

## Research Article

# Development of Sabai Khit cloth of Roi Et in floral net patterns

Sakarin Hongrattanavorakit<sup>\*</sup> Wuttikron Jongtap and Chawarit Bun-aran

*Faculty of Home Economics, Rajamangala University of Technology Phra Nakhon, Bangkok 10300, Thailand*

## Abstract

The objective of this research was to study the development of Sabai Khit cloth pattern in Roi Et province, the flower net pattern in particular and to study the satisfaction of the target group towards the Sabai Khit cloth in Roi Et province from the flower net pattern, The researcher studied the design of the main Khit pattern from the floral net pattern, namely Si Kan Si Dok Khit (Four stems and four flower pattern), Khit Lai Kled (Scale pattern), Khit Lai Ok Mang Mum (Spider's chest-pattern, Khit Lai Dao Klai Duean (Star near the moon pattern), Khit Lai Dao Lom Duean (Stars around the moon pattern), Khit Lai Kampang Kaew (Glass wall pattern) to design an idea sketch according to the composition of Sabai Khit cloth in Roi Et province in 3 patterns. The designs were later presented to experts before transforming the approved pattern into one piece of Sabai Khit cloth in Roi Et province in Floral Net Pattern. The researchers took a satisfaction survey of the of the target group of 100 people. The data obtained were analyzed using frequency, percentage and mean values, with the results of the analysis as follows: Most of the experts chose the idea sketch Model 3 as a model for the composition of the Sabai Khit cloth in the floral Net Pattern, Color group 3, purple as the base color. Yellow and white color as the color of Khit flowers and decorative silver purls in the weaving of Sabai Khit in floral net patterns. The target group's satisfaction towards the development of Sabai Khit of Roi Et province in floral net patterns in terms of the product's design and benefit at the highest level.

**Keywords:** Sabai Khit Pattern, Sabai Khit of Roi Et province, Floral net pattern

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<sup>\*</sup> Corresponding author:

Sakarin Hongrattanavorakit E-mail: sakkarin.ho@rmutp.ac.th

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## Introduction

Cloth plays a pivotal role as one of life's basic essentials and the art of weaving symbolizes integration of the local roots and beliefs through various symbolic patterns as well as the colors of nature until the unique identity of each community conceives (Department of Cultural Promotion Ministry of Culture, 2016). Traditional Isan woven brocades made since ancient times are cotton and silk woven cloths. However, synthetic fibers of yarn and Toray silk have been brought to a mixture which is defined as an industrial handicraft. In weaving traditional cloths, villagers are involved in every step starting from cotton planting and mulberry planting to bring leaves to feed the silkworms to threading and dying silk cocoons. Then, the threads will be woven with traditional looms. (Roi Et National Museum, 2021). Roi Et Province is home to a number of local weaving groups. Each group weaves local cloths of Roi Et province such as Saket silk, Bun Roi Et cloth, and Khao Ma cloth, depending on the aptitude of each group. Nevertheless, what every group has in common is that they weave Sabai Khit cloth. The patterns used are Khor Lek Sam pattern (number-three hook pattern), Lai Bak Wai Kwam Bak Wai Ngai pattern (Upside down pattern) (Community Development, Roi Et Province, 2020). The aforementioned cloth patterns are found to be a common weaving pattern in many areas and has long been widely known. With distinctive patterns of Sabai Khit cloth woven in each group of Roi Et province, there is an idea to develop a Sabai Khit cloth pattern in Roi Et province by designing the cloth pattern to be unique.

Floral Net is an art of ornamental Thai flower arrangement characterized by its dazzling beauty. Making fresh floral nets is to weave flowers into various patterns. A floral net is used as a component of a wide range of fresh flower works such as an ornamental net to be hung as decoration of architectural designs, a net for accessorizing apparels. Flowers that are commonly used to make nets include gardenia, crown flowers, etc. (Apirat Sorot, 2006).

Therefore, the researcher inspired by a floral pattern which is a form of Thai flower arranging art unique for its dazzling beauty has the idea to design cloth pattern of the Sabai Khit of Roi Et Province. The researcher selected 6 floral net patterns, including Si Kan Si Dok Khit (four stems and four flowers), Khit Lai Kled (Khit with scales), Khit Lai Ok Mang Mum (Khit with the spider's chest-pattern, Khit Lai Dao Klai Duean (Khit with star near the moon pattern), Khit Lai Dao Lom Duean (Khit with stars around the moon pattern), Khit Lai Kampang Kaew (Khit with glass wall pattern) and adapt them to create a cloth pattern that still retains the uniqueness of Sabai Khit cloth in Roi Et province. The researcher takes into account the defining elements of Sabai Khit cloth of Roi Et province representing the integration of knowledge between the art of floral net making and weaving of Sabai Khit of Roi Et Province. Unique characteristics of Sabai Khit cloth of Roi Et province are placed at the heart of design using the technique of weaving Khit cloth of Roi Et province to create a unique Sabai Khit cloth pattern of the local weaving group, Roi Et Province.

## Objective

1. To study the development of Sabai Khit cloth pattern of Roi Et province using the floral net pattern.
2. To study the satisfaction of the target group towards Sabai Khit cloth of Roi Et province with the floral net pattern.

