

Identification of Traditional Surface Decoration Techniques in Earthenware Products of Sri Lanka

Ranasinghe W.M.N.D

Lecturer, Dept. of Integrated Design, Faculty of Architecture, University of Moratuwa, Sri Lanka

Nimal De Silva

Professor Emeritus, Department of Architecture, University of Moratuwa, Sri Lanka

Abstract

Clay is a natural, earth made resource, which goes back to the pre history of man, with its infancy as a useful material in the past. Clay was identified as a material to produce culinary utensils and objects. When fired, clay gets hard enough to make durable objects and it adds a value to the product. At the beginning, designs were in primary stage and the only purpose was to fulfil the requirements and functional value, but later on people considered about the aesthetical pleasing value. People came up with decorative effects to enhance the beauty and functionality of the product. Outer appearance or surface decoration gives more value and the first impression about the product. According to the above considerations surface appearance could be identified as an important aspect of a ceramic product.

At the beginning, different decorative methods were used to enhance their ideas throughout the ceramic body. They were decorated with social stories and creative designs; it was an explanation media for the society. Pottery is a horizon of the cultural empire and solid item which explains the past. Decoration is the aspect that makes a piece of art more than the utilitarian communicating to the user and contributing to the total appearance. Evolution and variety of decoration methods in Sri Lanka cannot be omitted because it has a great history than contemporary situation. Pinching, Engobing, Engraving, Stamping, Springing, Painting could be identified as traditional decoration methods. They add an aesthetical appearance and a value, giving a meaning and a life to a ceramic product.

Studying the surface decoration methods of ceramic ware is a vast area. This research focuses only on the identification of various traditional decorative techniques in low temperature earthenware products in Sri Lanka.

Present products have less design qualities compared to traditional clay objects. Even though the consumer expects a design value, the manufacturer pays a less consideration on the aesthetical value of the product; it is a main problem in the current clay ware industry. Because of that people try to use other alternative products to fulfil their needs. But if it has a good design quality they would like to use earthenware products for their day to day needs.

The information and data collected using the following methods will be analyzed under several key sections of the research. Primary data will be collected from the primary source by using structured questionnaires and field visit. The questionnaires will be given to people live in urban areas (Colombo & Kandy). The questionnaires mainly focus on the surface decoration methods in present clay vessels. Secondary data will be collected from the previous and existing earthenware vessels, from the books, research journals, research articles, archaeological excavations etc.

This research will be an investigation to identify traditional decorative techniques in earthenware products and it will be helpful to re design earthenware clay vessels with aesthetical pleasing and re-establish the creative tradition in the earthenware industry in Sri Lanka.

Key words: Clay, Earthenware, Firing, Surface, Pinching, Engobing, Engraving, Stamping, Springing

Introduction

Water, fire, air, earth and space are the basic natural elements in the planet. Ceramic is a natural material formed with the combination of above mentioned elements. Earth means clay, which is flexible when mixed with water, and gets hardened by the effect of air and that shape will be made permanent by the effect of fire and also product volume will be created as a result of the way of handling the space. These are the basic steps of making clay ware objects. Sentence (2004) explained about the use of four types of basic elements for clay product manufacturing; “We are enthralled by the magic of a craft that involves all four of the elements: earth mixed with water cooked in a fire and coloured by the presence or absence of air. It feels as though, while molding the clay to our will, we could almost breathe life in to it” (p.9). At the beginning, designs were in primary stage and the only purpose was to fulfill the requirements. But later people considered about functional and aesthetical values of the product. Decorations help to enhance the beauty. It is no argument, outer appearance or surface decoration gives more value and first impression about the product. Surface decorations can be identified as the main decoration method in a ceramic product. At the beginning different methods were used to enhance their ideas through the ceramic body. It is like a canvas for the painter. In past people used social stories to decorate the ceramic body, which was an explanation media to the society. They used different kinds of decoration techniques, pigments and colouring agents for grateful works.

Although clay was a simple and a basic material, it was developed in various ways. At present several types of ceramic varieties exist in Sri Lanka. According to the firing temperature and body composition it can be

categorized in to five different types. These are Terracotta ware, Earthenware, Stone ware, Porcelain and Bone China (Thakashima, 2004). This categorization is different from country to county and will be changed in accordance with body composition and firing temperature of clay products. From this classification; earthenware can be described as low temperature (red/brown colour) and high temperature body (red/brown and gray).

