

The Effectiveness Of Social Return On Investment (SROI) In The Kampong AMOI Program To Enhance Community Development: A Case Study Air Limau Village, Bangka Barat

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ABSTRACT

From the beginning of a company's existence, corporate responsibility for the common good can be exercised through corporate social responsibility (CSR) programs. CSR is a company's commitment to moral awareness in transparent and ethical behaviour through strategies and social policies that follow the values and norms applied in society. This study measures efficacy using the evaluation SROI method in the KAMPONG AMOI Community Empowerment Program (KAMPONG Agro Mandiri Integrated) conducted by PT TIMAH Tbk Metallurgical Unit Muntok. The Empowerment Program has been implemented since 2020 in Tanjung Village and Air He Limau Village in Muntok District, West Bangka Province. This research aims to comprehensively evaluate, measure, and calculate the impacts of program implementation from environmental, economic, welfare, and social perspectives using the evaluative SROI method. The study also aims to provide information on the feasibility of implementing the program via the determined SROI values. The KAMPONG AMOI Community Empowerment Program (Kampung Agro Mandiri Integration) has an SROI score of 2.82. The results show a utility or impact value of IDR 2.82 for every IDR 1 invested. The results of the SROI study show that the KAMPONG AMOI program has a positive economic, social and environmental impact. Companies should therefore support groups developing alternative feeds using readily available raw materials. To increase the value of research and development of alternative feeds using readily available raw materials, capacity building of the KAMPONG AMOI program by increasing replication of the program in vulnerable communities, and other processing such as more modern dishes and inclusive markets.

Keywords: investment; SROI; assessment; KAMPONG MOI

INTRODUCTION

Since the beginning of its existence, the responsibility of a company towards the public interest can be realized through the Corporate Social Responsibility (CSR) program [1]. CSR is a commitment to the company's moral awareness in transparent and ethical behavior by making a strategy and social policy following the values and norms that apply in society [2]. In addition, the CSR program is a form of investment for the company for the growth and sustainability of the company itself. In line with the nature of the existence of a company in running a business, the main goal is to make a profit. Thus, the implementation of CSR should ideally be interpreted as a form of social investment made by the company so that, like an investment, it must be measurable, and it is hoped that it will bring profits in the future[3, 4].

As a tool in social reporting, namely, to measure the financial value of program impacts, the Social Return on Investment (SROI) method will help to obtain the economic achievement value of the implemented program, both applicable to direct and indirect beneficiaries [5]. SROI is a framework for measuring and accounting for a much broader concept of value. SROI seeks to reduce inequality and environmental degradation and increase well-being by combining social, environmental, and economic costs and benefits [6-8].SROI tells the change path in people or organizations related to measuring social, environmental, and economic values using a representative monetization approach[9].

Companies do social reporting for strategic reasons so that companies are increasingly aware of the importance of implementing CSR programs as part of their business strategy. The program implies that more and more companies are disclosing social responsibility information in their annual reports. Likewise, the amount and type of CSR information companies inform increasing [10].

This study measures effectiveness using the evaluative type SROI method in the KAMPONG AMOI Community Empowerment Program (KAMPONG Agro Mandiri Integrated) implemented by PT TIMAH Tbk Metallurgical Unit Muntok. The empowerment program has been ongoing since 2020 and was carried out in the Tanjung Village and Air Limau Village, Muntok District, West Bangka Regency. The Kampong Amoi program was carried out by integrating several activities, namely perennials nursery, composting in bentonite zeolite pit composting and vermicomposting, broiler cultivation, laying duck cultivation, and aquaponics consisting of catfish and vegetable cultivation. This program also introduces a new method in catfish farming, namely administering probiotics, and the composting process, namely vermicomposting, which uses worms.

By using the evaluative type SROI method, this study aims to evaluate, measure, and calculate the impact that has occurred due to the implementation of the program from the environmental, economic, welfare, and social perspectives in a comprehensive manner. This study will also obtain information on the feasibility of program implementation through the SROI values obtained.

