

Designing Credibility: How PT PLN Indonesia Power Unit PLTP Gunung Salak Practices an Objective Social Return on Investment (SROI) to Evaluate the CSR Program "*Cakra Lumaku*"

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Abstract

The adoption of Social Return on Investment (SROI) as a mandatory component of Indonesia's PROPER environmental performance rating system has increased awareness of accountable CSR impact evaluation, yet its emphasis on a single ratio raises concerns that companies may prioritise compliance over genuine social impact. This article examines the Cakra Lumaku CSR programme implemented by PT PLN Indonesia Power Unit PLTP Gunung Salak as a case study of objective SROI practice within Indonesia's geothermal energy sector. Drawing on programme documentation and international SROI literature, the study identifies six evaluative principles that underpin credible impact assessment: materiality, methodological conservatism, transparency of assumptions, methodological triangulation, systematic reflection, and stakeholder verification. The analysis demonstrates how these principles are applied throughout the evaluation process, from outcome selection and conservative impact attribution to participatory validation, qualitative triangulation, and community learning. The resulting SROI ratio of 1.59, while modest compared with many reported Indonesian CSR cases, is interpreted as evidence of methodological restraint and evaluative credibility rather than limited programme success. The study finds that the maturity of SROI practice in Indonesia depends not on maximising reported returns, but on strengthening transparency, evidence-based evaluation, and multi-stakeholder participation throughout the evaluation process. This article contributes to the literature by documenting an underrepresented geothermal CSR case and proposing six practical principles for enhancing SROI credibility in high-stakes certification contexts.

INTRODUCTION

As the country with the second-largest geothermal potential in the world (IEA, 2023; Salma, 2024), Indonesia continues to push the development of this resource, thereby placing the social dimension of energy development under new scrutiny, especially through corporate social responsibility (CSR) programmes run by state-led energy projects. To regulate corporate social and environmental performance, the Indonesian government has implemented the PROPER mechanism (*Program Penilaian Peringkat Kinerja Perusahaan dalam Pengelolaan Lingkungan Hidup*). PROPER is a public disclosure rating system administered by the Ministry of Environment and Forestry (MoEF) since 1995 that awards companies tiered coloured ratings

from Black to Gold based on their environmental compliance and, increasingly, their community development performance (García et al., 2007).

In 2021, there was a significant development in the PROPER mechanism: the introduction of Social Return on Investment (SROI) as a component of the impact assessment of a company's CSR programme and as a requirement for the Gold, or highest, PROPER rating. According to PROPER magazine, in 2023, 103 companies employed SROI as their assessment method (Ministry of Environment and Forestry of the Republic of Indonesia, 2023). This step formalises a monetised, ratio-based approach to evaluating the social impact of corporate community-development programmes (Ainuddin et al., 2022).

The appeal of SROI lies in its capacity to translate diverse social outcomes into a single monetised ratio that articulates the value of investment, offering a communicative and comparative language that traditional narrative reporting has long struggled to provide (Nicholls et al., 2012; Nicholls, 2017). Moreover, for many corporations accustomed to a culture of accountability and familiar with this kind of financial ratio, SROI has become increasingly acceptable. Yet, the advantage of SROI that makes it communicative reducing the complexity of social impact into a single auditable ratio also exposes it to a common challenge in rating-based evaluation systems: the risk that measurement systems reshape the behaviour of those being measured, gradually shifting organisational attention from producing substantive change towards producing the documentary evidence that certifies it (Power, 1996). Understanding these limitations and risks is therefore critical for advancing the maturity of CSR impact-assessment practice in Indonesia, particularly in geothermal energy, a strategic sector within the country's broader energy-transition agenda.

Various previous studies have examined the implementation of SROI in Indonesia, especially in the context of corporate CSR programmes and PROPER assessments. Ainuddin et al. (2022) analysed the effectiveness of PT Bukit Asam's community development programme using the SROI method and found a ratio of 3.32, which shows that the programme provides significant social value compared with the investment incurred. Saraswati et al. (2024) examined the implementation of SROI in the MSME redesign programme and reported a ratio of 3.46, while Nurhadi (2025) found a ratio of 5.7 in the *Kampung ASRI* programme of PT Adaro Indonesia, and Saleh et al. (2025) reported a ratio of 5.45 in the PT ANTAM programme. Nasution et al. (2024) conducted a systematic review of Indonesia's SROI cases between 2018 and 2022 and found that most of the reported ratios exceeded 2.0, indicating a tendency for high-ratio reporting.