By considering the product functionality and the usage of ceramic product, it can also be divided in to three main categories. According to (Coomaraswamy, 1979), three main types of product variations can be identified in Sri Lanka. They are Domestic ware, Ritual ware and Architectural ware. In addition, toys and ornamental ware are produced in Sri Lanka presently. Earthenware clay is an ideal material to manufacture domestic products. According to the above classification, domestic products are frequently used in each and every house in Sri Lanka and cooking pots play a huge role among the domestic products. Most domestic products are made from low temperature earthenware clay. The domestic usage products can be classified in to three main parts with a view of product functionality. Rice (1987) explains three varieties of Domestic products; “Storage products, Processing products, and Transferring products” (p.207).

It is a known fact that most of the people in ancient Sri Lanka used clay pots as their kitchen utensils, because clay is a recyclable and eco-friendly material. Earthenware (low temperature) products are easily recyclable, as it is fired under low temperature atmosphere. It is very important to note that, during the process of earthenware manufacturing

the environment is not affected by any harmful effect. Materials like aluminum and the processes of aluminum casting release several types of dreadful things to the environment. (Mudalige,2010) said “They are turned out using an eco-friendly production processes (drain casting) in comparison to the aluminum casting processes that generates high heat and chemical fumes which adversely affect the working environment”. It is believed that the clay is a suitable and environment receptive material.

In a fast moving world, life has become more competitive and busy. Therefore people are compelled to change their traditions in order to face new challenges in life. Hence they tend to use alternative products which are made from other materials such as Nonstick, Aluminum, Stain-less steel, and Enamel etc. Although these products made the life easy and comfortable with the passage of time people understood these alternative products have certain disadvantages. It has now been found the materials like Nonstick, Aluminum, Stain-less steel, and Enamel would cause fatal diseases like cancer and kidney ailments, if they are used for a prolonged period. (Mudalige, 2010) explained about the disadvantage of the pots made out with other material as; “Traditional cookware found in Sri Lanka such as those made with aluminum, stainless steel and non-stick have been reported to cause health disorders in continuous use”. Due to the urbanization, the kitchen arrangement also has changed. In Most of the houses, there is a place called pantry which is used for both cooking and dinning. There are houses which have both the pantry and the kitchen. In those houses clay products are used mainly in the kitchen because of the ill-effects which have been mentioned earlier. The utensils which are made from other materials are used in the pantry because they have smooth

attractive value. But these imitated products are good for short time usage and not good for longtime usage. Hence it is obvious that using clay products is good for human lives. People hesitate to use them much in the present due to several disadvantages. Much attention is not paid to the functional usage, aesthetical value and the attractive finish.

Clay was an ideal material for making vessels. People have identified clay as a flexible material which can be handled easily, when mixed with water. When comparing with other materials such as enamel, and stainless steel, clay can be used to create various types of clay objects with variety of decoration methods. Therefore manufacturing clay products can be seen as a structural and a systematic process. Finally a piece of clay can be turned in to a beautiful and useful clay product by adding life to it through this systematic process.

Although all the clay vessels are not manufactured attractively, it is one of the factors that have to be paid much attention in pottery industry. Because people like to use good quality product combined with design efficiency and aesthetical validity. “Purely decorative pots have total freedom of expression, while functional considerations impose compromise in both form and aesthetic development in pots that are made to be used. The various needs that domestic pottery servers predetermine to some extent the forms those were and are made. Within all of these basic forms there has usually been considerable room for invention, variation, and improvisation within a theme” (Hopper, 2000, p.29). Hence it is obvious that functional and aesthetical value of products is a key factor in domestic pottery. Generally clay vessels in the current usage, do not process a good surface quality,

structural quality, product appearance and aesthetical appearance.