THE OVERVIEW OF STUDY AREA

The need for compost and plant seeds on Bangka Island tends to be high. The demand is because Bangka Island is a plantation area for oil palm, pepper, pineapple, and other commodities, which require large amounts of compost in their operational activities. In addition, Bangka Island is also a mineral mining area with many post-mining lands that must be restored through revegetation activities. According to Gani [11] Bangka Island has 45,675 hectares of ex-mining land that must be revegetated, requiring large amounts of compost and plant seeds. So far, to meet the needs for compost and plant seeds, the company or the community must buy from outside the area, which is located far away, so the price is higher than the uptown.

Another reality found on Bangka Island, especially West Bangka, is the availability of chicken meat and catfish, which is still lower than the level of demand or need. Local chicken meat stock availability in West Bangka is minimal, requiring supplies from outside the Bangka Belitung Islands. The need for catfish in Bangka Regency in one week reaches 1-2 tons, but the supply of catfish is limited, namely only 758 kg per week. This condition causes the price of catfish in the market to be very high. Meanwhile, based on a company survey of the community, the fulfillment of vegetable needs in West Bangka is still primarily supported by supplies from outside the area [12]. Food security in West Bangka is still relatively low.

Bangka Island, especially West Bangka, has the potential to meet the above needs independently. It is because local resources can still be optimized. One of them is the availability of raw compost materials in the community, which is very abundant, namely organic household waste. Household waste in the community tends not to be appropriately managed or is only thrown away and burned in the yard.

Another resource that can be optimized is the availability of unused land, which is still vast. These large areas of unused land can be optimized for composting, nurseries, vegetable cultivation, catfish farming, and poultry farming. The above potential is supported by human resources, namely farmer groups in the community who can be empowered to do composting, nurseries, vegetable cultivation, poultry cultivation, and fish cultivation. The existence of these farmer groups has not been utilized optimally. Apart from farmer groups, many West Bangka people work as illegal tin miners. Illegal tin miners pay little attention to work safety, so they have a high risk [13, 14]. The people who practice illegal tin mining also have legal consequences for the perpetrators. In addition, this profession also tends to have high uncertainty because the selling price of tin ore fluctuates, so the income received is not fixed. In addition to farmer groups and tin mining communities, homemakers who do not have income can also be empowered to carry out composting, seeding, vegetable cultivation, poultry farming, and fish farming. It is because carrying out these activities does not require high skills.

Based on the background of the problems above and by the program recommendations in the 2019 Social Mapping Report, PT TIMAH Tbk Metallurgical Unit Muntok initiated and developed the KAMPONG AMOI Program (Integrated Agro Independent Village) for farmer groups, mining communities with irregular incomes, and mothers -homemakers in Tanjung Village and Air Limau Village, Muntok District, West Bangka Regency. The KAMPONG AMOI program empowers the community groups above to carry out composting, nursery, vegetable cultivation, poultry farming, and fish farming in an integrated manner in one area with the zero waste principle. In this case, implementing zero waste is by utilizing the output and waste from activity to become input for other activities. For example, manure as an output of poultry farming activities (chickens and ducks) are not disposed of but instead becomes input in composting activities. The KAMPONG AMOI program is to increase the fulfillment of the needs for the above commodities, which cannot be fulfilled independently. In addition, this program is also expected to become an alternative income for the target community groups.

METHODOLOGY

An impact measurement study using the SROI method references a previous successful study by Ruiz-Lozano, Tirado-Valencia [15], Ruiz, Ruiz, Fernández [16], Banke-Thomas, Madaj [17] and Republic of Indonesia Minister of Environment and Forestry Regulation No. 1 of 2021 on Evaluation Program for Corporate Performance Evaluation in Environmental Management

Data Collection, Possession and Analysis

There are two types of data collection in this SROI study, namely: secondary data collection and primary data collection. Secondary data, methods, or techniques for calculating indicators and economic approaches are collected by examining documents or studies of relevant studies. The collection of primary data, such as extracting results and determining indicators, is collected through interviews and FGDs with identified stakeholders. The collected data is then processed according to a predetermined approach. The information obtained from the literature study and the calculation results were then analyzed descriptively.

