



Facilitating Written and Oral Community Input for Datu Sanggul Hospital Environmental Impact Assessment Scoping

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Article Info

Article history:

Received 01/07/2026

Revised 12/07/2026

Accepted 17/07/2026

Keyword: environmental impact assessment; public consultation; community engagement; thematic analysis; environmental scoping; hospital development

ABSTRACT

This community service activity facilitated public consultation for the environmental impact assessment of the planned development and operation of Datu Sanggul Regional General Hospital in Tapin Regency, Indonesia. It aimed to identify environmental and social issues expressed through written and oral public input and to examine their relevance to environmental impact assessment scoping. A descriptive qualitative case study was applied to nine written public-input forms, documented oral input, meeting records, consultation materials, and the draft scoping form. The data were coded and thematically compared without treating written and oral records as unique respondents. Written input documented individual concerns and expectations concerning wastewater runoff, hazardous waste, construction disturbance, local employment, and health services. Oral dialogue added location-specific and technical details concerning downstream settlements, the Batung River, nighttime noise, the retention pond, technical planning documents, and grievance channels. The complementary channels improved the traceability of community concerns into potential-impact evaluation. Combining accessible written forms, facilitated dialogue, and transparent follow-up was therefore important for community service based on environmental expertise and for more substantive public involvement.



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INTRODUCTION

Environmental impact assessment (EIA) is intended to improve development decisions by integrating scientific information, regulatory requirements, and knowledge held by affected communities. Public participation is therefore not merely an administrative event but a means of identifying locally specific risks, testing the completeness of impact assumptions, and increasing the transparency of environmental decision-making. Nevertheless, empirical research has shown that formal opportunities to comment do not automatically lead to substantive influence. A text-mining study of draft and final environmental impact statements found that stakeholder comments produced only limited changes in final documents, while a recent synthesis of European evidence identified the timing of participation and its limited effect on decisions as recurring challenges (Ulibarri et al., 2019; Suškevičs et al., 2023).

In Indonesia, public involvement is embedded in the sequence of AMDAL preparation. Government Regulation Number 22 of 2021 requires directly affected communities to be involved through an announcement and public consultation before the environmental impact assessment scoping form is prepared. Suggestions, opinions, and responses generated through the consultation must be documented, processed, and used as input for completing the scoping form (Republic of Indonesia, 2021). The regulatory design consequently assigns public input an evidentiary role: community concerns, expectations, support, and objections may inform the intensity of public attention considered during potential-impact evaluation. Compliance with the consultation requirement, however, does not by itself demonstrate that community knowledge has been understood or translated into assessable impact pathways.

Indonesian studies have identified a persistent distance between procedural requirements and meaningful involvement. A qualitative assessment of nickel-smelter EIA practice found weaknesses in information channels and discussion processes that reduced the effectiveness of participation (Kurniawan et al., 2020). Empirical legal research in Sukoharjo Regency similarly reported uneven implementation and constraints involving project proponents, environmental agencies, and directly affected communities (Subekti & Putri, 2022). More recent legal

analysis has also questioned whether changes to the Indonesian AMDAL framework have narrowed opportunities for public involvement and weakened environmental rights (Safitri et al., 2024). These findings indicate that the existence of a forum must be distinguished from the quality of the information exchange occurring within it.

The quality of participation also depends on who is represented, how information is communicated, and which channels participants can use. Comparative case evidence from Malawi showed that attendance lists may be dominated by officials, experts, or traditional leaders while ordinary affected people remain underrepresented (Sibale & Fischer, 2023). A stakeholder-analysis framework developed from Thai EIA practice likewise emphasized contextual assessment, stakeholder identification and categorization, selection of appropriate participation levels, participatory techniques, and the role of professional facilitators (Kantamaturapoj et al., 2023). These studies suggest that participation should be evaluated not only by the number of attendees but also by whether the process enables different forms of knowledge to be expressed and retained.

Written forms and oral dialogue create different opportunities for expression. Written input can preserve an individual record and give participants time to formulate concerns, yet it may constrain people who are unfamiliar with technical terminology or formal response categories. Facilitated oral dialogue allows clarification, follow-up questions, and the identification of locations, receptors, and causal mechanisms, but it may be influenced by speaking confidence, time, and power relations within the forum. Treating the two channels as complementary rather than interchangeable may therefore produce a more complete and traceable account of public attention. Existing Indonesian studies reviewed for this article have mainly examined legal arrangements, implementation constraints, and general effectiveness; less attention has been given to how written and oral input contribute different information to AMDAL scoping.

