Indigenous Peoples' Rights and Development Governance: Evaluating FPIC Compliance in Geothermal Power Development

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Abstrak

Indigenous communities in Indonesia continue to experience rights violations linked to development projects that proceed without meaningful participation. In such contexts, the principle of Free, Prior, and Informed Consent (FPIC) is essential to ensure that Indigenous peoples can make voluntary decisions, receive timely information, and be recognized as legitimate decision-makers in their customary territories. This study examines FPIC implementation in the Mataloko Geothermal Power Plant (PLTP) project in Ngada Regency, East Nusa Tenggara, where project activities have been associated with social tension and conflict. The research aims to describe and analyse how FPIC has been applied in the Mataloko PLTP development process and how FPIC practices relate to community resistance. Using a concurrent triangulation mixed-methods design, this study combines a survey of 100 respondents from five villages with in-depth interviews, observation, and documentation review. Quantitative data were analysed descriptively and supported by statistical testing, while qualitative evidence was used to contextualize and explain community perceptions and conflict dynamics. Findings indicate that FPIC has not been implemented substantively. Communities reported limited freedom in decision-making, incomplete and uneven information disclosure, and consultation processes that did not sufficiently involve all affected groups or respect collective customary procedures. These deficiencies

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contributed to polarization within the community and strengthened resistance framed as demands for justice and protection of communal rights. This study contributes empirical evidence on FPIC gaps in geothermal development and underscores the practical importance of transparent, inclusive, and culturally grounded FPIC processes. Policy implications include early-stage consultation, open dissemination of impact information (including EIA findings), and safeguards to prevent rights-based conflict escalation.

Keywords
Community participation, development governance, free, prior and informed consent (FPIC), indigenous peoples' rights, Mataloko Geothermal Power Plant, social conflict

Introduction

Respect for the rights of Indigenous peoples remains a serious issue in Indonesia. Many problems experienced by Indigenous communities are linked to development projects that proceed without meaningful participation from customary rights holders. Since the New Order era, recognition of customary (*adat*) rights has steadily declined, in part due to unilateral claims by investors in the forestry, plantation, and mining sectors (Kurnia 2020).

In this context, applying the principle of Free, Prior, and Informed Consent (FPIC) is widely recognized as essential for development initiatives that may affect Indigenous lands, territories, and resources. FPIC is a rights-based process through which Indigenous peoples can grant or withhold consent to activities, projects, or policies that may affect them, exercised through their own decision-making institutions (Forest Peoples Programme n.d.; OHCHR 2013). The UN Declaration on the Rights of Indigenous Peoples (UNDRIP) establishes that states should consult and cooperate in good faith with Indigenous peoples through their representative institutions to obtain FPIC before adopting measures or undertaking projects that may affect their rights (OHCHR 2013; United Nations 2007). Practically, "free" implies the absence of coercion or manipulation; "prior" requires that consent be sought sufficiently in advance of authorization and before activities begin; and "informed" requires timely, accessible, and understandable information about the project's scope, methods, duration,

and potential risks and impacts (FAO 2014; OHCHR 2013; United Nations-REDD Programme 2013). In addition to its human-rights rationale, FPIC is also justified on practical grounds: weak land governance and non-consensual acquisition have been linked to land conflicts and human-rights abuses, particularly affecting Indigenous and other marginalized groups (FAO 2014). Consistent with this, safeguard frameworks for large-scale investments emphasize Indigenous communities' particular vulnerability to land and resource loss and require FPIC in specified circumstances to prevent or mitigate adverse impacts and strengthen legitimacy and social acceptance (International Finance Corporation 2012; World Bank 2018). Empirical work in extractive-sector contexts similarly shows that failures to secure FPIC can intensify social contestation and conflict, making FPIC central to conflict prevention and responsible project governance (Owen and Kemp 2014).

In Indonesia, repeated violations of Indigenous peoples' rights by companies have often resulted in prolonged social conflict. Triani et al. (2023), in a study of Rempang Island, argue that conflict emerged largely from the lack of recognition of Indigenous rights. Similarly, Sandy (2015) showed that when FPIC is poorly implemented, it can trigger social conflict between project actors and Indigenous communities.