Research Stage

According to the SROI guidelines presented Yates and Marra [18] and Ruiz, Fernández [16], the stages of impact measurement research using the SROI method are carried out with the first stage of impact measurement research using the SROI method, namely determining the scope, identification, and mapping of outcomes for each stakeholder. Area coverage, activity coverage, time coverage, and the type of SROI used. This phase also identifies all recognized stakeholders. It is involved in or influencing or having an influence on the program. The identification of interest groups and stakeholders is based on the principle of materiality. In this case, the stakeholders involved in the research must meet the programmatic and critical importance factors. We then analyze and map the theory of changes that occur in the program to obtain the relationships between inputs, outputs, and results. This phase creates a list of each stakeholder's inputs, outputs, and results. The resulting mapping is based on the principle of importance. In this case, only results that meet the elements of materiality are relevant and essential to the program.

The next step is to determine the value index for each result, including the decision index or how to find the data from each result. Each outcome's financial or monetization approach is also determined at this stage [19]. The financial approaches are market prices, standard prices, or references (price catalogs). Examples, i.e., using the cost of activities that can lead to the same outcome and using the approach of risk, i.e., the cost incurred when the outcome occurs. That is, we use the odds approach resulting from the occurrence of the outcome. Worthwhile play for results that are very hard to measure.

The third stage, impact fixation, measures the self-weight or change that would undoubtedly occur without the program, the attribution or contribution of other parties to achieving the outcome, the crowding out, or the number of outcomes that displace other outcomes [20]. Estimates are considered. This study did not use the drop-off attribute because all computed endpoints had already occurred.

The fourth level contains SROI calculations that consider changes in currency values. Therefore, the fixed or discounted total return value is converted into value in the form of present value. The calculates the present value of the specified metric. A sensitivity analysis was then performed to test the assumptions that significantly impacted the model calculations performed. Sensitivity analysis is performed by decreasing the value of the outcome, increasing the investment, and increasing the value that affects fixed factors such as dead weight, imputation, and crowding out [21]. The payback period, on the other hand, is run to account for the time spent necessary to recover the investment, and the last stage is SROI reporting.

RESULT AND DISCUSSION

Scope, Identification and Mapping Stakeholder

The purpose of the KAMPONG AMOI Community Empowerment Program (KAMPONG Agro Mandiri Integrated), carried out by PT TIMAH Tbk Muntok Metallurgical Unit, was to improve the quality of life for residents in Tanjung Village and Air Limau Village, Muntok District, West Bangka regency. A Social Return On Investment (SROI) impact measurement study was conducted to evaluate the program's effectiveness and guide future improvements. The study measured the program's impact on the targeted communities and assessed the program's overall value. The scope of the study was limited to the program's impact in these specific villages and aimed to determine the program's success in

achieving its goals of community empowerment and agricultural self-sufficiency [22]. The study's findings will help inform future program design and implementation, with the goal of continuing to improve the lives of the program's beneficiaries.

Stakeholder identification is made by conducting an inventory or data collection of all stakeholders that overlap with the KAMPONG AMOI Community Empowerment Program (Integrated KAMPONG Agro Mandiri). Stakeholders of record are checked according to the principle of materiality. In this case, the stakeholders involved in the research must meet the programmatic and critical importance factors.