This issue arose during a public consultation held on 10 June 2026 for the planned development and operation of Datu Sanggul Regional General Hospital in Rantau, Tapin Regency, South Kalimantan. The plan covered an existing hospital area of approximately 48,815 m² and an additional development area of approximately 31,360.23 m². Thirty-two participants attended from the project proponent, government institutions, territorial and community leadership, environmental observers, and surrounding communities. This attendance figure described forum participation and was not treated as the number of community respondents. Public input was recorded through nine written forms and through oral statements and responses documented during the consultation.

The community service intervention was conducted by environmental experts from Universitas Muhammadiyah Berau as part of the AMDAL preparation team. It combined disclosure of the proposed activity and its potential impacts, facilitated dialogue, collection of written and oral input, thematic organization of community concerns, and interpretation of those concerns in relation to activity stages, impact sources, environmental components, affected receptors, and potential-impact evaluation. The service value lay in translating technical environmental information into an accessible dialogue while converting local experience into structured evidence for scoping.

Accordingly, this article aimed to identify the environmental and social themes expressed through written and oral public input, explain how oral dialogue added spatial, causal, and management details that were less explicit in written forms, and examine how the combined themes could inform potential-impact evaluation in the draft scoping form. Its practical novelty lies in demonstrating the complementary informational functions of two participation channels within an Indonesian hospital EIA case and in framing expert facilitation as a traceable form of community service rather than a one-time consultation event.

RESEARCH METHODS

This community service activity was evaluated using a practice-based descriptive qualitative case study. The intervention took place on 10 June 2026 at Datu Sanggul Regional General Hospital in Rantau, Tapin Regency, South Kalimantan, during the legally required public-consultation stage preceding preparation of the AMDAL scoping form. The case-study boundary covered the consultation process, the public input generated through written and oral channels, the responses recorded from the project proponent and AMDAL team, and the use of the resulting themes in the draft scoping form.

The service intervention combined disclosure of the proposed hospital development and its potential impacts, facilitated two-way dialogue, distribution and collection of public-input forms, documentation of oral input and responses, thematic organization of environmental and social concerns, and interpretation of those concerns for AMDAL scoping. Thirty-two people attended from the project proponent, government institutions, territorial and community leadership, environmental observers, and surrounding communities. Attendance described participation in the forum and was not treated as a research sample or as the number of community respondents.

The primary data corpus consisted of nine written forms and eight documented oral contributions that contained suggestions, opinions, concerns, expectations, or requests for follow-up. One additional entry in the

oral record contained only a response from the hospital representative; it was retained as contextual response data but was not coded as public input. Supporting sources comprised the consultation materials, meeting minutes, attendance record, responses from the project proponent and AMDAL team, and the public-involvement section of the draft scoping form. Because at least one contributor appeared in both channels, written and oral records were not summed as unique persons.

The unit of analysis was a statement or meaning unit rather than a participant. A segment was included when it referred to a potential impact, expected benefit, affected location or receptor, proposed management measure, local employment, health service, community involvement, or follow-up mechanism associated with the planned activity. Administrative information, signatures, stamps, and entries with no substantive public input were excluded. Project-proponent and AMDAL-team responses were coded separately as contextual evidence and were not interpreted as community concerns.

Analysis followed a reflexive thematic approach in which themes were developed through active interpretation rather than treated as mechanically discovered categories (Braun & Clarke, 2021). The authors first read the complete corpus, segmented compound statements into meaning units, and assigned source codes W01-W09 for written forms and O01-O08 for oral contributions. Semantic codes were then generated for the stated issue, while additional fields recorded the communication channel, activity stage, impact source, environmental or social component, affected receptor, location, described consequence, and requested management or follow-up. Codes were iteratively grouped, reviewed against the source documents, and defined as candidate themes.

Comparison between channels focused on convergence and informational specificity. A theme was considered convergent when related concerns appeared in both written and oral sources. Oral input was assessed for whether dialogue added a location, causal mechanism, affected receptor, time period, technical requirement, or management response that was less explicit in the written forms. The intensity of public attention was interpreted qualitatively from recurrence across channels, location or receptor specificity, the clarity of the anticipated consequence, and the presence of an explicit management request. Counts were used only to describe the source corpus and were not treated as survey frequencies.

