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Analysis of Social Return on Investment (SROI) at the Pijar Gemilang Community Development Program of *PT* PLN Nusantara Power Unit Pembangkitan Remban

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ABSTRACT

Objective of this study is to analyze the social investment impact of the PIJAR GEMILANG Community Development Program implemented by *PT* PLN Nusantara Power UP Rembang using the Social Return on Investment (SROI) approach. This program represents a waste-based social innovation initiative utilizing dragon fruit waste and FABA waste as raw materials for organic fertilizer and a farmer savings system, located in Trenggulunan Village, Pancur District, Rembang Regency. Methods employed a quantitative approach within the Social Innovation Impact Measurement (SIIM) framework using the SROI method. Data were collected through in-depth interviews with 15 involved stakeholders, field observations, and secondary document studies including strategic planning documents, monitoring and evaluation reports, and community satisfaction indexes. Data analysis proceeded through seven stages: stakeholder identification, program input mapping, outcome determination, impact monetization, present value calculation with discount rates of 6% (2023), 6% (2024), and 4.75% (2025), and SROI ratio calculation. Results indicate that the PIJAR GEMILANG Program involves 15 stakeholders with four primary community groups (KWT Lestari, KTH Parikesit, Pokdarwis PARTA, and BUMDes Unggul Sejahtera). Total investment value during the 2023–2025 period reached IDR 150,912,200, while total benefits generated reached IDR 432,341,526. The SROI ratio obtained was 2.86, meaning that every IDR 1 invested generates IDR 2.86 in social benefits. Tangible program impacts include 16.3 tons of waste managed (81.09%), increased income for KWT Lestari members of IDR 25,650,000 per year, the SERUNI farmer savings system valued at IDR 104,775,000, dragon fruit picking tourism income of IDR 72,000,000 per year for 15 farmers, and bokashi fertilizer savings of IDR 4,788,000.

Keywords: Corporate Social Responsibility; Community Development; Pijar Gemilang; Impact Measurement; Social Return on Investment.

INTRODUCTION

Indonesia is classified as a developing country and categorized as an upper-middle-income country according to the World Bank classification (World Bank, 2024). Despite this status, Indonesia continues to face development challenges such as economic inequality, limited access to public services, unemployment, and poverty. Community development represents a process of social restructuring and organization using participatory and self-reliance approaches, enabling communities to plan, manage, and fulfill their needs independently to improve social, economic, and environmental quality of life (Ife, 2002). Therefore, community development programs play a strategic role in accelerating sustainable development through local economic empowerment, capacity building, and competency enhancement (Dushkova & Ivlieva, 2024; Franco & Tracey, 2019; Quiroz-Niño & Murga-Menoyo, 2017).

In practice, community development implementation in Indonesia faces multiple constraints (Pasaribu et al., 2020). Low participation levels, dependence on external actors, limited local capacity, weak governance systems, and socio-cultural factors remain key challenges that hinder program sustainability and effectiveness (Ife, Jim; Tesoriero, Frank, 2008).

One of the companies that consistently demonstrates commitment to community development and social advancement is PT PLN Nusantara Power UP Rembang. The company is located at Jl.

Semarang–Surabaya KM 130, Port Area, Leran Village, Sluke District, Rembang Regency, Central Java, 59272, Indonesia. Through the implementation of Corporate Social Responsibility (CSR), PT PLN Nusantara Power UP Rembang actively contributes to improving the welfare of communities surrounding its operational area (Arisandi & Rahayu, 2025; Saptura & Putra, 2023; Setiawan et al., 2021).

In addressing community empowerment challenges in Indonesia such as low community participation, dependence on external actors, and limited local capacity the CSR initiatives of PT PLN Nusantara Power UP Rembang adopt a participatory and local potential–based empowerment approach. The PIJAR GEMILANG Program is designed not merely as a form of social assistance but as a community development strategy emphasizing capacity strengthening, community independence, and long-term sustainability (Aliya, 2023; Effendy & No, 2015; Jewed et al., 2025).

Through the PIJAR GEMILANG Program, *PT* PLN Nusantara Power UP Rembang facilitates community capacity development through training programs, mentoring activities, and institutional strengthening within communities surrounding the company's operational area (Arisandi & Rahayu, 2025; Falashifah, 2019; Saptura & Putra, 2023). These efforts aim to reduce community dependency on corporate assistance while encouraging community-driven initiatives that enable independent resource management. Consequently, the program aligns with community development principles that emphasize participation, empowerment, and social capital enhancement (Adefila et al., 2024; Dushkova & Ivlieva, 2024; Nalikan & Rozikin, 2025).