Concerns over Indigenous rights are also evident in Ngada Regency, East Nusa Tenggara. The Mataloko Geothermal Power Plant (PLTP) development project, implemented by PT PLN, continues geothermal drilling activities that began in 2000. The project has generated significant social and environmental concerns among local communities (Wea 2024). In 2021, the local government and PT PLN planned to resume PLTP construction with drilling sites in Radabata and Mataloko villages. This plan was rejected by Indigenous communities and religious leaders, who believed the government and PT PLN were not transparent regarding the Environmental Impact Assessment (EIA) process (Tropis.co 2021).

Following this rejection, project activities reportedly continued near the original project site and in several additional locations through processes that were not transparent to the broader public. This situation escalated social conflict, both between residents and PT PLN and the government, and within the community itself. The conflict produced long-lasting social and economic impacts and contributed to a persistent sense of injustice in

the community. Over time, Indigenous communities became polarized into groups supporting and opposing the Mataloko PLTP development project (Albab 2025).

This study analyzes FPIC implementation as a potential pathway to understand and address social conflict in the Mataloko PLTP development. FPIC comprises three key elements. *Free* means consent must be given without coercion, intimidation, or undue pressure. *Prior* means consent must be sought before the project or policy is implemented and before decisions are finalized. *Informed* means Indigenous peoples must receive complete, clear, and understandable information about the project, including its potential risks and impacts. In this framework, consent is meaningful only when it is voluntary and based on a genuine understanding of the proposed development. Using FPIC as an analytical lens, this study examines the main problems underlying the Mataloko PLTP project and their relationship to conflict dynamics.

Existing scholarship on Free, Prior, and Informed Consent (FPIC) consistently frames it as more than a consultation "step" in project preparation. In international human-rights and impact-assessment debates, FPIC is treated as a standard tied to Indigenous self-determination and to preventing harm, yet its operationalization is politically contested, especially when states and companies interpret FPIC as "engagement" rather than consent (Hanna and Vanclay 2013; Raftopoulos and Short 2019). Comparative work also shows that FPIC often becomes a terrain of negotiation and power, shaped by who controls information, timelines, and the recognition of Indigenous institutions (Rice 2020; Schilling-Vacaflor and Flemmer 2020; Papillon and Rodon 2020).

In Indonesia, the literature commonly highlights a gap between FPIC as an international standard and its partial, fragmented incorporation into domestic governance. Normative legal studies argue that recognition of FPIC in Indonesian regulation remains limited and often implicit, creating uncertainty about when consent is required, whose consent counts, and how collective decision-making should be protected (Kusniati 2024). Earlier Indonesian legal scholarship similarly emphasized FPIC as a necessary protection for customary land and Indigenous tenure, while noting structural tensions between state control over land/resources and meaningful community consent (Ikbal 2012).

Beyond legal design, Indonesian case-based research shows that FPIC is frequently mediated through sectoral standards, corporate procedures, and complaint mechanisms that do not necessarily resolve underlying power imbalances. In the palm-oil sector, studies examining the Roundtable on Sustainable Palm Oil (RSPO) show both the promise and limits of voluntary FPIC-oriented standards. Research finds persistent barriers for communities seeking remedy, such as high information burdens and procedural complexity, producing unequal access to justice (Afrizal et al. 2023). Related work assessing RSPO's FPIC policy argues that effectiveness depends heavily on the broader political and tenure context, not merely on the existence of written procedures (Afrizal et al. 2023). Large-N conflict analysis further suggests that even firms aligned with sustainability codes may still employ coercive or exclusionary strategies in land conflicts, underscoring why "procedural FPIC" may fail without enforcement and recognition of Indigenous authority (Berenschot et al. 2024).

Within geothermal development, Indonesian scholarship similarly identifies a disjuncture between formal commitments to participation and the realities of project communication and decision-making. Sandy's (2015) study of geothermal exploration in Baturaden, assessed through an FPIC lens, reports that field implementation fell short of established safeguards and standards. In East Nusa Tenggara, Wea et al. (2024) analyze geothermal development in Ulubelu (Ngada) using the "power of exclusion," arguing that project processes can intensify social injustice by structuring who is included in deliberation and who receives benefits or protections.

