

## ANALYSIS OF SOCIAL RETURN ON INVESTMENT (SROI) ON SOCIAL INNOVATION OF SUPERMAN SUMANDING

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Received November 14, 2022; accepted December 23, 2022; published December 29, 2022.

### ABSTRACT

**Objective:** This study aims to evaluate the value of the impact generated from CSR programs on the implementation of Superman Sumanding's social innovation. In this approach, the program's effect has an essential meaning for the program's beneficiaries, namely the farming community groups in Sumanding Village. **Research Design & Methods:** This study used Social Return on Investment (SROI) as a research methodology. This research was conducted on the beneficiaries of the Superman Sumanding program and has considered all stakeholders directly or indirectly involved in the program. The research informants were 37, with details of 17 members of the Sumanding Village 'Guyub Rukun' Farmer Group and the Sumanding Village 'Karya Mukti' Peasant Women's Group of 20 people. **Findings:** The results show the SROI value of IDR9.19:1. This means that the CSR program carried out has been able to provide benefits of 9.19 times greater than the value of the inputs invested. The results showed that the CSR program run by PT PLN UIK TJB produced social returns on investment and provided economic, social, and environmental benefits. **Implications & Recommendations:** SROI as a solution that changes the mindset of investment analysis is based on outcomes rather than just outputs. A sound output does not necessarily deliver as expected, as focusing on the outcome will provide a better and more comprehensive perspective. The results of the SROI analysis become the basis for improving the planning of subsequent CSR programs. **Contribution & Value Added:** This study allows us to expand the evidence of the critical role of social innovation for peasant community groups, but so far, little studied and areas of application of SROI as an assessment methodology.

**Keywords:** corporate social responsibility; social innovation; social return on investment; sustainability.

**JEL codes:** G00, Q10

**Article type:** research paper

### INTRODUCTION

Company activities often result in problems in the environment and the community's economic level due to the company's profit-orientated culture (Besedovsky, 2018). Generally, the company must be economically responsible to shareholders, legally accountable to laws and regulations, and socially responsible to the community and other stakeholders (Patuelli et al., 2022). Therefore, corporate social and environmental responsibility has been declared an obligation for every company engaged in and related to natural resources as stipulated in Article 74 of the Limited Liability Company Law and Government Regulation Number 47 of 2012.

Constitutionally, every company that carries out its activities must be able to have a positive impact on society, especially related to efforts to improve welfare, reduce unemployment and reduce poverty. Moreover, these efforts must be based on applying the principles of economic democracy, efficiency, sustainability, and environmental insight (Lopez et al., 2022).

The concept of social and environmental responsibility of this company became known as Corporate Social Responsibility (CSR), which is the company's participation and contribution to achieving community welfare through sustainable development in the fields of social, cultural, educational, health, economic, and environmental fields (Torugsa et al., 2013). SROI analysis is a process of understanding, measuring, and reporting social, ecological, and economic values generated by an organization based on cost-benefit analysis, social accounting, and social auditing (Basset & Giarè, 2021).

To ensure the success of CSR implementation, including the community's welfare. However, an objective and thorough evaluation is a difficult challenge since well-being is a broad concept that includes tangible and intangible elements that vary over time. Therefore, there is great interest and a growing need for management tools to measure CSR activities' impact. To this end, various organizations and academic institutions developed several methods of social impact evaluation currently used by companies and the public sector to measure social value. The main social impact assessment tools include the Social Enterprise Balanced Scorecard (BSC); Third sector performance dashboard; Ongoing assessment of social impact (OASIS); Social Return Assessment (SRA); Social Accounting and Auditing (SAA); Social Impact Measurement for Local Economies (SIMPLE); Benefit–Cost ratio; Social Return on Investment (SROI); Basic Efficiency Resource Analysis (BER); Best Available Charitable Option Ratio (BACO); Cost per impact; Expected Return. Among them, SROI is one of the most established social impact assessment methods, an indicator that meets the main essential requirements of social impact evaluation (Lombardo et al., 2019).

SROI is a method that can measure the overall impact produced by a company (Purwohedi, 2016). Several conventional approaches have been taken to measure the value created by a program. However, so far, the method used is oriented towards the output, not the resulting outcome (impact). On the other hand, orientation based solely on output will be less than optimal in looking at the value created. Because, in essence, a program will be said to be successful if it can produce positive changes for beneficiaries. SROI will support sustainable development because each program will be measured for effectiveness, referring to the impact made after the program runs.

This study was carried out on the CSR program at PT PLN UIK TJB Central Java Indonesia, implementing a CSR program in the form of social innovation under the name Superman Sumanding Program. The Superman Sumanding program is a social innovation that adopts the concept of integrated agriculture, combining agricultural, livestock, and plantation activities in an area implemented in Sumanding Village. Superman Sumanding's social innovation is one of the farmer community empowerment programs initiated by PT PLN UIK TJB, located in Sumanding Village, Kembang District, Jepara Central Java Indonesia Regency. The program's beneficiaries are the farming community groups in Sumanding Village, the 'Guyub Rukun' Farmer Group, the 'Karya Mukti' Peasant Women's Group, the 'Taruna Tani' Peasant Women's Group, and the Sumanding Village Forest Village Community Institution.

This article aims to increase knowledge and to stimulate debate on methodologies employed to quantify the total benefit of social innovation programs, for which there is very little research literature. Further, to understand the extent to which social innovation programs examined impact the people affected by addictions. Social Return on Investment methodology is used to identify financial proxies that associate monetary value with any social, environmental, and economic benefits in connection with the Superman Sumanding social innovation program implemented by PT PLN UIK TJB. This work will review the literature available on social innovation and SROI. Then we will briefly present a case study, namely the social innovation of Superman Sumanding, the specific programs analyzed, and the methodology used. Finally, the results will be presented, starting from

identifying stakeholders and constructing indicators and financial proxies, to then arrive at the calculation of the SROI indicator and the conclusion considerations on the results obtained.

## LITERATURE REVIEW

### Corporate Social Responsibility (CSR)

The activities carried out by the company have various impacts on the environment, both internal and external environment. The effect on the external environment is often in the spotlight due to its influence on other people or the social environment outside the company (Lopez et al., 2022). Business people or companies have a social responsibility to pursue a policy and make decisions or carry out actions that are by the goals and values of society. The basic framework for the birth of the concept of Corporate Social Responsibility is to manage the impact of company activities to create sustainable development (Patuelli et al., 2022).

