

Bamboo Basketry Design Development based on Thai Wisdom Preservation

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Abstract

This research aims to develop design process on basketry patterns for preserving Thai wisdom and to transfer technology on basketry patterns to Artisan Group in Watboat District, Phitsanulok Province in the Northern Region of Thailand. Research methodology of this project was mainly conducted on qualitative approaches as followed; 1) Preliminary stage by surveying and studying original pattern of bamboo basketry works in the study area. Design details were drawn and modified to create new wicker model by collaboration of local artisan group. 2) Design developing stage by considering on budget, materials, esthetics, proportion, including other limitations in basketry model. 3) Mock up making stage to express uniqueness of bamboo basketry based on local identity, and 4) Prototype and market testing stage by developing design process with different characteristics of products to meet market demand. Findings from this research reveal that there are seven steps for bamboo basketry pattern design in order to preserve and reflect the local wisdom, which are 1) Information gathering 2) Idea generation 3) Design refining 4) Material preparation 5) Pattern weaving 6) Patent proposing 7) 3D pattern modeling and dissemination. With respect to outcomes of this research, not only knowledge, and wicker skills were transferred to local artisans; but also further applications in their basketry works can be seen in different forms such as hats, fans, shoes, and so on. These products have become supplementary sources of the local artisans' income which are approximately between 3,000 and 5,000 baht a month depending on how quality and delicate of each work is.

Keywords: Bamboo, Basketry, Thai Local Wisdom, Pattern Design

Introduction

Basketry is one of handicraft reflecting human intelligence on how they create their daily used utilities for different purposes. In general, basketworks in Thailand were made in various characteristics in association with geography, traditions, belief, religions, and local materials. Originally, basketwork was regarded as local handmade products which can be seen in terms of splitting, weaving, knitting, and weaving. Thai local handicraft is household made by using local materials under government support in form of SMEs. Over a few decades, handmade household arts such as basketry, craft, and other glyptic works have been supported by the Government of Thailand; as they are unique products reflecting local Thai wisdom which have potential to further applications in line with machine and technology.

Wattana Jutawipak (2011) stated that characteristics of folk art are simplicity, utility, local material using, local craftsmen work, no rules and conditions, beauty, and inexpensiveness. The Thai government has encouraged local artisans and communities to develop their handicrafts and local products either original or new creative products and promote them as identities of each sub-district that is well known as One Tambon One Product or OTOP. This project has been success not only in generating income to local people; but also in preserving local handicrafts in longer term. Outstanding products with high quality can be exported to other countries by the support of Thai government. Traditionally, basketworks in Thailand originate from agricultural society where farmers were also craftsmen during their harvesting off-season. Living close to nature, undoubtedly, their works had reflected purity of nature, freedom, wisdom, expressing their skills. Farmers become basketry specialists who understood of local materials well such as bamboo and rattan which were mainly used for their daily used utensils. Based on documentary research, basketworks were made of different parts of plants as natural materials such as leaves, branches, vine in simple form and then were developed to complex form. Basketry, is a work of art that retains utility in practical.

The methods in making such works two techniques are used, namely, "Jak" or to plait materials into strips and to "San" or to wave by combining both terms. These people named the basketry works as "Jak-San" as will be described below;

1. *Jak* referred to action of splitting materials particularly bamboo into strips which can be described as a preparing step in making basketworks.
2. *Sarn* referred to action of creatively weaving materials such as bamboo and rattan into patterns. Basically, there are three types of weaving method which are "Sod-Kad", "Sod-Kad with Tayeng", and "Kod". Viboon Leesuwat (2011) explained that *Lai-Kad* is a weaving pattern in such way where one stripe of *Tok* is up and down cross weaving vertically and horizontally in right angle. The same pattern with 2 or 3 stripes of *Tok* called *Lai Song*, and *Lai Sam* respectively.
3. *Tak* referred to action of plaiting which is used in order to add strength to structure of basketworks such as the bottom of basketworks