Furthermore, the CSR initiatives of *PT* PLN Nusantara Power UP Rembang function as a bridge between corporate interests and community needs, creating mutually beneficial synergy. The company acts not only as a funding provider but also as a development partner promoting improved governance practices that are transparent, accountable, and impact-oriented. This approach ensures that the PIJAR GEMILANG Program addresses structural challenges in community empowerment practices while contributing to the achievement of sustainable development goals.

Social Innovation Impact Measurement (SIIM) and the Social Return on Investment (SROI) approach serve as essential instruments in community development programs, enabling organizations to measure, communicate, and enhance the social, economic, and environmental value generated in a more accountable and evidence-based manner (Nicholas, Ledwith, & Perks, 2012). The urgency of Social Innovation Impact Measurement lies in its role in strengthening accountability and transparency within community development initiatives. SROI allows program outcomes to be quantified by translating social, economic, and environmental impacts into ratio-based values. Consequently, stakeholders are able to clearly understand the extent to which corporate investments generate tangible and measurable benefits for society (J Nicholls, 2012).

Dragon fruit, as one of Indonesia's agricultural commodities closely associated with local culture and rural livelihoods, has emerged as a commodity with significant economic potential. Trenggulunan Village, located in Rembang Regency, Central Java Province, Indonesia, relies heavily on dragon fruit cultivation as the primary source of livelihood for approximately 150 farmers. Despite this economic potential, poverty remains a persistent challenge. According to Statistics Indonesia (Badan Pusat Statistik, 2025), the poverty rate in Rembang Regency reached 13.01%, equivalent to approximately 85.32 thousand people living below the poverty line.

The PIJAR GEMILANG Community Development Program (Interwaste Management for Trenggulunan Welfare and Integrated Dragon Fruit Waste-Based Economic Independence

Movement) was initiated collaboratively by the CSR initiative of PT PLN Nusantara Power UP Rembang and the community of Trenggulunan Village. The program represents a waste-innovation–based community development initiative that utilizes dragon fruit waste as a primary resource for local economic empowerment.

The PIJAR GEMILANG Program consists of various integrated activities, including integrated dragon fruit cultivation, endemic fauna conservation, electrifying agriculture, dragon fruit–based food processing, nutritious home garden development, dragon fruit picking tourism, agroforestry Edu tourism, waste-based livestock feed management, processing FABA and dragon fruit waste into BoBa fertilizer (Booster FABA), biowasil production, and other supporting activities.

Trenggulunan Village is the largest dragon fruit production center in Rembang Regency, where approximately 30% of the village area (±40 hectares) is utilized for dragon fruit plantations. Around 150 households rely primarily on dragon fruit cultivation as their main livelihood. However, the high production potential has simultaneously generated environmental challenges, particularly the accumulation of unmanaged dragon fruit waste, which has become a significant local issue.

According to the National Waste Management Information System of the Ministry of Environment (2023), Rembang Regency produces approximately 2,850 tons of agricultural waste annually, accounting for 43.1% of total waste generation. Waste accumulation occurs due to limited market access, dependence on middlemen, price manipulation practices, and plant disease outbreaks. Consequently, farmers often stockpile unsold or low-quality fruit and cut or burn infected plants. These practices contribute to declining soil quality and land degradation. During peak harvest seasons, dragon fruit waste generation can reach up to 20.1 tons, affecting approximately 13 hectares of agricultural land.

The novelty of this research lies in four key aspects. First, this study applies the SROI method to a waste-based social innovation program in an agricultural community development context, a setting that has been minimally studied in existing SROI literature. Second, the research monetizes both direct economic outcomes (income increases, cost savings) and indirect social benefits (capacity building, social cohesion, environmental sustainability) within a single integrated framework. Third, the study incorporates sensitivity analysis using discount rates (6% for 2023, 6% for 2024, and 4.75% for 2025) to account for temporal value variations, enhancing the robustness of the SROI calculation. Fourth, the research involves comprehensive stakeholder mapping of 15 stakeholders with distinct roles, providing a complete picture of collaborative governance contributing to program success. This novelty addresses the research gap identified from the works of Purwohedi (2016), Budiarti (2019), and Santoso Tri Raharjo (2018).

Additionally, Rembang Regent Decree No. 521.3/2944/2023, which limits subsidized fertilizer allocation to only 75%, has further disrupted agricultural productivity, increased production costs, and contributed to rising commodity prices. These conditions place farmers in vulnerable economic and environmental situations, characterized by declining harvest yields, reduced sales volume, and deteriorating soil quality. This situation highlights an urgent need for sustainable agricultural and waste management solutions.

