



Hacettepe University Graduate School Of Fine Arts

Ceramics Department

Master of Fine Arts in Ceramics

**A STUDY OF MALAYSIAN TRADITIONAL BATIK SARONG  
APPLICATION ON CERAMIC TABLEWARE PRODUCTS**

Asmahazi OSMERA

Master's Thesis in Art

Ankara, 2018

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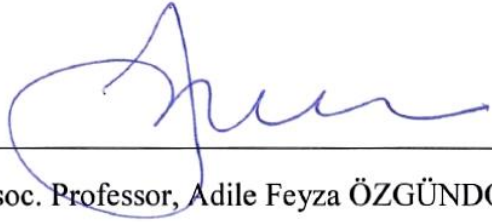
Ankara, 2018

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The jury finds that Asmahazi OSMERA has on the date of 09 July 2018 successfully passed the defense examination and approves her Master's Thesis in Art titled "A Study of Malaysian Traditional Batik Sarong Application on Ceramic Tableware Products".



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**Asmahazi OSMERA**

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## ABSTRACT

Osmera Asmahazi. A Study of Malaysian Traditional Batik Sarong Application on Ceramic Tableware Products, Master's Thesis in Art, Ankara, 2018.

Malaysian Batik is a treasure that needs to be preserved and continued especially in traditional batik sarong. The batik sarong has influences from neighbouring country of Malaysia, which has subsequently developed and become one of the Malay's culture and heritage. Malaysia's batik sarong has its own identity in which its motifs are processed and stylize so that it is suitable to be used as a pattern on textiles. However, in the modern era, batik sarong is getting less attention especially by young people. An effort should be made to ensure that this treasure continue to be appreciated and always relevant to all group of people in accordance with the passage of time. This preservation should also be carried out with a new perspective and be given a fresh idea so that Malaysian batik sarong can be promoted in various ways. Therefore, this study aims to see the suitability of batik sarongs motif applied on ceramic tableware products as a decoration in order to continue this traditional heritage. Based on the findings of the study, it is hoped that more studies of traditional batik sarong motifs will be carried out and applied on other materials besides textiles.

### **Key Words**

batik, sarong, motifs, decoration, tableware



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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 RESEARCH BACKGROUND**

Since ancient times, people have been using pots made out of clay for a variety of uses, for example storing water, food, cooking, and also for other daily use. These ceramic pots continue to be an option for daily is mainly because of its durability. Most of the old pots that were found have different types of decoration depending on the background of an ethnicity in which the pots are produced. According to The Office of the State Archaeologist, University of Iowa (n.d), the pots were tools for cooking, serving, and storing food, and pottery was also an avenue of artistic expression. As time progressed, people in European and Asian countries began to produce a variety of ceramics tableware products such as crocks, plates, bowls, and cups to suit the type of food served. As stated by Bloomfield (2013), she describes how our changing attitudes and habits in food preparation and service and the rituals of mealtimes lead to changes in the way tableware is used and produced. In addition, European and Asian countries have significant cultural differences and this has influenced the layout of dining tables among these countries.

Tableware is utensils used at the table for holding, serving, and handling food and drink. Tableware includes various types of containers (known as hollowware), spoons and forks (flatware), knives (cutlery), and a variety of dishes and accessories (Encyclopaedia Britannica, 2010). The tableware serving dish consists of casserole, tureen, fruit bowl, lidded serving bowl, as a place to compost fruit, pitcher, platter, and salad bowl. Tableware is commonly the functional part of the settings on dining tables however attention has been given in terms of decorative aspects, especially when the dining is for special occasions or events. The variety of tableware product used is closely related to and influenced by particular race, religion, cuisine and even seasons.

Due to lack of exposure to artistic value, most people only focus on practical functions when purchasing dining utensils. However, this situation is seen changing as

contemporary arts is increasingly gaining acceptance. The growing production of functional ceramic art also influences people to start using tableware ceramics. For this reason, it can be said that most of the ceramic tableware products that are dominating the market are the one that emphasizes the contemporary value with modern features. Therefore, product's functionality and aesthetic value now play an important role in the selection of tableware. In this era, the design and form of tableware are more towards contemporary and people like to see something new and modern (French, 1998). It includes the important elements such as shapes, the forms, as well as decoration that were used. Neal believed that functional efficiency is usually self-evident and demonstrable, but looks are rather more matters of personal opinion so the inference is, make pots that undoubtedly work and that you believe to be good looking.

In Malaysia, over the past few years, the use of tableware for the dining has been slowly switched from the use of glass and plastic ware products to the use of ceramics tableware products. In addition, most of the hotels and restaurants in Malaysia prefer to use ceramics tableware products for food serving. This might due to the reasons that ceramic-made products are more attractive, easy to handle, hygienic, contemporary and more suitable for use in official and formal occasions. The manufacturing of ceramic tableware in Malaysia has grown not only in industrial but also in studio ceramics. In fact, hotels have also begun to order customized tableware products from ceramic studios entrepreneur and this is due to the increased appreciations towards handmade products as well as uniqueness and high aesthetic value that handmade ceramics offers. This situation provides an opportunity for studio ceramic entrepreneurs to expand the production of functional ceramics products, thereby promoting the use of ceramics products to the community.

Considering the increased acceptance towards ceramics products particularly ceramic tableware, its production should be continued and expanded to the next level. And in order to ensure that these tableware ceramics continue to gain proper attention and recognition, it needs to be given fresh touches and ideas. The application of patterns and motifs taken from different aspects and perspectives can provide rejuvenate the production of ceramics studio tableware products. With this in mind, Malaysian

traditional batik has been identified as a suitable subject to be incorporated in the manufacture of tableware ceramics. This is because, in Malaysian traditional batik, there are a lot of patterns and motifs that have the potential to be applied to the ceramic surface. At the same time, ceramics can be a medium for delivering messages and in this context, it can introduce and promote Malaysian batik to the public.

Malaysian batik is considered as traditional textile art and crafts. In simple terms, batik is a technique for decorating textiles where the part of the textile that will not be dyed or coloured are covered in molten wax. The wax prevents the textile from absorbing the dye during the decorating process (MyMalaysia, 2015). Malaysian traditional batik consists of several types, namely *Batik Blok*, *Batik Canting*, *Batik Skrin*, *Batik Pelangi*, and *Batik Sarong*. Within the scope of this research, *Batik Sarong* has been chosen as the subject to be applied to ceramics surface, thereby producing decorative ceramic tableware. Batik sarong is widely known especially in Terengganu and Kelantan state on the east coast of Malaysia. Batik textiles are considered as an integral part of the Malay culture and are still be used until today. Malay community used batik sarong not only as clothing but also as accessories in the daily routine, for example, batik sarong used as headgear by men when working under the sun's heat while for women it is commonly used as a bathing cloth, a baby sling as well as a carrying bag. Batik sarong is also continuing to be used during postpartum period for women to facilitate their movement.

The design of batik sarong is divided into two which is organic and geometric design. Organic design is based on flora and nature especially leaves, flowers, and plants. However, in accordance and respect of the teachings of Islam, these organic subjects have been modified to stylized motifs to ensure that there is no full imitation made on these organic subjects. Examples of motifs used are *Pucuk Rebung*, *Bunga Lawang*, and *Bunga Cempaka*. Malaysian batik sarong is also famous for its geometrical designs, such as rectangular and spirals. All these motifs are used as they are closely related to the daily life of the Malay community. According to Merican (2004), "the best and most interesting definition came from a textile designer and consultant who articulated the distinctiveness of Malaysian Batik as follows: 'the story of our batik is our cultural

story where the convergence of traditional and contemporary motives originates from many sources of inspiration, both internal and external. As a small and relatively young country in Batik production, our batik expresses the richness of our cultural origins and our resources, where evolving ethnic, national and international influences are captured in the "look" and "feel" of the craft. This is the distinctiveness of Malaysian batik and this is the story that we need to tell' (Merican, 2004).

The passage of times, modernization, and also the lack of interest from the new generation to maintain using batik sarong has contributed to changes in function and the use of batik sarong today. For example, in order to maintain the acceptance towards it, various developments of batik sarong mainly in terms of concept and technique has been carried out. As a result, today batik sarong is not only used as clothing but also served as a decoration on hotel walls, offices, and in the living room. The tenacity of batik, of its ability to survive by adapting to new situations, is reflected in the way it has been successfully applied to home interiors and the hospitality trade, though more through 'accessories' than upholstery (Yunus, 2011). In parallel with this, there is no doubt that batik adaptation to the new situation is something that can be done. However, it is totally a new challenge to apply batik motifs and elements to ceramics. This is because, although the previous efforts have developed the applications of batik, it still uses textiles as a medium.

As time passes, Malaysian traditional batik should also move forward with the development of art that is constantly moving towards modernization and contemporary. However, in order to bring about new changes in this batik art, its originality, social values, and cultural characteristics are not to be set aside at all. Because these values and characteristics are actually the backbones of Malaysian batik over the years. Therefore, the production of ceramic tableware that combines traditional motifs and elements of Malaysian batik sarong, is the right step as it can be regarded as a new innovation in the context of Malaysian traditional batik art. While from the point of ceramic art, the production of this artwork will offer high aesthetic value to ceramic tableware without affecting the product's functionality. This can also be considered as an effort to highlight and promote the Malaysian batik to the next level with a new twist

by applying it to different material. More importantly, this effort is able to develop and preserve Malaysia's cultural and heritage values to the public. The establishment of new approach and concepts in producing ceramic artworks will give great benefits for artists and designers to connect tradition and heritage in making artworks.

## **1.2 STATEMENT OF PROBLEM**

With the passage of time, Malaysian batik is becoming increasingly popular and receiving attention in the eyes of the world. This is a direct result of efforts from government, educational institutions as well as batik art entrepreneur itself to commercialize Malaysian batik. Although the goal of introducing batik is fruitful, traditional batik patterns and designs are still left behind.

Besides, even though many new designs are continuously produced, Malaysian batik is only being highlighted to the public in the scope of textile art only and not presented in other art mediums. This is due to the lack of research and experiment on the application of Malaysian batik involving the motifs and patterns onto another art medium. Therefore, the application of Malaysian traditional batik motifs and elements as a decoration on ceramic tableware is a positive innovation to ensure that this traditional art continues to flourish.

## **1.3 AIM AND RESEARCH OBJECTIVES**

### **1.3.1 Aim**

The aim of this research is to study the motifs and elements in Malaysian traditional batik sarong and then applied it as decoration on ceramic tableware as a new innovation with a different approach in the production of ceramic art. Thus, ensuring the Malaysian traditional batik is preserved and appreciated by the new generation.

### **1.3.2 Research Objectives**

The following are the objectives of the research:

- i. To identify interesting motifs and elements in Malaysian traditional batik sarong.
- ii. To find a suitable pattern arrangement on the surface of ceramic tableware.
- iii. To examine the potential of elements and motifs of Malaysian traditional batik through its application onto ceramic tableware products.
- iv. To provide new ideas on the design and decoration of ceramic tableware products.
- v. To highlight the uniqueness of elements and motifs in Malaysian traditional batik to the public.

#### **1.4 RESEARCH QUESTION**

- i. What is the potential motifs and elements that are available in batik sarong to be applied to ceramic tableware products?
- ii. How to apply the motifs and elements found in batik sarong onto ceramic products?
- iii. Are the motifs and elements available in batik sarong be successfully adapted to ceramic medium?
- iv. Are there any implied meanings in the Malaysian traditional batik motifs that can be conveyed to the society?

#### **1.5 DELIMITATION AND LIMITATION**

##### **1.5.1 Delimitation**

Batik is not only produced in Malaysia but also produced in other countries and there are too many theories about the origins of batik because of its identical production techniques. As the history and origin of batik are still blurred and constantly debated by historians and art scholars, this research is not intended to conduct a comprehensive study of the history and origin of batik as this research only covers the study of motifs and elements that are applied in Malaysian traditional batik.

In the early stages of Malaysian traditional batik production, the motifs used are inspired by both flora and fauna. However, after the influence of Islam totally permeating and uphold the Malay community, fauna motifs like animals have not been used anymore and only flora-based motifs are maintained in batik designs. This is in line with the teachings of Islam which does not allow depiction of figure and animals to appear on any surfaces. While for flora subjects, it is allowed but must be modified and stylize before it is depicted. Therefore, this research will only focus on the flora motifs from Malaysian traditional batik to be applied to ceramics as the reference and examples are readily available and easier to obtain.

In addition, the production of artworks in this research will be carried out in the context of studio ceramics involving the production of handmade ceramics tableware. This is to inculcate the originality and traditional value in terms of making process since the Malaysian traditional batik products without a doubt is a handmade craft.

### **1.5.2 Limitation**

All data collection is based on visual observations, articles, journals and books, which gives more exposure to motifs and elements used in batik. Since Malaya (peninsular of Malaysia) and the island of Java are located in the same region which is the Malay Archipelago, there is an obvious cultural clash between the Malays and the Javanese. This cultural clash covers various aspects of life, including in terms of batik production. This has resulted in the Malaysian batik motif produced at that time to be influenced by Javanese batik motifs and vice versa. This has made it difficult for researchers to distinguish batik motifs in the region during the beginning of its productions. Malaysian batik has been heavily influenced by the Javanese, having incorporated many of their styles and motifs, however with time Malaysian batik has forged its own path with simple, delicate designs to please most people (MyMalaysia 2015). Consequently, the data that have been collected and used for this research, especially in terms of motifs and patterns may have significant similarities and difficult to distinguish between Malaysian traditional batik and Javanese batik motifs.



## **1.6 HYPOTHESIS**

The use of motifs and elements of Malaysian traditional batik as a decoration on the surface of ceramic products will give a high aesthetic value to the tableware ceramics products.

## **1.7 STATEMENT OF SIGNIFICANCE**

- i. It is hoped that this research will be able to promote the heritage and culture of Malaysian traditional batik through ceramic art.
- ii. To prove that the use of motifs and elements from batik is also able to be adapted to other mediums, and in this case, the adaptation onto ceramic tableware products without affecting the functionality of the product.
- iii. To benefit the public and the Malay ethnic itself of the cultures represented through this research, thus giving awareness for them to appreciate the value of their custom, tradition and heritage.
- iv. It is hoped that this research, will encourage other artisans and art entrepreneurs to continuously develop and innovate the motifs and elements of Malaysian traditional batik textile with a new approach.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION TO BATIK**

Batik still remains a mysterious artistic heritage until today as art historians are still continuously conducting a research on the history of batik origin. Some researchers have an opinion that the production of batik is originated from the Middle East despite the fact that the word 'batik' itself was born of the Malay Archipelago. The word batik is related to the Javanese-Malay word. The word 'amba' means writing while the word 'titik', means the point or dot. The term "batik" is an Indonesian-Malay word (MyBatik, n.d). The continuity of this word gives the meaning of a cloth that has small dots. The term batik is also taken from the process of making batik by placing the wax as a barrier to the colour that will be applied to the surface of the fabric. The evidence of early batik has been found all over the Middle East, as well as India and Central Asia many years ago (Tucker, 1999).

