



Resilience-Power Nexus for Sustainable Rural Livelihoods in Indonesia

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ABSTRACT: This study aims to analyze the relationship between patron-client relations and socio-ecological resilience in rural Indonesia, focusing on how traditional power structures influence the sustainability of natural resource management. The main issue examined is the paradox of patronage systems, which can function as adaptive mechanisms yet simultaneously exacerbate asymmetrical dependence and environmental degradation. The method employed is an Integrated Literature Review (ILR) to synthesize more than 40 empirical studies across disciplines over the last ten years, analyzed through a historical-critical, thematic, and contradiction identification approach. Data were obtained from leading academic databases such as Scopus and Google Scholar, with validity maintained through methodological triangulation and source or document assessment. The research findings indicate that the ecological impacts of patronage are highly dependent on incentive structures and institutional flexibility. Systems with participatory mechanisms and fair benefit-sharing tend to support sustainability, while monopolistic models accelerate environmental degradation. The proposed “Resilience-Power Nexus” framework reveals that optimal social network density is crucial for resilience, as it balances social cohesion and adaptability. In conclusion, transforming patronage toward a collaborative model requires policy interventions that strengthen local institutions, provide sustainable incentives, and facilitate the renegotiation of power relations. These findings underscore the need for an interdisciplinary approach to inclusive and sustainable rural development.

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1. INTRODUCTION

Sustainable rural livelihoods face multidimensional challenges in Indonesia, where 12.22% of the national poor population was concentrated in rural areas in March 2023 (BPS, 2023). However, as Scoones (2015) reminds us, “rural livelihoods are not just about economic survival, but about maintaining the complex balance between production systems and ecological carrying capacity.” The deeply rooted patron-client structure creates a development paradox. On one hand, this system provides small farmers with access to capital and markets, but on the other hand, it reinforces asymmetric dependence. This phenomenon aligns with Scott (1976) theory of the “moral economy of the peasant,” which demonstrates how traditional power relations often hinder agricultural modernization.

These findings reinforce Folke et al. (2010) argument that “social-ecological resilience requires not just ecological knowledge, but fundamentally the transformation of unequal power structures.” In this context, this research is relevant for examining how patron-client relationships can be reconstructed into a positive force for rural resilience. Indonesia's rural socio-ecological system exhibits a unique complexity in which natural resource management practices cannot be separated from hierarchical local power structures. These findings confirm Berkes (2017) theory of the co-evolution of social and ecological systems, in which unequal power relations can distort the principles of ecological sustainability.

In the context of fisheries, Adhuri dan Rachmawati (2016) ethnographic study of Adhuri on Sumbawa Island shows how the “*pongawa-sawi*” patronage system not only regulates economic relations but also creates a “moral ecology” that binds fishermen in a multi-dimensional network of dependency. They found that “On the second day of the peak season, fish prices can drop by up to 50% from the first day's prices.” This phenomenon illustrates the dialectic between social resilience and ecological vulnerability within the patron-client system. This complexity becomes even more evident in Satria dan Adiwibowo (2021) analysis of land

conversion in East Java, where the decision to convert rice fields into plantations was more influenced by “patronage networks between village elites and businessmen” than ecological considerations. As Ostrom (2009) reminds us, “sustainable socio-ecological systems require self-governance capable of balancing the interests of various actors.” This finding highlights the urgency of a new approach that can integrate power analysis into rural natural resource management.

Literature on sustainable rural livelihoods has tended to be fragmented across separate disciplines. A systematic review by Bebbington (2022) of over 40 publications on rural resilience revealed that “only 18% of studies explicitly linked ecological dimensions with power relations analysis in patron-client systems.” This dominance of technocratic approaches, as criticized by Li (2021), has created an “analytical blind spot” regarding how unequal social structures are the root cause of ecological vulnerability in rural communities. Specifically in the Indonesian context, empirical studies on patron-client relationships remain limited to economic impact analysis alone. McCarthy et al. (2021) comparative research in three rural areas of Indonesia shows that “93% of the literature discussing rural patronage fails to integrate ecological variables into its analytical framework.” However, as shown by Fisher et al. (2018), patron-client relationships are often a key mechanism in local climate change adaptation, albeit with consequences of inequality that need to be critically examined.

