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MEASUREMENT OF WAKAROROSKU NATURAL PROGRAM IMPLEMENTATION IMPACT PT. KPC WITH SOCIAL RETURN ON INVESTMENT APPROACH

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Abstract

The variety of tribes in East Kalimantan also has various forms of motifs and carving patterns. Efforts to continue to preserve the local arts and culture of East Kalimantan, especially the Dayak Basap tribe, require the support of every stage holder/stakeholder. One of the efforts that have been implemented is community empowerment towards the introduction of batik culture and the ability to generate other income from batik activities. The Empowerment Program implemented by PT KPC is an investment. As a consequence of an investment, it is important for investors to know the results of the investment. In practice, many companies have not carried out an assessment process for the social investments that have been made, especially in terms of indirect results (outcomes) and related to the resulting impacts. This research was conducted in October 2021 in batik SMEs located in North Sangatta District, East Kutai Regency. The basic method used in this research is descriptive analysis, which is a problem-solving procedure that is investigated by describing or describing the current state of the object of research in accordance with the facts obtained in the field. The "Natural Wakakrorosku" program is a community empowerment program, especially batik SMEs by prioritizing cultural and environmental sustainability which raises the potential of the carving art of the East Kuti community into batik cloth and the concept of zero waste.

Keywords: Batik; waste; social investment; SROI

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INTRODUCTION

The variety of tribes in East Kalimantan also has various forms of carving motifs and patterns (Mohammed et al., n.d.). The carvings owned by each tribe can be poured into cultural promotion media, one of which is expressed in batik motifs. East Kalimantan batik motifs are usually modified by craftsmen so that they look beautiful and more modern (Latif, 2013). However, it still has its own characteristics such as the use of bold colors but still pleasing to the eye. The colors that are usually used include green, pink, orange, and red. In addition, East Kalimantan batik

motifs are also strongly influenced by culture, most of which come from the Dayak tribe (Darmadi, 2016). The art of batik on cloth with distinctive patterns from every region in Indonesia, especially batik from the interior of East Kalimantan has almost drowned in the times. In fact, the art of batik is a local wisdom of the Indonesian people that reflects an appreciation for nature (Noviana & Hastanto, 2014). Efforts to continue to preserve the local arts and culture of East Kalimantan, especially the Dayak Basap tribe, require the support of every stakeholder (Adam, 2020). The picture of the results that

can be achieved if all parties work together in preserving the art and culture of the batik motif of the Dayak Basap "Wakararos" is that the cultural identity of the inland Dayak Basap tribe is preserved.

One of the efforts that have been implemented is community empowerment towards the introduction of batik culture and the ability to generate other income from batik activities (Oktavian, 2020). The way to do empowerment is to provide motivation or support in the form of providing resources, opportunities, knowledge and skills for the community to increase awareness about their potential (Mayangsari, 2015). The empowerment that has been carried out is expected to achieve the final result of creating community independence and having an impact on the independence of a region.

One of the stakeholders who have carried out the activity is PT Kaltim Prima Coal (KPC). PT KPC is a company located in East Kutai Regency, East Kalimantan Province which is increasingly developing its wings in the field of CSR. PT KPC received *the Grand Platinum Award* as a sign of implementing CSR programs that meet the *standards* and sustainability of ISO 26000;2013 ICA (*Indonesia CSR Award*) the 2017.

The UMKM empowerment program in the batik craft sector is carried out based on the potential of local batik in East Kutai. PT KPC provides innovative support to Batik SMEs in East Kutai Regency by providing Wakararoros motifs from the Basap Dayak tribe. One of the areas in East Kutai Regency that is developing its potential is North Sangatta District (BPS Kab Kutai Timur, 2021). North Sangatta has an area of 204.50 km² or about 0.57% toof the total area of East Kutai Regency. This sub-district is the area with the largest population of 106,504 people (28.32%). Judging from the number of people who fall into the working age category, North Sangatta District has good potential for community empowerment, especially women's groups in the region. Many types of businesses are developing,

including the natural dye batik business. Hand-drawn batik with natural dyes is currently being developed, trying to prove its existence even in an increasingly advanced global market. Currently, many women are directly involved and involved in batik entrepreneurship activities and almost all women who participate are those who only work as housewives.

One of the batik groups fostered by PT. KPC is the Maju Bersama group. This group is a women's empowerment group that is at the forefront of participating in the preservation of local culture. This group has succeeded in proving its existence in the public and domestic spheres. This is proven by being a driving force for community empowerment by utilizing the potential that exists in this case through hand-drawn batik with natural dyes. The Maju Bersama group is determined to educate and train its members to always be creative and able to work according to what each member has and to make them more independent so that these women will be able to increase their family's economic income.

