

Batik: A Strategy for Women's Empowerment in the Ex-Red Light Districts, Dolly Surabaya

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ABSTRACT

The former Dolly red-light district in Putat Jaya, Surabaya, once known as one of the largest prostitution hubs in Southeast Asia, has been undergoing a social and economic transformation following its closure in 2014. A batik training program held in RW 12, Putat Jaya, aims to empower women in the area by developing batik craft skills and creating new economic opportunities. This training involves 20 participants, primarily women, who are taught the techniques of stamped batik using recycled materials. The training methods include color theory, batik design, and hands-on practice in efficient batik production. Despite difficulties differentiating products and limited marketing efforts, this program shows great potential for empowering women and creating sustainable business opportunities. The outcomes of this training are expected to reduce reliance on government assistance and enhance economic independence.

INTRODUCTION

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The former Dolly localization is located in Putat Jaya Village, Sawahan District, known as one of the largest prostitution areas in Southeast Asia, on par with similar areas in Bangkok, Thailand (Jamal, 2013). However, since 2014, the Surabaya City government has officially closed the prostitution area. Ten years have passed since the closure, and its impact is still felt to this day, especially by the community around the Putat Jaya area, which has long indirectly relied on income from prostitution transactions (Nabilah, 2024). The decision of the Surabaya City Government to close the Dolly area was accompanied by a commitment to revitalize the area through cooperation with various parties, primarily in empowerment and economic development programs, to anticipate an explosion in the number of new unemployment and poverty (Christianna, 2020; Soewarno, 2023). Currently, the number of productive-age male and female residents in Putat Jaya Village tends to be balanced, with a slightly higher number of females (BPS, 2024). Considering the higher number of female residents, women occupy a central position in transforming the Dolly area's image. After the localization was closed, these women became one of the most affected groups. However, they also became key in the efforts to transform this area. With support from various parties, many women who previously played the role of homemakers now have the opportunity to empower themselves by establishing several small craft and textile-based businesses, such as Zorla Collection and GENarta Collection.

Although they have been established for almost ten years, both face various challenges, especially the post-pandemic conditions and the change in Surabaya's mayoral leadership, which have significantly reduced the marketing and sales of batik products. Zorla and GENarta Collection are businesses established when the Dolly localization was closed by Mayor Tri Rismaharini as a form of the Surabaya City government's commitment to transforming the Putat Jaya sub-district. Since its establishment, the Surabaya city government has supported training, mentoring, and product marketing. So, there is a tendency for both to be highly dependent on government assistance. Since the change of mayors and the COVID-19 pandemic disaster, both businesses have faced significant problems.

The first problem is that both small businesses are having difficulty identifying and highlighting the uniqueness of their products compared to similar products in Surabaya. This is because the owner does not yet understand the market sufficiently and does not conduct a proper competitor analysis. Considering the owner's background as a housewife with the highest education level being high school/vocational school. Without a clear Unique Selling Proposition (USP), their batik products lack distinctiveness for consumers. So, it is unsurprising that the batik patterns are mostly similar (both in design and color). There is no effort to explore other symbols and visual motifs. They all use the same techniques and materials to make their products. In fact, several other batik industries in the Putat Jaya area create a condition of 'perfect competition' by offering homogeneous products. The lack of understanding about USP also affects their inability to identify and determine who the target market is and how to position it, causing their batik products to compete in an inappropriate market

segment. This affects their marketing efforts, making them less effective and leading to a decline in sales.

The second issue is branding, promotion, and marketing. This non-specific visual identity causes their batik products to be complex for consumers to remember and lack a strong image in the market. This is because both tend to focus more on the operational aspects of daily business rather than long-term strategies. The limited knowledge about design and marketing caused both partners to use a do-it-yourself approach in building their visual identity. As a result, implementing a visual communication design is inconsistent and does not attract the target market. The marketing strategy relies on traditional marketing methods: print media, direct selling, word of mouth, and partnerships with the government only to hold bazaars/art markets/exhibitions.

The third issue concerns the limitations of tools and appropriate technology for increasing productivity. Both still use traditional canting to create hand-drawn batik. Although more straightforward and cheaper, the process is much slower than batik stamps. Both strongly desire to have a variety of stamped batik to enhance the differentiation and quantity of their products. However, copper batik stamps' high costs and lengthy production times impede their progress.

Batik plays a significant and strategic role in the social transformation efforts following the closure of the Dolly localization area in Surabaya, especially for women in Putat Jaya Village. As one of Indonesia's cultural treasures recognized worldwide, batik serves as a symbol of identity and cultural heritage and a means of economic empowerment. Through the batik craft industry, women in this region can access economic opportunities that support financial independence and personal development. Batik allows them to actively participate in creating positive changes in the economic life of families and communities. Moreover, women's involvement in the batik industry also plays a crucial role in changing the negative stigma attached to the Dolly area and promoting the creation of more inclusive social empowerment. Thus, the development of the batik industry in the Putat Jaya area not only contributes to economic recovery but also strengthens the role of women in building a more prosperous and sustainable community.