The PIJAR GEMILANG Program introduces an integrated waste management system by utilizing accumulated dragon fruit waste. This approach resulted in a social innovation known as **MBAH GANTENG (Organic Material Management for the Trenggulunan Environment).**

MBAH GANTENG processes various waste streams, including household waste (organic and inorganic), FABA waste from PT PLN Nusantara Power UP Rembang, and dragon fruit agricultural residues. These materials are transformed into new formulations producing organic agricultural inputs such as BOBA fertilizer (Booster FABA), Silka FABA fertilizer, Bio Wasil, and FABA-based Hydroton.

In addition, the innovation **SERUNI (Farmer Welfare Access System)** introduces a waste-based savings mechanism that provides accessible financial alternatives for farmers and community members, particularly during low-income or off-season periods. Collected waste is utilized as raw material for MBAH GANTENG products, and the proceeds from product sales are returned to participants in the form of savings.

The novelty of these innovations has been formally recognized by the Rembang Regency Agriculture and Food Office through Certificate No. 400.7.11.5/526/2025, confirming that the MBAH GANTENG formulation and the SERUNI system constitute entirely new innovations at the district level.

RESEARCH METHODS

The data used to analyze the Social Return on Investment (SROI) of the PIJAR GEMILANG Program consist of both secondary and primary data sources. Secondary data were obtained from strategic planning documents, annual work plans, monitoring and evaluation reports, and the Community Satisfaction Index (Indeks Kepuasan Masyarakat/IKM) related to CSR activities of *PT* PLN Nusantara Power UP Rembang. In addition, primary data were collected through in-depth interviews with program beneficiaries and PIJAR GEMILANG program implementers.

The SROI calculation was conducted by monetizing the impacts generated by the PIJAR GEMILANG Program. This approach involves assigning monetary values to outcomes that either possess direct financial value or can reasonably be converted into monetary equivalents. These monetized outcomes were then calculated using the SROI framework to produce a ratio representing the overall effectiveness and value generated by the program.

Furthermore, the SROI method enables the assessment of investment impacts derived from corporate inputs within community development programs by examining three primary dimensions: social, environmental, and economic impacts (Purwohedi, 2016).

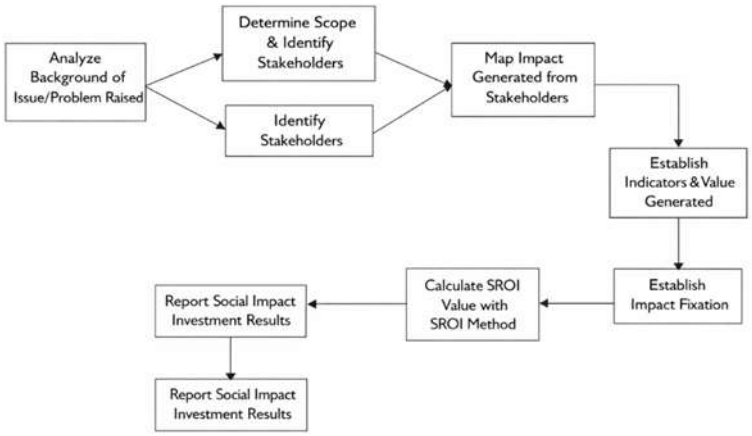

Figure 1. Stages of SROI Data Analysis

Source: Processed Data, 2025

The data utilized in the SROI analysis of the PIJAR GEMILANG Program consisted of both secondary and primary data sources. Secondary data were obtained from strategic planning documents, annual work plans, SROI documentation, social mapping reports, and the Community Satisfaction Index (IKM) documents. Primary data were collected through in-depth interviews and field observations conducted with program stakeholders and beneficiaries.

All collected data were subsequently tabulated to enable clear quantification of program outcomes. However, several impact components remained estimative due to limited documentation or the intangible nature of certain outcomes. These included benefits such as increased knowledge, changes in mindset, and service-based benefits that could not be directly measured. Therefore, valuation was conducted contextually by applying reasonable assumptions aligned with program conditions and impact characteristics (Santoso Tri Raharjo, 2018).

Value projections were developed as realistically and reasonably as possible by applying assumptions based on prevailing market prices and commonly accepted community standards. The analyzed data were then used to calculate impact value and financial value, resulting in the estimation of Net Present Value (NPV), which subsequently formed the basis for calculating the SROI ratio (Budiarti, 2019).

