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The Use of Eco Print on Slow Fashion Clothing is a Form of Eco-friendly Fashion Abstract

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ABSTRACT

Slow fashion is a fashion practice that is based on the production and use of clothing for a long time, durability and high quality, ethical and environmentally friendly production processes. Eco print is one of the many potential ways to develop eco-friendly fashion. The ecoprint technique is a fabric coloring technique with raw materials derived from nature. Ecoprint can also be combined with batik techniques so that the resulting textile works are better and have the potential to have high selling power. Moreover, batik has been designated as a humanitarian heritage for oral and non-material culture (Masterpieces of the Oral and Intangible Heritage of Humanity) by UNESCO, this has made batik better known to foreign countries. This study aims to examine more deeply about eco-friendly fashion products by applying a combination of techniques between ecoprint and batik. This study was conducted through a literature study approach, which is expected to be able to clearly describe sustainable fashion products using ecoprint and batik techniques.

Keywords: batik, ecoprint, slow fashion

1. INTRODUCTION

Behind the development of the fashion industry, fast fashion comes with a ready-to-wear concept with fast fashion changes and low production costs. However, fast fashion creates new problems, namely environmental problems. As a result of excessive

consumption, many consumers throw away their old clothes, and many of these clothes are not environmentally friendly, resulting in textile waste. Many of the production of fast fashion clothing do not pay attention to handling textile waste and residue from their production, causing environmental pollution (Gosal et al., 2020).

Seeing this case, in 2007, Kate Fletcher, a fashion activist, introduced a new concept in the fashion industry, namely slow fashion or can be called ethical fashion or sustainable fashion. Slow Fashion is a new business model that takes ethics into account (Gosal et al., 2020). In Indonesia itself, many local brands have implemented this practice, using environmentally friendly materials, such as Batik Chic which utilizes ecoprint

techniques and natural teak leaf dyes. Slow fashion is a fashion practice that is based on the production and use of clothing for a long time, durability and high quality, ethical and environmentally friendly production processes (Petrini, 2007). Not focusing on the speed of mass production like fast fashion. In the practice of slow fashion, what is prioritized is quality, not quantity (Zero Waste Indonesia, 2016).

In terms of quality, slow fashion is more expensive and lasts longer than fast fashion, the industrial scale is small and there are still some who use traditional techniques. Slow fashion production volume is also low, because the style changes only once in one season or a maximum of only 3 times a year, while fast fashion on an industrial scale is high, because styles change every two weeks. The advantage of slow fashion is also the material used, namely local fabrics that are organic and natural so they are easy to recycle (TirtoID, 2019).

As we know, the fashion industry is one of the largest waste contributors in the world, which can damage nature. This industry dumps toxic chemicals into the environment, uses a huge amount of energy and is one of the biggest contributors to global warming (Herlina et al., 2018).

One of the wastes is liquid waste from dyes or synthetic dyes from the dyeing process of textile materials. Some reasons for using synthetic dyes are more diverse color choices, guaranteed stock availability, easy to obtain, more practical use, relatively cheap prices, stronger color levels, the resulting colors tend to be stable and do not fade easily. But unfortunately, behind its many advantages, it turns out that synthetic dyes contain hazardous waste which can cause pollution to the environment such as contaminating the surrounding soil, sediment, and surface water (Yaseen & Scholz, 2018).

These weaknesses are what make people's interest in using synthetic dyes according to. In line with this, people are starting to become aware of the dangers of waste synthetic dyes on environmental sustainability, so the use of natural dyes is starting to increase. Natural dyes are an alternative to dyes that are non-toxic, renewable and environmentally friendly. Despite the fact that synthetic dyes have replaced natural dyes, natural dyes are considered popular and widely used in the textile industry worldwide.

Eco print is one of the many potential ways to develop environmentally friendly (sustainability) fashion. Principles such as minimizing energy use, using materials originating from nature, environmentally friendly manufacturing processes, water conservation efforts and operational and maintenance procedures are very important while using sustainable concepts as a reference (Muthu, 2015).

The ecoprint technique is a fabric dyeing technique with raw materials derived from nature, then the absorbed color blends with the fabric fibers. Every plant on earth has the potential to be used as a basic ingredient for dyes, and of course the color produced by each plant will be different. According to (Flint, 2008) and in his book entitled Eco Colour: Botanical Dyes for Beautiful Textiles, the results of the colors produced by plants can be different due to different seasons, the intensity of the rain that falls on the plants, the air (which has been polluted by pollution and the quality of the soil where the plants grow). Not only that, plant characters such as fresh leaves, dry leaves, or leaves that have

just fallen It also affects the final dyeing result.