Although these studies make an important contribution to documenting SROI practices in Indonesia, there are still research gaps that need to be filled. First, most of the previous research focused on the coal, cement, and mineral mining sectors, while studies in the geothermal energy sector are still very limited. Second, previous studies have tended to report high SROI ratios without discussing in depth how SROI methodological principles are applied to maintain the credibility of assessments. Third, there has been no research that has systematically identified the evaluative principles underlying credible SROI practices in Indonesia, especially in the context of PROPER assessments that risk encouraging documentary compliance rather than substantive change. Fourth, the existing literature has

given little attention to how companies can practise SROI with a conservative and transparent methodology amid pressure to produce competitive ratios.

This research aims to document the best practice of *Cakra Lumaku* as a CSR programme implemented by PT PLN Indonesia Power Unit PLTP Gunung Salak in Pulosari Village, which has used SROI as an evaluation instrument for community empowerment programmes during the 2022–2025 period, as an instructive example of impact evaluation conducted with methodological restraint in a high-stakes certification context. Drawing on *Cakra Lumaku*'s SROI documentation and the international literature on impact-measurement practice, this article identifies six evaluative principles: (1) materiality, (2) transparency of assumptions, (3) methodological conservatism, (4) methodological triangulation, (5) systematic reflection, and (6) stakeholder involvement for evaluation. This research consists of five parts. Section 2 presents the conceptual framework of SROI methodology and the audit-culture concept; Section 3 describes *Cakra Lumaku*'s setting, design, implementation, and impacts. Section 4 presents the six evaluative principles evidenced in the programme's SROI assessment. Section 5 discusses their implications for CSR evaluation practice in Indonesia's energy sector.

METHOD

This article adopted a qualitative, single-case study design to examine how objective SROI practice is enacted within the *Cakra Lumaku* programme. A single-case approach was chosen because the aim of the article is not to test the prevalence of the six evaluative principles across the population of Indonesian SROI reports, but to document, in analytical depth, how a specific programme evidences these principles in practice, an approach consistent with case-study logic for phenomena that are best understood through detailed examination of a bounded, information-rich instance. *Cakra Lumaku* was purposively selected as the case because it represents an instructive example of SROI conducted in a high-stakes certification context, within the geothermal energy sector, that remains underrepresented in the existing Indonesian SROI literature.

The primary data source is the *Cakra Lumaku* Social Investment Impact Assessment Report (PLN Indonesia Power, 2025), an internal document that records the programme's six-stage SROI methodology, its contextual analysis (initial conditions, objectives, strategies, and implementation), its monetisation and impact-adjustment tables, and its reflective learning components (Most Significant Change, Inspiring Story, and Triple Loop Learning). This primary document was read in full and supplemented with programme-related institutional documentation, including the Village Head Decree formalising the programme's governance arrangements. These primary materials were read against the international SROI methodological literature (Nicholls et al., 2012; Nicholls, 2017; Maier et al., 2015; Arvidson et al., 2013) and the accountability literature on audit culture (Power, 1996; Strathern, 2000), which together supplied the conceptual vocabulary of evaluative credibility used to interpret the case.

The analysis proceeds through directed qualitative document analysis. Six evaluative principles, materiality, methodological conservatism, transparency of assumptions, methodological triangulation, systematic reflection, and stakeholder verification, were derived deductively from the SROI and accountability literature reviewed in Section 2, and then used

as a coding framework to interrogate the SROI report's content. Passages, tables, and reported figures in the report were coded and categorised according to which principle(s) they evidenced, and the analysis paid particular attention to how each principle was operationalised concretely, for instance, through outcome inclusion and exclusion decisions for materiality, impact-adjustment discounting for methodological conservatism, and the value-chain diagrams and verification sheets for transparency and stakeholder verification, respectively. Where the report's monetisation figures allowed comparison, they were also benchmarked against SROI ratios reported for other Indonesian CSR programmes identified through a targeted literature search, in order to situate *Cakra Lumaku's* ratio within the wider landscape of reported practice.

As a document-based case study, this approach has methodological limitations that are addressed more fully in Section 6: it relies on the programme's own documentation rather than independent field verification, it examines a single programme rather than a cross-sectoral sample, and it captures the reflective apparatus recorded in a single report rather than reflection tracked across multiple cycles. These limitations shape the scope of the claims made in the analysis that follows and are discussed further alongside directions for future research.