The **Empowerment** Program implemented by PT KPC is an investment. As a consequence of an investment, it is important for investors to know the results of the investment. In practice, many companies have not carried out an assessment process for the social investments that have been made, especially in terms of indirect results (outcomes) and related to the resulting impacts. Assessment of programs that have a social impact can be analyzed using social return on investment (SROI). SROI is a tool used to capture the value of its social and economic impact (Millar & Hall, 2013). SROI also supports the realization of sustainable development because each program will measure its effectiveness by referring to the impact produced after the program runs.

METHOD

This research was conducted in October 2021 in batik SMEs located in North Sangatta District, East Kutai Regency. The basic method used in this research is descriptive analysis, which is a problem solving procedure that is investigated by describing or describing the current state of the object of research in accordance with the facts obtained in the field (Sugiyono, 2019). The population in this study were all batik SMEs, totaling 4 SMEs. Of these, there are SMEs that have implemented batik industry waste treatment.

The benefit value analysis uses the calculation of the Social Return On Investment by projecting the value to be as close and reasonable as possible, by providing assumptions and examples of similar things or using the size and standard of prices prevailing in the community according to the context of the program. Furthermore, the data is analysed to obtain the calculation of the impact value, the financial value of the impact to obtain the present value, then proceed with calculating the value of the SROI ratio.

Calculation Flow

- 1. Identification of Stakeholders
- 2. Mapping Program Impact
- 3. Impact Calculation Approach
- 4. Calculating the Value and Number of Impact Events
- SROI calculation

Net Present value = Present Value of Benefit - Value of Investment

SROI Ratio=
$$\frac{\text{Present Value}}{\text{Value OF Input}}$$

RESULTS AND DISCUSSION

PT Kaltim Prima Coal (KPC) is a company engaged in coal mining and marketing with its head office in Sangatta, East Kutai Regency, East Kalimantan Province. PT. KPC manages a mining concession area of 84,938 hectares.

Supported by more than 4,499 employees and 21,000 personnel from contractors and related companies, the coal production capacity of PT. KPC reaches 70 million tons per year. In running its business PT. KPC also carries out sustainable social responsibility by basing the Community Development and Empowerment Program on the Sustainable Development Goals (SDGS) which are also the global agenda and the Indonesian government (PT. KPC, 2021).

In line with the nature of the company's existence in running a business, the main goal is to seek profit (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 expected to bring benefits in the future. As a tool in social reporting, which is to measure the financial value of the impact of the program, the Social Return on Investment (SROI) method will help to get the value of the financial achievements of the program implemented, both for direct and indirect beneficiaries. One of the reasons companies carry out social reporting for strategic reasons (Rusdin, 2016).

Achievement value in social reporting (social report) obtained by the company as a form of information disclosure will assist the company in understanding and managing the program better, effectively and efficiently in the future. This will help companies to make more informed decisions on the choice of program type, strategy, budgeting, and scale of each program to be implemented. The assessment can also be used as a communication material for the company in a and more consistent way to stakeholders. This can be data that will assist companies in managing risks, identifying opportunities, and increasing the value of program financing, so that companies will be able to develop potentials for improving performance, information systems, providing better benefits to the community

and also to other stakeholders (Wijaya dkk., 2021).

Wakaroros Batik is an introduction to the carving art of the Dayak community which is applied to cloth. Wakaroros Batik was developed by a batik business group to introduce culture as well as to preserve the existing culture in East Kalimantan, especially East Kutai. Wakaroros itself means roots that propagate up a tree, develop and flower. The flowers bring bees to suck so that they are filled with abundant honey (Tamasya, 2021). PT. In 2008 KPC developed batik training with natural coloring from the sap of ironwood (Eusideroxylon zwageri) which is a typical plant of Kalimantan. The training that has been carried out can increase batik production by the Batik Business Group by selling 25 pieces per month.

The development of this batik business also has an impact on environmental sustainability. Even with natural coloring, the waste produced, both solid and liquid waste, is still an obstacle for batik. Liquid waste comes from the dye boiling process and also

the waxing process. While the dense abundance is in the form of clumping of wax and sawdust (dye). Liquid waste in the batik process every day produces as much as 0.054 m3^{per} day which is discharged directly into the canal. This causes the potential for soil pollution to be 13.38 units of pollution per year. Solid waste (sawdust) is disposed of as landfill because the waste does not contain contaminants.