It has been identified that the clay cooking pots are not used much by people in the current society. It is believed that most of these products do not consider the surface decoration of the products. The questionnaire was carried out to identify the present situation of clay vessels clearly. The questionnaire will be given to people who live in urban areas. It consists of 5 questions and will be given to 50 people to collect the data. The questionnaire will also be used to identify the problems of present decoration methods through consumers' experiences and to obtain their valid opinions regarding the development of clay vessels. The results of questionnaire survey shows that 88% people suggest that the surface decorations of clay vessels should be developed and 12% of people do not propose that idea. According to the results it is understood that the clay vessels are in a developmental stage. Therefore this research will make an attempt to identify the importance of surface decorations for earthenware clay vessels and it will also help to identify the areas which have to be developed to according to the needs of the present society.

Studying about the surface decoration methods of the ceramic ware is a vast area; this research is only focusing on the types of surface decoration techniques in low temperature earthenware vessels in Sri Lanka. Further this research will be useful for product manufacturers and users, to upgrade their products to fulfill present social needs. As a result of that, consumer will be able to get an easy product which has aesthetical validity. This research will also help to build a new trend in pottery manufacturers by emphasizing the need to improving

surface decorations of clay vessels which will absolutely suit present social requirements.

Earthenware products and Decorations

As mention above earthenware can be categorized in two different types as, low temperature earthenware and high temperature earthenware. Low temperature earthenware is commonly used in Sri Lanka. It goes under 750°C to maximum 1000°C and limited surface decoration methods can be seen out of the body. Most of the Sri Lankan cooking pots, pans and ornaments are made out of this material and yellow, brown colours are common. Sri Lanka had a great history for the earthenware products; which can be identified from the archeological excavations and ancient sites. An idea about the technical developments, decorations and manufacturing methods in the products can be obtained from the past products and museum collections.

Decoration is the aspect that makes a piece of art more than utilitarian communicating to the user and contributing to the total appearance. Evolution and variety of decoration methods in Sri Lanka cannot be omitted because it has a great history than contemporary situation. It adds character and value giving a meaning and lie to an earthenware product. The methods which are used in the processes evolve with the time creating trends. Tracing back to the history of Sri Lankan earthenware, a number of attempts of decorating can be identified. It has variety unique designs, in the same way the decorations of one piece of art is different from another. The identical elements are used in different compositions to suit the form, function and appearance of the product. The traditional decorating methods are evolved each having a

reminiscent of the Sri Lankan identity. Decoration must have a variety and order Rhythm, Patterns and Balance, Proportions, Colour, Form, Texture are the further developed compositions of decorating.

The origin of the surface decoration methods were developed in need of the usage, aesthetic oriented. Surface decoration gives fully completed out fit to the final product. Surface decorations segregate as,

Decorative Decoration

Functional Decoration

Aesthetical Sequence; it depends on the usage of the product.

Different types of decoration methods can be identified in the earthenware in Sri Lanka. Some decoration methods are inspired from the other countries but the origin of the most of the techniques is Sri Lankan. As a

decoration method same body mixture and variety of body mixtures were used to decorate surface, commonly pigments and natural colouring elements were also used for surface decorations. Comparing to the present society in past clay vessel was the most essential requirement in the society. Clay vessels can be identified as a horizon of the cultural empire and solid item which explains the past.

Early time pots were plain and undecorated & simple decoration methods were used. Glazed ware can be found in Anuradhapura excavations, it helps to understand the social and cultural situation in that period. With the need of the society and advancement of pottery forms and shapes articles were decorated more attractively. There are two types of decoration application methods according to the body condition.

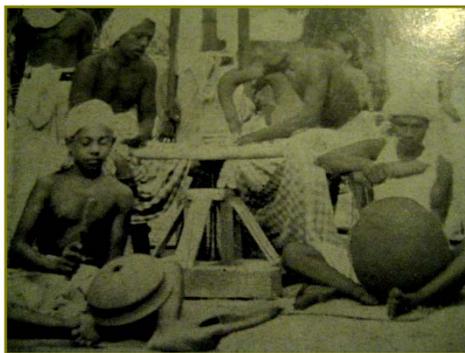


Figure 1: Manufacturing Processes



Figure 2: Leather hard Products

Decoration in before firing – Leather hard stage

Decoration in after firing – Dry/ hard stage

Working on the leather hard condition is quicker than the dry stage working. Sri Lankan pottery tradition, decoration and decoration techniques obtain a higher demand than that of other Asian countries. Surface decoration method is generally categorized in to three different ways;

Geometric Design
Naturalistic Design &
Miscellaneous Design

Geometric designs were commonly used for the decorations, for the reason that the shape and forms are very simple and it was proverbial to the potters' finger. Most of decorative shapes were inspired from nature. It can be evident from the clay vessels used in past.