RESULTS AND DISCUSSION

Conceptual Framework

1. SROI as a Framework for Evaluating Social Impact

Social Return on Investment (SROI) is a framework for calculating a broad concept of value, instead of just capturing financial metrics. SROI seeks to translate the outcomes across the social, environmental, and economic dimensions of an intervention into monetary terms to present the benefit-to-investment ratio as a figure (Krlev et al., 2013). SROI adopts seven principles in its methodology: involving stakeholders, analysing change, valuing the outcomes that matter, including only material ones, not overclaiming, transparency, and verified results (Nicholls et al., 2012). In implementing SROI, there are six stages in it. First, the scope of the program must be determined, and stakeholders must be identified. Second, map the outcomes. Third, collect evidence from the outcomes and give it value. Fourth, establishing net impact by adjusting for deadweight, attribution, drop-off, and displacement. Fifth, calculating the SROI ratio. And sixth, reporting (Nicholls et al., 2012).

Among the range of frameworks available for evaluating social impact, including qualitative narrative reporting, social impact assessment (Vanclay, 2003) and cost-benefit analysis, SROI has gained particular traction in the corporate sector because its monetised ratio format speaks the language of financial accountability that firms and their stakeholders already use to communicate performance (Arvidson et al., 2013; Maier et al., 2015). In the methodological literature, SROI is understood as beyond the ratio itself, but as a structured process to produce a credible account of program-driven change by combining quantitative rigour with in-depth narrative, and treats the ratio not only as a verdict but as a summary of reasoned analysis (Nicholls, 2017; Nicholls et al., 2012).

2. Disciplining Judgment: Four Principles of Objective Evaluation

Producing credible and accountable outcome evaluations does not mean eliminating subjective judgment, but disciplining it to ensure that the discretionary decisions that any monetised evaluation necessarily requires are made transparently, conservatively, and with

reference to evidence that others can inspect (Arvidson et al., 2013; Maier et al., 2015). The first of these disciplining principles is materiality: the requirement that an evaluation include only those outcomes that are demonstrably significant to stakeholders and demonstrably attributable to the intervention, and that it excludes outcomes that are peripheral, incidental, or that would have occurred without the programme (Nicholls et al., 2012; Maier et al., 2015). Closely related is the principle of methodological conservatism, which Nicholls et al. (2012) refer to as 'not over-claiming'. This principle dictates that when evaluators must make subjective judgments about deadweight, displacement, attribution, and drop-off, they should deliberately lean toward cautious, understated estimates. Ultimately, a modest SROI ratio that can be easily defended is far more valuable than an inflated ratio that cannot withstand scrutiny (Maier et al., 2015; Nicholls et al., 2012).

Underpinning both of these principles is the requirement of transparency: the practice of openly documenting the assumptions, proxies, and adjustments that shape the assessment. The goal is to provide enough detail that a reader unfamiliar with the program can clearly trace how each figure in the ratio was calculated, and if they disagree, identify precisely where and why their interpretations differ. Finally, a credible impact assessment requires stakeholder verification: the practice of grounding valuations and outcome claims in the perspectives of those most affected by the programme, and of returning the analysis to them for confirmation rather than treating their experience as a source of raw data to be interpreted by others (Nicholls et al., 2012; Arvidson et al., 2013).

3. The Risk of Audit Culture

These principles represent a rigorous ideal, yet they do not exist in a vacuum. Accountability literature draws attention to a well-documented systemic pattern called the audit culture, warning that when organisations face intense pressure to produce auditable records, it can gradually reshape their priorities and change how they assess their performance (Power, 1996; Strathern, 2000). We can understand this mechanism as a process of gradual displacement: when performance signals, such as ratings and ratios, are quantified and begin to carry consequences for funding, certification, or reputation, the goal of evaluation tends to shift. The effort slowly shifts away from questioning whether the underlying activity actually produced the claimed change and toward ensuring the documentary record conforms to the exact format required by assessors (Power, 1996).

***Cakra Lumaku* Programme: Setting, Design, and Implementation**

1. Setting

The *Cakra Lumaku* Program is a Corporate Social Responsibility (CSR) initiative of PT PLN Indonesia Power UBP Kamojang PLTP Gunung Salak Unit. This community development program is implemented around the power plant, namely in Pulosari Village, West Java. Pulosari is an agrarian community whose livelihood depends on smallholder farmers, including chilli, green beans, rice paddies, and small-scale sheep rearing. Historically, their agricultural sector has faced various constraints, including soil degradation from prolonged over-fertilisation, unmanaged livestock waste polluting local waterways, high market volatility in horticultural prices, and persistent risks of childhood stunting among vulnerable households. To respond to complex and interconnected problems in the company's area, PT PLN Indonesia Power designed the Circular Agriculture Lumbung Pangan Mandiri Karaharjan Urang,