IMPLEMENTATION AND METHODS

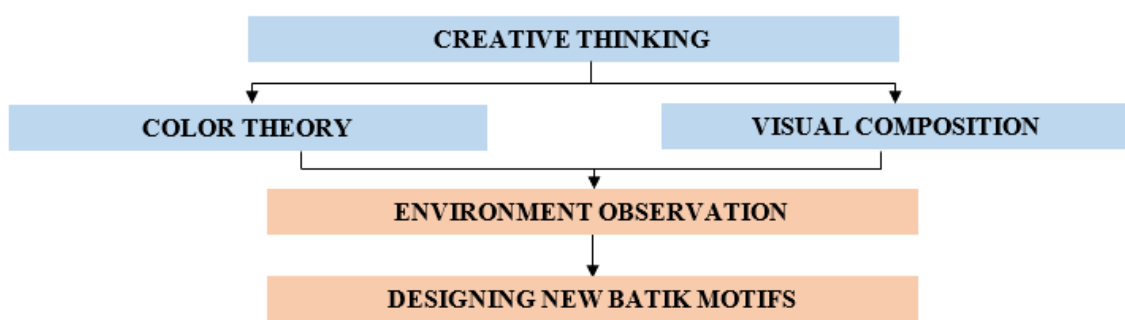
This activity will be implemented in RW 12, Putat Jaya Village, Surabaya, which is an area affected after the closure of the Dolly localization area and was a center of prostitution in the past. This activity takes place every weekend from October to December 2024 to provide intensive training and mentoring to the participants. The participants of this activity consist of 20 people, the majority of whom are female (15 people), with five males also involved in the batik-making process. The participants come from diverse backgrounds, with the majority being high school/vocational school graduates, but there are also some participants with a bachelor's degree background.

The methods used in implementing this service will focus on enhancing the participants' technical skills, ranging from creativity development to more efficient and innovative batik-making techniques. The training activities begin by stimulating the participants' creative thinking, which is essential for creating

unique and attractive batik designs while incorporating distinctive local elements of Dolly. The training topics provided include:

1. Creative thinking and color theory: Participants are taught to develop creative ideas in batik design by paying attention to color theory and visual composition aspects. This training aims for participants to produce batik motifs that are aesthetic and have high market appeal while still incorporating local elements. Understanding the right color combinations will support the creation of products that stand out and differ from similar products.
2. The practice of making canting caps from recycled/waste materials: As part of the efforts for efficiency and environmental friendliness, participants learn how to make canting caps using recycled materials or waste available around them. This material aims to reduce production costs and add value to batik products with a more environmentally friendly and innovative approach.
3. Batik practice: The training continues with comprehensive and systematic batik-making practices. Participants learn the batik-making process from the initial stage to the final stage, including:
 - a) Stamping process: Participants learn to use the pre-made stamping canting into the heated liquid wax. This process aims to create batik motifs more quickly and efficiently than the hand-drawn batik technique. In the process, participants learn how to apply liquid wax evenly to produce the desired pattern—and know the right temperature so the wax adheres perfectly to the fabric.
 - b) Mixing colors: Participants learn the technique of mixing dyes and their ratios so that the resulting color matches the desired design and has good durability.
 - c) *Mencolet*: The process of applying color with a special brush on fabric to give color to the desired batik motif.
 - d) Dipping into the dye solution: Participants are taught how to dip the fabric into the dye solution using the correct technique so that the color absorbs well.
 - e) Removing the wax: After the dyeing process, participants learn how to remove the wax using the correct technique to make the batik motifs clear and of high quality.
 - f) Drying and finishing: At the final stage, participants must understand the importance of the drying and finishing processes to ensure optimal quality and durability of the produced batik.

Through this training method, it is hoped that participants will improve their technical skills in batik-making and gain practical knowledge that can enhance the quality and efficiency of their batik products. Theoretically and practically, this skill-based approach aims to enhance Dolly Batik products' competitiveness in an increasingly competitive market (Aruma, 2015). The Conceptual Framework can be seen in the picture:



Picture 1. Conceptual Framework (Author, 2025)

RESULTS AND DISCUSSION

Improvement of participants' creative skills

This program has successfully achieved its goal of enhancing participants' creative skills in designing batik that is not only aesthetic but also highlights the local cultural wealth of Dolly. One of the main aspects emphasized in this training is the development of participants' creative thinking skills, which are crucial in creating unique and innovative batik designs. Previously, Dolly batik was limited to butterfly and castor leaf motifs only. Through training sessions on color theory and visual composition, participants were guided to understand the basic principles of design that would help them produce batik works that are attractive and marketable. Based on observations and discussions with the participants, several new batik motifs have been successfully created, reflecting the changes and cultural richness of Dolly. Some of these motifs include:

1. *Batik Tandur Anggur* – This motif is inspired by the grapevines that grow abundantly in Kampung Dolly, which has become a hallmark of the area. The word “*Tandur*” comes from Javanese, which means to plant. As explained by Joko Mariyanto:

“I chose this grape because grapevines have a long but fascinating growth process. We start with cuttings, which gradually develop into plants with strong roots. Then, small leaf buds began to grow, developing more and more, producing branches and eventually many

grapes like now. All these stages reflect the change this village experienced” (Joko Mariyanto, 2024).



Picture 2. Batik Tandur Anggur (Author, 2025)

2. Batik Dollyptera - Dwi Ermawati explained that:
“That is right. The metamorphosis experienced by butterflies inspires me to depict the changes happening in Kampung Dolly. Like a caterpillar that initially has an ugly and simple form, then becomes a cocoon. Finally, a beautiful butterfly that can fly freely; the same goes for the people of Dolly. We are also transforming a better life. The Dollyptera Batik motif symbolizes the hope that women in Dolly, previously associated with negative social stigma, can now transform into individuals with a better and more dignified quality of life” (2024).



Picture 3. Batik Dollyptera (Author, 2025)

Batik Dollyptera has become a symbol of the positive social transformation occurring in Kampung Dolly. The hope is that this batik can become one of the flagship products that represents change for women and the residents of Dolly in general. This batik opens up new opportunities for

women in Dolly to introduce themselves from a better perspective. Thus, Batik Dollyptera can be widely recognized as part of a more significant social movement that advocates for women's empowerment, inclusivity, and sustainability in society.

3. Batik WADER, which stands for 'Creative and Religious Women of Dolly,' depicts positive changes in women's lives in Kampung Dolly. This batik symbolizes self-empowerment, creativity, and religious values that are increasingly championed by the women of Dolly, with the hope of a better future.

"Batik WADER has a concept similar to Batik Dollyptera." Suppose Batik Dollyptera depicts the transformation of the 'night butterfly' (*kupu-kupu malam*) that was once associated with negative connotations into a symbol of positive transformation. In that case, Batik WADER also shows how the women in Dolly are transforming. Now, they are more active and focused on self-development and contributing to the welfare of the surrounding community in terms of economy, cultural arts, and spirituality." (Nunuk, 2024).

4. Batik Punabur:

"This batik motif is inspired by the murai bird, which is very popular in Kampung Dolly and the Surabaya area." Men often keep the magpie robin, and it is usually entered into competitions due to its melodious song and beautiful tail feathers. In Javanese culture, this bird also has symbolic meaning as a symbol of masculinity – strength and freedom. However, this symbol reflects the spirit of freedom and the growing awareness of gender equality. On one hand, the magpie, as a symbol of masculinity, represents the strength and freedom desired by society. On the other hand, this bird also reminds us of the important role of women in Dolly society. Like the magpie-robin, a source of pride for the community due to its beauty and song, the women in Dolly also possess extraordinary potential that must be appreciated and empowered. This batik symbolizes social dynamics, where men and women have equal roles in building a more harmonious community" (Agus Priyanto, 2024).

5. Batik Kocak Dolly:

"Ah, Batik Kocak Dolly has such an exciting story!" So, the batik motif is inspired by the 'cangkrukan' habit here. Here, coffee shops are not just places to drink coffee and eat fried snacks but also become the center of social life. At the roadside coffee shop, people drink coffee while chatting, sometimes having casual conversations, sometimes gathering to watch football matches, sometimes discussing heavier topics, and it can even become a platform for criticizing the government! Hahaha... Snacks like fried foods complement the atmosphere, making conversations more enjoyable and warm. This motif symbolizes the importance of social interaction in coffee shops. This is not just about having coffee but more about the harmony,

togetherness, and familial spirit formed when people gather, joke around, or have serious discussions about the village's future. So, this batik is not just beautiful, but it also has a story, it has meaning” (Fitrah Lailatul, 2024).



Picture 4. Batik Kocak Dolly (Author, 2025)

6. Batik Dolly-Diesel:



Picture 5. Batik Dolly-Diesel (Author, 2025)

“This Dolly-Diesel batik is inspired by the history of the Dolly village, which used to heavily rely on diesel engines as the main source of electricity.” In the past, almost every house used diesel engines to power the lights because no other sources of electricity were available. This diesel engine became a symbol of light and strength, providing illumination at night and offering hope to a community living in limitations. The motif in this Batik Dolly-Diesel depicts the resilience and fighting spirit of the Dolly community from the past to the present, which remains unchanged. Although facing limitations, they continue to strive to survive and find ways to live better. So, this batik

reflects the characteristics of the people of Dolly who have a fighting spirit and do not easily give up” (Agus Setyo, 2024).