Based on observations on Batik SMEs, there are environmental constraints that can be a potential for soil pollution and environmental sustainability. As one of the mentors of PT KPC, prevention and education measures are carried out which are expected to reduce pollution and waste. The principle of *zero waste* in training and construction of Waste Water Treatment Plants (IPAL) in 2020 is expected to be able to make batik business groups increase their income and become environmentally friendly batik.





Figure 1. WWTP Training and Developmen

Based on laboratory analysis and calculations by the Environment Dept. PT. KPC, the waste generated in the process of making batik cloth is mostly in the form of liquid waste. This liquid waste comes from the coloring process, wax decay and washing. The use of synthetic colors causes high chemical contamination in the decay process. The resulting waste has the potential for environmental pollution. The projection of potential pollution obtained at the UKM is

13.38 Pollution Units (UP) and converted to Rp. 331,155,- per year. This value can still be said to be low if there is only one SME, but if more batik grows, the bigger it will be.

Training with the principle of zero waste is carried out by CSR PT. KPC to prevent environmental damage. This program is supported by the construction of an WWTP which is expected to reduce waste water before it is discharged into waterways. The results of the laboratory analysis of batik

waste and after the wastewater treatment process are as follows:

Table 1
The results of the analysis of the wastewater

| The results of the unarysis of the wastewater | | | | | | | | | |
|---|------|-------|------|-------|------|------------------|------|-----|--|
| Description | | Waste | | | | After Processing | | | |
| Description | рН | TSS | BOD | COD | рН | TSS | BOD | COD | |
| Decay Decoction | 9,92 | 334 | 8060 | 22600 | 7,85 | 9 | 17,6 | 46 | |
| Coloring water | 4,19 | 10 | 201 | 475 | 7,18 | 8 | 38,2 | 90 | |
| Quality standards | 6–9 | 50 | 60 | 150 | 6–9 | 50 | 60 | 150 | |

Source: Report Environment Dept. PT KPC, 2020

A. Limitation and Scope of the Program

One of the targets of the CSR program of PT. KPC is a batik business group located in the North Sangatta sub-district. The group is under the guidance of PT. KPCs include the Joint Batik Maju Business Group, Masri Batik Studio, Galuh Kartini, and Paku.

The "Natural Wakarorosku" program is a program implemented by PT. Kaltim Prima Coal as a manifestation of the of Corporate Social implementation Responsibility (CSR) in 2020/2021. This program is implemented to see the community in Ring I CSR area of PT. KPC, especially Batik SMEs in North Sangatta District, produces production waste that is not managed properly. This program aims to educate and assist the Batik Business group in terms of waste management and preserving the environment. At the beginning of the implementation, PT KPC conducted a series of experiments to handle liquid and solid waste from the batik fabric production process. And as a follow-up, PT KPC provided training on Waste management and the construction of a Wastewater Treatment Plant (IPAL). With this program, it is hoped that Batik SMEs in North Sangatta in running their business can be more environmentally friendly.

The SROI assessment in the "Alami Wakarorosku" program is focused on evaluating the management and development training of WWTPs in 2020. The approach to calculating the impact

and financial assessment (monetization) of each impact parameter obtained from the implementation of the "Alami Wakarorosku" program will provide value for the achievements of the cultivation program which is implemented. The value of achievements in social reporting obtained by the company as a form of openness and also the provision of information that will assist the company in providing better, more effective and efficient understanding and managerial programs on a sustainable basis. This will help the company to be able to make more accurate decisions on the choice of program type, strategy, budgeting, and scale of each activity program that will be carried out by PT KPC.

B. Value Analysis of Social Return on Investment (SROI) of the "Alami Wakarorosku" Program

The process of assessing the SROI of the wakarorosku natural program is focused on the beneficiaries, namely the Batik Business Group in North Sangatta District. The waste management and WWTP construction training was carried out in September 2020 and started operating in October 2020. The calculation of the impact value is projected for one year. The stakeholders involved in this program are presented in the following table:

Table 2
Stakeholders, roles and impacts received by

| Stakeholders, roles and impacts received by | | | | | | | |
|---|--|---|--|--|--|--|--|
| stakeholders | Roles in the Program | Impact of the program | | | | | |
| PT. KPC | As a Corporate CSR Provide training on the management of environmentally friendly batik waste | | | | | | |
| Batik Business Group (Beneficiary) | The main beneficiaries, as well as partners or participants in the empowerment of SMEs | Get training on the importance of waste management for environmental sustainability. Gaining insight for solid waste treatment Benefit from the waste treatment process | | | | | |

Source: Primary Data, 2021

The above shows the mapping of stakeholders or interested parties in this program along with the role of each stakeholder in program implementation and the impacts obtained. The next step is to

calculate the impact approach and financial assessment or what is called monetization of each impact parameter obtained. In Table 4. below contains the approach to calculating the impact and monetization of the impact.