Apart from Malaysia, countries such as Indonesia, Thailand, Japan, and China also have their own identity of batik. The difference of Malaysian batik compared to other countries batik is in terms of motifs as each Malaysian batik motifs are based on the identity of the Malaysian society itself. Malaysian traditional batik has its own distinctive features as each motif reflects the cultural value and contains implicit meaning. In addition, it is also quite different from Javanese batik in terms of colour used as Malaysian batik is known for its bold bright colour theme. Malaysian batik design has its own identity perhaps due to the multi-cultural and ethnic diversity of the country, to its wide artistic perspective and its pool of very talented people in the fashion industry (MyBatik, n.d).

In Malaysia, the context of batik meaning is broad and not only focused on its manufacturing process because of the motif pattern found in batik cloth covers the term batik itself. Najib (2002) explained that "The term 'batik' in Malaysia is a very complicated that just a simple definition of the physical process is awfully true. The

definition of batik for most Malaysian is based on certain design characteristics and particular motifs, and the process is secondary. Therefore, any fabric which fulfill the characteristics of batik such as the design with: twist and curls motifs, dots (iseng), and crackle effect is totally accepted as batik” (p.12).

## **2.2 MALAYSIAN TRADITIONAL BATIK SARONG**

In terms of etymology, the word ‘traditional’ that derives from word ‘tradition’ carries the following meaning, “according to the culture or practice of a race for generations”. Until today, Malay community still holds and practising customs and cultures in accordance with Islamic practice, which encompasses the whole aspect of human life. This customs and cultures includes engagement, marriage, welcomes the birth of a newborn baby, and also abstinence customs after giving birth. Traditional words are more bound to certain rules such as customs, religions, beliefs, norms of life, and other values of traditions relating to philosophy that support a culture (Hassan, 1992).

Textile arts are among the traditional art that has been around for a long time in Malaysia as well as ceramics, carpentry, and fine metal art. Within the textiles art, batik is the most outstanding and popular among locals to be used as daily wear. The rural Malay community in the past is directly involved in the making of textile art such as batik and possesses basic skills in designing batik motifs, and as time passes they also stylized and apply the textile motifs brought in from another region into their own batik design. Malaysian traditional batik consists of several types, namely *Batik Blok*, *Batik Canting*, *Batik Skrin*, *Batik Pelangi*, and *Batik Sarong*. Among these batik varieties, batik sarong is the most commonly used by the Malay community. Sarong is a large piece of cloth commonly worn around the waist as a skirt by men and women mostly in South Asian and Southeast Asian regions. The word sarong was borrowed from the old Malay word *sarung*, with the spelling changing from *sarung* to *sarong* (Mohamaed, 1990).

Batik sarong is a popular cloth among women and men in the Malay Archipelago where this sarong is worn on the lower body and tied at the waist. The influence of batik

sarongs making from Javanese and Pekalongan has inspired batik makers to design new motifs and techniques. The making of traditional batik sarong is among the basic knowledge of the Malay community because batik sarong is worn daily and also for other uses. According to Mohamaed (1990), Malaysia's doyenne of traditional costumes, believes that the sarong is by far the oldest costume in the Malay World and was worn by both men and women on formal and informal occasions long before trousers or jackets and tunics came into being. It is undisputed that the traditional batik sarong is a garment that represents Malaysian traditional culture and heritage from generation to generation.

Batik sarong is a popular fabric and has a simple design tailored to its use and it is very comfortable to be worn in Malaysia's hot weather and humid climates as it gives better airflow between the legs. Aside from the ornamental motif designs, which have been adapted from the tropical surroundings, the garment has long been favoured by Malays, as it is ideal for the climate (Legino, 2012). This sarong is unique because it does not require a button or zipper to wear it and the style of how this sarong batik is used is different between men and women. The Malay community is very concerned regarding manners, and these encouraged Malay women to wear decent clothes together with batik sarong and the sarong is worn from the waist to the ankle-length. This sarong cloth will be folded and taken to the side to tighten and to secure it. Meanwhile, for men, they will wear from the waist to the ankle-length and will shorten the sarong cloth from waist to the knee level over loose trousers for formal events such as wedding and official events.

The sarong has a pattern of various motifs called flower body as a complement and particular compositional elements to the sarong pattern. The patterns on batik cloths consist of four sections, which are *badan kain* (body), *kepala kain* (cloth heads), *tepi kain* (upper and lower edges), and *pengapit* (clamps). In a carefully designed batik sarong, as Najib (2002), points out in the En Bloc catalogue 'the motif is from the same source although it is placed in different parts of the scheme.' He gives the example of a schematic arrangement illustrating the several phases in the growth of a flower: the pre-bud (seed) and bud in the *pucuk rebung* or bamboo shoot motif on the *kepala* (head) of

the sarong; opening buds and entwining tendrils on the narrow borders encasing the *kepala*; and fully opened blossoms, leaves and stems on the *badan* (body). These, in turn, he says may symbolically represent the metamorphoses of a child into an adult.

The sarong cloth is still used today and even match with traditional Malay clothes such as *Baju Kebaya*, *Baju Kurung*, and *Baju Kedah*. According to Arney, (2007) Batik is one of the most functional and the oldest decorative arts. The beauty of these textile traditions is further revealed in the form and style of the clothing that is still used by the people as their traditional costumes. Nowadays, to encourage the continuous use of batik among the community, civil servants such teachers and lecturers are encouraged to wear batik clothing every week and Thursday is chosen as Malaysia's day of batik.



Figure 1: The layout of a batik sarong that shows its segments (Legino, 2008)

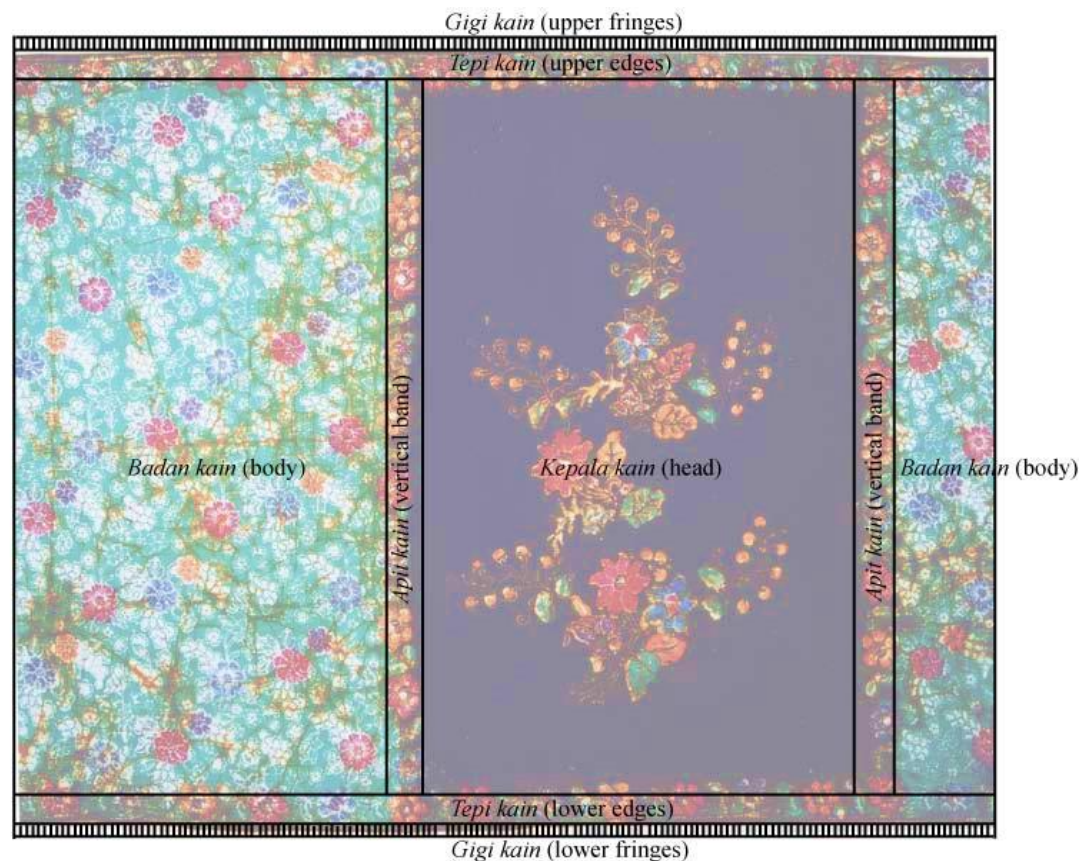


Figure 2: Batik sarong layout with Pekalongan influences (Legino, 2008)

### 2.3 DEVELOPMENT OF MALAYSIAN BATIK

Textile manufacturing and production have evolved broadly in line with modernization as a basic necessity in society. Changes in social life and modernity in Malaysia have influenced changes in the batik patterns, colours, and materials used. Fashion is one of the main contributors to the development of batik industry in Malaysia. The efforts to introduce batik through the various field along with organizing batik fashion competition and fashion shows have brought Malaysian batik to a higher level.



*Figure 3: Malaysian Batik pattern applied on the body of an aeroplane as a way to promote and highlight Malaysian Batik (Wilson, 2017)*



*Figure 4: Batik clothing worn by the crew of Malaysia Airlines (MAB, n.d.)*

Batik art is a reflection of the culture of Malaysia as it is closely related to social life and community activities. In addition, Batik not only became part of the Malay culture but also used by the ‘Straits Chinese’ who is also known as ‘*Peranakan Chinese*’ or *Babas* (male) and *Nyonyas* (female) in Malacca. The sarong is not only worn by Malays, but by all the people of Malaysia who use it as an ordinary garment as well as using it as a sign of Malaysian cultural identity. As noted above, cultural diversity has been central in Malaysian history (Legino, 2012). The development of batik in Malaysia is believed to have started in the early 1920s introduced by Haji Cik Su bin Ishak in Kelantan and Haji Ali in Terengganu especially in batik block. From small-scale enterprises, batik has now grown at high demand both domestically and internationally,

even becoming the backbone of the industrial sector in Malaysia. Currently, batik makers in Malaysia have expanded to other states from Penang, Langkawi Island, Kuala Lumpur to Sarawak.

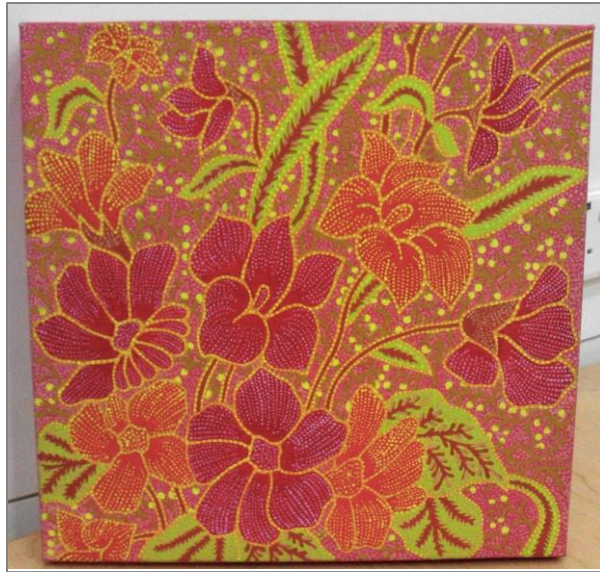
Batik entrepreneurs in Kelantan and Terengganu have a high level of creativity and capable of producing high-quality batik. They are pioneers of the development of batik not only traditional batik but also contemporary batik in Malaysia. This batik is also a family business and usually to pass down to the next generation. In order to produce successful batik entrepreneurs and able to continue their family business delegation, their children will be given early exposure to batik and will be trained and learn the basic techniques of batik making. The techniques passed on from one generation to another, serve as part of each nation's cultural heritage, and to be properly noted, documented, and upgraded using modern information technology without sacrificing the ethnological value of the trade (Mohamad, 2001). Batik textiles that are produced today, especially in the peninsular of Malaysia are from the development of culture and past history.

The use of batik in everyday life is not limited as daily wear of men and women or for a baby cradle used only, but also for home and furnishings such as curtains, mattresses, cushion covers and also as a wall decoration. The application of batik is also growing and trying to be applied to other mediums, for example, there have been some efforts to apply the motifs found in batik to ceramic and wood-based products. Batik-inspired products are very important as it represents the characteristics of traditional Malaysian artistic feature that is translated into new contemporary styles.



*Figure 5:* Example of Batik design application on wooden pots with lid (Asianloft, n.d.)





*Figure 6:* Example of Batik design application in painting for wall decoration.  
Acrylic on canvas 30x30cm. (Asmahazi Osmera, 2013)



*Figure 7:* Example of Batik design application on ceramic coffee set (Jenggala, n.d.)

## 2.4 TYPES OF BATIK IN MALAYSIA

The processes of batik are assisted by using four techniques which is *canting* techniques, *blok* techniques, *batik skrin* techniques, as well as tie and dye techniques and all these processes are done by hand. The process of making Malaysian is also considered unique because it is necessary to go through repeated waxing, dyeing, and boiling processes to get the best result.

### 2.4.1 Batik *Pelangi* /Rainbow Batik

The rainbow batik is the earliest batik introduced in Malaysia. This batik is called rainbow batik because it is inspired by the colours of the rainbow, and it has an attractive and variety of colour. Rainbow batik believed influenced by Indian textile which has a similar appearance in term of colour. This textile is brought in to Malaya (now called Malaysia) from trading activities with the Indian state and thereby inspiring locals to produce rainbow batik because the process is easier and the materials used are widely available. The rainbow fabrics grew by the widespread of dyeing materials used (Ismail, 1994). Rainbow Batik is different from batik block and canting because the rainbow batik does not use the wax application but only uses tie and dye method and sometimes sewn with grain seeds such as beans to get motif pattern on the fabric.



Figure 8: Example of Batik *Pelangi* /Rainbow Batik (Champaca, 2017)

### 2.4.2 Batik *Canting*

Batik *canting* is among the earliest batik in Malaysia. Batik *canting* originally brought from the island of Java in Indonesia by traders who trade in Malaya at that time. A slight difference between batik canting in Indonesia and Malaysia is batik canting in Indonesian painted on the palm of the hand while Malaysian batik canting painted on a wooden frame, however, both are still going through the same process.

Batik *canting* is preferred because it can be adapted for use over time as well as having a freestyle of motifs and exclusive colours. Among the tools needed are white cloth of natural type, *canting*, soft brush, a mixture of candles and rosin, dyes, sodium silicate, and wood frame. The motifs pattern is initially drawn using a pencil before the *canting* tool filled with hot wax is used to draw the motifs on the fabric surface.



Figure 9: Example of Batik *Canting* (Fuziah, 2013)

### 2.4.3 Batik *Blok/Block*

The method of using stamping block to produce batik is believed innovated by Haji Che Su from the use of potatoes and banana trees before switching to the use of wooden blocks. Woodcarvers have high skill and delicate in wood carving as well as make it easier to get the desired motifs on wooden blocks. The batik block inspired by Haji Che Su was made of wood blocks by carpenters and began to be used for batik stamp in 1940 (Abdullah, 1989).

There is a slight difference between the uses of the wooden block and copper block. Wooden blocks in the past only use only colours to stamp the pattern motif directly onto the fabric, while the copper block motif is applied using a wax-resin mixture on a white cloth before the colouring process by using a brush. To obtain a finer, quality, uniform, and detailed motif, the wooden blocks have been replaced by block made of copper and

iron. The use of the wood block technique could produce many more sarongs per day, but the application of colours and motifs was limited, which usually comprised two or three colours and the first colour was black then followed with other colours (Legino, 2012).