FPIC-related conflict dynamics also appear in other Indonesian development contexts, reinforcing the centrality of recognition and customary tenure. For example, scholarship on Rempang Eco City argues that conflict escalated when policy processes neglected Indigenous/customary land rights and decision-making authority (Triani et al. 2023). From a normative-juridical perspective, legal analysis of customary-law strengthening warns that FPIC is often reduced to an administrative requirement rather than treated as a relational process embedded in Indigenous governance institutions (Saly et al. 2024). Taken together, these studies converge on a shared diagnosis: limited transparency, uneven

participation, and weak recognition of Indigenous authority constrain FPIC in practice, and these constraints can fuel polarization and prolonged contestation.

Internationally, comparative research helps clarify why "FPIC compliance" varies so widely and why conflict can persist even when consultation occurs. Studies in Latin America show how consultation/consent processes may be mobilized strategically by states and firms, shaping outcomes through selective participation, bargaining asymmetries, and the management of dissent (Schilling-Vacaflor and Flemmer 2020; Merino 2024). Work from Australia on renewable energy development on Indigenous estate emphasizes that agreement-making and consent depend on institutional design, resourcing, and recognition of Indigenous governance, not simply on project-level outreach (O'Neill et al. 2021). These cross-country findings support a broader synthesis: FPIC should be evaluated not only as a checklist of meetings and documents, but as a governance relationship that requires time, independent information, and collective decision-making capacity.

Overall, the literature reveals two recurring limitations that motivate the present study. First, many studies document compliance gaps but do not systematically trace how those gaps generate conflict dynamics over time (such as polarization, distrust, escalation, and fractured community legitimacy). Second, empirical approaches are often predominantly qualitative or normative, leaving limited quantitative measurement of FPIC performance across its core dimensions (free, prior, informed, and consent). Building on insights that FPIC outcomes are shaped by power and institutional design (Rice 2020; Hanna and Vanclay 2013; Mahanty and McDermott 2013), this study adopts a problem-oriented mixed-methods framework to (1) measure FPIC implementation and (2) explain how implementation weaknesses connect to conflict roots and practical recommendations, particularly relevant in geothermal expansion contexts where indigenous governance and tenure recognition remain contested.

This study tests the following hypotheses: Ha: $\mu > 60\%$, meaning that FPIC implementation as a form of respect for Indigenous rights in the Mataloko PLTP project exceeds 60% of the ideal value; and H0: $\mu \leq 60\%$, meaning that FPIC implementation is at most 60% of the ideal value.

Before hypothesis testing, the study presents a descriptive analysis of FPIC implementation.

Accordingly, this study aims to (1) describe and analyse the implementation of the FPIC principle in relation to respect for Indigenous peoples' rights, (2) identify and map the roots of social conflict surrounding the Mataloko PLTP development project, and (3) provide recommendations to support social conflict resolution in the project area.

Method

This study employs a mixed-methods design that integrates quantitative and qualitative descriptive approaches. Specifically, it uses a concurrent triangulation strategy (balanced mix), in which quantitative and qualitative data are collected and analysed in parallel and with equal emphasis. The findings from both strands are then compared to identify areas of convergence and divergence, enabling the researcher to determine which results can be integrated and which should be interpreted separately. Quantitative methods are used to measure the extent to which the Free, Prior, and Informed Consent (FPIC) principle has been implemented in the Mataloko Geothermal Power Plant (PLTP) project, while qualitative methods are used to complement and contextualize the quantitative results so that the overall findings are more comprehensive.

Hypotheses

This study tests the following hypotheses:

1) Ha: $\mu > 60\%$, meaning that the implementation of the FPIC principle—as an expression of respect for Indigenous peoples' rights in the construction of the Mataloko PLTP—exceeds 60% of the ideal value.
2) H0: $\mu \leq 60\%$, meaning that FPIC implementation is at most 60% of the ideal value.

