

Packaging Design with Natural Materials : A Study for Conservation*

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Abstract

The objective of this project is to study the categories of food package design from natural materials in southern Thailand. Among the southern Thai various designs can be classified based on the following: types of food, materials, package production process, transformation of natural material, package structure, properties of material and packaging and marketing strategy. All of these factors have to be carefully considered under the local social and cultural contexts. They have an effect on the design concept of packages made of natural material in Thailand.

The research methods are literature search, observation, interview and sampling of packaging design analysis.

A survey of related literature is necessary to find basic social information concerning the geographical and cultural characteristics of the target community areas. From the information obtained the design of appropriate tools for field work is possible. By observation and interview, with random sampling of local dealers and producers, data from 333 sources of different cities and towns was obtained from the following places : Chumporn, Ranong, Phang-nga, Phuket, Surat Thanee, Patthalung, Krabi, Trang, Nakornsri thammarat, Satun, Songkhla, Pattanee, Yala and Narathivas.

Results of study indicated that natural material has been used

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for a long time. It is a tradition passed through older generations. The choice of materials are wide range. Most of them are domestic materials easily available from the vicinity of the producer /dealer's home. Among the choices of material from different parts of plants (such as leaf, branch, fiber from stems etc.) a proper choice from the wide range of material with proper design for food packages is available. They are useful as protective material for food as well as their convenience for counting the number of food packages for packing and transportation. Besides a food container, packaging can be stacked to display the product image. It is the best package to show customers that they will have the proper food for their choice. These natural material packages become a symbol and show the clear identity of the folk package design. It tastes good and smells like food, which synthetic material can not match. These natural materials are: Banana leaf (*Musa spp.*), Kapor leaf (*Licuala spinosa Thunb*), Bamboo leaf (*Babusa sp.*), Klum leaf (*Donax canniformis*), Laan leaf (*Corypha Leconter Becc.*), Para Rubber leaf (*Betal palm*) Chak (*Nipa fruticaus*), Krajude (*Lepironia articulata*) etc.

Packing can be classified by process as follows:

1. Folding
2. Receiving plate (like a dish or food plate)
3. Containing
4. Clipping and skewering
5. Tying (Bundle)

There is a great diversity in package forms; they make convenient and effective packing devices, appropriate for transportation preservation, as well as marketing purpose. The study of the construction of packaging showed that natural material could be applicable both from the leaf vein and longitudinal, crossed or diagonal, to the leaf axis as a design that provides sufficient strength for a package. The package is not easily broken or torn. The strength of the mid rib vein makes a strong package structure. The 'Khanom Chak' (coconut sweet wrapped with palm leaf) is a good sample.

The southern geographical regions have selected the unique characteristics of different species of plants and their specific parts

can make smart designs appropriate for transportation and sale, and the process has communicated a good message to customers that the product is safe to consume, easy to keep and contains a proper marketing strategy.

Purpose of Study

To study the categories of food package design of southern Thailand classified as natural package design based on the following : type of food, production process, material, transformation of natural material, structure, properties of package, usage, transportation, packaging in different climates, duration of keeping the product, and the marketing strategy. The team of researchers are fully aware of the social and local culture contexts which are significant influences on the design concept and form of these natural packages in Thai society.

Process of Study

The research methodology is divided into 4 steps :

First, surveying data related to the result of study which involve to be the principle data, to set the point of study cover the physical data of southern and natural resources, society and traditional in community of southern. According to this data, we found an importance relationship between in regard to sharing of each southern group and various geographical locations and communities. This can create a relationship in the form of sharing between communities in their own way. For example, Para rubber agriculturists and orchardist agriculturists who live in a mountain highland area, need Kapi, salt fish and dried prawns from fisheries in coastal areas. The people in the coastal areas also need seasoning fruit wood and herbs from the mountain highland. The southern communities have been sharing for a long time, which has affected the traditions related to food for the unique southern group of people and brought them together at the same time.

Second, besides surveying data and the result of involving study, we have also prepared a questionnaire and pre-tested the questionnaire before the field study to collect data on production and distribution.

Third, we conducted a field study by using in-depth interviews for the production and distribution, and by considering the real situation at the place of production and distribution. The field test started in the early morning at the market of the village, tambon, or amphor. These markets are the main target of the study and are the place where we found the system of close relationships which last longest between people in communities and people outside communities. Most markets are closed to the villages or on the way between the villages. The markets are temporarily set up along the way from the street, and without classify the product as fresh. Sizes of markets depend on the number of sellers which reflects by the number of buyers. There also were the food markets from the afternoon till evening both private and public. These markets focus on food.

The sources of the data were found along the way, such as coffee shops, food shops, convenience stores, and travel places.

For the target group of this survey, we used a random sampling technique in the place we have mentioned; all the 14 provinces in southern Thailand, which are Chumporn, Ranong, Pang-Nga, Phuket, Surat Thanee, Patthalung, Krabi, Trang, Nakornsrihammarat, Satun, Songkhla, Pattanee, Yala and Narathivas. We found that people in the south are varied and could carry on their traditional ways of living together, including original Thai, Thai-Chinese, and Islamic people. This study was based on the geographical location of the communities which can be divided into 3 groups;

1. Coastal area of the gulf of Thailand and Andaman Sea
2. Central Plains of the southern Region of Thailand
3. The Mountain Highland and other near by areas

The communities of the south are set by mixing together life, trade, and transportation. The difference is only in the traditional activities of each group. The results of the study showed that the structure of packaging for the design of natural packaging is almost the same so the difference is geographical which is affected by the origin of the natural source for the person to use.