The process of batik making using the block batik is easier and faster compared with another batik-making process because its motifs are stamped directly on the surface of the fabric that facilitates the process of colouring and it has identical shape and size. According to Arney (1987), a sarong derived from metal block stamping is found more attractive as compared to wooden block as designs and colours are broadly applied on the textiles' surface. The process of stamping the motifs on fabric is done repeatedly until the desired pattern is achieved. Therefore, the use of copper block is more suitable because it is durable and does not rot than wooden blocks.



Figure 10: Example of Batik *Blok/Block* (Asmahazi Osmera, 2017)

#### 2.4.4 Batik *Skrin*

Batik *skrin* is also received a good acceptance along with other batiks. Batik *skrin* is a process of producing batik by using screen-printing methods that enable the production of a large amount of fabric in print and does not require much time to prepare. The combination of pattern and colour that is attractive and fresh keeping abreast of the latest features without leaving traditional features behind, has become a favourite of

local users and outside the country. The common type of fabric that is used for making batik *skrin* is silk.



Figure 11: Example of Batik *Skrin* (Asmahazi Osmera, 2017)

## 2.5 COLOURS IN MALAYSIAN BATIK DESIGN

The use of bright and diverse colours makes Malaysian batik more attractive. Even though using a variety of colours in the same fabric, the focal point of colours (of design motifs) in this batik will not overlap with each other and give a harmonious colour effect. In batik we achieve a greater harmony of colour than in painting (Keller, 1967). The price of batik sarong is influenced by the use of layered colour and usually, when more colour is used, the price of the sarong will be higher.

The colours used in Malaysian traditional batik mostly have meaning and interpretation. According to Jamal (1992), Malay community in general likes to combine colours on the sarong that they wear every day. Traditionally, the mixture of various earthy shades such as brown, green, yellow and red are applied as the colour combination. These colours are further enhanced with classical motifs to suit the function of batik sarong. In addition to the selection and use of motif patterns, the use of diverse colours also plays an important role in the culture of a race and religion.

With a balance of design layout, different motifs and multiple colour combinations in one fabric, the design of a sarong batik fabric are harmonious in accordance with its usage features. As stated by Uda & Ong (2003), traditionally, the choice of colour in the making of these textiles depends on the purpose and usage of the cloth. In the diversity of art, colours the source of beauty and harmony because colours work as a support for the motifs and overall design.

## **2.6 MOTIFS AND ELEMENTS ON BATIK SARONG**

Motifs and elements on batik sarong are mainly stamped on fabric using stamping blocks. Before the wooden blocks and the copper blocks called the *sarang bunga* were introduced, batik entrepreneurs used the banana stem or banana stem leaves and potato as a tool for the desired motifs. The reasons why they used potatoes for motifs are easier to carved and formed. As the wooden blocks were carved and produced by wood carvers, there are similarities in the pattern of motifs used in traditional Malay woodcarvings. According to Mohamaed (1990), the use of plant or floral motifs in batik sarongs is related to those used in Malay woodcarving. Wooden blocks are carved in embossed carvings and the use of colours is limited to only one colour. The emergence of copper blocks has replaced wooden blocks as cooper blocks make the pattern of motifs look neater with finer lines and can be stamped repeatedly and enable more colours to be used effectively. The use of copper blocks at the present time makes batik process easier and gives more attractive and high-quality designs.

Malaysia's geographical position, located at the equator, makes Malaysia rich in biodiversity of flora and fauna. The batik entrepreneurs have an inspiration in making batik motif patterns through the flora and fauna used by the Malay community in their daily lives and daily activities. The using of flora is popular since the beginning of Malaysian batik and the majority of motifs are derived from flowers in the country environment (Arney, 1987). Most natural motifs used have only been through moderate stylization and simplification from the actual shape. This is because if it is too abstract, then there will be difficulty in identifying the actual source of the original motif.

The survival of Malaysian batik designs today is due to historical, civilization, cultural and the environment, which is still maintained and preserved as well as development on the use of colours. In batik design, the most important element is the repetition pattern of motifs inspired by nature that are applied and arranged in order. The motifs shaped the pattern while the design is formed from the repetition element. It is the arrangement of repeating or corresponding parts that defines pattern, as we know it. Pattern and design do have elements in common, but the characteristic of pattern that separates it totally from design is the repeat (Flower, 1982).

In addition, the main elements of batik cloth are the motifs that form the artistic and balance in the design. Motifs are also able to attract someone's attention when the repetitive design matches the type of colour used. The element of repetition also contributes to the “rhythm and unity in which a motif or single element appears again and again” (Ragans, 2000, p. 461), as found in Malaysian traditional batik.

### **2.6.1 Pattern and Motifs Placement in Batik Sarong**

Pattern means the shape of form contained in batik sarong for example horizontal pattern, overall pattern, striped pattern, spotted pattern, and patterned diagonal to form a flower arrangement. In terms of motifs placement in batik sarong, there are generally three types of motifs that can be seen, namely symmetrical, scattered, and the combination of both symmetrical and scattered motifs. The patterns found in batik cloth are also constantly changing with the times and interest of Malaysia community without neglecting the traditional motifs pattern. The natural environment is the main source of inspiration in order to add creativity when producing design to be applied to the surface of the fabric.

The patterns selected not only displays the beauty of the design but also reflects the aesthetic value of the Malay community based on religion, manners, customs, morality, and tolerance. In addition, the use of various motifs from natural elements as pattern for batik reflects the appreciation of the Malay community towards nature as an inspiration and trigger the main idea in producing batik patterns on batik cloth. The resulting motifs

derived from nature such as bamboo shoots motif is a treasure and heritage that should be preserved for the next generation. Plant elements clearly constitute the main source of inspiration in the creation of Malaysian batik sarong motifs. This is due to the fact that not only plants easily obtained from the local environment, but their shapes are easily adapted (Legino, 2012).



*Figure 12: Scattered motifs pattern of Batik Sarong (Asmahazi Osmera, 2017)*



*Figure 13: Symmetrical motifs pattern of Batik Sarong (Asmahazi Osmera, 2017)*



*Figure 14: Symmetrical and scattered motifs of Batik Sarong (Asmahazi Osmera, 2017)*



## 2.7 NATURE MOTIFS IN MALAYSIAN TRADITIONAL BATIK SARONG

Since ancient times the design pattern that is produced for decoration purpose are more to flora motifs compared to fauna and geometric motifs. In the early days of batik making in Malaysia, it is highly influenced by the Javanese batik from Indonesia especially in term of motifs used. However, as time passes by, only a few motifs from Javanese batik is maintained, and the motifs that depict animal and mythical creatures are totally removed. This is due to the reason that the Malays prefer to use motifs that are suitable for Malays and Islamic practices. In Malaysia, Islam is the main religion and the Malays do not give confidence Muslims to wear animal or human figure motifs. Batik motifs in Malaysia are based on nature, particularly plants or floral (Ruslan, 2006).

Inspiration and application of flora motifs on batik are closely related to Malay societies who believe that natural resources such as herbs are the antidote to illness and also have many benefits for other uses. A good example is the betel leaf (*piper betel*), which is well known due to its many functions, ranging from its medicinal properties to its role in traditional Malay wedding ceremonies. (Legino, 2012). Every motif used to convey a variety of messages that contains the value of trust, the value of society, the value of a person's status, the customary and cultural values and the value of the user's identity. The curved and delicate lines found on batik cloth illustrate the peace and harmony between societies from the past. Two main compositions, which is flora and geometric patterns affect the beauty of decorative patterns on traditional batik sarong. Other than having a diverse and unique colour, the features of flora motifs are also taken from plants such as fruits, flowers, tendrils, and leaves.

The motif pattern on the batik sarong cloth has different shapes such as bamboo shoots, *cempaka* flower, *maman* flower, climbing plants, mango flowers, tendrils, *sireh* leaves, orchid flower, clouds, and *kotak bercampur* (mixed boxes) in geometric pattern. From time to time, the designs of motif pattern are constantly updated and refreshed by combining different motifs to add styles on batik sarong.

It can be concluded that the structure of batik is divided into two namely geometric and organic motifs and every motif has many influences. Using these two types of motifs together will make the design to be more contrast, attractive and balanced. The development of style for motif design has been influenced, firstly, by the cultural and religious setting in Malaysian communities and, secondly, through the external culture that has been transmitted through intermarriage, trade, migration, and colonial factors (Legino, 2012).



*Figure 15: An example of organic pattern and geometric pattern in batik sarong (Asmahazi Osmera, 2017)*

### **2.7.1 Geometric Motifs**

The geometric motif is a motif pattern that takes the original ‘Geo’ word which is state and ‘Metric’ which means line. Essentially, the shape of the geometric motifs consists of rectangles, triangles, rounds, and ovals. Usually, these geometric motifs are structured and repetitive and these features usually found in the arabesque design. Meilach (1973), stated that for Islamic artists and designers’ geometric motifs were popular, and used for decorating almost every surface, whether pots or lamps, floors or walls, book covers or textiles.

### 2.7.1.1 *Pucuk Rebung* / Bamboo Shoots Motifs

Bamboo shoots are the young shoots that grow from the roots of bamboo trees that have a large base and smaller in the upper triangular shape. The bamboo shoots motifs have broad meanings for example as a reflection that we should always move forward like the shoots that grow up continuously.

The Malay community also uses bamboo shoots as a proverb as “*melentur buluh biarlah dari rebungnya*” which means “bend the bamboo from its shoots”. The implicit meaning of this proverb is when it comes to educating people especially manners, we should start teaching them from a young age, as their behaviour is easy to form, unlike adults who are hard to accept criticism and guidance. The motifs of bamboo shoots are used on the head of the cloth on the batik sarong or *songket*. This is because of its triangular shape makes it ideal to arranged and replicated its motifs whether placed horizontally or vertically.



*Figure 16: Bamboo shoot (Ito, 2007)*



*Figure 17: Bamboo shoot motifs design on batik sarong (Asmahazi Osmera, 2017)*

### **2.7.2 Organic Motifs**

Organic motifs are also called non-geometric motifs and its shape is totally against geometric motifs. Organic motifs are divided into three which is flora, fauna, and cosmos motifs. All these motifs have long been used by the Malay community and it has been synonymous with Malay art. This organic motifs pattern is not only applied to batik, but also to wood carvings as decoration for Traditional Malay house and Traditional Malay pottery art.

Organic motifs are highly valued in their artistic aspects and are often used in types of decorative products. According to Ismail (1986), there is a description of the motif form designed based on the experience of life or what is seen and experienced in the daily environment. Clouds that are usually associated with cloud solutions, waving of sea waves; mountains, hills, and so on are also modified to be motifs. The main components that can be viewed in terms of organic motifs on batik sarong are not only one type of flower is used but a variety of flowers and also climbing plants that complete the pattern on the batik sarong.

### 2.7.2.1 Bunga Mawar/ Rose Motifs

The rose or its scientific name *Rosaceae L.* is very well known and recognized in the world that is often planted as an ornamental plant in the house garden. Roses have different types of breeds that offer range of petals size. It also has a variety of bright and soft colours and the famous colour is red because it is known as it symbolizing love. Because roses have a fragrance and soft scent, they have been used to produce perfume products; facial and body care products, and are used as a food colouring and rose-flavoured beverages.



*Figure 18:* Rose flower (Asmahazi Osmera, 2016)



*Figure 19:* Rose motifs design on batik sarong (Asmahazi Osmera, 2017)

### 2.7.2.2 Bunga Anggerik /Orchid Motifs

*Bunga Anggerik* (Orchids) or their scientific name *Orchidaceae* are interesting flowering plants and have different types and shapes. It is also a plant that grows naturally and becomes an ornamental plant either in the vase or planted directly to the ground. The family *Orchidaceae* contains about 880 genera and more than 22,000 species (about 25000 species among 850 genera with respect to others that are divided into two main groups: Epiphytic and Terrestrial orchids (Addam et al, 2016).

Vanilla is one of the fruits that come from a very popular orchid flower, *Vanilla planifolia* that has a pleasantly sweet aroma and it is a product used as a flavour enhancer especially in desserts. Orchid motifs are commonly used as the main motifs in Malaysian batik that are found in the body of batik sarong.



Figure 20: Orchid flower (Asmahazi Osmera, 2017)



Figure 21: Orchid motifs design on batik sarong (Asmahazi Osmera, 2017)

### 2.7.2.3 *Bunga Cengkih*/ Cloves and *Bunga Lawang*/ Star Anise Motifs

The use of spices is familiar in Malaysia, as it has been used for a long time since the beginning of the activities of the spice trade. *Bunga cengkih* (cloves) and *Bunga Lawang* (star anise) are used as a motif because of its unique shape and perhaps because of its importance to Malay community as a spice for Malay cuisine as well as herbs for treating mild illnesses.

The scientific name for the clove is *Syzygium aromaticum*. Clove has a strong and fresh aroma. The young cloves are green in colour and become reddish when it is mature and ready to be collected before the flower is blooming and then it will be dried. Despite it is very small in size, cloves prove that it provides great benefit to health. Both Indian and Chinese traditional medicine has made extensive use of *Bunga cengkih* as a carminative, drinking it in tea to relieve intestinal gas, nausea and vomiting, to improve digestion and increase blood circulation (Karim & Kaprawi, 2015).



Figure 22: Cloves (Zoyachubby, 2007)



Figure 23: Cloves motifs design on batik sarong (Fariza, 2014)

While star anise or in its scientific name *Illicium verum* is actually a type of fruit and not a flower. The star anise has a strong fragrance and smell, and the fruit will be picked before mature and then it will be dried under the sun. In addition, it has many uses as a traditional medicine that is used until today. The herb is reported to be antifungal, antibacterial and antioxidant. It can increase production of milk new mother (Chouksey et al., 2010).

The motif of cloves and star anise is placed on the *badan kain* (the body) as it is very suitable to be used as a background and connects to the other motifs that fill the entire space in the body of a batik sarong.



Figure 24: Star Anise (Ajale, 2015)



Figure 25: Star Anise motifs design on batik sarong (Asmahazi Osmera)



#### 2.7.2.4 Bunga *Ulam Raja Kuning*/ Yellow Cosmos Motifs

The *Ulam Raja* (Yellow Cosmos) or in scientific name *Cosmos Sulphureus* is a hybrid plant originating from Latin America and is now available and easily found in Malaysia. This plant has a small flower, branched leaf, and a small stem and usually, the leaves from a purple flowering plant are used for making a salad as a side dish. These plants are also categorized as herbal plants and when the leaves get crunched it will produce a fresh and strong smell. The *Ulam raja* also has high antioxidant and has long been used by the Malays as traditional medicines.

*Ulam raja* plants are inspired to be used as motifs on batik sarong because synonymous with Malay community as it is used as a home ornamental plants and valuable plants for as medicine and food. The pattern of the *Ulam raja* in batik sarong nowadays still retains its original characteristic, with the flowers, leaves, and stems only had slight changing.



Figure 26: Yellow cosmos (Asmahazi Osmera, 2017)



Figure 27: Yellow cosmos motifs design on batik sarong (Asmahazi Osmera, 2017)

### 2.7.2.5 Bunga Cempaka Motifs

*Bunga Cempaka* is a type of flower that is familiar in Malaysia as well as neighbouring countries like Indonesia, which this flower grows at the house yard. The tree can reach up to 30 meters. *Bunga Cempaka* is divided into two types, namely, *Michellia alba* that has a white flowers and *Michellia champaca* with yellow flowers. The flowers have a fragrant and strong smell that is suitable to be used as the essence for perfume products. This tree produces fruits and flowers throughout the year and grows in a moist soil but not in stagnant water.