Prior to hypothesis testing, the study first conducts a descriptive analysis to summarize the level of FPIC implementation across the measured indicators.

Population and Sample

The study population consists of communities living around the Mataloko PLTP construction area, specifically residents of Ratogesa Village, Ulubelu Village, Wogo Village, Radabata Village, and Dadawea Village in Golewa District, Ngada Regency. The sampling technique used is cluster sampling. Sample size was determined using the Isaac and Michael formula (Siregar 2011). Sampling assumed that 50% of the population had direct contact with the PLTP project, using a 95% confidence level and a 1% margin of error. Based on these parameters, the study recruited 100 respondents.

Data Collection

Data were collected through Questionnaires, In-depth interviews, Documentation review, and Field observations.

Operational definitions were used as the basis for constructing the questionnaire items, as presented in Table 1.

Table 1. Operational Definition of Variables

Variable	Sub Variable	Indicator	Scale
FPIC Principle	*Free*	☐ The community approves or decides not to approve a planned activity, program, or policy without any coercion from any party. ☐ Society is free from pressure, threats to express opinions;	Likert
	Prior	☐ Obtaining approval is done before the policy or activity is carried out. ☐ The community is the main priority in development projects.	Likert

Table 1. (Continued)

FPIC Principle	*Informed*	☐ Before the approval process takes place, the public must be fully informed. ☐ Information is delivered by people who understand the local cultural context. ☐ Information should be complete and objective, including potential social, political, cultural, and environmental impacts and potential risks to the community before approval is given.	Likert
	Consent	☐ A decision or agreement reached through an open and gradual process that respects customary law collectively	Likert

Data Analysis

Data analysis combines descriptive quantitative and descriptive qualitative techniques. The analysis proceeds in several stages: (1) editing, to check the completeness and consistency of collected data; (2) coding, to assign codes to each data unit; and (3) tabulation, to organize the data into tables.

Quantitative data are processed using SPSS to produce descriptive statistics and to conduct one-sample t-test hypothesis testing. The quantitative findings are then interpreted alongside qualitative results from interviews, observations, and documentation to strengthen explanation and provide contextual understanding. Respondents' assessments are categorized based on the guidelines for mean score interpretation presented in Table 2.

Finally, the study synthesizes both sets of findings to describe the implementation of FPIC in the Mataloko PLTP project, examine the roots of conflict and resistance within the Indigenous community, and formulate recommendations for resolving the conflict surrounding the project.

Table 2. Guidelines for Categorization of Respondents' Average Assessments

Average Score	Criteria
1.00 – 1.80	Very Low/Very Bad
1.81 – 2.60	Low/Bad
2.61 – 3.40	Fair/Moderate
3.41 – 4.20	High/Good
4.21 – 5.00	Very High/Very Good

Source: Ferdinand, 2014

Results

Respondent Characteristics

A total of 100 respondents participated in this study, drawn from five villages in Golewa District. Each village contributed 20% of the sample: Ratogesa, Wogo, Ulubelu, Radabata, and Dadawea. Most respondents were male (59%), most worked as farmers (73%), and the largest age group was 40–50 years (24%), as shown in Table 3.

Table 3. Respondent Characteristics

Respondent Characteristics		N	Percentage
Age	20-30 years	19	19%
	30-40 years	31	31%
	40-50 years	24	24%
	50-60 years	13	13%
	60-65 years	13	13%
Gender	Male	59	59%
	Female	41	41%
Livelihood	Farmers	73	73%
	Civil servants	11	11%
	Private employees	7	7%
	Self-employed	9	9%
Origin	Ratogesa Village	20	20%
	Wogo Village	20	20%

Table 3. (Continued)

	Ulubelu Village	20	20%
	Dadawea Village	20	20%
	Radabata Village	20	20%

Source: Autohrs Data Processing, 2025

Validity and Reliability Test

The validity test indicated that the research instrument was valid, as all variables and indicators in the model had factor loadings greater than 0.50. The reliability test also showed satisfactory results, with Cronbach's alpha values exceeding 0.60, indicating that the instrument is reliable for use. The detailed results are presented in Table 4.