The number of respondents is 333.

Forth, we classified and analyzed the data by emphasizing on packaging included in the study and analyzed the process of

packing, usage, materials, and atmosphere in related fields in communities.

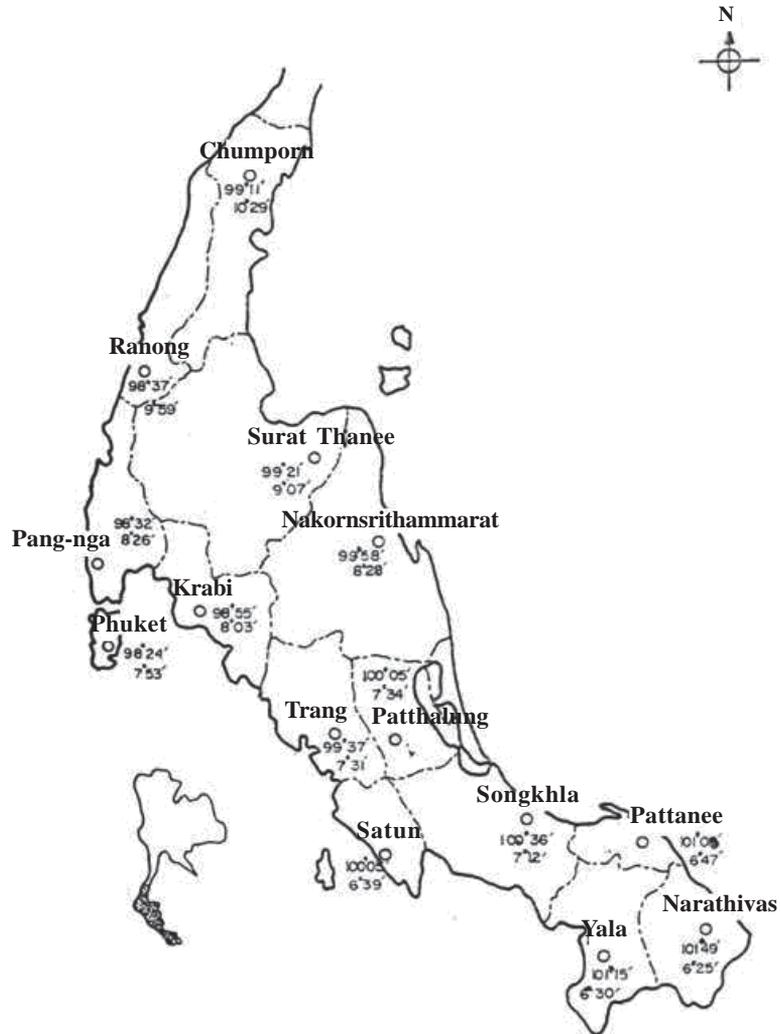


Fig. 1 The illustration map of southern Thailand.

Reference : Modified from Pramarn Dhebsongkroa. Southern Geography : **Geo-Politic Science with Field Work Education for Local Geograghy.** (Songkhla : The Academic Service Project of Princess Songkla Nakarinthara University, Southern Regional, 77, 2539)

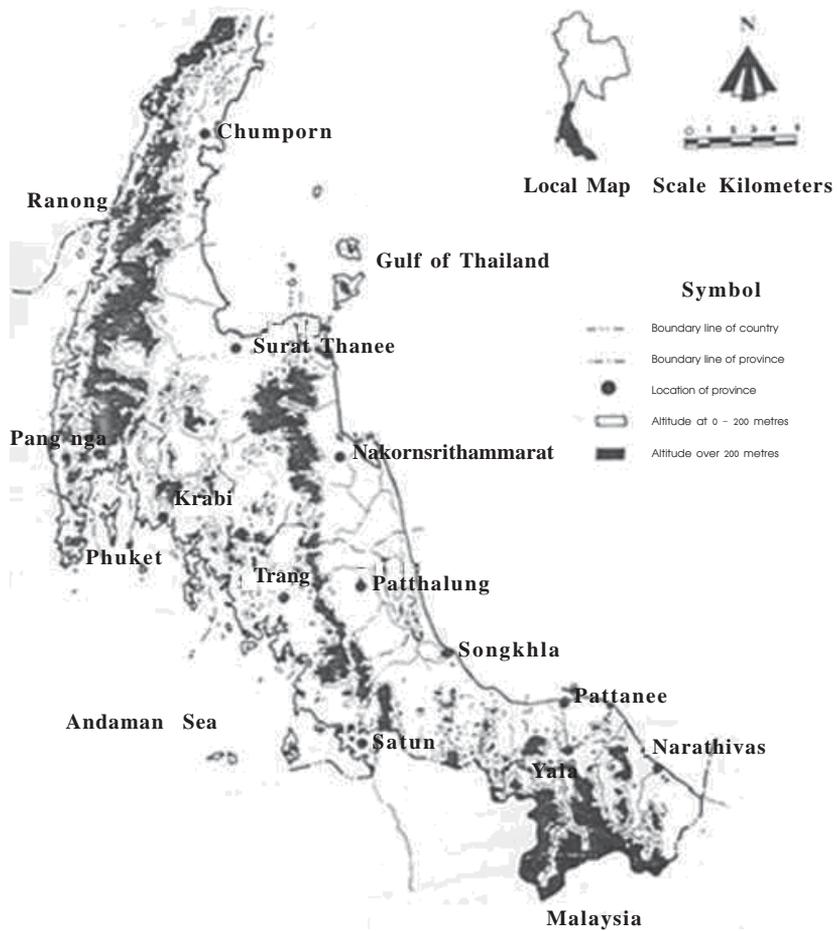


Fig. 2 The illustration map of southern regional landscape.