Impact Fixation, Scoring and SROI Analysis

Self-weight determinations are made by comparing or benchmarking program beneficiaries and people in similar conditions or the same group. It can do this by looking at people in similar conditions or the same group as controls. Provides an overview of the status of program beneficiaries when not receiving program intervention. On the other hand, Attribution is determined by analyzing the roles or contributions of other parties in the program. The allocation amount is determined from the program's budget, time, and other input contribution percentages [23]. Shifts are determined by considering the possibility of shifting results that replace others. In this case, the program should provide benefits, such as eliminating or mitigating hostile states, and see if there is a transmission of opposing states to other areas that are not the program's purpose. The magnitude of the shift determines the value of the shift. The self-weight, allocation and displacement values expressed in percentage for each result are shown in the Table 2 below

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Fluctuations in currency values are taken into account in the SROI calculation. Therefore, the fixed or discounted total return value is converted into value in the form of present value. Calculate the present value of the assessed gross income value using the following formula:

$$\text{Present Value} = \frac{\text{Value of impact in year 1}}{(1+r)} + \frac{\text{Value of impact in year 2}}{(1+r)^2} + \frac{\text{Value of impact in year 3}}{(1+r)^3} + \frac{\text{Value of impact in year 4}}{(1+r)^4}$$

In this calculation, interest rate values refer to interest rates set by Bank Indonesia in 2020, 2021, and 2022 as follows in Table 4.

Based on the formula and interest rates from Indonesian banks, the results of calculating the present value of the outcome after fixation are IDR 630.746.097,00. The Social Return on Investment (SROI) value for the KAMPONG AMOI Community Empowerment Program (KAMPONG Agro Mandiri Integrated) uses the present value divided by total investment value calculation. Based on calculations using the above formula, the Social Return on Investment (SROI) value of the KAMPONG AMOI Community Empowerment Program (KAMPONG Agro Mandiri Integrated) is 2.82. This indicates that there is a utility or impact value of IDR 2.82 for every IDR 1 invested. So the program is still executable.

Given the same input values, decreasing result values are known to affect changes in decreasing SROI values. For every 10% decrease in the score, the SROI decreased by approximately 0.29. However, simulation results with a 30% reduction in the resulting value still yield SROI results that can be classified as good or acceptable. That is, greater than the value 1. For every ten additional investments, the SROI value decreases by approximately 0.26. However, even with simulated results for up to 30% additional investment, the SROI results are rated as good or acceptable, i.e., greater than 1. Changes in Takeaway and Attribution values have a significant impact on SROI values. Therefore, the deadweight and allocation values are sensitive because they change quickly.

However, simulation results for addition and subtraction of self-weight and attribute values up to 10% result in SROI results that can be classified as good or acceptable, i.e., results more significant than a value of 1. The sensitivity analysis results can be used as a reference for the company PT TIMAH Tbk, Muntok Metallurgical Unit, in particular to the change in the value of the outcome. They will be used as a driver in the program to predict the decrease in his SROI value due to the decrease in the outcome. Decreased results may be due to decreased community and other stakeholder interest in the program, such as reduced community response to compost, perennial seeds, catfish, and duck eggs. Therefore, companies should plan the approach or form of engagement for each stakeholder involved in the program and the coordination between them. The payback period is calculated to determine the time required. Realize value for money. Based on the above calculation, the payback period is one year and 7.3 months. This SROI project is viable as it demonstrates a relatively high return on investment.

CONCLUSIONS

The KAMPONG AMOI Community Empowerment Program (Kampung Agro Mandiri Integration) has an SROI value of 2.82. The result shows that every IDR 1 invested has a benefit or impact value of IDR 2.82. The results of the SROI Study show that the KAMPONG AMOI Program has positive economic, social, and environmental impacts. However, the results of the SROI study conducted in the field also found fewer positive facts, namely, groups' dependence on manufactured feed tends to be high. Dependence on manufactured is because the alternative feed developed by the group is constrained by the availability of raw materials, namely tofu dregs or palm oil cake. Therefore, companies must assist groups in developing alternative feeds with readily available raw materials. Therefore, this program is feasible to continue with recommendations or suggestions to increase the value of benefits or such as Research and development of alternative feeds with easily obtained raw materials, Capacity building for the KAMPONG AMOI program through the multiplication of program replication in vulnerable communities, development of other processed products such as more contemporary dishes and a comprehensive market,

optimizing the use of waste into products that have a higher selling value and a broader market and expanding the reach of the program to outside Muntok District.

