

Research article

Participatory Method and Regionalism Approach to Design Furniture for the Nginden Jangkungan Herbal Library in Surabaya

Hendro Mozart Delahoya*, Nathania Melissa Yuliani, Laksmi Kusuma Wardani, Diana Thamrin, and Ronald Hasudungan Irianto Sitinjak

Petra Christian University, Surabaya

ORCID

Hendro Mozart Delahoya: <https://orcid.org/0000-0002-8217-5466>

Abstract.

Surabaya's vision to become a literacy city, initiated by the mayor, Tri Rismaharini, led to the opening of 533 regional libraries by 2019. In 2020, Nginden Jangkungan Herbal Library was chosen as the best regional library in Surabaya, with facilities and infrastructure supporting various literacy activities. However, there is much that still can be developed, in terms of the visual and functional quality of its interior design. This research used the participatory design method combined with a regionalism approach. This method was used to engage the community to develop their library with their own strengths and resources. Meanwhile, a regionalism approach was adopted to develop the local potential of the library within a global perspective. The objective of this research was to enrich the use of local resources by utilizing them as part of the furniture design for the herbal library. There are many herbal plants on the surrounding site that can be used by the local community. Therefore, eco-print training was held to educate the community and provide a transfer of knowledge about the benefits of herbal plants other than for consumption. The results of this eco-print training were then used as a part of the library's furniture, such as for the upholstery, and were designed in a modern way. Through the participatory method, the community can further develop this eco-print potential for the development of various products that can support the literacy activities of the public library.

Keywords: literacy, participatory, regionalism, library, eco print

1. INTRODUCTION

Surabaya has a vision to become a Literacy City under the leadership of Tri Rismaharini as the mayor of the city. One of the interesting programs that support the movement is Surabaya City of Literacy which was declared on May 2, 2014 [1]. The Community Reading Park is a tangible manifestation of the literacy movement that has been carried out by the Surabaya City Government under the management of the Surabaya City Library and Archives Service. By the end of 2019 there were 533 village libraries spread across 31 sub-districts throughout Surabaya [2]. Nginden Jangkungan Herbal Library

Corresponding Author: Hendro Mozart Delahoya; email: *delahoyamazart@gmail.com

Published 11 August 2022

Publishing services provided by
Knowledge E

© Hendro Mozart Delahoya et al. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the ICADECS Conference Committee.

OPEN ACCESS

was chosen as the first winner in the 2020 Village Library Competition. In the next stage, this library will be the representative of the city of Surabaya to take part in the Provincial Level Village Library Competition.

The regionalism approach will be applied to bring out the common interests of a community and ignite the enthusiasm of the community to maintain and increase local potential [3]. So far, the interior product facilities in the Herbal Library do not yet have a maximum visual design. The results of this study are designed to support the Surabaya City Government program. Realizing the Nginden Jangkungan Herbal Library to become a Community Reading Park with interior product facilities that are educative, communicative, recreational, and represent local identity.

2. METHOD

This study uses the Participatory method x Design Thinking applied by [4], which combines six stages of design thinking from the Stanford School of Design [5] with three stages of participatory design from [6]. The development of the methodology was carried out and adapted to the conditions of the community around Nginden Jangkungan Herbal Library. The results of the study were applied in an interior product set for the Nginden Jangkungan Herbal Library.

TABLE 1: Summary of the combined methods developed by the researchers.

Design Stages	Design Methods
Understand – Observe	ethnographic study, exploratory survey, interview, local potential mapping
Point of View – Ideate	product existing analysis, activities and space requirements analysis, focus group discussion
Prototype - Test	collaboration, products are made and tested for the benefit of the community.

3. FINDINGS AND DISCUSSION

3.1. Understand-Observe

The design process started with the Understand stage, using the ethnographic study, a study in which the researchers involved themselves in the daily activities for a significant duration time [7]. The Herbal Library is located at Nginden VI-i, Surabaya. This design uses a regionalism approach so that there is a relationship between the tangible (tools, people) and intangible (skills, values) qualities of the Herbal Village environment [3]. The

local potential is packaged in a modern way for the present and future community so as to produce a sustainable design. The processing of materials, including transportation from transport, delivery, use, to disposal or final recycling creates a carbon footprint. [8]. The regionalism approach with the selection of materials as close as possible can reduce the carbon footprint. Based on the Quantity Standards for Village Library Facilities, there are several needs that have not been owned by Herbal Library ([9]). In addition, there are also those that have been fulfilled, but are still not visually attractive.

