

THE CREATION OF “REPURPOSING” CERAMIC USING ROOF TILES WASTE

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ABSTRACT

There was a lot of used roof tile discovered throughout the village. However, the community did not turn it into usable items. The roof tile waste motivated us to turn it into artwork. This artistic research focused on the production of repurposing ceramic pieces utilizing roof tile waste materials. This creative study made use of the experimentation, reflection, and formation phases of Dharsono's artistic creation approach. This artistic creation process resulted in a jug of art entitled "Wanawarih." This artwork is full of symbolic expression values about the trilogy of vitality, namely forest preservation, water function maintenance, and earth manifestation

Keywords: repurposing, roof tile, environmental issues, and jugs.

ABSTRAK

Di sekitar kampung banyak ditemukan limbah genteng bekas pakai. Sementara itu, masyarakat pun tidak memanfaatkannya menjadi benda berguna. Limbah genteng tersebut mengusik pemikiran penulis untuk menjadikannya suatu karya seni. Penelitian artistik ini fokus pada penciptaan karya keramik repurposing menggunakan material limbah genteng bekas. Penelitian artistik ini menggunakan pendekatan Kreasi Artistik yang dikembangkan oleh Dharsono, yaitu: eksperimen, perenungan, dan pembentukan. Proses kreasi artistik ini menghasilkan karya seni kendi berjudul “Wanawarih”. Karya seni ini sarat dengan nilai ekspresi simbolik tentang trilogi daya hidup yaitu kelestarian hutan, kelestarian fungsi air, dan manifestasi bumi

Kata kunci: repurposing, genteng, isu lingkungan, dan kendi.

1. Introduction

The works of art and materials are like the houses of subterranean termites. Relationships are the main components that make the house exist, and termites are the creators. The problem is, an artist is certainly different

from termites, because the expectation of his artwork develops over time. The diversity of materials available in the universe, therefore an artist has a very large opportunity compared to millions of termite colonies.

Creativity in processing and utilizing materials is one of the important points that enables the achievement of new medium innovations in the process of creating works of art. This passion for art creation is considered the most urgent, when the world of modern robots has replaced production techniques for creative hands. This description is a form of motivation, regarding the need for creativity escalation for craft artists in the midst of the machinal and all-digital flow. This positive energy deserves to be developed so that the creative hands of the craftsman can still exist in the midst of the mainstream sophistication of the latest technology, Computer Numerical Control (CNC) and others. On the basis of this thought, this creation seeks opportunities for leaps in craft art that has aspects of the novelty of the medium.



Figure 1. Used roof tiles piled up around the house
(Photo: Marwanto 2021)

The idea of exploring a new medium in the creation of this craft originated from direct observation in the surrounding environment about the abundance of used roof tiles. Many used roof tiles have been wasted and are no longer wanted after being used as roofs. These used roof tiles are usually

just left alone and pile up around people's homes. Considering the unfavorable after-sales price, so the utilization of this used roof tile is usually only used as road backfill and house foundations, as well as a *talud* that functions to hold the soil from moving/ landslides.

The used tile material is actually very interesting to be explored as a work of art. Material exploration activities in fine arts are very relevant to experimental work. Ervianto stated that the reuse of building demolition can be done through the 3R principles: Reuse, Reduce, and Recycle (Ervianto, 2012). These three things have aspects that are fundamentally different. Reuse is reusing used materials in a usable condition. Reduce is reducing the presence of used/ demolition goods so as not to cause a pile of garbage, while recycle is recycling used goods which is done by processing the material into new useful goods.

This creation focuses on the principles of Reuse and Reduce. For this reason, it needs technique and creativity to work with used materials to produce ceramic works.

Repurposing is translated from English which means a process where an object with its use value in the initially used, then reused as another object with an alternative use value.

The creation of repurposing ceramic works by reusing used tile materials is closely related to environmental issues. Environmentally Sound is a product or service that minimizes damage to the environment and is less harmful to the environment to use, maintain and dispose of in comparison to a competing product or service (www.lawinsider.com). This environmentally friendly artwork is expected to prevent the accumulation of roof tile waste that ends up in landfills.