7. Batik Dollan:

“This is inspired by the significant transformation that has taken place in Kampung Dolly, which now focuses on becoming a child-friendly village.” Previously, Dolly was known for its negative stigma, prostitution. However, since it was closed in 2014, the community here has started to transform, striving to create a safer environment for children. As a mother with two young children, I am very concerned about their future, especially their growth and development. When I think back to the past here, the crime rate was high, and transactions of prostitution and drugs were every day. It is very unfavorable for children. This Dollan Batik reflects our commitment at Dolly to build a community that better supports children's future in terms of education, welfare, health, and safety. The motif on this batik depicts small children playing freely, symbolizing that there is still hope for a brighter future for our children” (Silvia Ratnani, 2024).



Picture 6. Batik Dollan (Author, 2025)

Participants' evaluations show that this training program successfully boosted their confidence in designing batik that is visually appealing, relevant to market trends, and capable of highlighting unique aspects of their hometown. They appreciated the creative thinking approach in the training, which helped them explore the potential of Dolly's local culture and integrate it into their designs. The small and simple things that have always been close to them can inspire batik motifs. Encouraging creative thinking in the participants' environment heavily relies on applying structured communication, appreciation of diversity, and compelling conflict or obstacle management. Diversity in terms of skills and cultural backgrounds also plays an important role, as it allows participants to generate innovative solutions with a more varied approach to the problems they face. Therefore, the balance between clear communication, valued diversity, and constraint management becomes key to creating an environment

that supports creative thinking and generates more innovative solutions in problem-solving (Oham & Ejike, 2024; Akaki, 2022).

Participants also feel they better understand how color theory and visual composition can enhance the quality of their designs. They are now more skilled in creating harmonious color combinations and arranging motif elements with good balance according to design principles. In addition, the participants increasingly understand the importance of incorporating local cultural elements into their designs without sacrificing market appeal. They feel more prepared to innovate and create batik products that not only reflect the cultural identity of Dolly but also have competitiveness in the broader market. So far, batik has often been identified as clothing for formal events for adults/older people. Through this activity, participants learn and improve their skills to create batik motifs suitable for the younger generation. Thus, this program enhances the participants' technical skills in batik-making and broadens their understanding of the importance of preserving tradition while adapting to market needs.

Overall, this training encouraged participants to be more creative and innovative, producing original batik designs and strengthening their connection with the local Dolly culture. This program has positively impacted the quality of Dolly batik products and prepared participants to be more competitive in the increasingly growing batik industry.

Utilization of recycled materials for batik canting

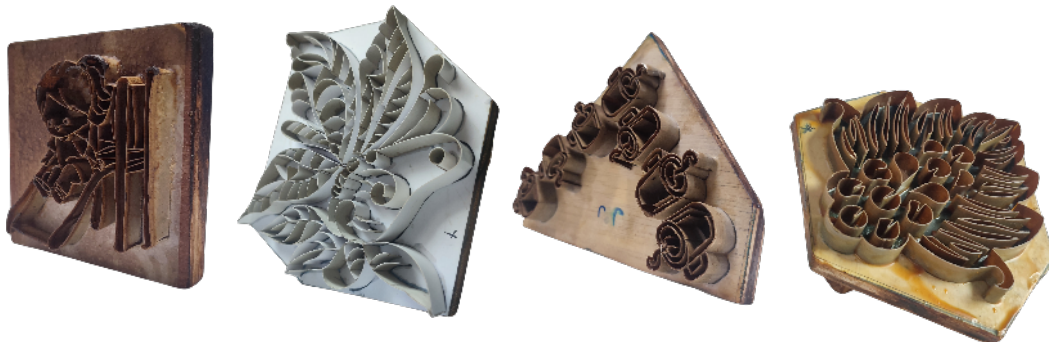
The participants' success in creating canting caps using recycled materials or waste is an extraordinary achievement in maximizing available resources. The initial target set by the facilitator, which was to create 10 canting caps, was surprisingly achieved with a much greater outcome, namely 30 different canting caps. This result is very encouraging, considering that the increased production of canting caps contributes to the diversity of batik motifs produced and has a positive impact on the productivity of batik artisans in Kampung Dolly. As the number of canting caps produced increases, so does the variety of batik that can be generated, which in turn will expand the market and enhance the competitiveness of Dolly's batik products.

