

Community Satisfaction with a Mining Community Development Programme: Outcome-Process Gaps in the MENTARI BRONANG Programme, Central Kalimantan, Indonesia

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ABSTRACT

Community development programmes run by mining companies are increasingly expected to demonstrate value to host communities, yet their evaluation in Indonesia often ends with a single aggregate satisfaction score. This study assessed beneficiary satisfaction with the MENTARI BRONANG programme of PT Asmin Bara Bronang, which integrates conservation-based agriculture, layer-poultry farming, degraded-land rehabilitation and spring conservation in Barunang Village, Kapuas Regency, Central Kalimantan. A face-to-face questionnaire survey of 30 beneficiaries was conducted in May 2026 using a four-point Likert scale, and a community satisfaction index was calculated for three aspects: the overall programme, programme management, and programme distribution and service. Item-level response distributions were also examined. The total index was 3.417 (converted value 85.42), corresponding to the very satisfied category. Satisfaction was highest for the overall programme (90.37), followed by programme management (83.75) and distribution and service (82.14). Item-level analysis revealed a consistent gap: outcome items such as skills, relevance and income were rated at the highest level by 57–87% of respondents, whereas participation in planning, programme clarity and company responsiveness were rated at that level by only 7–20%. Beneficiaries therefore valued what the programme delivered more than how they were involved in it. Strengthening participatory planning and complaint handling, and complementing perception surveys with biophysical and income indicators, would make such evaluations more informative for programme managers.

Keywords: community satisfaction index; corporate social responsibility; mining community development; community participation; conservation agriculture; Central Kalimantan

INTRODUCTION

Mining companies operate under growing expectations that their presence will leave host communities better off, not merely compensated. Corporate social responsibility (CSR) has been framed as a business case in which social investment reduces risk, builds reputation and secures long-term operating conditions [1]. In developing countries, however, CSR is shaped by distinctive institutional settings, weaker formal governance

and a heavier reliance on companies to provide public goods, which makes its outcomes highly context-dependent [2]. Indonesia is a notable case because CSR for companies in the natural resource sector is a legal obligation under Article 74 of Law No. 40/2007 on Limited Liability Companies, an arrangement whose origins and implementation have been politically contested [3]. For mineral and coal mining specifically, companies are required to plan, implement and report community development

and empowerment programmes following ministerial guidelines for the preparation, implementation and reporting of such programmes [4].

Beyond regulatory compliance, the quality of community programmes bears directly on the relationship between a mine and its neighbours. The concept of a social licence to operate describes the ongoing acceptance or approval that local communities grant to an operation, and it has become central to how the mining sector understands social risk [5, 6]. Empirical models from Australian mining regions show that trust is the pathway to acceptance, and that trust depends on the quality of contact with company personnel and on perceived procedural fairness, alongside the mitigation of operational impacts [7]. Subsequent work has confirmed that dialogue between companies and communities strengthens relationships and fairness perceptions, which in turn build trust and acceptance [8]. Yet community relations work within mining companies is often treated as peripheral to core operations, which limits its influence on how programmes are designed and delivered [9].

Community development programmes do not always succeed. Common forms of failure include programmes that are not sustained after company support ends, benefits that beneficiaries cannot perceive, mismatches between programme content and community needs, poorly chosen partners, and the absence of routine monitoring and evaluation. Empowerment is better understood as a process that changes relationships and capacities over time than as a one-off delivery of assets [10], and the degree to which beneficiaries share in decisions ranges from token consultation to genuine partnership [11]. Monitoring and evaluation therefore need instruments that capture not only whether benefits were delivered but also how beneficiaries experienced the process.

