

Detecting Latent Environmental Conflict: A Meta-ethnography for the Reform of National Ecological Security Assessment

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ABSTRACT

Indonesia's current National Ecological Security Assessment instruments remain technocratic, quantitative, and top-down in nature, rendering them unable to detect signals of latent environmental conflict that accumulate at the community level. Dimensions such as the erosion of trust among indigenous communities, symbolic resistance, and ecological violence concealed by development narratives escape the existing security detection radar. This study employs a Meta-Ethnographic approach (Noblit & Hare, 1988), structured through seven iterative phases, to synthesize ethnographic and qualitative literature on environmental conflict in Indonesia, with study selection following the PRISMA 2020 protocol. The synthesis produces a taxonomy of three pathways of latent conflict: (1) the erosion of trust and the activation of parallel customary institutions, (2) ecological violence concealed by development narratives, and (3) governance fragmentation as a vulnerability multiplier. These findings reveal three fundamental gaps in existing instruments, namely the dominance of a technocratic paradigm, the inability to read non-military threat multipliers in an integrated manner, and the absence of community-based signal-capture mechanisms. The study recommends a reform toward a Transformative Ecological Security Assessment that integrates the dimension of justice, recognizes local knowledge as an early-warning system, and epistemically decentralizes security data collection from the community level into the national security architecture.

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1. Introduction

National ecological security can no longer be understood solely through the paradigm of conventional military threats or measurable physical parameters. Global climate change has transformed into a threat multiplier that exacerbates the structural vulnerability of societies, particularly communities whose lives depend directly on natural resources (Cardinale et al., 2026). Within this context, environmental conflict is not merely a matter of ecosystem degradation, but

touches upon dimensions of social justice, recognition of rights, and communal identity that are far deeper and more complex.

Indonesia, as an archipelagic nation with extraordinary ecosystem diversity and indigenous communities, faces layered pressures from natural resource exploitation, agrarian conflict, and accelerating deforestation. The National Resilience Institute of the Republic of Indonesia (Lemhannas-RI), within the framework of the Ecological and Climate Resilience Pillar, has identified climate change as a threat multiplier that exacerbates the nation's physical-ecological vulnerability, including hydrometeorological disasters, ecosystem degradation, and biodiversity loss (Subiyanto, 2022; Syadzilly et al., 2025). However, recognition of this threat multiplier remains defined in physical and technocratic terms, in which climate change is generally viewed as a trigger of natural disasters requiring mitigation responses and infrastructure adaptation, rather than as a catalyst that activates latent socio-ecological tensions at the community level—tensions that are far harder to detect and far easier to ignite into communal conflict.

The fundamental problem facing Indonesia lies in the design of National Ecological Security Assessment instruments, which remain technocratic, quantitative, and top-down in nature. Available instruments, ranging from Lemhannas RI's environmental gatra indicators to AMDAL/KLHS mechanisms, are designed to measure statistically verifiable physical parameters. Although the Ecological Pillar within Lemhannas's national resilience framework has recommended sustainable forestry and mining reforms as well as the integration of climate security into defense policy (Syadzilly et al., 2025; Arbaningsih et al., 2024), these recommendations operate at the macro-policy level and have yet to answer a more fundamental question: how to detect signals of latent conflict at the grassroots level before such macro policies arrive too late to prevent escalation. Dimensions of latent conflict—such as the cultural trauma of indigenous communities, symbolic resistance through local myths, shifts in customary rhythms, and concealed disregard for government programs—escape the radar of security detection because they cannot be articulated through rigid numbers or indicators (Ingrida, 2026).

This gap is further compounded by governance fragmentation. Asgaf et al. (2026) document a governance trilemma at the provincial level in Indonesia—namely weak coordination, capacity, and accountability resulting from the recentralization of forestry authority—which structurally impedes effective and equitable natural resource management. Hajad et al. (2025) add that land degradation and socio-economic inequality are linked through a multidimensional relationship requiring a comprehensive strategy through agrarian reform, rather than merely partial technical interventions. Meanwhile, Izzatinnisa and Ningsih (2025) demonstrate that carbon market mechanisms such as REDD+ often obscure internal inequalities and reproduce historical injustices when not accompanied by inclusive governance and the protection of land tenure rights.

On the other hand, the global development of environmental peacebuilding literature offers an increasingly relevant perspective. Ide et al. (2021) note that this field has shifted from merely predicting conflict "hotspots" toward post-conflict recovery and the strengthening of climate resilience, while also proposing a third-generation research agenda centered on issues of power, gender, and scale. Turley et al. (2025) identify seven pathways linking water resource management with peace, providing a conceptual structure for interdisciplinary approaches. Olsson and Moore (2024) emphasize that combining resilience with transformative justice is key to navigating complex peace processes, while Taborda et al. (2026) warn that siloed interventions risk producing boomerang effects or maladaptation that further worsens community vulnerability.

It is worth underscoring the role of local knowledge and customary approaches in building community resilience. Ingrida (2026) argues that local knowledge functions as both nonviolent resistance and an ecological balancing mechanism, such that sustainable peace must be rooted in local wisdom and an ecocentric paradigm. Ide et al. (2021), in their study of the Tara Bandu mechanism in the Timor region, show that customary governance structures provide effective local mechanisms for resource management and post-conflict recovery. Bräuchler (2022) further asserts that peace is a continuous creative process that must be locally rooted, extending beyond the boundaries of formal intervention. Nevertheless, Davis et al. (2023), in a scoping review of 134 articles, found that nearly half of the literature still neglects power dynamics and inequality in peacebuilding interventions—a void that urgently needs to be filled.

This methodological gap constitutes the point of departure for the present study. Ethnographic studies on environmental conflict in Indonesia remain scattered and have never been systematically synthesized into a macro-level framework that could be adopted by national security policymakers. Sihidi et al. (2026), through a bibliometric analysis of political ecology research in Indonesia (1962–2025), confirm that although publications have increased significantly since 2010, research remains fragmented and has yet to integrate local findings into strategic policy instruments. Karso (2025) reinforces this finding by showing that the vulnerability of indigenous communities in Indonesia is closely linked to governance gaps and the absence of systematic legal protection.