With the availability of affordable cap canting, the increase in productivity of batik artisans in Dolly has become an important breakthrough in the batik craft industry sector. Previously, the participants could only complete one piece of cloth (measuring 115 x 200 cm) in one month using a traditional canting. This is due to the batik-making process, which requires high patience and a long time to draw each motif by hand. This process is undoubtedly very exhausting and affects the limited production capacity. However, using a canting cap, the participants can now complete 15 pieces of cloth in one week. This means that in one day, they can produce 1 to 2 pieces of batik fabric. The increase in the amount of fabric that can be produced in a short time certainly significantly impacts the volume of batik production in Kampung Dolly.



Picture 7. Training activities for making batik canting stamps (Author, 2025)

This success is not just about increasing production volume but also about time and cost efficiency. Canting caps made from recycled materials or waste, such as wood and paper waste, provide a very affordable solution for artisans. Previously, artisans had to spend much money to buy writing canting and other raw materials. However, the participants can create cap stamps with minimal investment by utilizing the wood waste around their residences. This wood waste comes from various furniture businesses around Kampung Dolly, which have a lot of leftover wood that is usually discarded. With the creativity and skills possessed by the participants, the wood waste is processed into functional and durable canting caps.



Picture 8. Batik stamp canting successfully made by participants (Author, 2025)

Wood waste is utilized, and paper waste is obtained from leftover food packaging from various communal events in the village, such as snowmen, Italian, weddings, and similar activities. This paper waste, usually discarded, now has added value because it is used as the primary material for canting caps. Thus, the participants successfully created simple yet practical technology that is environmentally friendly while also helping to reduce the amount of waste in their surroundings. Using these recycled materials not only benefits the artisans economically but also positively impacts the environment by reducing the amount of waste that needs to be disposed of.

However, although the process of making canting caps using these recycled materials was very successful, it was not without various challenges faced by the participants. One of the main challenges faced is the paper-cutting process, which must be precise and straight.

“The process of cutting the paper is dizzying, you know.” The paper must be precise and straight, without any tilt or slight deviation. I use sharp cutting tools and a metal ruler, but the results sometimes do not meet expectations. Sometimes, the cuts end up uneven or even go off the line. That is the tricky part because uneven paper makes the canting cap not fit properly either” (Wijiarti, 2024).

This paper cutting requires the right tools and high precision. Some participants faced difficulties using the paper-cutting tool, especially keeping the cuts straight and neat. This becomes a particular challenge because inaccuracies in cutting can affect the quality of the resulting canting cap. Therefore, to achieve optimal results, participants must take more time to ensure that each piece of paper is cut to the required size. I also used a straight metal ruler and a sharp cutter knife.

Additionally, using super glue to bond various canting cap components also presents challenges. This super glue does provide a powerful adhesive bond, but if not used carefully, it can cause some parts of the canting cap not to adhere perfectly or even dirty other parts that should not be exposed to glue. Some participants also faced difficulties in controlling the amount of glue used so that it was neither too much nor too little, which could affect the strength and durability of the canting cap. Mistakes in applying the glue affect the damage to the canting cap being made, forcing participants who experience this to start over from the beginning, as shared by Fitrah Lailatul:

“My biggest challenge is when using super glue.” This glue is strong, but if you are not careful, it can stick to everything, mainly if you use too much. A few times, the part of my canting cap became loose or got dirty from the glue. So, you have to be careful measuring how much glue to use, not too much, but not too little. Sometimes, if you make a mistake, you must start all over again” (2024). The proper use of glue also greatly depends on the precision and experience of each participant.

Besides technical issues, another challenge faced is the varying levels of patience and perseverance among each participant. Making a canting cap requires high precision and considerable time to complete one canting. Some participants have more patience and can complete the task meticulously, while others feel frustrated due to the rather complicated process that requires full attention. Additionally, some participants who have reached old age experience presbyopia:

“I am getting old, so my eyes are a bit nearsighted.” That becomes a problem when looking at small details on the canting cap, especially when

making cuts or attaching small parts. You have to wear special glasses to see clearly. If not, it could result in cutting or pasting incorrectly. If you're not patient, it could take longer, so you must be extra diligent" (Suyono, 2024).

Patience and perseverance are key in completing this project, as even a tiny mistake in making the canting cap can affect the final result and the quality of the batik.

Although the challenges were significant, the participants overcame all the obstacles with high spirits and hard work. They learned to help each other and share experiences while making canting caps. In the group, they share tips and tricks to overcome the difficulties that arise, whether in cutting paper, using glue or in terms of patience during the production process. This cooperation and spirit of mutual assistance strengthen the bonds among participants and improve the quality of their canting cap production.

As a result of this hard work, the batik artisans in Kampung Dolly now have more efficient and effective tools for producing batik. Using a canting cap, they can produce more batik fabric quickly. This certainly impacts increasing the income and quality of life of the artisans. In addition, this success also opens up broader market opportunities, both at the local and regional levels, because the greater variety of batik and improved quality will attract buyers from various backgrounds.