Geometric Designs

Line, Dot, Wave, Cross Pattern, Diamond Shape, Circle, Triangle, Curve

Naturalistic design

Finger prints, Molding, Human forms, Floral form, Animal models

Miscellaneous design

Religious symbols, "*Dharmachakra*", "*Swasthikaya*"

Most of the designs were inspired from the nature, culture and the social backgrounds. Every design added some aesthetical or functional value to the objects. Most of the designs were decorated in eye level of the pots; it gave an attraction to the objects, balance, rhythm and aesthetical beauty.

Variety of surface Decoration Methods in earthenware clay vessels

Most of the surface decoration methods were developed from trial and

effort methods and experimental works, at the beginning people had lack Of resources for manufacturing and decorating methods, but comparing with present clay products they have produced quality products consisted with gorgeous surface decorations. It can be evident by examining the precedent products. A variety of traditional surface decoration methods can be identified from the earthenware products. These are the basic and important surface decoration methods that can be identified from the past;

- Pinching
- Engobing
- Engraving
- Stamping
- Springing
- Painting

Pinching

Pinching is a basic method of clay ware manufacturing. At the beginning people did not have enough facilities to manufacture designable products but it was good enough to fulfill the requirements. First the qualities of clay were identified, it helped to understand that the shape can be changed if respond with finger.

At the beginning potter's wheel was not used for clay ware manufacturing. Most of the products were decorated using fingers and thumb. Early products were circular but not perfectly circular. It can be evident from the "*Veddas*" pots in Sri Lanka. Pinching helps to develop shapes, forms and also the decorations.



a



b



c

Figure 3: (a,b,c) Earthenware Products-
“Veddas” Clay Pots
Source: (Seligmann & Seligmann, 1993,
p.328)

Those products mainly considered about the functional usage rather than the decorations. But it has an aesthetical beauty, as all designs were different from one to another. Most of the products had unique designs where simple decorations were used; by doing with finger nails on the wet clay body. Pinching method added natural effects to the product, which is a kind of a primary decoration method. It has added a rough effect to the surface which helped to hang the object properly. It can be identified as an occasion the surface quality help to the functionality.



Figure 4: Use of Pinching Method
“Roti Thetiya”



Figure 5: Use of Pinching Method
“Kabala”

Source: Colombo Museum Collection

Engobing

Engobing is the method which uses same clay body to decorate the surface. Different types of coloured clay were mixed with same clay body and used for coloured decorations. It was made out with liquid form and applied on the leather hard products. It can be identified as a slip painting. Simple decorated patterns were drawn on the leather hard product is rotated on the wheel. It can be done in one firing at around 850°C temperature and it was evident by the archeological excavations. Water is the mixing material of the coloured clay body. Red, white and black were commonly used for the engobing technique. Several types of surface decorations can be done using this technique.

Composition of Coloured Slips;

Dry Clay + Water = Slip
Red = Laterite (*Guru*)
White = Keoline (*Sudu Matti*)
Black = Graphite (*Miniran*)

The remains of pots which were found from Sigiriya can be used as examples to prove the history of using engobes. Five categories were identified among earthenware ware found in excavation.

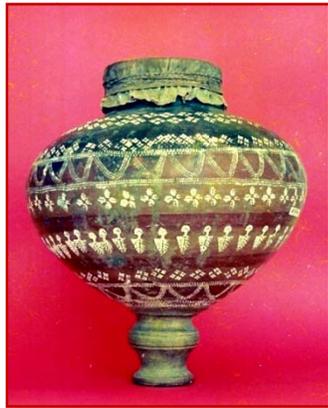


Figure 6: Use of Pinching Method
Rathnapura museum collection

One category is gray colored pots; which is made out of kaolin clay and decorated with simple line patterns. Some had red colour layers applied on top of the pots. The kaolin pots were decorated by thin layer, storage pots and large pots were decorated. Water pots, lids, plates, were made out with red clay and decorated with red engobe. Some pots found from Anurahapura period had an engobe layer of about 2mm with rough texture.

