

THE PROCESS OF MAKING BATIK AND THE DEVELOPMENT OF INDONESIAN BAKARAN MOTIFS

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Abstract: Batik is one of the original handicrafts recognized by UNESCO as Indonesia's cultural heritage. Therefore, this research aims to explore the development of good quality innovative Indonesian batik designs for Micro, Small Medium Enterprise (MSMEs). This is practice based research with data collected through observation and interviews. The result showed that the designs of Bakaran motifs contain elements of the Pati city history, Central Java, Indonesia. The making of batik motif in this research also went through digitalization process for the efficiency of making the next batik. Therefore, the international community is expected to determine the beginning and ending process used by Micro, Small Medium Enterprise (MSMEs) craftsmen in producing good quality batik. Further research needs to be carried out to explore the development of batik Bakaran designs using Druju (*Acanthus ilicifolius*) flower motifs.

Keywords: batik Bakaran, batik motif, Druju (*Acanthus ilicifolius*) flower, craft.

1 INTRODUCTION

Batik as an ancient Indonesian art has been recognized by the United Nations Educational, Scientific and Cultural Organization (UNESCO) as the country's cultural heritage. Historically, batik was popularized by the kings of Islamic Mataram when cloths of various cultural exchanges were used for palace decoration. Furthermore, the Dutch artists were interested in it, and in 1892 they encouraged the manufacturers to produce batik in Europe [1]. Therefore, batik is increasingly developing in the western world and is well known globally. Over the year, the uniqueness of the motifs and designs has attracted some world leaders, thereby making it an alternative to fashion trends in the global market [2]. Batik, as a symbol of Indonesian culture is used to describe regions inside and outside Java, such as Solo, Cirebon, Pekalongan, Lasem, Yogyakarta, Pati, etc. [3]. Batik Bakaran is one of the potential local cultures as Micro, Small Medium Enterprise (MSMEs) in Pati [4]. The power of culture symbolizes the original society of the batik, and this unique feature makes it one of the new trends in global fashion today. According to Mulyanto et al. [5], batik cloth can be made as fashion product which attracts the interest of many people. One of things that become a good or bad reason of a batik shirt can be seen from its batik motif arrangement. The unique original nature is highly pronounced when exploring the characteristics of the design and the motifs. Apart from that, a variety of unique and innovative designs made Indonesian batik inseparable from an aesthetic impression and popular in

the international market. Unfortunately, the trend of wearing batik is also inseparable from societal reality because users do not know much about the manufacturing process and the stages involved. Generally, the design process in batik consists of the design and coloring stages. In the design stage, aesthetic elements are put forward, however it is necessary to improvise during innovation to ensure it is in line with the progress of the times without destroying the message and cultural meaning. Therefore, this research aims to understand the working process of batik Bakaran craftsmen in creating design innovations.

This research aims to describe the process of making Indonesian batik due to the unique characteristics associated with the manufacturing process. These include the use of traditional tools and the inadequate education of the craftsmen, with the majority still in high school, while the elderly did not exceed elementary school. This research focuses on the process of batik Bakaran because it is one of the famous motifs in Indonesia. According to Kusumawardani, batik is a prospective opportunity in developing Micro, Small Medium Enterprise (MSMEs) in Pati [7]. Its uniqueness lies in the crack motif [8].

The industry in Bakaran started in 1977 when a maker named Bukhari Wiryo Satmoko founded the "Tjokro" known as the "batik business" [9]. Since its popularity in Pati in mid-1997, batik has become synonymous with the role of women as craftsmen [10]. This ancient art work on cloths is made by women in their homes or better known as home industry businesses [11]. At that time, the work ethic