In his book, Flint applies this ecoprint technique by attaching plants that have colored pigments to cloth, then rolling them and tying them and then boiling them in a large cauldron. Natural dyes derived from leaves will not penetrate completely into the fabric fibers if you do not use auxiliaries. Substances that can be used are alum, tunjung and lime. The purpose of exploring this technique is to obtain new visual possibilities that will be applied to fashion products such as shirts, pants, skirts, bags and so on.

In several countries, textile materials that use the ecoprint coloring technique sell for a higher price than textile materials that use synthetic dyes. In Indonesia, the use of natural dyes is

considered as a cultural heritage inherited from our ancestors which is still preserved, especially in the process of batik making and clothing design.

This essay will be a little more detailed on how to deal with waste that can damage the environment by creating environmentally friendly fashion products using ecoprint techniques combined with batik techniques. It should be noted, however, that reducing this waste will benefit our environment in the long run. In Indonesia, local brands have started to emerge that apply the combination of these 2 techniques. Moreover, batik itself has been designated as Indonesian cultural heritage by UNESCO, this is one of the ways we preserve culture. Not only that, the products produced using these 2 techniques can potentially have a high selling value.

This essay will also discuss how the two techniques will be combined and which local brands will apply these environmentally friendly techniques.

2. RESEARCH METHODS

The research design involves a qualitative case study approach, focusing on secondary data for social science include censuses, information collected by government departments, organizational records and data that was originally collected for other research purposes. The context of the study will be the post pandemic situation in China.

3. RESULT AND DISCUSSION

As the title suggests, eco printing is the stage of coloring clothes using natural materials that are environmentally friendly. In his book (Setchi et al., 2014) said that a new paradigm has emerged in the 21st century regarding sustainable environmental growth and its implications in creating fashion products. The term sustainable fashion is usually used to cover areas of fashion production or design methods that are environmentally friendly or ethically conscious but do not have a standard definition. Sustainable is often replaced by other words, such as 'eco', 'green', and 'organic' (Hill & Farley Gordon, 2015).

The media used in making eco-friendly fashion products are very diverse, both from the choice of fabric types suitable for eco printing techniques and the basic ingredients for natural dyes. The coloring materials used are very diverse both from leaves and flowers. The results obtained from ecoprint are far more exclusive when compared to

plain or patterned fabrics using digital printing techniques. Not only that, the motifs produced using the ecoprint technique look prettier and classier.The capital required is also not too much, so it is very suitable for business fashion business.

All plants must have color pigments, but not all plants can be used as materials in making eco prints, the same goes for types of fabrics. Not all types of fabric can be used as fabric for eco prints, only certain types of fabrics can be used. The cloth that can be used for this technique must be made of natural fibers that have high absorption. Can be from cellulose fibers such as cotton and hemp or protein fibers such as wool and silk. For example, polyester materials cannot be used because polyester is made of synthetic fibers which have

water-resistant properties, so that during the process of making eco prints, color pigments derived from plants cannot enter the fibers in the fabric (bahankain, 2018).

Exploration of eco printing techniques in Indonesia can still be developed using various types of plants in Indonesian forests. One type of leaf that has the potential to be developed is using Chinese teak leaves as the main motif. The reason for using teak tree leaves is

because teak is a commodity that has high value, so its availability will continue to exist. So this eco printing technique combines teak leaf motifs which have dense colors and unique leaf structures with basic color gradations from natural Indonesian dyes.

Teak leaves or the Latin name Tectona grandis are used for the ecoprint technique, namely teak leaves that are still fresh or dark green in color. Teak leaves serve as the main motif. As for the natural dyes on the fabric base, you can use Secang wood which has the Latin name Caesalpinia sappan L, and dried jelawe rind which has the Latin name Terminalia catappa.

So that the color can stick to the cloth, it is usually locked using alum. According to (KBBI, 2026) “alum namely double salt sulfate and aluminum sulfate, used to purify water or a mixtu re of dipping materials". In his book (Flint, 2008), Alum is used to bind natural colors to fabrics. Alum is a chemical additive. Alum is a relatively harmless chemical.

Not only leaves, eco prints can also be made using fruits and vegetables. The fruits and vegetables used are usually carrots as an orange dye, dragon fruit as a red dye, and spinach leaves as a green dye, oranges as a yellow dye, tomatoes as a red color, purple cabbage as a blue dye to purple-purple and mustard greens as a green dye. . (goddess, 2021).

While the equipment used to make eco prints are pots, stoves, logs, alum, coloring materials such as leaves and fruit, measuring cups, ropes to tie the cloth, needle scales and 100 gram table scales (Dewi, 2021).