Theme-to-scoping traceability was examined by mapping each theme to the relevant activity stage, impact source, environmental component, receptor, and potential-impact evaluation in the draft scoping form. This step assessed whether public knowledge could be translated into an impact pathway requiring technical examination. It did not test statistical association and did not treat appearance in a draft document as evidence of final AMDAL approval, a final hypothetical-significant-impact decision, or implementation of an environmental management commitment.

Credibility was strengthened through source triangulation among the original forms, the oral-input record, meeting documentation, consultation materials, recorded responses, and the draft scoping form. A source-coded matrix preserved the path from each meaning unit to its code, theme, and scoping relevance. The three authors reviewed the thematic structure and discussed interpretive differences to make assumptions explicit rather than to calculate inter-coder reliability. Because the authors had participated as environmental experts in the consultation and AMDAL team, this insider position was treated as a potential source of interpretive bias. No additional participant contact or data collection was undertaken for the article, and names, contact details, signatures, and directly identifying quotations were excluded from the published analysis.

RESULTS AND DISCUSSION

The verified corpus comprised nine written public-input forms (W01–W09) and eight oral contributions recorded during the consultation (O01–O08). Because at least one person contributed through both channels, these 17 source records were treated as contributions rather than as 17 unique participants. Statement-level coding produced six interconnected themes: water, runoff, wastewater, and river receptors; hazardous and medical waste and sanitation; construction disturbance and traffic safety; local employment, transparency, and community relations; flora, fauna, vegetation, and ecological considerations; and health services, health screening, and complaint mechanisms. The themes therefore covered biophysical pathways, social expectations, and process-oriented requests rather than a single attitude toward the hospital development.

Written input primarily preserved individual expectations and concerns in a durable form. It repeatedly addressed local employment, access to improved health services, protection of lower-income patients, construction dust and traffic, and the management of wastewater and medical waste. Several forms linked support for the project to conditions such as responsible waste management, priority for local labour, protection of nearby residents, and continued consultation. Written support was consequently not interpreted as unconditional acceptance. It represented a combination of anticipated public benefit and requests for environmental and social safeguards.

Oral input expanded the evidentiary detail available for scoping. Participants identified receptors and pathways such as residents of RT 13, the Batung River, downstream communities, a wastewater pond, and the

site embankment; they also introduced temporal qualifiers including night-time work, working hours, the rainy season, and separate construction and operational stages. Further requests concerned air-quality measurement, flora and fauna, green open space, detailed engineering design, site planning, wastewater technical approval, hazardous-waste technical requirements, traffic-impact analysis, transparent recruitment, corporate social responsibility, periodic health screening, and a complaint forum. These statements did more than name issues: they supplied clues about where, when, and through which mechanism an impact might occur.

Table 1. Comparison of Written and Oral Public Input

Analytical dimension	Written input (W01–W09)	Oral input (O01–O08)	Interpretive implication
Evidence form	Durable individual record submitted on a form	Interactive statement recorded with forum responses	The channels provide complementary forms of evidence
Dominant content	General concerns, expected benefits, and conditional support	Causal, spatial, technical, and institutional detail	Written input adds breadth; oral dialogue often adds depth
Spatial specificity	Nearby residents, river, and downstream areas in general terms	RT 13, Batung River, wastewater pond, embankment, and downstream receptors	Named receptors and pathways improve impact-hypothesis formulation
Temporal specificity	Construction, operation, long-term effects, and rainy-season overflow	Night-time disturbance, working hours, stages, and assessment horizons	Timing helps define exposure and temporal study boundaries
Requested follow-up	Waste control, better services, local jobs, and continued consultation	Sampling, technical approvals, design documents, recruitment transparency, and grievance handling	Requests can be translated into data needs and management questions
Participation constraint	Depends on familiarity with forms and ability to express ideas in writing	Depends on speaking confidence, time allocation, and forum power relations	Maintaining both channels reduces, but does not remove, exclusion risk

Table 1 shows that the added value of the consultation did not lie in choosing one medium over the other. The written channel made individual positions auditable, whereas oral dialogue enabled clarification and progressive specification. This complementarity is consistent with evidence that the timing, institutional design, and opportunities provided to stakeholders shape whether participation can influence EIA practice (Hasan et al., 2018; Kantamaturapoj et al., 2023). It also supports the proposition that representation must be evaluated together with the actual channels through which affected people can contribute (Sibale & Fischer, 2023). Nevertheless, the greater technical specificity of oral statements cannot be attributed to the medium alone. It may also reflect the presence of government and institutional representatives, differences in prior knowledge, facilitator prompts, and the interactional opportunity to build on earlier statements.