Other than producing strong fragrance, the *cempaka kuning* or yellow cempaka is also had high antioxidants as medicines. *Michelia champaca* is an important medicinal plant, which is widely used in the field of medicine, pharmaceutical and food industries (Panneerselvam et al., 2016). It turns out that the motif of the plant is chosen as a motif on batik cloth not only for its beauty but also the high health value contained in a plant.



Figure 28: *Bunga Cempaka* (Josch13, 2014)

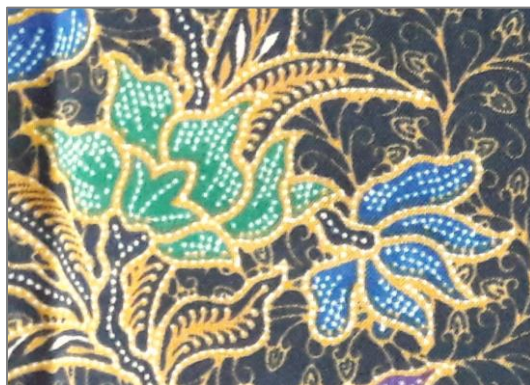


Figure 29: *Bunga Cempaka* motifs design on batik sarong (Asmahazi Osmera, 2017)

### 2.7.2.6 Bunga Kembang Pagi/ Morning Glory Motifs

Morning glory or *Ipomoea sphenophylla* in the scientific name is a type of plant that has tendrils in the family of *Convolvulaceae* which widely grown in the tropical country and is used as an ornamental plant. It is called a morning glory because it blooms every morning and closes in the evening. Morning glory motifs are also often placed on the clamping part and the edges of the batik sarong cloth because of its proper fit as it has a tendrils part.



Figure 30: Morning Glory (Skeeze, 2005)



Figure 31: Morning Glory motifs design on batik sarong (Asmahazi Osmera, 2017)

### 2.7.2.7 *Paku Pakis*/ Fern Motifs

*Paku Pakis* or Fern with its scientific name *Diplazium esculentum* is an edible species of fern from 12000 species found in many habitats around the world that usually grow in moist places as in rainforests. Fern is a plant that has leaves, stems, roots and did not produce flower or seed as it only breeds through the spores. For Malaysian, especially Malay community, the fern is commonly used as a traditional medicine and also as a side dish in Malaysian cuisine. Traditionally, the plant is used in treating headache, pain, fever, wounds, dysentery, glandular swellings, diarrhoea, and various skin infections. Reported pharmacological and biological properties of this plant include laxative, anti-inflammatory, antioxidant, anthelmintic, antimicrobial, and cytotoxic activities (Dash et al., 2017). Fern was chosen as a batik motif because the plant is closely related to the Malay community and it also has an attractive texture of the leaves and suitable as a pattern.



Figure 32: Fern (Ascher, 2005)



Figure 33: Fern motifs design on batik sarong (Asmahazi Osmera, 2017)

#### 2.7.2.8 Daun Keladi / Yams Leaf Motifs

The origins of *Keladi* or Yams are believed from South India and Southeast Asia. This plant requires only a small amount of sunlight and it is suitable to be planted in pots or in the house yard. There are various species of yam and its leaves have different types of colours. Most of Yam species is edible including the stem, however, some of them for example *elephant's yam* are not edible and can cause severe consequences. There are also Malay proverbs associated with yam leaves for example, “*Bagai mencurah air ke daun keladi*” which means “it’s like pouring water into the yam’s leaf”. The implicit meaning of this proverb is when an order or advice that is ignored and does not affect the listener.



Figure 34: Yams leaves (Estrela, 2010)



Figure 35: Yams leaf motifs design on batik sarong (Asmahazi Osmera, 2017)

### 2.7.2.9 Bunga Kekwa/Chrysanthemum Motifs

*Bunga kekwa* or chrysanthemum is beautiful flowering plants that are very common in Malaysia. The chrysanthemum flower (yellow and white flowers) is used as traditional medicine. Chrysanthemum tea is caffeine-free and helps calm and soothe the nerves. The tea also helps to regulate cholesterol levels and blood pressure. In addition, it has a cooling effect and can be used to help treat heatstroke, and it aids digestion when taken with food, especially greasy and deep-fried foods (Trey, 2014).



*Figure 36: Chrysanthemum (Ching, 2014)*



*Figure 37: Chrysanthemum motifs design on batik sarong (Asmahazi Osmera, 2017)*

### 2.7.2.10 Bunga Padi/ Paddy Flower Motifs

Paddy or *Oryza sativa* is a common cereal plant in Malaysia. Paddy or better known as rice is a staple food not only in Malaysia but also in most Asian countries. Motifs inspired from Paddy's flower are developed and used in batik as it is closely related to the Malay community in which rice is the main food and a lot of farmers are depending on rice cultivation as a source of income. Batik cloths are also used as a headdress to protect from sunshine when working in rice fields.

It has become a trait of the Malays to associate nature with their daily life, therefore there is also Malay proverbs in relation to paddy. For example, "*Ikut resmi padi, semakin berisi semakin menunduk*" which means "be like the rice stalk, it bends lower as it is laden with ripening grains". The implicit meaning of this proverb is that, the more knowledge we have, the more humble and modest we should be. The paddy flower motifs are just small dots and are used to decorate and fill in the flower motif or in the body of batik fabric. It is in contrast with Indonesian batik that uses the whole paddy motif in the design



Figure 38: Paddy (Asmahazi Osmera, 2012)



Figure 39: Paddy flower motifs design on batik sarong (Asmahazi Osmera, 2017)

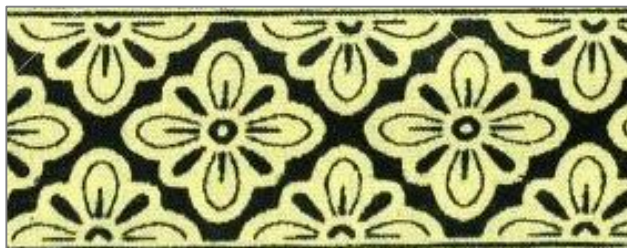
### 2.7.2.11 *Tampuk Manggis* / Mangosteen Motifs

Mangosteen or its scientific name *Garcinia mangostana* is a very popular tropical fruit in Malaysia. Even the English name of Mangosteen is taken from the old Malay word, which is 'manggusta' or 'manggistan'. This fruit is also known as the queen of all fruit among locals because it is rich in natural antioxidants compared with other fruits. From the trunk of the tree to the fruit contains a lot of nutrients, for example, to restore the body's immune system and treating diarrhoea. The fruit has been used for several hundred years in Southeast Asia for the treatment of wounds, inflammation, and a variety of infections (Chin & Kinghorn, 2008).

Mangosteen motifs are commonly used on batik sarong and songket. These motifs are selected not only because of its interesting character, but also the reflection of social life. For example, even though the skin of a mangosteen is dark and sometimes rough but its flesh is sweet which means we cannot look at someone through the external only but the noble character that exists in a person.



*Figure 40:* Mangosteen (Taboty, 2015)



*Figure 41:* Mangosteen motifs design on batik sarong (Asmahazi Osmera, 2017)



### 2.7.2.12 Bunga Raya / Hibiscus Motifs

*Bunga raya* or Hibiscus is an ornamental plant that is very popular and important in Malaysia. This plant produces flowers throughout the year. Hibiscus is chosen as the national flower of Malaysia where five petals represent the five national principles of Malaysia (*Rukun Negara*), which are Belief in God, Loyalty to King and country, The Supremacy of the Constitution, The Rule of Law, and Courtesy and Morality. The five principles of Nationhood represent an attempt to base national unity on certain concepts which are universal and acceptable to all citizens, regardless of ethnic origin or religious affiliation (“Bunga Raya...”, 2011). Hibiscus flowers and leaves are traditionally used to reduce hair loss and strengthen hair roots as well as reducing body temperature during fever. The hibiscus has no scent and has large petals.

The unique hibiscus motifs have not changed much from its original form and usually, this motif will be placed on the clamping part of the sarong cloth or the pattern placed in the motif of bamboo shoots.



*Figure 42: Hibiscus (Asmahazi Osmera, 2017)*



*Figure 43: Hibiscus motifs design on batik sarong (Asmahazi Osmera, 2017)*

## 2.8 DEFINITION OF CERAMICS TABLEWARE

Ceramics art is one of the earliest forms of art in the world where archaeologists have discovered valuable historical evidence through the remains of ancient artefacts. The remnants of ceramic artefacts are very important because through it we can learn more about ancient society such as culture, lifestyle, and technology of that period. The development of culture and technology can be seen from the manufacture of ceramics and development of its function and in daily use. The first use of functional pottery vessels for storing water and food is thought to be around 9000 or 10,000 BC (Guire, 2014). The development of ceramics from ancient times has led to the development of ceramics, especially ceramic whitewares, refractories, cement, and glasses.

Ceramic whiteware is divided into several types such as tableware, sanitaryware, and also ornamental ware. In term of productions, all ceramics whiteware go through the same process as involving fabricating, decoration, drying, and firing. Whiteware ceramics have several colours such as white, grey, and light brown or ivory after bisque firing, which uses materials consisting of earthenware, porcelain, and stoneware.

Tableware is defined as the utensils on the table as an appliance to serve food and tableware is commonly made of ceramic or glass. The use of tableware is important especially in hotels or restaurants as it completes the ethical values when having a meal. The design of tableware products helps the presentation of dining table which can attract attention and influence a person's appetite, especially involving colours and decorations used. The balance of colour and visual weight of food on a dish can stimulate the appetite for a simple meal as well as complicated dinner service. Colors and patterns on dishes can complement food and relate to the surrounding environment (Sullivan, 2006).

The transition of ceramic tableware to contemporary ceramics tableware products has attracted the attention of consumers in line with the development of the modern culture where this product is easily adapting to the new style of modern decoration. Contemporary tableware products with aesthetic touch have gained a special place in

the society, and due to the fresh design and its functionality, consumers even buy it as a collection to be displayed at their house and will use it for important occasions. Contemporary kitchen tools and tableware are all about strengthening an emotional bond between consumer and product through interactive user experience or crafted textures (“Low Tech, High Engagement”, 2014). In addition to functional products, kitchen utensils made from ceramics also offer beauty as well as offering safe and effective cooking experience for the consumer. Although nowadays the use of tableware is less formal for daily use, in official events and important occasions it still maintained the ethical and formal style at the dining table.

## **2.9 TYPES OF TABLEWARE**

Tableware is important to assist food preparation at the dining table as it enables meals to be properly served according to the type of meals prepared. Tableware can be divided into four main parts, which are dinnerware, servingware, drinkware and flatware. Tableware also made up of different materials such as ceramic, glass, wood, pewter and even silver. However, tableware made of ceramics is more popular and preferable because of its durability, hygienic, easy to clean, and suitable to be used for formal and informal events.

Tableware is made in a range of sizes, from small to large according to different types of food. Colour and pattern of the decorations also play an important role that affects people decision when buying tableware products. Simple yet well-decorated ceramic tableware is preferred because it brings a sense of comfort when enjoying the meal. Consequently, people place great importance on the value of the product as interior decoration and a "fun" factor when using it, in addition to its quality and functionality; with a demand for products more individualized and diversified by colour, design and shape (Pupaza, 2016). In addition, the use of tableware products now is getting more casual. For example, sometimes both handmade and mass-produced ceramic tableware is used and mixed together for dining purpose.

### 2.9.1 Dinnerware

There a variety of dinnerware, comprises from basic to the more specific crockery and it chosen to be used depends on the purpose of an event or to individuals in which it is used to serve meals. The patterns, colour and decoration of dinnerware can somehow affect mood and appetite of someone when having meals. Most of the dinnerware products are produced in white colour as it offers neatness and also highlights the food served. However, the touch of minimal decorating style is able to add aesthetic value to dining table thus help to enjoy the food served. Colour is the biggest influence on the purchase of dinnerware, as well as the pattern for surface decoration. Most people choose dinnerware with a pattern around the rim, but both all white and dinnerware with full face of surface decoration have each been bought by one quarter of the people surveyed (Sullivan, 2006).

The preparation of how many sets should be used depends on the number of guests. A twenty-piece set consists of four place settings; a forty-piece set has eight. A forty-six-piece set consists of eight place settings plus a large platter, a round vegetable bowl, an oval vegetable bowl, a creamer and a sugar with cover (Adler, 1997). This shows that each person has a five-piece set of dishes consisting of dinner plate, soup bowl, cup and saucer and salad plate.



*Figure 44:* Dinnerware set (Asmahazi Osmera, 2011)

### 2.9.2 Servingware

Serving ware is utensils used to serve a food and beverages in large quantities. Serving ware consists of tureen, casserole, fruit bowls, pitcher, tea and coffee sets, trays, carafes and also salad bowl. Usually, serving ware comes in set that includes small bowls or cups. For example, tureen and casseroles sets have six pieces of small bowl soup, as well as tea and coffee sets that include cups. All these serving ware although different in forms, shares similar main body part. For example, they normally consist of the handle, lid cover and also the knob.



*Figure 45: Tureen set (Asmahazi Osmera, 2014)*



*Figure 46: Japanese teapot set (Asmahazi Osmera, 2012)*

### 2.9.3 Drinkware

Drinkware is familiar with our daily lives because we use it every day for drinking. Teacup, cup, mug, jug, coffee cup, stemware, trembleuse, and tumblers are examples of drinkware whether it is made of ceramics or glass.



*Figure 47: Cups and saucers (PBPhotography, 2017)*

### 2.9.4 Flatware

Flatware is a utensil used when having a meal to assist us in eating the food. Example of flatware includes a spoon, fork, and knife. It is the most basic however very important tool in the dishes because it would be difficult to eat food without it. Besides that, there are also more specialized flatware utensils such as salad fork, steak knife, butter knife, spoon for soup, and larger spoons. Usually, this equipment is made of stainless steel and silverware as it aesthetically matches to be used together with items such as ceramics and glassware products as well as of its durability for long-term use.



*Figure 48: Cutlery (Silberfuchs, 2014)*

## 2.10 EASTERN AND WESTERN CULTURE IN USING TABLEWARE

Each country has a different way of using tableware as it is influenced by the culture and environment of a place. The use of tableware can be divided into two cultures that is eastern and western.

### 2.10.1 Eastern (Japanese Tableware)

The staple food for the most countries in Asia is rice and normally prepared together with soup. Eastern people, especially in Japan and China, use the chopstick and spoon to eat food. Japanese ceramic tableware, for example, *Imari* ware has begun for so long and is used in Japanese kitchen every day until now. *Imari* ware is a plate that is patterned and has a different colour but normally can be found in bluish-white colour.

Typically, every individual has a small portion of food and each meal is set on a different plate or small bowls. Different dishes cannot be put on the same plate as it thought would spoil the taste of the dish. In Japanese ceramic tableware, there are differences between form, shapes, decorations and colours used. It has different shapes and patterns as Japanese people prefer to use handmade ceramics with the combination of different decoration. They also love to mix and match the when using tableware. The colour, shape, and even tactile feel of a vessel also enhance whatever food is served, making it seem even more delicious (Sekiguchi ,2014). In Eastern culture especially Japan, bowls are used for rice and soup, and the use of chopstick is preferred over fork or spoon. Japanese people also have a culture for drinking tea called Tea Ceremony and they use drinkware called *raku* or tea bowl.