abbreviated as “*Cakra Lumaku*”. This program is designed by adopting the concept of biocircular economy, where the agricultural production, livestock management, waste processing, and community health are treated not as separate intervention domains but as elements of a single closed-loop system in which each component's outputs become inputs for the others (PLN Indonesia Power, 2025). The program has been implemented since 2022 and is currently completing its initial four-year cycle in 2025. Its delivery is structured through dense institutional partnerships between PLN Indonesia Power, the Pulosari village government (formalised through Village Head Decree No. 400.2/023/PEM/2025), the local Kelompok Tani Bina Mandiri (Bina Mandiri Farmer Cooperative), the Puskesmas (community health centre), and a network of Posyandu (integrated community health posts) (PLN Indonesia Power, 2025).

2. Philosophy and Design

The essence of the *Cakra Lumaku* program design is the optimisation of livestock waste and agricultural residues so that they can be converted back into more valuable inputs such as organic fertilisers, biogas, energy, and animal feed. This effort aims to minimise the dependency on external chemical inputs, lower production costs, and simultaneously address the environmental externalities that unmanaged waste would otherwise generate (PT PLN Indonesia Power, 2025).

Those concept then break down into a theory of change that proceeds along three interlinked pathways: an economic pathway in which farmers and livestock rearers reduce input costs and generate new revenue from processed waste products such as verмикомпос (vermicompost), BIOS+ (a bio-organic fertilizer blend), and bioslurry (liquid digestate from biogas processing); an environmental pathway in which soil quality is restored, waterways are cleared of livestock effluent, and greenhouse gas emissions are reduced through biogas capture; and a social pathway in which community health is strengthened through the integration of Posyandu (community health post) services with local nutrition supply from the improved agricultural base (PLN Indonesia Power, 2025).

3. Sub-Programmes and Implementation

To ensure that the program implementation produces intended outcomes and communicates progress to the Company's internal and external levels, PT PLN Indonesia Power adopts the SROI framework as a program evaluation tool, where the impact assessment methodology aligns with the needs of the PROPER assessment of community development aspects (PLN Indonesia Power, 2025; Ministry of Environment and Forestry, 2021). *Cakra Lumaku* operationalises its theory of change through two integrated sub-programmes: Permaisury, which focuses on circular agriculture and sustainable livestock management, and Sarasehan, which strengthens community health by integrating Posyandu services with the improved nutrition supply generated by Permaisury (PLN Indonesia Power, 2025).

Permaisury operates through three interconnected components: the Si Kembang (Sistem Kependudukan dan Manajemen Breeding Domba) sheep-management system, which introduces structured record-keeping, health monitoring, and genetic improvement to what had previously been informal traditional husbandry; a Biogas Power Station, in which livestock waste is processed through a biodigester to generate bioslurry, biogas, and electricity for local

use; and an organic fertiliser production line producing BIOS+, vermikompos, and Tasado for substitution of chemical inputs on member farms (PLN Indonesia Power, 2025).

Sarasehan complements the agricultural loop by strengthening community health infrastructure through three integrated interventions: the institutional development of Posyandu units, including the establishment of Posyandu-based enterprises to sustain their operations, the formation of PIK-R Desa Pulosari (*Pusat Informasi dan Konseling Remaja*), a youth-led initiative that mobilises adolescents as stunting-prevention agents; and the provision of *Pemberian Makanan Tambahan* (PMT), supplementary feeding for pregnant women and young children sourced from Permaisury's organic vegetable production (PLN Indonesia Power, 2025).

4. Investment and Governance

Throughout 2022-2025, PT PLN Indonesia Power has issued a budget of IDR 1,839,153,406 for the *Cakra Lumaku* Program. When it was still a pilot program in 2022, the budget issued was 120 million rupiah. In the following year, 2023, the budget increased to 344 million rupiah, and continued to increase in 2024 to 641 million rupiah, to 734 million rupiah in 2025. The entire budget is an expenditure for all sub-programs that have been described earlier.

In implementation governance, PT PLN Indonesia Power not only acts as a passive funder, but the Company also provides technical assistance, coordinates stakeholders, and integrates programs into local development planning. The community group (Bina Mandiri Farm) operates day-to-day livestock and agricultural activities, and the Puskesmas runs the components of the public health program. The activity centre was carried out at the Raksamala Learning centre, where these two groups met each other and shared knowledge, as well as with external partners, including academics (PLN Indonesia Power, 2025). This governance and implementation structure is documented through the programme's comprehensive SROI report, which combines the six-stage assessment methodology with structured contextual analysis (Initial conditions, objectives, strategies, implementation) and reflective learning components (Most Significant Change, Inspiring Story, Triple Loop Learning), a documentation practice whose evaluative implications are the subject of the next section (PLN Indonesia Power, 2025).