It is important to emphasize why conventional Systematic Review (SR) or Scoping Review approaches are inadequate for addressing this issue. SR and Scoping Review are fundamentally designed to map breadth, thematic frequency, or intervention effectiveness through the aggregation of findings across studies (Višić, 2022); both tend to treat primary study authors' interpretations (second-order constructs) as data to be counted or categorized, such that the contextual and idiomatic meaning embedded in participants' original expressions (first-order constructs) is easily lost in this aggregation process. Yet the phenomena at the focus of this study—erosion of trust, symbolic resistance, and ecological violence concealed behind development narratives—are inherently interpretive and meaning-laden, rather than merely a matter of standardizable thematic frequency. Meta-Ethnography (Noblit & Hare, 1988) offers a methodological advantage that conventional SR or Scoping Review lacks, namely the capacity to translate concepts, metaphors, and themes across studies in order to generate a novel third-order interpretation—an understanding that goes beyond a simple summation of each individual study's findings (France et al., 2019; Vienni-Baptista, 2024). It is this methodological justification that underlies the selection of Meta-Ethnography as the primary synthesis instrument in this study, rather than a standard systematic review approach.

Building on these theoretical and methodological gaps, this study is explicitly formulated to address the following three research questions:

1. What patterns or signals mark latent environmental conflict at the community level in Indonesia that are not captured by existing National Ecological Security Assessment instruments?
2. To what extent is the national ecological security assessment instrument (Lemhannas RI) able—or unable—to read the cross-pillar interactions (Ecological, Socio-Cultural, and Economic) that trigger the escalation of such latent conflicts?

3. How can a Transformative Ecological Security Assessment reform framework be formulated through meta-ethnographic synthesis in order to integrate local knowledge as an early-detection mechanism into the national security architecture?

Building on this condition, the present study proposes a Meta-Ethnographic approach (Noblit & Hare, 1988) as a qualitative synthesis instrument capable of filling the methodological gap not yet addressed by Lemhannas's current framework. Whereas Lemhannas has identified what needs to be reformed in ecological and mining governance, this study addresses how to detect conflict signals that accumulate well before such reforms have had the chance to take effect. Moreover, this study demonstrates that latent environmental conflict cannot be adequately understood through analysis of the Ecological Pillar alone, but is instead a product of the simultaneous interaction among the Ecological Pillar, the Socio-Cultural Pillar, and the Economic Pillar—pillars that have thus far been assessed separately within sectoral silos. This inability to capture cross-pillar interaction constitutes the greatest gap in Indonesia's current ecological security assessment architecture, and it is precisely this gap that represents the primary point of intervention for the present study.

Building on this framework of research questions, the novelty contribution of this study can be delineated into three dimensions. Theoretically (theoretical novelty), this study enriches the field of Political Ecology (Sihidi et al., 2026; Pichler & Brad, 2016) and Environmental Peacebuilding (Ide et al., 2021; Krampe et al., 2021) by offering a latent conflict pathway perspective—a conceptual framework explaining how ecological pressures are transformed into communal conflict through latent pathways that have not been extensively mapped systematically in prior literature. Methodologically (methodological novelty), this study represents one of the earliest attempts to apply Meta-Ethnography (Noblit & Hare, 1988) within the domain of national security studies, a field historically dominated by quantitative-technocratic methods, thereby broadening the methodological horizon of national resilience studies in Indonesia. In terms of policy (policy novelty), this study offers a Transformative Ecological Security Assessment framework as an operational instrument capable of complementing the existing national ecological resilience assessment architecture, including within the Lemhannas RI environment (Subiyanto, 2022; Syadzilly et al., 2025; Arbaningsih et al., 2024).

2. Research Method

This study employs an exploratory qualitative design with Meta-Ethnography (Noblit & Hare, 1988) as the primary synthesis method. Unlike conventional literature review, meta-ethnography translates concepts, themes, and metaphors across studies to generate new understanding that transcends the findings of each individual study (France et al., 2019; Vienni-Baptista, 2024). This method was selected for its compatibility with the character of the literature corpus under review, namely context-rich ethnographic studies on environmental conflict, local resistance, and socio-ecological dynamics in Indonesia. As France et al. (2019) emphasize, meta-ethnography is most appropriately applied to explanatory conceptual data, that is, data capable of explaining a phenomenon in depth rather than offering merely superficial description.

The research procedure follows the seven iterative phases of Noblit and Hare (1988), further operationalized by France et al. (2019) and Vienni-Baptista (2024), ranging from defining the research interest to expressing the synthesis as policy recommendations. The relationality between studies is mapped through three types of relationships established by Noblit and Hare (1988)—

namely reciprocal, refutational, and line-of-argument relationships—all three of which are expected to be present simultaneously given the contextual complexity of the literature under review.

Meta-Ethnography Procedure

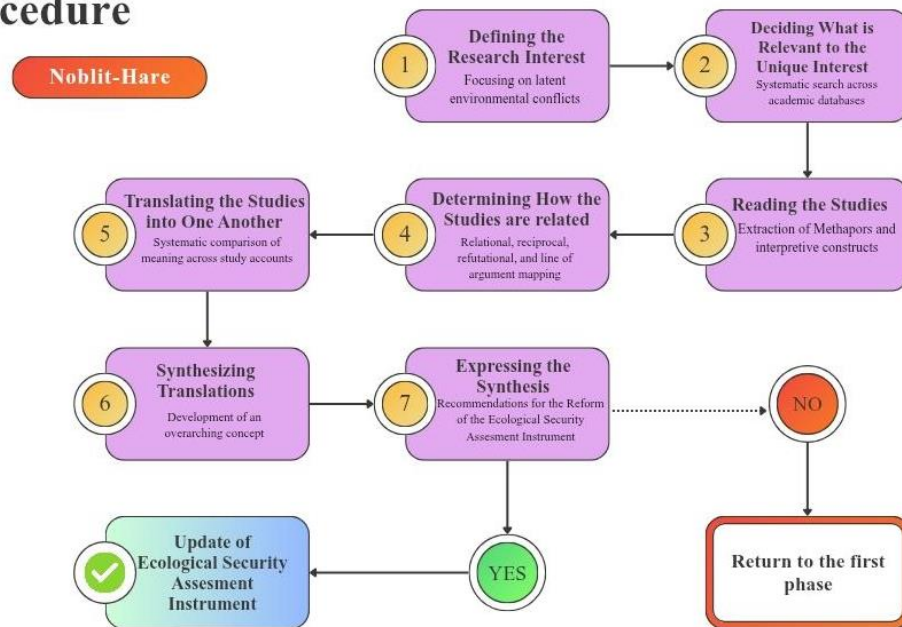


Figure 1. Procedural Flow of Noblit & Hare's (1988) Meta-Ethnography

Literature selection follows the PRISMA 2020 protocol (Page et al., 2021) with a three-level screening process encompassing title, abstract, and full text. The search was conducted systematically across Scopus, Web of Science, SINTA, and Google Scholar, complemented by backward and forward citation searching techniques in accordance with the recommendations of France et al. (2019) and Višić (2022), with particular emphasis on local databases, since regional issues are frequently dominated by mother-tongue literature that is not internationally indexed. Studies were included if they were ethnographic or qualitative in nature, focused on environmental conflict or socio-ecological dynamics in Indonesia or comparable contexts in Southeast Asia, were published between 2000 and 2026, and were available in either Indonesian or English.