Figure 49: Japanese tableware (Kaden, 2012)

### 2.10.2 Western

The staple food for the people in Europe is bread made from wheat and they prefer to eat meat for example steak and this become one of the reasons why Westerners use forks and knives when having meal. The use of tableware products is well arranged as it intentionally matched to each other in term of decoration and pattern when serving food at the dining table. In Western culture, large plates are used for main dishes while bread or butter are placed on small plates, soup plates used for soup, porridge and other gravy food. Bowl is used for pasta, fruit, cereals, and desserts and cutlery tools such as knife, spoon and fork is a must when having meal. They also drink tea regularly and use this 'tea time' to socialize among themselves.

In Europe, servicing something at the dining table is divided into two namely a *la russe* and a *la francaise*. The service `a la francaise, with all its dishes brought all at once was impressive, but also impractical, and so was soon substituted in most Western countries by the service a la russe in which the dishes are brought to the table sequentially. (Leme et al., 2012). Each set of tableware in the market has the same standard size even from different manufacturers of ceramic industry.



Figure 50: Dinnerware set arrangement on dining table (Cexar, 2013)



## 2.11 DECORATION ON TABLEWARE

China is believed to be the country that first introduced and influenced the decorating methods on tableware to European countries through the trade of porcelain. In the 18th and 19th centuries, ceramic factories in Britain produced tableware and other ceramics with designs inspired by patterns and styles from China and the Far East (“Ceramics handling collection”, n.d). The decoration and the famous white-blue colours used in ceramics products whether for tableware or ornamental ceramics from China have been followed by European countries but it has been slightly changed in terms of design patterns. For example, the landscape of China's backdrops being changed to European backgrounds such as windmills and wheat field.

The passage of times has influenced the change in pattern design and decoration style of ceramic tableware. Plain plates are usually used for official event because it looks more exclusive and can highlight the meal. Professionals use most often plain white plates to express their creativity (Brandy, 2016).

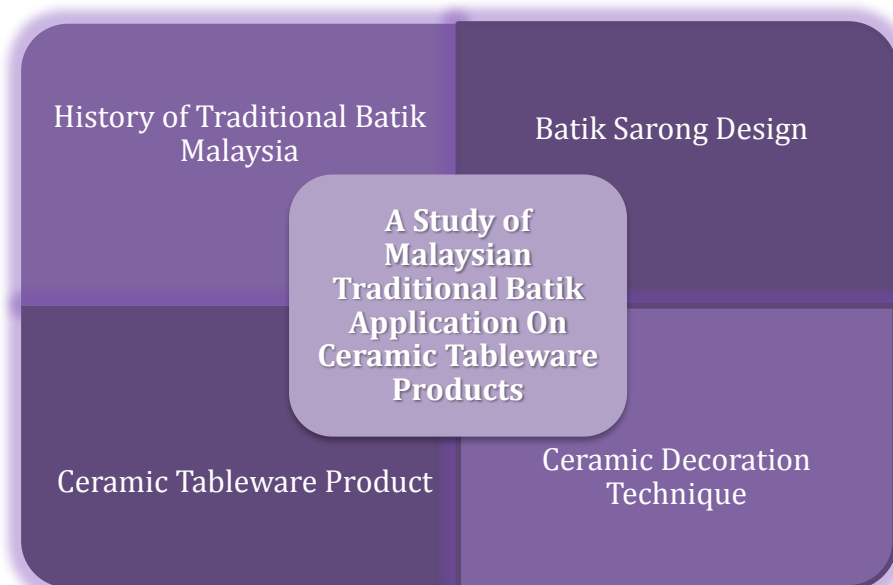
Besides, the patterned plate is used more in the home kitchen or dining room as it able to demonstrate artistic value and enhance the harmonious atmosphere at the dining table. In addition to functional products that have a wide range of colours, the decoration used in tableware products also has various designs such as full pattern design, geometric patterns, flora patterns and minimal patterns.

Ceramics tableware surface can be decorates using various surface application methods such as under-glaze, over-glaze, and in-glaze. Under-glaze is a method of decorating before glaze firing such as slip trailing, marbling, sgraffito, carving, and inlay techniques. Over-glaze is a method of decorating after glaze firing such as decal technique and decals can only be fired at lower temperatures. While in-glaze is a method of decorating over a glaze layer and will be fired after both glaze layer and decoration is completely dry. In the past, all pattern on ceramic products is decorated only by using hand before modern technology introduces the use of transfer printing method such as decal. The industry of ceramic mass production enables decorative

ceramic products to be produced in large quantities with short amount of time using decal technique. This, however, has reduced the production of decorative ceramic handmade products, and also explained why handmade ceramics sometimes more expensive and claimed to have high aesthetical values compared to industrially made products.

## 2.12 CONCEPTUAL FRAMEWORK

The overview of the study will be concluded using a conceptual framework. This study begins with the early history of the development of Malay traditional batik that has been influenced by Javanese. It aims to find out the origin of the technique and the motif pattern used in batik sarong. Batik motifs are also collected and identified to obtain information about the motif that has been stylized from the original motif. This collection is very important to assist researcher in applying batik motifs on tableware products. The type of decoration technique will be also selected based on the suitability of the technique that will be used for making decorations. The colour, decoration techniques, and the suitable shape of tableware products play an important role in innovating batik pattern on other products besides textiles.



*Figure 51: Conceptual Framework*

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 INTRODUCTION**

To meet the objectives of this study, the main methodology used was Experimental Research. It is also supported by variables such as clay, coloured clay (engobe), motifs, temperature, and the structure of tableware final product. The main subject and focus of this research are the motifs that available in Malaysian traditional batik sarong. The research also emphasized on tableware set as it related directly to this study. The information related and contribute to this research will be collected by the primary and secondary data.

It is hoped that through this research, the Malaysian batik sarong motifs and designs would able to be developed and to be known to the next generation. In addition, it is also hoped the studio based tableware product is able to be to improve in term of the design and the surface decoration on the product as well as maintaining its functionality. This research will go through a detailed analysis of the Malaysian traditional batik sarong and its relations with Malay ethnicity and culture. Overall, the elements and motifs of Malaysian batik sarong were expected to be successfully applied and subsequently producing studio ceramic tableware products with different perspectives. The whole process of producing the artwork and related information in this study will be described with a flowchart.

#### **3.2 DATA COLLECTION AND EXPERIMENTAL WORK**

This research will be conducted by using a qualitative research method in gathering the data and information to assist the development and treatment of the design. In supporting the facts of this study, both the primary data and secondary data will be used as references to verify and strengthen the information collected.

For the first data collection, an observation was made on tableware products available in the market to find and identify the design, and the glaze colour used on tableware product. In addition, the observation has also been conducted on existing products that used the application of batik motifs patterns. It is found that there are existing products that inspired by the batik motifs pattern such as textiles and painting. However, only a few of them were applied to ceramic materials.

For secondary data collection, the information was collected from the Internet, books, and journals. This method of data collection is to reinforce the research material based on facts and previous research findings ever conducted. From the collection of these data, it was found out that the patterns and motifs in traditional batik sarong have been reworked into a new pattern in contemporary batik and traditional batik faces a huge challenge to survive in the era of modernization. This is explained by Mohamad, Z. (2001), Changing lifestyles and preferences in designs, colours, patterns, materials and the way people dress are influenced by globalisation processes in the region.

This experiment was conducted using variables such as clay, glaze materials, engobe colours, and batik motif. To find out the suitable decoration technique to be applied on tableware products, several experiments of different decoration techniques such as slip trailing technique and sgraffito technique were made by using engobe colours.

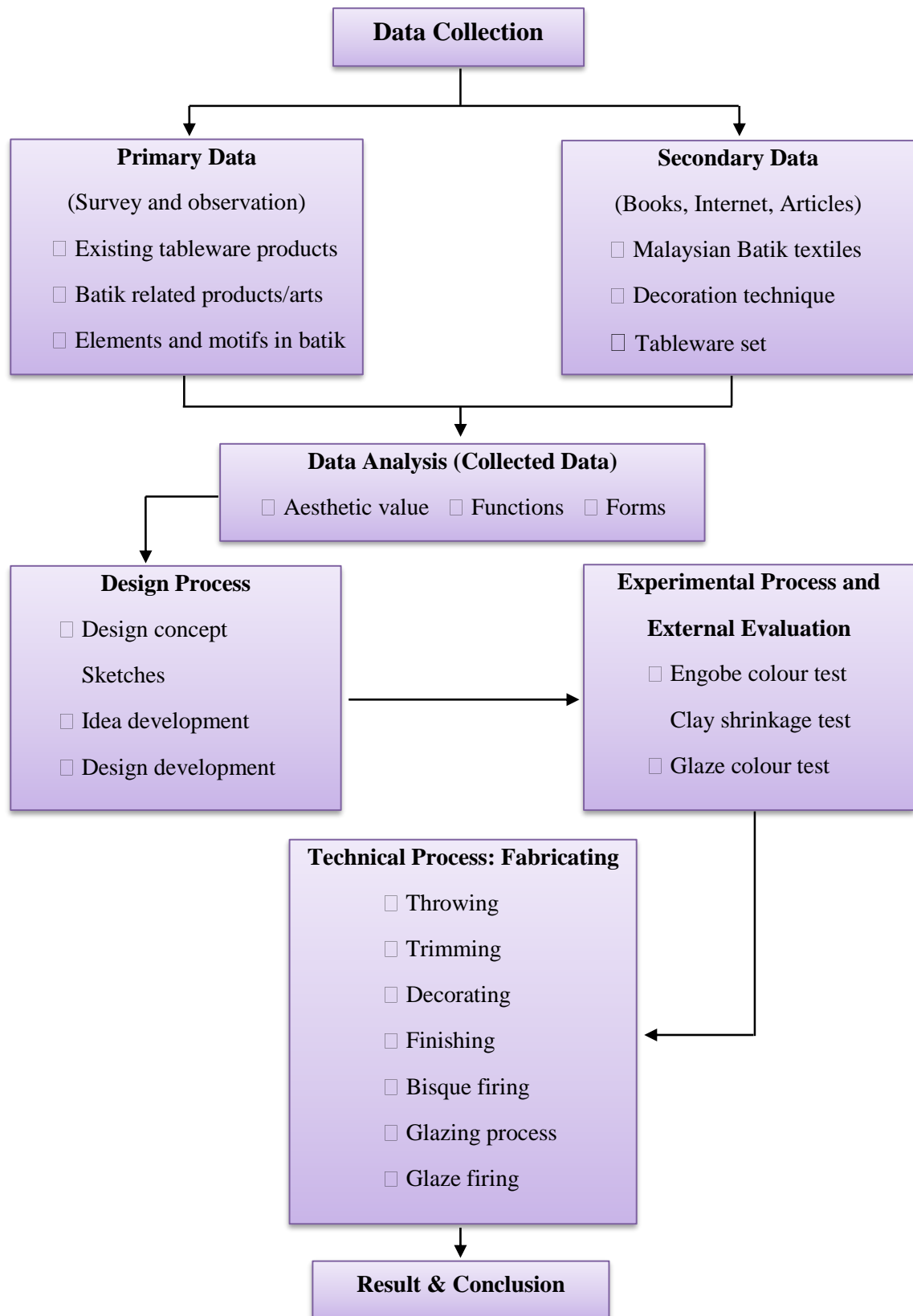


Chart 1: Research Methodology Flowchart

### 3.3 EXPERIMENTAL PROCEDURE

This study was conducted based on several stages:

**Stage 1:** Documenting the Malaysian traditional batik sarong motifs

This is done primarily to identify the motifs used in batik sarong together with the history, background and the influence of the motifs itself.

**Stage 2:** Developing the application of motifs on tableware through the design process.

Existing motifs found in batik sarong will be drawn as a development of idea with two main categories: floral motifs and geometric motifs.

**Stage 3:** Identifying the suitable clay for tableware products

Selection of suitable clay for making tableware products will be used based on the rate of temperature resistance, grog percentages, shrinkage of the clay after it fired and suitability of clay for decorating techniques.

**Stage 4:** Identifying the colour used (engobe)

This process is to determine the appropriate colour that will be used for decoration in tableware products in accordance with the colour used in batik sarongs.

**Stage 5:** Identifying the suitable decoration techniques

Appropriate decoration techniques will be selected to be used to decorate the tableware products. Decoration techniques that have been tested are slip trailing, sgraffito, carving, and stamping.

**Stage 6:** Identifying glaze colour

The colour of the glaze will be chosen based on the suitability of the engobe colours used in decorating the surface of tableware products so that glaze and decorating colours can produce a balanced, contrast, and harmonious colour.

### Stage 7: Making ceramics tableware product

Design and decoration techniques that have been selected will be applied on tableware product, which will be used as the testimony of the effectiveness of decoration patterns on other mediums other than textiles.

### 3.4 RESEARCH DESIGN PROCESS

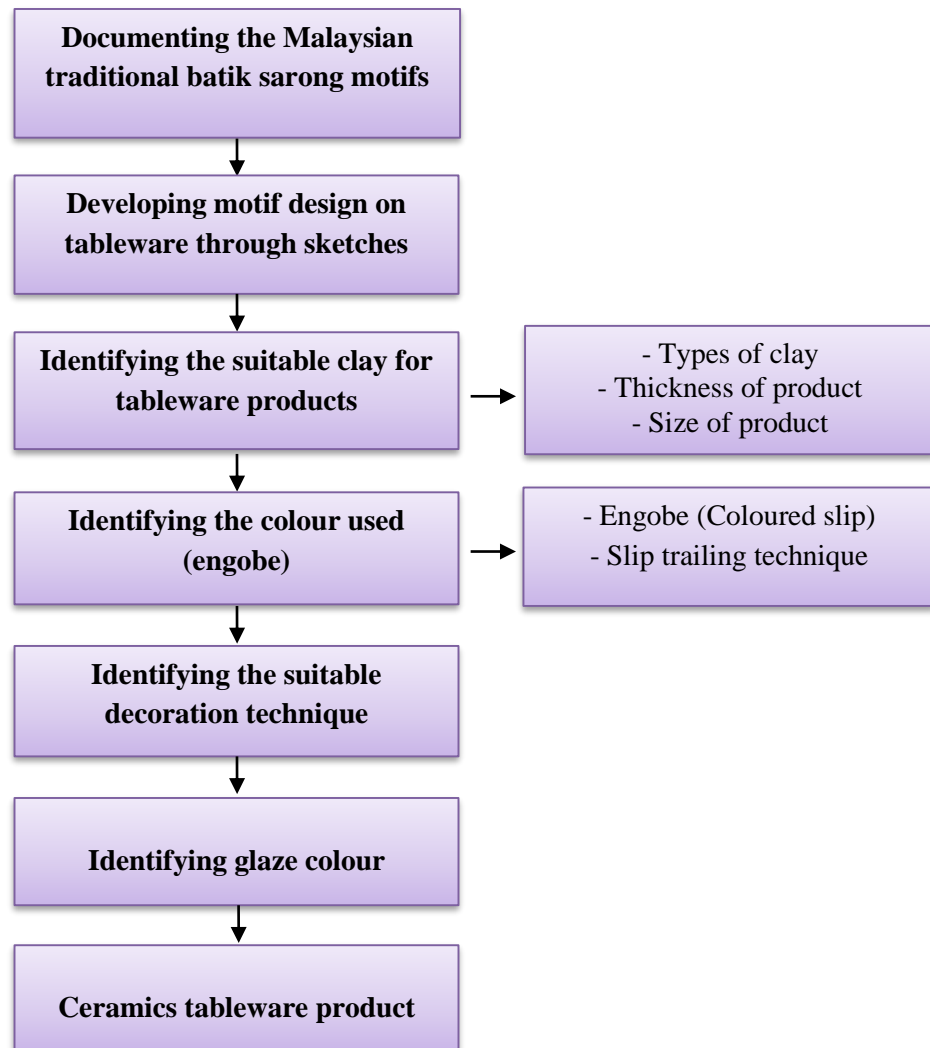


Chart 2: Research Design Process

Through study that has been done, the motifs and pattern of batik sarong have gone through several of design stylization and morphing process. The existing design was treated by making the simple outline. Through an observation of motifs and designs, it

can clearly be seen that the design is formed by the repetition of patterns and motifs. To find the suitable design to be used as decoration on ceramic tableware products, motifs and patterns of batik sarong have gone through the initial sketching process. Through sketches made, it is found that the most appropriate method for decoration is banding technique or symmetry technique because it is more formal and organised in term of design arrangement. It has been identified that the important aspects of the design are the balance, repetition, contrast, scale, and the content. The consideration of the right scale is very important for the decoration, as they are closely related to the form.