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TABLE 1: Result of stakeholder analysis.

Stake holder	Role in the Program	Involvement in the program	Reason
PT TIMAH Tbk Unit Metalurgi Muntok (Private Sector)	As a program initiator/initiator, program driver, program promoter	yes	PT TIMAH Tbk Muntok Metallurgical Unit fulfills the materiality factor as it is the initiator, promoter and provider of the programme.
Gapoktan Tanjung Jaya (Civil Society)	beneficiaries of breeding, pit composting, broiler farming, laying hens farming, aquaponics (catfish and vegetable farming) programs	yes	Gapoktan Tanjung Jaya satisfies the materiality factor as he is the subject or actor in the program that runs the kindergarten.
KWT Sejahtera (Civil Society)	beneficiaries of breeding, pit composting, broiler farming, laying hens farming, aquaponics (catfish and vegetable farming) programs	yes	pit composting, broiler breeding, laying hens breeding,
Community Self-Help Groups Bersahabat (Civil Society)	beneficiaries of breeding, pit composting, broiler farming, laying hens farming, aquaponics (catfish and vegetable farming) programs	yes	Aquaponics (catfish and vegetable farming).
Public(Civil Society)	Program beneficiaries eating catfish and using coco peat and vermicompost	yes	Communities meet the materiality factor because they are the beneficiaries of program implementation.
Tanjung Village(State)	As a supporter of the program by granting permission to run the program and promoting community audiences.	yes	The Government of Tanjung Kerlahan satisfies the materiality factor as it acts as a facilitator for the implementation of the programme. Furthermore, the role of village governments in providing land for activities is considered one of the factors of impact fixation.
Air Limau Village government (State)	As a supporter of the program by granting permission to run the program and promoting community audiences.	yes	The Air Limau village government fulfills the materiality element as it acts as a supporter of program implementation. Furthermore, the role of village governments in providing land for activities is considered one of the factors of impact fixation. Field Agriculture Extension (PPL)
Penyuluh Pertanian Lapangan Dinas Pertanian untuk Kelurahan Tanjung (State)	as a supporter of the program because it is a companion of farmer groups	no	Tanjung Subdistrict fulfills the materiality factor as it acts as a supporter of the program. In addition, his PPL's role in supporting farmers' groups is also one of the factors considered in impact immobilization.
Penyuluh Pertanian Lapangan Dinas Pertanian untuk Desa Air Limau (State)	as a supporter of the program because it is a companion of farmer groups	no	Field Extension Workers (PPLs) from Air Limau Village played a supporting role in the program and fulfilled a key component. Also, her PPL role in charge of accompanying farmers' groups is a factor.
Universitas Diponegoro (Akademisi)	Program supporters who support studies and research on innovations applied to the program	no	Diponegoro University does not meet the materiality factor as it only plays a role in conducting research and initial research on innovation as it applies to the program
Beltim News (Pers)	Program supporters supporting program releases	no	Beltim News does not meet the materiality factor as it is only material to the publication of the program.

TABLE 2: Outcome of each stakeholder.