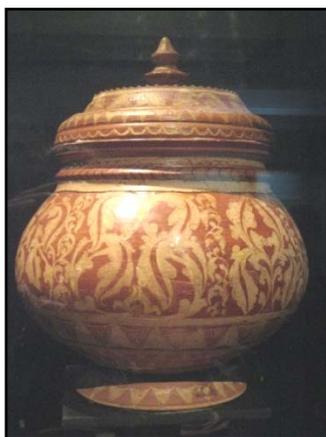


Figure 7: "Pili Helaiya"
Colombo museum collection

Yellow colour and light yellow engobes were rarely used for the decorations. Brown and reddish yellow engobe decorated earthenware found from Anuradhapura, Gedige, Abayagiriya, Jethawanaramaya, Manthai, Thissamaharama are believed to be imported from Persian Gulf countries through the silk route. The blue colour pots found from Mihinthale are believed to be medicine containers.

From the Kandyan period onwards "Guru" is used for engobe decorations. "Guru" is a kind of rock which can be found in Sri Lanka. Gradually people used coloured pigments to engobe decorations such as Ferric oxide (Red colour), Cobalt (Blue colour), Nickel oxide (Black colour), and Chromium oxide (Green colour), but specially Cobalt and Ferric were frequently used for the coloured slip decorations.



Figure 8: Engobe Method



Figure 9: Engobe Method

Engobe is applied in the leather hard stage; it helps to absorb the decoration layer to the wet clay body. It also applied as two layers in two different colours and after drying engraving decoration can be applied. In the firing it becomes a matt colour band, to get a shine effect it should be rubbed in the leather hard stage using seed call "*Puss Eta*". The shiny surface helps to reduce the quality of water absorption. In present, plastic sheets are used for rubbing purpose. Engobe method is used for curry dishes, goblets, plates, ornamental items etc. kelaniya is famous for the "*Guru*" painted engobing, but surface decorations are not updated. They need to update their designs to cater new trends, without continue the ordinary designs.

Engraving

Scraping or grooving the leather hard clay product is engraving. It is mainly used to decorate the outer surface of the product, but rarely it is also used as an inside decoration. It depends on the functional value and usage of the object and can be identified as a development stage of engobe method. The engraving must be done carefully. It is needed to use sharp tools to decorate the body.



Figure 10: Engraving method, Veddass pot

and skillfully. Most of low temperature earthenware products were engraved decorations, not only the two dimensional designs but also three dimensional designs. Engraving is done by scraping lines to form a pattern. Tools is an important fact for the decoration, design quality is depended on the use of tools and creativity. Engraving tools can be identified as sharp pointed tools and flat tools. Steel and wooden were used as tool materials.

A variety of engraving techniques can be identified from earthenware vessels in Sri Lanka. Engraving is the pattern slightly as a not very deep scraping on the surface of the clay. In most of the occasion's circular surfaces were repeating the same design around the product. It is easy as not grooving deeply. De Silva & Dissanayake (2008) stated that Grooving decoration scratched in to the surface of the vessel with a hand tool of same soft variations in the shape and size of tool and the preserve applied will affect this appearance of the surface decoration (p.15).



Figure 11: Incised decoration in "*Kalaya*"
Source (Coomaraswamy, 1979, p.227)

It can be evident by the “*Kalaya*” in Kandy museum. Curved surface was difficult to engrave, flat surface was regarded as more appropriate for engraving. It goes in to 2mm or 3mm deeper and engraving lines were filled with coloured clay, it helped to enhance the decoration and the aesthetical value too. It was done either before or after firing the object.

Engraving is applied in inside and outside of the object. This method was mainly used for the functional purposes. Engraving is used at the outside of the surface as it gave a rough effect; it helps to reduce the slippery nature. “*Kalaya, Kothalaya, Guruleththuna, Kendiya*” are examples for the items that were decorated by engraving method. Combing method is one of the special technique in engraving method, “Combing is a very simple technique which could be applied with a snapped lath wood” (De Silva & Dissanayake, 2008, p.15)



Figure 12: “*Nebiliya*” –Engraving Decoration

It is one of the simple methods in which functional value is gained by simple decorations. Decorations of the “*Nebiliya*” and “*Koraha*” are good examples for this method. Surface decoration is an important fact for the functional use of the product.