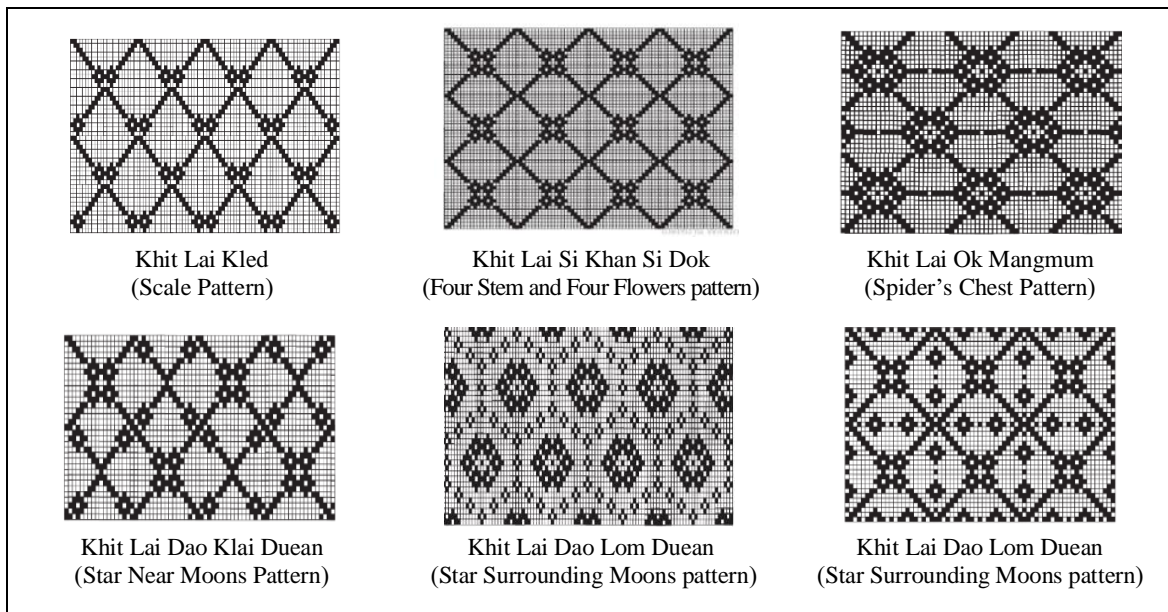
## Method

### 1. Development of the patterns of Sabai Khit cloth of Roi Et province in the floral net patterns

1.1 Study the composition of Sabai Khit cloth of Roi Et Province: The researcher selected 6 main contributors of this study from people involved in weaving Sabai Khit cloth of Roi Et Province by using a purposive sampling including leaders of the weaving group in Bueng Nakhon Sub-District, Thawat Buri District, Ratchathani Sub-district, Thawat Buri District and Sabai Lai Khit Weaving Group, Ban Nong Pham, Nong Kaeo Sub-district, Mueang District, Roi Et Province. The research instrument was an in-depth interview using open-ended question.

1.2 Design an idea sketch of Sabai Khit cloth of Roi Et province with a floral net pattern: The researcher studied the composition of Sabai Khit cloth of Roi Et province from interviews with key informants and study the floral net patterns from various documents. The researcher selected 6 floral net patterns to design Khit patterns based on the flower net patterns and Khit patterns, Sabai Khit cloth elements and design 3 Sabai Khit cloth patterns of Roi Et province in floral net patterns as follows:

*Designing Khit pattern from floral net patterns*



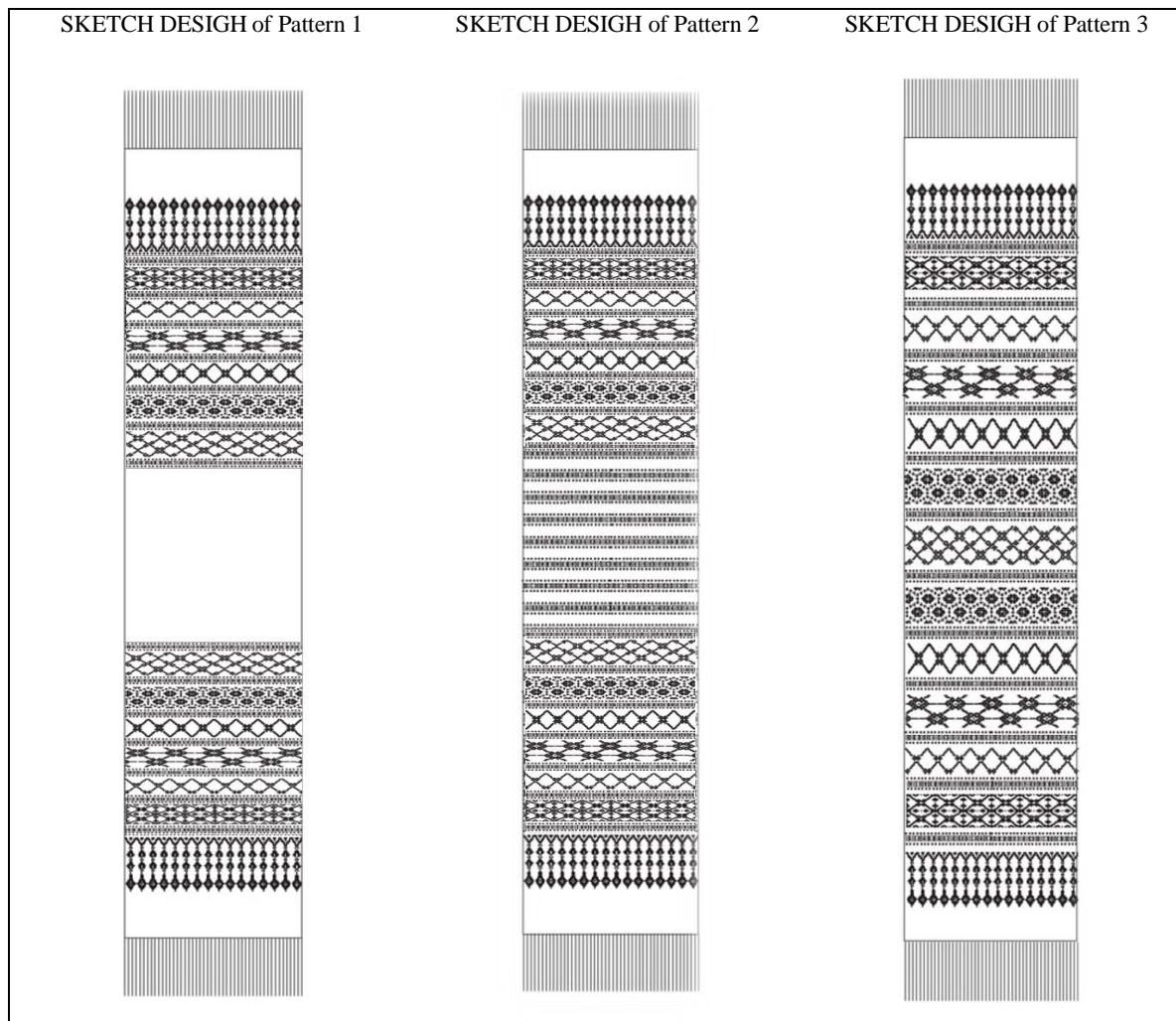
**Figure 1** Khit patterns from floral net pattern  
Source: Jongtap, 2022

*Khit pattern design and Sabai-khit cloth elements*

	Khit Lai Cherng pattern inspired by floral tassels
	Khit Lai Khan pattern is Khit Lai Tao Noi pattern (little turtle pattern), ancient Khit pattern found in Roi Et province
	Khit Lai Tok-Tang pattern is Kit Lai Kam Pao, ancient Khit pattern, 1 of the 5 ancient Khit pattern designs in Saket silk of Roi Et province

**Figure 2** Khit pattern design, elements of Sabai-khit cloth  
Source: Jongtap, 2022

*Design 3 Sabai Khit cloth patterns of Roi Et province from flower net patterns 3 types*



**Figure 3** A sketch of three Sabai Khit cloth patterns of Roi Et province from floral net patterns  
Source: Jongtap, 2022

1.3 Assign an expert to create a questionnaire, analyze the data and draw conclusions

- Recruit 5 experts, specializing in art and design, Isan cultural wisdom, artificial arts and Design of Sabai Khit cloth of Roi Et Province using a purposive sampling method
- Create a questionnaire: The researcher developed a tool to survey opinions on the development of Sabai Khit cloth pattern of Roi Et province from the flower net pattern in a form of an open-ended questionnaire consisting of questions divided into 2 parts: questions for demographic information of the experts and questions on opinions on the development of Sabai Khit cloth pattern of Roi Et province from flower net patterns.

**2. To study the satisfaction of the target group towards the Sabai Khit cloth in Roi Et province from the floral net pattern**

*Data Collection Method*

*Data analysis:* Development of Sabai Khit cloth pattern of Roi Et province from floral net patterns. The researcher analyzed the data from 100 questionnaires using purposive sampling with 50 members of Sabai Khit cloth of Roi Et Province and 50 users of Sabai Khit cloth of Roi Et Province, totaling a hundred and mean

and presented it in the form of a table to accompany the descriptions. The questions were divided into two parts as follows:

*Part 1* Questions for demographic information presented in a multiple-choice item and list checking in a questionnaire

*Part 2* Questions about the satisfaction towards the development of Sabai Khit cloth pattern of Roi Et province from the flowery net pattern. Questions are presented in 5-point Rating Scale to address three aspects, namely design, product and benefit.

## **Result/Finding**

### **1. Development of Sabai Khit cloth pattern of Roi Et province from flowery net patterns**

1.1 Data analysis and conclusion regarding the components of Sabai Khit cloth of Roi Et Province. The researcher conducted the data collection and found that 7 components are as follows:

1.1.1 The main patterns with distinctive features

1.1.2 Khit Lai Ae or decorative patterns consisting of small lines used to further decorate main Khit patterns more beautiful.