Analysis: The Evidence of SROI Six Evaluative Principles in the *Cakra Lumaku* Assessment

The SROI report prepared by PT PLN IP Salak provides a detailed assessment that allows us to see how the discipline of the principles discussed in the second section is applied in the real-world context. The next section is an analysis of the evidence documented in the SROI report against six core principles: materiality, methodological conservatism, transparency of assumptions, methodological triangulation, systematic reflection, and stakeholder verification.

1. Materiality

By conducting a strict outcome selection and prioritising quantified impacts, it shows that The *Cakra Lumaku* assesses discipline in applying the principle of materiality. Only outcomes that could be demonstrably traced to specific programme activities were monetised, and those outcomes that appeared attributable to broader contextual factors were either excluded or treated with heavy adjustments (PLN Indonesia Power, 2025). It was identified that eight outcomes were successfully monetised in the two sub-programs of *Cakra Lumaku*. The four

new revenue streams from the agricultural waste processing process are sales of Tasado (solid bio-fertiliser), liquid bioslurry, BIOS+, and vermicompost. Likewise, the increase in genetic weight of livestock, losses that were successfully avoided from the death of sheep, surplus from increased agricultural yields, and the improvement of public health through posyandu (PLN Indonesia Power, 2025).

Knowing what the outcome components are not included is just as important as what is included in the assessment. Outcomes contaminated by government programs, regional economic activities, and indirect employment are not monetised. This aims to produce a net monetisation ratio and only comes from the program. Additionally, outcomes where the programme's contribution is partial rather than exclusive are systematically reduced through the attribution adjustments recorded in Table 13 of the report (PLN Indonesia Power, 2025). The pattern of inclusion and exclusion outcomes demonstrated that materiality is implemented as an operational practice rather than mere rhetoric. All outcomes appear in the monetisation table because they can be traced to specific program activities within the bio-circular value chain, and because outcomes that cannot be tracked or require further assessment are included. After all, outcomes beyond the program's direct causality are excluded or discounted through impact adjustment.

2. Methodological Conservatism

In the SROI *Cakra Lumaku* report, the ratio generated is 1.59, meaning that every rupiah of funds invested has generated approximately 1.59 rupiah of net social value during the 2022-2025 program cycle. This modest figure is not a shortcoming of the assessment but rather its most distinctive expression of methodological conservatism: a deliberate restraint applied at each stage of impact adjustment that the SROI methodology literature identifies as a clear marker of credibility (Nicholls et al., 2012; PLN Indonesia Power, 2025).

Table 1. Impact Adjustment Principles Applied in the *Cakra Lumaku* SROI Assessment

Adjustment Principle	Purpose	Application in the <i>Cakra Lumaku</i> Assessment	Contribution to Credibility
Deadweight	Excludes outcomes that would have occurred without the intervention.	Existing farm income was treated as baseline value, while only incremental benefits generated by the programme were monetised.	Prevents overestimation of programme impact.
Attribution	Recognises the contribution of external actors.	Benefits jointly supported by government agencies and community organisations were proportionally discounted.	Avoids attributing all outcomes solely to the CSR programme.
Drop-off	Accounts for declining benefits over time.	Depreciation was applied to infrastructure and other assets with finite useful lives.	Produces more realistic long-term impact estimates.
Displacement	Adjusts for benefits created by replacing existing economic activities.	Productive land converted into demonstration livestock facilities was assigned a displacement value.	Ensures only net social value is reported.

This restraint can be seen in the impact-adjustment decisions recorded in Tabel 1 of the report, where each monetised outcome is adjusted downward through four distinct filters

(deadweight, attribution, drop-off, and displacement), each accompanied by an explicit rationale: attribution reductions of 5 to 8 per cent acknowledge the contribution of farmer capital and stakeholder inputs to the observed outcomes, while the absence of deadweight, drop-off, and displacement adjustments in most rows is justified by the argument that the monetised outcomes are new revenue streams generated by the programme's infrastructure outcomes that would not have existed in the counterfactual (PLN Indonesia Power, 2025)