Corporate Social Responsibility has gained attention since the 1930s to claim an important role in various aspects of organizational theory (Padilla-Lozano & Collazzo, 2022). The first CSR reference was made, which questioned the responsibility of business people to society (Bowen, 1953). Next, Carroll (1979) expands the idea of CSR to all the company's business obligations to society, including economic, legal, ethical, and discretionary dimensions. Finally, Freeman (1984) redefined CSR by introducing stakeholder theory, where companies have obligations to their shareholders and stakeholders, explaining their CSR involvement.

Its emergence goes back to the modern era, from the 18th century to the middle of the 20th century, when the Industrial Revolution provoked social concern from some employers toward the worker and his family members (Caligiuri et al., 2013). Then, the current definition of CSR is an act that arises to advance some social good beyond the company's interests, which is required by law (Patuelli et al., 2022). In the last two decades, academic debates have focused on determining factors and strategies that improve CSR and how CSR differs in different organizational settings (Mariani et al., 2021).

The concept of CSR is currently more developed with the idea of sustainable development. The new concept is based on the fact that rampant development activities have led to a decline in environmental quality and damage to natural resources, which will indirectly affect the quality of human life and the sustainability of economic development.

CSR aims to strengthen the company's sustainability by building cooperation between stakeholders facilitated by the company by compiling programs for the development of the surrounding community. Hence, the company can adapt to its environment, communities, and related stakeholders locally, nationally, and globally. CSR can be understood as a commitment to act ethically, operate legally and contribute to economic improvement along with improving the quality of life of employees and their families, local communities, and the wider community (Rudito & Famiola, 2007). This condition can be overcome by *holistic* programs that can build trust in the community. For this reason, it is supported by sustainable CSR programs (Untung, 2008).

The principle of sustainability prioritizes growth, especially for the poor in managing their environment and the ability to drive development. One strategy is integrating economic, environmental, and social dimensions that value ecological and socio-cultural plurality. Then in the development process, three core stakeholders are expected to fully support it, including companies, governments, and the community. Sustainable CSR programs are expected to help create a life in a more prosperous and independent society. Each of these activities will involve the spirit of all parties continuously building and creating independence from the community involved in the program by its ability (Untung, 2008).

### Social Return on Investment (SROI)

Social Return on Investment (SROI) was pioneered by Roberts Enterprise Development Fund (REDF). This concept has evolved into a widely used framework and has been jointly supported and developed by the NEF (The National Economic Foundation). The SROI measurements discussed in

this study are based on NEF publications written by Nicholls et al. (2012) with the title "*A Guide to Social Return on Investment*" and adopting (Purwohedi, 2016).

SROI analysis is a process of understanding, measuring, and reporting social, environmental, and economic values generated by an organization based on cost-benefit analysis, social accounting, and social auditing (Mulgan, 2003). SROI is a tool that can be used to prove and improve. Regarding proof, SROI provides a means to demonstrate and communicate social value. SROI analysis allows organizations to see how much and where social value is created. SROI measures the value of a benefit relative to the investment spent to achieve that benefit. The resulting ratio compares the Net Present Value of benefits and the Net Present Value of the investment needed to achieve these benefits.

The application of SROI analysis is obvious and requires relatively low costs if an organization already has data on costs, revenues, and desired results. However, Rosenzweig (2004) states that this method has higher credibility than other approaches because it is based on actual output data and effort results. Still, its credibility remains lower than detailed economic analysis due to the absence of factual counter-analysis designed explicitly for comparison with what social outcomes would have occurred if the effort had not existed.

The biggest problem with calculating social impacts is the lack of consistency. Many organizations develop different approaches to calculating social implications, so hundreds of techniques can be used. However, difficulties arise because there is no generally agreed-upon calculation and reporting method, making obtaining consistency in measures and reporting challenges. Rosenzweig (2004) stated that the absence of such standards results in many program implementations being assessed only from the financial aspect, even though social goals are the company's primary motivation.

Social value measurement is complex because no exact measure is found in the natural sciences. Furthermore, the notion of social value itself is very relative and situational, as stated by (Mulgan, 2003), that social value is not an objective fact. Social value arises from the interaction of supply and demand so that it can change according to time, place, and situation. Failure to measure the value generated in the social and societal sectors is due to the inevitable complexity. Mulgan (2003) identifies four complexities that can make it difficult to measure social value, namely: the absence of strict laws and regularities in the social sphere, the difficulty in reaching an agreement on what the desired outcome of social action is, an inherently unreliable measure of measuring social value, and a matter of time (estimating how much effort will benefit in the next few years compared to how much it will cost to apply it now).

Technical constraints related to the use of the approach underlying the method of calculating social value, namely in monetization (Viganó & Lombardo, 2019). Most of these methods use the parameters of the technique commonly used in business. At the same time, what is measured is a social value that is naturally different from the company. Tuan (2008) identified technical flaws in the methods used to calculate social value. These weaknesses are related to assumptions, discount rates, timeframes, shadow prices, interdependencies, and value beliefs.

SROI is a method that can measure the value created (impact), seen from three aspects: social, environmental, and economic. In addition, the impact can be enjoyed by stakeholders because of an activity carried out by a company that has invested a certain amount of its resources in the activity. Therefore, SROI can be used to measure the overall impact generated by a company (such as a CSR program) (Purwohedi, 2016).

## **METHODS**

The method used in this study is Social Return on Investment (hereafter SROI), which integrates social, environmental, and economic values from investing in the Superman Sumanding social innovation program expressing values in financial terms Nicholls et al. (2012) as characteristic of most economical approaches. SROI is considered the most suitable method to achieve this study's objectives. In addition, the SROI methodology was chosen because it allows for measuring social

benefits at the monetary level, which is the purpose of the study. Finally, it requires a high level of stakeholder engagement. All the stages that must be passed in this analysis refer to the six phases of the SROI analysis study method in the guidelines issued by SROI Network UK Nicholls et al. (2012) and adopting Purwohedi (2016) how in Figure 1.