An initial search across the environmental and peacebuilding literature strands yielded 93 records (50 from the environmental corpus and 43 from the peacebuilding corpus). Following title, abstract, and full-text screening, 54 records were excluded: 41 from the environmental corpus and 13 from the peacebuilding corpus. The dominant reasons for exclusion were (a) reliance on purely technical or hydrological modeling (e.g., HEC-RAS, InVEST, TETIS) and remote-sensing/GIS analyses without conflict-level interpretation; (b) use of heavy quantitative or statistical designs (e.g., regression, ANOVA, SEM, FMOLS/DOLS, Fuzzy AHP) disconnected from site-level conflict dynamics; and (c) macro-level policy or governance reviews that did not engage with local-level environmental conflict. After screening, 39 studies (9 environmental, 30 peacebuilding) met the inclusion criteria — namely qualitative or ethnographic design, explicit engagement with power asymmetry, customary rights, or resource-related conflict, and contextual relevance to Indonesia or comparable Southeast Asian settings — and were carried forward into the meta-ethnographic synthesis.

Details of the elimination rationale at each screening stage are presented to clarify the transparency of the selection process. Of the 41 articles eliminated from the environmental corpus, 23 articles (56%) were excluded because they relied on technical modeling, hydrological modeling, or remote sensing/GIS without interpretation at the conflict level (e.g., HEC-RAS, InVEST, TETIS, or purely bibliometric analyses); 13 articles (32%) were excluded for employing heavily quantitative-statistical designs (regression, SEM, ANOVA, FMOLS/DOLS, statistical meta-analysis) detached from site-level conflict dynamics; and 5 articles (12%) were excluded for being general narrative reviews or policy/technical design papers without explicit engagement with conflict at the local level. A similar pattern was found in the peacebuilding corpus, where of the 13 articles eliminated, 7 articles (54%) were excluded due to purely statistical-quantitative designs (linear regression, GLM, MDS/Monte Carlo, logistic regression), 2 articles (15%) due to reliance on technical spatial mapping/remote sensing, and 4 articles (31%) due to a focus on macro-level policy or global governance without engagement with community-level conflict. This consistent elimination pattern across both corpora confirms that the majority of technocratic-quantitative environmental literature in Indonesia and its surrounding region has not yet explicitly engaged with latent conflict dynamics at the site level—a gap that constitutes the primary rationale for conducting a meta-ethnographic synthesis of the 39 qualitative/ethnographic studies that passed screening. .

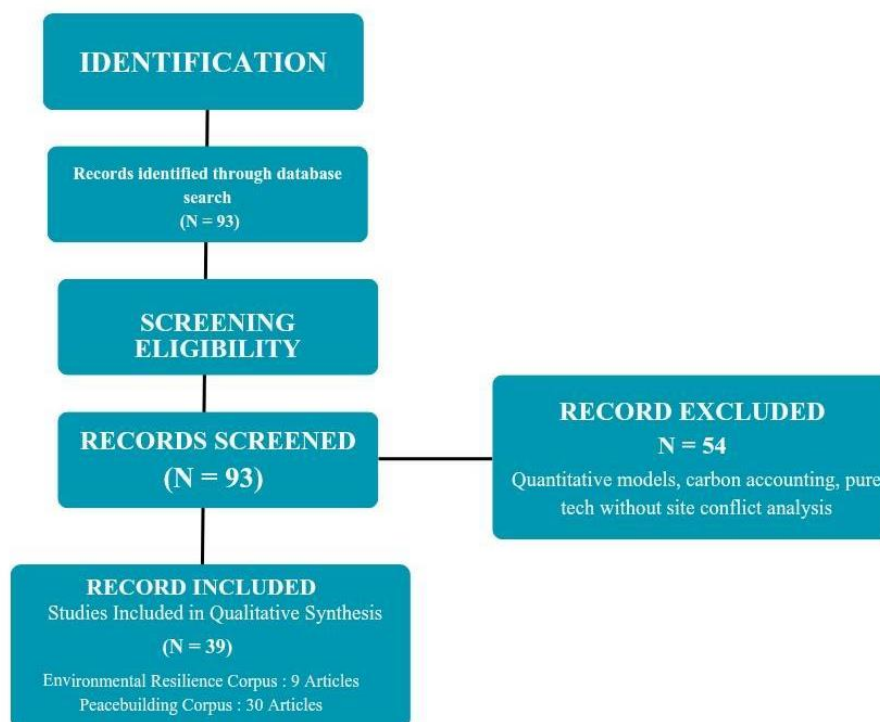


Figure 2. PRISMA Flow Diagram
Adapted from Page et al., (2021)

Study quality assessment employed four universal criteria applicable to all types of research, namely the relevance of the research question, internal validity, external validity, and the appropriateness of data analysis and presentation (Višić, 2022). The biomedical evidence hierarchy based on randomized controlled trials was not applied, as it is incompatible with the epistemology of social research, which operates through observational designs and non-random samples. Each

selected study was read intensively to extract both first- and second-order constructs in order to preserve the integrity of the original context and meaning of the study (France et al., 2019). Translation was carried out idiomatically and iteratively, with cross-regional comparison encompassing customary conflicts in East Nusa Tenggara (NTT), agrarian conflicts in Java, mining conflicts in Kalimantan, and post-conflict conditions in West Aceh.

To provide further transparency regarding the methodological quality of the synthesized studies, Table 1 presents a Critical Appraisal matrix of the 39 studies that passed screening, assessed against the four criteria of Višić (2022) outlined above. The category "Strong (S)" is assigned to studies employing data triangulation, in-depth interview/observation samples, or explicit systematic review protocols (e.g., PRISMA, ROSES); the category "Moderate (M)" is assigned to conceptual/theoretical studies or those based on a single document without direct field triangulation.