Reference : Modified from Forestry Research Center. The Faculty of Forestry, Kasetsart University. **Project Studies on Tourism for Ecology System Conservation.** (Bangkok : Kasetsart University, 2528)

Results of the Study

1. Physical properties of food affect to the packaging. We found that the natural materials in the south are various for people to choose for the most usage by the packaging and food.

1.1 Food which can stay in a shape. In this packaging, the shape of the package will stay in a shape.

1.2 Liquid food and when it has been cooked, it will stay in the shape of the package.

1.3 Liquid food shaped by the package.

2. Packaging material. The materials from plants, such as leaves which are need to take the food and to pack it before cooking, and also found that other part of plants can be used to seal the package.

According to the study, the most used natural packaging is banana leaves. Tani banana leaves are the most popular, and planted all over the southern area. Next is Wild Banana, found in mountain areas. Stone Banana leaves were found to be used in Yala province. Bai Por Hor Tom was found much in the south too.

3. The process of packing, structure of packaging, usage, transportation, packaging, and the marketing strategy all considered as the whole picture of packaging divided into 5 categories, *folding, receiving plate, containing, clipping and skeweing*, and *tying* category.

3.1 The folding category is the largest category in this study. The shape of the bundle can be variable.

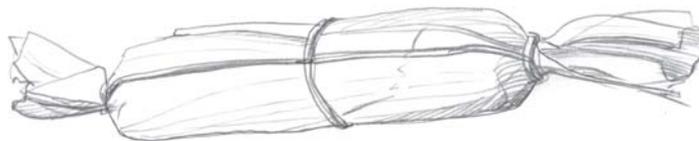


Fig. 3 Packaging with multilayer.



Fig. 4 Long cylinder shape packaging, the sheath covering the inflorescence is used for wrapping material.



Fig. 5 Khao Tom Mud (left) and Khao Tom Mon. (right)

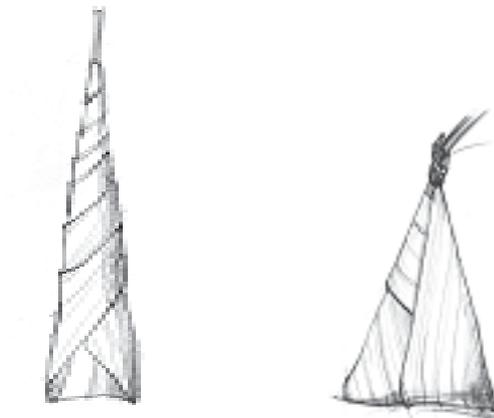


Fig. 6 Fold into a male (left) and a female (right) triangle shape in which the top end side is insert from the bottom side.

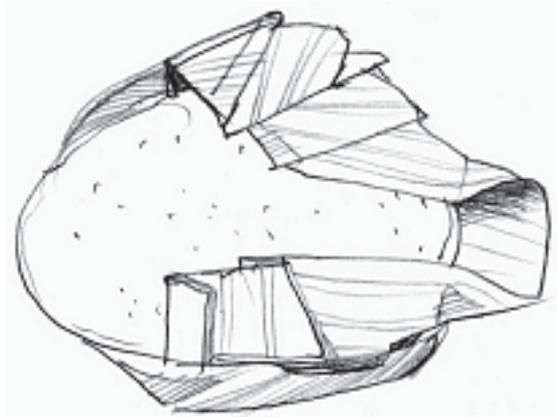


Fig. 7 Khanom Apong.



Fig. 8 Khao Niew Moon. (sweet sticky rice)



Fig. 9 Khanom Jang.

3.2 The receiving plate category is to place under the food, the material made from banana leaves both fresh and dry and comes in various shapes, such as high cone shape or square.

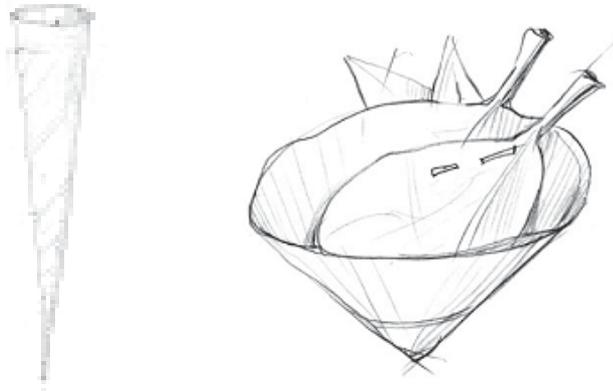


Fig. 10 High cone, Khanom Kruay's package and blunt cone, Khanom Krok's package.