1.1.3 Khit Lai Khan pattern (Separating pattern) consists of small flowers used to separate the main Khit patterns

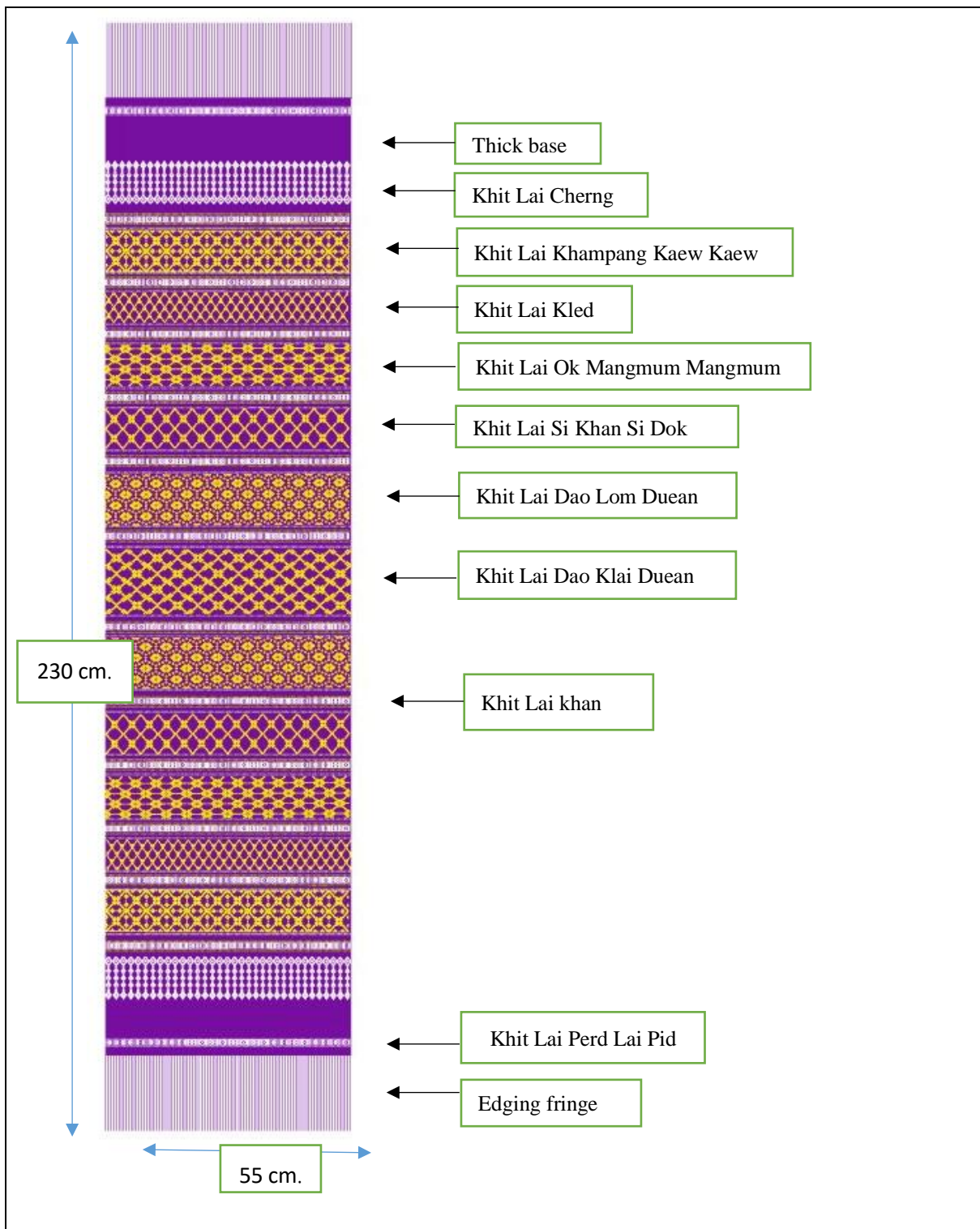
1.1.4 Separating base woven in color according to the color of the cloth

1.1.5 Lai Cherng (Base pattern) is characterized by straight vertical Khit lines or a small flower connecting to form a pillar, indicating strength and stability

1.1.6 The initial thick base is the part that indicates the color of that particular sabai-khit cloth. The size of the base is approximately 6-10 cm thick

1.1.7 Lace edging prevents the fraying of the cloth and add fluidity to the cloth base popularly woven to make an edging fringe before starting to weave the foreground or adding more garlands after the weaving is complete.

1.2 A summary analysis of the opinions of 5 experts towards the development of Sabai Khit cloth pattern of Roi Et province from flower net pattern. Most of the experts chose SKETCH DESIGN 3 and gave advice on adding Lai Pid Lai Perd (Open and Closed Pattern) next to the edging fringe. The third color, purple, was chosen as the base color while yellow and white would be for the Khit flowers. These are the suitable colors for Sabai Khit of Roi Et province from floral net patterns. The red color would be added to Lai Ae or decorative patterns. Finally, the expert advised against adding decorative silver purls to Sabai Khit cloth in floral net patterns.