2. Literature Review

Material exploration is the focus of artistic research with the title

"Creation of Repurposing Ceramic with the Utilization of Roof Tile Waste". Material exploration activities in fine arts are very relevant to the experimental work. Stephen Bann (1970) says that an artist's experimental work is a small study with controlled activities, in which the work he does leaves authentic evidence. Manual experience with materials is essential for art workers, an experience that is initially restricted to freedom of experimentation and then to production" (Snider, 1996).

David Bramston in his book entitled *Basics Product Design 02: Material Thoughts* also describes that an experimental approach with materials will provide opportunities for truly innovative ideas (Bramston, 2009). This conception places the material not only as a passive object to be used instrumentally by an artist (creator), but also plays a role in interaction with the creative intelligence of the creator.

Efforts to identify materials are also carried out by Mike Ashby, *et al.* in his book *Material and Design* dividing two roles of material in a product, namely providing technical functions and at the same time creating personality in the product (Ashby, Michael F; Ashby, Mike; Ashby, Mike F; Johnson, 2002). Meanwhile Mike Ashby, *et al.* tried to describe the four dimensions of material information, namely the dimensions of engineering, usability, environment, and perception (Ashby, Michael F; Ashby, Mike; Ashby, Mike F; Johnson, 2002). To explore these dimensions, the first thing to do is look at the physical attributes of the material. An understanding of the above characteristics finally shows that the properties and performance associated with the material, will be closely related to the composition and structure of the material, including the type of atomic content and how the atoms are arranged. Finally, the characteristics of the material will be related to the main elements, namely (1) composition and structure, (2) properties, and (3) performance (Czichos, H; Saito, T; Smith, 2006).

This study uses the theory of Edmund Burke Feldman, in his book, *Art as Image and Idea*, stated his theory in studying art through several aspects, namely: the function of art (personal, social, physical), the style of art (objective accuracy, formal). order, emotion, fantasy) the structure of art (grammar, design, aesthetics), the interaction of medium and meaning (painting, sculpture, architecture), art criticism (theory performance) (Feldman, 1967). The use of this theory is reflected in the preparation of the design concept, the form of the artwork, and the description of its meaning.

Related literature also refers to *Practice-Based Research*, this book explains the role and significance of the creative work of artists in relation to research practice (Candy, 2006). This practice-based creative process approach is used to convey the information, new knowledge and findings related to the creation of repurposing ceramic artworks.

The book entitled *Pengetahuan Keramik* written by Ambar Astuti reveals various kinds of information about ceramics ranging from materials, formation processes to the combustion/ burning process (Astuti, 1997). This book is referred to for medium knowledge of ceramic creation in order to obtain a detailed information in explaining the aspects of this research. In addition, a book entitled *Kamus Keramik* (Alexander, 2001).

The book entitled *Estetika* contains the theory of art and the importance of various elements that influence works of art, related to formal, conceptual and philosophical aspects, including the theory of creativity (Dharsono, 2004). These books are referred to by the author as a basis for analyzing various art problems related to craft art. The art creative spirit in this research proposal is inspired by the aspect of combining media and construction that David Mach does in his work.

3. Creation Methodology

This research focuses on creative practice as a way for developing new insights and understandings through careful investigation (Guntur; Sugihartono, 2015). The practice of investigation through the creation of artworks and the practice of reflection through reviews of the form of artworks and the values contained in them.

The method of creating repurposing ceramic works refers to the theory of the Artistic Creation Process which includes experimentation, contemplation, and formation (Dharsono, 2016), which can be described as follows:

3.1. Experimentation Stage

The experimental stage in the creation of art is carried out through review with an ethical and emic approach. In addition, media research (materials and tools) is carried out which will be used later in the realization stage of the work.

a). Review with an Ethical approach

The etic view establishes what's important, from the outsider's perspective, and begins with already formulated notions and categories of knowledge with which to interpret the cultural phenomena in question (Alim, 2006) (Garland, 2010). Review with an ethical approach is carried out by exploring reference sources related to works of art by utilizing waste or recycle art. In addition, it also makes observations on works of art that have relevance to the theme raised.

b). Review with the Emic approach

The emic view is the grassroots perspective. In other words, predetermined categories are thrown out in favor of an analysis that emerges from the insider's perspective (Alim, 2006) (Garland, 2010). Review with an emic approach is carried out through interviews with several sources including artists who have works with used materials, including environmental activists and craftsmen who produce handicrafts with used materials.