From the excavations there is another kind of decorated ware found, which is difficult to make and rarely used.



Figure 13: “*Punkalasa*” – Engraving Decoration Colombo museum collection

It is called as ruelatted ware, which is also a kind of engraving method decorated on the wheel. De Silva & Dissanayake (2008) explained, in Ruelatting , a pleasing and complex pattern can be produced with a flexible blade bent over at one end and held up against the surface of the pot as it is turned round on the wheel in a rhythmic patterns (p.15).

Engobing and engraving methods can be used together. Engraving carving is done in an engobe layer. It helps to expose the colour of the clay body underneath the engobe layer. Two or maximum three layers can be used for decorations. Colours are highlighted by the thickness of the grooving. The thickness of the line and quality of the design depends on the craftsman’s skills. In present, it is commonly used for the decorative objects. If it is rubbed with smooth seeds good shiny effects can be obtained before and after the firing.

Stamping

Stamping decorations is done in leather hard earthenware body. It presses one of the designs in to the wet clay body. Two types of stamping method were used in clay ware decorations. It is normally done by carving a desired decoration on a piece of wood and stamping it in the leather hard clay surface, if not that tool is stuck in to

the clay body in the leather hard stage. The important thing is that, it wants to be good enough for stamping. It is done in two ways; one is to stamp the craving on the clay or to stamp the clay on the carved piece of wood. From the two methods an embossed decoration or an engraving decoration stamp on the clay can be obtained. De Silva & Dissanayake (2008) explained as, Small metal stamps fitted to a handle, depicting floral, geometric or animal patterns are press stamped over the surface of the vessel when it is in leather hard condition. It has created beautiful patterns on the vessel surface (p.15). Tools are made out of woods like jack tree. It is like a wooden cube which can be used for two types of decorations in both sides; it called as and vessels.

Most of the ancient earthenware products were decorated with stamping letter, it can be identified as a kind of a communication method that they used, specially they have written down their names as a decoration. People have more creativity and talent to do marvellous decorations paying more attention

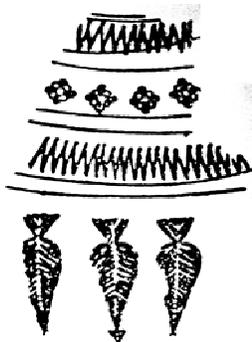


Figure 14: Stamped Decoration on Muttiya
– from Kundasale temple
Source : (Coomaraswamy,1979,p.227)

Flowers, leaves, and traditional decorations were used for stamping In the past; It helps to get an idea about the craftsmen’s skills and traditions.

Stamping method is still used as a decorative method among potters. When compared with past surface decorations, present decorations are in low down status. Only few designs can be identified from the earthenware vessels.

Stamping method is still used as a decorative method among potters. When compared with past surface decorations, present decorations are in low down status. Only few designs can be identified from the earthenware vessels.



Figure 15:“Kalagediya” from – near Balangoda
(Decorated with Bo-leaves and rosettes) – Kandy museum collection

Springing

Most of the products are not in simple shapes and forms; it depends on the functional value of the product. Springing was done by adding various shapes to the clay products. It was separately casted and connected to the leather hard body with slip. These two parts should be consisted in same water content and keep carefully until it is dry. Casting is a development of the springing technique.

It is used to create difficult shapes by using moulds. It is also difficult to make some of the designs by casting; it

has to be done by springing method. It takes a long time to create objects but it is perfect and a decorated ornament after the heavy work. Limited springing objects can be identified In Sri Lankan history.



Figure 16: Ritualistic ware
Rathnapura museum collection

Most of the springing objects were ritual ware, because most of the ritual ware was too decorated and beautiful compared to present ritual objects. Springing is used to give an extraordinary appearance to the objects, it can be evident by the “*Poonawa*” which is a superstitious object found in religious places.



Figure 17: “*Poonawa*”- Kandy period
Colombo museum collection

The majority of the painted pottery ware used springing as a decoration method. Springing part is also decorated, as similar to the body surface, it is difficult to identify as a separate attachment.

“*Pili Heliya*” is another good example for the springing design. It is used to store clothes, to protect from white

ants and other insects which generally used in Kandyan period elite houses. It also used snake motives, as people used snake to enhance the symbol of protection during that time. In present handle, spout, are used as attachments.