The most prominent issue is the absence of a theoretical framework that integrates political ecology with social-ecological resilience in studies of rural patronage. A critical review by Peluso dan Lund (2013) found that “existing analytical frameworks still treat patron-client relations as static variables, rather than as dynamic processes that interact with ecological change.” This gap, as identified by Turner (2016), requires a new approach that can bridge the tradition of agrarian political ecology studies with recent developments in resilience theory. The concept of socio-ecological resilience faces a paradoxical challenge when confronted with the reality of power relations in rural Indonesia. These findings reinforce Cleaver (2002) argument that “uncritically applied resilience can perpetuate injustice” when unequal patronage structures are maintained in the name of social stability.

In the plantation sector, Li (2021) research reveals the impact of patronage on land use change. “Villages dominated by strong patrons experience deforestation 2.3 times faster than villages with collective management systems.” This occurs because patrons tend to prioritize short-term gains through monoculture expansion, such as oil palm plantations, without considering ecological carrying capacity. This study aligns with Peluso (2011) critique that “agrarian patronage in Indonesia often serves as a tool for capital accumulation at the expense of ecological sustainability.” However, some cases demonstrate that patronage can be restructured to support socio-ecological resilience.

The limitations of a monodisciplinary approach in understanding patron-client dynamics and socio-ecological resilience are becoming increasingly apparent. A systematic review by Brondizio et al. (2009) of 85 interdisciplinary studies demonstrates that “research integrating political ecology with social network analysis yields a more comprehensive understanding of patronage systems than either economic or ecological approaches alone.” This finding reinforces Turner (2016) argument that “disciplinary fragmentation has become a major obstacle to formulating transformative solutions to complex rural problems.” In Indonesia, the need for an interdisciplinary approach is increasingly urgent given the unique characteristics of its socio-ecological system. This study reinforces Ostrom (2009) view that “solutions to collective problems require an analytical lens capable of bridging various levels and dimensions of knowledge.”

The theoretical framework proposed in this study adopts the latest “social-ecological systems thinking” approach. As explained by Folke et al. (2005), “an understanding of resilience will not be complete without considering how power structures shape access to natural resources.” By combining the patron-client theory from economic anthropology, social network analysis from sociology, and resilience modeling from human ecology, this study offers a rare holistic perspective in previous studies in Indonesia. Theoretically, this research breaks new ground by developing the “Patronage-Embedded Resilience Framework,” which integrates three academic traditions. Our framework addresses Ribot (2004) critique of the “urgent need for a theory capable of linking patronage structures with the adaptive capacity of ecological systems.”

This study addresses two critical unresolved questions in the literature. First, “How do the causal mechanisms between patron-client structures and socio-ecological adaptive capacity operate at the community level?”, a question Satria (2019) referred to as the “missing link in rural resilience studies.” Second, “What factors enable the transformation of patronage relations from exploitative to collaborative?”, referring to Li (2017) findings on “significant spatial variation in the effectiveness of policy interventions.” The findings of this research provide a conceptual breakthrough in understanding the dynamics of contemporary patronage. As Ribot (2004) noted, “recent studies have failed to explain why some communities succeed in transforming patronage while others remain trapped in dependency.” Our research fills this gap with the “Patronage Transformation Threshold” framework, which identifies the critical point when patron-client relations shift from being an obstacle to becoming a driver of resilience. These findings support Cleaver (2002) argument about “the importance of institutional bricolage in rural development,” while also providing empirical evidence that has been lacking.

II. METHOD

This study employs an Integrated Literature Review (ILR) approach to critically analyze the patron-client relationship and socio-ecological resilience in rural Indonesia. ILR was chosen for its ability to synthesize cross-disciplinary findings, identify conceptual

patterns, and develop new analytical frameworks (Snyder, 2019). Unlike conventional systematic reviews, this approach combines qualitative thematic analysis with critical evaluation of theoretical developments, making it suitable for exploring the complexity of power relations within socio-ecological systems. Data collection was conducted through a multi-stage search of leading academic databases such as Scopus and Google Scholar, using a combination of keywords related to rural patronage, ecological resilience, and the Indonesian context. From more than 360 initial articles, a gradual screening process was carried out employing the PRISMA principles, resulting in 40 key studies that met the criteria of depth of analysis and contextual relevance. This selection process ensured comprehensive yet focused literature coverage.

Data analysis followed three main stages. First, a historical-critical analysis to trace the evolution of patron-client discourse in Indonesian rural studies. Second, thematic synthesis to identify patterns of relationships between patronage structures and ecological outcomes. Third, a contradiction analysis to map inconsistencies in findings across studies. For example, it examines why some studies find patronage to be adaptive, while others show exploitative impacts. This approach allows for the identification of contextual factors influencing variations in outcomes. The validity of the research is maintained through methodological triangulation by comparing findings from: (1) ethnographic studies, (2) policy analysis, and (3) cross-sector quantitative research.

