

RICE STRAW FOR INTERIOR ELEMENTS OF A LOCAL “WEDANGAN” CULINARY BUSINESS IN SURAKARTA

Sumarno¹, Dharsono², and N.R. Ardi Candra Dwi Atmaja³

^{1 2 3} Institut Seni Indonesia (ISI) Surakarta, Indonesia
E-mail correspondence: sumarno@isi-ska.ac.id

ABSTRACT

Rice straw is abundant and inexpensive as post-harvest crop residue. Rice straw can be processed into a variety of products for interior space filling through creative efforts. This research seeks to empower farmers by utilizing rice straw as crop residue and to create natural-style products for the interior space-filling of a local culinary business (*wedangan*), as *wedangan* is a typical culinary business that is traditional, fast-growing, and trendy in Surakarta City and its surroundings. The design method is based on design thinking procedures, which include empathizing, defining, ideating, prototyping, and testing. Empathy for low-income farmers is expected to add value and profit through rice straw processing. *Wedangan's* interior space-filling products are designed around the *kantong semar* flower (*Nepenthes sp.*). The prototype (as a design embodiment) is developed in collaboration with the farmers. This type of experience is intended to serve as training and assistance. Product testing is conducted through market research and product application in *wedangan* interiors in this city. As a result, business managers and visitors alike appreciate interior space-filling products. Economically, this product development for interior space filling represents a viable business opportunity for farmers to pursue as a secondary occupation.

Keywords: rice straw, farmers, interior, *wedangan*.

ABSTRAK

Setelah masa panen, jumlah jerami padi sebagai limbah tanaman melimpah dan murah. Melalui upaya kreatif, pada dasarnya jerami padi dapat diolah menjadi beberapa produk untuk pengisi ruang interior. Adapun tujuan penelitian ini antara lain: memanfaatkan limbah jerami padi untuk pemberdayaan petani dan menciptakan produk untuk pengisi ruang interior usaha kuliner lokal (*wedangan*) secara natural, karena *wedangan* merupakan usaha kuliner khas yang bersifat tradisional, cepat saji, berkembang, dan trending di kota Surakarta dan sekitarnya. Metode desain menggunakan prosedur design thinking, termasuk: empati, definisi, ide, prototipe, dan uji. Empati kepada petani berpenghasilan rendah melalui pengolahan jerami padi diharapkan dapat memberikan nilai tambah dan keuntungan. Tema desain produk pengisi ruang interior *wedangan* menggunakan bunga kantong semar (*Nepenthes sp.*). Bersama petani, prototipe (sebagai perwujudan desain) dibuat. Pengalaman tersebut dimaksudkan sebagai pelatihan

dan bantuan. Pengujian produk dilakukan melalui uji pasar dan aplikasi produk pada interior wedangan di Surakarta. Hasilnya, produk pengisi ruang interior diterima dengan baik oleh pengelola bisnis dan pengunjung. Dari segi ekonomi, kreasi produk pengisi ruang interior ini merupakan peluang bisnis yang dapat dikembangkan bagi petani sebagai pekerjaan sampingan.

Kata kunci: jerami padi, petani, interior, dan wedangan.

1. Introduction

Being a main food in many countries including Indonesia, rice is very much needed. Rice plants are therefore cultivated by farmers in various parts of the world since a very long time ago. Rice grains, as the main commodity of rice plants, are to be processed into food ingredients. In addition to producing rice grains, rice plants also produce rice roots, stems, leaves, and panicles as its parts of plant morphology (Kuswanto, 2003). The utilization of rice plants is basically sought not only for the grain, but also for other parts.

Rice straw, a part of the rice plant, is abundant when the harvest season comes. However, the attempts of rice straw utilization are still very limited, and have not been widely developed yet. Thus, the economic value of the use of rice straw remains low. Rice straw by most farmers is still considered as waste. They ended up burned or left to become dried and rotten in the fields. Rice straw that is not utilized is about 62%, while only about 38% is for animal feed or industrial purposes (Situmeang, 2010).

The exploration and development of rice plant utilization need to be continuously improved, because the parts of the rice plant especially rice straw basically has already been used for various purposes, one of them is for art products. However, the use of rice straw for product manufacturing is still very limited (Dharsono, Sumarno, & Atmaja, 2019). The imbalanced condition between rice straw produced and the industry demand causes over supply. Due to the abundance of rice straw waste, efforts are needed to increase the utilizing capacity of creating rice straw-based products.