The positive impact of this success is not only limited to the increase in production and income of the artisans but also creates social change in Kampung Dolly. With the increased ability of batik artisans to produce batik efficiently, they can create more job opportunities for the surrounding community. Making canting caps that involve recycled materials also provides an example of how creativity and innovation can utilize existing resources to create new opportunities, not only for personal gain but also for the community's overall welfare.

With the increasing number of canting caps being produced and used by artisans, Dolly batik is hoped to become more widely recognized and one of the region's flagship products. The participants also hope that in the future, they can continue to develop the canting cap-making technique and utilize various other recycled materials to improve the efficiency and quality of batik production. With enthusiasm, hard work, and support from various parties, the Dolly Batik artisans can continue to grow and develop, bringing pride to their community and contributing to the preservation of Indonesia's batik cultural heritage.

Improvement of technical skills in the batik-making process

At the initial stage, participants started with the cap-making technique, which previously used traditional tools like writing canting, and now switched to using cap canting. Participants who previously only had experience using a writing canting quickly learned this more efficient cap-making technique. After mastering the cap-making technique, the participants proceeded to the technique of mixing batik colors. Mixing colors correctly is an important skill in batik making, as the right colors can provide beauty and a distinctive impression on

the resulting batik. Participants learn to mix natural or synthetic dyes in the right proportions, resulting in sharp, bright, and long-lasting colors.

One of the dyes taught in this training is remasol, a synthetic dye often used in the batik industry. Remasol is known for its stable and durable color quality and ability to provide brighter and more intense colors compared to natural dyes (Karsam, 2022). Remasol is very popular among batik artisans because it can produce more consistent colors and faster dyeing processes (Ni'mah, 2020). However, participants must understand that although remasol yields good results, its use requires high precision, especially when mixing and applying the dye. One of the biggest challenges in using remasol is maintaining color consistency, which depends on the correct ratio between the dye and water (Ni'mah, 2020). Remasol dye that is too concentrated or diluted can produce colors that do not match the desired outcome, thus requiring a deep understanding of the correct proportions.

Purple has become very important in this training because the Surabaya City government has designated it as the branding for Kampung Dolly. This purple color not only reflects the cultural identity of Kampung Dolly but also serves as a symbol of the economic revival and creativity of the residents. Therefore, participants are trained to produce a purple color that meets those standards. To produce the correct purple shade, participants must mix blue and red remasol dyes properly. This mixing ratio presents its challenge, as the wrong color combination can result in an undesired color, whether it is too bright, too dark, or even leaning towards other colors like purple leaning towards red or blue.

The difficulty often faced by participants is obtaining the correct ratio between the blue and red Remasol dyes to produce the ideal shade of purple. Each participant must fully understand how each dye component affects the resulting color. Some participants found it challenging to match the ratio between blue and red dyes, as minimal differences in concentration can affect the resulting color. In addition, the water ratio needed to dissolve Remasol is also an important factor in ensuring that the resulting color can penetrate well into the fabric fibers. Too much water can make the color fade, while too little water can make the color too concentrated and uneven. Therefore, participants must conduct experiments and trials to find the correct ratio, which requires patience and precision.

Knowledge of color theory in this activity is an important foundation for understanding how the color purple can be harmoniously combined to create an aesthetically pleasing batik design. In this context, color harmony plays a central role, as it refers to color combinations that create an attractive and balanced visual impression (Shamoi, 2023). As the primary color in Kampung Dolly batik, purple has various possibilities for combinations with other colors through the color harmony scheme. One of them is complementary, where purple is combined with the color opposite to it on the color wheel, which is yellow (Maghraby, 2024). This combination produces a sharp and dynamic contrast, highlighting certain batik design elements. For example, patterns with purple can be applied over a yellow background to create a strong visual impression that immediately attracts attention. The contrast created by this complementary harmony is often used to emphasize striking color identities in line with the distinctive character of

Kampung Dolly. In addition, analogous colors are also an interesting choice. In this scheme, purple is combined with colors adjacent to the color wheel, such as red and blue (Shamoi, 2023). This combination produces a softer and more harmonious impression, providing a calming gradient effect. Triadic, which involves three colors spaced evenly on the color wheel, provides a more cheerful and dynamic option. For the color purple, the triadic harmony involves a combination of yellow-orange and blue-green. This combination allows participants to create colorful yet balanced batik designs. Next is the split complementary, which combines two colors on either side of the complementary color, namely yellow-orange and yellow-green (Rhyne, 2017). This combination provides a subtler contrast compared to a direct complementary scheme, creating a design that remains attractive yet not overly striking. Moreover, tetradic provides greater flexibility by involving four colors, namely two pairs of complementary colors. For purple, the tetradic combination involves yellow, red-orange, and blue-green. This scheme allows for more complex design exploration in batik creation but still requires careful color balance management to avoid feeling overly decorated. By understanding and applying various color harmony schemes, participants can develop batik designs that strengthen the purple color identity as the color branding of Kampung Dolly and produce aesthetically pleasing works. Moreover, it is suitable for meeting the needs of the younger market segment. Thus, it allows the produced batik to become an art product and a medium of unique, innovative cultural expression that embodies local wisdom.