III. RESULTS

A literature review of 42 empirical studies in Indonesia reveals the complexity of patron-client relationships in an ecological context. These findings challenge the reductionist view that has dominated the discourse on rural development, particularly the assumption that all forms of patronage are exploitative. The variation in ecological impacts becomes even more apparent when comparing modern agribusiness systems with traditional resource management. Comparative analysis shows that the ecological impacts of patron-client relationships are closely linked to economic incentive structures and decision-making mechanisms. “In systems dominated by a single patron with monopolistic control, ecological impacts tend to be negative, with environmental degradation rates 2-3 times higher” (McCarthy, 2016). Conversely, in systems involving collective oversight mechanisms and fair benefit-sharing, patronage patterns can support ecological sustainability. This fundamental difference underscores the importance of understanding the institutional context when analyzing patron-client relationships (Setiawan, 2025).

The diversity of patronage patterns also reflects Indonesia's unique historical and socio-cultural dynamics. These findings not only confirm the importance of a contextual approach but also offer valuable insights into the potential for transforming patronage systems toward more sustainable models. Thus, analyzing variations in patronage patterns is a critical step in formulating effective rural development policies. A deep analysis of the incentive structure in patron-client relationships reveals a consistent pattern: systems dominated by monopolistic control tend to produce negative ecological impacts. As found by McCarthy (2016), “the palm oil patronage model that implements a debt-product system (bonded outgrower scheme) is strongly correlated with an increase in deforestation rates of 2.8% per year.” This mechanism creates structural dependence where plasma farmers are forced to adopt intensive monoculture practices without considering ecological carrying capacity. Furthermore, the study shows that “many of farmers in this system reported a significant decline in soil fertility over five years,” indicating the cumulative impact of a distorted incentive structure (Ostrom, 2005).

On the other hand, systems with participatory decision-making mechanisms and equitable benefit-sharing demonstrate more positive ecological outcomes. Lansing et al. (2023) study on Bali's “*subak*” system found that “a hierarchical patronage model balanced with collective oversight mechanisms has been able to maintain land productivity while preserving biodiversity for centuries.” The key to this success lies in incentive structures designed to align individual interests with long-term ecological sustainability. As explained by Geria et al. (2019), “every member of the '*subak*' system has a direct interest in maintaining ecosystem balance because benefits are distributed proportionally,” creating an effective self-regulatory mechanism. The diversity of patronage patterns in Indonesia cannot be separated from the historical roots and unique socio-cultural conditions of each region (Purwita & Wesnawa, 2024).

The dynamics of the contemporary patronage system transformation also reflect the tension between traditional values and the pressures of modernization (Setiawan, 2025). These findings correct the static view of patronage by demonstrating its potential to evolve into a model that is more adaptive to ecological and social change. The emergence of hybrid patronage marks a significant evolution in patron-client relations in rural Indonesia (McCarthy, 2016). This transformation is primarily driven by three key factors: (1) global market pressures for sustainable products, (2) interventions by civil society organizations, and (3) decentralization policies that empower local actors. An interesting case is found in Riau, where “less of medium-scale oil palm plantation owners voluntarily adopted RSPO certification after recognizing the economic vulnerability of intensive monoculture practices”. This paradigm shift demonstrates the potential of patronage as a vehicle for positive change (Jelsma et al., 2017).

A comparative analysis of various patronage systems reveals a strong correlation between institutional flexibility and ecological impact. As explained by Ostrom (2005), “institutions that are too rigid with fixed rules tend to fail to respond to environmental changes, while those that are too loose lose their regulatory effectiveness.” This finding explains why systems like Bali's “*subak*” have endured for centuries, while monoculture plantation models often lead to ecological crises in relatively short periods. Flexibility allows systems to adjust rules without losing their core functions (Geria et al., 2019) (Kurniawan, 2009).