This study, therefore, aims to utilize rice straw waste into aesthetic and functional interior products, and to empower farming communities through the

utilization of rice straw crop residue.

2. Literature Review

Basically, many efforts have been made to utilize straw, including as pulp, where straw is combined with sodium hydroxide (Jalaluddin, 2005), straw as particle board (Gultom, Dirhamsyah, & Setyawati, 2013), and straw as acoustic panel (Mediastika, 2007). Utilization of straw stem directly with what they are as handicraft products (Rubiyar, 2006) in the form of flowers, wall decorations, pencil cases, photo frames, and so on. The technique of working is arranged directly, and even into products ranging from bags, shoes, tissue boxes, frames, brooms and so on. Utilization of straw for handicraft products in general is directly into the finished product of handicrafts, and has not been in the form of raw materials or semifinished products.

In addition, processing of straw into art paper is by cooking, washing, grinding, printing, making motifs and drying to become sheets of paper for craft products (Lopes, 2013). Straw as organic fertilizer is processed by chopping it, spraying it with water and stirring it, and putting it in a box, then the straw that is ready to be decomposed is covered with plastic to make a decomposer solution and water, stirred until smooth and carried out for several weeks (Sitepu, Anas, & Djuniwati, 2017). Processing of straw and bunches of palm oil can produce bioethanol (Ulya, 2011).

Straw as a raw material for handicraft and furniture products, raw materials are available in abundance in many regions. Central Bureau of Statistics (Badan Pusat Statistik) data shows that the agricultural sector in Indonesia in 2017 as of May there were 39.68 people or around 31.86% with an area of 7,876,565 hectares. Using an estimated harvest index of 0.5 per hectare of rice crop harvests 3 tons of dry straw can be produced according to Paavilainen and Torgilson (1999). The availability of rice straw in Indonesia is more than 55 million metric tons a year. Of that amount, only a few are used, because most of it is burned after the harvesting process. Estimates of unused rice straw are around 60% (Anonymous, 2003).

Previous studies and descriptions noted the idea of product creation that turns rice straw into ropes (Ahuja & Ahuja, 2013) (Tang, Qi, Ding, Hao, & Xu, 2020). The use of rice straw ropes for interior space-filling products, however, has not been explored. Therefore, this study concerning how rice straw ropes are utilized is original and important, as a contribution to support the welfare of farmers with its positive prospect to gain additional income.

3. Creation Methodology

The nature of this study is a developmental research, for its product creation through the use of rice straw as accessories and interior filling products. The research was carried out using a design thinking model. The five stages of design thinking include: empathize, define, ideate, prototype, and test.

Empathy as the earliest stage is carried out through surveys, observations, in-depth interviews, engaging and mingling (Sakama, Mori, & Iba, 2018), being with the farmers and getting involved in some farming activities. These efforts are carried out to understand the problems faced by farmers related to rice straw waste. *Define*, is the stage of capturing problems to be solved, with problem solving approach and a theme-based framework of thinking. The theme is then used as a basis for exploring ideas.

The design idea was chosen based on daily habits or customs that apply in the community. The theme of plants and *wayang* (Javanese traditional puppets) were appointed because they are parts of the culture developing in the community environment. The efforts of exploring ideas then become the embodiments and visuals carried out within design sketches. A sketch is an unfinished rough drawing, in the form of an outline or a brief explanation of a product (Olofsson & Sjolén, 2006). Then, the sketch becomes the basis to create working drawing as a medium of communication and reference with related parties in the realization of the prototype. *Prototype* is the effort of realizing the design to the scale of 1: 1, using materials as planned (Ambrose & Harris, 2010).

Test, as a part of the design thinking procedure, is carried out both qualitatively and quantitatively. The qualitative test is the simulation conducted at three traditional culinary business (*wedangan*) interiors. The test is quantitative in the context of market feasibility test, which is carried out involving household appliances traders. The selection process of *wedangan* stalls and household appliance traders used the purposive sampling method in the area of Surakarta, Central Java, Indonesia.

4. Discussion

4.1. Materials

The materials include main material, supporting material, and finishing material. The main material was the rice straws which had been twisted into a 6mm diameter rope. Rice straw ropes were the result products from the training and mentoring the farmers joining. The supporting materials were the plywood and rattan as the product structure. Meanwhile, the process of finishing material used water base finishing. The production or design embodiment is carried out using tools such as saws, scissors, hammers and other simple tools.