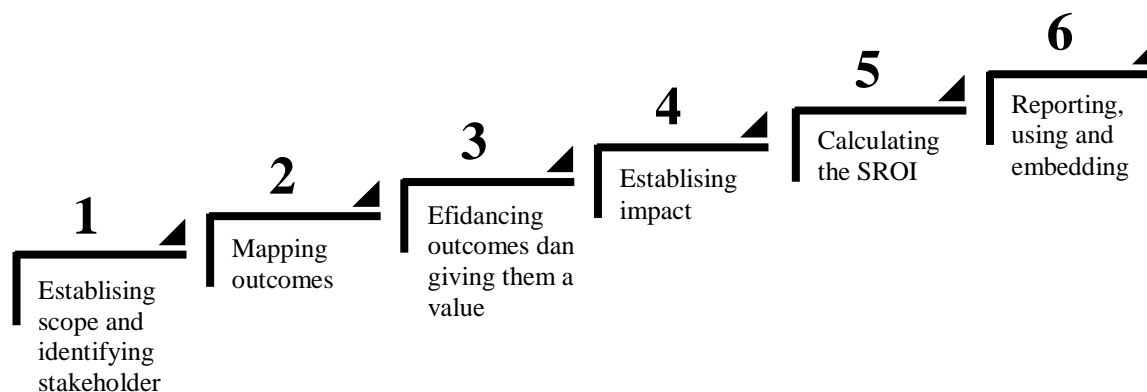


Figure 1. SROI Implementation Phase

The stages in the SROI method explain that the first stage is to establish the scope and identify stakeholders, and show how to engage stakeholders. Meanwhile, the establishing scope is divided into several review items, including (1) Activities: What activities are carried out related to the program being implemented?; (2) Financing: Where is the source of funds for the program?; the objectivity of activity: What is the primary purpose of the program?; (3) Purpose of analysis: What is the purpose of the SROI analysis performed?; (4) Period: How long will the SROI analysis take?; (5) Forecast or evaluation. The second stage is mapping outcomes, including input and providing input values, clarifying the output, and determining benefits. Then the third stage is evidence outcomes and giving them value, including developing outcome indicators, collecting outcome data, determining how long the outcome lasts, placing value on outcomes, and social return on investment guide. Furthermore, in the fourth stage, establishing impact, including deadweight and displacement (will this impact happen?), and calculating impact, continue to calculate impact. The fifth stage is calculating the SROI, covering projecting into the future, calculating net present value, calculating ratios, sensitivity analysis, and payback period. The final stage is reporting, usage, and embedding. At this stage, it includes reporting to stakeholders, using results, and assurance.

There are two types of SROI analysis (Basset & Giarè, 2021): evaluative, ex-post, and based on the results that have been achieved; and predictive, to predict how much social value will be created if the activity achieves the expected results. Given the cyclic periodicity of the social innovation Superman Sumanding, which has been implemented since 2000. The SROI analysis was evaluated on the program running from 2000 to 2022.

This research was conducted on the beneficiaries of the Superman Sumanding program and has considered all stakeholders directly or indirectly involved in the program. The research informants were 37, with details of 17 members of the Sumanding Village 'Guyub Rukun' Farmer Group and the Sumanding Village 'Karya Mukti' Peasant Women's Group of 20 people.

Data was collected through an open questionnaire instrument addressed to all informants. Question items and interview guides include information related to informants' involvement in social innovation. Assessment of the usefulness of activities (increase in knowledge, increase in skills, economic benefits). Types of assistance and programs received (equipment assistance, training, workshops, comparative studies, mentoring programs). The economic benefits received from the program (improvement of production processes, increase in production volume, advancement of technology used), product diversification (increase in the type/variety of products) produced, and the impact of CSR programs and perceived benefits.

Being the key informant of the head of the Sumanding Village 'Guyub Rukun' Farmer Group and the director of the Sumanding Village 'Karya Mukti' Peasant Women's Group, an interview was conducted on the benefits of the social innovation program that has been carried out. Interviews were performed three times, namely before the distribution of the questionnaire to obtain preliminary information related to the implementation of the program, after the distribution of the questionnaire to confirm the findings of the data analysis results from the questionnaire and after an interview of the final results of the SROI analysis to confirm the correctness of the calculation results.

Content analysis is done manually and focuses on word meaning, semantic relationships, and indicator-related concepts. Financial proxy proxies and quantifications are derived from interviews and available literature, including documentation of activities.

## FINDINGS

### The Case Study of Social Innovation Superman Sumanding

Indonesia is one of the countries with the largest population in the world. The development of the people in Indonesia continues to increase from year to year. The number of Indonesians is reported to have risen again to 275.77 million inhabitants by mid-2022. That number is up 1.13% compared to the same period last year, which was 272.68 million people in mid-2021 (BPS, 2022). The increase in population, of course, has further consequences, including those related to the provision of food needs. This needs to be watched out for because a population surge can impact high poverty levels, so meeting national food needs can be a problem.

Under normal conditions, where supply and demand related to food are still balanced, it will certainly not cause significant problems. However, if you look at the current conditions, the balance has begun to slowly erode due to various factors, including the impact of climate change has caused many crises that affect people's living space and lives, such as increasingly frequent floods and drought cycles, the development of pests that are increasingly widespread and increasingly resistant. Environmentally unfriendly behaviour causes a decrease in the carrying capacity and carrying capacity of people's lives. Changes in the consumption patterns of the general public have led to a wasteful nature—land degradation problems. Dryland degradation has been highlighted more in the fallacy of land clearing and management by shifting cultivation. The land clearing system, by slash and burn and usually located on sloping land, will start erosion—the impact of excessive fertilization. Fertilizing is carried out to provide plants with optimal food substances to give sufficient yields. Fertilizing and artificial fertilizers can cause the soil to become acidic (soil pH decrease; as a result, the land is narrower). An agroecosystem, in particular, is processed in such a way as to meet the needs of its population (agriculture). However, due to the increasing population from year to year, land use for settlements and industries is getting bigger and bigger, so the land that used to be agricultural land has become narrower—farmers' dependence on pesticides, inorganic fertilizers, and high-yielding varieties. As a result, farmers intensify pesticides to overcome pest and disease attacks on the plants they cultivate. It is causing farmers to have a dependence on pesticides due to the lack of knowledge on farmers to use safe botanical pesticides and utilize natural enemies in an integrated manner.

Based on the various problems above, concrete and measurable efforts are needed to maintain the sustainability of people's lives, especially for people in rural areas whose conditions are more limited—related to access to information and knowledge development. In this case, PT PLN UIK TJB Jepara Central Java Indonesia implements a sustainable development program in the form of social innovation Superman Sumanding. The Superman Sumanding program is a social innovation that adopts the concept of integrated agriculture, combining agricultural, livestock, and plantation activities in an area implemented in Sumanding Village (see Figure 2).