The second stage was the Observe stage, in which the researcher applies the exploratory survey method because the knowledge about the problem to be studied is still shallow. The questions asked in this method are local potential, form of participation, number of participations, and so on. The survey was conducted on April 22-27 2021 with a sample of 54 respondents from Nginden Jangkungan Herbal Village, Surabaya. In addition, researchers also conducted interviews as well as direct observation of the activities of the community and staff at the Herbal Library.



Figure 1: Interviews and Library Activities (2021).

One of the survey results stated that the highest activity in the Herbal Library was discussing/getting together and reading and borrowing books. Based on the results of an interview with Mrs. Reny (Figure 1), one of the Herbal Library staff stated that children like to sit on the floor. However, there are no sitting facilities such as cushions, carpets or the like. In addition, she also stated that adults still need chairs for adult reading areas, especially for the elderly who cannot sit on the floor.

In addition to finding out the activities in the Herbal Library, the researchers tried to map the local potential in Herbal Village. They have a lot of leaves which of course are very abundant because of the existence of the herbal garden as an icon of the village. These abundant natural resources are commonly used as medicines, food, and beverages. Herbal Village also has residents with hand skills such as weaving bamboo and processing wood. In addition, the existence of a waste bank also makes residents have creations from used plastic bottles.

3.2. Point of View-Ideate

Point of View stage is carried out with analysis of activities and space requirements to ensure that the furniture needs are in accordance with the needs of the object of research. The circulation service area (Figure 1) has a function as a facility for borrowing and returning books, filling in guest books and an administrative area, which requires a work desk for officers. This area is also the lobby of the library. Hence, it needs an attractive design and shows the identity of the Herbal Library. The white shelf (Picture 2) is used as an herb shelf as a concern in educating about herbal. Herbal Library wants to be a place for herbal plant education with a decent and attractive design but also informative. Therefore, we need a unique design. The reading area (Picture 3) does not have seating facilities, both for lesehan children and adults who need chairs. The need for sitting facilities is very important so that communities are interested in studying in a library with comfortable and visually beautiful facilities.

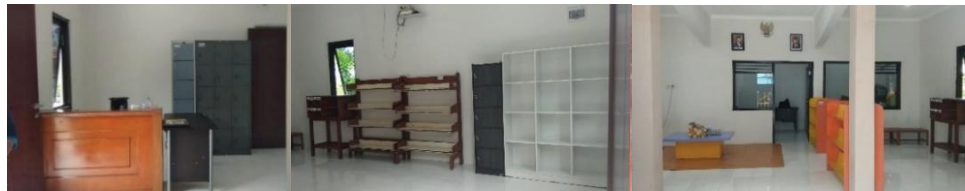


Figure 2: Existing Furniture (2021).

Analysis of activities and space requirements, yielding the concept of BUDI which is taken from the word 'Budi'. It means education to develop the body and humans, aims to make the products designed to increase the interest in learning which of course can develop the community. BUDI is an acronym for:

1. Blend: utilizing various potential materials in Herbal Village to become a product
2. Unity: accommodates various activity patterns to create a multifunctional product.
3. Dynamic: accommodate the changing activity needs, generate fluid and dynamic design to follow the spirit of the community.
4. Interlocking: the value of 'gotong royong' in helping others, which are implemented in a detach and build-in systems.

Furthermore, the design process is carried out with initial sketches, alternative designs to the final design which is visualized with 3D rendering below.

Entering the Ideation stage, Focus Group Discussions (Figure 4) were conducted by the researcher together with all groups of people involved in the project (users,



Figure 3: Furniture design visualization (2021).

partners, local communities) to contribute ideas during the design process as a form of participatory design [10]. Circulation desk has recycled wood ornaments in front, showing a natural identity as an Herbal Library. With a build-in herb shelf design, combining wood and iron materials. The design is made as light as possible so as not to give the full impression of the space. Sitting facilities are provided in the form of a bench under which there is a storage area for a Lesehan seat for users who want to sit below. Eco-print application by utilizing leaves from herbal plants that are easily found around the Herbal Library.



Figure 4: Focus Group Discussion (2021).

3.2.1. Prototype-Test

In the Prototype stage, collaboration process with designers in the implementation of the design ensured the usability of the design to the community and the society [11]. After finding the design results that have been mutually agreed upon, the production process is also carried out with local communities. Utilizing one of the local materials, namely leaves from herbal plants found around the Herbal Library using the Eco print technique. Eco print is a process of transferring shapes and colors to the fabric through direct contact [12].

Researchers conducted Eco print training (Figure 5) to local community. Raw materials such as papaya leaves, dadap leaves, and neem leaves are easy to obtain and are



Figure 5: Eco print training (2021).