Table 4. Validity and Reliability Test

Variable	Indicator	Loading Factor	Cronbach's Alpha	Result
Free	X1	0.958	0.892	Valid and Reliable
	X2	0.945		Valid and Reliable
Prior	Y1	0.974	0.947	Valid and Reliable
	Y2	0.982		Valid and Reliable
Informed	Z1	0.831	0.836	Valid and Reliable
	Z2	0.902		Valid and Reliable
	Z3	0.868		Valid and Reliable
Consent	Q1	0.950	0.864	Valid and Reliable
	Q2	0.931		Valid and Reliable

Source: Autohrs Data Processing, 2025

Hypothesis Test

Based on the SPSS results, the p-value (sig.) was 0.001, which is below the 0.05 significance level. Therefore, H0—stating that FPIC implementation as respect for Indigenous peoples' rights in the construction of the Mataloko Geothermal Power Plant is at most 60% of the ideal value—is rejected. Accordingly, the findings support Ha ($\mu > 60\%$), indicating that FPIC implementation in the project exceeds 60% of the ideal value.

Description of FPIC Implementation in the Mataloko Geothermal Power Plant Development

Based on the descriptive statistical results, the overall implementation of the FPIC principle in the Mataloko Geothermal Power Plant development remains below ideal expectations. The hypothesis test further indicates that FPIC implementation falls below the 60% threshold of the ideal value. These findings suggest that the project has not yet positioned Indigenous communities as a central stakeholder in the development process. This conclusion is reflected in the results presented in Table 5 and is reinforced by the interview data.

Table 5. Descriptive Analysis Results

Variable	Indicator	Respondent Answer Category (%)					Average	Respondent Assessment Criteria
		1 (STS)	2 (TS)	3 (KS)	4 (S)	5 (SS)		
Free	X1	46	13	0	13	28	2.64	Enough
	X2	40	22	0	23	15	2.51	Low
Prior	Y1	54	21	0	7	18	2.14	Low
	Y2	44	31	0	20	5	2.11	Low
Informed	Z1	42	25	0	18	15	2.39	Low
	Z2	44	27	0	10	19	2.33	Low
	Z3	49	21	0	14	16	2.27	Low
Consent	Q1	38	28	0	13	21	2.51	Low
	Q2	45	29	0	18	8	2.15	Low
Average		44.6	24.1	0	15.1	16.1	2.3	Low

Source: Autohrs Data Processing, 2025

Discussion

This study shows that FPIC implementation in the Mataloko Geothermal Power Plant (PLTP) project remains weak across its core dimensions (free, prior, and informed) and that these weaknesses are closely linked to community polarization and prolonged social conflict. Overall, the findings suggest that FPIC has operated largely as a procedural requirement rather than a rights-based, collective decision-making process grounded in customary institutions. This pattern mirrors wider FPIC scholarship

showing that formal "consultation" can coexist with limited community control over timelines, information, and decision authority, conditions that often erode legitimacy and increase conflict risk (Hanna and Vanclay 2013; Owen and Kemp 2014).

Free: Consent and perceptions of coercion

The "free" element of FPIC was rated low by respondents. Nearly half (46%) strongly disagreed that the government and project proponents respected community freedom in the development process, and 40% perceived the PLTP development as "forced," particularly in relation to land acquisition. Interview data reinforce that persuasion and negotiation were perceived as selective, primarily targeting landowners and village officials rather than the broader Indigenous community, contributing to internal divisions. This pattern aligns with the "power of exclusion" argument in Wea et al. (2024), where development processes shape who is heard and whose interests are prioritized. It is also consistent with broader Indonesian land-conflict research showing that selective engagement with local elites can fragment community representation and intensify contestation, even when companies claim compliance with participation standards (Berenschot et al. 2024).

In international FPIC debates, coercion is not limited to overt force; it can also occur through structural pressures, unequal bargaining power, and "non-negotiable" project frames that narrow communities' real choices (Hanna and Vanclay 2013; Mahanty and McDermott 2013). In Mataloko, perceptions of coercion and uneven participation suggest that voluntariness was not consistently experienced, weakening the "free" dimension and making subsequent agreements socially fragile.