When compared to the wider landscape of the SROI ratio of CSR programs in Indonesia, the ratio of 1.59 produced in the *chakra* program tends to be comparatively restrained. Nasution et al.'s (2024) systematic review of Indonesian SROI cases documented between 2018 and 2022 finds that most reported ratios exceed 2.0, and recent case studies of CSR programmes at Indonesian state-owned enterprises consistently report figures well above this threshold. PT Bukit Asam at 3.32 (Ainuddin et al., 2022), PT Semen Indonesia at 3.46 (Saraswati et al., 2024), PT Adaro Indonesia at 5.7 (Nurhadi, 2025), and PT ANTAM Indonesia at 5.45 (Saleh et al., 2025). Rejecting a pattern that focuses on the race for high SROI ratios, *Cakra Lumaku* stands out as comparatively modest. This is not an outcome limitation or weakness, but evidence of controlling each stage of impact adjustment.

Ultimately, this result demonstrates that *Cakra Lumaku*'s methodological conservatism is not merely an abstract disposition but a concrete practice embedded in each phase of the analytical process. It is visible in the willingness to attribute observed outcomes partially to actors beyond the program. PT PLN IP Salak fights SROI ratio inflation through generous proxy selection and, most importantly, the acceptance of a modest, defensible figure carries greater evaluative credibility than an ambitious ratio that cannot withstand scrutiny (Maier et al., 2015; Nicholls, 2017)

3. Transparency of Assumptions

The core of this principle is to enable the result of the assessment to be verified, not merely to be claimed. In the *Cakra Lumaku*, the assessment lies in a documentation structure that produces each analytical decision observable to external inspection through the explanation of proxy selection, impact adjustments recorded alongside the rationales, and presented figures of side-by-side pre-adjustment and post-adjustment monetisation (PLN Indonesia Power, 2025). The report avoids simply listing data by making its assumptions traceable across three interpretive levels: decision, numerical, and causal (Nicholls et al., 2012). It details the decision-making process in Table 1 with an explanatory column for every adjustment, demonstrates the numerical magnitude of these discounts by comparing before-and-after monetisation in Table 2, and establishes causal links by using value chain diagrams to connect the eight monetised aspects back to their foundational program activities (PLN Indonesia Power, 2025).

Table 2. Effect of Impact Adjustment on Monetised Outcomes (in rupiah)

Sub-program	Before Adjustment (2022–2025)	After Adjustment (2022–2025)	Overall Reduction
<i>Permaisury</i>	277.277.800	179.009.800	35.4%
<i>Sarasehan</i>	8.060.000	7.065.200	12.3%
Total	285.337.800	186.075.000	34.8%

With this pattern of documentation, readers who are unfamiliar with the program can be facilitated to follow the causal reasons from the theory of change through the value chain to each outcome monetisation, explain the discretionary judgments that make up the final valuation, and if the researcher finds any judgment that is not strongly justified, the SROI report can be dissected without reconstructing the analysis from scratch. What this documentation structure demonstrates, beyond the specific choices it records, is a commitment to treating the SROI ratio as a summary of reasoned analysis rather than as a self-authenticating figure, an evaluative posture in which the number's credibility depends not on its size but on the traceability of the reasoning that produced it (Nicholls, 2017; PLN Indonesia Power, 2025).

4. Methodological Triangulation

This principle emerges more distinctively from the case itself, though it is anticipated in Nicholls's (2017) framing of SROI as a story-of-change rather than a verdict: methodological triangulation, understood here as the practice of pairing the quantitative ratio with structured qualitative components that document dimensions of change monetisation alone cannot capture (PLN Indonesia Power, 2025; Nicholls, 2017). The SROI report of *Cakra Lumaku* operationalises this triangulation through two structured qualitative components positioned alongside the quantitative analysis. The first is the Most Significant Change approach, which draws on the participatory-evaluation methodology developed by Davies and Dart (2005) to document the village-level transformations that stakeholders themselves identified as most consequential, such as the recovery of soil productivity through organic-fertiliser adoption and the reactivation of the Posyandu as a functioning community institution. The second component, Inspiring Story, provides a complementary layer of individual-level testimony, capturing specific beneficiary experiences that give qualitative texture to the aggregate figures in the monetisation tables and illustrating what the ratio's constituent numbers signify in real lives (Davies & Dart, 2005; PLN Indonesia Power, 2025).