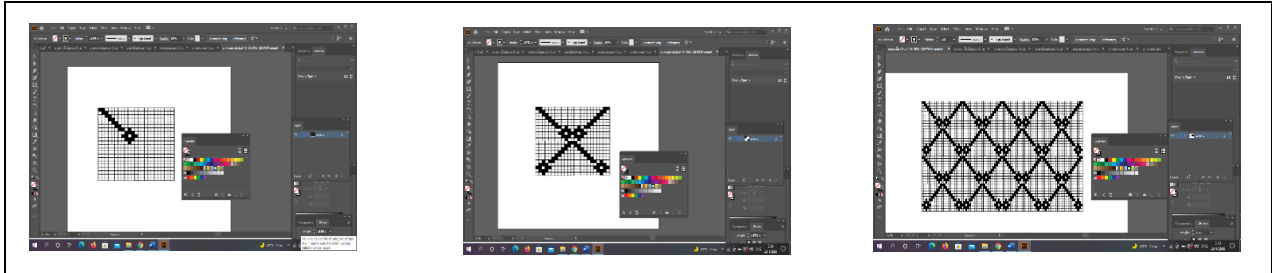


**Figure 4** SKETCH DESIGN 4 with improvements as suggested by experts  
Source: Jongtap, 2022



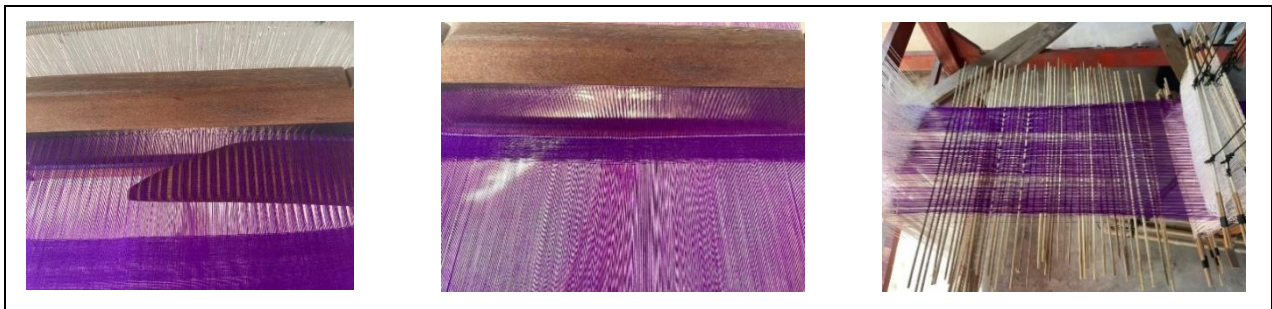
### 1.3 Weaving Sabai Khit of Roi Et Province in floral net patterns

1.3.1 Design Khit patterns to be woven in Sabai Khit of Roi Et Province in floral net patterns, elemental Khit patterns or decorative patterns using Adobe Illustrator (AI). After that, the patterns were woven to Khit in floral net patterns.



**Figure 5** Design Khit patterns using AI Illustrator  
Source: Jongtap, 2022

1.3.2 Making Khit or Nudging up wefts in the chosen floral net patterns: making Khit involves two processes namely khit and Khom meaning to nudge up and press the threads respectively. Khit is to nudge up the vertical threads or warps so that the horizontal threads (wefts) can sift underneath it. As result, the weft is positioned underneath the warp. Khom, on the other hand, is to press meaning pressing down the warp so that the weft can cross over it and the wefts are what contributes to patterns of the cloth. In weaving Sabai Khit with the floral net pattern this time, 10 beaters were used with 800 warps. There was a total of 400 serrated teeth of beaters, each of which hold 2 warps. Nudging up Khits were counted based on the space between the beater's serrated teeth. For example, Khit 2 means nudging up the threads over 2 serrated teeth or 4 warps.



