The art of designing, fabric pattern by tie-dyeing with natural dyes

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Introduction

Tie-dyed products are a result of local wisdom of unique patterns and colors in cotton fiber, which is a natural material. A simple design process begins with designing the patterns and colors from natural ingredients. These are the unique natures of the tie-dyeing, which is transmitted from generation to generation. However, this unique simplicity fails to capture the heart of Thai people or make Thai people proud, but instead has captured the attention of foreigners, in particular, Japanese. The new generation of Thais cannot see the beauty of this art form and sees the fabric as being opaque, dark, and outdated.

People today do not accept the transfer on the emotional level, feel pride, or the desire to inherit this form of art from their ancestors. This has been attributed to the civilization of the West in the early period of western imitation in Thailand where Thai people see anything Western as modern. As long as globalization continues,
valuable local knowledge, such as the tie-dyed natural products would disappear eventually. This raises the issue of how we can preserve the wisdom of creating tie-dyed, natural products.

Hence, the researchers have attempted to study the design process of dyeing with natural dyes to mimic the qualities of synthetic dyes, including the color shades and they often forget about the unique qualities of natural colors and try to apply the rules and criteria of synthetic dyes to natural substances, especially in terms of the durability of the dye, which is very different.

Naturally dyed products become more beautiful as the color transfers and fades. In the past, after dyeing the garment, people would soak them in water and beat them until the fiber is soft. The older the garment gets, the more beautiful it becomes. It is one of a kind and unique, which is the charm. These fabrics are conceived from wisdom and the greenery around the maker, sometimes from rare plants. Some colors not only add to the look of the fabric, but also preserves the fibers. Natural colors should be used with care.

From the university outreach project to the community of flood victims, some victims were terminated from their employment and some lost tools of their professions. This research is designed to build knowledge of design patterns in tie-dyed naturally colored fabric, which would promote building jobs and strengthening the community. It also reduces pollution from sewage, which was caused by using synthetic dyes in dyeing, and is also better for the environment.

2. The purpose of the research project

- To study the history, types, style, technique, and process of tie-dyeing.
- To study the extraction of dyes from natural materials that can be used to make fabric dye.
- To study the process of designing fabric patterns with tie-dyeing technique.
- To integrate with the project to promote academic career building. Added expertise about making tie dye. And strengthening the community
- To build knowledge in accordance with the syllabus to develop design and work on the topic of designing tie-dye fabrics and making tie-dye pattern design for the course TOD 3212 and the extraction of natural colors in the course TOD 3309 traditional weaving.

3. Research Methodology

The Pure Research Study Finds technical knowledge for building knowledge about the art of designing patterns for tie-dyed fabric from natural dyes: a study of type, style, design techniques, the processes of dyeing, and the extraction of natural dyes.

![Conceptual framework of the research project.](image-url)

Fig1 Production of designs of tie-dye scarves
4. Method of operation

- Extraction and Dyeing with natural color from sappanwood bark

Instructions

- Break or pound the dried sappan wood bark into small pieces. 2kg.
- Bring a large pot of water to a boil.
- When the water is boiling, boil the bark for about 30 minutes until the water turns into a magenta color.
- Lift the pot off the heat. Let it cool before filtering out debris of the bark.
- Bring the water to a boil again. This time add the fabric and leave it in the pot for around 10 minutes.
- Remove the fabric and soak it in cold water to remove some of the color. Hang to dry. The fabric will be dyed brown.

Fig. 2 Dyeing with natural color from sappan wood bark and products that can be achieved

- Extraction and Dyeing with natural color from Purple cabbage
**Instructions**

- Wash 3 purple cabbages thoroughly. Cut into small pieces. Then boil clean water.
- Put the prepared purple cabbage into a boiling pot of water until the water is dark purple, boil it for 30 minutes.
- When the water is boiling, put the fabric into the pot. Keep pressing the fabric into the water with chopsticks.
- Add 1 tablespoon of salt and mix well. Keep pressing the fabric into the water with chopsticks for 30 minutes.
- Remove the fabric and let it sit for a while, then hang to dry.

**Fig. 3** Dyeing with natural color from purple cabbage and products that can be achieved
Extraction and Dyeing with natural color from basil leaves

Instructions

- Chop or bash the basil until it is fine.
- Boil the chopped basil in water for 30 minutes.
- Filter out the waste and the colored water is ready for dyeing.
- Add 1 tablespoon of salt into the heating mixture. Put the fabric into the pot and boil it for about 1 hour.
- The fabric will become dark green, a beautiful color extracted from the basil leaves.

Fig4  Dyeing with natural color from basil and products that can be achieved
Extraction and Dyeing with natural color from mango peels

Instructions

- Peel the mango, then cut the peel into small pieces and soak in water for 2 hours.
- Simmer for 1-2 hours, until the desired color is achieved. Sift through a white cloth to filter out the pulp.
- Bring a mixture to medium heat and add some salt.
- Put in the fabric and keep adding salt every 15 minutes, Simmer for about 1 hour.
- Run the fabric through warm water twice and hang to dry to achieve desired color.

Fig5 Dyeing with natural color from mango peel and products that can be achieved
5. Operating Results

Designing tie-dye patterns for 4 pieces of fabric as follows:

*Item 1* dyes with colors extracted from sappan bark

![Fig. 6 Dyes with colors extracted from sappan bark](image)

*Item 2* dyed with colors extracted from purple cabbage

![Fig. 7 Dyed with colors extracted from basil leaves](image)

*Item 3* dyed with colors extracted from basil leaves
Fig. 8 Dyed with colors extracted from basil leaves

Item 4 dyed with colors extracted from mango peel.

Fig. 9 Dyed with colors extracted from mango peel

6. Conclusion

This is a research project to study the art of designing, fabric pattern by tie-dyeing with natural colors: A Study of style, technique and design process of tie-dyeing and the extraction of natural dyes that led to the design of 4 tie-dyed pieces of fabric.

In these patterns, the researcher studied the extraction of natural dyes from 4 types of plants: Sappan wood bark, purple cabbage, basil, and mango peel. Then the preliminary design principles of tie-dye is applied: folding, crimping, wrapping, clamping, and sewing, combined until a new pattern is formed to produce colorful and beautiful scarves.

7. Further Suggestions

- Those interested in the extraction of natural dyes can try other types of plants that have never been used before, or try to combine plants and animals to achieve new knowledge and develop into knowledge that can be distributed and used in other forms of creative work.
Tie dye patterns cannot be duplicated. It is likely that those who are interested can learn and create new techniques. The endless possibilities and the knowledge to make tie dye colors from natural extracts can continue on in the next generation as well.

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