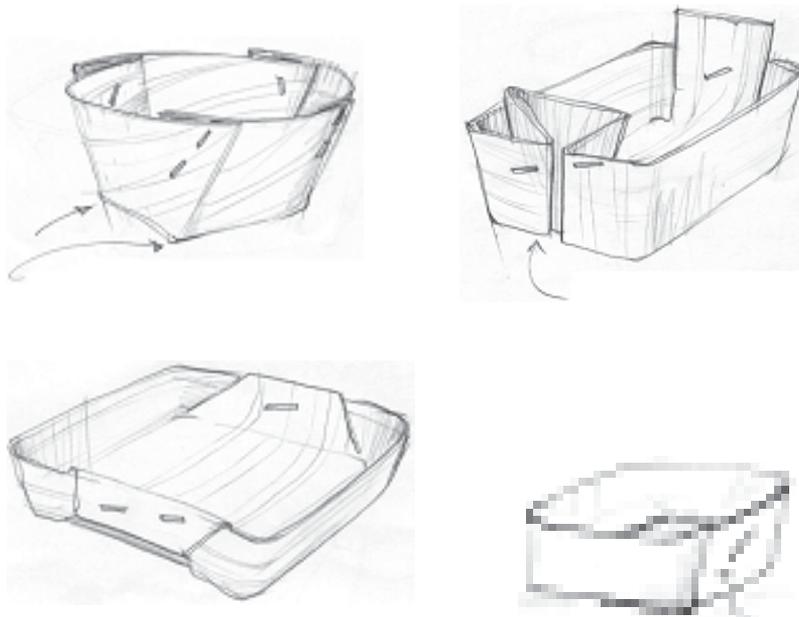


Fig. 11 Kratong .



Fig. 12 Red sticky rice with sugar and Brown sugar contain in Waen Bai Taan.



Fig. 13 Munthow on receiving plate from banana leaf.



Fig. 14 Group of Khanom Takoe on receiving plate from 2 plant leaves which pin together.

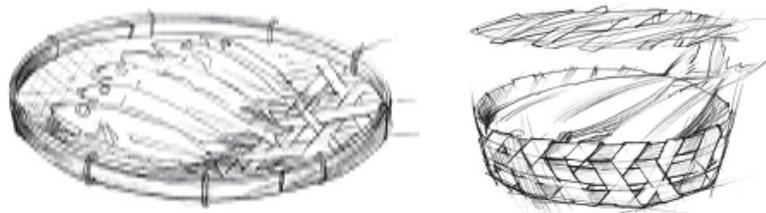


Fig. 15 Kheng Pla Too. (basket of fish)

3.3 The container category, for example, *Nepenthes ampullaria* used as a container for containing sticky rice.



Fig. 16 *Nepenthes ampullaria* contains sticky rice.



Fig. 17 Creative round shape, weaved with bamboo strip.



Fig. 18 Loosely creative round shape which light weight, used for containing fruits.

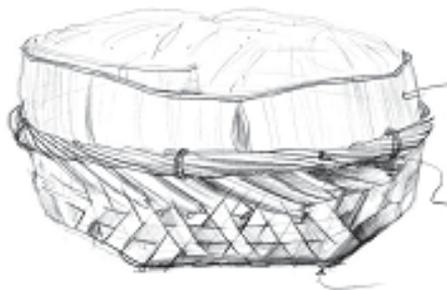


Fig. 19 Basket of Khanom Jean.

3.4 The clipping and skewering category is for arranging the food in one unit in order to preserve food or for easy cooking and grilling.

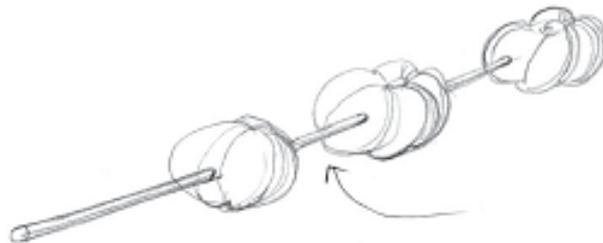


Fig. 20 Mangosteen skewered into bamboo stick.

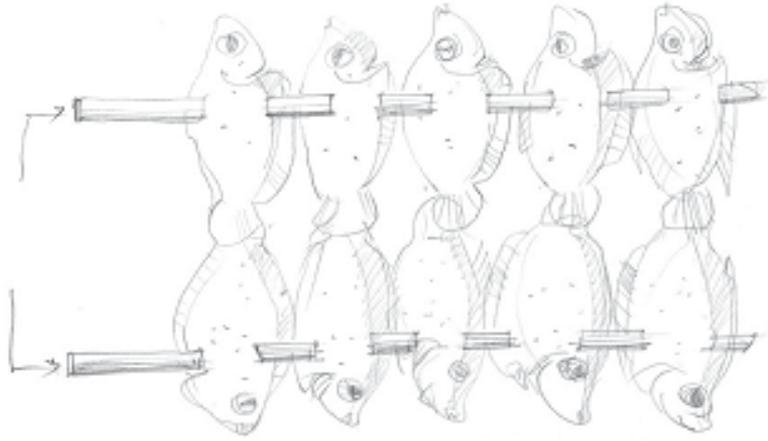


Fig. 21 Dual splitted fish with flat bamboo stick.

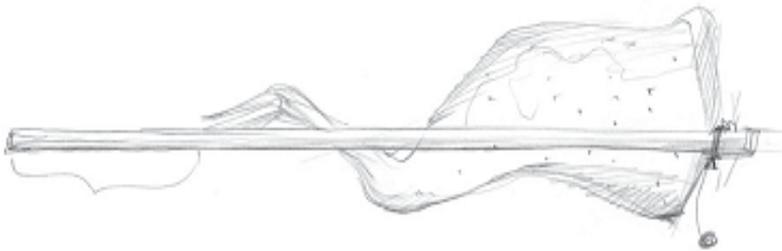


Fig. 22 Splited grilled chicken leg with bamboo stick.

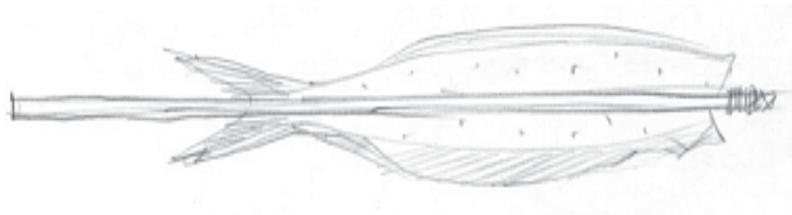


Fig. 23 Splited grilled fish.