**Figure 6** Making Khit in floral net patterns  
Source: Jongtap, 2022

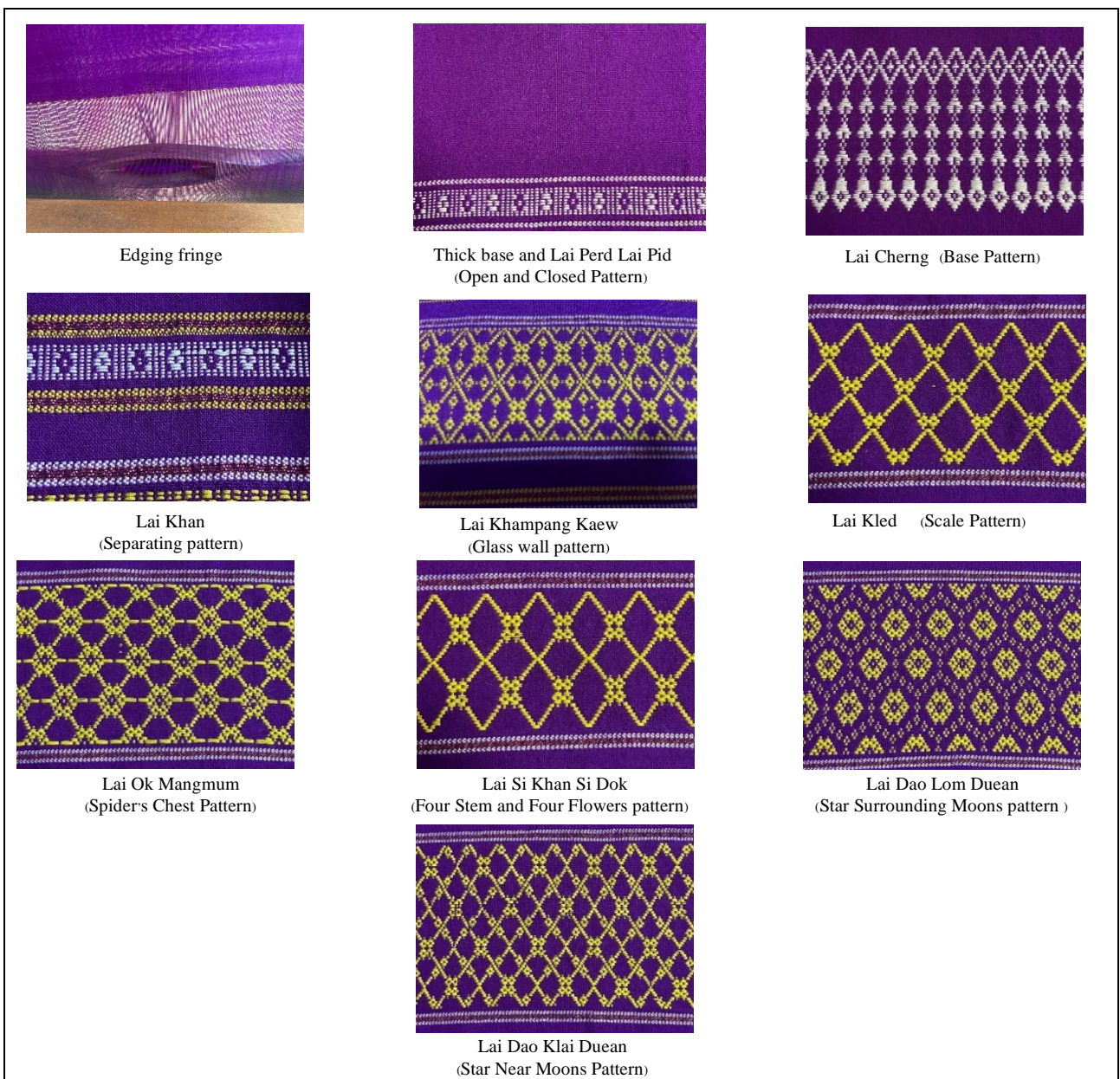
### 1.3.3 The process of weaving khit in floral net patterns

1) The process of weaving the base: weaving base is to weave with no patterns using only one warp and two heddles - a device to separate the warp and the weft in weaving, also known as front horns and back horns responsible for lifting up warps alternately creating spaces in front of a beater allowing thrusting of a shuttle before hitting the beater.



**Figure 7** Weaving the base  
Source: Jongtap, 2022

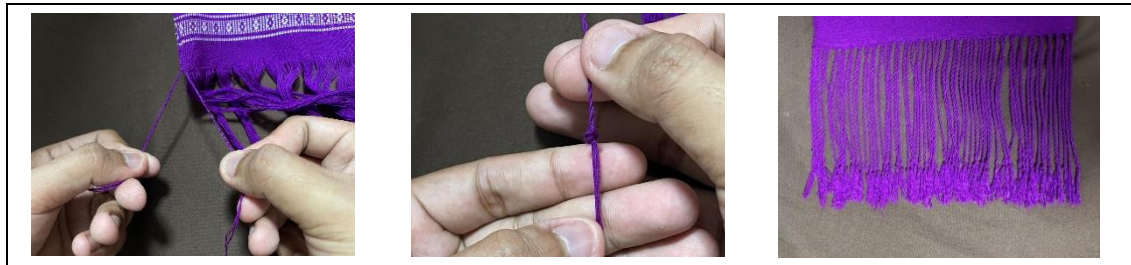
2) The weaving sequence of Sabai Khit cloth: weaving Sabai Khit Cloth in floral net patterns, arranging the components of Sabai Khit according to the components of Sabai Khit cloth of Roi Et Province.



**Figure 8** Weaving Sabai Khit cloth in floral net patterns  
Source: Jongtap, 2022



3) Twist the edging fringe: Edging fringes are put on the one end and also the other end of a piece of Sabai Khit cloth. It helps to prevent the edge from coming off. This technique is incorporated instead of simple closing sewing and add fluidity to the cloth.



**Figure 9** Twist the edging fringe  
Source: Jongtap, 2022

4) Samples of Sabai Khit cloth of Roi Et Province in floral net patterns.