of women with their patients and persevering character encouraged the timeless traditional batik Bakaran business [12]. However, this coastal batik varies from others in terms of brightness and boldness, with the incorporation of darker colors, such as brown and black [13]. The fundamentals pattern is based on the Middle and Coastal motifs and known as the Middle Stream because the Bakaran Wetan village introduced it as part of the Majapahit Kingdom [14]. Due to its attractiveness, batik Bakaran has penetrated international markets such as the United States and Canada [15]. One of batik Bakaran motifs which would be made was coming from *Druju* flower. *Druju* plant had latin name *Acanthus ilicifolius*. According to Tomlinson, this plant is classified into *Acanthus ilicifolius* L, Genus: *Acanthus*, Family: *Acanthaceae*, Ordo: *Lamiales*, and included into *Plantae* Kingdom [16]. There was another research about *Druju* flower motif, in the research conducted by Rohmah et al., only investigated the potency of Bakaran batik and short discussion about *Druju* flower as contemporary batik motif [17]. In the study conducted by Astuti only investigated the origin and the content of *Druju* flower motif aesthetic value which obtained full support from the local government of Pati Regency, Indonesia [18]. In the research by Septiana et al. [19], the various aesthetic elements of *Druju* flower batik motif, as one of batik Bakaran traditional motifs, were introduced. This research was different from the previous research which had been conducted. This research was conducted on the ideas of planning of batik motif making from the beginning until the final step. Beside that the motif designed was the exploration result of the original plant. Then this research was also a collaboration conducted by the author with the craftsmen to create the new motif. There was significant difference between the existed *Druju* flower motif and *Druju* flower motif to be developed. In the previous motif design obtained in Astuti, *Druju* plant was not pictured clearly, and put side by side with the bird motif without its main head, but less specific on describing *Druju* plan in real, especially if seen from distance, and the brown color seemed dominating in that motif [19].

In this research, the author collaborated with craftsmen, created *Druju* flower motif described specifically because of exploring the real *Druju* plant. Besides, by utilizing the technology development the making of this motif was also conducted digitally in order to ease the process of making the next batik, and to protect the right design ownership.

2 THEORETICAL REVIEW

Etymologically and terminologically, batik is a series of words *mbat* and *tik*. *Mbat* in Javanese is interpreted as *ngembat* or throwing repeatedly, while *tik* comes from the word *titik* (dots). Therefore, the process of making batik is associated

with throwing dots repeatedly on cloth [20-22]. Batik has been around for a long time, and even the motif has appeared several times in the carvings of the temple walls [3]. Its popularity has existed since the era of the kings of the archipelago, or feudalism, as art with plant and abstract characteristics, although its scope was only limited to the palace [23].

Batik Bakaran Pati is one of the numerous batiks that have been developed in Indonesia to date. It is a typical batik from Pati manufactured in the Bakaran Village, Juwana sub-district [24]. Visitors are allowed to choose from various motifs of interest, both classic and contemporary, with varying color choices. Compared to written batik produced in other areas, the characteristic of Bakaran lies in its spontaneous, bolder, and freer motifs [25]. Some of the motives include *Padas Gempal*, *Gringsing*, *Bregat Ireng*, *Truntum*, etc [26].

One of the most distinctive characteristics of batik is its continuous use in traditional techniques, such as in the manufacture of making written batik [27]. However, it still has high artistic value and is customarily used for clothing and as a means of supporting ceremonies [28]. However, this does not rule out the fact that it has become a fashion in general. It is a commodity that is in high demand by the global market. Meanwhile, the processing time taken by the craftsmen to create batik with traditional techniques has an average of 110-115 hours, starting from the design to the washing stage [29].

Generally, batik craftsmen start to reflect on the artistic ideas that are enthusiastic or stubborn to create [30]. After finding an artistic idea in the form of a batik design, they start with the design process either manually or using machines (technology) [31]. At the design application stage, the craftsmen start writing batik using *canting* [32]. Furthermore, the coloring is also carried out in a traditional stage, namely by dyeing it to produce the desired color. In the last stage, the craftsmen carry out color-locking, which is finished by drying the cloth [33].