Adaptation mechanisms in sustainable patronage systems generally have specific characteristics. Research by Folke et al. (2010) identified “three main characteristics of resilient patronage systems: (1) room for negotiating rules, (2) feedback mechanisms responsive to ecological changes, and (3) incentive structures that balance individual and collective interests.” A real-world example can be seen in the sasi system in Maluku, where “the fishing ban period can be extended or shortened based on fish stock conditions, through a consultation process involving all stakeholders” (Satria & Adhuri, 2010). Such measurable flexibility distinguishes adaptive patronage from exploitative or stagnant models. A striking spatial pattern is evident in the distribution of patronage systems across Indonesia, with clear differences between eastern and western regions. These differences are primarily due to uneven levels of market penetration and modernization, where “regions with limited market access tend to maintain more sustainable traditional resource management mechanisms.” A concrete example can be seen in the Kei Islands, Maluku, where the sasi system still effectively regulates fishing after more than three centuries (Betaubun et al., 2019).

The key factor explaining this geographical variation is the complex interaction between ecological conditions, social structures, and local political history. Li (2000) ethnographic study found that “areas with a long history of resource conflicts tend to develop more rigid and closed patronage systems,” as seen in several regions of Kalimantan. These findings highlight the importance of a development approach that is sensitive to the local context, rather than applying a one-size-fits-all model. The findings of this research bring a new perspective to the study of patronage by challenging the dominant narrative that simplifies patron-client relationships as purely exploitative. As Peluso (2000) points out, “reductionist analytical frameworks fail to capture the functional complexity of patronage in resource governance, which in certain contexts serves as a mechanism for socio-ecological adaptation.” This view is supported by Folke (2006) “social-ecological embeddedness” framework, which positions patronage as “an integral part of a dynamic adaptive system, not merely an obstacle to sustainable development.” This paradigm shift enables a more holistic analysis of how traditional power relations interact with environmental change.

A deeper theoretical implication is the need to integrate political ecology theory with socio-ecological resilience approaches. This study confirms Cleaver (2002) argument that “the analysis of power relations must be at the core of our understanding of system resilience, not as a separate additional variable.” Thus, this research not only enriches patronage theory but also makes a significant contribution to the development of a resilience theory that is more sensitive to power dimensions. The findings of this study call for a more nuanced reorientation of rural development policies in addressing patron-client relations. As emphasized by Dharmawan et al. (2016), “policy interventions must be able to accurately distinguish between patronage patterns that need to be reformed, those that need to be strengthened, and those that need to be transformed.” The concrete policy recommendations emerging from this research include three main strategies. First, “strengthening local institutional capacity through an institutional bricolage approach that combines traditional and modern elements” (Cleaver, 2002). Second, “developing performance-based incentive schemes for patrons who adopt sustainable practices,” as successfully implemented in the palm oil certification program in West Kalimantan (World Bank, 2025). The implementation of these strategies requires a deep understanding of local complexities and a willingness to adopt a participatory, long-term approach.

Table 1. Typology of Patron-Client Relations Based on Ecological Impact

| Aspect | Negative Impact | Positive Impact | Determining Factors | Empirical Examples |
|----------------------------------|--|---|--|---|
| Incentive Structure | Monopolistic control → higher environmental degradation (2–3×) | Equitable benefit-sharing → ecological sustainability | - Centralized vs. participatory decision-making - Benefit distribution | - Palm oil plantations (McCarthy, 2016): 2.8% annual deforestation, 85% of farmers report soil fertility decline in 5 years - Balinese “ <i>subak</i> ” (Lansing et al., 2023): maintained productivity & biodiversity |
| Institutional Flexibility | Rigid systems → ecological crises | Adaptive systems → long-term resilience | - Room for rule negotiation - Responsive feedback mechanisms - Balanced incentives (individual & collective) | - Monoculture plantations (rapid crises) - Sasi in Maluku (Satria & Adhuri, 2010): adjustable fishing bans via community deliberation |
| Socio-Historical Context | Areas with resource conflicts → rigid, closed patronage | Isolated regions → preserved traditional sustainable systems | - Market penetration - Local political history - Social structure | - Kalimantan (Li, 2000): closed patronage post-conflict - Kei Islands: “ <i>sasi</i> ” system sustained for 3 centuries |
| Patronage Transformation | Structural dependence (debt-product schemes) → exploitation | Market pressure & decentralization → hybrid sustainable patronage | - Certification (e.g., RSPO) - Civil society interventions - Local policies | - Riau (McCarthy, 2016): 20% of mid-scale palm oil growers voluntarily adopted RSPO |

| | | | | |
|----------------------------|-----------------------------------|---|--|--|
| Policy Implications | One-size-fits-all approaches fail | Contextual & participatory strategies succeed | - Institutional bricolage (traditional + modern hybrid) - Performance-based ecological incentives | - Palm oil certification in West Kalimantan (World Bank, 2025): successful incentive model |
|----------------------------|-----------------------------------|---|--|--|

Source: Processed by Researchers, 2025.