In Indonesia, a widely used instrument is the community satisfaction index, originally developed for public service units. The national guideline specifies the survey elements, a weighted average of Likert scores and a conversion of the index to a 0–100 scale [12]. The approach has recently been adapted to evaluate corporate community programmes, for example, a holistic waste management programme in Bangka Regency and a community empowerment programme in West Bangka, both of which reported very high satisfaction across overall programme, management and service aspects [13, 14]. Public sector studies show that satisfaction is driven by identifiable service quality dimensions and differs among demographic groups [15], while studies of social licence in mining regions likewise use Likert-type measures to quantify community acceptance [16].

Two gaps limit the usefulness of existing satisfaction assessments of corporate programmes. First, most reports present a single aggregate index and then describe each survey element in turn, without asking whether beneficiaries judge the outcomes of

a programme differently from the processes through which it is run. Given the evidence that procedural fairness and contact quality underpin trust [7, 8], this distinction matters. Second, Likert-based indices are prone to response bias and can saturate near the top of the scale [17], so an aggregate value close to the upper category may conceal informative variation. These issues are particularly relevant in Kalimantan, where coal mining has left legacies of land disturbance and soil carbon loss that rehabilitation programmes seek to address [18], and where integrated crop–livestock systems are promoted to diversify smallholder livelihoods [19].

This study evaluated beneficiary satisfaction with MENTARI BRONANG, a community development programme of PT Asmin Bara Bronang in Barunang Village, Kapuas Regency, Central Kalimantan, which combines conservation-based agriculture, livestock production, degraded-land rehabilitation and spring conservation. The objectives were to (i) quantify the community satisfaction index for the overall programme, programme management, and programme distribution and service; (ii) disaggregate the index to the item level to test whether satisfaction with programme outcomes differs from satisfaction with programme processes; and (iii) derive implications for programme management and for the use of satisfaction indices in evaluating mining community development.

METHODOLOGY

Study Area and Programme Description

The study was conducted in Barunang Village, Kapuas Tengah District, Kapuas Regency, Central Kalimantan Province, Indonesia, a village located within the area of influence of PT Asmin Bara Bronang. The MENTARI BRONANG programme was designed to increase household income and promote sustainable environmental management by integrating conservation-based agriculture, livestock production, rehabilitation of degraded land, and conservation of springs. Programme activities included training in conservation farming techniques, production of organic fertiliser and biopesticides, layer-poultry husbandry, post-harvest processing to increase product value, and environmental management. The beneficiary groups were the Puruk Sejahtera, Barunang Hapakat Jaya, Penderawah Hinjeh Hapakat and Maju farmer groups, the Taraku Mandiri Cooperative and a layer-poultry group.

Respondents and Data Collection

The survey was carried out in May 2026. Respondents were representatives of the beneficiary groups, selected purposively by group, and the final sample comprised 30 beneficiaries. Data were collected through face-to-face structured interviews guided by a questionnaire, administered by an external survey team. The questionnaire contained closed items scored on a four-point Likert scale (1 = dissatisfied, 2 = less satisfied, 3 = satisfied, 4 = very satisfied), with item-specific verbal anchors where appropriate (for example, from "not relevant" to "highly relevant", or from "not increased" to "greatly increased"). A four-point scale without a neutral

midpoint was used, following the national guideline [12]; the number of response options is known to affect reliability and response bias [17]. Open-ended questions recorded respondents' explanations, criticisms, suggestions, and expectations.

Survey Aspects and Elements

The index was structured into three aspects (Table 1). The overall programme aspect covered relevance to community needs, problems and potential; programme benefits in terms of knowledge, skills, environmental quality and income; and programme sustainability, including continuity between activities and readiness to continue without company support. The programme management aspect covered community participation in planning, implementation and monitoring and evaluation; synergy between the company and other stakeholders; and the performance of the community development officer, assessed through closeness to the community, adaptability, responsibility and technical competence. The distribution and service aspect covered the accuracy and clarity of methods, their reliability, fairness of targeting and distribution, and the company's responsiveness to criticism and suggestions.

TABLE 1: Aspects and elements of the community satisfaction survey.