3 METHODOLOGY

This research was a practice based. Creation research usually integrated creative process, aesthetic as the part of a research [34]. The uniqueness of an art creation and design cannot be equated with the theoretical concept in another research, even though probably the concept could be used but in certain limitation. There were three general factors in art creation and design such as; the initial inspiration, information collection, selection, experiment, articulation, perfection, generalization, human response, and the result of art work. In an art creation or design, the methodology is not only the framework but

also involving intuition, and emotion existed in the researcher which also determined good or bad design or work. Many art and design research had different procedures but the most important they can tell the process [35].

Several stages are involved in the process of making batik Bakaran, including finding artistic ideas, the design, manufacture and final stage. This is an practice based research research carried out through collaboration between the authors and batik craftsmen, with the task of creating a batik cloth divided using a high-quality Bakaran motif. Collaboration and assignments were reflected on the mind map (Figure 1). The research focuses on 3 processes in making batik, namely the idea, design and batik manufacturing stages, which are

expected to be able to explain all the processes in making batik Bakaran at MSMEs in Indonesia. The stage of searching for aideas and the stage of design were conducted by both researchers because they had experience in the field of art and design creation, while the stage of making batik was done by the craftsmen because they had the batik experience.

Data collection was obtained through observation and interviews. Interview was conducted to the opinion of Batik expert named Sudarwanto who was a practitioner and instructor of a college in Indonesia. The interview was conducted with the purpose to find out the guidelines of making batik. This research was carried out in January 2021 in the Pati area, Central Java, Indonesia.