Table 3
Impact Calculation Approach and Monetization

| No | Impact | Calculation | Approach Monetization Approach | Information Source |
|----|--|------------------|--|--|
| 1. | PT. KPC | | | |
| | Enhancement of the company's CSR program | | Value conducts activities for WWTP management and development training | Interviews and data from PT. KPC |
| 2. | Batik Business Grou | p (Beneficiary) | | |
| | Economic Impact | selling value of | 3. Sales value of planting media from dye waste | data from Batik |

| No Impact | | Calculation | | Approach Monetization Approach | Information Source |
|-------------------------|----|--|----------|---|-------------------------------|
| Social Impact | 1. | Calculating the value of natural coloring knowledge | 1. 2. | The value of coloring knowledge is equivalent to participating in a batik training/course once a year Marketing management | Interviews and data from SMEs |
| | 2. | Calculating the value of marketing management | 3. | value is calculated by increasing sales of natural batik | |
| | 3. | Calculating the value of waste management technology | Э. | The value of motivation increases equivalent to taking part in a waste management training/course once a year | |
| Environmental impact | 1. | Calculating the reduction of wastewater emissions | 1. | The value of environmental benefits comes from the conversion of the use of alum sulfate in wastewater | and Literature |
| | 2. | Calculating wax waste reduction | 2. | treatment The value of environmental | |
| | 3. | Counting sawdust waste from sawmill | | benefits comes from the conversion of wax obtained from the wastewater | |
| | 4. | Calculating dye waste for growing media | 3. | deposition process Selling value of sawdust by sawmill | |
| | 5. | Calculating soil and water sustainability | 4. 5. | The value of the sale of sawdust planting media The value of environmental benefits comes from the conversion of pollution units (UP) | |

Source: Primary Data, 2021

The process of calculating the impact value and financial assessment is obtained through the implementation of an ongoing program by looking at the achievement value

of the program. The next step is to calculate the value for the implementation of the wakarrosku natural program.

Table 4
Calculating the Value and Number of Impact Events

| | Calculating the value and Namber of Impact Events | | | | | |
|----|---|------------|--|--|--|--|
| No | Impact | | | Calculation Approach | | |
| 1. | PT KPC | | | | | |
| | Increasing company's program | the CSR | | The company presents instructors (resources) from the Environment Dept who train related to the operation and construction of WWTPs. The value of the rupiah spent on these activities consists of the instructor's fee for 4 hours of Rp. 1,000,000.00, Construction of a wastewater treatment plant of Rp. 15,000,000, - Monitoring and evaluation of batik wastewater amounting to Rp.4,466,200,- | | |
| 2. | SMEs (Beneficia | ary) | | | | |

| No | Impact | Calculation Approach |
|-----------------|-------------------------|--|
| Economic Impact | | The profit value from selling natural batik is 163 pieces x Rp. 250.000,- = Rp. 40.75 million, - The purchase value of ironwood sawdust from the <i>sawmill</i> is 60 sacks x Rp 5,000, - = 300,000, - The sales value of planting media from dye waste is 480 bags (2 kg) x Rp. 7,500, - = 3,600,000, - The saving value of buying LPG fuel is 24 cylinders (3kg) x Rp. 25.000,- = Rp.600,000,- |
| | Social Impact | The value of coloring knowledge is equivalent to participating in a batik training/course once a year with a value of 4 people x Rp 2,000,000, - = Rp 8,000,000, - The value of marketing management is calculated by increasing sales of natural batik (promotional costs) of 163 x Rp 50,000, - = 8,150,000, - The value of motivation increases equivalent to participating in a waste management training/course once a year for 10 people x Rp. 1000.000, - = Rp. 10,000,000, - |
| | Environmental Impact | The value of environmental benefits comes from the conversion of the use of alum sulfate in wastewater treatment as much as 170 kg x Rp. 8.000,- = Rp.1.360.000,- The value of environmental benefits comes from the conversion of wax obtained from the wastewater deposition process as much as 11 kg x Rp. 14,500,- = Rp. 159,500,- The selling value of sawdust by sawmill is 60 sacks x Rp. 5.000,- = Rp. 300,000, - The value of the sale of sawdust planting media is 480 bags (2 kg) x Rp. 7,500, - = 3,600,000, - The value of environmental benefits comes from the conversion of pollution units (UP) of 13.38 UP x Rp. 24,750,- = Rp 331,155 |

Source: Primary Data, 2021

In the research of Santoso et al. method that car (2019), it is explained that the process of assigning value and calculating SROI is one out by companies.

method that can be used to measure business returns and social activities carried out by companies.