Artisan Group, *TorTae* Sub-district Watboat District, Phitsanulok Province in the Northern Region of Thailand was established in 1983. There are 12 members leading by Mrs. Numcheaw Marksornsong. The group's activities emphasise on making basketworks which are famous with accredited by various awards. Members of the group are praised regarding their exceptional skills and are interested in the art of basketry. Their products are varied such as baskets, hats, fans, pannier, and case for covering earthenware or other types of containers. Each work costs around 10-500 baht depending on quality of works that generate income between 1,000 and 3,000 baht per month. Owing to limited number of natural materials (especially bamboos) as well as support from the national government to preserve local product identities and to increase household income generation. Therefore, it is important to maximise value of basketworks by improving artisans' skills and design techniques based on collaboration between researcher and local craftsmen that are rationales for conducting this research.

Objectives

1. To develop process on basketry pattern to promote Thai wisdom.
2. To transfer basketry designing techniques to Artisan Group of Watboat District, Phitsanulok Province in the Northern Region of Thailand.

Research Methodology

The research methodology was qualitatively employed through series of implementations. Starting from preliminary studies of original basketry works in each design process was conducted through observations and questionnaire gathering. Sketch with drawing details were carried out to illustrate existing characters of basketry works. Unique eye-catching patterns were selected for further design development. Mock up works were created by considering to costs, materials, esthetics, and proportion regarding with other relevant limitations. Finally, proper design prototypes were presented to meet above criteria and to meet commercial demand for industrial sector.

Expected Benefits

1. Direct benefits can be seen in many ways; firstly, new design prototypes of basketry works are created which aimed for 20 patterns at least; secondly, knowledge and skills transfers to local artisan members; and finally, supplementary incomes gained from basketry works become potentially increased as contribution of this research (3000-4000 baht a month as estimated)
2. Indirect benefit may be collaboration between researcher: academic institute and local artisan group: community sector which can be developed and strengthen in long term.

Research Results

Researcher found that there are various types of bamboo that fit for making basketwork such as See-Suk Bamboo, Ruak-Bamboo, Hear-Bamboo, Kwaw-Larm Bamboo etc. People make basketry by learning from natural materials; as craftsmen cut bamboo and split them into stripes called "Tok" in Thai. In general, there are two types of "Tok" referring to *Tok-Peun* and *Tok-Pew*. The former are parts of bamboo's bark while the latter are parts of bamboo's pulp. Both of them can be described as bamboo streak which are vertically split; on the other hand, "Tok-Takeng" is named for horizontal split.

Presently, Tok can be produced by machinery making materials easier and faster to be used. Anyhow, Tok produced by hand is neater than one that made by machine. After Tok is ready, craftsmen used it in order to weave into shape in different patterns. Previously described that *Jak* is to split bamboo streak into stripes and *Sarn* is to weave strips; therefore, “Jak-Sarn” can be referred either to basketry product or process. Regarding with basketry works, weaving patterns can be created from simple one to complex one. For example, the simplest *Lai* (pattern in Thai) is “Lai-Kad” referring to the action of alternately weaving “Tok” which can be illustrated as one stripe of Tok is up and other stripe is down in cross action. This is particularly called “Lai-Neung”. Additionally, “Lai-Kad” can be more complex such as “Lai-Song”, “Lai-Sarm”. Furthermore, there are more complicated patterns such as “Lai-Cha-Leuaw”, “Lai-Takeng”, “Lai-Pikul”, and more. Basic patterns of *Lai* can be categorised in four types consisting of “Lai-Kad”, “Lai-Cha-Leuaw”, “Lai-Hua-Sum” and “Lai-Kon-Hoi”. Each pattern presents different unique characteristics as showed in the figures below.