4.2. Artwork Description

Farmers in general are occupations that need concerns to help them improve their economic level. The low welfare among farmers is partly due to the disproportionate between operational costs and the selling price of the harvest. On the other hand, rice straw as a part of harvest products is generally only burned; or if it is for sale, the price is extremely low. The utilization of rice straw as a craft product is based on a sense of empathy for the rice straw waste which could actually have better economic value.

Being a farmer is a very typical occupation among rural area society, as a hereditary profession, with poor education level and low income (Arvianti, Masyhuri, Waluyati, & Darwanto, 2019); (Susilowati, 2016). Therefore, farmers generally find it difficult to be accepted in formal works. They are the people living in rural areas, living together with nature, doing a simple lifestyle, and are still

attached to cultural and traditional activities. Farming involves some typical activities such as cultivating the land, planting crops, taking care of them, and harvesting. Those processes merge with nature.

The wishes and expectations of farmers regarding farming activities and harvest products are basically quite simple. They hope to get guarantees about two things: availability of fertilizers in the market at affordable prices and a decent selling price for the rice grains they harvest. However, this hope is not simple because it is related to the government's policies that are interrelated from one field to the others. Increasing welfare through additional income and having a secondary occupation are small steps that need to be followed by other efforts.

Farmers generally live in villages very close to traditions and cultural environments. Cultural activities related to agricultural works that are quite prominent are *wiwit* and *merti dusun*. *Wiwit* is a ritual to start the harvest time which is very personal. *Merti dusun* ceremony as a form of gratitude for the rice harvest is usually carried out together in certain community groups (Kuncoro, n.d.). Activities are generally in the form of parade, *kenduri* feast (eating together) and *wayangan* (traditional Javanese puppet show). Indonesia is a country that is rich in traditions and a variety of arts (Triana & Marwati, 2020). Related to the product design in this research, based on farmers' way of living and their customs, plants, flowers and *wayang* (the puppets) were chosen as the design themes for interior space-filling products made from rice straws.

Farming communities do their agricultural routine in the rice fields and usually entertain themselves watching *wayangan* (puppet) cultural show. *Wayangan* show influences their life in many ways. For Javanese people, *Semar* in *wayang* story is the most idolized character. *Semar* is a representation of ordinary people, a figure who is always sided with the truth. *Semar* is the caretaker of the knights in *Ramayana* and *Mahabharata* stories. *Semar* is a testament to the local genius of Javanese culture, because *Semar* character is not in the Indian version of *Ramayana* nor *Mahabharata*.

Physically, *Semar* is a fat character with a large stomach and buttock. As an idol of Javanese and Indonesian people, based on its name, *Semar* is even associated with a plant (*Nepenthes sp.*) which has Indonesian name of “*Kantung Semar*”. *Kantung* means sack or bag. *Kantung Semar* is an epiphytic plant that attaches to tree trunks serving as an insect-eating plant by trapping them into the bag. Physically or visually, *Kantung Semar* and *Semar* character in *wayang* story have some similarities; one of them is the bubble of the leaves.



Figure 1. *Kantung Semar* (*Nepenthes sp.*), and the *Semar* in *wayang*/puppet

The unique shape of *Kantung Semar* plant as a design idea is explored through sketches into several product designs for interior space-filling. Rice straw rope as a raw material is needed as a design consideration related to technical aspects, shape, and production for interior space-filling of *wedangan* (traditional culinary local business) venue.

Currently, *wedangan* has developed into a combination between traditional culinary business and a cafe concept, and has been growing rapidly in Surakarta and its surroundings. *Wedangan* nowadays has transformed from a traditional street food business into a more creative and attractive concept (Rahadhini & Lamidi, 2017). However, some aspects are to stay as they used to be, in order to preserve special characteristics of *wedangan*. One of them is the menu. There are various types of foods, snacks, and beverages that are mostly available at any *wedangan* which the business owners have to pay attention to. More special features of *wedangan* are captured by culinary entrepreneurs while arranging more innovative and attractive

traditional interior styles in various areas in Surakarta and its surroundings.

There are several product results from the utilization of rice straws for several *wedangan* interior. The products include tables, chairs, photo frames, plant boxes, chandeliers, trash boxes and others. Mostly, the shape of each product refers to *Kantung Semar* plant as the design idea. The design process employs the concept of convergence, in which design ideas are explored, deepened, and detailed, towards a single point until obtaining a design that is considered as a final decision by the designer (Jones, 1980).