The Superman Sumanding program is implemented to solve various existing problems. The problem of limited access to chemical fertilizers and subsidies is a classic, including for farmers in Sumanding Village. It is related to government policy in early 2021, the volume of subsidized fertilizer is allocated as much as IDR7.2 million tons with a total budget of IDR25.2 trillion. The allocation was reduced by IDR4.6 trillion of the budget in 2020 (Sucihatningsih, 2022). This policy is indeed a

problem for farmers because of the high dependence of farmers on subsidized and non-subsidized chemical fertilizers. On the other hand, reliance on chemical fertilizers is detrimental to the fertility of agricultural soil in Sumanding Village.

The second is the institutional problem of the farmer group 'Guyub Rukun' Sumanding Village. Based on ongoing field observations and observations, there are three major problems, namely: (1) The participation and cohesiveness of members in organizational activities is still relatively low, this is illustrated by the level of participation of members in group meetings; (2) There has been no growth of awareness in the development of the organization, and (3) Organizational innovation and development still depend on the role of one of the actors.

Third, the potential of Sumanding Village in agriculture and plantations with a large area of land, but the interest of the younger generation in agriculture is minimal, as evidenced by the number of young farmers in Sumanding. In addition, the small number of young people who desire to continue their parents' work and pass it on from generation to generation can further make the sector experience a crisis for the younger generation of farmers. In this condition, most parents in rural areas do not want their children to work as farmers in their current jobs.

Superman Sumanding's social innovation is one of the farmer community empowerment programs initiated by PT PLN UIK TJB, located in Sumanding Village, Kembang District, Jepara Regency. Sumanding village is known as a rural village because part of its population works in the agricultural sector. Farmers are the main actors in the farming sector who play an essential role in realizing food security. Through farmers, household food needs for industrial raw materials can be adequately met.

The CSR program of PT PLN UIK TJB in Sumanding Village focuses on empowering farming communities, which began in 2020. The implementation of the program is based on the many problems faced by farmers in Sumanding Village.

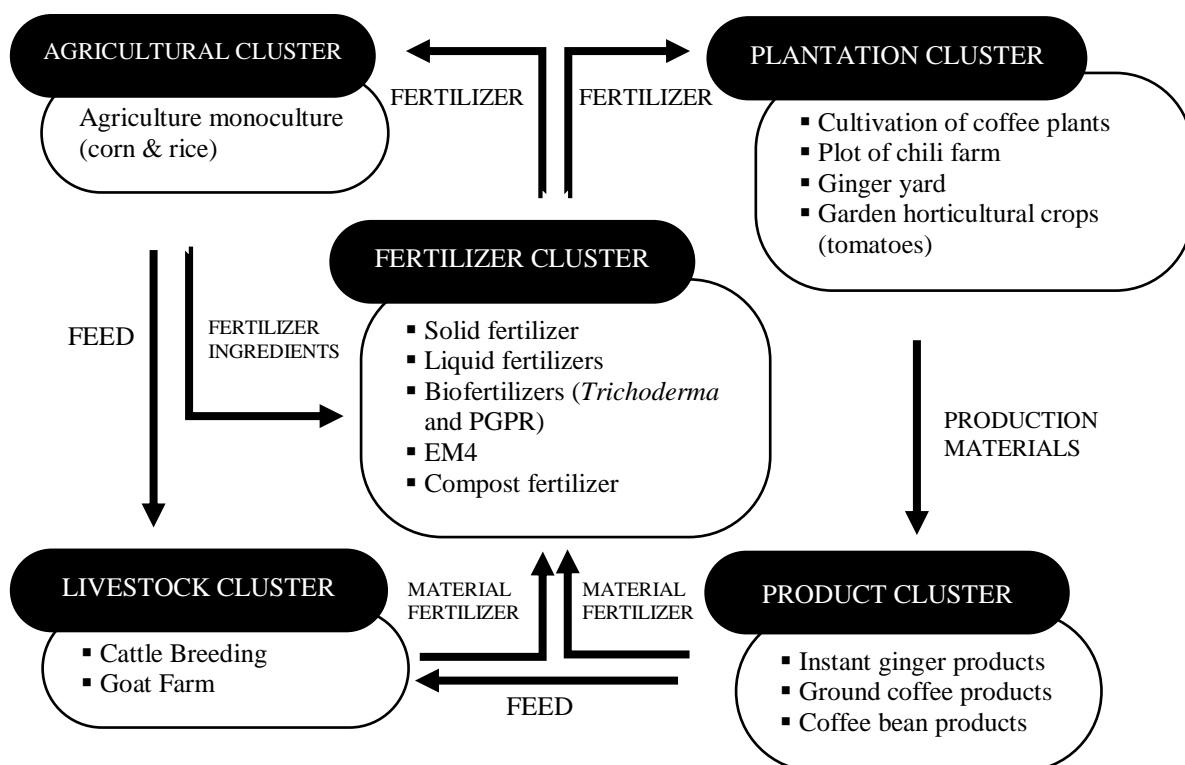


Figure 2. Superman Sumanding's Social Innovation

Source: PT PLN UIK TJB (2022)

Superman Sumanding is another name from the previous program of 'Kampung Iklim Sumanding' (climate village). The naming of Superman Sumanding has a concept, namely grounding something

local and localizing something grounded. 'Super' has more meaning than others extraordinary, and there is high hope for the Sumanding Village farmers to improve their welfare and be free from chemical fertilizer dependence, to become great farmers, and to activate farmers in other regions. 'Man' is an abbreviation of 'Macul'-'Angon'-'Ngalas'. 'Macul' (hoeing) is an activity carried out by farmers on farmland, which is very attached to agricultural activities in Sumanding Village. 'Angon' (herding livestock) is a viral activity or activity carried out by farmers in Sumanding Village. 'Ngalas' (forest) is an activity of going to the forest to farm, and 'ngalas' is also a routine activity carried out by the farming community in Sumanding Village. At the same time, 'Sumanding' is the name of a village in the Kembang District of Jepara Regency, which is the program's location.