Aspect	Elements
Overall programme	Relevance to needs, problems and potential; benefits (knowledge, skills, environmental quality, income); sustainability (continuity of activities, readiness for independence)
Programme management	Community participation (planning, implementation, monitoring and evaluation); stakeholder synergy; community development officer performance (closeness, adaptability, responsibility, competence)
Programme distribution and service	Accuracy and clarity of methods; reliability of methods; fairness of targeting and distribution; responsiveness to criticism and suggestions

Index Calculation

Survey data were tabulated in Microsoft Excel. For each aspect, the community satisfaction index was calculated following the national guideline [12]. The mean score of each element was first obtained as shown in Equation (1).

$$\text{Mean score per element} = \frac{\text{Total score of the element}}{\text{Number of completed questionnaires}} \quad (1)$$

Each element was assigned an equal weight, as shown in Equation (2), where k is the number of elements in the aspect.

$$\text{Weight per element} = 1 / k \quad (2)$$

The index value was obtained as the sum of the weighted mean scores, as shown in Equation (3), and was converted to a 0–100 scale using Equation (4).

$$\text{Index value} = \sum (\text{Mean score per element} \times \text{Weight per element}) \quad (3)$$

$$\text{Converted index} = \text{Index value} \times 25 \quad (4)$$

The total index was calculated as the arithmetic mean of the three aspect indices. Converted values were interpreted using the categories in Table 2.

TABLE 2: Interpretation of the converted community satisfaction index.

N o.	Converted index value	Category
1	0–25	Dissatisfied
2	>25–50	Less satisfied
3	>50–75	Satisfied
4	>75–100	Very satisfied

Data Analysis

Results were analysed descriptively in tables and figures. The aspect and total index values were taken from the survey report. Because individual responses were not available, item-level results are presented as the reported percentage distribution of responses for each element ($n = 30$). Particular attention was given to the share of respondents choosing the highest rating (for example, "very satisfied", "greatly increased" or "very good"), because it distinguishes elements more clearly than the index when responses cluster in the two upper categories. Elements were then classified as outcome items (relevance, the four benefit items and continuity) or process items (the three participation stages, the four facilitator attributes, accuracy and clarity, fairness and responsiveness). Reliability of methods and readiness for independence were not included in the item-level comparison because their response distributions were not fully reported. Responses to open-ended questions were summarised thematically to explain the quantitative results.

RESULTS

Respondent Profile

The respondents were predominantly of working age (Figure 1). Just over half (53%) were aged 26–45 years and 43% were aged 46–65 years, while 3% were older than 65 years and none were 25 years or younger. Senior high school was the most common level of education (40%), followed by elementary and junior high school (27% each), with 3% holding a university degree and 3% without formal schooling. Most respondents worked as farmers or fishers (63%), followed by entrepreneurs (23%), and civil

servants or security personnel and private employees (7% each). Monthly income was IDR 1,000,000–3,000,000 for 60% of respondents, below IDR 1,000,000 for 27%, and IDR 3,000,000–5,000,000 for 13%. The sample therefore represents a largely agrarian, lower-to-middle-income population with mainly basic to secondary education, which corresponds to the intended target group of an agriculture- and livestock-based programme.