After the dyeing process is complete, the participants then proceed to the stage of dipping the fabric into the dye solution. This stage not only affects the intensity of the color on the fabric but also influences the color's durability after washing. The technique of dyeing fabric must be done carefully so that the dye seeps evenly into all parts of the fabric. During this process, participants learn the proper dipping technique, including immersing the fabric in the dye and ensuring the right timing for a more even and optimal dyeing result. This process also requires patience, as participants must wait for the dye to penetrate perfectly and ensure that the fabric is not submerged in the dye solution for too long or too short. Success in this stage demonstrates how skilled the participants are in controlling time and technique to achieve the desired color result.

The final stage is removing the wax by boiling it in hot water. The wax used to cover certain parts of the fabric during the dyeing process must be removed to see the desired batik pattern. The wax is removed by soaking/boiling the fabric in hot water. This process requires special skills, as participants must know the exact temperature and time to remove the wax without damaging the quality of the fabric or the batik pattern that has already formed. Moreover, ensure that all the wax has completely faded and is clean. By mastering this technique, participants can ensure that the batik products maintain high quality and clear motifs.



Picture 9. Batik Practice (Author, 2025)

The participants' success in learning these techniques directly impacts the improvement of production efficiency and the quality of the batik products they produce. Previously, using the canting tulis technique, participants could only complete one piece of cloth (115 x 200 cm) in one month. However, after learning the canting cap technique, participants could produce up to 15 pieces of cloth in one week, which means they could complete one to two pieces each day. This increase in efficiency is significant in enhancing the participants' productivity, as they can produce more products in a shorter time. In addition, using a more structured and efficient canting cap also allows participants to maintain a more consistent quality of batik, even though the number of products produced is more significant.

In terms of quality, applying these new techniques improves efficiency and enables participants to produce batik of better quality. Improving skills in color mixing and controlling the intensity of dyeing, for example, allows participants to produce batik with sharper and more durable colors. In addition, the ability to remove the wax precisely also ensures that the resulting batik motifs remain clear and neat. This improvement in quality certainly has a positive impact on the competitiveness of batik products in the market, as consumers tend to choose products that have attractive designs and guaranteed quality.

Applying new techniques in batik production can also enhance the competitiveness of batik products in terms of production costs. With the increased efficiency in the production process, participants can reduce the time required to produce batik, which can lower labor costs and other production expenses. In addition, using recycled raw materials, such as wood and paper waste, also allows participants to reduce raw material costs, as they do not need to spend much money on purchasing new raw materials. By reducing production

costs, participants can offer batik products at more competitive prices in the market, thereby increasing the appeal of their products.

Overall, the improvement in technical skills in the batik-making process mastered by the participants significantly impacts the efficiency and quality of the batik products produced. These new techniques allow participants to produce batik more quickly and consistently and enhance the aesthetic quality and competitiveness of batik products in the market. With the improvement of these skills, participants can increase their productivity and open up opportunities to expand the batik market, both locally and globally. Applying these new techniques can also help participants reduce production costs, allowing them to produce batik at more competitive prices without sacrificing quality. Thus, the technical skills acquired by the participants not only provide short-term benefits in the form of increased productivity and quality but can also have a long-term impact in strengthening the branding and competitiveness of their batik products in the market.

Evaluation of Training Method Effectiveness

Structured training designed to combine theory and practice has significantly improved participants' skills. In the context of batik-making training conducted in Kampung Dolly, the training method that combines theoretical understanding with direct application in the field has proven effective in enhancing participants' technical skills. The theory presented in the classroom provides a strong foundation of understanding regarding various technical aspects. At the same time, the practice conducted in the field allows participants to implement that knowledge in actual conditions.

The training began with a theoretical session that provided the basics of knowledge about the art of batik, including its history, philosophy, and basic techniques of batik making, such as canting tulis, cap, dyeing, and wax removal. In addition, participants also gain insights into proper dyeing and color mixing techniques, as well as how to harmoniously blend colors according to the principles of color theory that have been taught. This theory is critical to equip participants with adequate knowledge to thoroughly understand each step that must be taken in the batik-making process. However, the practical application of those theories is more important in this training. After learning the fundamental theories, participants immediately dive into the practical sessions, starting with creating a canting cap using recycled materials. Creating a canting cap not only provides technical skills but also allows participants to be creative, express their ideas, and solve problems directly. This practical process allows participants to explore new techniques and hone their skills in an environment that closely resembles actual production conditions.