RESULTS AND DISCUSSION

Within the PIJAR GEMILANG Program, four community-based groups play strategic roles in program implementation, namely KTH Parikesit, KWT Lestari, Pokdarwis Parta, and BUMDes Unggul Sejahtera. Each group holds distinct responsibilities aligned with community empowerment objectives and program sustainability. The Forest Farmer Group (KTH) Parikesit consists primarily of vulnerable male community members in Trenggulunan Village. This group is responsible for dragon fruit cultivation, the development of energy crop demonstration plots, and the implementation of endemic fauna conservation activities. Meanwhile, the Women Farmers Group (KWT) Lestari focuses on strengthening household economic resilience through community participation, agricultural processing activities, and women-led empowerment initiatives.

Figure 2. Distribution of Group Roles in the PIJAR GEMILANG Program

Source: Processed Data, 2025

In 2023, the PIJAR GEMILANG Program entered the initiation phase, focusing on establishing the foundational components of community development. Key activities implemented during this phase included home garden development (P2L), the introduction of improved dragon fruit cultivation systems, development of micro and small enterprises producing dragon fruit–based products, guano fertilizer development, bat cave conservation, improvement of village infrastructure and facilities, and the electrification of agricultural fields through the "electricity for farming" initiative.

In 2024, the program progressed into the development phase, emphasizing expansion and innovation strengthening. Activities conducted during this period included the development of energy forests, agroforestry tourism packages, construction of a dragon fruit monument as a village icon, enhancement of tourism infrastructure, development of bamboo-based community facilities, implementation of the MBAH GANTENG and SERUNI innovations, development of Booster FABA and dragon fruit waste-based fertilizers (MBAH GANTENG), reverse osmosis product development, and social media training aimed at improving community marketing capacity.

Figure 3. Explanation of the Nutritious Food Yard Program
Source: Processed Data, 2025

Furthermore, in 2025, the program entered the consolidation phase, with activities including the establishment of the Trenggulunan Learning Center, development of renewable energy–based pest control systems, implementation of biodiversity-based klanceng (stingless bee) cultivation, conservation of Rasbora argyrotaenia (wader pari fish), development of electrified water pumping systems, development of sawdust management facilities, sawdust management training, development of social forestry modules, development of renewable energy–based water sprinkler systems, and provision of electricity-based tourism facilities.

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Figure 4. Explanation of Dragon Fruit Cultivation
Source: Processed Data, 2025

Trenggulunan Village is the largest dragon fruit producer in Rembang Regency, Central Java, with a total dragon fruit plantation area reaching 40 hectares. In addition, approximately 65% of the population works in the agricultural sector. This condition is also supported by the village's demographic characteristics, which are dominated by social forestry areas.

Figure 5. Roadmap of the Pijar Gemilang Program
Source: Processed Data, 2025

The Pijar Gemilang Program is a collaborative initiative between PT PLN Nusantara Power UP Rembang and the community of Trenggulunan Village, implemented from 2023 until the present (2025). Various community development initiatives have been carried out to reduce poverty and improve the welfare of the local community. The measurement of social innovation impact using the Social Return on Investment (SROI) approach does not merely focus on numerical results but also emphasizes the analytical process, data interpretation, and decision-making at each stage of

implementation. The following section outlines several stages involved in the SROI analysis process, which are described as follows:

1. Stakeholder Identification

This subsection presents the identification of stakeholders involved in the Pijar Gemilang Program. The stakeholder mapping includes local communities, government institutions, private sector actors, media, and academic institutions contributing to the sustainability of the program. Stakeholder identification provides a comprehensive overview of collaborative governance contributing to program success and its social impacts within Trenggulunan Village.