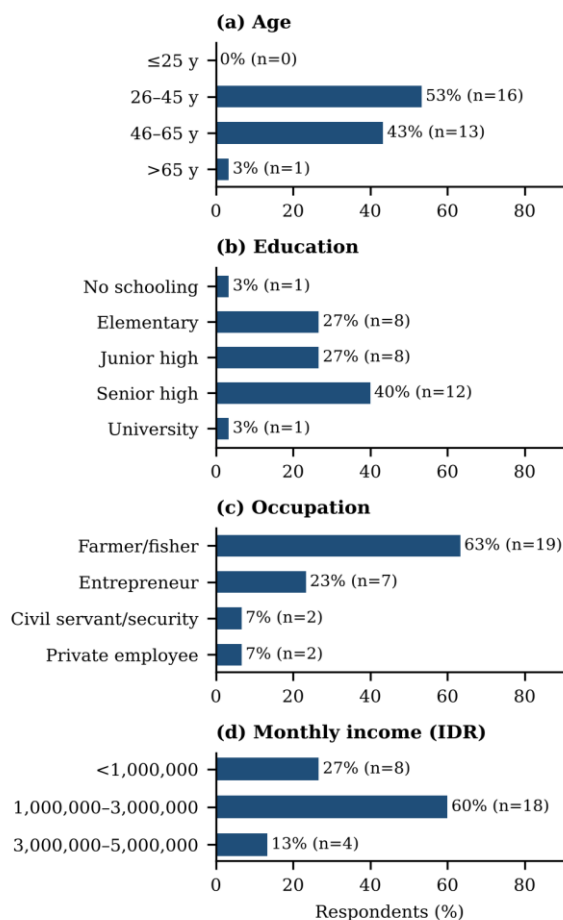


FIGURE 1: Profile of respondents (n = 30): (a) age, (b) education, (c) occupation and (d) monthly income.

Satisfaction with the Overall Programme

The overall programme received the highest aspect index, 3.614, or 90.37 after conversion, which falls in the very satisfied category (Table 3). All respondents rated the programme as relevant or highly relevant to their needs, problems, and local potential, with 77% choosing "highly relevant". Respondents explained that the programme addressed existing problems while building local potential.

Every respondent reported that the programme had increased their knowledge, skills, environmental quality and income, and no response fell below the third category for any benefit item. The strongest benefit was skills, which 87% of respondents reported as greatly increased (Table 4). Respondents attributed this to training in conservation-based farming, the preparation of organic fertiliser and biopesticides, and the processing of harvests to increase their selling value. Knowledge was reported as greatly increased by 63%, particularly in farming techniques, layer-poultry husbandry and environmental management. Environmental quality was reported as

greatly improved by 67%, which respondents linked to the integration of conservation agriculture with the rehabilitation of degraded land and spring conservation. Income was reported as greatly increased by 70% and increased by the remaining 30%, attributed to the sale of crops and eggs from the layer-poultry activity.

With respect to sustainability, 57% of respondents considered the programme activities to be highly continuous and 43% continuous, indicating that successive activities were perceived as connected. Sixty per cent stated that they were very ready to continue the programme independently, which they attributed to community initiatives to develop it further. Nevertheless, all respondents stated that they still needed support from the company. Respondents also reported that they had shared the knowledge and skills gained with family members, neighbours and the wider community.

Satisfaction with Programme Management

The programme management index was 3.350, or 83.75 after conversion, which is also in the very satisfied category but lower than the overall programme aspect (Table 3). Participation was rated mainly as good rather than very good across all three stages. For planning, 80% of respondents rated their involvement as good, 17% as very good, and 3% as less good, the only rating below the third category among the elements for which complete distributions were available. Involvement in implementation was rated good by 80% and very good by 20%, and involvement in monitoring and evaluation was rated good by 67% and very good by 33%. Respondents associated the higher monitoring and evaluation score with regular company visits, data collection, and reporting on group activities.

All respondents (100%) considered that the company was able to work in synergy with other stakeholders, citing communication and cooperation with local stakeholders and community leaders during planning, implementation, and evaluation. The performance of the community development officer was rated good or very good by all respondents. Technical competence received the highest rating, with 73% of respondents rating it very good, followed by closeness to the community (53%), adaptability (47%), and responsibility (47%).

Satisfaction with Programme Distribution and Service

The distribution and service aspect had the lowest index, 3.286, or 82.14 after conversion, although it remained in the very satisfied category (Table 3). The accuracy and clarity of methods were rated as appropriate by 80% of respondents and very appropriate by 20%. The methods were considered reliable by 70% of respondents. Fairness, assessed through accuracy of targeting and equitable distribution among beneficiaries, was rated good by 63% and very good by 37%. Company responsiveness to criticism, input, and suggestions received the lowest rating of any element: 93% rated it good and only 7% very good.