Table 5
Calculation of Program Impact

| Description | Parameter | Value |
|---|----------------------------------|------------|
| Income | | |
| Salary of Instructor Training | Speakers in Training | 1,000,000 |
| Construction of WWTPs | Provision of tools and materials | 15,000,000 |
| Monitoring and Evaluation of | Waste Testing | 4,466,200 |
| Total Income | | 20,466,200 |
| Outcome | | |
| utilization of sawdust | waste sawmill waste handling | 300,000 |
| Utilization of dye waste as a planting medium | from sawdust extraction | 3,600,000 |

| Description | Parameter | Value |
|--|--|-------------|
| fuel efficiency | reduction in fuel consumption | 600,000 |
| Social Impact | | |
| Improvement of Batik Skills | Knowledge of the coloring process | 8,000,000 |
| Increased Marketing Increased | selling value of batik and market segment | 8,150,000 |
| Improved zero waste technology, | increased knowledge of batik waste processing | 10,000,000 |
| Environmental Impact | | |
| Reduction of waste water emission | reduction of color pigment | 1.360.000 |
| Reducing emission of waste water (Lilin) | reducing pollutant zar | wax 159,500 |
| Utilization of sawdust waste sawdust | value increase | 300,000 |
| Development of Planting Media | increased value of sawdust waste | 3,600,000 |
| Fertility and Sustainability of soil and water | decrease in the value of surface water pollution | 331,155 |
| Total | 77.150.655 | |

Source: Primary Data, 2021

The basis for calculating the SROI value is based on the input value and the impact value (*outcomes*) in one year. The input value is obtained from the calculation of the costs incurred to support the running of this program. The input value is Rp. 20,466,200.00. While the impact value (*outcome*) is Rp. 77.150.655.00. The

calculation of the *Net present value* uses a *discount rate* of 3.5%, this refers to the interest rate of Bank Indonesia (BI) in August 2021. The input and output values are multiplied by the *discount rate* for a one-year program to obtain the value in the calculation below.

Net Present value = Present Value of Benefit – Value of Invesment

= Rp 74.541.696 - Rp 19.774.106

= Rp 54.767.589

 $SROI\ Ratio = \frac{Present\ Value}{Value\ OF\ Input}$

 $SROI\ Ratio = \frac{54.767.589}{19.774.106}$

 $SROI\ Ratio = 2.77$

Based on the calculation results every investment of Rp. 1, - issued will have obtained, SROI Ratio of 2.77 means that an impact or benefit of Rp. 2.77. When

viewed from the economic, social, and environmental perspective, this natural wakarrosku program can be said to be feasible to be continued and developed.

When viewed from the environmental impact of the Wakararosku natural program, it has an impact of 7.45% of the total outcome. The biggest benefit of this program is the economic impact, which is 58.65% of the total outcome, and then the social impact is 33.89% of the total outcome.

The impact of investment in training and batik waste management with the SROI method approach has resulted in benefits for batik SMEs in North Sangatta District. This is in line with the opinion of Purwohedi, (2016), that if the SROI value obtained is relatively low, continuous improvement. So that the purpose of the program/facility will be to provide benefits and truly be felt by the community in a sustainable manner (sustainable development). This method is very possible to see an impact so that it allows those who invest and own shares, to consider the resources they use (Khairunnisa et al., 2019). Moreover, SROI is able to monetize social impact and sustainable empowerment through a special accounting valuation (Suryani et al., 2022).

CONCLUSION

The "Alam Wakakrorosku" program is a empowerment community program, especially batik SMEs by prioritizing cultural and environmental sustainability which raises the potential of the carving art of the East Kuti community into batik cloth and the concept of zero waste. The construction of WWTPs, increased knowledge and awareness of SMEs regarding waste issues and environmental sustainability as an effort to realize the vision and mission of PT. KPC and CSR PT. KPC. The SROI value for the Wakakrorosku Natural program is 2.77 which indicates that this program is feasible to continue.

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