Table 1. Stakeholder Identification

Stakeholder	Category	Engagement Status	Scope of Involvement
PT PLN Nusantara Power UP Rembang	Company	Initiator, Funder, Facilitator, Coordinator, and Supporting Actor	Provides benefits through the PIJAR GEMILANG Social Innovation Program
Trenggulunan Village Government	Government	Coordinator, Regulator, and Supporting Actor	Program partner stakeholder
Pancur Subdistrict Government	Government	Supporting Actor	Cross-village coordination and alignment of the Pijar Gemilang Program with subdistrict development policies
Koramil Pancur	Government	Supporting Actor	Maintaining conducive conditions for smooth program implementation
Forestry Service CDK 1 Blora	Government	Supporting Actor	Technical and policy support for agricultural optimization management
iNews Jateng	Mass Media	Supporting Actor	Dissemination of information and program achievements to the public
Radar Kudus	Mass Media	Supporting Actor	Dissemination of information and program achievements to the public
IPB University	Academia	Supporting Actor	Academic and scientific support for agricultural optimization subprograms
Agricultural Extension Center (BPP) Pancur	Government	Facilitator and Supporting Actor	Technical agricultural assistance and farmer group capacity building
Rembang Regency Agriculture and Food Service	Government	Regulator	Regional agricultural policy regulation for agricultural optimization
Rembang Regency Culture and Tourism Office	Government	Supporting Actor	Supporting local tourism development and promotion aligned with regional tourism agendas
KWT Lestari	Community	Supporting Actor	Beneficiary of product processing, agriculture, and tourism development
KTH Parikesit	Community	Supporting Actor	Beneficiary of agricultural optimization and tourism initiatives
Pokdarwis PARTA	Community	Supporting Actor	Beneficiary of tourism infrastructure development and promotion
BUMDes Unggul Sejahtera	Community	Supporting Actor	Beneficiary of economic improvement and waste processing innovation

Source: Processed Data, 2025

Based on the data presented above, it can be identified that the PIJAR GEMILANG Social Innovation Program involves a total of 15 stakeholders. Among these stakeholders, the direct

beneficiaries are limited to KWT Lestari, KTH Parikesit, Pokdarwis Parta, and BUMDes Unggul Sejahtera, which directly receive program impacts and benefits.

2. Program Inputs

The PIJAR GEMILANG Social Innovation Program implemented in Trenggulunan Village, Pancur Subdistrict, Rembang Regency, is supported by investments provided by PT PLN Nusantara Power UP Rembang. These investments consist of financial resources, time contributions, and human resources, which collectively form the basis for impact input mapping. The following section presents the mapping of investment inputs within the Pijar Gemilang Program.

Table 2. Impact Calculation and Monetization

Sub-Program	Year	Impact		Monetary Value (IDR)
		Activity	Form	
Community Economic Improvement	2023	Partnership initiation between Trenggulunan Village and PT PLN Nusantara Power UP Rembang	Partnership initiation	0
		Product diversification training	Training implementation cost	5,000,000
		Provision of production facilities	Infrastructure procurement cost	10,000,000
	2024	Production equipment planning	Planning discussion	—
		Procurement of production equipment	Equipment procurement cost	7,000,000
	2025	Training and facility planning	Planning discussion	—
		Waste cooking oil utilization training for eco-friendly fuel	Training cost	2,500,000
		Mineral water packaging assistance	Packaging support	2,500,000
		Procurement of two MSME container units	Infrastructure procurement	15,000,000
		Public speaking & MC training	Training cost	3,000,000
		E-commerce training	Training cost	3,000,000
		Product diversification training	Training cost	5,000,000
Local Tourism Development	2024	Annual capacity-building and infrastructure planning	Program socialization	—
		Capacity building program (Plawangan Village)	Capacity building activity	—
		Capacity building program (Malang Village)	Capacity building activity	—
		Installation of one electric PAL unit	Infrastructure installation	3,500,000
		Dragon Fruit Monument construction	Tourism landmark development	40,000,000
		Installation of monument lighting	Lighting installation	1,500,000
	2025	Tourism package facility socialization	Program socialization	—
		Procurement of 1,000 brochures and 2,000 tourism bracelets	Promotion facilities	—
Agricultural Optimization	2023	Work plan and land utilization socialization	Socialization activity	—
		Utilization of FABA waste as construction material	Material utilization	—

	Energy crop demonstration plot development	Development cost	10,000,000
	Procurement of energy crop seedlings	Seedling assistance	2,000,000
2024	Capacity building and environmentally friendly lighting program	Training & facilities	—
	Capacity building for women farmer group	Training cost	1,500,000
	Procurement of five solar cell lamps	Renewable energy facility	5,250,000
	Cultivation of 1,000 Kaliandra seedlings	Agricultural cultivation	—
	Provision of compost (10 sacks)	Agricultural assistance	—
2025	FABA fertilizer utilization training	Training cost	3,000,000
	Hydroponic & bokashi training	Training activity	—
	Compost fertilizer assistance (15 sacks)	Agricultural assistance	—
	Installation of 5,000 paving blocks in energy crop demoplot	Infrastructure development	7,500,000
	Organic fertilizer processing house processing house construction	Facility development	—
	Wader fish cultivation house construction	Infrastructure cost	3,000,000
	Procurement of 1,000 wader fish seeds	Aquaculture assistance	1,500,000
	Klanceng bee cultivation house construction	Infrastructure cost	1,500,000
	Procurement of 500 klanceng bees	Livestock assistance	—
	Procurement of five solar cell lamp units	Renewable energy facility	10,000,000
Total Input			**144,050,000**

Source: Processed Data, 2025

Based on the table above, it can be concluded that the Pijar Gemilang Social Innovation Program consists of a total of 49 program inputs. These inputs are categorized into three main sub-programs, namely community economic improvement, agricultural optimization, and local tourism development.