Table 1. Critical Appraisal Matrix of the 39 Synthesized Studies

No	Study	RQ Relevance	Internal Validity	External Validity	Analytical Rigor	Category
1	Peláez-Sánchez et al. (2026)	S	S	M	S	Moderate-Strong
2	Nalumu et al. (2026)	S	S	M	S	Moderate-Strong
3	Charuka et al. (2026)	S	S	M	S	Moderate-Strong
4	Bakker (2023)	S	S	S	S	Strong
5	Bukovszki et al. (2026)	S	M	M	M	Moderate
6	Villanova et al. (2026)	S	S	S	S	Strong
7	Koedijk & Schwartz (2026)	S	S	M	S	Moderate-Strong
8	Cardinale et al. (2026)	S	M	S	M	Moderate
9	Vergara-Garavito et al. (2026)	S	S	M	S	Moderate-Strong
10	Turley et al. (2025)	S	S	S	S	Strong
11	Sihidi et al. (2026)	S	M	S	S	Moderate-Strong
12	Olsson & Moore (2024)	S	M	M	M	Moderate
13	Chaney (2016)	S	S	M	S	Moderate-Strong
14	Berenschot et al. (2024)	S	S	S	S	Strong
15	Bräuchler (2022)	S	S	S	S	Strong
16	Sommer & Fassbender (2024)	S	M	M	M	Moderate
17	Ide et al. (2021a) – Tara Bandu	S	S	S	S	Strong
18	Liebenguth (2022)	S	M	M	M	Moderate
19	Taborda et al. (2026)	S	S	M	S	Moderate-Strong
20	Brotosusilo et al. (2018)	S	S	S	S	Strong
21	Hajad et al. (2025)	S	S	S	S	Strong
22	Ingrida (2026)	S	M	S	M	Moderate
23	Karso (2025)	S	S	S	S	Strong
24	Daffern (2022)	S	M	M	M	Moderate
25	Davis et al. (2023)	S	S	S	S	Strong
26	Saraiva & Erfe (2023)	S	M	M	M	Moderate
27	Agustus et al. (2025)	S	S	S	S	Strong
28	Krampe et al. (2021)	S	M	M	M	Moderate
29	Ide et al. (2021b)	S	M	M	M	Moderate
30	Setinawati et al. (2025)	S	M	M	M	Moderate
31	Edwards (2026)	S	S	M	S	Moderate-Strong
32	Sabates-Wheeler & Barker (2024)	S	S	M	S	Moderate-Strong

33	Asgaf et al. (2026)	S	S	S	S	Strong
34	Simangan et al. (2025)	S	M	M	M	Moderate
35	Izzatinnisa & Ningsih (2025)	S	S	M	S	Moderate-Strong
36	Tjoetra et al. (2024)	S	S	S	S	Strong
37	Pichler & Brad (2016)	S	M	M	M	Moderate
38	BPP Papua (2023)	S	M	M	M	Moderate
39	UNEP (2009)	S	M	M	M	Moderate

These diverse regional cases are considered strictly comparable because they share an identical structural logic: they all feature a fundamental asymmetry of power between local communities and external/state actors, and they operate within the same national overarching legal and institutional framework of Indonesia's resource governance. Thus, despite geographical and contextual variances, they allow for a meaningful synthesis to identify patterns of latent resistance that share similar structural logics. The final synthesis is directed toward formulating a taxonomy of latent conflict signals, which constitutes a conceptual contribution to the reform of ecological security assessment instruments, and may, if necessary, be followed up with a Policy Delphi and FGDs involving experts in defense, ecology, and anthropology to translate qualitative findings into operational assessment indicators (Vienni-Baptista, 2024).

To maintain methodological rigor and analytical transparency, this study explicitly operationalizes the four core elements of the Noblit and Hare (1988) framework as follows.

First-order constructs refer to the expressions, terms, and viewpoints articulated or demonstrated directly by local participants/informants as quoted in the primary studies—for instance, indigenous residents' narratives about environmental degradation, symbolic expressions of resistance to government programs, or testimonies from victims of corporate impacts. This construct represents the original (emic) meaning produced directly by research subjects in the field.

Second-order constructs are the interpretations, analytical concepts, and themes constructed by the primary study authors based on these first-order constructs—for example, the concept of "customary security groups" developed by Bakker (2023), or "corporate contentious politics strategies" formulated by Berenschot et al. (2024). This construct constitutes the original researchers' first-level interpretive layer (first-order etic) over the first-order data.

Third-order interpretation refers to the synthesis and re-signification undertaken by the author of this article across all second-order constructs from the 39 studies, through cross-study reciprocal translation, to generate new concepts situated at a higher level of abstraction. The three latent conflict pathways presented in Section 3.1 (erosion of trust, ecological violence, and governance fragmentation) exemplify concrete third-order interpretations—these concepts are not explicitly stated in any single individual study but instead emerge from the cross-translation of second-order constructs across studies situated in differing contexts.

The reciprocal translation procedure was carried out by translating concepts (second-order constructs) from one study into the terms of another study in order to identify shared meaning across contexts (line-of-argument synthesis). When two or more studies produce seemingly contradictory (refutational) findings, resolution is achieved not by selecting one finding as "correct," but by contextualizing the scope conditions under which each finding holds—for instance, the differing emphasis between surface "stability" and "conflict suppression" documented in Section 3.1.2, which is resolved by interpreting stability as a socially produced condition rather than as the ontological absence of conflict. This procedure is consistent with the guidance of France

et al. (2019) and Vienni-Baptista (2024) regarding the articulation of complex analytical phases in meta-ethnography.

3. Results and Discussion

3.1. Taxonomy of Latent Environmental Conflict Signals Based on Ethnographic Data

The meta-ethnographic synthesis of the selected literature corpus yields the finding that signals of latent environmental conflict in Indonesia do not manifest as overt unrest that can easily be measured, but instead operate through three mutually reinforcing structural pathways: (1) the erosion of community trust in the state, (2) ecological violence concealed beneath development narratives, and (3) governance fragmentation that creates voids in protection. These three pathways operate simultaneously and cumulatively, such that when they eventually erupt into open conflict, policymakers appear to be confronted with a crisis that arrives suddenly, even though its signals had in fact been accumulating over a long period.