Water-related concerns displayed the strongest qualitative intensity. They recurred in written and oral input and were expressed through identifiable sources, pathways, and receptors: hospital wastewater, construction runoff, pond capacity, heavy rainfall, overflow, the Batung River, and downstream residents. The concern was therefore analytically richer than a generic statement about water pollution. It could be translated into questions about wastewater characteristics and capacity, drainage direction, receiving-water sensitivity, flood or overflow conditions, downstream use, and the temporal difference between construction and operation. Local place knowledge of this kind is especially valuable at scoping because failure to connect EIA questions with community concerns can create a substantive and procedural disconnect (Dilay et al., 2020). At the same time, public concern does not by itself establish impact magnitude; hydrological, engineering, and water-quality evidence remains necessary.

Hazardous and medical waste formed a second high-attention theme, closely associated with sanitation, odour, public health, and regulatory compliance. Written statements stressed waste accumulation and potential effects on nearby communities, while oral contributions named technical instruments and facility-planning requirements. This convergence indicates a need to distinguish waste streams, storage and transport pathways, treatment arrangements, accident scenarios, responsible institutions, and the relationship between waste management and community exposure. The analysis therefore treats technical terminology raised in the forum as a scoping lead to be verified, not as proof that a permit, technical approval, or design requirement had already been fulfilled. Such traceability is important because formal conditions can become symbolic when they are not connected to specific impacts, community concerns, implementation responsibilities, and follow-up (Hegde et al., 2022).

Construction disturbance was expressed through dust, emissions, noise, mobilization, congestion, accident risk, and the possibility of night-time work. The oral record added operational qualifiers—working hours, measurement requests, and affected locations—that could support selection of baseline parameters and temporal boundaries. Local employment, transparent recruitment, and corporate social responsibility were also prominent across channels. These expectations constitute socially important information, but they must be analytically separated from environmental impact predictions. Employment may become a beneficial impact pathway when

the project creates and distributes opportunities, whereas corporate social responsibility is not a substitute for mandatory impact management. Similarly, support for improved hospital services should not be used to neutralize concerns about pollution, safety, or inequitable exposure.

Table 2. Public-Attention Themes and Their Relevance to AMDAL Scoping

Theme	Evidence across channels	Added specificity	Relevance to potential-impact evaluation
Water, runoff, wastewater, and river receptors	Repeated in written and oral input	Rainfall, pond capacity, Batung River, downstream residents	Define source–pathway–receptor links, baseline needs, and spatial and temporal boundaries
Hazardous and medical waste and sanitation	Repeated in both channels	B3 and medical waste, odour, sanitation, technical requirements	Differentiate waste streams, exposure routes, accident scenarios, and institutional controls
Construction disturbance and traffic safety	Dust, noise, mobilization, congestion, and accidents in both channels	Night-time work, working hours, air testing, traffic analysis	Specify construction sources, sensitive receptors, parameters, and exposure periods
Employment, transparency, and community relations	Local recruitment and continued engagement in both channels	Recruitment transparency, CSR, subdistrict involvement	Assess beneficial-impact pathways, distributional effects, communication, and grievance needs
Flora, fauna, vegetation, and ecological setting	Most explicit in oral input	Vegetation, green open space, fauna, and embankment	Screen ecological receptors and determine whether field verification is warranted
Health services, screening, and complaint mechanisms	Service expectations and health protection in both channels	Periodic screening and a complaint forum	Separate service benefits from exposure-related health impacts and plan responsive follow-up

The thematic mapping in Table 2 was used as a screening aid rather than a vote or frequency ranking. Qualitative intensity was inferred from recurrence across channels, specificity of the named receptor or location, clarity of the alleged consequence, and the presence of an explicit request for assessment or management. On this basis, water and wastewater, hazardous and medical waste, construction disturbance, and local employment warranted particularly close consideration. Themes expressed less frequently were not automatically discarded. Flora and fauna, for example, were most explicit in oral input but could still require verification if site conditions, vegetation removal, or ecological connectivity support a plausible impact pathway.