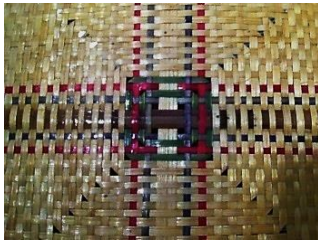


Fig.1 Lai-Kad



Fig.2 Lai-Cha-Leuaw



Fig.3 Lai-Hua-Sum

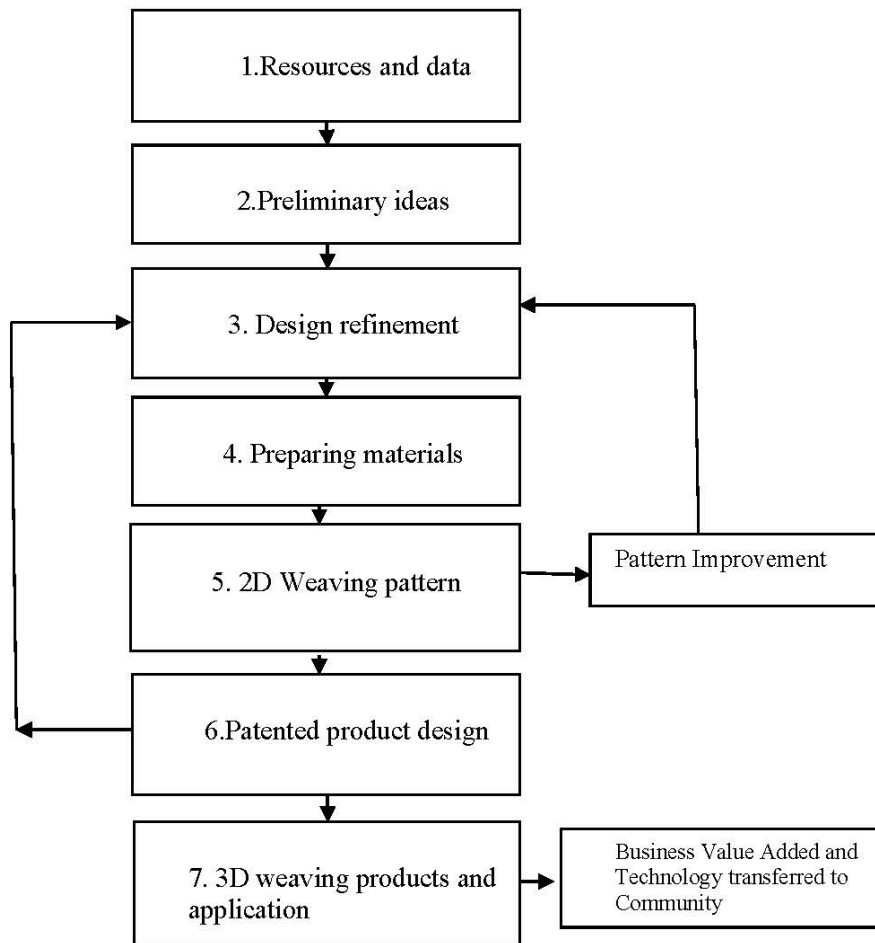


Fig.4 Lai-Kon-Hoi

Lai Kad is the oldest weaving pattern in such way where one stripe of Tok is up and down cross weaving vertically and horizontally in right angle. This is called “Lai-Neung”. “Lai-Song” and “Lai-Sarm” will be named after making “Lai-Neung” to be more complex in respectively. “Lai-Kad” is fundamentally used in order to make basketry work for several kinds of basketry. Lai-Tayaeng is the method to weave Tok without vertical and horizontal stripe but weave in diagonal pattern resulting in hexagon or beehive liked shape. Therefore, this has sparse looking pattern such as “Lai-Takeng”, “Lai-Chalom”, “Lai-Hua-Sum”, “Lai-Kled-Tao”, and “Lai-Cha-Leuaw”. Lai-Kod or Lai-Tak is the weaving method applying to materials that are unstable such as rattan, *Yan Lipao*, jutes, and water hyacinth, and other soft plants. These materials must braid (Tak) and curl (Kod) start at center then tie all layers together. The pattern can also be braided or weaved by covering particular objects in order to get those materials in shape. For example, if Yan Lipao bag is wanted, bamboo and rattan are used as structures, then, stripes of Yan Lipao will be weaved on such frames for making the bag. Such technique is also employed in order to make other forms of basketries and combination of mixed materials can make basketworks to be more interesting and unique look.