Prior: Timing and the status of communities as stakeholders

The "prior" principle was also not fully realized. More than half of respondents (54%) indicated that community approval was not sought from the outset, and 42% felt communities were not treated as a priority in planning and implementation. This supports Sandy's (2015) geothermal study in Baturaden, which similarly found a gap between the existence of procedures and their consistent application in the field.

Comparative studies help explain why timing matters: when consultation begins after project design, licensing, or key commitments, "prior" consent becomes difficult to claim because communities are asked to respond to a near-final decision. Research on FPIC in other regions shows that state-led consultation processes often become constrained by administrative schedules and political imperatives, limiting communities' ability to shape outcomes early (Schilling-Vacaflor and Flemmer 2020). In energy infrastructure contexts, best-practice agreement-making emphasizes early engagement, adequate time for deliberation, and recognition of Indigenous governance as prerequisites for legitimate consent (O'Neill et al. 2021). These insights suggest that delayed and uneven consent-seeking in Mataloko likely contributed to polarization by signaling that community authority was secondary to project timelines.

Informed: Information quality, cultural relevance, and transparency

The "informed" dimension emerged as a central weakness. Respondents reported limited and uneven outreach before construction (42%) and culturally misaligned communication (44%), and nearly half (49%) emphasized the need for complete, objective information covering social, cultural, political, environmental impacts, and risks. Observations and interviews suggest that outreach increased mainly after protests, indicating that information provision was reactive rather than proactive.

This finding is consistent with FPIC research emphasizing that information must be accessible, credible, and delivered through culturally appropriate channels; otherwise, "consultation" functions as a formality that cannot support genuine consent (Hanna and Vanclay 2013; Owen and Kemp 2014). In Indonesian development conflicts such as Rempang Eco City, inadequate recognition of Indigenous rights and weak engagement have similarly been linked to escalation and resistance (Triani et al. 2023). In Mataloko, limited dissemination of EIA-related information and selective outreach likely deepened distrust and amplified divergent interpretations of the project's benefits and harms.

Consent: Collective legitimacy and customary decision-making

Beyond "free," "prior," and "informed," the study highlights weaknesses in how consent was obtained and legitimized. A large share of respondents (45%) stated that agreements did not occur through an open, gradual

process and did not respect customary law collectively. This supports Indonesian legal scholarship arguing that FPIC is often treated as an administrative checklist rather than a relational process embedded in Indigenous governance and collective decision-making structures (Saly et al. 2024).

International research reinforces that consent is most durable when Indigenous institutions meaningfully shape the process and when agreements reflect collective legitimacy rather than individual signatures or elite brokerage. Studies from Canada emphasize the "transformative potential" of Indigenous-driven approaches to FPIC, where consent is rooted in Indigenous political authority and negotiated arrangements are structured to reflect community governance (Papillon and Rodon 2020). In Mataloko, the mismatch between who is affected and who is consulted suggests that administrative procedures may have substituted for collective legitimacy, making "consent" socially contested.

Why FPIC deficits produced polarization and conflict

Across dimensions, FPIC deficits in Mataloko appear to have produced two reinforcing outcomes: (1) declining trust in government and PLN, and (2) polarization into pro- and anti-project groups. Notably, perceptions of "priority" were closely tied to benefit distribution: interviews indicate that some households experienced jobs, infrastructure improvements, and CSR programs, while others perceived risks and exclusion. FPIC scholarship cautions that when participation is uneven and benefit-sharing is perceived as selective, consent processes can intensify inequities and weaken social cohesion (Mahanty and McDermott 2013). Indonesian land-conflict studies also show that even where companies adopt formal sustainability or rights commitments, contentious strategies and uneven local outcomes can persist, underscoring why procedural compliance alone often fails to prevent conflict (Berenschot et al. 2024).

Related evidence from Indonesia's palm-oil sector further supports this interpretation. Studies evaluating FPIC-related standards and grievance mechanisms within RSPO show that rights protection depends not only on written rules but also on procedural accessibility, remedy, and power relations in practice (Afrizal et al. 2023). This resonates with the Mataloko case: communities' reported lack of early consent, incomplete information, and limited collective legitimacy suggests why conflict became protracted rather than resolved through formal processes.