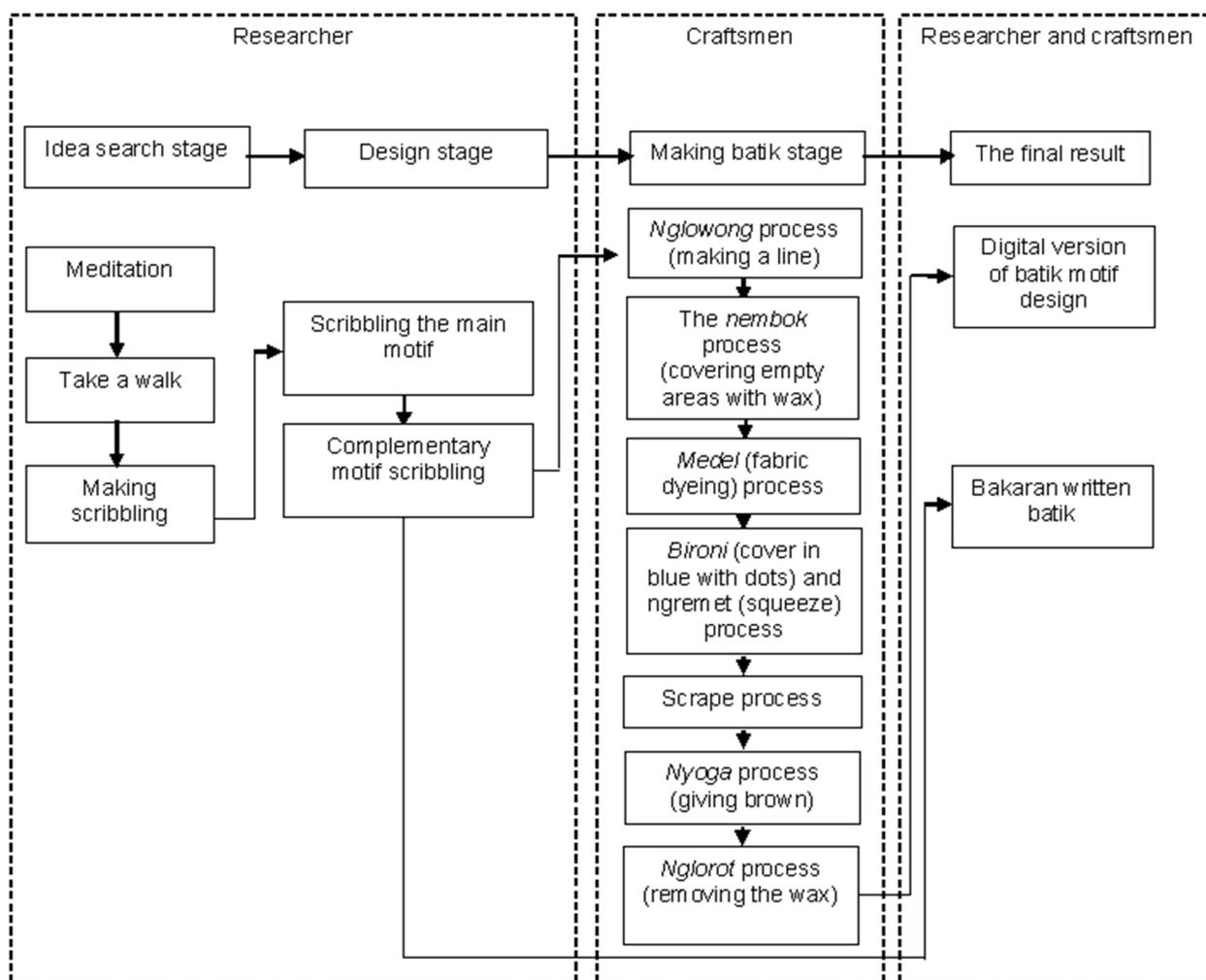


Figure 1 Mind map

Table 1 The profile of the batik craftsmen collaboration

No	Name	Age	Occupation	Years of Service	Expert
1	Bukhari	70	Owner of UD. Tjokro Batik Tulis	39 years	Making batik
2	Aan Sudarwanto, S.Sn.,M.Sn	50	Lecturer of Indonesia Art Institute Surakarta	15 years	Batik craft

The authors collaborated with Mr. Bukhari, a batik craftsman and owner of the UD. Tjokro Batik Tulis located at Jl. Mangkudipuro 196 Bakaran Wetan Village RT 2 RW 2, Juwana District, Pati Regency, Central Java to carry out this research. Mr. Bukhari is the owner of the first largest traditional batik business in Bakaran Wetan Village, which has been established since 1982. Therefore, for the past 39 years of existence, the company has been producing traditional hand-written batik with 20 employees, 12 of which have worked at UD. Tjokro Batik Tulis, while the other 8 work from their homes. This business produces 30-40 pieces of batik cloth with a fabric size of 90 cm wide and 3 m long. Some of the produced batik motifs are the *gandrung* and *udan liris*. Currently, there are 6 batik craftsmen in the UD. Tjokro Batik Tulis, with the products marketed in many cities in Indonesia including Jakarta, Semarang, Solo, Surabaya, Yogyakarta, Bali, Kalimantan and Sumatra. The process of making batik was conducted by Mr. Bukhari who was highly experienced, but in the process of making batik was not apart from the authors' assistance.

During the interview, Mr. Aan Sudarwanto explained that the trait of Bakaran batik is strongly related to the legend of Nyai Ageng Danowati. Bakaran batik had five classic motifs; they were the beginning of Bakaran batik creation. The five motifs were *Druju*, *Limaran*, *Magelati*, *Gandrung*, and *Sidorukun*. Mr. Aan Sudarwanto also added, Bakaran batik with good quality could be seen from the cloth used as its main material. Primis cloth was assessed to be more superior than Prima cloth because it has softer fiber. To obtain high art value, the working of Bakaran batik used manual ways, until the craftsmen could express the feel, emotion, and their ability in batik cloth. Superior batik Bakaran motif also can be seen from its tidiness and the picture pattern in batik motif, both described the craftsmen's skill in doing batik.

4 DISCUSSION

4.1 Idea search stage

Based on interviews with batik craftsmen, manufacturing batik still requires a search for ideas, which is philosophically known as *sêmêdi* (meditation), *mlaku-mlaku* (take a walk), and *orat-oret* (scribbling) in Javanese.