Patterns of basketry works are various depending on different design concepts and imagination of artisans, for example, they can be animal looking shapes (fish, grasshoppers, birds, etc.) and mixed with different functions such as belt, ring, lace, and so on. Additionally, independent pattern is also used in order to make oblations such as garland and artificial flowers. Other than basic weaving pattern described above, Thai craftsmen tend to include Tak (braid) as one step in basketry process since it is needed to braid and tighten with some materials such as rattan, rope, or jute in association with basketworks. Thai basketworks can be found in different areas around the country with different unique styles by using different techniques. However, this research was implemented into seven steps for basketry works which are 1) Information gathering 2) Creative idea generation 3) Design refining 4) Material preparation 5) Pattern weaving 6) Patent proposing 7) 3D pattern modeling as showed in a diagram below.

Design Process of Making Basketry Pattern by Nirat Soodsang (2014)



Details of Implementation

1) Information gathering 2) Creative idea generation 3) Design refining 4) Material preparation 5) Pattern weaving 6) Patent proposing 7) 3D pattern modeling as showed in a diagram below.

1. Resources and information collection were initially conducted either through primary or secondary sources as much as possible in order to develop for preliminary design.
2. Conceptual idea was drafted freely in line with imagination inspired by either nature or manmade matters. Draft papers were demonstrated as bamboo stripes to create conceptual works.
3. Design refinement is the step aiming to craft basketry works to be more functional and more attractive in terms of stability of the pattern, characteristics, colours, and other elements.
4. Preparing materials means to select types of bamboo in order to be compatible with each type of basketworks. Mostly, Hear-Bamboo is frequently used due to its flexibility to cut and to form. All bamboo stripes are normally boiled and colour died with salts for 20 minutes; then they are naturally dried.
5. 2D weaving patterns are basic design process for making basketry by considering details of beauty.
6. To protect intellectual property by proposing patent of fresh combining pattern of basketry works which are key contributions from this research which are benefits for both researcher and local artisan group.
7. 3D weaving products and dissemination which can be seen either in demonstration of design practice or in terms of publications.

Combinations between dot, line, color, shapes, and other art components can be compatible with weaving techniques to express local pattern by integrating with each pattern. Based on the study, patterns can be categorised into two groups which are line patterns in vertical, horizontal, Zig-Zag, and curve and shape patterns in square such as rectangular, rhombus, pentagon, hexagon, and octagon. Surprisingly, there are 48 patterns were accredited by the Thai Intellectual Property Law. Each pattern can be applied to basketworks; however, there are some patterns may not be appropriate to build up as 3D model due to difficulties in structuring. Therefore, only nine basketry patterns are illustrated in this paper.



Fig.5: Weaving pattern was patented as product design. Patent Number is 36587. About this figure, the pattern is applied to use with 35 cm. long and 35 diameter vase. This pattern consists of flower design in square.



Fig.6: Weaving pattern was patented as product design. Patent Number is 36261. About this figure, the pattern is applied to use with 34 cm. long and 10 diameter vase. This pattern possesses characteristic of vane that slantingly weaves.