3. Indicator and Value Determination

The next stage involves describing the program outcomes, which aims to illustrate the tangible changes generated from the series of interventions implemented within the program. This process enables the assessment of the extent to which the program contributes to improvements in community conditions, particularly in terms of economic and social development.

Table 3. Outcome SROI

Dimension	Main Activity Output	Quantitative Outcome	Qualitative Outcome
Community Economic Improvement	Dragon fruit waste and used cooking oil management	16.3 tons of waste managed (81.09%)	More environmentally friendly and productive waste management practices
	Diversified dragon fruit processed products	Annual diversified product production valued at IDR 27,000,000	Increased income opportunities for women
	Sales of 1,000 small packaged RO drinking water units	Revenue of IDR 5,000,000	New income source for village-owned enterprise
	Contribution from village enterprise to Al-Ikhlas Mosque	Contribution valued at IDR 500,000	Economic support for local institutions
	Procurement of MSME production equipment	Rental cost savings of IDR 13,200,000	Increased production independence
	Reduction in equipment rental transportation costs	Travel cost savings of IDR 4,752,000	Improved operational efficiency
	Processing, public speaking, MC, and e-commerce training	15 members of KWT Lestari capable of implementation	Increased capacity and self-confidence
	Strengthening of KWT Lestari and village collaboration	30 members actively applying knowledge	Improved social cohesion and networking
	Procurement of two MSME container units near the TAV monument area	Availability of two MSME container units	Provision of permanent selling facilities
Local Tourism Development	Construction of TAV involving local communities	Labor income valued at IDR 48,000,000	Job creation during construction phase
	Tour guide income for Pokdarwis PARTA members	Income generated by 12 members totaling IDR 31,150,000	Growth of non-agricultural income sources
	Tourism package revenue (TAV)	Annual revenue in 2025: IDR 2,145,000	Tourism generates independent local income
Agricultural Activity Optimization	Construction of farm access roads using FABA material	Road material savings of IDR 14,000,000	Reduction of FABA waste utilization
	Fertilizer house and energy crop demonstration plot	Annual fertilizer savings of IDR 5,040,000	Environmentally friendly and renewable-energy-based agriculture
	Construction of farm roads, fertilizer house, fish cultivation house, and solar cell facilities	Development cost valued at IDR 14,560,000	Diversification of farmers' income sources
	Dragon fruit picking tourism	Increase in farmers' income of IDR 72,000,000/year	Increased agricultural product value
	Agricultural savings system	SERUNI group savings in 2025: IDR 104,775,000	Strengthened group economic independence
	Capacity building for KWT Lestari and KTH Parikesit	15 KWT members and 15 KTH members trained	Increased participation and empowerment of women

4. SROI Calculation (Impact Monetization)

This stage involves calculating the Social Return on Investment (SROI) through the monetization of program impacts. Impact monetization aims to convert social, economic, and environmental outcomes generated by the PIJAR GEMILANG Program into financial values, enabling measurable comparison between investment inputs and the benefits produced. The following table presents the Present Value calculation of the PIJAR GEMILANG Program:

Table 4. Present Value Calculation of the PIJAR GEMILANG Program

Sub-Program	Aspect	Monetized Value After Fixation (IDR)		
		2023	2024	2025
Community Economic Improvement	Women's income increase (KWT Lestari)	17,100,000	25,650,000	25,650,000
	New revenue source of BUMDes Unggul Sejahtera – Reverse Osmosis mineral water	–	–	5,000,000
	Revenue contribution to Al-Ikhlas Mosque	–	–	500,000
	Savings from dragon fruit processing equipment rental	4,560,000	4,560,000	3,420,000
	Savings from transportation costs for equipment rental	1,641,000	1,641,000	1,231,200
Total Benefit		**23,301,600**	**31,851,600**	**35,801,200**
NPV of Benefit		**26,181,678**	**33,762,696**	**35,801,200**
Local Tourism Development	Community income generated from Dragon Fruit Monument tourism	–	43,200,000	–
	Income of Pokdarwis PARTA members as tour guides	–	2,400,000	1,200,000
	Tourism package revenue (Pokdarwis PARTA)	–	–	2,145,000
	Additional tourism income of Pokdarwis PARTA	–	–	27,550,000
Total Benefit		**0**	**45,600,000**	**30,895,000**
NPV of Benefit		**0**	**48,336,000**	**30,895,000**
Agricultural Activity Optimization	Savings in farm road construction materials	5,320,000	7,980,000	–
	Community income from paving installation	–	–	1,638,000
	Fertilizer cost savings using bokashi fertilizer	–	–	4,788,000
	Community income from fertilizer house construction	–	–	7,740,000
	Community involvement in wader fish cultivation	–	–	468,000
	Income from solar cell installation activities	–	–	3,420,000
	Farmers' savings system from dragon fruit deposits and organic fertilizer processing	–	–	104,775,000
	Savings from reduced biopesticide purchases	–	–	2,736,000