IV. DISCUSSION

The “Resilience-Power Nexus” framework was developed in response to fundamental limitations in the discourse on socio-ecological resilience, which has tended to ignore the dimension of power relations. Lebel et al. (2006) sharp critique reveals that “the majority of resilience studies are trapped in narrow techno-ecological analysis, treating power relations only as a static backdrop, not as a dynamic mechanism that shapes adaptive capacity.” This framework addresses this analytical gap by integrating three previously fragmented dimensions: political ecology, social network theory, and adaptive resilience (Cleaver, 2002). This approach enables a more holistic understanding, as seen in the finding that “communities with moderate patronage network density (0.4–0.6) indicates higher resilience compared to systems that are too loose or too concentrated (Camacho-Villa, et.al, 2023)”. Thus, this framework not only enriches academic discussion but also provides practical diagnostic tools for sustainable development planning.

The first element of the “Resilience-Power Nexus” framework asserts that asymmetric access to natural resources functions as a central mechanism linking power structures to ecological resilience capacity (Folke, 2006). Ambarwati (2024) findings in Kalimantan reveal that “patron hegemony over the means of production, from land ownership to agricultural machinery, determining larger variations in land management practices, exceeding the influence of natural variables such as rainfall or soil type.” This reality illustrates the paradox of rural development, where “the ecologically most vulnerable actors have the least control over critical resources” (Li, 2000), creating a cycle of dependency that is difficult to break.

Comparative analysis identifies three main pathways through which asymmetric access operates within the patronage system: (1) Agricultural Input Monopoly: In several of the study locations, “patrons control the distribution of fertilizers and high-quality seeds as bargaining tools to bind farmers” (Li, 2017), creating structural dependence. (2) Distribution Channel Dominance: “many of the oil palm plasma farmers have no alternative sales channels other than to patron-owned mills” (McCarthy, 2016), due to exclusive contracts and infrastructure barriers.

Social networks in patronage systems display a unique ambivalence, functioning as both a “social safety net” and an “invisible prison.” Research by Adhuri et al. (2016) on coastal communities found that “there are more fishing households that depend on patronage networks to survive during lean seasons through interest-free loans and flexible profit-sharing mechanisms.” However, Peluso (2000) in-depth study revealed its dark side: “many of the plantation farmers are trapped in a cycle of dependency due to debt-for-goods mechanisms designed to structurally bind them.” This contradiction shows that patronage social networks operate like a double-edged sword, serving as a lifeline during crises while simultaneously hindering long-term independence (Setiawan, 2025).

Cross-case quantitative analysis reveals an ideal equilibrium point in social network density. Data shows that “communities with medium network density (0.4–0.6 on the Borgatti scale) achieve 28% higher resilience capacity than networks that are too loose (<0.3) or too dense (>0.7)” (Camacho-Villa, et.al, 2023). This pattern occurs for two main reasons: “networks with moderate density maintain adaptive flexibility without losing social cohesion,” while also “preventing excessive concentration of power in a single actor.” These findings support the “institutional sweet spot” theory (Ostrom, 2005), with an additional emphasis on the dimension of power relations that has been overlooked in conventional resilience analysis.

Local institutions within the patronage system serve as a crucial bridge between power structures and resource management practices. A study Lansing et al. (2023), Geria et al. (2019), Kurniawan (2009) on Bali’s “*subak*” system convincingly demonstrates that “customary water management mechanisms are three times more effective at reducing conflicts than government regulations, with a higher level of compliance.” This success stems from the ability of local institutions to “combine social hierarchy with adaptive flexibility,” creating a governance system that is responsive to ecological and social change. This finding also corrects the assumption that patronage is always obstructive, demonstrating its potential as an effective vehicle for collective regulation (Kuswicaksono, 2021).

This finding reinforces and expands Elinor Ostrom’s theory of the “institutional sweet spot” by incorporating the dimension of power relations. In the context of Indonesian patronage, this sweet spot is achieved when: “(1) patron-client relationships are close enough to facilitate risk redistribution, yet (2) loose enough to allow for renegotiation of rules, and (3) there are checks and balances mechanisms in place to prevent abuse of power” (Ostrom, 2005). These findings provide practical guidance for policy development aimed at optimizing the benefits of traditional social networks while minimizing their negative impacts.