4.1.1 Sêmêdi (meditation)

Sêmêdi means traditional people generally carry out meditation in reflecting on themselves and focusing their minds to determining an idea. It refers to a retreat in a solitary place for meditation that connects the mind vertically to the Creator. *Sêmêdi* is a distinctive term associated with how Buddhists worship [36]. In the teachings of other religions, it is also a way of contemplating God, in Islam it is known as *dzikir* [37]. Initially, it was known as

the methods used by a person to carry out a rigid or *saklêk* concentration of mind because it is part of traditional and religious rites [38]. Generally, in the context of the indigenous peoples' scope, someone with *sêmêdi* simply performs self-reflection or daydreams to explore visual experiences. In other words, *sêmêdi* or simple meditation carried out provides a place for someone to reflect and think deeply [39].

4.1.2 Mlaku-mlaku

Apart from *sêmêdi*, in search of ideas, the authors also carried out a process of *mlaku-mlaku*, which is a Javanese term that means traveling. However, in this context, *mlaku-mlaku* refers more to observations made by a person to collect visual exploration that meets many things, which are absorbed and carried out by the reviewer using the concept of thought. In this case, the journey taken to gain a lot of experience by meeting people in the social environment includes [40] conducting discussions and getting new things. Therefore, it is very likely for someone to get new experiences later then become a collection of concepts. This is one of the attributes generally carried out in studies associated with idea generation. Apart from meeting people in a social environment, one can also see various objects (living or dead) in form or ornament. Therefore, an idea arises through the observation of animals, plants, or even inanimate objects.



Figure 2 *Druju* (*Acanthus ilicifolius*) plants

This research uses plant motifs because Indonesia as an archipelago is rich in plants, including the *Druju* (*Acanthus ilicifolius*) flower, which is only found in swamps, estuaries between rivers, and the sea in Juwana, Pati, Central Java. Due to this peculiarity, these flowers are used as batik Bakaran motif in Pati, Central Java, and as a traditional medicine to treat coughs.

4.1.3 Orêt-orêt

To fulfil the process of searching for ideas when someone has taken the visual exploration with *mlaku-mlaku*, the casting carried out by scribbling or in Javanese terms it is called *orêt-orêt*. In this case, it comprises of two things, the first is the locking of ideas, while the second is the search process.

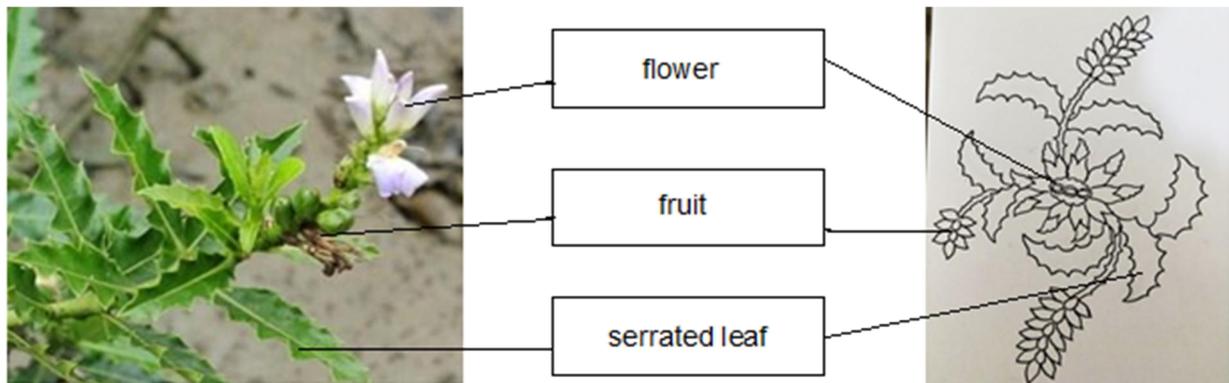


Figure 3 *Druju (Acanthus ilicifolius)* flower scribbling

To scratch a person, abstract lines and shapes are created, which leads to design innovation. When ideas have started to be discovered, the authors are allowed to outline it through scratching, scraping, *orêt-orêt*. On the other hand, it is also intended for someone still at the stage of looking for ideas. Through *orêt-orêt*, it is possible to get inspiration and innovation from a design idea. Furthermore, it provides new experiences in design principles; therefore artistic ideas always emerge in creating certain design prototypes [41]. Meanwhile, *orêt-orêt* means many things, despite being abstract from one's mind. Therefore, it is possible to find a design idea through this pattern, even when it locks into pre-existing ideas.