Based on interviews with several participants, they felt greatly helped by the training approach combining theory and practice. One of the participants, Wijiarti, expressed:

“At first, I thought the theory about making batik stamps was elementary, just cutting and sticking.” However, after the hands-on practice, I could better understand the process, which was more complicated than I had imagined. I no longer underestimate the knowledge that the facilitator has

provided. After practicing several times, I feel more confident creating my batik patterns” (2024)

In addition, other participants also experienced the same difficulty in mastering the canting cap-making technique. Fitrah Lailatul expressed:

“Making a canting cap with recycled materials was more difficult than I imagined. I was confused when I had to cut the paper and assemble it into a canting cap that had to be precise. When practicing, I was nervous because I worried that the wax would not adhere perfectly or be too thick on the fabric. This skill cannot be instant. After trying several times, I made a neat canting cap ready to use. I also finally managed to practice it using heated liquid wax. That was a very valuable experience” (2024).

This shows that the theory received by the participants provides a strong foundational understanding. However, direct practical experience allows them to apply that theory in the actual batik-making. Overall, most participants were satisfied with this training. They appreciated the combination of technical knowledge and the opportunity to be creative in the batik-making process. One of the participants, Suyono, stated:

“This training has been beneficial for me in understanding how to use the canting cap. I am also happy to learn how to mix colors correctly, even though I had to try repeatedly. However, when I succeeded, I felt delighted” (2024).

Agus Setyo expressed a similar sentiment:

“Initially, I had difficulty getting the right ratio between the blue and red remasol dyes to produce purple.” The water ratio needed to dissolve the dye must also be precise so that the resulting color matches the desired one” (2024).

This shows that although the theory has been well conveyed, there are still challenges in accurately applying that knowledge. Color mixing requires high precision, and even the slightest mistake can affect the quality of the resulting color. Among the various sessions available, the training that participants found most beneficial was the training on creative thinking to generate new motifs and the making of canting caps from waste materials. Many participants felt that this training opened their horizons on integrating creativity and local wisdom with technical batik-making skills.

Nunuk added, “One of the things I enjoy most in this training is the exercise of thinking creatively in designing motifs. I learned how to create unique and different batik motifs. This is important because an attractive batik design can become a high selling point. Especially if it can highlight unique things around us. At first, we did not feel that it was unique, but once it became batik, we realized how many sources of inspiration there are around us” (2024).

Creativity in batik design is essential, especially in a competitive market, because customers are looking for quality and high aesthetic value. Therefore,

the ability to create innovative motifs has become one of the highly valued skills in the batik industry.

Creating a canting cap from waste materials also became one of the participants' most memorable parts of the training. They learned new techniques and developed an awareness of the importance of utilizing recycled materials to create more environmentally friendly and sustainable products.

“I had never thought of using recycled materials like wood or paper to make a canting cap because, as far as I knew, the canting cap had to be made from thick and extreme metal.” However, this training opened my eyes. It turns out that the waste materials around me can become valuable tools,” said Cahyo Andrianto (2024).

The utilization of waste materials in the production of canting caps provides an environmentally friendly solution and reduces production costs, which is an additional benefit for batik artisans.



Picture 10. Results of the batik training activities (Author, 2025)

Although this training is considered very beneficial, some participants provided suggestions for improvement in the future. Some participants suggested that future training should allocate more time for practical sessions, especially for the more challenging parts, such as color mixing and canting cap making. Additionally, some hope that the training can focus more on developing creativity in motif design. These suggestions reflect the importance of developing more flexible design skills that can be applied to create more modern and innovative batik.

CONCLUSIONS AND RECOMMENDATIONS

The batik training conducted in RW 12, Putat Jaya Village, particularly in the Dolly area, has a significant long-term impact potential on skill enhancement, economic empowerment, and social transformation in the region. Previously known as an area with a negative stigma due to prostitution activities, the Dolly area is now striving to transform its image into a safer, more conducive area based on art and culture. This batik training has become one of the strategic steps

in driving that change by empowering the residents, especially women, to take an active role in more positive and sustainable socio-economic development.

The success of this training plays an important role in empowering women. In areas that were once known as prostitution zones, women often become a vulnerable and marginalized group. Through this batik training, women are allowed to develop skills that are economically useful and enhance their social status. The batik skills they learn enable them to lead small businesses independently or through cooperation in business groups. This becomes the first step in creating healthier, safer, and more equitable job opportunities in areas that previously had minimal access and opportunities.

Overall, this batik training has become one of the important pillars in the social transformation of the Dolly area. The success of this program, if managed well, can continue to have a long-term impact in creating sustainable economic opportunities, improving social conditions, and making the Dolly area a center for a creative industry that is friendly to women and children.

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