### **3.4.1 Design Concept**

The design concept is an idea in producing functional products such as tableware, and at the same time using decoration techniques that have a repetition, harmony, and contrast feature that can be seen on the surface of the product. The design concept is based on the batik sarong pattern and design which involves a lot of analysis and observation in order to produce this design idea.

### **3.4.2 Sketches**

Sketches are done as a preliminary idea of tableware product design that will be produced. At this stage, the shape, size and practicality of the design are given more emphasis. A rough sketch of the idea will be made in various forms to see the potential of the idea to be highlighted in the development process.

### **3.4.3 Idea and Design Development**

The development of ideas and designs is made after identifying the pattern of batik sarong motifs and the form of tableware products from the research made. The development of the idea is very important as the final design will be selected from this and it will directly affect the results final ceramic tableware artworks.















### **3.5 EXPERIMENTAL PROCESS AND EXTERNAL EVALUATION**

#### **3.5.1 Engobe Colour Test**

Engobe colour is produced by mixing the stain colours with clay slip according to the amount and percentage that has been measured. The engobe colour test that has been conducted uses a ratio of 4 grams, 6 grams, and 8 grams of stain colour (underglaze colour) for a 100 grams of grog-less clay slip. The colours that were emphasized in this test are turquoise, red, yellow, orange, blue, and green. In addition, interesting engobe colour that has the potential to be applied to the final products will also be considered for applications. The colour that has been mixed with the clay slip will be applied on the surface of the test pieces using a flat brush. To get the consistent results, the clay used for test pieces was the same type of clay used to make the product. The selected transparent glaze was used for glaze firing in order to get actual colour results of these engobe colours. After the glaze-firing process finishes, the engobe colour that had similar colours as found on the batik sarong will be chosen and used as a decoration on the surface of the product.

The following are the results of this engobe colour test:

Types of colour	Percentage of colour with 100gram of slip		
	4 %	6 %	8 %
Black			
Dark Blue			
Cobalt Blue			
Blue			

	4 %	6 %	8 %
Yellow			
Orange			
Red			
Pink			
Brown 2			
Brown 14			

	4 %	6 %	8 %
Turquoise			
Petrol Green			
Dark Green			
Green Apple			
Green			




Table 1: Engobe colour test results

### 3.5.2 Clay Shrinkage Test




This test was carried out to find out the current rate of clay shrinkage after the clay dries, after bisque firing and also after high-fired (or after glaze firing). The study was conducted on different clay, namely Creaton 254, Creaton 486, Creaton 376. Results obtained are as follows:

Clay condition / Shrinkage rate (%)	Type of clay: Creaton 254
Bone dry (Greenware)  2% Shrinkage	
After bisque firing (1040 °C)  4% Shrinkage	
After high-fired (Glaze firing) (1200 °C)  8% Shrinkage	

Table 2: Clay shrinkage test results ( Creaton 254)

<b>Clay condition / Shrinkage rate (%)</b>	<b>Type of clay: Creaton 486</b>
Bone dry (Greenware)  0.8 % Shrinkage	
After bisque firing (1040 °C)  2% Shrinkage	
After high-fired (Glaze firing) (1200 °C)  5% Shrinkage	

*Table 3: Clay shrinkage test results ( Creaton 486)*

<b>Clay condition / Shrinkage rate (%)</b>	<b>Type of Clay: Creaton 376</b>
Bone dry (Greenware)  3% Shrinkage	
After bisque firing (1040 °C)  6% Shrinkage	
After high-fired (Glaze firing) (1200 °C)  11% Shrinkage	

*Table 4: Clay shrinkage test results (Creaton 376)*

### 3.5.3 Glaze Colour Test

In order to obtain an appropriate glaze colour, various tests of glazes recipe were conducted for temperature reaches up to 1200°C. In addition, it also aims to determine the maturity, melting point, the stability of the glaze. Due to the research conducted involving ceramics functional ware, all the glaze tested used non-hazardous materials such as lead or frit to ensure all the glazes that will be applied on final products are totally food safe. The table below shows the result of the transparent glaze and the recipes of glaze colour that had been tested.





Glaze Recipe (%)	Electric Kiln (1200°C)
Ready-made glaze: Transparent High Fired Glaze/ YDS	
Ready-made glaze: Transparent Code: 1051	
Ready-made glaze: Transparent Code: 7004	
Potash Feldspar                      44 % Calcium Carbonate                      13 % Zinc Oxide                                      11 % Kaolin    6 % Flint    26 %	

Table 5: Table shows the results of transparent glazes that had been test.

Glaze Recipe (%)		Electric Kiln (1200°C)
Nephaline Syenite	65 %	
Dolomite	7 %	
Zinc Oxide	4 %	
Calcium Carbonate	5 %	
Kaolin	7 %	
Silica	10 %	
Bentonite	2 %	
+ Chrome Oxide	2 %	
Cobalt Oxide	1 %	
Potash Feldspar	44 %	
Calcium Carbonate	13 %	
Zinc Oxide	11 %	
Kaolin	6 %	
Flint	26 %	
+ Red Iron Oxide	4 %	
Cobalt Oxide	1 %	
Bentonite	2 %	
Potash Feldspar	44 %	
Calcium Carbonate	13 %	
Zinc Oxide	11 %	
Kaolin	6 %	
Flint	26 %	
+ Rutile	2 %	
Copper Carbonate	3 %	
Cobalt Oxide	1 %	
Copper Oxide	1 %	



Glaze Recipe (%)	Electric Kiln (1200°C)
<p>Potash Feldspar 44 %</p> <p>Calcium Carbonate 13 %</p> <p>Zinc Oxide 11 %</p> <p>Kaolin 6 %</p> <p>Flint 26 %</p> <p>+ Bentonite 2 %</p> <p>Copper Carbonate 2 %</p>	
<p>Potash Feldspar 44 %</p> <p>Calcium Carbonate 13 %</p> <p>Zinc Oxide 11 %</p> <p>Kaolin 6 %</p> <p>Flint 26 %</p> <p>+ Cobalt Oxide 4.3 %</p> <p>Bentonite 3 %</p>	
<p>Potash Feldspar 44 %</p> <p>Calcium Carbonate 13 %</p> <p>Zinc Oxide 11 %</p> <p>Kaolin 6 %</p> <p>Flint 26 %</p> <p>+ Copper Carbonate 2 %</p> <p>Rutile 4 %</p>	

Glaze Recipe (%)	Electric Kiln (1200°C)
<p>Potash Feldspar 44 %</p> <p>Calcium Carbonate 13 %</p> <p>Zinc Oxide 11 %</p> <p>Kaolin 6 %</p> <p>Flint 26 %</p> <p>+ Cobalt Oxide 1 %</p> <p>Rutile 2 %</p>	
<p>Potash Feldspar 44 %</p> <p>Calcium Carbonate 13 %</p> <p>Zinc Oxide 11 %</p> <p>Kaolin 6 %</p> <p>Flint 26 %</p> <p>+ Rutile 2 %</p> <p>Yellow Iron Oxide 0.5 %</p>	
<p>Potash Feldspar 44 %</p> <p>Calcium Carbonate 13 %</p> <p>Zinc Oxide 11 %</p> <p>Kaolin 6 %</p> <p>Flint 26 %</p> <p>+ Rutile 2 %</p> <p>Copper Oxide 4 %</p> <p>Manganese Oxide 2 %</p>	

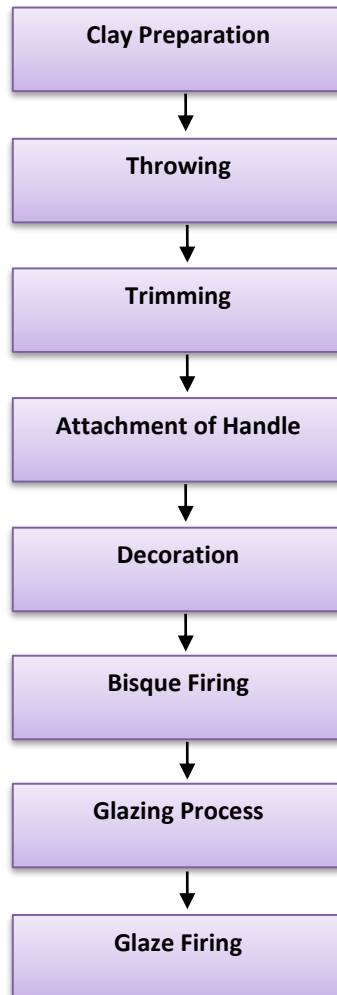
Glaze Recipe (%)	Electric Kiln (1200°C)
<p>Potash Feldspar 44 %</p> <p>Calcium Carbonate 13 %</p> <p>Zinc Oxide 11 %</p> <p>Kaolin 6 %</p> <p>Flint 26 %</p> <p>+ Rutile 6 %</p> <p>Copper Oxide 1 %</p>	
<p>Potash Feldspar 44 %</p> <p>Calcium Carbonate 13 %</p> <p>Zinc Oxide 11 %</p> <p>Kaolin 6 %</p> <p>Flint 26 %</p> <p>+ Rutile 6 %</p> <p>Chrome Oxide 2.25 %</p>	
<p>Potash Feldspar 44 %</p> <p>Calcium Carbonate 13 %</p> <p>Zinc Oxide 11 %</p> <p>Kaolin 6 %</p> <p>Flint 26 %</p> <p>+ Rutile 5 %</p> <p>Bentonite 2 %</p>	

Glaze Recipe (%)		Electric Kiln (1200°C)
Potash Feldspar	44 %	
Calcium Carbonate	13 %	
Zinc Oxide	11 %	
Kaolin	6 %	
Flint	26 %	
+ Tin Oxide	5 %	
Chrome Oxide	0.2 %	
Potash Feldspar	44 %	
Calcium Carbonate	13 %	
Zinc Oxide	11 %	
Kaolin	6 %	
Flint	26 %	
+ Rutile	5 %	
Copper Oxide	2 %	
Bentonite	2 %	
Cobalt Oxide	0.5 %	
Potash Feldspar	44 %	
Calcium Carbonate	13 %	
Zinc Oxide	11 %	
Kaolin	6 %	
Flint	26 %	
+ Rutile	4 %	
Tin Oxide	3 %	
Bentonite	2 %	

Table 6: Table shows the results of colour glazes that had been test.

### 3.6 TECHNICAL PROCESS: FABRICATING

The following flowchart shows the fabricating process stages for this study.



*Chart 3:* Fabricating process flowchart

#### 3.6.1 Clay Preparation

The clay selected to be used in making the tableware products is stoneware clay (Creaton 254) with 20% of grog content. This type of clay can reach high firing temperatures and it is suitable for the production of tableware products. This clay was selected based on a few factors which are the shrinkage rate after bisque and glaze fired as well as the suitability to produce tableware products using throwing technique. High

plasticity of this clay also makes it very suitable to be used in a ceramic manufacturing process, especially in throwing techniques.



Figure 52: Creaton 254 clay used in fabricating process (Asmahazi Osmera, 2018)

### 3.6.2 Throwing

Throwing techniques were used in this study to produce studio-based tableware products. This research is not focusing on producing tableware products in mass production but rather as a prototype design product that can be improved for future production; due to this reason, throwing technique was chosen as the main technique for tableware manufacturing process for this research. Several ceramic tableware products have been chosen for the application of batik design, and these ceramic products include tureen set, dinnerware set, and also teapots.

The process of producing ceramic tableware using throwing techniques is as follows:

1. Before throwing process starts, the clay needs to be kneaded to remove the air bubbles in the clay body. There are two types of kneading technique which is *bullhead technique* and *spiral technique*.
2. The throwing process starts by placing the lump of clay on the wheel. The clay should be placed properly to make sure it will stick well on the wheel. By using hands, the clay needs to be centred and pulled to remove the remaining bubbles within the clay. This is to facilitate the throwing process because the bubbles contained in the clay will disturb the forming process when making the product.



*Figure 53: Lump of clay placed on the wheel (Asmahazi Osmera, 2018)*



*Figure 54: Clay was centred to remove remaining air bubbles (Asmahazi Osmera,2018)*

3. Once the clay is well centred, place thumbs in the centre and mark it by gently press thumbs against the clay. Then, make a hole in the centre and pulled the clay to the side with a thumb forming a bowl shape. After that, the forming process fully depends on the throwing skills to produce the desired form according to the design.



*Figure 55: Clay was thrown to forms desired shape (Asmahazi Osmera, 2018)*

4. The lid and cover will be made for the production of covered products such as tureen and teapots. According to Dolors (1947), to make the lid, first, measure the diameter of the opening. This process requires accurate measurements to make sure the lid is fitted to cover the body of the tureen.

5. After finished throwing, the bottom of the product will be cut off by a wire cutter.



*Figure 56: Process of making lid (Asmahazi Osmera, 2018)*

### **3.6.3 Trimming**

Once the throwing process has been completed, the products should go through the trimming process. Before start trimming, the product should be in leather hard condition as it is an ideal state for trimming. Trimming is the process of removing excess clay in the body of the product and also to make the bottom part of the product well finished. Trimming process cannot be done while the product is still wet or almost dry, as it will damage the surface of the product when trimmed.

For the trimming process, the body condition must be in the leather-hard and the lid should be able to support the weight of the body when it turned upside down later. When trimming, the speed of the machine should be controlled with care to avoid defects occurring on the surface of the product. Once finished, the product will be covered with plastic wrap so that the product remains moisturized for the next process.










Figure 57: Trimming process (Asmahazi Osmera, 2018)



### 3.6.4 Attachment of Handle

After the trimming process, the handle should be made shortly after to facilitate the process of attaching the handle to the body. There are varieties of handle making techniques that can be made such as pulling, throwing, and press mould technique. For making the handle, pulling and throwing techniques were chosen, as it is much easier and faster to be done. According to Walner (1995), the simplest is to roll out a clay coil and attach this as a handle. For pulling technique, it cannot be done simply by pulling the force. The proper way is by pulling using wet hand and pull gradually.