3.5 The tying category is to collecting small pieces to make them easy for counting and transportation.

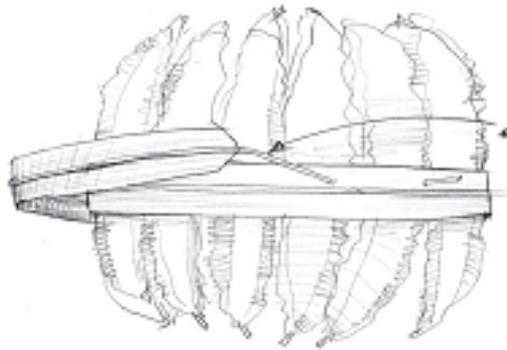


Fig. 24 Tying with a coconut leaf.



Fig. 25 Tying by climber stem.



Fig. 26 Tying with banana leaves.

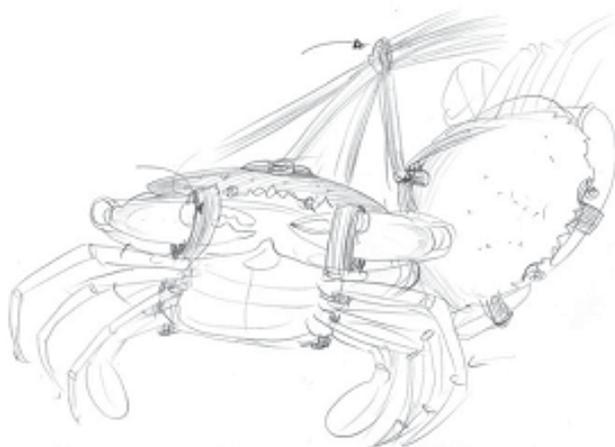


Fig. 27 Tying the crab.



Fig. 28 Bunch of Khanom Tom.

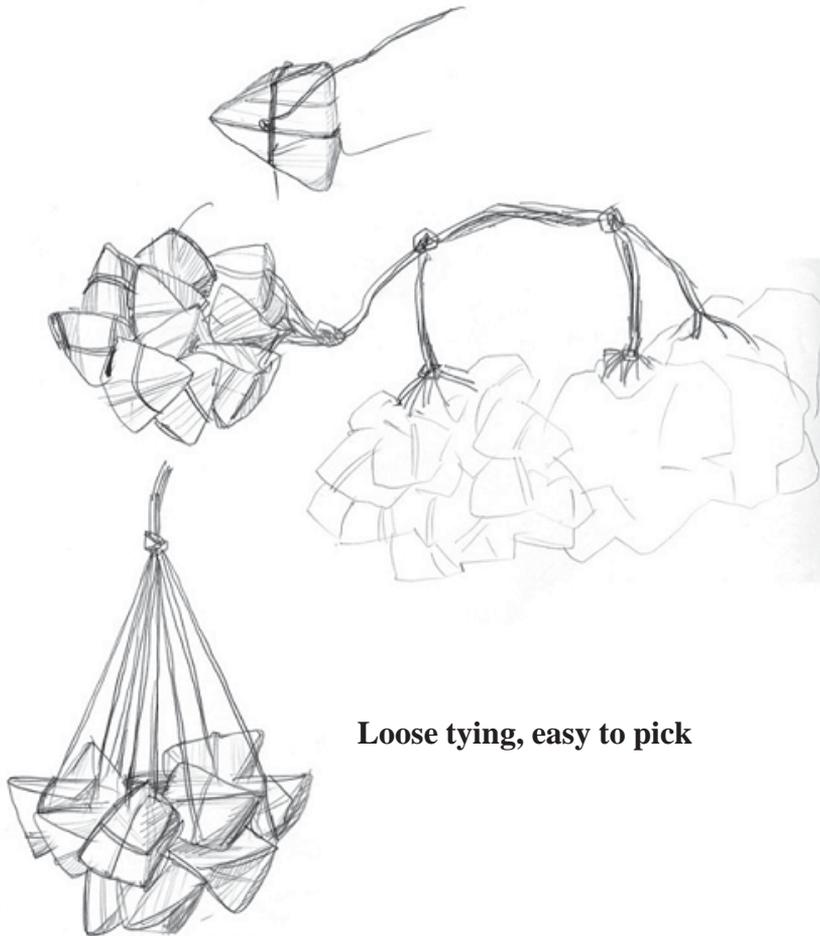


Fig. 29 String is used for counting and transportation.

All the categories were good for usage, preservation, and as a marketing strategy.

1. Cooking in the package smells good
2. Cut the melt fruit for easy preserve.
3. The Pyramid bundle are good for the consumer to see the food.
4. The string category can help in distribution.
5. Signs on the package help categorize products.
6. Tie up vegetables to reduce damage.

4. The purpose of packing is for preventing breakage. The fibers in leaves are useful. The structure of pyramids is strong.

Results of the Analysis

The results of the Analysis express the ideas of folk designers who had wisely used natural material for package design.

1. Types of food in the south depend on the traditional group. Each group has its own food but to consume in the same. In the market, we did not focus only on one group of customers but all groups.

2. The choice of material is an important fact. The natural qualities of the material, such as the width of a plant leaf, strength of fiber and surface quality (the material can be easily cleaned or is highly absorbing) have to be considered.