The Superman Sumanding program integrates agriculture, animal husbandry, and plantations. This concept adopts an integrated agricultural system, which combines agricultural activities with animal husbandry and plantations within the territory of a village. The targets of the Superman Sumanding program include: (1) Restoring the fertility of agricultural land by changing environmentally friendly behaviour in farming; (2) Availability of organic fertilizers and organic pesticides, increasing the institutional capacity of farmers; (3) Increasing the interest of the younger generation to develop agriculture as an effort to ensure food security; (4) Increased productivity of coffee plantations; and (5) The development of business diversification and economical business institutions in Sumanding Village. The integration activities are also oriented towards zero-waste and produce 4F (food, feed, fertilizer, and fuel). The Superman Sumanding program's primary activity integrates plant cultivation and animal husbandry. Plant waste is processed into animal feed and for feed reserves in the dry season. Meanwhile, livestock waste (such as faeces and urine) is processed into organic fertilizers and biopesticides.

## **SROI Analysis**

### *Establishing scope and identifying stakeholders*

The scope of SROI in the Superman Sumanding Program includes all activities carried out from 2020 to 2022 that support achieving the goals of the Superman Sumanding Program. Superman Sumanding Program stakeholders are identified as people or organizations that experience positive and negative changes or influence activities due to the activities analyzed. Therefore, implementing the Superman Sumanding Program involves the participation of several stakeholders (Appendix A11). Meanwhile, a map of the roles and contributions of each stakeholder involved in the Superman Sumanding Program is in Appendix A12.

### *Mapping outcomes*

SROI investment refers to the financial value of the input. In this case, the contribution from each stakeholder becomes input in the SROI analysis. Inputs, in this case, can be both financial (money) and non-financial (time, donation of goods, services) used during the implementation of activities. Valuing Inputs of Superman Sumanding (Appendix A21).

The next stage is to determine the impact of implementing a CSR program. SROI is a technique developed to focus on stakeholders at every process step. SROI looks at all the benefits felt by stakeholders (the most relevant) of what changes have been felt after implementing the program.

After determining the impact, the next stage is to find evidence that the impact occurred and was felt by stakeholders. The evidence in the SROI analysis is called an indicator, a situation or fact in the field that can be used as a basis for SROI users to validate the change. Classification of Outputs, Benefits, and Indicators of Superman Sumanding (Appendix A22).

### *Evidencing outcomes and giving them a value*

After determining the impact and indicators, the next stage is establishing the impact value. Each impact will have a financial proxy that will be used to calculate the total impact of a program. The nominal unit of an impact can include cash transaction, resource allocation, revealed preference, and stated preference (Purwohedi, 2016). For example, the following is monetization in the Superman Sumanding Program (Appendix A31).



### Establishing impact

The impact value then determines the impact resulting from the implementation of the Superman Sumanding program through the determination of a financial proxy as a basis for calculating the total impact (benefit) of the program being run (Table 1).

Table 1. Calculating The Total Impact, Adjusted Value

No	Proxy Value	Qty	DW	Atr	Disp	DO	Adjusted Value
1.	33,600,000	1	0%	25%	0%	10%	25,200,000
2.	64,680,000	1	0%	25%	0%	10%	48,510,000
3.	1,979,600,000	1	50%	25%	0%	25%	494,900,000
4.	754,482,400	1	50%	25%	0%	25%	188,620,600
5.	92,400,000	1	50%	25%	0%	25%	23,100,000
6.	56,000,000	1	50%	25%	0%	10%	14,000,000
7.	56,000,000	1	50%	25%	0%	10%	14,000,000
8.	170,000,000	1	50%	25%	0%	25%	42,500,000
9.	10,000,000	1	50%	25%	0%	25%	2,500,000
10.	49,800,000	1	0%	25%	0%	10%	37,350,000
11.	299,200,000	1	0%	25%	0%	10%	224,400,000
12.	2,000,000	1	25%	25%	0%	10%	1,000,000
							3,567,762,400
							1,116,080,600

Source: Calculated by Authors, 2022

Based on Table 1, the Adjusted Value (AV) is the value of each benefit after deducting filters (deadweight, attribution, displacement, drop-off) for each impact. Deadweight (DW) is the percentage of other programs/activities contributing to the impact. Attribution (Atr) is the percentage of different stakeholders' contributions to the impact. Displacement (Disp) is the percentage of the impact that replaces other habits/activities before implementing the program. Finally, drop-off (DO) is the percentage decrease in yield in the coming year after the program's implementation.

Table 2. Impact Map (*advanced*), DO Calculation

No	0	1	2	3	4	
1.	25,200,000	22,680,000	20,412,000	18,370,800	16,533,720	
2.	48,510,000	43,659,000	39,293,100	35,363,790	31,827,411	
3.	494,900,000	371,175,000	278,381,250	208,785,938	156,589,453	
4.	188,620,600	141,465,450	106,099,088	79,574,316	59,680,737	
5.	23,100,000	17,325,000	12,993,750	9,745,313	7,308,984	
6.	14,000,000	12,600,000	11,340,000	10,206,000	9,185,400	
7.	14,000,000	12,600,000	11,340,000	10,206,000	9,185,400	
8.	42,500,000	31,875,000	23,906,250	17,929,688	13,447,266	
9.	2,500,000	1,875,000	1,406,250	1,054,688	791,016	
10.	37,350,000	33,615,000	30,253,500	27,228,150	24,505,335	
11.	224,400,000	201,960,000	181,764,000	163,587,600	147,228,840	
12.	1,000,000	900,000	810,000	729,000	656,100	
		1,116,080,600	891,729,450	717,999,188	582,781,281	476,939,661
		NPV (discount rate of 4.15%)				3,405,537,293

Source: Calculated by Authors, 2022

The total value of each impact is calculated using a percentage of drop-offs over a period. Table 2 shows the results of calculating the total value of each impact using the drop-off percentage over five years. The calculation results were then used to calculate the net present value (using the NPV formula of the discount interest rate of 4.15% of the total outcome produced per year) generating numbers IDR3,405,537,293.

### Calculating the SROI

The next stage is to calculate the SROI value. First, the SROI is calculated based on net present value (NPV) using a discount rate of 4.15% of the total impact value, generating numbers IDR3,071,337,293 then the figure is divided by the total input value (investment) of IDR334,200,000 resulting in an SROI ratio of 9.19 (Table 3).

Based on the results of the SROI calculation, the SROI value was obtained for IDR9.19:1. Then it is known that every IDR 1 of the budget spent to finance the CSR program in the Superman Sumanding program in 2022 generates a social return on investment of IDR9.19. This means that the CSR program has provided benefits of 9.19 times greater than the value of the invested input.