The shape of the handle attached to the body should correspond to the shape of a tureen because it is not only used for lifting the tureen but should also have aesthetic look. To support the weight of the product, it must be attached properly to ensure it assembly firmly. The *clay slip* is used to attach the handle to the body and knob to the cover. The tureen that had been made should be cover with a plastic bag to retain its moisture for the decoration process.

Process	Descriptions
	<p>The making of handle.</p>

 A photograph showing a circular tureen body. A metal ruler is held horizontally across the diameter of the opening. A vertical wooden dowel is placed through the center of the opening, passing through the ruler to mark the center line.	<p>Measuring the diameter of the tureen body to get the centre line.</p>
 A close-up photograph of the tureen body. A ruler is positioned vertically against the side of the bowl. A thin, light-colored line is being drawn along the ruler to mark the center line on the clay surface.	<p>Marking the centre line.</p>
 A photograph showing a brush applying a thick, white, adhesive substance (clay slip) to a specific area on the side of the tureen body. The area has been previously scratched with a tool.	<p>Scratch the area that wants to be attached with and apply it with <i>clay slip</i> as an adhesive by using a brush.</p>
 A photograph showing a hand holding a curved, light-colored handle. The handle is being pressed against the side of the tureen body, where the adhesive has been applied, to attach it.	<p>Attachment of handle.</p>

	<p>Gently press the handle towards the body to ensure it firmly attached.</p>
	<p>Attachment of the handle is finished.</p>

*Table 7:* The process of attaching the handle to the tureen body.

### 3.6.5 Decoration

An appropriate decoration design and its arrangement will influence the aesthetic value of a product. The chosen decoration on the surface of the product is based on the selection of batik motifs pattern that has been simplified from the original batik sarong design. This is to ensure that the pattern that will be applied is not too overloaded and drown the shape of a product. The motifs pattern has also been simplified to ensure its application on ceramics medium can be successfully achieved; this is because the techniques used on the surface of the batik textiles are totally different compared to decorative techniques used on the surface of the clay.

The process of decorating the surface of the products is as follows:

1. From the engobe colour test, the colour chosen to be applied for decoration is based on the colour that is normally used in batik sarong.

2. The colour is mixed together with a slip that does not contain grog with a range of 4%, 6%, and 8% colour ratio of 100 grams of *clay slips*.



*Figure 58: Range of engobe colour used for decoration (Asmahazi Osmera, 2018)*

3. This engobe slip is then applied on the surface of the product using a flat brush to get the same thickness.

4. In order to get the best and consistent motifs pattern transfer to the surface of the products, the motifs pattern was created using fine wire to facilitate the process of applying the pattern to the product. Using the fine wire to transfer the motifs pattern is definitely the right choice as it not only can produce good transfer result but also can be used repeatedly without easily damaged.



*Figure 59: Example of motifs pattern created using fine wire (Asmahazi Osmera, 2018)*

5. The technique used for decoration process is *slip-trailing* technique because this technique is more suitable for the application of fine patterns on product surface as found in the batik sarong pattern. Slip trailing is done by applying slip to the surface of a pot from a trailer fitted with the nozzle to limit the flow of slip, Billington. D & Colbeck. J (1974). For engobe to be easily attached to the body and prevent cracking of the slip, the body should be kept moist all the time.



*Figure 60:* Engobe slip was put inside the bottles (Asmahazi Osmera, 2018)



*Figure 61:* Slip trailing decoration process (Asmahazi Osmera, 2018)

6. Once the decoration process was completed, the product will be given a final touch by finishing it and it should be let dry slowly for a few days before undergo bisque firing.



*Figure 62: Products drying process (Asmahazi Osmera, 2018)*

### **3.6.6 Bisque Firing**

After all the products are completely dry or in the bone-dry state, it should undergo first firing process which is bisque firing. The purpose of the bisque firing is to remove the carbon and the impurities found in the clay. It is also to make the content in the clay becomes porous, strengthens the body and eases the glazing process. According to Linder (1995), it is easier to work on the clay after bisque firing, since the unfired ware is very fragile and easily broken. The electric kiln was used for firing process and the temperature used was 1040°C. This temperature is more suitable when firing tableware products as the glaze absorption rate will be lower and this will ease the glazing process to avoid glaze application becomes too thick. The finished bisque product should be stored in a clean space and preferably covered in a plastic bag to prevent dust from sticking on the product.



*Figure 63: Products ready for bisque firing (Asmahazi Osmera, 2018)*



Figure 64: Products after bisque firing (Asmahazi Osmera, 2018)

### 3.6.7 Glazing Process

Before starting the glazing process, the glaze material that has been properly weighed must be well mixed using the ball-milling machine and stored at least three days before glazing process; to ensure all the particles in the glaze mixed well. For this research, it has been determined that only food safe glazes will be used to be applied to the tableware produced. For the glazing process, the combination of glazing methods includes pouring, dipping, and spraying techniques were used.

Pouring technique is used inside the product as it is more suitable to be used into hollow surfaces. Dipping techniques are used for small products such as plates, bowls, and mugs. *Tape resist glazing technique* will be used for products that have a surface decoration. This technique is done by covering the decorated surface using masking tape and the surface that is left exposed will be glazed using coloured glaze. Later, masking tape will be removed and that unglazed surfaces will be applied with the transparent glaze using spraying technique.



Figure 65: Glazing process (Asmahazi Osmera, 2018)

Once the glazing process is completed, the footing of the products need to be cleaned from glazes using wet sponge; this is done to avoid the products from sticking to kiln shelves during glaze firing when the glazes melt at 1200°C temperature.



*Figure 66: Products after glazing process with cleaned footing (Asmahazi, 2018)*

### **3.6.8 Glaze Firing**

Glaze firing process will take place after all of the products have been applied with glazes. Glaze firing is the final process before all the products are considered finished and becomes ceramics. The purpose of applying the glaze is to make sure the piece is waterproof, durable, protect the outer layer of products, and also to gives beauty to the surface of the product. Before starting the firing, it is very important to ensure that the bottom of the product is clean from any glaze and also the kiln shelves is free from any leftover glazes from the previous firing. The temperature used for glaze firing is 1200°C using an electric kiln. The electric kiln has good heat conduction and more controlled firing atmosphere which makes it suitable for firing tableware product.



*Figure 67: Products ready for glaze firing (Asmahazi Osmera, 2018)*



### 3.7 RESULTS

As a result, all the process and experiments that have been conducted from the start of this research have given positive results which directly influence the final results of ceramic studio tableware products produced. The process of observing the interesting motifs and elements in Malaysian traditional batik sarong has led to the creation of appropriate design and motifs pattern to be applied on studio ceramic tableware product with a new approach.

Some of the experiments that have been carried out which includes engobe colour test, glaze test, and decorating techniques have also played an important role in producing ceramics tableware that meets functional values as well as aesthetic value. For example, from the engobe colour and glaze colour tests conducted, it shows that these colours together with the connection between the motifs and elements in Malaysian traditional batik sarong can draw people's attention towards the decoration on ceramic products. The selection of the right decoration technique, which is the *slip-trailing technique* also contributes in highlighting the batik sarong motifs on the finished tableware products. Additionally, the emphasis on the use of food-safe glaze has shown that the production of ceramic tableware in this study is giving priority to both aesthetic value and also the functionality of the products for daily use.

Overall, studio ceramic tableware product can be used as a medium to convey the message and introduce handmade ceramics to the public. In addition, this study also gives an impact to society about the importance of a culture and heritage that need to be preserved through an application of batik design onto ceramic artwork such as tableware products. Furthermore, with continuous research as well as some improvements in design and technical processes, this study will be further developed in the future. This will directly help ceramic art practitioners who wish to produce ceramic works related to decorative functional ware.

## **CHAPTER FOUR**

### **RESEARCH FINDINGS**

#### **4.1 INTRODUCTION**

The main focus of this study was to find out how far traditional batik designs can be expanded and continued on a medium other than textiles such as ceramics in order to deliver knowledge about batik to the young people and the future generation. This study has emphasized on the development of traditions and cultural significance that must be preserved and maintained as cultural heritage of the Malays in Malaysia. This chapter shows the results of experimental research conducted to fulfil the objective of the study.

Experimental research that has been conducted has achieved five key outcomes to fulfil the previous research objectives: (i) to document the motifs and elements contained in sarong batik sarong, (ii) to identify appropriate methods of pattern arrangement to be applied on the product surface which is by applying the banding technique, (iii) the elements and motifs used on tableware products have the potential to be commercialized, (iv) give new ideas through design and decoration and finally; (v) to illustrate and highlights that traditional batik motifs have a distinctive uniqueness that can draw attention to the public.

The sensitivity of the Malaysian society to the environment gives a lot of influence on the motifs ornament of batik sarongs. Traditional batik motifs have two functions namely social and individual function. The design motifs of batik sarong in the past were more likely to be a social function, which demonstrates the culture, education and religiousness of the Malay community, while the individual function also serves to show self-expression, emotion and spirituality. The design of batik motifs made on ceramics products consists of social functions, as it is more indicative of the cultural overview of the Malay community to be highlighted in this research.

Overall, this chapter will discuss the findings made throughout the production of tableware products in this research. The results of the final products will be discussed

thoroughly and given an overview. In addition, analysis of the experimental processes that include aspects of design and form, techniques and materials, engobe colour and glaze will be explained. Lastly, this chapter will discuss problems and its solution throughout the products development process.

## **4.2 EXPERIMENTAL PROCESSES**

Experimental process is an important part of ensuring this research carried out properly. Every aspect needs to be scrutinized and detailed studies and experiments need to be conducted before any decision is made involving technical and design applications aspect in the making of final products. Here are the analysis and findings obtained from the experimental process that includes aspects such as design and form, techniques and materials, as well as engobe colour and glazes:

### **4.2.1 Design and Form**

An experiment was conducted on clay slabs to see the suitable arrangement of decoration. There are various types of motifs pattern arrangement found on batik sarong. Among the arrangements of motifs pattern are; stand, striped, symmetrical, chess or *dam*, horizontal, round, oblique, spots (scattered), and bricks. In this research, the decorative motifs patterns applied on the surface of tableware products was carried out by using both symmetrical and scatters patterns. As a result, the symmetrical pattern provides the harmony and balance of the composition of motifs pattern on tableware product. While the results of the scattered pattern show that it is suitable to be used with a symmetrical pattern as ornate decorations. It can also be attributed with existing motifs found on batik sarong where the symmetrical and scattered patterns still produce the composition of decoration with harmony.

An observation was also conducted of the lines used in batik sarong. Through the observation made, it was found that batik's motif has very fine lines due to the use of the metal block. Due to the fineness of the motifs line, a simplified design from original motifs was made to facilitate the decoration process on ceramic body.

In terms of form, tableware in the form of a set was selected for this study. The selection of sets type of tableware gives space for batik motifs to be applied without affecting its function. In addition, the selection of sets of tableware is to further highlight the batik elements as each piece of tableware from each set offers diversity in determining the layout and motifs placement. Since batik indeed has so many types of motifs so the selection of tableware set products is appropriate to make sure these batik motifs is successfully highlighted.

#### 4.2.2 Techniques, Materials and Tools

In terms of technique for decoration, the slip trailing technique was used because of its suitability for making fine lines. This technique by using slip trailing bottle is not only effective in obtaining smooth fine lines but also gives the neatness and able to highlight the differences of every batik motif used even it is applied on the same surface using various colours. This technique is very effective for application since the various batik motifs and the use of varied colours can be very well highlighted on ceramic surfaces.

In addition, emboss effects resulting from the use of this decoration technique also add value to the end products. Meanwhile, another important aspect in the production of this work is the creation of a simplified motifs pattern using fine wire (see figure 59) as a stamp for transferring motifs design to the ceramic body. With this tool, the resulting pattern can be well applied to the leather-hard ceramic body with minimal touch, thereby facilitating the decoration process without affecting the shape of the product.



*Figure 68: Slip trailing bottles (Asmahazi Osmera, 2018)*

In terms of material, selecting the right kind of clay also contributes to the success of making the products in this study. The clay chosen in this study is Creaton 254 which is stoneware clay with 25% grog content. Based on the experiments conducted, this clay is definitely suitable for the production of ceramic handmade because the grog content helps to reduce warping. In addition, a good and consistent shrinkage rate makes it easy to estimate the final size of the product which is important in producing functional types of works, especially the set types. In addition, the use of this clay is also beneficial in getting an interesting glaze effect and strong ceramic body so that the products produced becomes more durable.

#### 4.2.3 Engobe Colour and Glaze

In order to find a similar colour as in traditional batik sarong, the engobe colour test has been conducted focusing on the main colour that is usually used in batik such as turquoise, green, blue, red, orange, and yellow. Through the experiment, it is found that the resulting colours are similar with the colours found in traditional batik sarong indicating that it is suitable to be implemented on ceramic products.

Other than that, from the glaze test conducted, it shows that the glaze test produces a good glaze surface result. The glaze range from matt to glossy finish with consistent melting point suitable to be applied onto tableware products. The selection of engobe colours and glaze to be applied to the final product is based on the use of colour on the batik sarong. Apparently, the combination of glaze and engobe colours has provided interesting results on the final tableware products in this study.



*Figure 69: Glazes applied onto final products (Asmahazi Osmera, 2018)*



*Figure 70: Engobe colours applied onto final products (Asmahazi Osmera, 2018)*

### 4.3 FINAL PRODUCTS AND ITS OVERVIEW



*Figure 71:* Tureen set 1 (Asmahazi Osmera, 2018)

For Tureen set 1, a combination of symmetry and scattered motifs has been applied to this set and it consists of a tureen and six bowls. The set uses a combination of matte and transparent glazes (for the decorated area) for the outer surfaces, and a glossy glaze on the inside of the bowls and tureen. The use of matte and glossy glaze is to highlight the area with decoration. In addition, the selection of light green glaze on the inside of the bowls also provides harmony for this set. Among the types of batik motifs that have been applied to this set of tureen are:



*Figure 72:* Types of batik motifs applied in Tureen Set 1 (Asmahazi Osmera, 2018)



Figure 73: Tureen set 2 (Asmahazi Osmera, 2018)

For Tureen set 2, only symmetry motifs have been applied to this set and it consists of a tureen and six bowls. The blue colour theme has been used for both decoration and glaze, and the entire surface of this set has a glossy finish. The motifs applied to this set are designed to be minimal because it is combined with a type of glaze that has rich surface effects.

