The potential to revitalize *Sasirangan* fabric using natural dyes

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ABSTRACT: The fashion industry in Indonesia is increasingly developing with the demand for various fashion products that always follow fashion trends. Along with the increasing demand, *Sasirangan* fabrics began to lose their identity by dyeing using synthetic dyes. This is because synthetic dyes, which are relatively stable, are firmly attached to the fabric and the manufacturing process, which tends to be faster and cheaper. *Sasirangan* fabric production activities always produce a large amount of liquid waste, especially synthetic dyes that cannot decompose naturally. The liquid waste is directly disposed into the surrounding environment without going through any processing process, so that it has great potential for environmental pollution, especially in Kalimantan waters. Therefore, it is necessary to revitalize *Sasirangan* fabric coloring by using natural dyes. In addition to restoring the identity of the *Sasirangan* fabric, which is believed to be a “medicine” with various natural motifs and colors, it is also hoped that the selling value and creativity of *Sasirangan* fabric products will increase so that it can realize sustainable fashion and the 8th sustainable development goal, for the sake of ensuring the sustainability of a prosperous life on earth.

Keywords: *Sasirangan* fabric, fashion industry, natural dyes, sustainable fashion

1 INTRODUCTION

Population growth in Indonesia has increased every year, which is directly proportional to the development and progress of the country’s industry. However, industry’s progress is not balanced between the processes contained and the waste produced, resulting in environmental pollution that threatens the survival of humans and the ecosystem on Earth. One of the industries in Indonesia that is growing rapidly is the fashion industry, as evidenced by the statement put forward by the Creative Economy Agency (BEKRAF) in the OPUS – Creative Economy Outlook 2017 that fashion is the largest sub-sector of the 15 sub-sectors in Indonesia’s creative industry which accounts for 56% of country’s products in the creative industry. Also, 24% of the workforce is in the fashion sub-sector.

The phenomenon of the rapid development of the fashion industry also has an impact on the growing *Sasirangan* fabric industry. *Sasirangan* fabric is one of the traditional fabrics of the Banjar tribe from South Kalimantan Province which has been passed down from generation to generation from the 12th to the 14th centuries when Lambung Mangkurat became Patih Negara Dipa. Based on the story that developed, the *Sasirangan* fabric was first made by Patih Lambung Mangkurat after he was meditating for 40 days and 40 nights on a raft (Andriani 2018). According to Kholis (2016), *Sasirangan* fabric was originally known by the people of South Kalimantan as *Pamintan* fabric, which in the Banjar language means request, the function of the *Sasirangan* fabric being if someone is being treated for a pingitan disease. Seclusion disease is a disease that originates from the spirits of ancestors who are aristocrats, said to have lived in the pantheon or the spirit realm. At this time, *Pamintan* fabric is better known as *Sasirangan* fabric. The word *Sasirangan* is literally not a noun: “*Sa*” means one and “*Sirangan*” means baste or sewn (Wijaya et al. 2015). This refers to the process of making the *Sasirangan* fabric itself which has a sewing process or baste and then dipped in dye.

According to data from the South Kalimantan Industry and Trade Service, the total *Sasirangan* home industry is 103 units. An important part of making *Sasirangan* fabric is making the motif by coloring the finished fabric using synthetic dyes, which are relatively stable and firmly attached to the fabric. *Sasirangan* fabric production activities always produce large amounts of liquid waste. The liquid waste is disposed of directly to the surrounding environment without going through any treatment process. The *Sasirangan* industry in the fabric processing process includes several stages: watering the fabric, preparing dyes, coloring, washing, drying, and ironing. The production stages that produce waste come from the dyeing and washing processes. In the coloring stage, the dyes used are synthetic dyes and dyes derived from plants and roots from forests in Kalimantan. As auxiliary materials to create and strengthen the color, other things are used, e.g., lime, lemon, vinegar, saltpeter, alum, lime water, terusi, diazonium salt, NaOH, spirits, sulfuric acid, etc., for washing detergents (Nora 2000).

Sasirangan liquid waste that is disposed of generally comes from the dyeing process, either from the residue of immersion or the washing process. *Sasirangan* industrial wastewater generally contains contaminants whose amounts exceed the Liquid Waste Quality Standard for the Textile Industry Number: KEP51/MENLH/10/1995 (Imoco & Irman 2003). These contaminants are TSS (total suspended solid) and chromium metal with amounts above 50 ppm and 1 ppm as well as organic materials which cause high COD (chemical oxygen demand) and BOD (biochemical oxygen demand) values. Therefore, if they are not handled properly they can disturb the surrounding environment (Hartanto et al. 1993).