3. There are different trends and other changes depending on the tastes and values of different regions. The same kinds of food from different geographical locations have different package designs indicating their geographical origin of production. Most of the food cooked from coconut milk, when exposed to heat, will be an oily surface; this is an important factor. Food wrapped in leaves, especially banana leaves, there will be a more favorable smell that industrial materials usage cannot realize. It is a means to improve the charm and taste of the product as well as creating a type of folk package.

4. Material or species of plants used in package design may be changed because of the limitation of material. In some cases it is no more available or it has to be purchased from other regions. As the amount of production increases the producers have to find new substitute materials.

5. The category of packaging for all groups are the same because they all concern the physical aspects of food.

6. The package structure and its unique function have to be considered. For example Khao Tom Chao, where the food product in a young coconut leaf makes a pleasant smell but in old leaf makes a strong unfavorable smell. Food packaging has to be convenient for cooking and consuming. To prevent safety problems is another consideration as well as a marketing strategy.



Fig. 30 Khao Tom Chao or Tupa Nasi.

7. Natural materials still fulfill the package function. Researches indicate that food lasts longer when preserved in natural materials that are easily degradable.

Recommendation

1. This study has shown some design of food packaging which most have never seen, so these regional wisdom knowledges must be diversified by different areas and must be gathered them more before losen.

2. The data should be collected widely and needs more time. There were some limitations of the study :

2.1 Arrived on the day that the area did not have a market.

2.2 Dangerous Road

2.3 Flooding

2.4 Early morning for the large producers and distributors.

3. Spreading the local idea.

4. The name of categories could be adjusted for a proper name because this study called for the shape as seen.

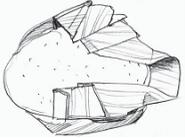
5. Using natural materials, such as plant leaves should be campaigned as a means to reduce environmental problems starting at the family level.

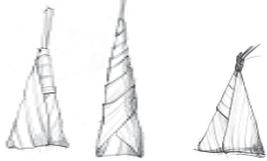
6. Ecologically oriented issues in design, need to be serious consideration.

7. Designers should learn and use the distinguishing qualities of the material wisely.

8. A serious problem is that natural materials used for packaging are fading because of their high price. There is a need for proper measures to be carried out. There should be higher taxation on high waste materials which will damage the environment.

Table 1

Package Pattern	Group 1 : Thai Buddhist Culture	Group 2 : Thai Chinese Culture	Group 3 : Thai Muslim Culture
<p>1. Folding 1.1 Folding by the shape of food There are 2 similar styles which are Thai Buddhist culture and Thai Chinese culture. The first style is folding by opening the middle of the top. It uses for sweet sticky rice which has many different toppings. Therefore, customer can see the topping of sticky rice. Moreover, it uses for steamed Khanom Mun. The second style is simple. The physical of package will wrap the shape of food accordingly. Their function like the container for preventing the food and suitable for holding.</p>	<p>Sweet sticky rice's packaging - customer can see the product clearly.</p>  <p><i>Khao niew moon (sweet sticky rice)</i></p>	<p>Aapong folding the banana leaf by the shape of food. One side open for eating easily and another side for holding.</p>  <p><i>Khanom Aapong</i></p>	<p>Unfounded</p>

Package Pattern	Group 1 : Thai Buddhist Culture	Group 2 : Thai Chinese Culture	Group 3 : Thai Muslim Culture
<p>1.2 Angular Wrap</p> <p>Different wrapping device is founded in group 1 and 2. The pattern of using the plant's leaf for getting into shape is similar to making a funnel, filling the food and folding up and the line in the middle of leaf will help the structure of package stronger. Phor leaf (Khanom Tom) and Bamboo leaf (Khanom Jang and Ba jaang) are used for this style. Khanom Tom's package can use itself to wrap close the package but Khanom Jang and Ba jaang's package need the rope to tie.</p>	<p>Khanom Tom is wrapped with the tip of Phor leaves winding to make a triangular pyramid only one kind of material required. Releasing the wrap is simple.</p> <p><i>Khanom Tom :</i></p>  <p><i>male(long) female (short)</i></p>	<p>Khanom Jang is smaller than Ba jaang due to the different size of bamboo leaf. However, both Jang and Ba jaang have round shape than Tom.</p>  <p><i>Khanom Jang</i></p>	<p>Khanom Tom : Short style is found in this group like Thai Buddhist culture group.</p>  <p><i>Khanom Tom female style (short)</i></p>

Package Pattern	Group 1 : Thai Buddhist Culture	Group 2 : Thai Chinese Culture	Group 3 : Thai Muslim Culture
<p>1.3 Long Cylinder shape packaging</p> <p>There are 2 similar groups which are package of Kalamae and durian in Thai Buddhist culture and packaging of Khanom Lorpeh in Thai Muslim culture.</p>	<p>The dessert is heavy, so the piece of palm husk is strong enough and the surface of it is smooth so the food will not stick in it. Moreover, it preserves the food, if putting on the top of oven. The huge and covered completely package is tied by rope at the end and the middle so the product will not touch the air when the customer wants to buy, the seller will cut and scale the weigh.</p>  <p><i>Kalamae package</i></p>	<p>Unfounded</p>	<p>Packing with multi layer. Big size of package, using 2 layer of banana leaf by wrapping into round with long size. Together with the tight up rope in the middle, bottom and head. But leaving the end free like the durian packaging and kalamae in Buddhist culture. Because this dessert must be boiled in such a case the body itself must be ventilable and dehydratable. With this size it will cut into a single part for sale.</p>  <p><i>Khanom Lorpeh</i></p>