Figure 18: “*Pili Heliya*”
Colombo museum collection

Painting

Painting was a development stage of the other surface decoration methods. Other design was mainly depended on the body colour but in this method all over the body is decorated with colours. Kandyan period is the climax in the mediaeval period in kandy. Traditional motives and decorations were habitually used for decorations.

Entire product was creatively decorated by craftsmen. Most of the highly decorated products were used by elite people, and especially in the palaces. People thought about, not only the functional value but also the aesthetical value too. Outer appearance is a special element for the ceramic ware products. It gives the first impression of the product for the user. Decoration was an important part in every product what they produced. It is an identity of the Kandyan period arts and crafts.



Figure 19: "Liyawela" and flower decoration

Painting is a method that was used to decorate the earthenware products. It was done all over the body surface. It is difficult to identify the body colour and the material of the body. Every space was decorated with valuable decorations and each brush line adds a worth full meaning to the object. Through of decorations like motives, plants, "*Gajasinghe*", traditional flowers, variety of "*Liyawela*" were commonly used. Other than that social situation, life stories were used as decorations. Line and symmetrical decorations were done by using wheel and others were free hand work. There are no free spaces in the background, it also filled with dark or light solid colours or decorations like "*Plapethi, Nelum mala, Arimbuwa, Gal binduwa*".

Roof tiles, Pots and Pans, "Kalaya, Bummediya (musical instrument), Punawa, Piliheliya" are special painting decorations used in earthenware products in kandy kingdom.

Bright colours were used to draw and paint the decorations, Red, Black, Yellow, White, and Green colours were essentially used for decorations. Natural materials were used to prepare basic colours. Painting was done after the low temperature firing. After the firing a thin layer of "Makulu Mati" was used as a white colour and mix with other colours to make lighter shade.



Figure 20: "Bummadiya" - Colombo museum collection Colour Preparation

Colour Preparation Section of coloured ware

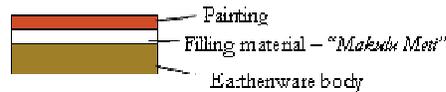


Figure 21: Section of coloured ware

Bright red colour was obtained by grinding "Sadilingam". Lighter red is made out by "Gurugal". "Sadilingam" was mixed with ground "Rathmal" bark juice as another method. Yellow colour is made out of clay called "Hariyal", and "Gokatu Kiri" was also used as a yellow colour. Yellow and yellow occur were mostly used to decorate the "Liyawela" and flower designs.

Decoration was used to enhance the shape and form of the body, it was not easy to decorate on the curved surface but it was done successfully. They thought about rhythm, balance and proportion of every product and decoration. Most of the circular decorations were done on the wheel. Black colour was made out of "kohella", "Kekuna" oil and "Hal Dummala". And also it was made out from, grinded with "Lakada", "Badulla kiri", "Hal Dummala" and "Koholla" these are the main components of

black colour. Blue colour was rarely used in surface decorations. It was made out of “Nil awariya” leaves treated by sunlight. Green colour was made by mixing yellow and blue colour.



Figure 22: Coloured ware- Kandy museum collection

Not only the natural materials but also chemical materials were also used to develop advanced colours such as gold. Gold colour was used to decorate the quality products. “Hariyalo”, “Gokatu juice”, Murcury, “Sinnakkaram”, “Yawakara Lunu” and white lead were taken in equal quantities and ground with “Dorana” oil. After that it was polished with leopard teeth and addition to that varnish was used to get a shiny effect. “Thalathu Miniran” was used as gold colour.



Figure 23: Painted pottery – use in present

When comparing with past decorations present surface decorations are in deprived stage. “Guru” is using as a natural colouring element, other than that lacquer is used for decorations. But finish of the decorations and quality are in low level. People have the talent and creativity but they do not pay much attention to do a good product with quality decorations.



Figure 24: Painted pottery – use in present

In Sri Lankan tradition, various techniques were used as surface decoration methods. Aesthetical value is an important fact of the product and surface decoration method is also important for the product functionality. Sri Lanka had a great history for earthenware surface decorations, people had a good craftsman skill and they produced their product paying much more attention and observation. In present day most of manufactures do not consider this matter. They do not consider quality of the product and present social needs. It will effect to reduce the usage of earthenware vessels in Sri Lanka. If it has a quality, people would buy earthenware products in a reasonable price. Specially in urban areas, people have a trend to use clay products because they know the value of it, but present products cannot facilitate their needs.