Table 3. Calculating the SROI Ratio

Indicator	Amount
Discount rate	4.15%
Input value	334,200,000
NPV	3,405,537,293
NPV-Input value	3,071,337,293
SROI	9.19:1

Source: Calculated by Authors, 2022

### *Reporting, Using, and Embedding*

In this stage, the results of the SROI at all sets have been communicated to all relevant stakeholders. This includes justification that is used as a basis for decision-making. In addition, the results of this SROI have been discussed with stakeholders through discussion and dissemination of the analysis results. The SROI results were used as the basis for PT PLN UIK TJB to improve the planning of CSR programs in the following year. The results of the SROI analysis become continuous improvement of the program that is run felt by the community on an ongoing basis.

## **DISCUSSION**

This study aims to evaluate the value of the impact generated from CSR programs on the implementation of Superman Sumanding's social innovation. In this approach, the program's impact has an essential meaning for the program's beneficiaries, namely the farming community groups in Sumanding Village. For this reason, the SROI methodology seems to be the most suitable and applied in the study. The importance of this methodology lies in the fact that it seeks to provide social, environmental, and economic values that were previously difficult to estimate and experience strong biases or even distortions in the assessment of related values (Arvidson et al., 2013; Bellucci et al., 2019).

A similar study conducted by Bellucci et al. (2019) emphasizes the importance of SROI analysis to assess the results of their activities, as well as placing critical emphasis on the most suitable proxies and indicators. The determination of indicators is also a note of Viganó & Lombardo (2019), the selection of appropriate indicators has an impact on determining the value of benefits that affect the overall service and not only on one aspect. Lombardo et al. (2019) highlighted the implementation of the SROI analysis was focused on the implementation steps but lacked focus on determining numerical values in the calculation of impacts, thus creating a strong bias. Basset & Giarè (2021) analysis emphasized the importance of looking at the impact of each component of the SROI, allowing assessing the effectiveness of program implementation, so that more targeted improvement steps can be established and where relevant stakeholders must act.

This study has shown how SROI analysis can be used to assess the impact of social innovation on the agricultural sector, thus contributing to social enterprise research and the complexity of measuring its impact. The results of this study provide an opportunity for similar organizations and stakeholders to learn from the Superman Sumanding program. These organizations can use the results of Superman Sumanding's SROI as an opportunity to better understand how social impact is created while determining which activities and processes create the most social impact. It can be said that this can have a positive effect on the learning of the organization and the internal decision-making process.

The results show the SROI value of IDR9.19:1. The CSR program run has provided 9.19 times greater than the value of the invested input. In addition, the results showed that the CSR program run by PT PLN UIK TJB produced social returns on investment and provided economic, social, and environmental benefits.

Sustainability analysis is viewed on three dimensions, social, environmental, and economic, emphasizing that in the Superman Sumanding Program, the impact value resulting from the program being carried out seems to be dominated by financial aspects than the other two aspects. This result arises from the nature of the activities carried out. From these results, a critical point was obtained to be a weakness in this study. Regarding the methodological aspects of SROI, it can be underlined that the methodology for the choice of financial results and proxies is still not entirely standard, with the potential for bias due to some degree of subjectivity in the analysis. For this reason, when proxy quantification has not been standardized or supported by consolidated literature values, proxies have been quantified as a range of potential variations, such as the product price used as the basis for possible unexpected fluctuations. Then in determining the impact value of the adjusted value, each benefit after deducting the filter (deadweight, attribution, displacement, drop-off) is potentially biased due to some degree of subjectivity in the analysis. Impact determination is done carefully, emphasizing the impact on complex outcomes rather than soft outcomes because they are considered less valuable. In some cases, the soft outcome is the goal of social activity (Purwoheddi, 2016).

Technical data analysis is used to determine what changes arise from the similarity of responses between one beneficiary and another. However, in practice, it may be that what happens will be many and varied, although analysis is carried out on the most material and significant changes included in the SROI analysis, as well as the changes that are most felt by the beneficiaries and are of great value.

## CONCLUSION

This study analyzes the impact resulting from Superman Sumanding's social innovation through the Social Return Investment (SROI) methodology. The SROI methodology is well suited for assessing the impact of implementing CSR programs for the categories reviewed and, in general, for sustainability studies in its three components, allowing us to understand which parts impact the outcome that companies should follow through in the planning of the next program. Learning from this study that SROI analysis is a solution to change the mindset of policymakers in outcome-oriented program planning rather than just outputs. Because good outputs are not necessarily able to provide the expected outcomes, focusing on the outcomes will provide a better and more comprehensive perspective on the program's performance. SROI analysis can also create a more transparent and accountable process for all stakeholders of a program. Transparency is manifested in the analysis process by involving stakeholders at each stage of the SROI. Likewise, the ratio obtained will describe the actual condition of beneficiaries' benefits. So that the program will be more accountable because it is not only seen from the aspect of physical output but also in line with the goals set in Superman Sumanding's social innovation.

From the social innovations that have been carried out, it seems that there is a need for improvement in some activities. One of the targets of the Superman Sumanding program is to restore the fertility of agricultural land by changing environmentally friendly behaviour in farming using organic fertilizers. However, organic fertilizer processing is still constrained by the lack of capacity for manure waste, especially when facing the rainy season. For this reason, further assistance is needed for the program's sustainability. Increasing institutional strengthening is essential. It can be done by applying the Pentahelix concept, which collaborates between stakeholders. Stakeholders who collaborate to realize the goals of the Superman Sumanding program include academics, government, business, the MSME community and the media

One of the problems of concern is the lack of interest of the younger generation in the agricultural sector. So it is necessary to encourage the interest of the younger generation to develop agriculture to ensure food security. Through assistance in developing agro-tourism, starting from farming, processing agricultural products and marketing (business diversification). The training programs that have been held, such as integrated agricultural socialization and watershed conservation, eco-print training, institutional strengthening training, and Trichoderma training, are the initial triggers for increasing knowledge and skills. For this reason, post-training assistance is needed so that the activity carried out achieves an impact. As well as assisting in scale-up efforts in each group through measurable stages.