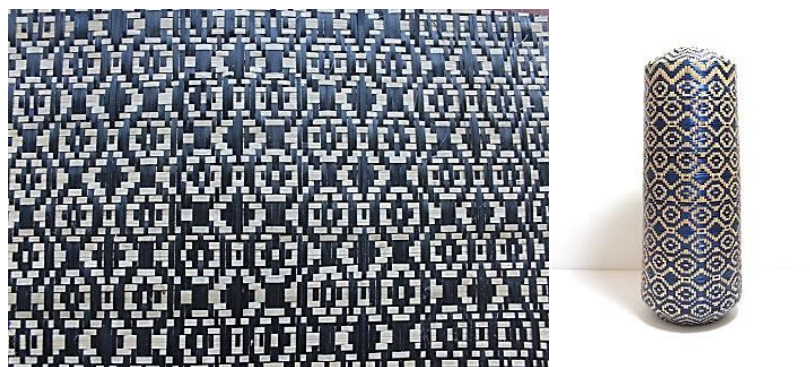


Fig.7 Weaving pattern was patented as product design. Patent Number is 36260. About this figure, the pattern is applied to use with 34 cm. long and 10 diameter vase. This pattern possesses characteristic of rhombus design in vertically alternate with ellipse design.

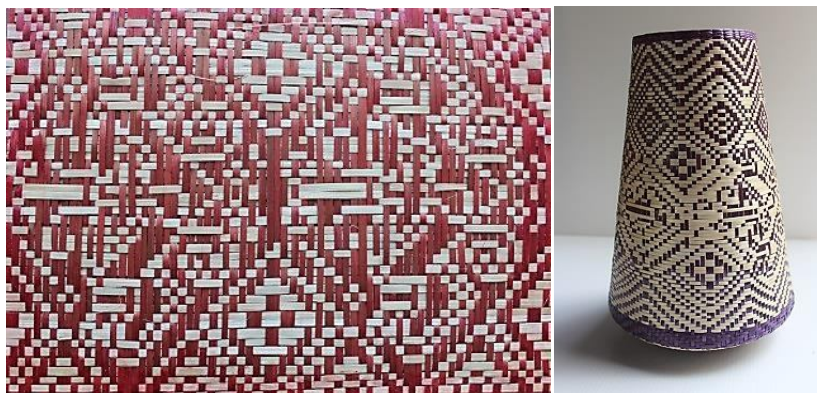


Fig.8: Weaving pattern was patented as product design. Patent Number is 36264. About this figure, the pattern is applied to use with 24 cm. long and 9 diameter vase. This pattern consists of 2 groups of flower design in the middle of rhombus design.



Fig. 9: Weaving pattern was patented as product design. Patent Number is 36272. About this figure, the pattern is applied to use with 24 cm. long and 14 diameter vase. This pattern possesses characteristics of flower design which lie horizontally.



Fig.10: Weaving pattern was patented as product design. Patent Number is 36276. About this figure, the pattern is applied to use with 25 cm. long and 35 diameter basket. This pattern possesses characteristics of hook design which lie horizontally.



Fig.11: Weaving pattern was patented as product design. Patent Number is 36256. About this figure, the pattern is applied to use with 25 cm. long and 35 diameter basket. This pattern possesses characteristics of square design which alternately lies.



Fig.12: Weaving pattern was patented as product design. Patent Number is 36277. About this figure, the pattern is applied to use with 20 cm. long and 38 diameter basket with handle. This pattern possesses characteristics of flower design in the middle of symmetry pattern.



Fig.13: Weaving pattern was patented as product design. Patent Number is 36593. About this figure, the pattern is applied to use with 18 cm. long and 20 diameter basket with handle. This pattern possesses characteristics of symmetry pattern.



Fig.14: Piece of weaving pattern is used in order to improve weaving techniques for local craftsmen in community



Fig. 15: Members of Artisan Group of Watboat District, Phitsanulok Province, in the Northern Region of Thailand. New technique of weaving pattern in order to preserve and promote Thai wisdom.

Knowledge and Technology Transferred to Community

1. Unfortunately, there have been few written documents on local wisdom regarding with handicrafts in Thailand. Traditionally, most of knowledge was verbally transferred and learned by doing from generation to generation leading to loss in local wisdom and indigenous technology. Therefore, this research intended to encourage locals to work with scholars to preserve and sustain local wisdom; particularly in basketry works. Collaboration among government, academic institutions, non-government including local people is key process for long term development.