Traditional methods are very creative, highly naturalistic and simple. These methods have to be brought in to the future generation, and it can be developed to suit for the present social context and people needs. Earthenware manufacturers have creativity and talents to do valuable products consisted with aesthetical appearance. The present social need is to develop and protect the Sri Lankan ancient pottery traditions for the future generations.

References

1. Coomaraswamy, A.K. (1979). *MEDIAEVAL SINHALESE ART*. (3rd ed). United State of America.
2. De Silva, N. & Dissanayak, R.B, (2008), *A CATALOGUE OF ANCIENT POTTERY from SRI LANKA*, Postgraduate Institute of Archeology, University of Kelaniya, Sri Lanka.
3. Hopper, R. (2000), *Functional Pottery-form and aesthetic in pots of purpose*. (2nd ed.). Krause publications, United States of America.
4. Mudalige, D. *Red clay based glazed ceramic cookware enter market*, Daily News, Monday, 11th October 2010.
5. Sentence B. (2004). *CERAMICS, A WORLD GUIDE TO TRADITIONAL TECHNIQUE*, United Kingdom, Thames & Hudson ltd, London.
6. Seligman, C.G., Seligman, B.Z. (1993). *The Vedda* (2nd ed.). Navrang, Lake house bookshop, Colombo 2.
7. Rice, M.P. (1987). *Pottery Analysis: A Source Book*. United States of America: Chicago University Press
8. Thakashima, H. (2003). *Course Book, Tex for the Course in Ceramic Designing*. University of Moratuwa, Sri Lanaka.

The key factors affecting the competency in value addition to gem and jewellery in Sri Lanka

K.K.G.I.C. Samarasekara

Dept. of Integrated Design, Faculty of Architecture, University of Moratuwa

T.K.N.P. De Silva

Dept. of Architecture, Faculty of Architecture, University of Moratuwa

P.G.R. Dharmaratne

Dept. of Earth Resources Engineering, Faculty of Engineering, University of Moratuwa

Abstract

Gem and jewellery industry in Sri Lanka plays a vital role contributing immensely to foreign exchange earning to the country's economy. The industrial value chain begins with gem mining and ends with retailing of jewellery while, several stages are included amid. It is imperative to be discerned that every stage involves trading, resulting export of a larger amount of semi-finished products without adding the premium value which creates lack of competitiveness. Statistical data illustrates a clear disparity in terms of revenue generated through the gem exports as opposed to jewellery exports. Thus, the discrepancy between country's resource capacity and its level of fabrication has inspired to conduct this research work.

The main objective of this study is to explore the key factors which cause the low competency in value addition of gem and jewellery industry in Sri Lanka. The required data was collected through an extensive literature survey and several face-to-face, in-depth interviews with experts in the gem and jewellery industry.

The results of the data analysis concluded that there are six major constraints affecting the low production and exporting of gem set jewellery in Sri Lanka, namely; lack of innovation, lack of technology, lack of market, lack of competent man power, lack of financial resources and lack of integration and long term plans as the main findings of this study.

Key words: gem and jewellery, value addition, export, competitiveness

1. Introduction

The gem and jewellery industry is a very important sector in Sri Lanka which is among the major sectors contributing to foreign exchange earnings. The industry has been identified as one of the thrust areas of export development by the government of Sri Lanka. Consequently, a proposal has been made by the government to upgrade the gem and jewellery export sector to a US\$ One Billion industry (Gem talk, 2008). Sri Lanka is a leading gem bearing country and retains as one of

the world's largest gemstone repositories, second only to Brazil (The Competitiveness Program, 2008). It is a major producer of fine quality gemstones among the five most important countries together with Myanmar, Brazil, South Africa and Thailand (Ali consultants, 2006).

Statistical data released from the National Gem and Jewellery Authority (NGJA) spanning the last eight years of the export of gem and jewellery illustrates, a clear discrepancy in terms of the revenue generated through gem exports as opposed to jewellery