Together, these three forms of evidence enable an evaluative reading that neither the ratio nor the narratives could achieve alone. The aggregate ratio quantifies the proportional social value generated; the collective Most Significant Change account identifies which changes stakeholders find most consequential; and the individual Inspiring Story narratives illustrate what those changes actually mean in the lives of specific beneficiaries. Ultimately, each form of evidence actively checks and enriches the others, rather than merely illustrating a single conclusion (PLN Indonesia Power, 2025). The triangulation demonstrates that the assessment rejects the dominance of the ratio as the only valid form of knowledge produced during the evaluation process. Positioned instead as one authoritative voice among several (quantitative, collective, and individual), the ratio becomes an element within the evidence base rather than the summary that displaces it. This refusal anchors the assessment's evaluative credibility beyond the persuasive power of the figure itself.

5. Systematic Reflection

A fifth principle emerges from a distinctive component of the *Cakra Lumaku* assessment: systematic reflection, understood as the deliberate documentation of the program's own operational learning across its successes, failures, and adaptive changes. Drawing on the organisational-learning tradition (Argyris & Schön, 1978; Tosey et al., 2012), the assessment formalises this reflection as a Triple Loop Learning framework, an inclusion that distinguishes

this report from the majority of Indonesian SROI documents, which typically treat reflection as a brief appendix rather than a structured component of the evaluation itself (Nasution et al., 2024; PLN Indonesia Power, 2025). The report operationalises this reflection through two structured components: "Success and failure factors" applies the Triple Loop Learning framework across three analytical levels (operational actions, underlying assumptions, and guiding principles) to document tensions and adaptations, and Section "The Unique Factor" identifies the programme's distinctive design features and analyses each through Sustainable Livelihoods Approach categories of intellectual, social, and infrastructure capital (PLN Indonesia Power, 2025).

Where the SROI ratio, Most Significant Change narratives, and Inspiring Story components address the question of what the program achieved, the reflective apparatus addresses a fundamentally different question: how the program itself learned. This distinction matters analytically because it transforms the evaluation from a terminal accounting into a formative account, ensuring that each documented success, failure, and unique feature (Faktor Keunikan) is made available as a resource for subsequent cycles rather than remaining sealed within the reporting period. In doing so, this reflection is positioned as a vital corrective against the tendency of assessment systems to drift toward mere documentary compliance (PLN Indonesia Power, 2025; Power, 1996).

As Power (1996) mentioned, the argument that measurement systems inevitably drift toward the production of auditable records rather than substantive change, the *Cakra Lumaku* assessment's reflective apparatus operates as a vital structural corrective. By utilising the Triple Loop Learning framework to require the program to document not only what it achieved, but where its assumptions were revised, where its practices were adjusted, and where its guiding principles were tested, the assessment makes evaluation an occasion for being analytically self-critical rather than a mere exercise in compliance documentation (PLN Indonesia Power, 2025; Power, 1996).

6. Stakeholder Verification

stakeholder verification is analytically the most demanding of the framework, because it requires the assessment not merely to include the perspectives of those most affected but to make those perspectives constitutive of the valuations, outcome selections, and interpretive framings that structure the analysis; in the *Cakra Lumaku* assessment, this grounding is pursued across multiple stages of the methodology rather than concentrated in a single participatory moment (PLN Indonesia Power, 2025; Nicholls et al., 2012). Stakeholder engagement is documented across several stages of the assessment, demonstrating that it is a demonstrable practice rather than a mere claim. At the scoping stage, the initial social mapping (Bab IV) draws on primary data from village residents to identify the exact problems the program was designed to address. At the outcome-identification stage, the value chains (Bab VI) trace intended changes directly back to these stakeholder-identified needs. At the qualitative stage, the Most Significant Change component draws its authority precisely from a participatory logic, as stakeholders themselves nominate which transformations they consider most consequential (Davies & Dart, 2005). Finally, at the reporting stage, verification of the report was conducted with both internal and external stakeholders, as formally documented in the report's verification sheet (PLN Indonesia Power, 2025)

The interpretive gain from this distributed engagement is that the assessment's valuations and outcome claims carry epistemic weight beyond that of the assessment team itself. The ratio of 1.59, the changes documented in Most Significant Change, and the individual narratives in Inspiring Story all point back to accounts that stakeholders have authored, endorsed, or verified at some stage of the process, giving the numerical output an anchoring in experience that pure documentary analysis cannot achieve (PLN Indonesia Power, 2025). Ultimately, this widespread engagement demonstrates that stakeholder verification is not just one principle among six, but the very foundation on which the other five stand. Principles like materiality, conservatism, transparency, triangulation, and reflection remain nothing more than the assessment team's own internal reasoning until the perspectives of the people actually affected are woven into them. Together, the six principles evidenced in the *Cakra Lumaku* assessment describe more than a procedural technique; they reveal a professional disposition. It is a way of practising SROI that actively resists the drift toward documentary compliance, ensuring instead that the final ratio is the summary of a genuinely grounded, human-centred reasoning process (Nicholls, 2017; Nicholls et al., 2012; PLN Indonesia Power, 2025; Power, 1996).