Figure 6: Eco-bench (2021).

widely available around the Herbal Library. This activity aims to educate local community in utilizing their wealth of natural resources. Provide insight into activities, which at the same time can provide economic benefits for the community around the Herbal Library. This process proved to be a truly collaborative process of a team work between designers and the community. The result of the Eco print is used for the pillowcase on the Lesehan seat as a part of the Eco-bench (Figure 6). In addition, the leaves are also used for Eco-bench seat that is given resin so that the design can match the Lesehan seat.



Figure 7: Production process (2021).

The production process of the circulation desk and herb shelf is carried out in the Petra Christian University wood laboratory with the help of staff (Figure 7). The circulation desk has a function as a work desk and a shelf for children's crafts. On the other side, herb shelf is very useful for the community to learn and educate about herbs. It has another function as a display rack for local products and several awards that have been achieved. The need for sitting facilities has also been fulfilled through the Eco-bench. The last stage was the Test stage, in which the researchers invite the community to use and evaluate the products. In addition to providing positive and constructive suggestions, the community also collaboratively organizes product placement in the Herbal Library.

4. CONCLUSIONS AND SUGGESTIONS

Utilization of local potential has been realized through Eco-print techniques on sitting facilities and the use of recycled wood on circulation desk ornaments. Eco-print results can still be used for various other products. Meanwhile, the participation of the community in the whole design process yielding experiential learning, a sense of belonging, and social interactions between the researchers and the community. Participatory method and regionalism approach can produce innovative designs based on their local materials, unique potentials, and their local community. Produce designs according to the needs that are packaged by elevating the local identity of the Herbal Library.

AcknowledgEMENTS

The authors would like to acknowledge the financial support from the Ministry of Research and Technology/National Research and Innovation Agency in this research study. We would like to thank Surabaya City Library and Archives Service, Nginden Jangkungan Herbal Library for their collaborations in this research, and also the head of the Petra Christian University wood laboratory and the staff for the cooperation in the production of prototypes.

References

- [1] Karnanta KY. Catatan lima tahun Surabaya sebagai kota literasi. Jawa Pos; 2019 Sep 15. Available from: <https://www.jawapos.com/surabaya/15/09/2019/catatan-lima-tahun-surabaya-sebagai-kota-literasi/>
- [2] Kurniawan D. Pemkot surabaya tambah 66 taman baca masyarakat hingga oktober 2019. Liputan 6; 2019 Sep 11. Available from: <https://surabaya.liputan6.com/read/4060388/pemkot-surabaya-tambah-66-taman-baca-masyarakat-hingga-oktober-2019>
- [3] Canizaro VB. Architectural regionalism: Collected writings on place, identity, modernity, and tradition. Princeton Architectural Press; 2007.
- [4] Thamrin D, Wardani LK, Sitindjak RHI, Natadjaja L. Experiential learning through community co-design in interior design pedagogy. *International Journal of Art & Design Education*. 2019;38(2):461-477. <https://doi.org/10.1111/jade.12208>
- [5] Carroll M, Goldman S, Britos L, Koh J, Royalty A, Hornstein M. Destination, imagination and the fires within: Design thinking in a middle school classroom. *International Journal of Art & Design Education*. 2010;29(1):37-53.
- [6] Spinuzzi C. The methodology of participatory design. *Technical Communication*. 2005;52(2):163–174.
- [7] Balsiger P, Lambelet A. Participant observation: how participant observation changes our view on social movements. *Methodological practices in social movement research*. 2014:144-172.
- [8] Sjarief R. Strategi arsitektur berkelanjutan untuk mahasiswa. 1st ed. RAW; OMAH Library, Jakarta: 2021.
- [9] Perpustakaan Nasional RI. Standar perpustakaan desa/kelurahan SNP 005: 2011. Perpustakaan Nasional RI; 2011.

- [10] Thamrin D, Wardani LK, Sitindjak RHI. Empowering Surabaya creative communities and start-ups through human-centered design. *Global J. Bus. Soc. Sci. Review.* 2020;8(2):102-112. [https://doi.org/10.35609/gjbssr.2020.8.2\(4\)](https://doi.org/10.35609/gjbssr.2020.8.2(4))
- [11] Thamrin D, Wardani LK, Sitinjak RHI, Natadjaja L. Participatory approach in the design of creative community spaces in Surabaya [Doctoral dissertation]. Petra Christian University; 2018. Available from: <http://repository.petra.ac.id/id/eprint/18449>
- [12] Saptutyningsih E, Wardani DTK. Pemanfaatan bahan alami untuk pengembangan produk ecoprint di dukuh iv cerme, panjatan, kabupaten kulonprogo. *Warta LPM.* 2019;21(2):18-26.