This approach is compatible with the function of public attention in Indonesian AMDAL scoping. Government Regulation Number 22 of 2021 positions suggestions, opinions, and responses from directly affected communities as material for defining the scope and depth of study, while the evaluation of potential impacts must still examine the relationship among activities, environmental components, affected people, and the significance of plausible changes (Republic of Indonesia, 2021). The consultation record can therefore strengthen the initial list of potential impacts by revealing local receptors, pathways, time periods, and management expectations. It cannot replace baseline surveys, technical design review, modelling, professional judgement, or the formal evaluation that determines significant hypothetical impacts. The mapping also refers to a draft scoping document; it does not claim that the themes have been approved as final significant impacts.

From a community-service perspective, the principal contribution was the facilitation of an interface between regulatory-technical information and situated public knowledge. The environmental experts explained the proposed development and potential impact pathways, enabled written and oral expression, clarified ambiguous statements, and organized the resulting evidence so that it could be considered during scoping. This role goes beyond meeting administration because it creates a traceable route from community expression to environmental assessment questions. It also remains distinct from advocacy for approval or rejection: the service value lies in improving access to information, the intelligibility of the process, and the visibility of concerns. International case studies similarly warn that merely providing a formal opportunity does not guarantee meaningful influence and that gaps between community concerns and assessment content may intensify distrust or conflict (Dilay et al., 2020; Maphanga et al., 2023).

To make the analytical path auditable without disclosing personal identities, Table 3 summarizes each source record at contribution level. The matrix retains the original source code, communication channel, principal content, and the scoping information added by the statement. It is not a frequency table and should not be interpreted as representing 17 different people.

Table 3. Source-Level Traceability of Written and Oral Public Input

Code	Channel	Principal concern or expectation	Scoping information added	Theme
W01	Written	Priority for lower-income patients, local employment, waste control, and improved services	Potential beneficiaries, labour distribution, and waste-management expectations	Services; employment; waste
W02	Written	Health checks, community involvement, waste effects, improved services, and continued consultation	Health follow-up and an ongoing engagement mechanism	Health; waste; engagement
W03	Written	Local jobs with accessible requirements, long-term cooperation, and a continuing forum	Recruitment accessibility and continuity of community relations	Employment; engagement

Code	Channel	Principal concern or expectation	Scoping information added	Theme
W04	Written	Waste effects on the river, health protection for nearby residents, and consultation	Receiving-water and nearby-resident receptors	Water; health; engagement
W05	Written	Mobilization, dust, congestion, accidents, local labour, and construction and operational waste	Construction sources, traffic-safety pathway, and stage differentiation	Construction; traffic; employment; waste
W06	Written	Hospital waste, odour, noise, pond capacity, and prevention of waste accumulation	Odour and noise receptors and wastewater-facility capacity	Waste; wastewater; disturbance
W07	Written	Maximum wastewater handling, enlargement of the pond, rainy-season overflow, and downstream residents	Rainfall condition, overflow pathway, and downstream receptor	Wastewater; water
W08	Written	Hazardous and medical waste, water and air sanitation, noise, ecological boundaries, construction effects, services, and compliance	Multiple environmental components and a request for legal and technical verification	Waste; construction; ecology; services

Table 3. Source-Level Traceability of Written and Oral Public Input (Continuation)

Code	Channel	Principal concern or expectation	Scoping information added	Theme
W09	Written	Local knowledge, employment, health services, and attention to economically vulnerable groups	Distributional beneficiaries and recognition of local knowledge	Employment; services; engagement
O01	Oral	Assessment of construction and operation, mobilization, local recruitment, long-term waste, and a site visit	Stage-specific review and request for direct site verification	Construction; employment; waste
O02	Oral	Subdistrict involvement and transparent employment recruitment	Institutional participation and recruitment transparency	Employment; engagement
O03	Oral	Local construction workers, recruitment, corporate social responsibility, and Batung River water	Named river receptor and benefit-distribution expectations	Employment; water; community relations
O04	Oral	Hazardous waste, wastewater and hazardous-waste technical requirements, traffic analysis, sanitation, vegetation, and employment	Specific technical instruments, environmental components, and institutional controls	Waste; water; traffic; ecology; employment
O05	Oral	Wastewater, consistency with existing conditions, blood-processing design, and detailed site planning	Design-document and existing-condition verification	Wastewater; technical planning
O06	Oral	Indirect effects, night-time noise, and working hours	Temporal exposure and indirect-impact pathway	Noise; construction
O07	Oral	Flora, fauna, vegetation, dust and air testing, assessment horizons, and the retention pond	Ecological receptors, measurement request, time horizon, and facility location	Ecology; air; water
O08	Oral	Periodic health screening and a complaint forum	Health follow-up and grievance mechanism	Health; engagement

Figures 1–3 document the service setting and the sequence through which information was disclosed, discussed, and retained. The images are included as implementation evidence rather than as proof of attitudinal change or consultation effectiveness.



