

Circular CSR: Community Satisfaction Index Evaluation of PT Smelting's Circular Village Program

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Abstract:

As a form of responsibility and commitment to contribute to sustainable development, improving the quality of life of the community, and environmental sustainability, companies engaged in and/or related to natural resources are obliged to implement Corporate Social Responsibility (CSR) activities. In line with this, PT Smelting implements a community development programme called Kampung Sirkular (Circular Village) in Sukomulyo Village, Gresik Regency. This programme aims to increase community income and sustainable environmental management through the integration of waste management, cultivation, and waste management education activities. To assess the extent to which this programme benefits the community, monitoring and evaluation activities are necessary. These activities can be used to measure the programme's achievements and analyse obstacles or inconsistencies in the programme's implementation process. One form of monitoring and evaluation of community development programmes is the Community Satisfaction Index (CSI) Survey. This survey is conducted through a questionnaire using a Likert scale. The CSI survey results for the Kampung Sirkular community development programme showed a score of 3.386, or 84.656 when converted, which means very satisfied. From these survey results, it can be concluded that the community feels that the programme provided is in line with their needs. Nevertheless, PT Smelting is certainly very open to suggestions and input for future improvements.

Keywords — Community Satisfaction Index (CSI), Corporate Social Responsibility (CSR), Sustainable Waste Management, Kampung Sirkular.

I. INTRODUCTION

In order to create sustainable development, the World Summit on Sustainable Development in Johannesburg, South Africa, reached an agreement on the implementation of Corporate Social Responsibility (CSR) for all companies worldwide [1]. CSR is a form of corporate responsibility and commitment to carry out its obligations by taking

into account the interests of stakeholders and the environment surrounding the company's operations in accordance with applicable laws [2]. The implementation of CSR is also related to socio-economic empowerment in order to help realise social welfare and strengthen the economy of the surrounding community [3].

PT Smelting, as a company committed to continuing its community development

programmes, has implemented the 'Kampung Sirkular' programme. In addition to increasing community income, this programme also aims to raise awareness and capacity among the community in sustainable environmental management, reduce waste generation, and improve waste management at the household level. The program activities include the construction of waste management houses, sustainable waste management, community empowerment in assisted businesses such as KUBIS Ecoprint Damar Segaran, and the development of local innovations such as Melon Hidrofarm from community food security gardens.

The burning of waste in illegal waste disposal sites is caused by an increase in the volume of waste from the community and the low capacity of waste management in the area [4]. In addition to these two factors, limited technology and facilities for waste management have also contributed to the increase in waste volume, leading the community to choose to burn their waste [5]. Based on this statement, through the 'Kampung Sirkular' programme, PT Smelting, together with the Sukomulyo Village community group, is managing plastic waste using pyrolysis technology. Pyrolysis itself is a combustion process without air or with limited air [6] that produces solids (charcoal), gas (fuel gas) and liquids (bio-oil) [7]. The liquid produced from plastic pyrolysis can produce various types of fuel, depending on the type of reactor, temperature and catalyst [8]. Pyrolysis is known to be faster in the combustion process with better energy efficiency [9]. The use of pyrolysis technology in waste management in Sukomulyo Village aims to reduce the volume of waste entering the landfill, which in turn can also produce fuel.

The sustainability and growth of a company can be invested through CSR activities carried out by the company [10]. As a form of investment, it must be measurable to see the success and profits gained from the programme. In this study, measurements were carried out using the Likert Scale-based CSI method related to the level of satisfaction of the Sukomulyo community towards the CSR programme provided by PT Smelting. The measurement results will be used as evaluation material to improve and enhance the next programme strategy.

II. METHODOLOGY

A. Data Collection

Data collection was conducted in May 2025 in Sukomulyo Village. The type of data in this study was primary data, which is data obtained directly by data collectors through interviews, questionnaires or observations [11]. In this study, data was obtained through interviews and questionnaires. The questions in the questionnaire were designed as open-ended questions to obtain more information that could support the quantitative data, and closed-ended questions using the Likert scale as a CSI measurement option, as follows:

- 1: Not satisfied
- 2: Less satisfied
- 3: Satisfied
- 4: Very satisfied

Several groups participating in the 'Kampung Sirkular' programme are Kawah Berlian Waste Bank, MRR Berseri Waste Bank, SAMAWA Waste Bank, Ruma Kelola Sampah, Damar Segaran Group, Sang Vendis Farmer Group, Markisa Lestari Farmer Group, Mewah Farmer Group and MRR Berseri Farmer Group. As a form of periodic monitoring and evaluation, a CSI survey was conducted on community groups receiving community development programmes. The research respondents came from different backgrounds in terms of age, education, occupation and income. The following are the demographic characteristics of the community representatives who were respondents based on age, education level, occupation and income:

TABLE I
RESPONDENT CHARACTERISTICS

No	Category	Sub-Category	Frequency	Percentage
1	Age	< 25 years	2	7%
		26 – 45 years	11	39%
		46 – 65 years	13	50%
		>65 years	1	4%
2	Education	Primary School	1	4%
		Junior High School	7	26%
		Senior High School	15	56%
		Diploma	1	4%
		Bachelor	3	11%
3	Work	Entrepreneur	1	4%
		Privat Employee	11	41%
		Others	15	55%

4	Income	<Rp 1,000,000	8	30%
		Rp 1,000,000,-s/d Rp 3,000,000	15	55%
		Rp 3,000,000,-s/d Rp 5,000,000	4	15%
		>Rp 5,000,000	-	-

Based on the table above, it can be seen that there are 27 respondents who will complete the CSI questionnaire related to the community development programme implemented by PT Smelting. In Indonesia, the main regulation governing CSI measurement is Regulation of the Minister of State Apparatus Empowerment and Bureaucratic Reform (Permen PAN & RB) Number 14 of 2017 concerning Guidelines for the Preparation of Public Service Unit Community Satisfaction Surveys [12].

B. Data Processing

The data obtained will then be tabulated using Microsoft Excel and processed to obtain the CSI value of the 'Kampung Sirkular' programme. Data processing is carried out using the following formulas:

- Average Score per Question

$$= \frac{\text{Total Score per Question}}{\text{Number of Completed Questionnaires}}$$
- Weighting per Question

$$= \frac{1}{\text{Number of Questions}}$$
- Weighted Average Score per Question

$$= \text{Average Score per Question} \times \text{Weight per Question}$$
- Converted Community Satisfaction Index Score

$$= \text{Weighted Average Score per Question} \times 25$$
- Interpretation of the Community Satisfaction Index

The interpretation or explanation of the calculated public satisfaction index is as follows:

TABLE II
INTERPRETATION OF CSI VALUES

No	Converted Public Satisfaction Index Score	Description
1	0 – 25	Not satisfied
2	25 – 50	Less satisfied
3	50 – 75	Satisfied
4	75 – 100	Very satisfied

III. RESULT AND DISCUSSION

A. Community Satisfaction Index

The community satisfaction index for this community development programme is calculated based on three aspects, namely the overall programme, programme management, and programme distribution and service delivery. The CSI indicators used in the questionnaire include: a) Programme Relevance; b) Programme Benefits; c) Programme Sustainability; d) Community Participation; f) Company Synergy; g) Community Acceptability; h) Officer Responsibility; i) Officer Capacity; j) Planning Consistency with Implementation; k) Accuracy and Clarity of Methods; l) Reliability of Methods or Programmes; m) Fairness in Programme Implementation; n) Company Responsiveness.

a. CSI for the Overall Programme

The CSI measurement for this overall programme is based on the relevance of the programme to community needs in terms of issues and potential, the benefits of the programme, and the sustainability of the programme. The survey results can be seen in the image below:

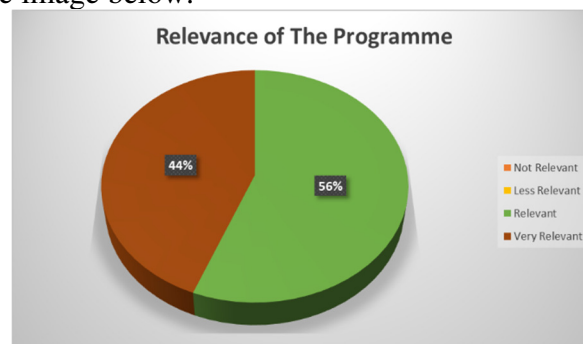


Fig. 1 Survey Results on the Relevance of the Kampung Sirkular Programme

From the image above, it can be concluded that the 'Kampung Sirkular' community empowerment programme is relevant to the conditions in Sukomulyo Village. A total of 56% of respondents felt that the programme was relevant, while the remaining 44% felt that it was very relevant. The programme meets the needs of the community and provides solutions to existing problems. In addition, the programme also utilises the potential that exists in Sukomulyo Village, such as the development of

local innovation in Melon Hidrofarm using examples from the villagers' gardens.

CSI for the overall programme is also measured by the benefits of the programme. The types of programme benefits observed include increased knowledge, improved skills, improved environmental quality, and increased community income. The survey results can be seen in the table below:

TABLE III
SURVEY RESULTS ON THE BENEFITS OF THE KAMPUNG SINGKULAR PROGRAMME

Program Benefits	Survey Results			
	No Improvement	Slight Improvement	Improvement	Significant Improvement
Improved Knowledge	0%	0%	37%	63%
Improved Skills	0%	0%	33%	67%
Improved Environmental Quality	0%	0%	37%	63%
Increased Income	0%	0%	37%	63%

Based on the table of survey results on the benefits of the Circular Village programme above, it can be seen that the benefits of the programme in terms of skills improvement have the highest value, with 67% of respondents feeling that their skills have greatly improved given the many new things they have learned in this programme, such as eco-printing techniques, design, marketing techniques, and processing of cultivated products. PT Smelting also teaches product management to increase sales value. Meanwhile, the remaining 33% felt that the programme had improved their skills.