Stake holder	Outcome	Deadweight	Atribution	Displacement	Description
PT TIMAH Tbk Unit Metalurgi Muntok (Private Sector)	<ul style="list-style-type: none"> • Companies are better known through program coverage in the mass media (recognition) • Savings on the purchase of plant seeds • Savings on the purchase of compost budget 	0%	0%	0%	The results of confirmation or verification of results to stakeholders demonstrate the absence of carry, imputation, and deferral of results generated.
Gapoktan Tanjung Jaya (Civil Society)	<ul style="list-style-type: none"> • Increased mutual cooperation between group members • Group members make time for the daily picket schedule • Capacity building related to nurseries, Livestock, the Composting Pit, Making Alternative Feeds, Catfish Cultivation, Supporting Activities Aquaponics namely Vermicomposting and Probiotics, Organizational Governance and Product Marketing • Income of group members from zeolite bentonite pit composting, broiler farming 	25%	30%	0%	Stakeholder feedback confirmed that the group worked together once a month before the program. The 25% increase in cross-collaboration with this program compared to before. In addition, the stakeholder noted that the Muntok District Agricultural Extension Officer played a role in the nursery activities and gave an imputed score of 30% based on the percentage of field extension activities of the PPL and his PT TIMAH Tbk Muntok Metallurgical Unit.
KWT Sejahtera (Civil Society)	<ul style="list-style-type: none"> • Capacity building related to Organizational Governance and Product Marketing • Capacity building related to Harvest Processing 	30%	30%	0%	Stakeholder feedback indicated that the Chairman and Vice Chairman of KWT were involved in the activities with an attribution of 30%, based on the proportion of organizational governance preparatory activities led by PT TIMAH Tbk Muntok Metallurgical Unit. The stakeholder also reported that five of his 16 members had prior knowledge of crop processing, resulting in 30% of his ability to process crops without a program. Of self-weight has occurred.

Stake holder	Outcome	Deadweight	Atribution	Displacement	Description
Community Self-Help Groups Bersahabat (Civil Society)	<ul style="list-style-type: none"> • Increased mutual cooperation between group members • Group members make time for the daily picket schedule • Capacity building related to nurseries, Livestock, Composting Pit, Making of Cocopeat Growing Media, Harvest Processing • Group members' income from selling duck eggs, catfish, vermicomposted worm castings • Income of group members from zeolite bentonite pit composting • Income of group members from sales of cashew tree seeds, sea pine perennials seeds, ketapang perennials seeds 	30%	0%	0%	Results of confirmation or validation of results to stakeholders provided information that 6 out of 21 members who claimed to be able to process herbal products already knew prior to the program's start. A capacity of 6 is considered safe to enter without a program and is given a deadweight value of 30%.
Public(Civil Society)	<ul style="list-style-type: none"> • Easy to get catfish • Easy to get coco peat • Easy to obtain Vermicompost 	0%	0%	0%	The results of confirmation or verification of results to stakeholders demonstrate the absence of carry, imputation, and deferral of results generated.
Tanjung Village(State)	<ul style="list-style-type: none"> • Greenhouse gas emission reduction in Tanjung village 	0%	0%	0%	The results of confirmation or verification of results to stakeholders demonstrate the absence of carry, imputation, and deferral of results generated.
Air Limau Village government (State)	<ul style="list-style-type: none"> • Reduction of greenhouse gas emissions by Air Limau village government • Use of unproductive village land 	0%	0%	0%	The results of confirmation or verification of results to stakeholders demonstrate the absence of carry, imputation, and deferral of results generated.

TABLE 1: Outcome of each stakeholder after fixation.

Stakeholder	Outcome Value After Fixation by year (IDR)			
	2020	2021	2022	Total
PT TIMAH Tbk Unit Metalurgi Muntok (Private Sector)	IDR -	IDR 2.435.000	IDR 21.305.000	IDR 23.740.000
Gapoktan Tanjung Jaya (Civil Society)	IDR -	IDR 161.554.846	IDR 146.993.621	IDR 308.548.467
KWT Sejahtera (Civil Society)	IDR -	IDR -	IDR 105.757.006	IDR 105.757.006
Community Self-Help Groups Bersahabat (Civil Society)	IDR -	IDR -	IDR 181.261.857	IDR 181.261.857
Public(Civil Society)	IDR -	IDR 428.786	IDR 2.665.929	IDR 3.094.715
Tanjung Village(State)	IDR -	IDR 3.199	IDR 1.904	IDR 5.103
Air Limau Village government (State)	IDR -	IDR -	IDR 75.001.198	IDR 75.001.198
Total Outcome Value After Fixation by year (IDR)	IDR -	IDR 164.421.831	IDR 532.986.515	IDR 697.408.346

TABLE 4: Bank Indonesia interest rates.

Year	r
2020	3,25%
2021	3,50%
2022	3,75%