Figure 1. Disclosure of the Proposed Hospital Development and Environmental Issues



Figure 2. Facilitated Public Consultation and Oral Discussion



Figure 3. Participants and Organizing Team after the Public Consultation

The findings also suggest practical improvements. Before preconstruction begins, the proponent should conduct an accessible information session that explains the activity sequence, likely disturbances, working arrangements, waste and wastewater systems, recruitment procedures, and channels for complaints. The public-input form should use plain language and prompts for source, location, time, consequence, and expected follow-up, with assistance available for participants who are not accustomed to written public-input forms. Oral dialogue should remain available, but facilitation should distribute speaking opportunities and record responses and commitments. A feedback loop is equally important: participants should be informed which concerns were incorporated into the scoping, ANDAL, and RKL-RPL stages, which were excluded, and why. Participation

literature shows that continuity, transparency, and institutional responsiveness matter more than a one-off event (Feng et al., 2020; Gavrilidis et al., 2022; Suškevičs et al., 2023).

Several limitations constrain interpretation. The study concerns one consultation event and a relatively small operational corpus; it does not represent all affected residents. Written and oral sources are not independent because a person could use both channels, and the records were produced for AMDAL practice rather than for a research interview protocol. The authors' involvement in facilitation creates an insider perspective, although source coding and documentary triangulation were used to preserve traceability. No pre- and post-consultation measurement was conducted, so the study does not claim increased knowledge, empowerment, satisfaction, or behavioural change. It also did not verify later implementation or final impact designation because the scoping document remained a draft. Future evaluation should combine source-level traceability with participant feedback and follow the selected concerns into baseline studies, impact prediction, management plans, monitoring indicators, and grievance records. Community attitudes should also be revisited over the project life cycle because acceptance and concern can coexist and change rather than forming one stable social licence (Jiang et al., 2021).

CONCLUSION

The public consultation demonstrated that written and oral public input performed complementary functions in AMDAL scoping for the planned development and operation of Datu Sanggul Regional General Hospital. Written forms preserved individual expectations, concerns, conditional support, and requests for safeguards, while oral dialogue added spatial, temporal, causal, technical, and institutional details that were less explicit in the forms. Six themes were identified, with water and wastewater, hazardous and medical waste, construction disturbance, and local employment receiving particularly strong qualitative attention because they recurred across channels and were associated with identifiable receptors, consequences, or management requests. These themes are appropriate inputs to potential-impact evaluation, but their presence does not automatically establish impact magnitude, determine a significant hypothetical impact, or demonstrate approval of the draft scoping form. The community-service value of the activity lay in using environmental expertise to translate regulatory and technical information into accessible dialogue and to convert situated community knowledge into traceable scoping questions. Future engagement should therefore retain both written and oral channels, simplify the public-input form, distribute speaking opportunities, provide accessible information before preconstruction, and establish a feedback and grievance mechanism that explains how each material concern is addressed in the scoping, ANDAL, and RKL-RPL stages. Continued technical verification and post-consultation follow-up remain necessary because this single-event, practice-based study did not measure changes in participant knowledge or verify final impact decisions and implementation outcomes.

ACKNOWLEDGMENTS

The authors thank Datu Sanggul Regional General Hospital, PT Jarank Sasat Tenteknika, participating government institutions, community representatives, environmental observers, and surrounding residents for supporting the public consultation and its documentation.

FUNDING AND DISCLOSURE

The activity received no funding from Universitas Muhammadiyah Berau. Operational funding for the public consultation and AMDAL preparation was provided by the partner, PT Jarank Sasat Tenteknika, as the appointed environmental impact assessment preparation service provider. The first and second authors participated as environmental experts in the AMDAL preparation team; this positional relationship was addressed through source coding, documentary triangulation, anonymization, and explicit limits on claims. This article does not constitute environmental approval or a final determination of significant hypothetical impacts.

AUTHOR CONTRIBUTIONS

Jevon Ona Ivena contributed to conceptualization, consultation facilitation, data curation, analysis, and preparation of the original manuscript. Muhammad Azwar Ramadhani contributed to consultation facilitation, validation, and manuscript review. Rabiatul Adawiyah contributed to methodological review, academic supervision, and manuscript review and editing. All authors reviewed and approved the manuscript.

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