Figure 2. Prototype

Design sketches are clarified and detailed with working drawings. Working drawings in the industrial perspective are the standard and firm references for the certainty of product results, are usually top-down, rigid, and at the discretion of the designer. In the production of craftsmanship, working drawings become very open, two-way, and dialogical between the parties to adjust to each other. Working drawings and designers are not the only aspects for successful design in community empowerment. A collaborative design considers the abilities, skills, knowledge, and psychological conditions of the artisan-farmers, including the social and cultural environment of the community (Manzini, 2015).

For industrial productions, machines and means of production are the determinants of the operationalization of companies. In the production of handicrafts, the production equipment is only as a support, while the ability and skill of the craftsman are the dominant factors even though the production is mass-manual. Product standardization is rigidly related (shape, size, even colors) and therefore needs looser tolerances. This condition must be realized because it is

different from mass production, which is accurate and precise in terms of quality and quantity. In Indonesia, the production characteristics of the handicraft and furniture industry which are still manual are found in various regions and are quite dominant. This condition is common for manual production, and can be seen as a disadvantage as well as an advantage. The products are therefore exclusive, special, distinctive and different from others. Farmers are the production actors in the making of handicraft and furniture products, therefore this can be a product advantage as “*behind the scenes*”.



Figure 3. Application to local culinary business (*wedangan*).

Collaborative design for farmers’ empowerment is adaptive to the ability and capacity of the farmers. *Prototype*, as an effort to make the design come into realization, was carried out with farmers, simultaneously as training to improve skills and assistance in processing and working on the handicrafts made from rice straw. The practice and mentoring activities with farmer groups were held in Temon village, Simo, Boyolali regency, Central Java. The assistance was provided in increasing production capacity is due to rice straw rope is a new material for them, also the weaving techniques as well. Therefore, it is necessary to transfer knowledge and skills to the farmers. Their previous basic weaving ability was for bamboo material in some time when they were not working in the fields.

Product testing was carried out qualitatively and quantitatively. The qualitative testing was the simulation of the application of rice straw-based products in the interior space of *wedangan* in Surakarta, Central Java, Indonesia, including *Wedangan Mbah Darso* and *Balepadi*. Eighty (80) per cent of the visitors stated that

the rice straw material was unique and worthy of being applied to interior materials. However, the neatness of workmanship, the texture of materials, and the finishing touch need to be improved. The owners or managers of those *wedangan* businesses warmly welcome unique ideas of applying interior space-filling products made from rice straw as a differentiator from other *wedangan* interiors.

The market testing was conducted to measure the feasibility of the selling price of the product according to the stores selling household appliances. The household appliance shop owners stated that the interior products made from rice straw are unique and interesting to sell. The challenge is how the selling price can compete with plastic products. Household appliance traders' suggestions are important to accommodate because they often interact directly with users or buyers. They understand a reasonable price range as a selling price as well as consumers' tendencies and considerations in buying products. The product price is calculated from the cost or production labor, materials, and other factors. The prices of products made of rice straw in general have a difference of about 10-15% compared to those made of plastic.

5. Conclusion

Tropical-style architecture-interiors tend to blend and use natural materials. Rice straw as crop residue can be applied to the utilization and application for interior space-filling products. Rice straw can be developed for the manufacture of various kinds of interior design products. The products processing by farmers can increase the value of rice straw waste both economically and environmentally. The work of utilizing rice straw potentially becomes a secondary business opportunity for farmers besides their farming work, to earn additional income. Rice straw waste processed into interior space-filling products gets positive responses of acceptance by consumers. Thus, it is necessary to continue to strive for product development along the continuous absorption and increasing economic value that can bring profits for farmers.