**Figure 10** Sabai Khit cloth of Roi Et province in floral net patterns  
Source: Jongtap, 2022

## **2. The results of the data analysis on the target group's satisfaction towards Sabai Khit cloth of Roi Et province with the floral net patterns**

2.1 Part 1: The results of demographic data analysis of 100 questionnaire respondents suggested that most were female, accounting for 69 percent, with 31 % being male. Age range falls within the range of 21-30 years, representing 33%, followed by those aged 51-60 years, over 60 years, 31-40 years, 41-50 years, and 20 years, accounting for 20%, 19%, 13%, 12% and 3 % respectively. As for educational levels, 40 percent has an education level lower than upper secondary/vocational and bachelor's degree. 9 percent has senior secondary school degree/ Vocational Certificate, followed by those completing Associate degrees/High Vocational Certificate and Master's Degree at 5 percent and Doctoral degree at 1 percent. In terms of occupations, 45 percent of the respondents practiced agriculture, followed by businesses and company's employees at 15% and civil service/government employees, accounting for 13% and students/students at 12%. In terms of income, over half, 58%, of the respondents earn below 10,000 monthly, followed by 17%, 10%,

7% and 3% earning 15,001-20,000 Thai Baht, 10,001-15,000 Thai Baht, 30,000 Thai Baht and 25,001- 30,000 Thai Baht.

2.2 Part 2: Analysis of Satisfaction toward the development of Sabai Khit cloth of Roi Et Province in floral net patterns. Questions are presented in Rating scale addressing 3 aspects namely Design, Product and Benefit and Usage.

2.2.1 Design: It was found that the respondents were satisfied with the development of Sabai Khit cloth pattern of Roi Et province with the flower net patterns, in terms of design, at the highest level with an average of 4.68. Taking each item into consideration, it was evident that most of the respondents were satisfied with the design since it reflects the identity of Sabai Khit cloth of Roi Et province at the highest level with an average of 4.84, followed by creativity at the highest level, with an average of 4.67, the size and composition of the pattern representing association at the highest level, with an average of 4.54, respectively.

2.2.2 Product: It was found that the respondents were satisfied with the cloth pattern development of Sabai Khit of Roi Et Province with the floral net patterns. Overall, satisfaction toward the product was at the highest level at an average of 4.56. Looking into each item, it was found that most of the respondents were satisfied with the woven cloth's patterns at the highest level with an average of 4.88, followed by the beauty of the woven cloth at the highest level with an average of 4.61. Satisfaction with the size of the woven cloth was at the high level with an average of 4.41 and the color was the highest level, with an average of 4.34, respectively.

2.2.3 Benefit and Use: It was found that the respondents were satisfied with development of Sabai Khit cloth pattern of Roi Et province in floral net patterns. Overall satisfaction was at the highest level at an average of 4.78. Looking into each item, data suggested that most of the respondents were satisfied with developing the design further to be a product of the traditional weaving groups in Roi Et Province at the highest level with an average of 4.93, followed by product suitability (to be worn as Sabai cloth) at the highest level with an average of 4.72 and product saleability at the highest level with an average of 4.71, respectively.

## Discussion

For the research on the development of Sabai Khit cloth pattern of Roi Et province with the flower net patterns, the researchers have drawn key conclusions and discussed the results according to the following objectives:

### 1. To study the development of Sabai Khit cloth pattern in Roi Et province from the flower net pattern

1.1 Sabai Khit cloth of Roi Et province consists of 7 elements: main patterns, Khit Lai Ae or decorative patterns, Khit Lai Khan, Separating base, Lai Cherng (Base pattern), thick base weave and edging fringes.

1.2 SKETCH DESIGN: Most of the experts resolved in favor of SKETCH DESIGN 3 because of its suitability to a product of Sabai-Khit cloth of Roi Et province in floral net patterns. Experts have commented that the third pattern is a distinctive feature of the floral mesh pattern and completes the composition of the Sabai Khit cloth in Roi Et province. The collective feedback was congruent in the design's ability to showcase the underlined features of floral nets and complete representation of all the components expected in Sabai-Khit cloth of Roi Et province. Further feedback for improvement is concerned with adding the Open pattern next to the edging fringe and increasing the length of the Base pattern.

1.3 Color group: Most of the experts were of the opinion that the third color is suitable to be used as the color of Sabai Khit in floral net pattern given its innovative shade and marketability. As for the feedback, all agreed on adjusting the basic shade of the cloth to light purple or pinkish purple, adding the color of Khit flowers and the red color of the decorative pattern. This corresponds to Laemchaya & Phaengsoi (2020) stating that the pinkish purple color is the color of the Intanin Bok flower, the provincial flower of Roi Et province.

1.4 Decorative materials: Most experts were of the opinion that there should be no decorative materials. The experts gave suggestions on sustaining unique identities and beautiful cultural features of Sabai Khit cloth of Roi Et province. However, the texture and utilization were found to be improper and can use irritation on the wearer's skin.