	Income increase of 15 farmers from dragon fruit picking tourism	51,000,000	51,000,000	–
	Income increase of 6 farmers prior to program implementation	–	–	6,000,000
Total Benefit		**56,320,000**	**45,600,000**	**131,565,000**
NPV of Benefit		**63,281,152**	**62,518,800**	**131,565,000**

Source: Processed Data, 2025

Based on the post-fixation monetization table, the Pijar Gemilang Program has generated significant impacts across its various sub-programs. These impacts are reflected in increased community income as well as cost savings experienced by beneficiaries. Within the community economic improvement sub-program, measurable outcomes include increased income among members of KWT Lestari, supported by additional economic contributions from village-owned enterprises (BUMDes) and the village mosque institution. These results indicate strengthened local economic circulation at the community level.

Furthermore, the local tourism development sub-program demonstrates economic growth through increased income generated by Pokdarwis PARTA members, particularly through the construction of the Dragon Fruit Monument, tour guide services, and tourism package sales. These activities contribute to the emergence of alternative non-agricultural income sources within the community. In the agricultural optimization sub-program, economic benefits were primarily obtained through cost savings in agricultural operations, including reduced material expenses for farming infrastructure development and savings from the utilization of bokashi fertilizer. Additional community income was also generated through participation in agricultural infrastructure construction and solar panel installation activities.

Overall, the monetization results demonstrate that the interventions and sustained implementation of the Pijar Gemilang Program have both directly and indirectly contributed to community economic growth, strengthened local livelihood structures, promoted sustainability, and improved overall community welfare.

Table 5. Sensitivity Analysis Table of the Pijar Gemilang Program

Description	Years		
	2023	**2024**	**2025**
NPV of Benefit	Rp89.462.830	Rp234.080.326	Rp432.341.526
NPV of Investment	Rp30.337.200	Rp92.612.200	Rp150.912.200
Result of PDIS	2,95	2,53	2,86

Source: SROI Document of UP Rembang, 2025

Social Return on Investment (SROI) is an evaluation method applied within the Social Innovation Impact Measurement (PDIS) framework as a primary indicator to assess the extent of social, economic, and environmental benefits generated by a program relative to the investments made. The SROI table presented above represents the results of social innovation impact measurement derived from the Pijar Gemilang Program.An SROI value greater than 1 indicates that the program generates benefits exceeding the total investment costs incurred by both the company

and the community. In this case, every IDR 1 invested produces a social return of IDR 2.86. This result demonstrates positive value creation, indicating that the benefits generated substantially exceed the resources invested.

CONCLUSION

Based on field research conducted on the Pijar Gemilang Social Innovation Program implemented collaboratively by the community of Trenggulunan Village and PT PLN Nusantara Power UP Rembang, the study finds that the program involves multiple stakeholders with distinct roles and responsibilities in program implementation and sustainability. The stakeholders involved include the Trenggulunan Village Government, Pancur Subdistrict Government, Koramil Pancur, Forestry Service CDK 1 Blora, iNews Jateng, Radar Kudus, IPB University, Agricultural Extension Center (BPP) Pancur, Rembang Regency Agriculture and Food Service, Rembang Regency Culture and Tourism Office, as well as community-based organizations including KWT Lestari, KTH Parikesit, Pokdarwis PARTA, and BUMDes Unggul Sejahtera. The total investment value of the Pijar Gemilang Program during the 2023–2025 period, after applying discount rates of 6% (2023), 6% (2024), and 4.75% (2025), amounted to IDR 150,912,200. Meanwhile, the total program benefits calculated using the same discount rates reached IDR 432,341,526. The SROI calculation produced a final value of 2.86, meaning that every IDR 1 invested by the company generates a social return equivalent to IDR 2.86. This finding confirms that the Pijar Gemilang Program delivers substantial social value creation. Beyond measurable economic outcomes, the program also generates social inspiration within the community. The initiative has encouraged residents of Trenggulunan Village to strengthen collective motivation, enhance productivity, and actively pursue the shared vision of achieving a prosperous and sustainable village.