The negative impact generated from the fashion industry is not only from *Sasirangan* fabrics, making this a trigger for the eco-friendly, green fashion, or sustainable fashion movement. According to Kaikobad (2015), sustainable fashion is part of a larger trend of sustainable design where the products produced have social and environmental considerations that impact all aspects of life from these products, including the carbon footprint. The development of sustainable fashion in Indonesia is marked by the holding of the Indonesian Fashion Week (IFW) in 2015, which carried the theme "Fashionable People Sustainable Planet".

One of the implementations of sustainable fashion is the use of natural dyes as textile dyes that are environmentally friendly and can experience natural decay. They can also be used as a countermeasure for liquid waste produced by *Sasirangan* fabric. Andriani (2018) states that long ago, *Sasirangan* fabric used natural dyes such as seeds, fruit, leaves, skin, or tubers. Natural dyes are considered to be able to cure various diseases, and it is believed that the motifs displayed are also capable of healing diseases. In addition, natural dyes have an advantage in terms of color that synthetic dyes cannot imitate. So, this can be done by revitalizing *Sasirangan* fabrics using natural dyes in order to create a sustainable fashion. The existence of sustainable fashion can also help realize SDG (Sustainable Development Goal) #8 (ensuring the availability and management of sustainable clean water and sanitation for all) to reduce waterwaste in rivers in South Kalimantan. Also, #12 (ensuring sustainable consumption and production patterns) reduces the consumption of products that are not environmentally friendly.

2 RESEARCH METHOD

The method used in this research is qualitative. The first step is to base the phenomenon of shifting the use of natural dyes to synthetic fabrics in *Sasirangan* by using the data collection method in literature studies. In addition, data collection on the use of natural dyes in brands in Indonesia was carried out. Furthermore, the analysis of the revitalization potential of *Sasirangan* fabrics uses natural dyes. Therefore, the results of this study are the conclusion of the author's analysis regarding the object of the study raised.

3 RESULT AND ANALYSIS

Sasirangan fabric is a traditional fabric originating from South Kalimantan, also called *Pamintan* fabric, which means "request". Initially, *Sasirangan* fabric only used natural dyes, which also

Table 1. Functions and symbolic meanings of the various colors of *Sasirangan* fabric.

No	<i>Sasirangan</i> fabric	Symbolic Functions and Meanings
1.	Yellow	symbolizes that the wearer is in the process of healing from jaundice (<i>kana wisa</i> in Banjar language)
2.	Green	symbolizes that the wearer is in the process of healing from a paralyzed disease (stroke),
3.	Purple	symbolizes that the wearer is in the process of healing from stomach ailments (diarrhea, dysentery, and cholera),
4.	Red	symbolizes that the wearer is in the process of healing from headaches, and difficulty sleeping (insomnia),
5.	Black	symbolizes that the wearer is in the process of healing from fever and itchy skin,
6.	Brown	symbolizes that the wearer is in the process of healing from a mental illness (stress).

strengthened the public's belief in the ability of *Sasirangan* fabric as a medicine that could cure various diseases.

However, the increase in market demand and the intense competition among artisans have caused artisans to start using synthetic dyes. Synthetic dyes are more widely used because the coloring process is faster than natural dyes and is also easier to obtain and use. *Sasirangan* fabric market demand also prefers striking colors, which can only be obtained from synthetic dyes.

At this time, natural dyes are only used in *Pamintan* fabrics, even though there are only a few enthusiasts. *Sasirangan* fabrics that use natural dyes can be found in Hulu Sungai Tengah Regency and are produced in limited quantities (Andriani 2018). The origin of synthetic dyes replacing natural dyes in the *Sasirangan* fabric production process in South Kalimantan is uncertain. However, compared to fabric production in other regions in Indonesia, namely in Bali, based on historical records, in woven fabrics on the island of Bali, synthetic dyes began to enter the market around 1908 (Wronska 2015).

The symbolic meanings previously possessed by the *Sasirangan* fabric based on the natural dyes used have now shifted. The healing ability of the *Sasirangan* fabric is now only considered a gimmick. The colors used in *Sasirangan* fabrics are now only limited to market demands.