## **2.To study the satisfaction of the target group towards the development of Sabai Khit cloth pattern of Roi Et province with the floral net pattern**

2.1. In terms of design, it was found that the respondents were satisfied with the design reflecting the uniqueness of Sabai Khit cloth of Roi Et province at the highest level with an average of 4.84. This may be due to the design of Sabai Khit cloth of Roi Et province in floral net patterns. The Khit pattern used as a separating pattern of the cloth is an ancient Khit cloth pattern exclusively found in Roi Et province. The pattern portrays the uniqueness of the compositional arrangement embodying the Sabai Khit cloth of Roi Et province. This is consistent with the study by Jesada Singthongchai et al (Singthongchai, Phimpisan, Niamsar, & et al. , 2022) that design is a science of thought and must be integrated with creativity and solving of the existing problems to meet the goals of the community and to achieve optimal benefits. Also, it must be aesthetic and practical. Likewise, Tubtimthong, Sorasiri & Noodaeng (2020) studied and developed products from Khit-patterned woven cloth of the Housewife Group on Khit Pillow weaving at Ban Khok Charoen, Yasothon province. It was found that since weaving Khit requires a higher level of special expertise, time and skill than other types of weaving, the common patterns fail to measure up to contemporary styles because most of the weavers of Khit patterns are the elderly. Therefore, only the original patterns had been in use without the fashion trends being studied further.

2.2. In terms of products, it was found that most respondents were satisfied with woven cloth pattern at the highest level with an average of 4.88. This may because Sabai Khit cloth products of Roi Et province in floral net patterns integrates the patterns of an ornamental floral net which is a national invention. This inspiration contributes to works that combine the uniqueness of Sabai Khit cloth patterns of Roi Et province. This is consistent with the study by Pornchai Panthung (2019) focusing on the participatory development of woven cloth products with Ban Phu Thong community, Sukhothai province. The study revealed that designing the woven cloth patterns to create identity unique to the community by integrating the patterns of what is seen locally and well known to tourists as inspiration for the design.

2.3. Benefit and use: Most of the respondents were satisfied with developing the designs further into a product of the local weaving group in Roi Et Province at the highest level with an average of 4.93. This may be because the Sabai Khit cloth pattern in the flower net pattern can be developed into various products of the local weaving group in Roi Et Province. It can also create the value for Sabai Khit cloth of Roi Et Province which is consistent with the study by Kritsakorn Kaew Boran (Boran, 2016) designing Mudmee cloth based on the image of Prasat Phanom Rung. It was found that the prototype product was suitable and provide practical use in terms of value when processed into real products.

## **Conclusion**

Using floral net patterns as a key concept in the design of the main Khit patterns including Khit Lai Kled (Scale pattern), Khit Lai Si Khan Si Dok (Four stem and four flower pattern), Khit Lai Oak Mangmum (Spider's chest pattern), Khit Lai Dao Klai Duean (Stars near the moon pattern), Khit Dao Lom Duean (Dao surrounding the moon pattern), Khit Lai Kamphang Kaew (Glass wall pattern). The pattern design is derived from the major components of the Sabai Khit cloth of Roi Et province and analysis of the data obtained from most experts on the development of Sabai Khit cloth pattern of Roi Et province in the flower net patterns. Most of the experts selected SKETCH DESIGN 3 and were in favor of adding the Closed and Open pattern next to the edging fringe. The 3rd color, Purple, is voted to be the base color while Yellow and white are to be the color of Khit flowers. These represents suitability to be used as the color of Sabai Khit cloth of Roi Et province in the floral net patterns. The red color is added in Lai Ae or the decorative pattern and there should not be any decorative silver purls being woven into the Sabai Khit cloth of Roi Et province in the flower net patterns. In terms of satisfaction, the satisfaction of the target group towards the development of Sabai Khit cloth pattern of Roi Et province in the flower net patterns can be divided into 3 aspects: 1) for Design, satisfaction with the development of Sabai Khit cloth patterns in Roi Et province in the the flower net patterns was at the highest level with an average of 4.68 2) in terms of Products, the satisfaction with the development of Sabai Khit cloth pattern of Roi Et province in the flower net patterns was at the highest level with at an average of 4.56 and 3) in terms of Benefit and Usability, the respondents were satisfied with the development of Sabai Khit cloth pattern of Roi Et province in the floral net pattern at the highest level with an average of 4.78.

## **Suggestion**

### *Research recommendations*

1. Given the intricateness of the floral net patterns, while still styling Khit, through care should be taken when counting the threads of long heddles.
2. Weaving the separating base requires counting of the number of wefts of the shuttle weft to obtain the same size of bases.
3. Relevant provincial agencies can further develop the patterns of Sabai Khit created to become the province's identity.
4. The agencies involved should partake in promoting the distribution or ways to sell the patterns of Sabai Khit cloth further

## **Acknowledgement**

I would like to express the deepest gratitude to the researcher would like to extend a deep gratitude to Faculty of Home Economics Technology, Rajamangala University of Technology Phra Nakhon (RMUTP), and the five experts for their valuable time, advice and recommendations for the development of Sabai Khit cloth patterns of Roi Et province in the floral net patterns. I would also like to thank the National Museum of Roi Et Province and the local traditional weaving groups in Roi Et Province for providing assistance with the site survey to collect the data of Sabai Khit weaving. I would also like to Thank the local weaving group of Ratchathani Sub-district, Ban E Mun, for providing support of the place and the weaving equipment used in the development of Sabai Khit cloth patterns of Roi Et province the flower net pattern.



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