Among the types of batik motifs that have been applied to this set of tureen are:

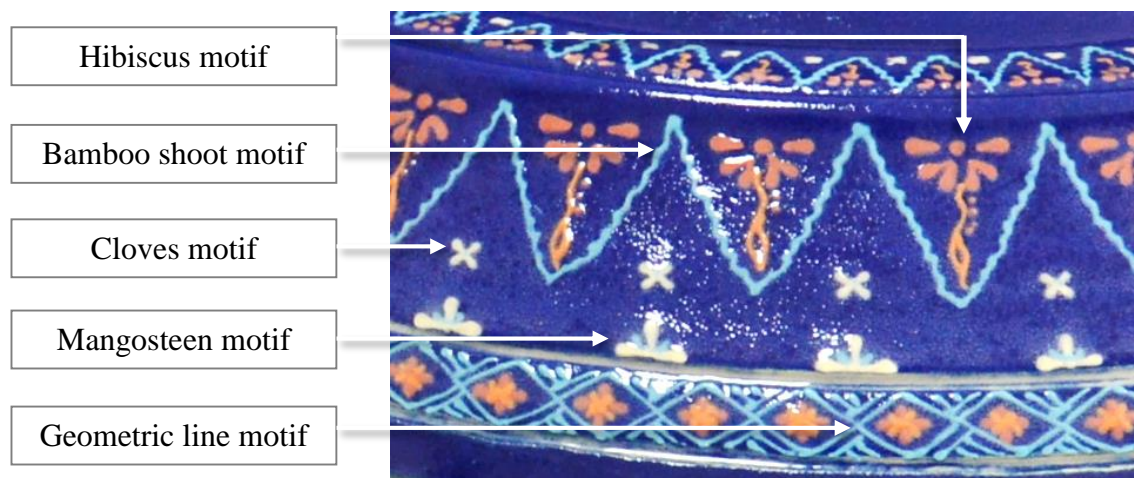


Figure 74: Types of batik motifs applied in Tureen Set 2 (Asmahazi Osmera, 2018)





Figure 75: Tureen set 3 (Asmahazi Osmera, 2018)

For Tureen set 3, a combination of symmetry and scattered motifs has been applied to this set and it consists of a tureen and six bowls. The red colour has been chosen as a decorative theme for this set, as the red is the main colour that is always used for batik sarong. The set uses a combination of glossy and transparent glazes (for the decorated area), and also matte glaze on the inside of the bowls and tureen. The use of matte and glossy glaze has added aesthetic value to this product as a decorative set. In addition, the selection of matte white glaze on the inside of the bowls also has helped to highlight each of these bowls. Among the types of batik motifs that have been applied to this set of tureen are:

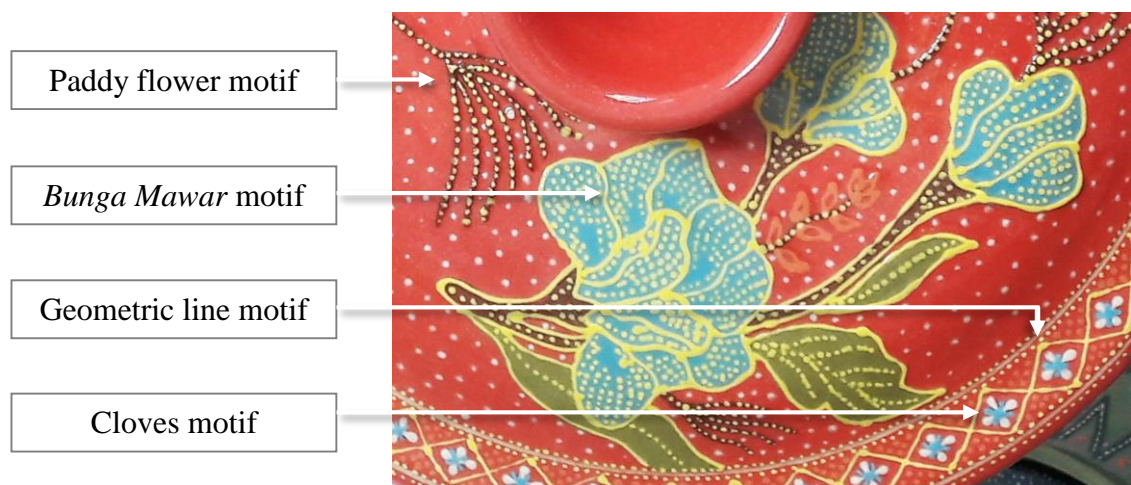


Figure 76: Types of batik motifs applied in Tureen Set 3 (Asmahazi Osmera, 2018)



Figure 77: Tea set (Asmahazi Osmera, 2018)

For Tea set, a combination of symmetry and scattered motifs has been applied, and this set consists of a teapot, six teacups and saucers, a sugar jar, and also a milk jug. The entire surface of this set has been applied with engobe colour as well as decorative motifs with a transparent glaze. The motifs placement plays an important role as this set has a decoration of motifs that fully covered the outer surface. In addition, a white matte glaze is used on the inside of each cup. Among the types of batik motifs that have been applied to this tea set are:

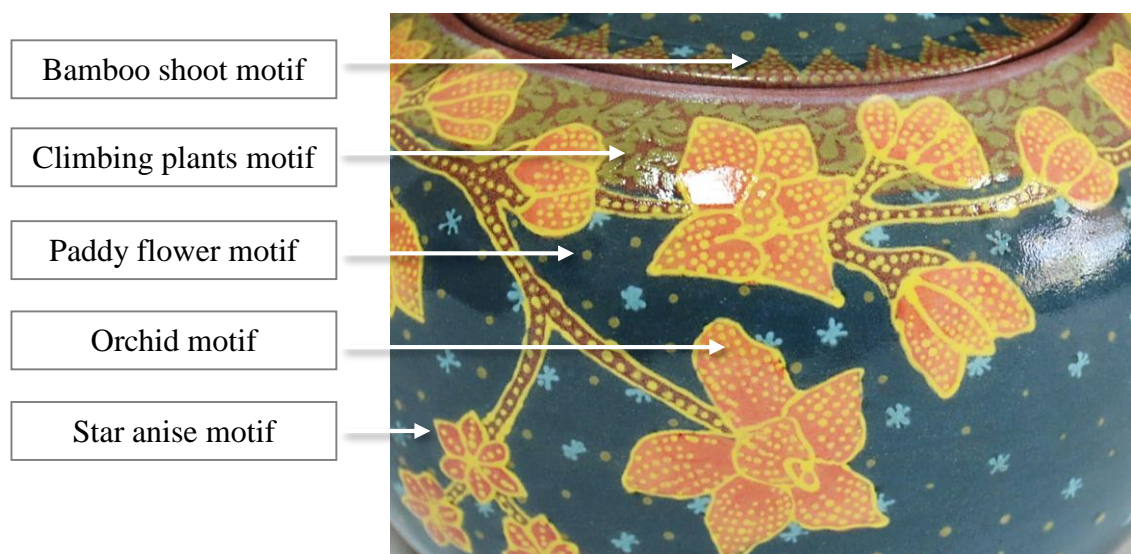


Figure 78: Types of batik motifs applied in Tea Set (Asmahazi Osmera, 2018)



Figure 79: Dinnerware set 1 (Asmahazi Osmera, 2018)

For Dinnerware set 1, a combination of symmetry and scattered motifs has been applied, and this set consists of two plates, a cup and a saucer, and also a bowl. The set uses a combination of glossy and transparent glazes (for the decorated area) and applied with engobe decoration for both inside and outer surfaces of this set. Although most of the surface of each piece was applied with a decoration, it does not affect the use of this product as a functional tableware set.

Among the types of batik motifs that have been applied to this dinnerware set are:

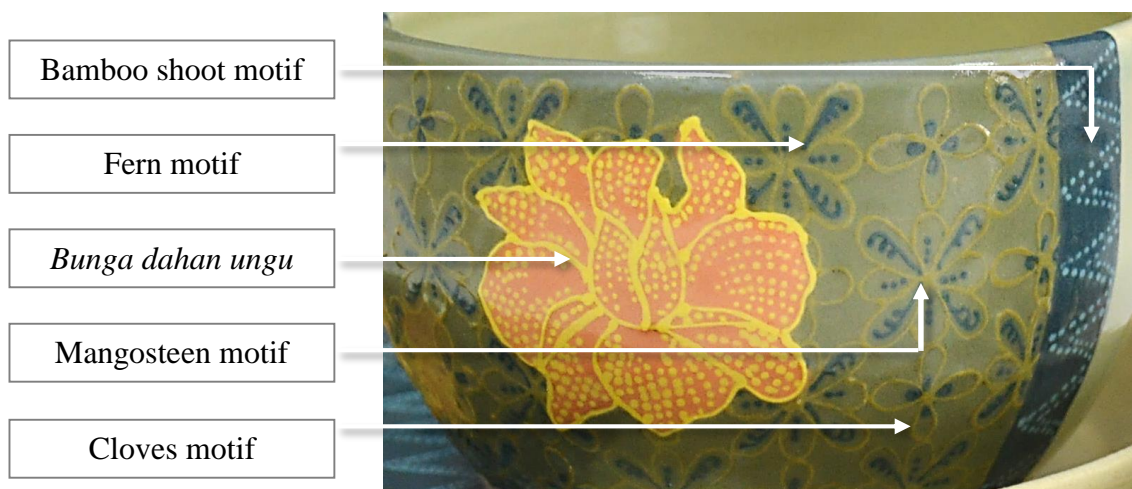


Figure 80: Types of batik motifs applied in Dinnerware Set 1 (Asmahazi Osmera, 2018)



Figure 81: Dinnerware set 2 (Asmahazi Osmera, 2018)

For Dinnerware set 2, a combination of symmetry and scattered motifs has been applied, and this set consists of two plates, a cup and a saucer, and also a bowl. This set only uses a glossy transparent glaze and applied with engobe decoration for outer surfaces. The motifs placement plays an important role to highlight the decoration of motifs and the use of light colour for glaze has directly made the batik motifs stand out when displayed. Among the types of batik motifs that have been applied to this dinnerware set are:

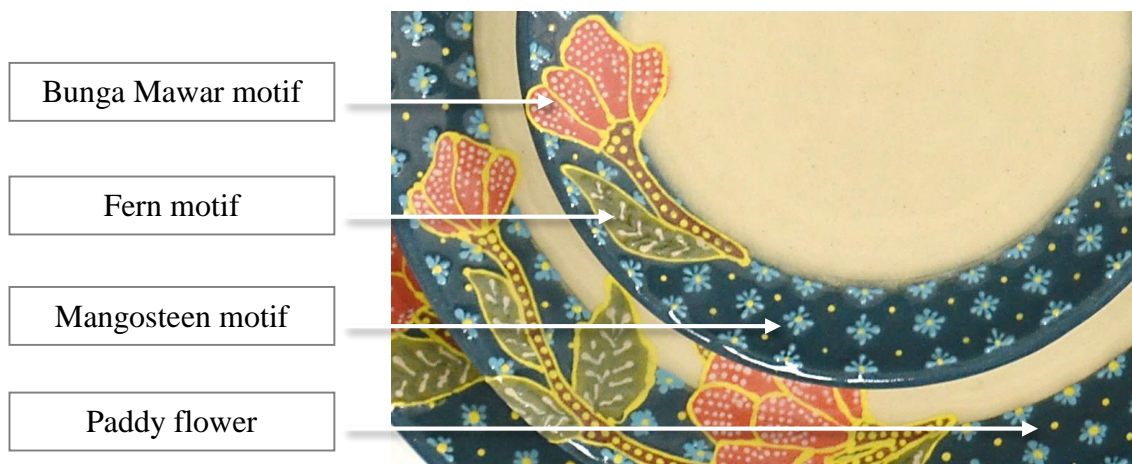


Figure 82: Types of batik motifs applied in Dinnerware Set 2 (Asmahazi Osmera, 2018)

#### 4.4 EXISTING PROBLEMS AND SOLUTIONS

Problems	Solutions
I. The cover does not fit with the lid of the body.	<ul style="list-style-type: none"> <li>• The measurement of cover and lid must be taken soon after it was formed using a ruler and calliper. Also when making the lid, add 0.5cm measurement from the intended lid size to make sure the lid is not too small after it undergoes the firing process.</li> </ul>
II. The attachment part of handle cracked after been attached to the body.	<ul style="list-style-type: none"> <li>• The handle should be treated with care and use more slurry when attaching the handle. The handle also needs to be pressed a bit to the body to make sure the attachment is firmly intact.</li> </ul>
III. The glaze applied to the body of the product was too thick.	<ul style="list-style-type: none"> <li>• Add some water to the glaze mixture to avoid the glaze becomes too concentrated.</li> <li>• Repeatedly check the thickness of the glaze when applying the glaze to the body.</li> <li>• For bisque firing processes, chose the temperature between 1040°C to 1100°C. This is an ideal firing temperature to achieve good absorption levels for a bisque fired body.</li> </ul>
IV. The glaze applied to the body of the product was too thick. The slip trailing is not flowing smoothly during the application.	<ul style="list-style-type: none"> <li>• Add some moisture to the body by spraying it before applying the slip.</li> <li>• Add some water to the engobe colour to make it less concentrated.</li> </ul>

Table 7: Problems and Solutions

## **CHAPTER FIVE**

### **CONCLUSIONS AND RECOMMENDATIONS REVIEW**

#### **5.1 CONCLUSIONS**

This study attempts to explore and apply the design and motifs pattern of batik sarong on functional ceramic products. In this case study, it can be concluded that the motifs and elements in Malaysian traditional batik sarong still can be practised on other mediums such as ceramics without losing its aesthetic value. Through the new simplified designs that produced by using slip trailing technique, it shows that the design motifs have no problem in its applications to the ceramic tableware products such as tureen, tea set, and dinnerware set. The design and motifs derived from traditional batik sarong also have the potential to be developed and used as a decoration on a future product or work.

Adapting batik motifs and pattern onto a new medium using different idea and perspectives are expected to produce positive results, which hopefully will uphold Malaysian Batik. From the results of this research, the most important aspect of a batik sarong is its cultural heritage value that must be preserved to be passed over to future generations. All the research on the elements and motifs from Malaysian batik that have been translated into a three-dimensional of ceramic artworks can be used as a reference in the future studies relating the production of functional products which emphasize pattern and decoration on the designs. The selection of patterns based on batik sarong motifs for ceramic tableware production yield interesting and fresh results especially if viewed from decorative aspects of functional products.

It is hoped that through the production of functional artworks that used the elements and motifs from traditional batik sarong, will gives benefits or become references for artists or researchers who make functional decoration art as the subject of their study. Most importantly, through research conducted, it is hoped that it will provide information and knowledge about Malaysian traditional batik to the society not only in Malaysia but also around the world.

## 5.2 RECOMMENDATIONS

The motifs and elements from traditional batik sarong not just only been used as a decoration, but it also serves to promote and highlight the Malaysian culture and heritage to the world. It is recommended that, through studies that have been made, the decoration for tableware products can be further developed and exhibits to the public. In addition, the author also proposes the use of the decal technique in future work. Through this technique, it is hoped that the study can be extended to the industrial ceramic products. Other than that, it is suggested that the application of Malaysian traditional batik sarong can be developed on another product such as giftware or art ware.

In the process of preparing and producing the ceramics tableware products based on sarong batik motif as its decoration, further research in relation to batik heritage should be implemented. The research aims to increase the design of batik motifs and at the same time still able to be recognized as Malaysian identity. Based on the findings of this research, it is also recommended to increase the use of decoration techniques especially within the context of studio ceramics to obtain a wide range of surface textures. For example, stamping tools can be used as a decoration technique on a ceramic to achieved highly textured batik motifs surface. Besides, the application of the decoration on a ceramic body can also be adapted for non-functional ceramic artworks.

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# A STUDY OF MALAYSIAN TRADITIONAL BATIK SARONG APPLICATION ON CERAMIC TABLEWARE PRODUCTS

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