Total Index and Item-Level Pattern

The total community satisfaction index for MENTARI BRONANG was 3.417, or 85.42 after conversion, in the very satisfied category (Table 3).

The aspect indices declined from the overall programme (90.37) to programme management (83.75) and to distribution and service (82.14).

TABLE 3: Community satisfaction index of the MENTARI BRONANG programme by aspect.

Aspect	Index value	Converted index	Category
Overall programme	3.614	90.37	Very satisfied
Programme management	3.350	83.75	Very satisfied
Programme distribution and service	3.286	82.14	Very satisfied
Total (mean of three aspects)	3.417	85.42	Very satisfied

The item-level results showed that this decline reflects a consistent difference between outcome and process items (Table 4; Figure 2). For all six outcome items, between 57% and 87% of respondents chose the highest rating. By contrast, for six of the ten process items (the three participation

stages, accuracy and clarity, fairness and responsiveness), only 7% to 37% of respondents did so, and most rated these items at the third level. The four facilitator items occupied an intermediate position (47–73% at the highest rating), with technical competence (73%) approaching the level of the outcome items.

TABLE 4: Item-level results calculated from response distributions (n = 30).

Type	Element	Distribution, scores 1/2/3/4 (%)	Highest rating (%)
Outcome	Relevance	0 / 0 / 23 / 77	77
Outcome	Knowledge	0 / 0 / 37 / 63	63
Outcome	Skills	0 / 0 / 13 / 87	87
Outcome	Environmental quality	0 / 0 / 33 / 67	67
Outcome	Income	0 / 0 / 30 / 70	70
Outcome	Continuity	0 / 0 / 43 / 57	57
Process	Participation: planning	0 / 3 / 80 / 17	17
Process	Participation: implementation	0 / 0 / 80 / 20	20
Process	Participation: monitoring and evaluation	0 / 0 / 67 / 33	33
Process	Officer: closeness	0 / 0 / 47 / 53	53
Process	Officer: adaptability	0 / 0 / 53 / 47	47
Process	Officer: responsibility	0 / 0 / 53 / 47	47
Process	Officer: competence	0 / 0 / 27 / 73	73
Process	Accuracy and clarity	0 / 0 / 80 / 20	20
Process	Fairness	0 / 0 / 63 / 37	37
Process	Responsiveness	0 / 0 / 93 / 07	7