Erosion of Trust and the Activation of Parallel Customary Institutions

Bakker (2023), in long-term anthropological research in Kalimantan, found that the state's formal recognition of customary law, when not accompanied by adequate legal enforcement, drives communities to independently form customary security groups. Customary fines paid by corporations to communities function only as a temporary solution that fails to address the root of the problem, allowing structural tensions to persist beneath the surface. This finding gives rise to the concept that the formation of security institutions parallel to the state constitutes a highly robust early-detection signal of fragile governance legitimacy—yet a signal that would never be captured by instruments that measure only the number of documented conflict incidents.

Ide et al. (2021), through their study of the Tara Bandu mechanism on the island of Timor, reinforce this finding from a different angle: customary governance structures provide effective local mechanisms for resource management and post-conflict recovery precisely because they possess a communal legitimacy that external formal interventions lack. Ingrida (2026) adds a decisive epistemological dimension: local knowledge functions as both nonviolent resistance and an ecological balancing mechanism. When communities quietly disregard government programs, perpetuate customary practices that contradict resource-exploitation regulations, or develop mythopoetic narratives about environmental destruction, such actions are not merely cultural expressions but active indicators of unresolved tension between communities and the governance systems that neglect them.

Applying reciprocal translation across these three studies produces a single coherent cross-context concept, though not without conceptual points of tension requiring reconciliation. Bakker (2023) and Ide et al. (2021) reciprocally reinforce one another: both demonstrate that customary institutions function as effective local legitimation mechanisms precisely because the state is absent or slow in enforcing formal law. However, a refutational nuance emerges between Bakker's findings—which highlight the formation of customary security groups as a defensive response to law-enforcement failure—and the findings of Ingrida (2026), who interprets communities' silent disregard as a form of epistemological nonviolent resistance rather than merely a pragmatic response to a legal vacuum. This tension is resolved not by selecting one interpretation as correct, but by understanding that both depict different points along the same spectrum: the activation of parallel customary institutions (Bakker) represents a structural manifestation, while symbolic

resistance and mythopoetic narrative (Ingrida) represent a discursive manifestation of the same underlying phenomenon—accumulated erosion of trust. This cross-study synthesis confirms that customary institutions and local knowledge are not merely cultural background variables, but constitute an early-warning system that has been operating autonomously at the grassroots level—and the state's failure to integrate this system into the national security architecture represents both a methodological and a political failure.

Ecological Violence Concealed by Development Narratives

Tjoetra et al. (2024) document that, in post-conflict West Aceh, the coal-mining industry systematically widens the gap between economic development and social justice. Most importantly, the conflict that emerges is not a new conflict but rather the reactivation of latent conflict that was never genuinely resolved during the post-conflict period. This confirms that post-conflict security assessments that measure only the absence of physical violence, without attending to the persistence of ongoing ecological violence, will invariably produce premature conclusions about the achievement of stability.

Berenschot et al. (2024) deepen this understanding at the structural level: palm-oil companies employ four systematic strategies in confronting community resistance, namely the co-optation of local elites, the cultivation of authority through networks of state apparatus, the suppression of protest, and the criminalization of community leaders. These strategies actively produce conditions in which conflict is forced into invisibility—not because conflict is absent, but because the channels for expressing it legitimately have been closed off one by one. Security assessments that respond only to visible expressions of conflict will always lag behind the actual reality of conflict.

Pichler and Brad (2016), in their analysis of socio-ecological conflicts in Southeast Asia, assert that such conflicts transform society-nature relations in unexpected and often contradictory ways, and that collective community mobilization retains transformative potential even within the most marginalized contexts. This implies that the "stability" visible on the surface in extractive regions may represent the forced suppression of conflict expression rather than the absence of conflict itself. An interactive comparison of these three studies reveals a pattern of mutual complementarity alongside a surface-level contradiction that requires unpacking. Tjoetra et al. (2024) and Berenschot et al. (2024) reciprocally affirm the same mechanism at different levels: whereas Tjoetra demonstrates that the mining conflict in West Aceh represents the reactivation of an unresolved post-conflict latent dispute, Berenschot reveals the micro-mechanisms underlying it—elite co-optation, protest suppression, and criminalization—which keep the conflict "hidden" even as it continues structurally. A refutational tension arises when these findings are juxtaposed with Pichler and Brad (2016), who emphasize the transformative potential of collective community mobilization even within marginalized contexts. At first glance, the emphasis on suppression (Tjoetra 2024; Berenschot 2024) appears to contradict the emphasis on agency and transformative potential. Yet this tension is in fact analytically productive: it demonstrates that the "stability" apparent on the surface of extractive regions is not the absence of conflict, but rather the suppression of conflict expression—a condition that is temporary and unstable, and one that could shift toward open mobilization at any moment once space for articulation becomes available again. Ecological violence that is structured and institutionalized by corporate actors is, therefore, not merely an ordinary form of conflict, but a distinct category of threat demanding specialized detection instruments—precisely because its "hidden" character is the product of engineered power relations, not an indication of the absence of risk.

Governance Fragmentation as a Vulnerability Multiplier

Asgaf et al. (2026) identify a governance trilemma at the provincial level in Indonesia: weak coordination, limited capacity, and inadequate accountability, all of which are exacerbated by the recentralization of forestry authority. Provinces are trapped in a position of bearing the burden of social conflict arising from decisions made at the central level, without possessing the capacity or authority to manage their impacts. Izzatinnisa and Ningsih (2025) show that climate mechanisms such as REDD+, which are intended to strengthen governance, instead obscure internal inequalities and reproduce historical injustices when not accompanied by polycentric governance and the protection of land tenure rights.

Hajad et al. (2025) reinforce this finding by showing that land degradation bears a multidimensional relationship to socio-economic inequality and food systems, in which insecure land tenure is a crucial factor in food security vulnerability, and that a comprehensive strategy through agrarian reform is an urgent necessity that cannot be substituted by partial technical interventions. Karso (2025) specifically documents that the vulnerability of indigenous communities in Indonesia is closely linked to governance gaps and the absence of systematic legal protection. The synthesis across these four studies reveals a convergent line-of-argument, even though they operate at different scales of analysis—the provincial level (Asgaf), global climate financing mechanisms (Izzatinnisa & Ningsih), food-land systems (Hajad), and the structural vulnerability of indigenous communities (Karso). Reciprocal translation between Asgaf et al. (2026) and Izzatinnisa and Ningsih (2025) reveals the same underlying logic operating at different levels: the recentralization of forestry authority at the provincial level (Asgaf) and the recentralization of control over REDD+ benefits at the global-national level (Izzatinnisa & Ningsih) both produce a fragmentation of accountability that shifts risk onto the actors least capable of bearing it. Hajad et al. (2025) extends this argument into the domain of food security, while Karso (2025) confirms that the structural vulnerability of indigenous communities is a direct consequence of these governance failures, rather than a mere side effect. No substantive (refutational) contradiction is found among these four studies; instead, all four reciprocally reinforce one another to affirm that governance fragmentation is not merely an administrative failure, but a structural condition that actively produces ecological vulnerability and heightens the potential for the escalation of latent conflict.

