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PALMYRA LEAF PROCESSING FOR GEDHOG BATIK PACKAGING BASED ON REDUCE, REUSE AND RECYCLE PRINCIPLES

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ABSTRACT

This study aims to utilize the leaves of palmyra palm, which is an endemic plant of the Tuban Regency in East Java, Indonesia. As a center for Gedhog batik, thus far there is no packaging that utilizes natural materials. The data were obtained from Gedhog batik craft SME in Kerek Tuban Sub-District, which is the center of Gedhog batik craft and batik industry. In addition to facilitating the researchers in assessing the research objects, the obtained data were intended to describe the characteristics of the community and its region. This is natural material experiment research with the deboss technique, natural dyes, and formation techniques using woven palmyra material. The results of this study found that packaging has a natural characteristic and at the same time has an impact on increasing the awareness of artisans and SMEs through a 3R (Reduce, Reuse, Recycle) campaign. Therefore, the use value, the exchange value, the natural material packaging value, and the competitiveness of Gedhog batik are increased.

KEY WORDS : Packaging, Palmyra leaves, Gedhog batik.

INTRODUCTION

Crafts as one of the creative industry sub-sectors has a strategic position because it is based on local wisdom or national cultural heritage. Crafts as a form of cultural art can also be used as a cultural tourism commodity. Crafts are an important element in cultural tourism whose quality needs to be maintained. Crafts that are well designed and unique, with good and distinctive packaging will attract tourists to buy them as souvenirs (Boediardjo, 1995). The application of design in the craft industry needs to be prioritized. Design contributes to improving the quality and competitiveness of craft products by reducing production costs, improving and enhancing the image of the craft industry. As stated by Nugraha (2000), various studies have proven that design can improve financial conditions, expand markets, and increase exports. Design has been proven to have a very decisive role in developing various innovations and contributing to national economic growth. Packaging is a media for producers and consumers to communicate, and as such it must be capable of conveying a message through informative communication. The problem of packagings design occurs in the coveyance of this message in the form of sign, which can be consideres a game of cognition aspects. The symbolic expression in packaging are bot only visual (text, image, color and other graphic aspect) but may also be material and even functional, until packaging can be considered a symbolization of cultural development through packaging design (Junaidi, 2011).

Product development should take these factors into account: (a) Performance (comfort, practicality, safety, convenience, maintenance, and improvement); (b) Functions (feasibility, reliability, material specifications, structure, and usage); (c) Production (capabilities, raw materials, production processes, costs, and standardization); (d) Marketing (consumer tastes, product image, market, price, and

distribution); (e) Producer interests (identity, status); and (f) Quality of form (spirit and age style, attractiveness, aesthetics, and finishing). Packaging that is often referred to as "the silent salesman/ salesgirl" have an important role in increasing the competitiveness of crafts because it represents the absence of the waiter in showing the quality of the product. Thus, packaging must be able to convey messages through informative communication, as well as communication between the seller and the buyer. In fact, marketing experts call packaging design the charm of a product because packaging is at the final stage of a production flow process that is not only meant to entice the eye (eye-cathing), but also to attract users (usage attractiveness).

For artisans and Small and Medium Enterprises (SMEs) of Gedhog batik in Tuban, packaging has not yet become an important component in marketing their products. Most SMEs still use plastic bags and a few SMEs use paper bags with illustrated motifs. They do not differentiate the packaging for cheap and expensive batik. There was no attempt to brand SME products and images through a packaging that give a sense of pride by buying their batik products. As a coastal area and a limestone mountain area, the land in Tuban Regency is generally less fertile. There are many swamps that appear during the rainy season. One of the endemic plants of this region is Palmyra palm (Tal tree) whose fruit is usually called Tal or Ental. Some say that palmyra leaves are the same as tal leaves (in Javanese = Ron Tal, in Indonesian = lontar leaves). Palmyra leaves are widely available in the Tuban region and have not been widely used. Palmyra leaves, which can be disentangled strands by strands when dried, can be an alternative packaging material that is exotic and strong, as well as fulfills the function of the packaging (Bramantijo, 2017). Green packaging is also known as "pollution-free packaging" or "environmentally friendly packaging", the international community generally agreed that green packaging should be consistent with 3R1D, that is Reduce, Reuse, Recycle Degradable and other requirements (Huang, 2017). Packaging design innovations should reach the utilizatio of hybridity of materials, both conventional and non-conventional materials, such as composite materials. So that's they can produce functions and forms of packaging that have hygroscopics and widely used functions (Wiyancoko, 2018).

In addition, efforts to use palmyra leaves are an important part of educating artisans and SMEs to take advantage from natural potential through the 3R (Reduce, Reuse, Recycle) campaign. This research is a part of an effort to provide awareness to the public about the importance of using natural materials while increasing the competitiveness of Gedhog batik products through natural packaging. Reduce, reuse and recycle is a concept that people everywhere are starting to understand and apply to everyday life. Its principles are quite basic, but are a necessity for maintaining a sustainable life (Groves, 2008; Ruslinda, 2019). They are reducing, recovering, recycling and reusing material/component/items/ parys over and over againt. It is not only economically luractive but also environmentally benefical.

MATERIALS AND METHODS

This research was conducted in the Kerek village, Tuban Regency, East Java Province, Indonesia, using an experimental research method on the leaves of palmyra, which is an endemic plant of Tuban city. The experiments are the observation under artificial conditions where the conditions are made and arranged by the researchers, involving Gedhog batik artisans in the study area. The results of material experiments on the object of the research, which formed the product packaging, as well as sales needs of Gedhog batik were analyzed.