This research draws a doodle of *Druju (Acanthus ilicifolius)* flowers using 120 gsm of drawing paper and a black marker according to the pattern and structure. There are several characteristics of this flower, including sharp edges, basic curved shapes, as well as oval and compound fruit. Its leaf structure differs from other plants and is shaped like serrations.

4.2 Design stage

Design as a container for creative ideas aims to achieve beauty or aesthetic angle using the main and complementary motif sketch. At the sketching stage, a rough outline or design of artwork is conducted. Drawing a sketch serve as preparation for a large piece of art or simply for understanding the appearance of an object. At the designing motifs stage, this research uses digital techniques with the Adobe Illustrator CS6 application.

4.2.1 Sketch of the main motif

Figure 4 is the result of the main motif sketch with the motive characterized by the structure of the *Druju* plant, both flowers, fruit, and leaves.

4.2.2 Sketch of complementary motifs

Batik comprises main and complementary motifs used to fill the fields and beautify the batik Bakaran. In Figures 4 and 5 this research makes the main and complementary motifs of digital versions submitted

to craftsmen later made as motifs on burnt batik. Furthermore, the making of this digital version is expected to be an alternative for creating printed batik using a machine system.



Figure 4 Sketch of the main motif



Figure 5 Sketch of complementary motifs

4.3 Making batik stage

The search for ideas needed for the batik motif pattern design in this research is given to the batik craftsmen. The making stage of the batik is carried out in four ways, namely by writing in *canting*, which is commonly called written batik, printing with a stamp called batik cap, tied with a rope or thread called batik *ikat* or *jumputan*, and by printing it on a screen called batik print. Batik Bakaran is a popular hand-written technique in Pati, Central Java, with a prolonged production process. This is because it is carried out manually with each

sheet is inscribed on both surfaces because this includes traditional written batik, which is different from printing techniques. In the making of this *Druju* motif used primis cloth that had soft fiber characteristic until the candle/night could stick well. The cloth used was with size length 115x115 cm; this size was used to make the table cloth. Candle used in the process of making batik consisted of three candle types namely klowong candle, blok/wall candle, and broken/retak candle.

The stage of making batik Bakaran consists of several processes, including:

4.3.1 *Nglowong process*

This is the process of making a line in accordance with the image that has been made on the cloth. It requires tools and materials in the form of pencils, cloth, *canting*, and wax. The *canting* with wax is used to outline the pattern of the image with *primis* chosen to make a standard table cloth because of its good quality size with tight and regular fibers that do not easily stretch/spread. This process is called *nglowong*, which is a term for the traditional batik-making process. Before the *nglowong* process is carried out, a drawing pattern is made on paper using a pencil, then it is written using *canting*, and the wax adjusts the shape. The *nglowong* process takes one day to acquire maximum results.



Figure 6 The *nglowong* process

4.3.2 *Nembok process (covering the part with wax lines)*

Nembok is the process of blocking empty lines using a special wax with dark brown and thick colors. This process makes use of *canting*, a brush, and special wax. It blocks areas from other colors and is processed by *canting*. However, to hasten the procedure, the process is carried out with a sweeping brush while ensuring the cloth's wax is blocked. This starts with the close part to the motif lined, which is then blocked on another part till all the parts are covered with wax. It only takes a few minutes to block the batik Bakaran cloth.