3.2. Deconstruction of National Ecological Security Assessment Instruments

The findings from the three pathways of latent conflict outlined above directly reveal the fundamental weaknesses of existing National Ecological Security Assessment instruments. This deconstruction is not merely critical in nature but diagnostic, in that it precisely identifies where and why existing instruments have yet to function optimally, thereby providing a basis for formulating well-targeted reforms.

The Dominance of a Technocratic Paradigm that Neglects the Dimension of Power

Davis et al. (2023), in a scoping review of 134 articles, found that nearly half of the entire environmental peacebuilding literature still neglects power dynamics and inequality in peacebuilding interventions. This finding is relevant for understanding the limitations of the Lemhannas instrument: although the Ecological Pillar of national resilience has identified climate as a threat multiplier and recommended the integration of environmental security into defense policy (Subiyanto, 2022), this recommendation has yet to incorporate a mechanism for detecting how ecological pressure interacts with local power dynamics and distributional inequality in

producing conflict. Villanova et al. (2026) confirm that technocratic priorities consistently neglect distributive justice, and that planning which fails to address the root of structural inequality in fact worsens the very conditions it seeks to remedy. Accordingly, technocratic assessment instruments are not merely ineffective but potentially counterproductive, as they provide policymakers with a false sense of security while the accumulation of tension at the grassroots level continues undetected.

The Inability to Read Non-Military Threat Multipliers in an Integrated Manner

Cardinale et al. (2026) argue that the protection of nature and biodiversity constitutes the foundation for long-term human well-being and national security. Lemhannas itself has already acknowledged this dimension through the Ecological Pillar, which positions climate change as a physical threat multiplier (Subiyanto, 2022). What has not yet been accommodated, however, is how this threat multiplier operates through socio-ecological mechanisms, not merely physical ones. Taborda et al. (2026) warn that interventions carried out separately between climate adaptation and peacebuilding risk producing boomerang effects or maladaptation. This directly demonstrates that when the Ecological Pillar, the Socio-Cultural Pillar, and the Economic Pillar are assessed within separate silos, as in Lemhannas's current architecture, the cross-pillar interactions that are in fact the most dangerous go uncaptured by any existing instrument. This expansion of the definition of threat multiplier—from a purely physical dimension toward a socio-ecological and structural one—constitutes one of the principal conceptual contributions of this study.

Olsson and Moore (2024) assert that human-environment relations are deeply interconnected, and that combining resilience with transformative justice is key to navigating complex peace processes. This directly critiques the reactive approach within ecological security assessment, which moves into action only once a crisis has already erupted, rather than detecting and responding to the accumulation of vulnerability that unfolds long before that breaking point is reached.

The Absence of Community-Based Signal-Capture Mechanisms

Mutia and Asteria (2018), in their study of coastal reclamation in Jakarta Bay, reveal that overlapping regulations and divergent interests among actors generate authority conflicts whose impact falls most heavily on the most vulnerable community, namely fisherfolk. Reclamation policy failed to accommodate social, economic, and environmental interests in a balanced manner. An important methodological note here is that this failure was never captured by conventional assessment instruments, because the violence experienced by the fishing community did not take the form of physical confrontation, but rather of gradual displacement, the degradation of livelihoods, and slow-moving social dislocation.

Sihidi et al. (2026) confirm, through bibliometric analysis, that Indonesian political ecology research since 2010 shows a shift in focus from traditional natural resource governance toward more progressive issues such as urban political ecology, gender, and justice. This shift reflects the reality that the terrain of environmental conflict is increasingly expanding and growing more complex, yet national security assessment instruments have not kept pace with these developments. As a result, there is a widening gap between the complexity of the conflicts faced by communities and the simplicity of the measurement tools the state employs to detect them.

To clarify this gap in concrete terms, Table 2 juxtaposes Lemhannas's existing indicators for the Environmental Pillar (Gatra Lingkungan)—which are physical-technocratic in nature—with the

latent conflict signal indicators proposed by this study, based on the meta-ethnographic findings presented in Section 3.1.

Table 2. Comparison of Lemhannas's Existing Indicators (Environmental Pillar) with the Proposed Latent Conflict Signal Indicators

Dimension	Lemhannas's Existing Indicators (Environmental Pillar – Technocratic)	Proposed Latent Conflict Signal Indicators
Primary measurement focus	Measurable physical-ecological parameters: rainfall, land cover, hydrometeorological disaster risk index (Subiyanto, 2022)	Erosion of Trust — declining community trust in the state (Bakker, 2023; Ingrida, 2026)
Environmental pressure indicators	Deforestation/land degradation data based on statistics and remote sensing	Symbolic Resistance — mythic narratives and symbolic rejection of government programs (Ingrida, 2026)
Natural-resource-related economic indicators	Macroeconomic data: downstream industrialization, income distribution (Paradox of Plenty) (Syadzilly et al., 2025)	Ecological Violence — ecological violence concealed behind development narratives (Tjoetra et al., 2024; Berenschot et al., 2024)
Institutional indicators	National Resilience Index based on provincial/national aggregates (Arbaningsih et al., 2024)	Parallel Customary Institutions — the formation of parallel customary security institutions (Bakker, 2023)
Regulatory compliance indicators	Formal compliance with EIA/SEA (AMDAL/KLHS) and corporate reporting	Governance Fragmentation Signals — regulatory overlap and accountability vacuums drawn from local narratives (Asgaf et al., 2026)
Data sources	Secondary data: satellite imagery, government statistics, corporate reports	Primary ethnographic data: in-depth interviews, participatory observation, local narratives
Detection timescale	Reactive — triggered after an incident/disaster is recorded	Anticipatory — reading the accumulation of pressure before open escalation
Unit of analysis	Provincial/national (aggregate)	Community/village (local site)

3.3. A Reform Framework: Toward a Transformative Ecological Security Assessment

The line-of-argument synthesis of all the findings above enables the formulation of a Transformative Ecological Security Assessment reform framework, resting on three principles that flow logically from the diagnosis outlined above.