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## Appendix

### A1. Establishing Scope and Identifying Stakeholders

#### A11. Identification stakeholders of Superman Sumanding

No	Stakeholders	Role in the Program	Reasons for Inclusion
1.	'Karya Mukti' Sumanding Village.	Beneficiary groups.	Direct beneficiaries of CSR programs.
2.	Farmer Groups 'Guyub Rukun' Sumanding Village.	Beneficiary groups.	Direct beneficiaries of CSR programs.
3.	Extension Officer from the Forestry Service II Pati Branch of Central Java Region.	Program companion.	Contribute to providing services to the activities carried out. <ul style="list-style-type: none"> <li>▪ Utilization of yard land into 'TOGA' gardens.</li> <li>▪ Integrated agricultural socialization and watershed conservation.</li> </ul>
4.	IPB University.	Sources.	Contribute to providing services to the activities carried out. <ul style="list-style-type: none"> <li>▪ Group institutional strengthening training.</li> <li>▪ <i>Trichoderma</i> training.</li> </ul>
5.	Sumanding Village Government.	Coaching and supervision.	<ul style="list-style-type: none"> <li>▪ Coaching and supervision of the Superman Sumanding program.</li> <li>▪ Contribute to assisting 100 consumptions for implementing integrated agricultural socialization and watershed conservation.</li> </ul>
6.	Peasant Women's Group 'Srikandi' Cepogo Village.	Beneficiary groups.	Direct beneficiaries of CSR programs.
7.	Bucu Village Peasant Women's Group.	Beneficiary groups.	Direct beneficiaries of CSR programs.
8.	'Forest Village Community Institution' Sumanding Village.	Beneficiary groups.	Direct beneficiaries of CSR programs.
9.	'Taruna Tani MAPAN' Sumanding Village.	Beneficiary groups.	Direct beneficiaries of CSR programs.
10.	Jepara Regency Environment Agency.	Program companion.	<ul style="list-style-type: none"> <li>▪ Assisting in integrated agricultural socialization activities and watershed conservation.</li> <li>▪ Assisting 1000 tree seedlings.</li> </ul>
11.	Livestock and Agriculture Office of Jepara Regency.	Program companion.	Integrated agricultural and livestock assistance system.
12.	BUMN Creative House.	Mentoring.	Contribute to providing service activities. <ul style="list-style-type: none"> <li>▪ Training on Plantation Product Management.</li> <li>▪ MSME Product Packaging Training.</li> <li>▪ MSME Product Marketing Training.</li> </ul>
13.	PT PLN UIK TJB.	Program implementer.	Superman Sumanding program implementer.

## A12. Contribution Stakeholders of Superman Sumanding

No	Activities	Stakeholder	Role	Contribution
1.	Empon-Empon Processing Tool Assistance for Peasant Women's Group 'Karya Mukti' Sumanding Village.	Women's Group of Peasants 'Karya Mukti' Sumanding Village.	As a beneficiary.	Time and Effort.
2.	Plantation Product Management Training.	BUMN Creative House.	Training facilitator.	Services.
3.	MSME Product Packaging Training.	BUMN Creative House.	Training facilitator.	Services.
4.	MSME Product Marketing Training.	BUMN Creative House.	Training facilitator.	Services.
5.	Utilization of yard land into 'TOGA' gardens.	Branch of the Forestry Service II Pati Central Java Region.	Training facilitator.	Services.
6.	Integrated socialization and watershed conservation.	Jepara Regency Environment Agency Sumanding Village Government.	Assist 1000 tree seedlings.	Goods.
		Branch of the Forestry Service II Pati Central Java Region.	Providing 100 consumption assistance for participants.	Goods.
		Branch of the Forestry Service II Pati Central Java Region.	Training facilitator.	Services.
7.	Making organic fertilizer processing sites in the 'Guyub Rukun' Farmer Group in Sumanding Village.	Farmer Groups 'Guyub Rukun'.	Beneficiaries.	Time and Effort.
8.	Eco-print training	Genta Mas and Branch of Forestry Service II Pati Central Java.	Training facilitator.	Services.
9.	Group institutional strengthening training.	IPB University.	Training facilitator.	Services.
10.	<i>Trichoderma</i> Training.	IPB University.	Training facilitator.	Services.
11.	Creation of agricultural plots.	Farmer Groups 'Guyub Rukun'.	Beneficiaries.	Time and Effort.

## A2. Mapping Outcomes

## A21. Valuing Inputs of Superman Sumanding

Activities	Input Components	Input Value IDR	Stakeholder
Empon-Empon Processing Tool Assistance for Peasant Women's Group 'Karya Mukti' Sumanding Village.	The cost of carrying out activities. Time and Effort.	50,000,000	PT PLN UIK TJB. Peasant Women's Group 'Karya Mukti'.
Plantation Product Management Training.	The cost of carrying out activities. Service Contribution.	25,000,000	PT PLN UIK TJB. BUMN Creative House.
MSME Product Packaging Training.	The cost of carrying out activities. Service Contribution.	20,000,000	PT PLN UIK TJB. BUMN Creative House.

A21. *Continued*

Activities	Input Components	Input Value IDR	Stakeholder
MSME Product Marketing Training.	The cost of carrying out activities. Service Contribution.	25,000,000	PT PLN UIK TJB. BUMN Creative House.
Utilization of yard land into 'TOGA' gardens.	The cost of carrying out activities. Service Contribution.	20,000,000	PT PLN UIK TJB. Branch of the Forestry Service II Pati Central Java Region.
Integrated agricultural socialization and watershed conservation.	The cost of carrying out activities. Goods contribution. Goods contribution. Goods contribution.	20,000,000	PT PLN UIK TJB. Jepara Regency Environment Agency. Sumanding Village Government. Branch of the Forestry Service II Pati Central Java Region.
Making organic fertilizer processing sites for the 'Guyub Rukun' Farmer Group in Sumanding Village.	The cost of carrying out activities. Time and Effort.	91,200,000	PT PLN UIK TJB. Farmer Groups 'Guyub Rukun'.
<i>Eco-print</i> training.	The cost of carrying out activities. Services contribution.	24,700,000	PT PLN UIK TJB. 'Genta Mas' and Branch of Forestry Service II Pati Central Java.
Group institutional strengthening training.	The cost of carrying out activities. Service Contribution.	29,400,000	PT PLN UIK TJB. IPB University.
<i>Trichoderma</i> training.	The cost of carrying out activities. Service Contribution.	29,400,000	PT PLN UIK TJB. IPB University.
Creation of a farm plot.	The cost of carrying out activities. Time and effort.	24,500,000	PT PLN UIK TJB. Farmer Groups 'Guyub Rukun'.
Total		239,200,000	

## A22. Classification of Outputs, Benefits, and Indicators of Superman Sumanding

Activities	Stakeholders	Output	Impact	Indicator
Empon-Empon Processing Tool Assistance for Peasant Women's Group 'Karya Mukti' Sumanding Village.	Peasant Women's Group 'Karya Mukti' Sumanding Village.	1 unit of equipment.	- The results of ginger cultivation in 2022 amounted to 600 kg of IDR15,600,000.	- Income from ginger cultivation. - Revenue from ginger sales.
Plantation Product Management Training.	BUMN Creative House.	Implementation of training.	- The proceeds from ginger sales in 2022 amounted to 231 kg of revenue of IDR18,480,000.	