Figure 7 The process of *nembok*

4.3.3 *Medel process (coloring)*

Medel is the process of adding a dark blue base color to the parts of images that are empty or unblocked on a cloth. This process uses tools and materials in the form of buckets, gloves, synthetic dyes, and water. Furthermore, it uses naphthol powder and dark blue indigosol liquid dyes. Both are used because they are synthetic therefore, they have a brighter color, and last longer with numerous color variations. The dye mixed with water for one Bakaran batik cloth of the *medel* process uses about 20 g of dye with 10-15 l of water. The *medel* process is carried out after the *nembok* process by dipping the blocked cloth into the color mixture until a homogenous effect is obtained.



Figure 8 *Medel* process

4.3.4 *The process of bironi and ngremet*

Mbironi is a traditional batik term after the *medel* process. Meanwhile, the *ngremet* (squeeze) process is carried out on the part of the cloth that is blocked and then kneaded until it looks cracked to make it easier to obtain a *soga* color. The tools needed in this process are buckets, dyes, and water. In this process, the staining is carried out with *soga* (dark brown) color, with a mixture of 20 g of *soga* color and 10-15 l of water. This process is performed by dipping the cloth into the color mixture then kneading it until the blocked part looks cracked and the cloth is *soga* color then drained.



Figure 9 The process of *mbirani* and *ngremet*

4.3.5 Scrape process

Kerok is the process of removing the wax from the cloth that needs to be colored. It is carried out using a tool in the form of a small plate or scrap with the wax-covered part of the pattern scraped-off. This process lasts only a short time until the wax that sticks to the fabric is lost.



Figure 10 The scraping process

4.3.6 Nyoga process

Nyoga is the process of giving a dark brown color to the cloth. The word *nyoga* comes from the Soga tree (*Peltophorum pterocarpum*), which means when the skin is used as a dye it tends to produce a natural *soga* (brown) color.



Figure 11 *Nyoga* process

The tools and materials needed for this process are buckets, gloves, and *soga* dye. The dye mixture

used is 20 g of dark brown color with 10-15 l of water. This process is carried out briefly by dipping the scraped cloth into the *soga* dye mixture until the cloth is dark brown.

4.3.7 *Nglorot* process (removing the wax and boiling)

Nglorot is the final process used to remove the wax in the cloth with boiling water. The tools and materials needed in this process are pot, furnace, water, and caustic soda. The use of *Sodium hydroxide* (NaOH) mixed with water at a rate of 10% serves to make the wax dissolve quickly. The amount of water used depends on the pan, although it is usually up to about 15 cm from the top to avoid overflowing. This process starts by making a mixture of water and caustic soda then boiling it on the stove. Furthermore, the cloth that has gone through the *nglowong* until the *nyoga* process is put into a pot filled with boiling water until all the wax is lost. After all the wax is lost, the cloth is rinsed using clean water and then aerated to dry.



Figure 12 *Nglorot* process

5 RESULTS AND DISCUSSION

The basis of this research is collaboration between authors and batik craftsmen. In the early stages, this research designed the batik motif in both manual and digital versions. The motif development in this research still maintained *Druju* plant as the typical motif of Bakaran batik. *Druju* flower motif is the original motif of Bakaran batik which has been existed since the era of Majapahit Kingdom; she was Nyai Ageng Danowati [19]. The selection of *Druju* plant as the main motif was because this plant could be easily found around the swamp of Juwana area, Pati. The findings of *Druju* plan was begun by some people from Majapahit Kingdom who searched for protection, until one of them named Ki Dhukut found a swamp and there were many *Druju* plants in it. Then it was made as a region which is now well known as Juwana [42]. Afterward, the craftsmen made a batik process from *primis* cloth with the batik Bakaran developed in 2 versions, namely the digital motif design and batik made from *primis* cloth.

Figure 13 is a digital version of the batik motif made as an alternative to the written batik production. This version of the batik Bakaran motif is an alternative for traditional batik craftsmen that need to digitize batik motifs and are expected to produce printed batik made using a mechanical system. The development of MSME batik craftsmen is very necessary, considering that the manufacturing technique only uses the written batik during this time. The craftsmen that do not master technology are unable to digitize batik motifs. The digital version of the batik motif tends to later make it easier for permits to register copyright or patent rights with the government.