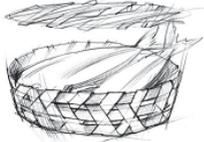
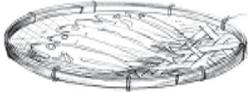
Package Pattern	Group 1 : Thai Buddhist Culture	Group 2 : Thai Chinese Culture	Group 3 : Thai Muslim Culture
<p>1.4 Wrapping 2 pieces and tying together</p> <p>The shape of the package makes the product look big especially the filling dessert will make packaging stronger. Therefore, it's suitable for steaming and tying by thin bamboo-strips to be paired. This style is found in 2 cultures which is Thai Buddhist culture (Khao Tom Mud) and Thai Muslim culture (Khao Tom Mon).</p>	<p>Khao Tom Mud has many sizes and every size is convenient to eat without cutting. Normally, there are 2 points but sometimes's more.</p>  <p><i>Khao Tom Mud</i></p>	<p>Unfounded</p>	<p>Khao Tom Mon's package is two times bigger than Khao Tom Mud. It has the handles and can be separated for sale.</p>  <p><i>Khao Tom Mon</i></p>

Package Pattern	Group 1 : Thai Buddhist Culture	Group 2 : Thai Chinese Culture	Group 3 : Thai Muslim Culture
<p>2. Receiving Plate 2.1 Flat Part</p> <p>A simple packages design as flat part of the leaf round or rectangular or 2 blades sewer or attached by other device to fit the proper designed shape of sticky dessert or other food.</p> <p>There are 3 patterns which are,</p> <ul style="list-style-type: none"> - Single flat part by cutting rim to be triangle and circle in similar size with a dessert, such as Khanom Hua laan, sweet cashew nut (Thai Buddhist culture) Munthow, Khanom Tao (Thai Chinese culture) - Single flat part by folding the rim to be square but no corner having the same size with a dessert, such as Khanom Hua laan (Thai Buddhist culture group) and Khanom Tao (Thai Chinese culture group) - Pair flat part and binding together by the pin. It uses for many pieces of dessert packed together such as plate of Khanom Takoe (Thai Buddhist culture group) 	<p>The material used to be container, not only the banana leaf is used, but cashew nut's leaf and Khanoon's leaf are also used.</p>  <p><i>Khanom Luem Kluen</i></p>	<p>Using banana leaf to hold Munthow and Khanom Tao.</p>  <p><i>Munthow</i></p>	<p>Unfounded</p>

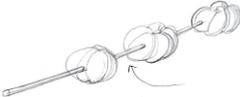
Package Pattern	Group 1 : Thai Buddhist Culture	Group 2 : Thai Chinese Culture	Group 3 : Thai Muslim Culture
<p>2.2 Waen Bai Taan</p> <p>A combination of group 1-3 Using palm's leaf torn to be long thread around 4 x 0.5 inch. Rolling in a circle for being the frame of sugar and liquid cooked dessert. When the dessert is cool down and hard, it will stick with the leaf. It uses for Brown Sugar (Thai Buddhist culture group) Red Sticky Rice with sugar (Thai Muslim culture group)</p>	 <p><i>Brown Sugar</i></p>	<p>Unfounded</p>	 <p><i>Red Sticky Rice with sugar</i></p>

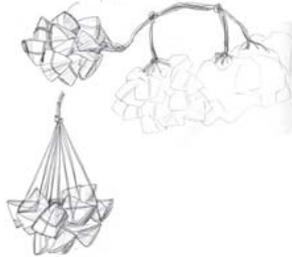
Package Pattern	Group 1 : Thai Buddhist Culture	Group 2 : Thai Chinese Culture	Group 3 : Thai Muslim Culture
<p>2.3 Cone and Kratong</p> <p>1) Cone</p> <p>A new form designed to be the container for liquid food. The package is designed to be cookable. Four basic design patterns : cone, blunt cone, rectangular kratong and circular kratong.</p>	<p>Cone : Constructing into shape by banana leaf to be cone and pin it together but having to do it carefully because the liquid food will come out. A cone is made from fresh circle or square banana leaf. It uses as packaging for Khanom Kruey and KhanomTaan.</p> <div data-bbox="862 768 922 962" data-label="Image"> </div> <p data-bbox="823 991 962 1013"><i>Khanom Kruay</i></p>	<p>Unfounded</p>	<p>Blunt cone : Construction for this shape is simila to cone, but the rim is a lot bigger and shorter than cone. This blunt cone is for a small piece of cooked food.</p> <p>The material that used in this culture can be found easily in local area such as Chompoo Samed's leaf for Khanom Khrok.</p> <div data-bbox="1455 808 1646 991" data-label="Image"> </div> <p data-bbox="1399 1025 1697 1105"><i>Khanom Krok's Blunt cone made from 2 Chompoo Samed leaves.</i></p>