Theoretical and practical implications

Theoretically, the findings support approaches that treat FPIC as a governance relationship rather than a single event. "Power of exclusion" dynamics (who is recognized, informed, and included) help explain why communities can fragment internally when engagement is selective and information is uneven (Wea et al. 2024). At the same time, the results align with social legitimacy research showing that trust and perceived fairness are critical for community acceptance of high-impact projects; when these collapse, conflict becomes more likely and more costly (Moffat and Zhang 2014).

Practically, the results suggest that conflict prevention and resolution require strengthening FPIC implementation in ways that are (1) collectively legitimate (through customary institutions), (2) genuinely prior (before key commitments), and (3) informed (complete, culturally appropriate, and transparent—especially regarding EIA findings, risks, and compensation/benefit-sharing). In addition, because disputes often continue after project approval, accessible remedy and grievance pathways matter; research on non-state grievance mechanisms in Indonesia's commodity sectors highlights the need to evaluate outcomes for rights-holders, not merely procedural steps (Wielga and Harrison 2021).

Study limitations

This study has several limitations. First, the quantitative component is based on a cross-sectional survey of 100 respondents, which captures perceptions at one point in time and may not fully represent all affected sub-groups. Second, survey responses are self-reported and can be influenced by recall bias or ongoing conflict dynamics. Third, while qualitative interviews enriched interpretation, the study did not systematically audit project documents (e.g., full EIA disclosure records, minutes of consultations, or agreement texts) that could triangulate process claims more comprehensively. Future research would benefit from longitudinal designs to track how perceptions and conflict evolve over time, comparative analysis across multiple geothermal sites, and deeper document-based process tracing to test where (and why) FPIC breaks down in practice. Bottom of Form

Conclusion

This study indicates that FPIC has not been implemented substantively and consistently in the Mataloko PLTP project. In particular, the free principle remains weak: many community members perceived consent as shaped by social and economic pressures rather than voluntary agreement. The prior principle was also inadequately applied, as approval was not sought from the earliest planning stages and did not involve all affected communities. Likewise, the informed principle was not fulfilled because communities did not receive comprehensive, accessible information about the project's potential benefits, risks, and social, cultural, and environmental impacts. Outreach activities were limited in scope, occurred late, and did not fully reflect local cultural contexts. As a result, decision-making (consent) was widely perceived as non-transparent and insufficiently grounded in collective customary rights, contributing to polarization between pro- and anti-project groups and escalating social conflict.

These conclusions should be interpreted in light of several limitations. First, the quantitative results rely on respondents' perceptions, which may be influenced by individual experiences, group affiliations, or recent events. Second, the sample size and village-based clustering provide strong local insights but limit generalization beyond the study area. Third, the study captures conditions at a single period in time; FPIC practices and conflict dynamics may change as the project evolves. Finally, although interviews and observations strengthen triangulation, greater access to official documents (e.g., consultation records, EIA dissemination evidence, compensation agreements) would further validate procedural claims.

Based on these findings, the study recommends that the government and project proponents review and redesign project governance by applying FPIC as a genuine, rights-based process rather than an administrative requirement. This includes (1) conducting inclusive and culturally appropriate outreach from the earliest planning stage for all affected groups, not only landowners and village officials; (2) ensuring transparent disclosure of project plans, budgets, and EIA findings; and (3) establishing clear safeguards and grievance mechanisms to protect community rights if harms occur. Development is more likely to proceed sustainably when Indigenous communities are recognized as key decision-making partners.

Future research should build on this study by using longitudinal designs to track how FPIC implementation and conflict evolve over time,

and by expanding the analysis to compare multiple geothermal project sites in East Nusa Tenggara and other regions. Further studies could also incorporate deeper document-based verification and institutional analysis to examine how licensing, consultation mechanisms, CSR distribution, and compensation arrangements shape community trust, perceptions of fairness, and conflict trajectories.

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