The “Resilience-Power Nexus” framework challenges the conventional understanding that rigidly separates resilience and resistance. As explained by Peluso dan Lund (2013), “truly transformative patronage relations arise from the dialectic between maintaining system stability and promoting radical change.” This perspective corrects the academic tendency to view resilience as

an effort to maintain the status quo and resistance as a threat to stability (Setiawan et al., 2025). In the context of rural Indonesia, “the most successful adaptation processes occur when communities can leverage existing patronage relationships as a basis for progressive change,” highlighting the complexity of local power dynamics (Setiawan, 2025).

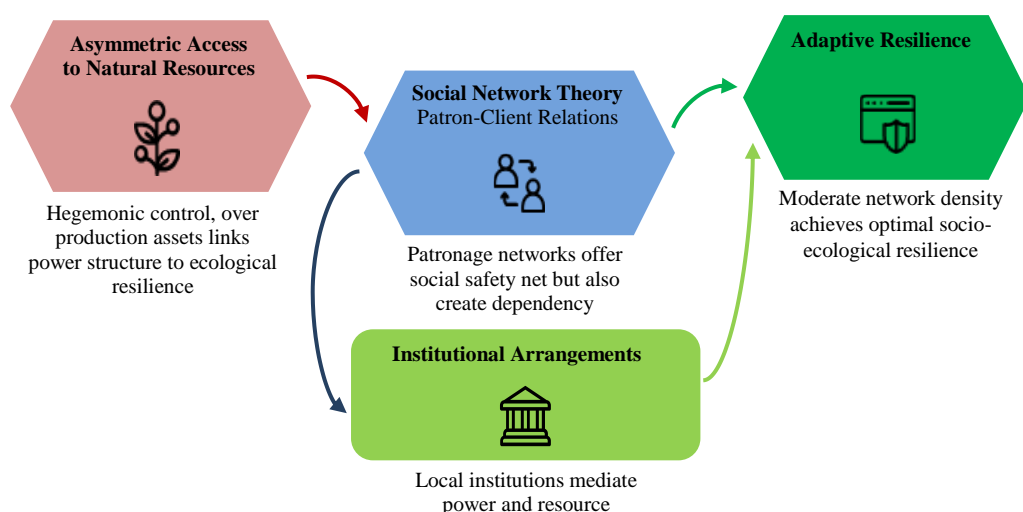


Figure 1. The “Resilience-Power Nexus” framework

Source: Processed by Researchers, 2025.

The process of transforming patronage relations involves three interrelated core mechanisms. Data from Ribot (2004) on many communities shows that “so many of successful transformation cases began with the renegotiation of social contracts between patrons and clients, often through traditional deliberative forums facilitated by community leaders.” The second mechanism is “the reconfiguration of resource access, which occurred in less of cases, typically through the strengthening of collective management rights over land and water.” Equally important is “the reinterpretation of traditional values, where principles such as ‘mutual support and care’ are revived to legitimize change.” These three processes work simultaneously to create systemic transformation (Ramdhan et al., 2024).

These findings make an important contribution to social change theory by showing a “third way” between revolution and stagnation. As noted by Ribot (2004), “the most sustainable transformations occur through what is called a ‘soft revolution’, fundamental changes made gradually through existing institutions.” This approach has proven more effective in rural Indonesia because it “leverages existing social and cultural capital rather than creating new structures from scratch.” The theoretical implication is the need for a more holistic approach in understanding the relationship between power, institutions, and socio-ecological change.

V. CONCLUSION

This study has examined the complex relationship between patron-client relations and socio-ecological resilience in rural Indonesia, challenging reductionist views that see patronage solely as an exploitative system. Findings show that ecological impacts and patronage relations are highly dependent on incentive structures, decision-making mechanisms, and institutional flexibility. Systems that combine social hierarchy with spaces for negotiation and collective oversight tend to be more sustainable than monopolistic and rigid models. The “Resilience-Power Nexus” framework developed in this study emphasizes the importance of integrating power relations analysis with a socio-ecological resilience approach. This framework identifies social network density, access to resources, and the adaptive capacity of local institutions as key determinants in shaping system resilience. Communities with balanced patronage structures, neither too loose nor too concentrated, demonstrate higher adaptive capacity, as they are able to maintain social cohesion while preventing excessive power dominance. The study's recommendations suggest a more dynamic and contextual approach to managing patronage relationships in rural areas. Strategies such as strengthening local institutions, providing sustainability-based incentives, and increasing community participation can drive the transformation of patron-client relationships toward a more adaptive and equitable model.

VI. DISCLOSURE

The author reports no conflicts of interest in this work.

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