Package Pattern	Group 1 : Thai Buddhist Culture	Group 2 : Thai Chinese Culture	Group 3 : Thai Muslim Culture
<p>2) Kratong</p> <p>There are two patterns which are circle and square. Found in every culture. Mostly using with liquid food for steaming.</p>	<p>Material selection is an important factor for example, banana leave Tong Tani is good because the leave will not turn black after cooking, screw pine (Bai Toey) give a nice smell. Shape of package will follow the traditional style such as kratong and cone are used for different kinds of food such as Khanom Luemkluen, Khanom Khrok.</p> <div data-bbox="787 858 910 932" data-label="Image"> </div> <p data-bbox="711 958 995 979"><i>Khanom Luemkluen's Kratong</i></p> <div data-bbox="759 998 954 1115" data-label="Image"> </div> <p data-bbox="733 1129 974 1150"><i>Khanom Khrok's Kratong</i></p>	<p>In this group sowing device (Four corner) are used, dry banana leave is a proper material.</p> <div data-bbox="1049 579 1288 736" data-label="Image"> </div> <p data-bbox="1055 743 1304 765"><i>Khanom Kheng's Kratong</i></p>	<p>Quadrilateral Kratong : Using stone banana leaf from nearby local area then sew it into 4 corners shape. It's can be stated for certain that using of these two materials (Chompoo Samed leaf and stone banana leaf) in this culture is not found in any other culture.</p> <div data-bbox="1403 786 1614 965" data-label="Image"> </div> <p data-bbox="1367 989 1642 1039"><i>Khanom Takiang's Kratong made from stone banana lief.</i></p>

Package Pattern	Group 1 : Thai Buddhist Culture	Group 2 : Thai Chinese Culture	Group 3 : Thai Muslim Culture
<p>2.4 Too-Fish Basket</p> <p>Woven from bamboo. Found 2 styles which rim in itself (Thai Buddhist Culture) and with added bamboo rim (Thai Chinese Culture)</p>	<p>Base or Bottom of basket will be woven in 6 angles and then weaving up the rim. The basket like this is not strong but it's easy to make, light and cheap.</p>  <p><i>small basket has rim itself</i></p>	<p>Woven into Chaleaw pattern, it make the air and heat flow while steaming the fish and be selling. The basket can be placed one upon another and the rim of the basket can hold the weight that the fish is not destroyed. Moreover, it can be reused.</p>  <p><i>bigger and stronger basket</i></p>	<p>Unfounded</p>

Package Pattern	Group 1 : Thai Buddhist Culture	Group 2 : Thai Chinese Culture	Group 3 : Thai Muslim Culture
<p>3. Container</p> <p>BASKET : The products in huge quantity can fill in and suitable for transport and preservation. Two similar patterns of packages are found which are Thai rice noodle's basket, (Thai Buddhist Culture) and fruit and vegetable's and Khlum for weaving.</p>	<p>Basket for Khanom Jean (Thai rice noodle) has 2 styles ;</p> <p>1) Short basket : Using Khlum woven to be round, wide, big with short rim. It makes the basket strong enough to carry. When packing Khanom Jean, they will place banana leaf under first and if they wants to pack in huge quantity, they will use the banana leaf to be the high rim to protect Khanom Jean and the air can flow easily.</p> <p>2) High Basket : Basket for vegetable in Thai-Chinese culture is similar but use bamboo and smaller without holder.</p> <div data-bbox="745 928 964 1063" data-label="Image"> </div> <p data-bbox="751 1085 958 1139" style="text-align: center;"><i>Khanom Jean's basket (short style)</i></p>	<p>The basket for fruit and vegetable separated in 2 types as follows ;</p> <p>1) High basket, wide rim, handle for holding with long life usage. Therefore, this basket can be reused so many times until it become unuseable. Basically these baskets are suitable for vegetable and fruit such as negrito, cabbage.</p> <p>2) Airy basket, both rim and bottom are the same size, light weight with the cover on top suitable for big size of vegetable and fruit. The life usage is not as much as high basket.</p> <div data-bbox="1033 892 1322 1049" data-label="Image"> </div> <p data-bbox="1037 1063 1143 1088" style="text-align: center;"><i>high basket</i></p> <p data-bbox="1222 1063 1322 1088" style="text-align: center;"><i>airy basket</i></p>	<p>Unfounded</p>

Package Pattern	Group 1 : Thai Buddhist Culture	Group 2 : Thai Chinese Culture	Group 3 : Thai Muslim Culture
<p>4. Clipping and Skewer</p> <p>Inserting : It is the arrangement for the product which is in small pieces in small group. Normally, using bamboo and coconut's twig that not too big for easy putting in.</p> <p>Pinching : Basically, used with the single big and heavy piece of food by splitting the bamboo stick and tie both end of it with rope or wire. When eating, just take out the rope and bring the food out to eat.</p>	<p>This package used for roasting, grilling and frying the food and for making into the group for sale in set, for example unripe mangosteen, dried fish.</p>  <p><i>unripe mangosteen</i></p> <p>Clipping chicken by bamboo. Using rope or wire at the end of stick to protect the chicken.</p>  <p><i>grilled chicken</i></p>	<p>Unfounded</p>	<p>Bamboo stick for splited grilled fish, tight up the bottom by rope or wire.</p>  <p><i>Korlae fish</i></p>

Package Pattern	Group 1 : Thai Buddhist Culture	Group 2 : Thai Chinese Culture	Group 3 : Thai Muslim Culture
<p>5. Tying (Bundle)</p> <p>In every culture, natural material is used to tie the product for the convenience in transfer, classified or combined and increase the sale for example crab, fresh and dried fish, Chinese sausage.</p>	<p>Khanom Tom around 4 - 5 pieces are tied together into a bunch.</p>  <p><i>bunch of Khanom Tom</i></p>	<p>Jang wrapped together in the big bunch. If it too big, it will be separated to sell. Each bunch contains about 5 - 10 single piece.</p>  <p><i>big bunch of Khanom Jang</i></p>	<p>Bunch of fresh fruit are tied with local material, bunch of crabs with claw tied already will be tied together in huge bunch, like Khanom Tom and Khanom Jang's style.</p>  <p><i>frersh fish and fresh crab</i></p>