The benefits of the programme in terms of increasing knowledge, improving environmental quality, and increasing income received the same results, with 63% of respondents feeling that the Kampung Singkular programme had greatly increased their knowledge, environmental quality, and income. The knowledge gained by the community was related to waste management and innovative cultivation techniques for melons, bananas, and passion fruit. This programme creates social innovation that integrates sustainable waste management to improve environmental quality [13]. Cultivating crops using environmentally friendly techniques reduces air pollution, improves soil fertility, and mitigates climate change. From the Circular Village programme, the community also

benefits economically in the form of increased income. This increase in income is due to the sale of eco-print products and products resulting from innovative cultivation techniques for melons, bananas, passion fruit and their processed products, such as fruit juice.

The sustainability of the programme is analysed based on the continuity of the programme provided and the community's commitment to continue implementing the programme even without the company's assistance [14]. The survey results can be seen in the image below:

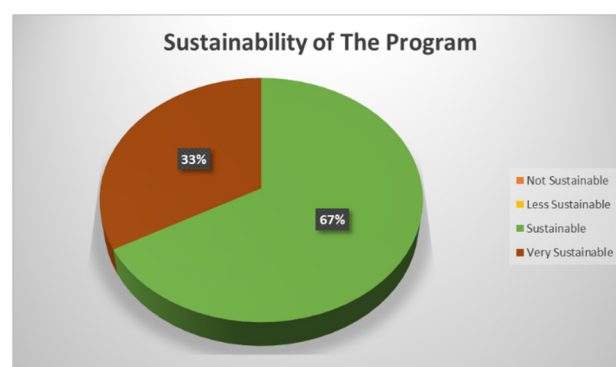


Fig. 2 Survey Results for the Sustainability of the Kampung Singkular Programme

From the diagram above, it can be seen that 67% of respondents consider this programme to be sustainable. This shows that the community development programmes provided are interrelated. The Sukomulyo Village community took the initiative to develop the Circular Village programme even without assistance from the company. This demonstrates the community's readiness to be independent. The following are the results of the Circular Village Overall Programme survey data processing:

TABLE IV
CSI OVERALL PROGRAMME

Index Score	Converted CSI	Description
3.519	87.963	Very Satisfied

The results shown in the table above are a CSI value of 3.518 with a converted CSI of 87.963, which means very satisfied. This indicates that the relevance, benefits, and sustainability of the Kampung Singkular programme are considered very good by the recipient community.

b. CSI for the Programme Management

CSI measurements for programme management are assessed based on three factors: participation of programme beneficiaries, stakeholder synergy, and the performance of facilitators or Community Development Officers (CDOs). The survey results are shown in the table below:

TABLE V
SURVEY RESULTS ON COMMUNITY PARTICIPATION

Community Participation	Survey Results			
	Not Good	Not Very Good	Good	Very Good
Planning	0%	4%	78%	19%
Implementation	0%	0%	81%	19%
Monitoring and Evaluation	0%	0%	70%	30%

Based on the table above, it can be seen that the highest survey results for community participation were in monitoring and evaluation activities. As many as 70% of respondents considered that community involvement in programme monitoring and evaluation activities was good, with the remaining 30% considering it to be very good. Meanwhile, in planning activities, 4% of respondents considered community participation to be poor, meaning that some felt they were not sufficiently involved in programme planning activities. However, 78% of respondents considered community involvement in planning activities to be good, and 19% considered it to be very good. Regarding implementation activities, 81% of respondents stated that community involvement efforts were good, and the remaining 19% stated that they were very good.

The performance of facilitators or Community Development Officers (CDOs) was measured through four aspects, namely closeness to the community, adaptability, responsibility, and competence in the field. The survey results can be seen in the table below:

TABLE VI
SURVEY RESULTS FOR THE PERFORMANCE OF FACILITATORS/CDOs

Facilitator/CDO Performance	Survey Results			
	Not Good	Not Very Good	Good	Very Good
Proximity to the Community	0%	0%	48%	52%
Adaptability	0%	0%	56%	44%
Responsibility	0%	0%	56%	44%
Competence	0%	0%	30%	70%

Based on the table above, 48% of respondents rated facilitators/CDOs as having a good rapport with the community and 52% rated them as very good. In terms of adaptability and responsibility, 56% of the community rated the facilitators/CDOs as good and 44% rated them as very good at adapting so that their presence was well accepted in the community. Adaptability plays an important role in the smooth implementation of the programme [15]. In terms of competence, 70% of respondents rated them as very good, while 30% rated them as good.