REFERENCE

Setiawan, B., Suparno, B. A., & Afifi, S. (2021). Corporate social performance: An analysis of corporate social responsibility implementation in the electrical energy industry. *Communications in Humanities and Social Sciences*, *1*(2), 76–81.

Adefila, A. O., Ajayi, O. O., Toromade, A. S., & Sam-Bulya, N. J. (2024). Empowering rural populations through sociological approaches: A community-driven framework for development. *International Journal of Rural Sociology*.

Aliya, M. N. (2023). *Strategy for community empowerment and sustainability of community learning center (CLC) in Simpang Village*.

Arisandi, A., & Rahayu, H. S. (2025). Implementation of corporate social responsibility in PT PLN Nusantara Power Services in improving community empowerment. *Jurnal Audiens, 6*(1), 57–71.

Budiarti, M. (2019). Pengukuran dampak investasi sosial pelaksanaan CSR menggunakan metode social return on investment (SROI). *Adbispreneur: Jurnal Pemikiran dan Penelitian Administrasi Bisnis dan Kewirausahaan*, 153–167.

Dushkova, D., & Ivlieva, O. (2024). Empowering communities to act for a change: A review of the community empowerment programs towards sustainability and resilience. *Sustainability, 16*(19), 8700.

Effendy, R., & No, J. T. R. D. (2015). The moral values as the foundation for sustainable community development: A review of the Indonesia government-sponsored national program for community empowerment urban self-reliance project (PNPM MP). *Life, 6*(7).

Falashifah, F. (2019). *An exploration of the key issues and challenges in implementing public-private*

partnerships: A case study of the Central Java power plant project, Indonesia. Open Access Te Herenga Waka–Victoria University of Wellington.
Franco, I. B., & Tracey, J. (2019). Community capacity-building for sustainable development: Effectively striving towards achieving local community sustainability targets. *International Journal of Sustainability in Higher Education, 20*(4), 691–725.
Ife, J. (2002). *Community development: Community-based alternatives in an age of globalisation*. Pearson Education.
Ife, J., & Tesoriero, F. (2008). *Community development: Alternatif pengembangan masyarakat di era globalisasi* (Edisi ke-3). Pustaka Pelajar.
Jewed, F., Abdullah, M. R., & Ishak, I. (2025). Evaluating the effectiveness of social assistance programs for poverty reduction: Evidence from Baramamase Village, Indonesia. *Journal of Islamic Economics Lariba, 11*(2).
Nalikan, M., & Rozikin, M. (2025). Community empowerment in rural areas based on social capital in Lamongan Regency: A holistic and collaborative approach. *Journal of Ecohumanism, 4*(1), 3811–3820.
Nicholas, J., Ledwith, A., & Perks, H. (2012). An examination of new product development best practice. Wiley, 180–192.
Pasaribu, S. I., Vanclay, F., & Zhao, Y. (2020). Challenges to implementing socially sustainable community development in oil palm and forestry operations in Indonesia. *Land, 9*(3), 61.
Purwohedi. (2016). *Social return on investment (SROI): Sebuah teknik untuk mengukur dampak dari sebuah program*. Leutika.
Quiroz-Niño, C., & Murga-Menoyo, M. Á. (2017). Social and solidarity economy, sustainable development goals, and community development: The mission of adult education & training. *Sustainability, 9*(12), 2164.
Santoso, T. R., & B. (2018). Assessment the impact of CSR implementation social investing using social return on investment (SROI) methods. *Jurnal Pemikiran dan Penelitian Administrasi Bisnis dan Kewirausahaan, 2*.
Saptura, E., & Putra, V. P. (2023). Manifestation of PLN Nusantara Power UP Rembang in the implementation of the concept of creating shared value in the community empowerment program "Dewi Sri Wardani". *Journal of Humanities and Social Sciences Studies, 5*(10), 82–87.
Setiawan, B., Suparno, B. A., & Afifi, S. (2021). Corporate social performance: An analysis of corporate social responsibility implementation in the electrical energy industry. *Communications in Humanities and Social Sciences, 1*(2), 76–81.
World Bank. (2024). *World bank country and lending groups*. https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups