybrid governance during the Pladu tradition.

The comparative table above highlights significant contrasts in both approach and effectiveness between state technocratic regulation and community autonomy during the Pladu events. Rather than viewing these as mutually exclusive, the findings suggest the emergence of hybrid governance practices in which informal community mechanisms address practical gaps left

by formal institutions. This empirical pattern enriches Ansell and Gash's (2008) collaborative governance framework by illustrating how "invented spaces" of participation can arise organically in response to technocratic limitations (Yasmin et al., 2022). It also contributes to the broader literature on state-society relations by showing that customary practices and digital-enabled self-organization can generate functional order in contexts where formal authority faces implementation challenges (Mezey, 2023; Migdal, 2023).

Towards Collaborative Governance

The reality of cultural sovereignty resistance displayed by residents during the dam drainage phenomenon necessitates a comprehensive re-evaluation of Indonesia's national water resource governance system. The government's prevailing approach, grounded in technical rationality and rigid securitization, has consistently triggered public apathy and civil disobedience. Policymakers should abandon the practice of framing rural communities as security threats that require repressive control through armed apparatus. Instead, the bureaucracy's inability to manage mass gatherings should be honestly acknowledged as the failure of top-down policy models inherited from the centralized past. This institutional reframing constitutes a critical prerequisite before introducing new schemes for aquatic environmental mitigation (Ansell & Gash, 2008). The sociological insight into citizens' mature capacity for autonomous conflict resolution provides a valuable foundation for building modern public institutions. Youth organizations managing parking arrangements and digital information networks have proven that civil society actors are fully capable of independently organizing communal livelihood needs. The state must therefore set aside its sectoral bureaucratic ego to incorporate these non-formal actors into ecological mitigation policy decision-making processes.



Generated by Formula Bot

Figure 2. Network Visualization: Aspects Linked to Thematic Dimensions in The Pladu

The network analysis visualization (Figure 2) generated using NetworkX further clarifies the complex interrelationships between technocratic dimensions and community autonomy practices in the Pladu phenomenon. Following a relational governance perspective Tang & Wang (2025), the network diagram illustrates how central thematic nodes — such as Policy Objective Focus, Spatial Management, Security and Risk Management, Economic Governance, and Information Distribution — are dynamically connected to both authority-driven and community-driven elements. The visualization reveals dense connections between community nodes and core thematic dimensions, indicating that grassroots practices do not operate in isolation but actively co-shape multiple aspects of governance through relational interactions during flushing events. This network representation visually supports the empirical finding that community autonomy emerges and sustains itself through ongoing relational dynamics with state-initiated structures.

Building upon these empirical patterns, the integration of hydrological expertise from dam engineers with the social and cultural wisdom of local communities offers significant potential for more adaptive and legitimate policy outcomes. Rather than maintaining a purely state-centric security approach, the findings suggest the need to develop hybrid governance arrangements that recognize and institutionalize the strengths of both formal and informal systems. For instance, formal acknowledgment of village youth organizations in managing information flows and local economic mechanisms could enhance the effectiveness of risk mitigation while simultaneously addressing livelihood needs.

This study contributes to collaborative governance theory Ansell & Gash (2008), through a political sociology lens by demonstrating that meaningful collaboration in technocratic-dominated settings can emerge through the recognition of “invented spaces” already created by communities themselves (Yasmin et al., 2022). The Pladu case shows how riparian communities actively generate functional informal institutions via digital networks, self-organized spatial arrangements, and communal economic practices, even without formal invitation from the state. This finding aligns with recent studies on hybrid governance in the Global South, which emphasize that sustainable water management requires bridging formal technocratic structures with informal community-driven mechanisms (Agyei-Mensah et al., 2024; Yasmin et al., 2022). Such bottom-up dynamics challenge the conventional assumption that collaborative processes must always be initiated and controlled by state institutions.

In the Brantas River context, a transition toward more effective collaborative models would therefore involve establishing multi-stakeholder platforms that position dam managers, local government officials, community representatives, and village youth leaders as relatively equal participants. These platforms could integrate official hydrological early warning systems with grassroots digital information networks while developing equitable benefit-sharing mechanisms, particularly around informal economic activities such as parking management. Recent scholarship on river basin governance in Indonesia and other developing contexts further supports this direction, highlighting that hybrid and polycentric arrangements tend to produce more legitimate and adaptive outcomes compared to purely technocratic approaches (Rojas et al., 2020; Wang et al., 2025). By moving beyond tokenistic participation toward genuine power-sharing, water resource governance in the Brantas basin can more effectively reconcile infrastructure maintenance requirements with the socio-economic realities of marginal riparian communities.

CONCLUSION

The annual dam flushing events along the Brantas River reveal a deep sociological tension between rigid technocratic regulation and the enduring cultural autonomy of riparian communities. Rather than remaining passive recipients of policy, local residents demonstrate significant social agency by constructing informal yet highly functional governance systems through digital information networks, self-organized spatial arrangements, peer-based risk management, and communal economic practices during the Pladu tradition. These findings highlight the limitations of state-centric securitization approaches when confronted with strong communal economic rationality, while simultaneously illustrating how meaningful hybrid governance arrangements can emerge from community-created spaces even within dominant technocratic environments. From a political sociology perspective, this case enriches collaborative governance scholarship by showing how the recognition of grassroots autonomy can advance social justice in water resource management, and it opens avenues for future research, particularly longitudinal studies that track the evolution of such hybrid practices across multiple flushing cycles, as well as comparative analyses with other river basins in Indonesia and the Global South to better understand the conditions that facilitate productive integration between formal authority and grassroots autonomy.

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