Based on the results of the ethical and emic review above, then they all processed using the data triangulation method. The results become the basis for drafting the concept of the artwork.

c). Media research

The media research phase focuses on the experimentation of the medium (materials, tools and techniques) which are elaborated as a complete component of the embodiment of the work. The exploration of repurposing ceramic medium is important because it requires a proper organization between the types of used roof tile materials, tools, forming and finishing techniques. The basic understanding related to the elaboration of the medium, the focus point begins with creativity in responding to materials, in this case, used roof tile (*kreweng*).

Media research in this artistic research is carried out in the following stages:

a) The stage of collecting used roof tile media.

The main material used is used roof tile made from earthenware clay. The preparation stage begins with washing the used roof tile using soapy water, to remove the dirt and fungus that is attached.



Figure 2. Washing used roof tile to remove dirt and fungus
(Photo: Marwanto, 2021)

b) The stage of selecting the used roof tile material.

The quality of used roof tile materials are selected based on special considerations, namely: (1) Used roof tile with good combustion quality, (2) Has a pore density and is not brittle, and (3) Has an attractive texture and color.

Roof tile slab material as a structural material, must have a good level of hardness, not a brittle one. The quality of the roof tile requires the maturity of the burn temperature, which is characterized by a loud sound when hit and is not easily

scratched. The selection of a unique used roof tile texture is characterized by different clay streaks or because of the presence of melted Fe elements with blackish spots on the surface. The uniqueness of the color element is obtained from the "striped" effect of the combustion results, or the different color elements due to the clay material that is not mixed homogeneously.

The basic principle of how to reuse used materials in the practice of art, basically applies the 5-èn principle. The first principle is “*Opèn*” which means the instinct to guard, pay attention and utilize. The second principle is to apply the “*Telatèn*” rule with the intention of having thoroughness and patience. The third principle is “*Gatèn*” which means being able to pay attention seriously and be able to look for opportunities to use used goods with creative ideas. The fourth principle is “*Titèn*”, which means having accuracy and being able to choose good materials. The fifth principle is “*Braèn*”. The term braèn, taken from the word “*brai*” in Javanese means a pleasure to decorate, preen or beautify oneself. This instinct underlies that a craftsman must be able to develop his aesthetic sensitivity to respond to used materials into valuable works of art.



Figure 3. Diagram of “Creative Instinct” responding to used goods
(Design: Aries Budi Marwanto, 2021)

c). Stage of cutting used roof tile

The roof tile is cut in the form of small plates measuring at most 5 cm wide.

The cutting of the used roof tile is done by using a hand grinding machine and pliers. Cutting is done with an irregular pattern (not symmetrical) with the basic shapes of triangles, rectangles, pentagons and so on. These used roof tile cutting patterns will be affixed randomly to the body of the work. The results from pieces of used roof tile are then dried outside to remove the remaining water contained in them during the previous washing. Used roof tile that still contains moisture can cause it not stick properly when glued with epoxy glue.



Figure 4. Cutting used roof tiles using a grinding machine
(Photo: Marwanto 2021)

3.2. Contemplation Stage

This stage is contemplation to find the crystallization of forms, symbols, and metaphors in the creation of artworks. The results of the contemplation gave birth to the visualization of the jar object which was elaborated by considering the following aspects:

a). Unity

Three-dimensional works of art are considered the best when they present a visual unity that is able to imply image and imagery in accordance with the meaning they contain. The unity of the visual aspect is a harmonious blend of aesthetic elements through composition or effects that support a work as a whole.

b). Proportion

Three-dimensional objects such as sculptures or other three-dimensional

works, the proportions are determined by linear dimension factors, width, volume and mass. The proportions seen from the visual aspect are made considering the aesthetics of the form in the overall structure achievement of the work.

c). Balance

Balance in making three-dimensional works has at least two aspects. First, the work must have actual physical stability. This can be achieved by natural balance, namely by making the work stable to stand firm. The second aspect of balance is composition. The interaction of style and weight distribution in a composition can rise to dynamic or static balance condition. Aspects of balance are also influenced by suggestions of tension (rigid) and relaxation (flexibility) of form. The principle used in the creation of this work is spatial balance. The aspect of spatial balance created from the *kreweng* element that strengthens the natural image through the monochrome selection of *kreweng* color elements on the facade of the work.