First Principle: From Military Security to Human Security Grounded in Ecological Resilience

The findings from the first pathway of latent conflict—namely the erosion of trust and the activation of parallel customary institutions—demonstrate that genuine security cannot be separated from governance legitimacy and the recognition of community rights. Lemhannas has already positioned the development of human capital and inclusive governance as an implementation strategy under the Socio-Cultural Pillar (Arbaningsih et al., 2024). However, the development of human capital within the Lemhannas framework remains oriented toward strengthening individual capacity through formal leadership education. This study complements that orientation by revealing a different dimension: that customary institutions and local knowledge already alive within communities constitute an early-warning system for conflict that already operates autonomously, and what is needed is not merely to strengthen individual capacity from above, but to integrate the signals from these already-existing community systems into the architecture of national security assessment. Krampe et al. (2021) show that improved natural resource governance functions as a peacebuilding tool by building trust and mutual understanding

among actors, while Ide et al. (2021) demonstrate that bottom-up approaches recognizing the capacity of customary governance produce more sustainable peace than top-down formal interventions.

Accordingly, the reform of the assessment paradigm must move from a conception of security centered on the absence of military threat toward a conception of human security that positions community ecological resilience as the foundation of long-term national security. Saraiva and Erfe (2023) emphasize that resilience must be viewed multidimensionally in order to address the complexity of contemporary threats, including extremism, climate disasters, and resource conflict. Bräuchler (2022) reminds us that peace is a continuous creative process that must be locally rooted, extending beyond the boundaries of formal intervention. The implication for assessment instruments is that the vitality of customary institutions, the depth of community social capital, and the capacity for transformational adaptation grounded in local knowledge must be operationalized as positive security indicators, rather than merely recorded passively as background variables.

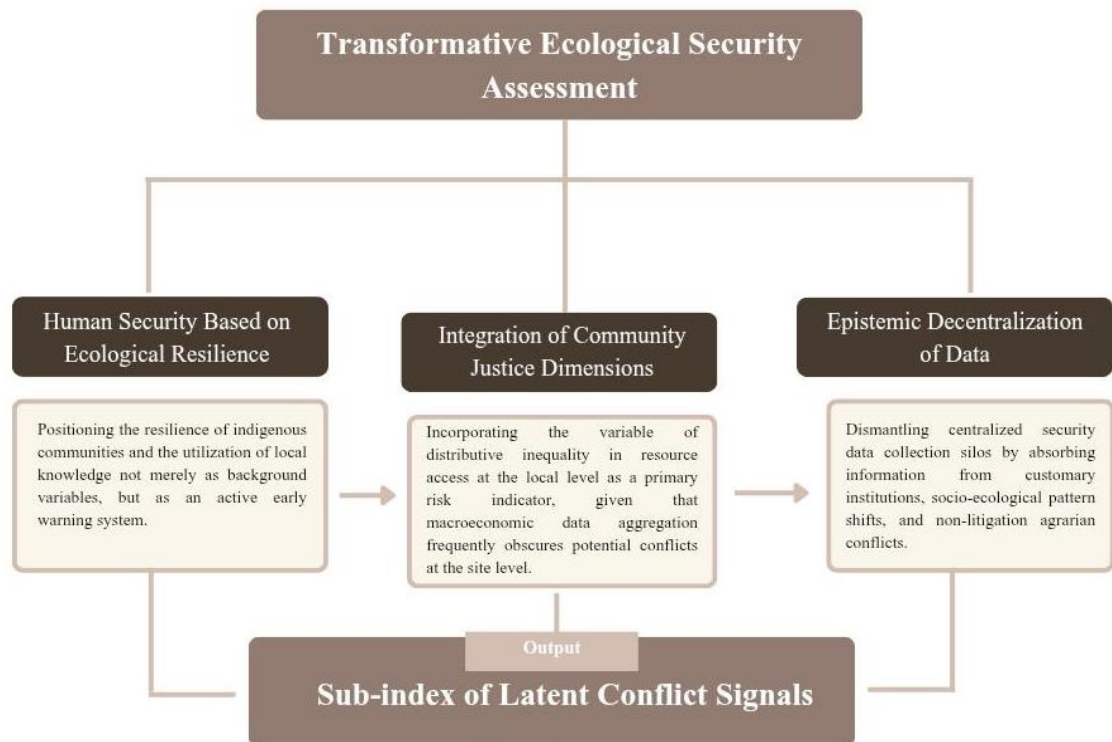
Second Principle: Integrating the Dimension of Justice into Every Assessment Variable

The findings from the second pathway—ecological violence concealed by development narratives—show that distributive injustice is a more reliable predictor of conflict than conventional physical-ecological indicators. Lemhannas identifies the Paradox of Plenty as a challenge within the Economic Pillar and recommends downstream industrialization and the equitable distribution of income as its solution (Syadzilly et al., 2025). This study does not aim to replace that recommendation but rather to fill a specific gap that remains unaddressed: downstream industrialization and income distribution are interventions at the level of macroeconomic output, whereas the latent conflict documented by Berenschot et al. (2024) and Tjoetra et al. (2024) operates at the level of distributive process within communities, long before such macro-level output is recorded in national statistics. In other words, by the time distributional imbalance in access to natural resources at the community level has reached a critical point, Lemhannas's macroeconomic indicators may not necessarily capture it, since national data aggregation conceals extreme local heterogeneity. This is precisely why indicators of distributional imbalance at the community level need to be treated as a distinct latent-conflict risk variable within assessment instruments, rather than merely as a footnote to aggregate economic analysis.

Third Principle: Epistemic Decentralization in the Collection and Interpretation of Security Data

The findings from the third pathway—governance fragmentation—show that the greatest weakness of the current ecological security assessment system lies not only in its indicators but in its overly centralized data-collection architecture. Lemhannas identifies sectoral silos and non-adaptive policymaking as challenges within the Governance Pillar (Arbaningsih et al., 2024), and recommends democratic institutional reform along with strengthening Lemhannas's function as the president's strategic think tank based on a National Resilience Index. This study complements that vision with a dimension not yet present: the current National Resilience Index does not yet possess a sub-index capable of measuring the accumulation of latent conflict signals from the community level. The epistemic decentralization proposed in this study—namely building a formal mechanism to integrate signals from customary institutions, land conflicts that never reach the courts (Agustus et al., 2025), and shifts in local socio-ecological patterns into the national security information system—is a concrete operational step that answers Lemhannas's vision of a data-driven think tank.