6. References

- Ahuja, S. C., & Ahuja, U. (2013). Traditional Utilization of Paddy Straw, Husk, and Bran. *Asian Agri-History*, 17(1), 25–41.
- Ambrose, G., & Harris, P. (2010). *Basics Design 08: Design Thinking*. Switzerland: AVA Publishing SA.
- Arvianti, E. Y., Masyhuri, Waluyati, L. R., & Darwanto, D. H. (2019). Gambaran Krisis Petani Muda Indonesia. *Agriekonomika*, 8(2).
- Dharsono, Sumarno, & Atmaja, N. R. A. C. D. (2019). *Pemanfaatan Jerami sebagai Produk Kreatif Non-Industrial*. 241–44. Surakarta: LPPM Institut Seni Indonesia Surakarta.
- Gultom, L. A., Dirhamsyah, & Setyawati, D. (2013). Sifat Fisik Mekanik Papan Partikel Jerami Padi. *Jurnal Hutan Lestari*, 1(3). doi: [Http://Dx.Doi.Org/10.26418/Jhl.V1i3.4123](http://Dx.Doi.Org/10.26418/Jhl.V1i3.4123)
- Jalaluddin, S. R. (2005). *Pembuatan Pulp dari Jerami Padi dengan Menggunakan Natrium Hidroksida*. Retrieved from Id.Scribd.Com/Document/360445969/Jerami-Padi-Pulp-Pke-Naoh-Pdf
- Jones, J. C. (1980). *Design Methods, Seed Human Futures*. Jhon wiley & Sons.
- Kuncoro, A. S. (n.d.). *Pelestarian Upacara Merti Dusun Cagunan sebagai Bentuk Pelestarian Budaya di Kabupaten Bantul Yogyakarta*. Retrieved from <http://repository.stipram.ac.id/435/1/Abstract%20%281%29.pdf>
- Kuswanto, H. (2003). *Teknologi Pemrosesan Pengemasan dan Penyimpanan Benih*. Jakarta: Kanisius.
- Lopes, A. (2013). *Pemanfaatan Jerami Padi (Oryza Sativa) menjadi Kertas Seni (Art Paper) dan Produk Kerajinan (Skripsi)*. Politeknik Negeri Pertanian Samarinda, Samarinda.
- Manzini, E. (2015). *Design, When Everybody Designs, An Introduction to Design for Social Innovation*. The MIT Press.
- Mediastika, C. E. (2007). Potensi Jerami Padi sebagai Bahan Baku Panel Akustik. *Jurnal Dimensi Teknik Arsitektur*, 35(2).
- Olofsson, E., & Sjolen, K. (2006). *Design Sketching* (2nd Ed. Klippan). Sweden: KEEOS Design Book.
- Rahadhini, M. D., & Lamidi, L. (2017). *The Difference of Service Quality and Consumer Satisfaction on Traditional and Modern Wedangan (Survey on Warung Wedangan in Solo)*. doi: 10.2991/icoi-17.2017.24
- Rubiyar. (2006). *Kerajinan dari Jerami*. Surabaya: Tiara Aksa.
- Sakama, N., Mori, H., & Iba, T. (2018). *Creative Systems Analysis of Design Thinking Process*. 103–13.

- Sitepu, R. B., Anas, I., & Djuniwati, S. (2017). Pemanfaatan Jerami sebagai Pupuk Organik untuk Meningkatkan Pertumbuhan dan Produksi Padi (*Oryza Sativa*). *Buletin Tanah Dan Lahan*, 1(1), 100–108.
- Situmeang. (2010). *Prospek Pengembangan Potensi Jerami di Indonesia* [Laporan Penelitian]. Medan: Universitas Sumatera Utara.
- Susilowati, S. H. (2016). Fenomena Penuaan Petani dan Berkurangnya Tenaga Kerja Muda serta Implikasinya bagi Kebijakan Pembangunan Pertanian. *Forum Penelitian Agro Ekonomi*, 34(1).
- Tang, P., Qi, Y., Ding, Y. X., Hao, Z., & Xu, G. (2020). *Study on Tensile Properties of Rice Straw Rope Considering Degradation*. 768.
- Triana, A., & Marwati, S. (2020). Trucks as Inspiration for Baby Bed Creation. *ARTISTIC : International Journal of Creation and Innovation*, 1(2), 57–71. doi: 10.33153/artistic.v1i2.3302
- Ulya, M. (2011). Pemanfaatan Limbah Industri Pertanian sebagai Sumber Bioetanol. *Inovasi Dalam Desain Dan Teknologi*. Presented at the Ideatech.

ARTISTIC : International Journal of Creation and Innovation

Publisher:
Program Pascasarjana
Institut Seni Indonesia (ISI) Surakarta

Available online at:
<https://jurnal.isi-ska.ac.id/index.php/artistic>

How to Cite:
Sumarno, Dharsono, and N.R. Ardi Candra Dwi Atmaja. (2021). Rice Straw for Interior Elements of A Local “Wedangan” Culinary Business In Surakarta. *ARTISTIC : International Journal of Creation and Innovation*, 2(2), 109-119.