The following are the results of data processing related to the survey results on community participation, stakeholder synergy, and facilitator/CDO performance:

TABLE VII
CSI PROGRAMME MANAGEMENT

Index Score	Converted CSI	Description
3.333	83.333	Very Satisfied

c. CSI for Program Distribution and Services

CSI measurements for the distribution and service of this programme are assessed based on the accuracy and clarity of the method or programme, the reliability of the method or programme, fairness, and responsiveness. The survey results can be seen in the table below:

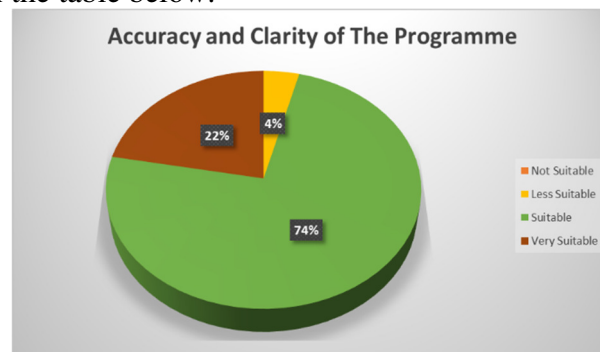


Fig. 3 Survey Results for Accuracy and Clarity

Based on the diagram above, it is known that 74% of respondents stated that the methods or programmes provided were appropriate or suitable, and 22% stated that they were very suitable for the conditions or characteristics of the programme recipients. However, 4% of respondents stated that the methods or programmes provided were still not suitable for the existing conditions. This will be used as evaluation material for PT Smelting so that it can provide even better programmes in the future.

The survey results for the element of fairness show that 78% of respondents considered the accuracy and distribution of programme recipients to be good, and 22% considered it to be very good. Meanwhile, based on the survey results, the responses or feedback provided by PT Smelting regarding criticism, input, and suggestions were considered good by 22% of respondents and very good by 78% of respondents.

The following are the results of data processing related to the survey results on the accuracy and clarity of methods or programmes, the reliability of methods or programmes, fairness, and responsiveness:

TABLE VIII
CSI DISTRIBUTION AND SERVICE PROGRAMME

<i>Index Score</i>	<i>Converted CSI</i>	<i>Description</i>
3.307	82.672	Very Satisfied

B. Total CSI

Based on data processing from three aspects, namely the overall programme, programme management, and programme distribution and service, the CSI score for the Kampung Sirkular programme is obtained in the table below:

TABLE IX
TOTAL CSI RESULTS

<i>Index Score</i>	<i>Converted CSI</i>	<i>Description</i>
3.386	84.656	Very Satisfied

Based on the results in the table above, the Kampung Sirkular programme implemented by PT Smelting obtained a CSI score of 3.386 or a conversion of 84.656, which means that the community is very satisfied with the programme provided. When compared to other similar studies, namely the similarity in terms of waste management programmes by Lestari & Hasanuddin [16]. This study had a higher CSI score of 87.52. The difference in CSI results may be due to several factors, one of which is the scope and complexity of the CSR programme. The CSR programme in Sukomulyo Village is multi-component, so there are more potential beneficiaries, which may lead to more interaction between the company and the community. Meanwhile, in the study by Lestari & Hasanuddin [16], the CSR programme was more

focused on one cluster of activities, so the target benefits tended to be fewer but maximised.

In another study conducted by Tetiawadi & Abijono [17], a CSI value of 80.85 was obtained. The CSI value obtained was lower than in this study. This was due to differences in the weighting method. The study by Tetiawadi & Abijono [17] used a CSI survey with the SMART (Simple Multi-Attribute Rating Technique) method with different criteria weights. It can be concluded that even though both studies used a CSI survey, if the weighting method used is different, the CSI results obtained will also be different.

IV. CONCLUSIONS

The 'Kampung Sirkular' community development programme implemented by PT Smelting in Sukomulyo Village received a total CSI score of 3.386, or a converted score of 84.656, which indicates high satisfaction with the overall programme score of 3.386, or a converted score of 87.963 (very satisfied). programme management of 3.333 or converted to 83.333 (very satisfied), and distribution and service of 3.307 or converted to 82.672 (very satisfied). These scores indicate that the programme provided benefits to the local community in terms of the environment, economy, welfare, and social aspects. Therefore, PT Smelting is expected to continue its community development programmes to improve the management capacity of groups around the company and to establish good relationships with community development programme actors while considering the suggestions and input from programme recipients.

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