RESULTS AND DISCUSSION

The experiments were carried out through several stages in order to produce packaging patterns on the palmyra leaf material. The conducted experiments included deboss experiment, pattern experiment, natural color weaving experiment. The three experimental plans above produced the forms of material needed in making the desired batik packaging. After the experiment, the product packaging was made and the results were promoted to batik artisans and Small and Medium Enterprises (UKM) as an effort to campaign 3R (Reduce, Reuse, Recyle) on the use of natural materials, namely palmyra leaves for Gedhog batik packaging.

Deboss Experiment

There are 3 (three) types of deboss or experiment conducted through the heating of palmyra leaves to produce packaging patterns, ornamentation, and visual appearance of the packaging. This approach was carried out by upholding the local skills and

local wealth so that the artisans can improve their skills, which can be utilized in increasing the selling power of batik products. The experimental steps are as follows:

(a) Deboss experiment used an iron with a particular design that was heated to a temperature of 100 °C. It was conducted to produce the desired pattern with a brownish color, to obtain the targeted results, which are patterned palm leaves. However, if the iron is too hot, the leaves will burn and leave a black color.
(b) In a deboss experiment using a laser machine to produce a pattern with a burning effect, there are two types of techniques used, namely (1) laser, which produces a pattern with a burning effect and a pattern that makes the palmyra leaves perforated, and (2) engraving, which produces a pattern with the effect of burning leaf fibers, but the burning effect is less visible. The weakness of these two techniques is that it can not be used by artisans because the tool is not available and the location of the artisans is far from the laser.
(c) A deboss experiment utilizing a simple soldering tool was carried out to produce patterns with a burning effect on the palmyra leaves. It is easily imitated by the artisans in creating the packaging.

Fig. 1. Results of Deboss Experiments

Natural Coloring Experiment

Palmyra leaves have a brown base color that makes them look natural and elegant. However, in order to obtain diverse visual qualities, natural coloring experiments were carried out using natural coloring materials derived from plants. The experiment was conducted by boiling the palmyra leaves to 100 °C for 30 minutes using natural dyes, namely turmeric, hibiscus, Asian pigeonwings, pandan leaves, and teak leaves. Mini-style colors produced several color variants on the material, which are yellow, red, green, orange, and purple.

Weaving Experiment

Based on the results of the initial experiments, namely the deboss and natural coloring

Fig. 2. Part of the Process of Coloring Experiments Using Natural Color (Turmeric, Hibiscus, Asian Pigeonwings, and Pandan Leaves)

experiments, the process of making packaging products was carried out. The packaging was formed following the folding pattern of Gedhog batik fabric. Therefore, cube, rectangular, and circular shapes were obtained. It resulted in closed packaging with a window (an open part of the packaging that shows the batik fabric). The design of the packaging product was made by weaving the material to produce the desired shape. This weaving experiment is at the same time part of the reconstruction of local intelligence (local genius) on palmyra leaves or pandan leaves possessed by the artisans. Thus, the weaving also provides the artisans and SMEs new knowledge besides becoming an effort to preserve the ability of weaving that is currently difficult to find. Moreover, the results of the product have a uniqueness to increase the attractiveness for consumers.

Fig. 3. The Results of Weaving with Natural Colors

The Principle of Reduce, Reuse, and Recycle in Batik Packaging

Based on the field conditions in the Kerek Subdistrict, which is overgrown with palmyra palms, it is necessary to improve the knowledge about the importance of the 3R (reduce, reuse, recycle) principle for Gedhog batik artisans and entrepreneurs. Using natural materials for batik

packaging is the first step in implementing this 3R principle. Thus far, palmyra leaves have only been used as firewood and considered as waste. Through the 3R campaign and promotions to batik artisans, they are given an understanding that using palmyra leaves for batik packaging will reduce the amount of waste, the material that is considered waste can be made into as new products, and the packaging can be reused for other purposes or, if not utilized, can be recycled.

Some training conducted by the researchers as a result of the above material experiments showed a positive response and support of Gedhog batik artisans and entrepreneurs. In addition to understanding and campaigning for the 3R principle, batik artisans and entrepreneurs acquired new use values of palmyra leaves. They can be made into packaging that have a uniqueness in color and design. Furthermore, there is an exchange value; goods that are considered as waste are turned into valuable products in the process of buying and selling batik. There is also a sign value in its use, which signifies a support for the 3R campaign. A product has a uniqueness when the packaging is used as a sign that the entrepreneurs and artisans care about the nature. Batik product packaging made of palmyra leaves using the 3R approach can produce a use value, exchange value, and new sign value in the community.

Fig. 4. The Process of Producing Packaging with Gedhog Batik Artisans and 3R Campaign

Based on the results of the research, the following conclusions can be drawn. The deboss technique that can be used for Tuban's Ghedog batik packaging is the deboss technique using a solder because the resulted pattern is neat, the tool is easier to use, and the price is more affordable. Through natural coloring, new colors were produced so that the bias is used as a basis in making design patterns with a choice of color variations. Furthermore, the weaving technique produced unique shapes and provided new knowledge for batik artisans. This is a part of high craft preservation by using natural materials. Through this research, the community has an awareness of the use of natural materials while supporting the 3R (reduce, reuse, recycle) campaign at the level of artisans and SMEs. The community also increased the competitiveness of products with local uniqueness.

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