d). Rhythm, Harmony, and Contrast

Viewed from the aspect of rhythm, the creation of this work emphasizes the pattern when the physical elements of *kreweng* are attached to the body of the artwork. Rhythmic repeating pattern with accentuation. Harmony in the composition of assembling *kreweng* achieves consistency of form and meaning. Contrast in terms of maximum utilization of *kreweng* with a combination of supporting form elements that are used prominently with different colors.

e). Simplicity

The last aspect is the simplicity of the form which basically tries to bring out the impression of material reality. This simplicity is carried out selectively with accuracy in arranging the artistic elements.

The aspects mentioned above are used in the preparation of the visual concept of this repurposing ceramic work, then in the next stage it is realized into a symbolic expressive work of art. The real result of this contemplation process is manifested in a number of alternative sketches (designs) of the work, then the best design is chosen which will be realized into a work of art.

3.3. Stage of Embodiment of Works

The formation of the work is the stage of elaborating the design into a concrete form (visualized). The stages of forming the work are carried out as follows:

a). Modeling works

The modeling material used is a styrofoam that is formed according to the design of the work. The result of this modeling is used as a mattress for sticking *kreweng*.



Figure 5. Modeling using styrofoam material.
(Photo: Marwanto, 2021)

The selection of styrofoam material as a work mattress, considering that this material is easy to shape, light, and easy to crush using gasoline. After the assembly process is complete, the styrofoam is melted with gasoline, resulting in a glue fiber that strengthens the body of the work from the inside.

Broadly speaking, the process of creating works is carried out by using the technique of processing space and its shape with an assembling system. The practice of arranging with a manual assembly system, when elaborated in the setting of creating a three-dimensional work, becomes a building technique by arranging, attaching, and linking the main material components into a complete body of artwork. This mechanism underlies the design concept of repurposing ceramic works with the main material is roof tile fragments.

b). Stage of creation of works



Figure 6. Overview of the assembly of the repurposing ceramic work:
(a) the frame, (b) the coating, and (c) the patching
(Photo: Marwanto, 2021)

This stage begins with a arranging iron frame with wire mesh or filter wire (Figure 6.a). Then, it was continued to coat the structure using an alkaline mortar with plaster technique (Figure 6-b), and finally the sticking of *kreweng* (Figure 6-c),



Figure 7. The process of coating the body of the work
using alkaline mortar
(Photo: Marwanto, 2021)

The basic coating process on the body of this work is carried out with alkaline mortar material with the plaster technique. The compaction system is carried out using a trowel. The plaster technique on the body of this work is done with a thickness of 1cm. The next step is the process of attaching the used roof tile fragments to the body. The assembling system is carried out based on the organization of the *kreweng* field elements by considering the quality of the texture, the color of the *kreweng* that has been provided. Epoxy glue is used to glue the *kreweng* on the body of the work.



Figure 8. The process of assembling the fragments roof tile material on the body of the work (Photo: Marwanto, 2021).

4. Description of Ceramic Artwork

Jars (*kendi*) around the world are known as traditional drinking containers that were popular in their time. The naming of the jar is generally known through the Sanskrit language, namely *kundika* which means a container of water (Sullivan, 1957). Relating to Hindu iconography, the name '*kundika*' is considered as an attribute of Lord Shiva and Lord Brahma. *Kundika* according to Buddhism is considered as an attribute of Awalokiteswara and Buddhist pilgrims who walk carrying holy containers on their odyssey to find holy books.

While in Indonesia, the jar (*kendi*) seems to have been known in the 9th century in Central Java. The Kamadathu relief at Borobudur temple (800 AD) shows the shape of a jar and a *kundika* (Adhyatman, 1987) (Gita Winata). The naming of the jar in Java is called *gogok*, in West Sumatra the naming of this water container is called *labu tanah*, or '*glogok*'. People in Bali call it *kundi* or *caratan*, in South Sulawesi it is known as *busu*, in Aceh it is called *geupet bahlaboh*, in Batak it is called *kandi* and in Lampung it is called *hibu*.