Who would have thought that batik has a lot of uniqueness, apart from its uniqueness as a product of Indonesian art and culture, batik also has uniqueness in the social and economic fields. Almost all regions in Indonesia develop batik crafts. This has the potential to become an extraordinary force in the creative industry sector if taken seriously (Anshori, 2011). So it cannot be denied that Indonesian batik is very popular

and admired not only by our own people but also foreign nations who like and admire batik because of its uniqueness, so that Indonesian batik can be said to be international.

Since the establishment of batik as a humanitarian heritage for oral and non-material culture (Masterpieces of the Oral and Intangible Heritage of Humanity) by UNESCO on October 2, 2009, of course we welcome it, because this recognition is at the same time a form of recognition of Indonesian culture as part of world culture. This acknowledgment is at the same time a relief that batik is an Indonesian cultural heritage so that other nations or countries cannot claim that batik originates from their country. This acknowledgment is also a warning to the Indonesian state to continue to maintain and preserve batik, because if not, the title that has been given by UNESCO can be revoked (Sedjati & Sari, 2019).

As we know, the world of fashion always innovates to create new and interesting things from time to time. Thus, an interest arose to create creative works of art that combined eco print and batik techniques in one textile work. According to (Sedjati & Sari, 2019) the similarities between eco print and batik techniques are the same as rekalatar techniques.

Rekalatar on an ecoprint is a fabric made from a background design through printing from certain plant parts directly through a hammer and or steaming process. While the background design on batik is a technique of decorating the surface of the cloth using a color barrier of a type of wax called wax. Meanwhile, for the coloring process between batik and ecoprint there is a significant difference. In the coloring process of batik, the dyes used must be cold, while the coloring in ecoprint is through heating. The merging of these two very different techniques is important in the framework of technical development to produce a new, creative and innovative work of art that is expected to be transferred to students and the general public.

In his journal (Sedjati & Sari, 2019) conducted two experiments combining eco print and batik techniques. The first way is the ecoprint technique first and then batik, while the second way is batik first and then the ecoprint technique.

Figure 1. Ecoprint that will be made into batik
Source: (Sedjati & Sari, 2019)

Figure 2. Batik before being ecoprinted
Source: (Sedjati & Sari, 2019)

The results of the research (Sedjati & Sari, 2019) the first process of making this textile work is making a sketch of the work design. Make a sketch of the leaves which are then arranged in such a way as to make it look beautiful, then leave it overnight and after that it can be rinsed and dried in the wind, you don't need to dry it in the direct sun. Then enter the process of transferring batik designs from paper to cloth. The process of transferring motifs to the fabric by tracing. In this process, please be careful so that the motif does not shift during the tracing process.

Then after the motif is transferred to the cloth, the cloth is made into batik using canting and wax liquid. After being made into batik using a canting, it goes into the coloring process. Dye water that comes from plants is placed in a tub or bucket. The cloth must be wet with plain water first and then put into the bucket. Leave it for about 15 minutes, then rinse and dry it in the air. Do this repeatedly up to six times so that the color results are maximized. After drying in the last dyeing, the cloth is fixed or locked with a lime and tunjung locking agent. To get a brown color, the cloth is soaked in a solution of lime water, while to get a gray or black color, the cloth is soaked in a tunjung solution. Soaking is carried out for 10-15 minutes. The next step is to remove the wax from the cloth by boiling 10 liters of water in a large pot, adding 1 ounce of soda ash and 1 ounce of starch which has been dissolved in water. When the water is boiling, the cloth is put in and boiled until late at night, then removed and washed in clean water. If it's not clean, repeat until the night is clean and nothing sticks to the cloth.

After the batik is finished, then enter the technique of making ecoprints. In his experiment (Sedjati & Sari, 2019) the mix of ecoprint and batik techniques was made by soaking a cloth in a vinegar solution which was then affixed with leaves and flowers which were then folded and pressed with two pieces of wood and rolled on pieces of bamboo. After that, the cloth is steamed for 1.5-2 hours and then waited for at least 5

hours before being opened. Then the fabric that has been opened is fixed using chalk. The ecoprint technique for batik is the same as described above, the difference is only in the order.