2. Access to knowledge and technology transfer of basketry works should be encouraged at early stage of educations in primary, secondary and non-formal education. Proper training should be promoted in long term, special curriculum on making basketry is a case in point which may be developed as a learning strategy to preserve local wisdom for today generation.
3. Proper media are helpful technologies which can be used as teaching and learning aids such as video, manual, or posters presenting how to make basketry with different patterns. These demonstrations can be accessed any time which are convenient for learners to review as much as they want to do.

Discussion

In development of weaving pattern to preserve and promote local wisdom for Artisan Group of Watboat District in Phitsanulok Province, in the Northern Region of Thailand, the researcher conducted experiment with sample group and found that members can effectively follow the seven steps of basketry making process in line with a design instruction created by the researcher as a guide of new weaving patterns which local artisans can develop and improve their own basketry works. Songpan Wannamas (2002) pointed out that four types of bamboo such as Bong-Kai, Sang-Pa, Sang-Ban, Hear-Bamboo are frequently used as basketry materials. To prevent natural materials from insects and to preserve quality of woods including bamboos, local craftsmen usually soaked them into water, smoked or extracted moisture and oils out of woods by covering them with salt to prevent against insects and fungi. Now a day, wood coating has been more frequently used. Bamboos also need to be naturally dried which take 3-4 months; but currently, steam and hot air machines are preferably employed. To make basketwork, old school methods such as stripe, chop, cut, and weave by human are still employed. Conventional methods such as manual plait, chop, and weave which can be seen in four common patterns or “Lai” referring to “Lai-Dee”, “Lai-Song”, “Lai-Sam”, “Lai-Pikul”. Interestingly, The study of Watchara Thingyod (2007) on process of making and develop basketworks in Chiangmai Province in the Northern Region of Thailand maintained that there are four patterns of basketry products consisted of “Lai-Kad”, “Lai-Cha-Leuaw”, “Lai-Hua-Sum”, and “Lai-Kon-Hoi”. Raw materials used in her study included to bamboo and rattan (coated with other dyeing color, vanish oils, and benzene oils), steel structure, and other electric equipments. Popular products in this case are lamps, baskets, bags, and chairs. Normally, those handicrafts are decorated with other mixed materials. Apichart Na Pikul (2011) studied on bamboo product transformation in ChiangRai Province, in the Northern Region of Thailand stressed that basketworks originated from three main factors; firstly, basketry is necessary utensils used in human's daily chores.; secondly, basketry is created to fit to environment and geography contexts; and finally, basketry is created in association to their belief, tradition, and religion. Exchange of knowledge and technology transfer are mutual benefits for researcher, instructors, practitioner; especially local artisans. This research revealed that knowledge and technology can be shared in seven techniques, namely, oral literature, demonstration, individual practice, observation, self-study, group learning study, and formal training sectors. Surang Methanont (2002) conducted research case study of bamboo making bags in Ang-Thong Province, the Central Region of Thailand. Her study revealed that natural colour dyeing made from ebony fruit, annatto tree, tropical almond leaves, etc. takes longer time than artificial dyeing process. Different colour of basketry can be made based on customers' order. Digital media in term of vido and CDs can be used to promote basketry works and to preserve local wisdom. Findings from her research showed that local craftsmen were lacked of knowledge in aspects of management, production, working attitude, and understanding of sufficient economy. Another study stressed that artisan workers wanted to increase in their incomes, in managing materials, in quality control of product and efficient goods delivery, and in process transparency plus community participation (Somporn Jantaraopas, 2007). Based on the study and development of basketry design, local art preservation should be done in two ways. First is to reserve the art as it is and second is to apply such art and adapt it to present daily life. Additionally, promotion in the area should be done in order to encourage people to recognise the value of local art. Besides, improvement of technologies should be employed for better design and to increase durability of basketworks; particularly, uniqueness of local identities should be maintained in proper approaches.

Disclaimers

I would like to thanks to Naresuan University for considering me as an Outstanding Researcher in 2009 whose research has contributed to benefits for local communities. This is my hourable award given by H.R.H. Princess Maha Chakri Sirindhorn during the graduation ceremony.

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