TRANSFORMATIVE ECOLOGICAL SECURITY FRAMEWORK



Source: Author's elaboration, 2026

Figure 3. Transformative Ecological Security Framework

In order to ensure that the Transformative Ecological Security Assessment framework depicted in Figure 3 does not remain merely conceptual, Table 3 outlines a preliminary operationalization proposal comprising variables, qualitative parameters, field indicators, and potential data sources for each reform principle. This operationalization is preliminary in nature and is derived directly from the meta-ethnographic findings presented in Sections 3.1–3.2.

Table 3. Preliminary Operationalization Proposal for the Transformative Ecological Security Assessment

Reform Principle	Variable	Qualitative Parameter	Field Indicator	Potential Data Source
Principle 1: Human Security Grounded in Ecological Resilience	Customary Institutional Vitality	Frequency of parallel customary security institution activation; degree of residents' compliance with customary law versus formal regulation	Number of dispute resolution cases handled through customary mechanisms per year; existence of self-organized customary security groups	Interviews with customary leaders; customary institution records; local NGO reports
	Community Social Capital	Density of bonding/bridging/linking trust networks (Vergara-Garavito et al., 2026)	Participation in cooperatives/community financial institutions; cross-village networks	Social capital surveys; community focus group discussions
Principle 2: Integration of the Justice Dimension	Site-Level Distributive Inequality	Perceptions of fairness in the allocation of natural resource benefits at the village level (Berenschot	Ratio of land/resource access before and after investment; number of community complaints	Community complaint reports; interviews with affected groups

Principle 3: Epistemic Decentralization	Symbolic Resistance	et al., 2024; Tjoetra et al., 2024) Intensity of mythic narratives/symbolic rejection of development programs (Ingrida, 2026)	against corporations Frequency of local rituals/narratives referencing environmental damage; passive resistance to government programs	Ethnographic observation; documentation of local culture
	Community Signal-Capture Mechanism	Existence of community- based reporting channels integrated into the national security information system	Number of land conflict cases not brought to court but documented by local institutions (Agustus et al., 2025)	Customary institution databases; village facilitator records; community- based early-warning mechanisms
	Governance Fragmentation	Extent of regulatory/authority overlap across levels of government within a single region (Asgaf et al., 2026)	Permit/licensing overlap index; number of governmental actors operating without clear coordination	Regional regulatory documents; interviews with government officials

This entire framework converges on a single core argument: the reform of National Ecological Security Assessment cannot be accomplished merely by adding new variables to an instrument whose paradigm remains technocratic. What is needed is a fundamental paradigm shift from a static-reactive approach based on macro physical indicators toward a transformative approach capable of reading the early tremors of socio-ecological vulnerability before they develop into manifest disruptions of stability. Meta-ethnography, with its capacity to synthesize context-rich local narratives into a structured policy framework without sacrificing contextual depth, is the methodological bridge that Indonesia's ecological security assessment architecture has thus far lacked.

4. Conclusion

The meta-ethnographic synthesis of 39 qualitative/ethnographic studies demonstrates that latent environmental conflict in Indonesia operates through three mutually reinforcing structural pathways: (1) the erosion of community trust in the state, which triggers the activation of parallel customary institutions; (2) ecological violence that is structured and concealed behind development narratives by corporate actors; and (3) governance fragmentation, which functions as a vulnerability multiplier. These three pathways reveal three fundamental gaps in existing National Ecological Security Assessment instruments: the dominance of a technocratic paradigm that overlooks the dimension of power, an inability to read cross-pillar, non-military interactions in an integrated manner, and the absence of a community-based signal-capture mechanism.

This study enriches the fields of Political Ecology and Environmental Peacebuilding with a latent conflict pathway perspective, which extends the definition of "threat multiplier" beyond a purely physical dimension toward socio-ecological and structural dimensions—a conceptual shift that has not yet been extensively and explicitly articulated in Indonesia's national resilience literature (Cardinale et al., 2026; Sihidi et al., 2026; Pichler & Brad, 2016). Furthermore, Meta-Ethnography (Noblit & Hare, 1988), operationalized through first-order, second-order, and third-order constructs alongside the procedures of reciprocal translation and refutational synthesis, has proven applicable to the domain of national security studies—a field historically dominated by quantitative-technocratic methods—without sacrificing the contextual depth of ethnographic data (France et al., 2019; Vienni-Baptista, 2024).

This study offers a Transformative Ecological Security Assessment framework, together with a preliminary operationalization proposal for its variables, qualitative parameters, and field indicators (Table 3), as a complement to—rather than a replacement for—the ecological resilience assessment architecture already pioneered by Lemhannas RI through its Ecology and Climate Pillar (Subiyanto, 2022; Syadzilly et al., 2025; Arbaningsih et al., 2024). This framework bridges the gap between the identification of ecological threats at the macro level and the need to detect the accumulation of vulnerability at the grassroots level before it reaches a critical point.

It must, however, be honestly acknowledged that this study carries certain limitations. First, the resulting Transformative Ecological Security Assessment framework remains a conceptual framework derived entirely from a secondary meta-ethnographic synthesis of qualitative/ethnographic literature, rather than from primary field data collection. Consequently, the variables, parameters, and indicators presented in Table 3 have not yet undergone direct empirical testing for validity and reliability. Second, the scope of the literature corpus—although subjected to the PRISMA 2020 protocol and Critical Appraisal assessment (Table 1)—remains constrained by the availability of Indonesian- and English-language literature indexed in the databases used, meaning that local narratives documented only orally or in regional languages may potentially have been missed. Third, cross-regional generalization (across NTT, Java, Kalimantan, Aceh, Papua, and comparative Southeast Asian contexts) is grounded in shared structural logics (power asymmetries and a common national legal framework), yet caution remains warranted in applying it to contexts with highly specific customary dynamics and conflict histories.

Therefore, before this framework can be operationally implemented within Lemhannas RI, further research is absolutely necessary to test the validity and reliability of the proposed indicators. Recommended next steps include: (1) expert judgment validation involving academics and practitioners in defense, anthropology, and ecology; (2) instrument piloting across a number of case regions to assess the practicality and sensitivity of field indicators; and (3) the conduct of a Policy Delphi and Focus Group Discussions (FGDs) with cross-sectoral stakeholders—including representatives from defense, anthropology, and ecology—in order to refine the operational definitions, weighting, and thresholds of each indicator prior to the adoption of this Transformative Ecological Security Assessment framework as an official instrument for assessing national ecological resilience.

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