Behind the many advantages that synthetic dyes have, it turns out that synthetic dyes also have a negative impact due to the use of dangerous substances of synthetic organic compounds, heavy metals, and phenols. This threatens the sustainability of rivers in South Kalimantan. The liquid waste has a big influence on the ecological life of the Martapura River, Banjarmasin City, located in three locations, namely Sungai Jingah Village, Surgi Mufti Village, and Seberang Masjid Village, where the Martapura River is one of the rivers that has a major function in the life of the people of Banjarmasin City, as a medium for river transportation, tourism assets to a source of drinking water managed by PDAM Kota Banjarmasin. (Isnasyauqiah. 2018).

However, in recent years, public awareness about the dangers of synthetic dye waste for the environment has led to a trend of revitalizing natural dyes for various products. Therefore, the Provincial Government of South Kalimantan held training on the use of natural dyes. The dyes used are rambutan leaves, mahogany tree bark, noni root, ironwood sawn powder, ketapang leaves, mango leaves, daughter shame leaves, and guava leaves.

In addition to increasing public awareness, it turns out that the market for the use of natural dyes is increasing because the colors produced have their own characteristics, such as the resulting colors will be softer, and this is preferred by foreign markets and those outside South Kalimantan. According to Setiawan in Andriani (2018), natural dyes produce beautiful and distinctive colors, which synthetic dyes will find difficult to imitate.

However, the manufacturing process is complicated and takes a long time. Therefore, the price for products using natural dyes will be relatively higher than using synthetic dyes. Apart from the complicated and time-consuming production process, the availability of natural dyes is already limited. One of them is ironwood, which is now limited in number due to forest exploitation

in Kalimantan, where ironwood grows and is replaced by oil palm plantations, resulting in the availability of ironwood being scarce. Ironwood, which is now used for dyeing *Sasirangan* fabric, results from waste from ironwood processing artisans.

In recent years, local brands have offered products made from natural ingredients with exclusive product designs. The purpose of these brands is to remind and raise awareness that the fashion industry has the potential for adverse impacts on the environment. Based on the phenomenon of natural pollution, many parties, individuals and communities, and organizations have developed an environmentally friendly fashion. The method used is the use of natural fibers and dyes.

The use of natural dyes for the fashion industry is becoming a trend marked by the increasing number of brands using natural dyes. The brands in question are Kana Goods, Jarit, Manungs, Javanese Batik Gallery, Nurzahra, Bluesville, Tarum, Imaji Studio, Kembang Tjelup, Osem, and Seratus Kapas (Arumsari et al. 2018). In addition, there are *Sasirangan* fabric products that use natural dyes. The color of natural coloring tends to be more in demand by markets overseas and outside South Kalimantan. Currently, a local brand uses *Sasirangan* fabric products that use natural dyes with exclusive designs, namely Halomasin, which was founded by Santika Syaravina and Yuri Alfa Centauri in collaboration with IKKON. Also, there is the Assalam *Sasirangan* brand, which was founded by Muhammad Redho in 2009.

Figure 1. Product of fashion brand named Halomasin, made from *Sasirangan* fabric.

The use of natural dyes in *Sasirangan* fabric products has the potential to help realize the SDGs (Sustainable Development Goals) in 2030, as for SDG #8 (ensuring the availability and management of clean, sustainable water and sanitation for all) to reduce waterwaste in rivers in South Kalimantan due to the river in Banjarmasin being the main function as a medium for river transportation and tourism assets to a source of drinking water managed by PDAM Banjarmasin City. Also, #12 (ensuring sustainable consumption and production patterns) reduces the consumption of products that are not environmentally friendly and maximize ironwood waste for natural coloring so that there is no side/waste from ironwood.

Apart from realizing the SDGs, revitalizing *Sasirangan* fabrics using natural dyes will add to these products' aesthetic value because the colors produced have their own characteristics such as the resulting colors being softer, and this is preferred by foreign and outside of South Kalimantan markets. In addition to adding aesthetic value, there will be an increase in the selling value of these products, and this is because the results of products that use natural dyes will be more expensive than using synthetic dyes and increase the philosophical value of *Sasirangan* fabric, which is a fabric for treating, although, this is only a gimmick.

4 CONCLUSION

Based on the data above, it can be concluded that *Sasirangan* fabric can be revitalized using natural dyes. The advantage of revitalizing using natural dyes is as prevention against the pollution that endangers nature and can help realize the SDGs. Although producing *Sasirangan* fabrics

using natural dyes is much longer and more complicated, this can be handled by an increase in market production with the latest designs and motifs that can reach all circles so that it can increase the selling value and creativity of these *Sasirangan* fabrics. The sustainable fashion market develops over time and increases along with human awareness of the sustainability of nature, so that *Sasirangan* fabrics with natural dyes can be a solution in realizing sustainable fashion.

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