Figure 3. The final result of the batik technique is colored using ecoprint
Source: (Sedjati & Sari, 2019)

Figure 4. The final result is a batik ecoprint
Source: (Sedjati & Sari, 2019)

Indonesia's creative economy industry is currently growing rapidly. This development was greatly influenced by the development of the fashion industry. In 2019, the fashion industry has contributed around 18.01% or IDR 116 trillion rupiah (CNBC Indonesia, 2019). In Indonesia, many local brands have used eco print and batik techniques, using environmentally friendly materials, such as Batik Chic, which uses ecoprint techniques and natural dyes from teak leaves. Not only that, there is also a local

brand, namely Reramban, which uses the ecoprint technique. In Surabaya too, people have started to become aware of the development of the fashion world which carries the concept of sustainability, such as the many exhibitions at the Surabaya Great Expo 2018, an exhibition created by the Surabaya City government.

Reramban is a business brand engaged in the fashion sector and uses the ecoprint technique which was established in December 2016 in Malang (Gosal et al., 2020). Mrs. Evi, as the owner of Reramban said that many Reamban products are made from dried leaves such as kesumba, castor, kalpataru, eucalyptus, and jenitri leaves. While the types of fabrics used are quite diverse, ranging from silk, cotton, rayon and the like. The uniqueness of this brand is that they use eco-friendly or sustainable materials. The quest to become a big brand can also be seen from the enthusiasm of foreign and local tourists who are interested in buying products from ecoprints. Most of the buyers of Reramban products are women aged 25-40 years who were initially not interested in Reramban products and didn't know about ecoprint, but after hearing stories about the process and the stories of making the products, in the end many were interested in buying.

From several sources collected, it is known that the ecoprint batik market is slowly but surely growing. Casuistically, there are currently two brands of ecoprint clothing manufacturers whose names have skyrocketed nationally. Namely, "Breathtaking" and "Batik Chic". Reporting from the Ladara.id page, "Semilir" is a fashion brand from Bantul, Yogyakarta. Established since 2018, this brand produces many ecoprint products. Just say it ; clothes, bags, wallets, outer, scarves, prayer rugs, up to the masks. In 2020 yesterday, the creativity of the "Semilir" team led this brand to become the finalist for the best Indonesian local product (Cahyadi, 2022).

Meanwhile, "Batik Chic" is one of Indonesia's well-known brands owned by Novita Yunus. He not only produces original batik, but also clothing products created by ecoprint techniques. Due to the authenticity of the ecoprint produced by "batik chic", the Government gave Novi and the team the opportunity to represent Indonesia at an international fashion event titled "Amazon India Fashion Week Autumn" in India, 2017 ago (Cahyadi, 2022).

Reporting from the news page (Prokompim, 2021) another local brand, namely Amung Godhong, is from Magelang Applying the ecoprint technique to fabrics that use natural materials for both pattern and coloring. The products are not only environmentally friendly, but also unique, interesting and of artistic value. The owner, Retno Setyaningsih, helped enliven the passion of MSMEs in the city of a million flowers. So far Retno has produced hundreds of eco prints of cloth using hundreds of types of leaves. Among the things he often works on are teak leaves, lanang, jatropha wulung, guava, longan, jatropha kepyar, cherry, mango, ferns, and others. Those are some local brands that use the eco print technique.

4. CONCLUSION

As we know, the fashion industry is one of the largest waste contributors in the world, which can damage nature. This industry dumps toxic chemicals into the

environment, uses a huge amount of energy and is one of the biggest contributors to global warming. Athis case arose a new concept in the fashion industry, namely slow fashion or what can be called ethical fashion or sustainable fashion, is a new business model that takes ethics into account. Slow fashion is a fashion practice that is based on the production and use of clothing for a long time, durability and high quality, ethical and environmentally friendly production processes. Not focusing on the speed of mass production like fast fashion. In the practice of slow fashion, the priority is quality, not quantity. Eco print is one of the many potential ways to develop environmentally friendly (sustainability) fashion. Principles such as minimizing energy use, using materials originating from nature, environmentally friendly manufacturing processes, water conservation efforts and operational and maintenance procedures are very important while using sustainable concepts as a reference.The ecoprint technique is a fabric dyeing technique with raw materials derived from nature, then the absorbed color blends with the fabric fibers. Every plant on earth has the potential to be used as a basic ingredient for dyes, and of course the color produced by each plant will be different. Ecoprint can be developed by combining ecoprint techniques with batik. This can increase the selling power of these fashion products.

Moreover, after the establishment of batik as a cultural heritage by UNESCO, the combination of eco print and batik techniques is also one of the efforts to preserve our cultural heritage. The combination of these two techniques is able to produce fashion products that attract local people and foreigners and this can also have the potential to have high selling power. In Indonesia itself, many local brands have implemented this practice, using environmentally friendly materials. Exploration of eco printing techniques in Indonesia can still be developed using various types of plants in Indonesian forests. One type of leaf that has the potential to be developed is using Chinese teak leaves as the main motif.

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