Figure 9. “*Kendi Wanawarih*”, media: *kreweng* tile, alkaline mortar 65 x 60 x 120cm
(Foto: Marwanto, 2021)

The jar artifact as a traditional object is the reality of past man-made objects that store an understanding of cultural values and the history of human life at that time. The jar as a symbolic object of this creation, is adapted to its image and meaning into a work of art. Image adaptation is represented through the character, shape, function and other aspects related to the image of the object as an artifact. Adaptation of meaning is done by understanding and interpreting the meaning implied in it. In the process of contemplating this jar, the concept of "container (*wadah*)" was discovered, where this traditional Javanese kitchen utensil is loaded with symbolic expressions that contain philosophical values aimed at the values of life. This can be viewed from two aspects: *the first* is the physical aspect (container) and *the second* is the spiritual aspect (content). This affinity implies the harmony to

be achieved in the harmony of life. The spirit of the container and its contents becomes a deep living relationship for humans and their natural environment.

The work, entitled "*Kendi Wanawarih*" is visualized with references to the typical Majapahit jar shape. A jar with a large *corot* resembling a breast shape is commonly called a milk jar (*kendi susu*). These jars with large round *corot* and taper at the ends are often found in archaeological sites in Trowulan, East Java.

The work "*Kendi Wanawarih*" is a symbolic expression of the concept of balance and harmony in nature. This work represents a source of life energy related to the function of trees/forests for the preservation of water and the earth. "*Wanawarih*" is taken from the Javanese language, the word '*wana*' means forest and '*warih*' means water. The two natural components are a source of ideas that are synergized in harmony to describe a system of natural continuity. The lexical meaning of "*Wanawarih*" is "water forest" which manifests a wealth of natural resources that are very important for the sustainability of life on motherland.

The work entitled "*Kendi Wanawarih*" is a manifestation of the trilogy of life towards the essential balance of nature. The values attached to this work consist of:

- a) Forest sustainability: imaged in the form of trees in the height axis, which represents growth and fertility.
- b) Water function sustainability: imaged (*corot*/water pouring hole) in the form of a large volume. The big *corot* in this work emphasizes the aspect of the use of water which is so great for the life of living things.
- c) Earth manifestation: visualized in the form of a jar that holds a source of water for life.

The symbolic message through this work for humans as one of the creatures that inhabit nature, should be obliged to maintain and care for the harmony of nature.

This contemplative work of art becomes a spirit of awareness to the public about the importance of trees for life. Forest and land degradation caused by illegal logging, forest encroachment, reduction of forest area (deforestation) for other development purposes, as well as land use that does not pay attention to conservation

rules will result in floods, droughts and landslides or a real contribution to global warming. . This work is in line with De Witt H. Parker's opinion that the contemplative spirit of art is perhaps more important than the constructive in its application to life (Parker, 1946), because on the field there are real and vicious economic motives and power disguised as a modus of development in contributing damaging the environment.

5. Conclusion

The spirit that strengthens this creation is how cultural artifacts such as jars (kendi) can be adapted for their image and meaning to become a source of imagination for three-dimensional works of art. The transformation of a jar into an artwork is done by creating nuances from different nature with an imaginative depth of meaning. As Paul Cezanne's theory that works of art are not just imitating nature, but nature is to be re-created and fantasized to find artistic forms (Myers, 1959).

In addition to finding visual concepts, this creation also finds alternatives to use roof tile waste as a new medium in ceramic-based artwork. Based on the author's note that the use of used roof tile with earthenware clay material obtained some attractiveness that deserves to be developed in the future. One of its attractions is the uniqueness in the texture and natural color of the material. The reddish brown color with the texture of black spots on the used roof tile slab is a very interesting element to be exposed as a work of art. The texture is obtained from the element Fe from earthenware clay which melts at 1100 degrees Celsius. So, it is necessary to be careful in choosing used roof tile materials, in addition to looking at the quality aspect of the combustion, it is also necessary to choose the material from the aesthetics of color and texture.

The results of this artwork are expected to be able to add to the novelty of materials and techniques for creating three-dimensional artworks. From the perspective of ceramic art, this can be an impetus to continue developing the latest ceramic medium to be applied to other works of art..

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