Evidence from the application of the six principles in the *Cakra Lumaku* assessment shows that this report is merely a “thicking box” ritual, but a professional disposition where materiality restricts what is counted, how it is calculated through conservatism disciplines, transparency produces inspectable decisions, triangulation diversifies the evidential base, reflection holds the assessment accountable to its own learning, and stakeholder verification grounds each commitment in the perspectives of those most affected (PLN Indonesia Power, 2025; Nicholls et al., 2012). From this understanding, there is a contrasting difference between a compliance-oriented SROI report and a credible practice: one lies less in what the report contains than in the disposition it enacts, a distinction that matters because dispositions, unlike checklists, can be cultivated across an entire community of practitioners rather than merely enforced through certification requirements.

The *Cakra Lumaku* assessment invites a reconsideration of what an SROI ratio, at its most credible, actually represents: not a competitive metric to be maximised in comparison with other assessments, but the summary of a reasoning process whose defensibility, rather than whose magnitude, is what warrants evaluative confidence. This norm sits in tension with a real structural incentive: certification systems, PROPER included, rely on comparability across companies, and comparability is easier to construct from a single figure than from the fuller documented reasoning that stands behind it, with the practical effect that CSR practitioners are systemically encouraged to produce ratios that read as competitive rather than as merely defensible. Loosening this pressure will require the field itself to develop evaluative conventions that treat documented restraint as a marker of quality rather than of understatement. These conventions could take the form of peer-review practices among CSR practitioners, sector-specific benchmarks that report ratio and documentation depth in parallel, and comparative discussion of methodology alongside outcome. Therefore, a well-argued 1.59 becomes recognisable, in the practitioner community's own reading, as more evaluatively secure than an under-documented 5.7 (Nasution et al., 2024; Nicholls, 2017).

Among the six principles, systematic reflection and stakeholder verification stand out as the strongest safeguards against the drift identified by Power (1996). This is because they introduce crucial perspectives that the assessment team cannot generate internally. Reflection

forces the assessment to confront what the program actually learned in practice, while stakeholder verification ensures the analysis is grounded in the genuine voices of the people it is meant to serve. Although these evaluative norms are universally valuable, their application varies widely across different industries. Consequently, Indonesian SROI practice needs sector-specific guidance that recognises how the unique community dynamics and attribution challenges of state-owned geothermal enterprises differ entirely from those in coal mining or oil refining. The *Cakra Lumaku* assessment offers a strong, practical reference point from which to begin building this geothermal-specific framework (Nasution et al., 2024; PLN Indonesia Power, 2025).

CONCLUSION

This article analysed *Cakra Lumaku*, PT PLN Indonesia Power Unit PLTP Gunung Salak's CSR programme, as a case study of SROI practice in Indonesia's geothermal sector an area still underrepresented in the SROI literature despite its strategic role in the energy transition. Drawing on programme documentation and international impact-measurement literature, the analysis identifies six evaluative principles materiality, methodological conservatism, transparency of assumptions, methodological triangulation, systematic reflection, and stakeholder verification that function not merely as a compliance checklist but as professional dispositions underpinning credible evaluation. The programme's modest SROI ratio of 1.59, notably lower than the ratios above 2.0 common in Indonesian SROI reporting, reflects this disposition: credibility here rests on methodological rigour and transparent reasoning rather than the persuasive size of a single figure. This suggests that the maturation of SROI practice in Indonesia depends less on adding new certification requirements than on cultivating these professional dispositions among practitioners, alongside sector-specific guidelines for state-owned geothermal projects given their distinct community and impact contexts. The study is limited by its reliance on programme documentation rather than direct fieldwork, its single-case scope, and its reliance on a single reporting period to assess organisational learning through the Triple Loop Learning framework; future research should therefore incorporate direct stakeholder engagement, test the six principles across other industries such as coal, oil, and cement, and track learning longitudinally across multiple programme cycles. Ultimately, this article argues that credibility in SROI practice should be judged not by the magnitude of reported ratios, but by the depth of methodological documentation, the capacity for genuine learning, and the extent of grounding in stakeholder realities a modest but foundational claim for the broader credibility of SROI as an evaluative tool.

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