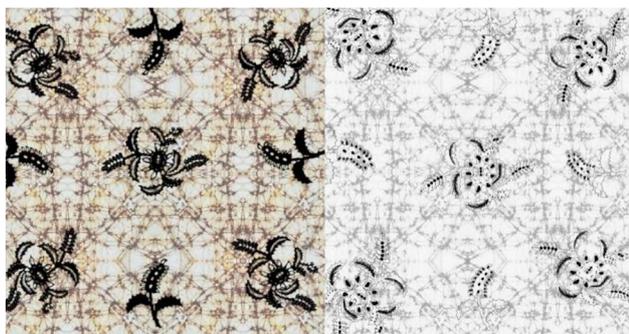


Figure 13 Digital batik motif design

Figure 14 is the final result of the batik-making process that produces batik Bakaran with floral motifs. This research uses the *Druju* flower motif to preserve the ancestral heritage of the Bakaran Juwana village. In this batik, there is a *Druju* flower motif which is related to the legend of the Bakaran batik maker, Nyai Ageng Danowati, an expert in the Majapahit kingdom era. One of the batik motifs created by Nyai Ageng Danowati is the *Druju* flower motif. This research makes black batik motifs because the color signified elegance, dignity, and personality in ancient times. This is also reinforced by the characteristics of the *Druju* flower batik with black and white colors, which have contrasting properties of light and dark [43]. The *soga* color chosen symbolizes traditional batik, which tends to have black, white, and brown colors. There are motifs such as veins that stick out to add aesthetic elements, variations, and uniqueness in this batik. In general, batik Bakaran is priced at 175 000 IDR to 1 500 000 IDR, depending on the material and width of the cloth with a processing time of 2-3 days for the size of a tablecloth 1 yard.

Many craftsmen of batik MSME made batik motifs from existed pictures by copying the previous cloth and the available batik pattern in the market. They also developed the motif from the result of existed batik cloth. In this research, the making of batik was started by analyzing the object directly from the structure of *Druju* plant then continued by making the sketch, then made into batik with

Druju flower motif. Another difference from *Druju* motif in this research was obtained in the process of digitalization, where many of batik MSME did not used digital design yet. Digital design is beneficial to accelerate the working process, easing the archive file management on the design ownership.



Figure 14 Batik Bakaran

6 CONCLUSION

The surrounding environment inspires the process of making traditional batik motifs. For example, the batik Bakaran motif was inspired by the *Druju* flower found in swamps, rivers, and estuaries of the sea and Juwana River, Pati. The motifs pictured in Bakaran batik were the creation result of the existed legend in Bakaran area. Those motifs were strongly correlated to the figure named Nyi Ageng Danowati, a batik maker of Majapahit Kingdom who lived in Bakaran village. What becomes the typical of Bakaran batik is that it has five traditional motifs namely *Druju*, *Limaran*, *Magelati*, *Gandrung*, and *Sidorukun*. These five motives were the creation of Nyai Ageng Danowati. Besides that, what becomes the specific trait of Bakaran batik is in the process of its creation that goes through *mbironi* process namely giving the blue color before given another color. This research aimed to conserve *Druju* flower motif as the original motif of Bakaran. Beside to conserve the original motif of Bakaran batik, the making of batik motif in this research also went through digitalization process for the efficiency of making the next batik. This research also thoroughly explained the process of making Bakaran batik from the beginning started from determining the idea, designing, until the process of doing the batik by exploring *Druju* flower motif directly from its original plant to obtain specific picture of *Druju* flower motif in Bakaran batik. The development of batik motif design results is expected to help enrich various types. This research only focuses on the process used by batik MSME craftsmen in Indonesia to create batik globally, from the idea-searching, design, to the making stages. Further research is expected to review the process of making batik both in terms of production and materials.

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