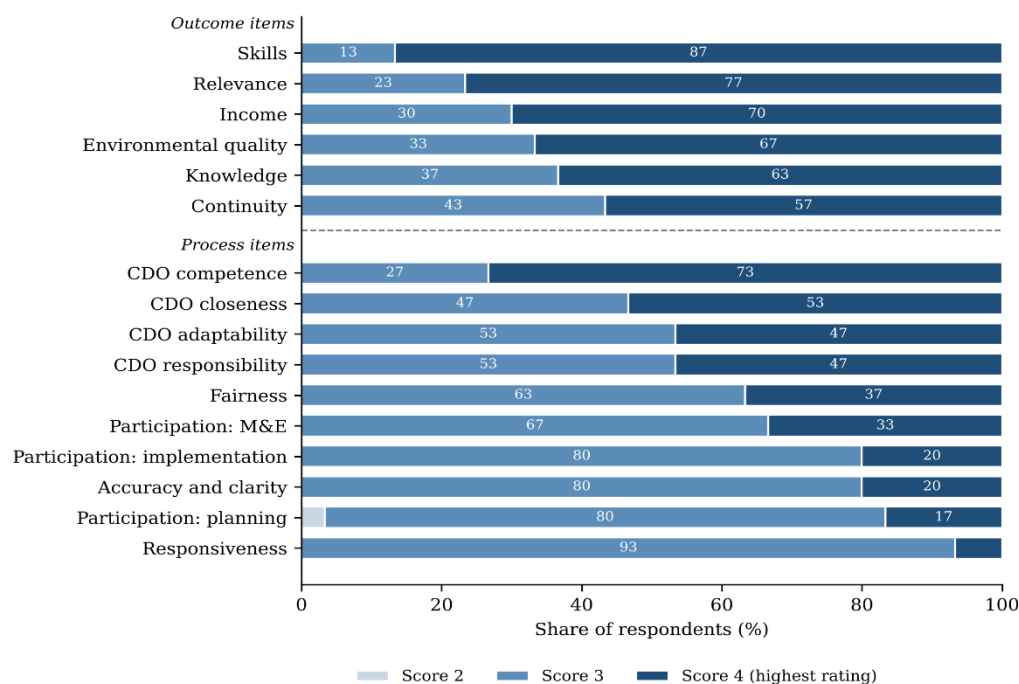


FIGURE 2: Distribution of responses by element, ordered within outcome and process items.

Numbers inside bars are percentages. No respondent selected score 1.
CDO, community development officer; M&E, monitoring and evaluation.

Responses to the open-ended questions were consistent with this pattern. Respondents expressed a strong wish for the company to continue the programme until they were able to raise their income while protecting the environment. They requested additional training, particularly in managing and processing production, and proposed integrating waste management with sustainable cultivation in the village. The survey reports also recommended more frequent communication with beneficiaries about programme plans and schedules.

DISCUSSION

Beneficiaries Value Outcomes More Than Process

The central finding of this study is not the high total index itself but the consistent gap between satisfaction with what the programme delivered and satisfaction with how beneficiaries were involved. Skills, relevance, income and environmental quality were rated at the highest level by two-thirds or more of respondents, whereas planning participation, clarity of methods and company responsiveness were rated at that level by one in five or fewer. The pattern was consistent across all outcome and process items, although with 30 respondents it should be read as descriptive rather than as a statistically tested difference.

In terms of the participation spectrum, the dominance of "good" rather than "very good" ratings for planning and implementation suggests that beneficiaries experienced involvement closer to consultation than to shared decision-making [11]. This matters for the company–community relationship because social licence research consistently identifies procedural fairness and the quality of contact, rather than benefits alone, as the routes through which trust and acceptance are built [7, 8]. A programme can therefore be highly rated for its benefits while leaving untapped the relational gains that would come from deeper participation. The lowest-rated element, responsiveness to criticism and suggestions, is precisely the mechanism through which communities test whether their voice influences decisions. Its low share of "very good" ratings (7%) and the survey report's recommendation for more communication on programme plans and schedules indicate where improvement would have the greatest relational return.

Facilitators as the Bridge Between Company and Community

The community development officer was the exception among the process items, particularly for technical competence and closeness to the community. This suggests that the programme's relational strength currently rests on individual facilitators rather than on institutionalised participation and feedback mechanisms. Community relations work in mining is often valued by communities but positioned outside the core business of the company [9], which makes relationships dependent on specific staff and vulnerable to turnover. Formalising the practices that facilitators already perform well, such as joint planning sessions, a documented complaint and

response procedure with feedback to groups, and participatory monitoring, would help to convert personal trust into organisational trust. This is consistent with the recommendation to strengthen the institutional capacity of all beneficiary groups.

What a High Satisfaction Index Does and Does Not Reveal

The total converted index of 85.42 is almost identical to those reported for two other corporate community programmes in Indonesia evaluated with the same instrument, 85.47 for a waste management programme in Bangka [13] and 85.63 for a community empowerment programme in West Bangka [14]. Such convergence across programmes with different sectors, locations and designs should be interpreted with caution. It may reflect genuinely good performance, but it is also consistent with the structure of the index. With a four-point scale on which almost all responses fall in the two upper categories, the converted index is effectively bounded between 75 and 100, and the "very satisfied" category is reached as soon as only a small share of respondents select the highest rating. Small differences between aspects or programmes are therefore compressed, and the category label carries limited discriminating power.

Response bias is a further consideration. Beneficiaries who receive assets and training from a company, and who expect continued support, may be reluctant to express dissatisfaction in face-to-face interviews, and common method bias arising from a single questionnaire administered in one setting can inflate associations and levels [20]. Likert-type instruments are also sensitive to the number of response options and to acquiescence [17]. The fact that all respondents stated they still needed company support, even though 60% reported being very ready for independence, illustrates this tension. Public sector evidence further shows that satisfaction differs among demographic groups [15]; with 30 respondents, this could not be tested here, but larger samples would allow disaggregation by gender, age, group and income. Reporting item-level response distributions, as done in this study, provides a simple way to extract more information from the existing instrument without changing it.

Environmental and Livelihood Benefits: Perception and Measurement

Respondents' perception that environmental quality and income had improved is plausible given the programme design. Integrated crop–livestock systems can raise productivity and diversify household income while recycling nutrients [19], and revegetation of land disturbed by coal mining in Kalimantan has been shown to restore soil carbon stocks over time [18]. However, perceived improvement is not a measure of environmental change. The present survey cannot indicate how much land was rehabilitated, whether spring discharge or water quality improved, or by how much household income rose. Social licence studies in mining regions similarly report that perceived environmental and economic impacts shape trust and

acceptance [16], which makes it important that perceptions be tested against evidence. Future evaluations of MENTARI BRONANG should pair the satisfaction survey with biophysical indicators, such as rehabilitated area, seedling survival, soil organic carbon and spring discharge, and with recorded income from crop and egg sales, ideally against a baseline or a comparison village.

Implications and Limitations

For the company, the results suggest that the next gains will come less from adding new activities than from deepening participation and responsiveness. Practical steps include involving groups in setting annual priorities and budgets, communicating schedules in advance, responding in writing to the suggestions recorded in this survey, and building group institutional capacity so that readiness for independence becomes demonstrable rather than declared. Such measures align with regulatory expectations for community development in mining [4] and with broader evidence that fair procedures underpin a durable social licence [5, 6].

This study has several limitations. The sample was small ($n = 30$), selected purposively from beneficiary groups, and confined to programme beneficiaries, so it does not represent non-beneficiaries in the village, whose views are equally relevant to a social licence. The survey was cross-sectional, without a baseline or comparison group, and benefits were self-reported. Item-level results were limited to the reported percentage distributions, no inferential statistical testing was performed, and the distributions of two elements were not fully reported. Internal consistency of the instrument could not be assessed without individual-level responses. Repeating the survey with individual response data, a larger and stratified sample including non-beneficiaries, and objective outcome indicators would strengthen inference considerably.

CONCLUSIONS

The MENTARI BRONANG programme of PT Asmin Bara Bronang achieved a total community satisfaction index of 3.417, or 85.42 after conversion, in the very satisfied category, with the highest satisfaction for the overall programme and lower satisfaction for programme management and for distribution and service. Disaggregation showed that this ranking arises from a consistent outcome-process gap. Beneficiaries strongly endorsed the relevance of the programme and its contribution to skills, knowledge, environmental quality and income, but rated participation in planning, clarity of methods and company responsiveness markedly lower. Facilitator competence and closeness were the main relational strengths.

The company should continue the programme while strengthening participatory planning, structured feedback and complaint response, and the institutional capacity of beneficiary groups. More broadly, aggregate satisfaction indices for corporate community programmes should be reported

together with item-level response distributions, and complemented by measured environmental and income indicators. Future research should test whether improvements in procedural aspects translate into greater trust and community acceptance over time.

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Conflict of interest: All authors are employees of PT Asmin Bara Bronang or PT Turangga Resources. The MENTARI BRONANG programme is implemented by PT Asmin Bara Bronang, and the community satisfaction survey was commissioned by the company and conducted by an external survey team from PT Sucofindo (Persero). The authors declare no other competing interests.

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