A22. *Continued*

Activities	Stakeholders	Output	Impact	Indicator
MSME Product Packaging Training.	BUMN Creative House.	Implementation of training.	-	-
MSME Product Marketing Training.	BUMN Creative House.	Implementation of training.	-	-
Utilization of yard land into 'TOGA' gardens.	Branch of the Forestry Service II Pati Central Java Region.	A total of 20 members of the Sumanding Village 'Karya Mukti' Peasant Women's Group used the yard land. With a 'TOGA' planting system in polybags	-	-
Integrated agricultural socialization and watershed conservation.	- Jepara Regency Environment Agency. - Sumanding Village Government - Branch of the Forestry Service II Pati Central Java Region.	Implementation of integrated agricultural socialization and watersheds.	- Corn planting in 2022 amounted to 399 tons of revenue of IDR1,979,600,000. - Rice planting in 2022 amounted to 140 tons of revenue of IDR754,482,400. - Coffee cultivation results in 2022 amounted to 4 tons of revenue of IDR92,400,000. - The sales of coffee ground products in 2022 amounted to 560 kg of revenue of IDR56,000,000. - Coffee milling services in 2022 roasting amounted to 4200 revenues of IDR33,600,000, and ordinary powder amounted to 6300 kg of income of IDR46,200,000. - The results of cattle cultivation in 2022 amounted to 20 heads of income of IDR170,000,000. - The results of goat cultivation in 2022 amounted to 10 heads of income of IDR10,000,000.	- Corn cropping income. - Rice crop income. - Income from the cultivation of kopi. - Sales revenue of coffee ground products. - Coffee milling service income. - Income from the cultivation of cows. - Income from goat cultivation. - Revenue from the sale of solid fertilizers.
Making organic fertilizer processing sites for the 'Guyub Rukun' Farmer Group in Sumanding Village.	Farmer Groups 'Guyub Rukun'.	It has a place to process organic fertilizers and organic fertilizer products (solid fertilizers).	The proceeds from the sale of solid fertilizer from the 'Guyub Rukun' Farmer Group in Sumanding Village in 2022 amounted to 49 tons of revenue of IDR49,800,000.	Revenue from the sale of solid fertilizers.



## A22. Continued

Activities	Stakeholders	Output	Impact	Indicator
Eco-print training.	'Genta Mas' and Branch of Forestry Service II Pati Central Java.	Implementation of training.	To increase the knowledge of members of the Women Farmers Group 'Karya Mukti' in Sumanding Village, the practice of making eco-prints has started.	
Group institutional strengthening training.	IPB University.	Implementation of training.	Strengthening institutional networks in the 'Guyub Rukun' Farmer Group in Sumanding Village.	
<i>Trichoderma</i> training.	IPB University.	- The implementation of training. - Has <i>Trichoderma</i> biofertilizer products.	Increased knowledge about <i>Trichoderma</i> .	
Creation of agricultural plots.	Farmer Groups 'Guyub Rukun'.	The construction of an agricultural plot.	- The revenue from the 'Guyub Rukun' Farmer Group Chili Plot in Sumanding Village in 2022 amounted to 7 tons of income of IDR299,200,000. - The income from the 'Guyub Rukun' Farmer Group tomato plot in Sumanding Village in 2022 amounted to 400 kg of IDR2,000,000.	- Revenue from the chilli plot. - Income yield of tomato plots.

## A3. Evidencing outcomes and giving them a value

## A31. Monetization in Superman Sumanding Program

Indicator	Monetize	The Basis of Rationality
Income from ginger cultivation.	15,600,000	The results of ginger cultivation in 2022 amounted to 600 kg, so an IDR15,600,000 was obtained.
Instant ginger sales revenue.	18,480,000	The proceeds from the sale of ginger in 2022 amounted to 231 kg, so revenue was obtained of IDR18,480,000.
Corn farm income.	1,979,600,000	Corn planting in 2022 amounted to 399 tons, so a revenue of IDR1,979,600,000 was obtained.
Income of agricultural rice products.	754,482,400	Rice planting in 2022 amounted to 140 tons, so a revenue of IDR754,482,400 was obtained.
Income from coffee cultivation.	92,400,000	The results of coffee cultivation in 2022 amounted to 4 tons, so a revenue of IDR92,400,000 was obtained.
Sales revenue of coffee ground products.	56,000,000	The sales of coffee ground products in 2022 amounted to 560 kg, so revenue of IDR56,000,000 was obtained.
Coffee milling service income.	56,000,000	Coffee milling services in 2022 roasting amounted to 4200, so revenue of IDR33,600,000 and ordinary ground coffee proceeds of 6300 kg were obtained so that income of IDR46,200,000 was obtained.
Income from the cultivation of cows.	170,000,000	The results of cattle cultivation in 2022 amounted to 20 heads so that income of IDR170,000,000 was obtained.
Income from goat cultivation.	10,000,000	The results of goat cultivation in 2022 amounted to 10 heads, so an IDR10,000,000 was obtained.

A31. *Continued*

Indicator	Monetize	The Basis of Rationality
Revenue from the sale of solid fertilizers.	49,800,000	The proceeds from selling solid fertilizer from the 'Guyub Rukun' Farmer Group in Sumanding Village in 2022 amounted to 49 tons, so IDR49,800,000 was obtained.
Eco-print income.	1,600,000	The results of eco-print products earned an IDR1,600,000 (8 x IDR200,000).
Revenue from the chilli plot.	299,200,000	The income from the chilli plot of the Forest Village Community Institution 'Guyub Rukun' Sumanding Village in 2022 amounted to 7 tons, so IDR299,200,000 was obtained.
Income yield of tomato plots.	2,000,000	The income from the Tomato Plot of the Forest Village Community Institution 'Guyub Rukun' Sumanding Village in 2022 amounted to 400 kg, so an IDR2,000,000 was obtained.