

Bamboo as a Local-Based Material in Interior Design at the Campus of Bamboo Agroforestry, Ngada Regency, East Nusa Tenggara Indonesia

Antonia P. Bao¹, Umbu N. Limbu², Marten U. Kaleka³, Maria S. Due⁴, Maria A. Ngaku⁵

^{1,2,3,4,5} Applicable Biology Study Program, Flores Bajawa College of Agriculture, Bajawa, Indonesia

Kapten Piere Tendean Street, Tanalodu, Bajawa District, Ngada Regency, East Nusa Tenggara, Indonesia

ABSTRACT: Campus of Bamboo Agroforestry is located in Tureto Village, Ratogesa, Ngada District, East Nusa Tenggara Indonesia. The site serves as the site of Bamboo Field School, an educational initiative from Bamboo Lestari Foundation for individuals, villages, indigenous communities, including women's and youth organizations. The goal of this research is to explore the phrases "bamboo," which are based on local knowledge and are used in interior design features found in Bamboo Campus Village Tutreto. The methodology in this research is method of qualitative description with a descriptive approach. The data in this research was collect by observation, interviews and documentation. The result of the research is Ngada community uses bamboo as one of the natural materials, based on local wisdom. Bamboo has a beneficial ecological value; a lot grows throughout the area of Flores, especially the Campus of Bamboo Agroforestry Area, so that supports the concept of building that is based on local wisdom because it has an important role as a natural building material, whose use can help reduce global warming issues. In interior design, bamboo can be applied to elements such as space-shaping elements (ceiling/roofing, walls, floor), space-complementary elements (window and door), furniture, and interior accessories/decoration. In accordance with its characteristics as a natural material, its application to the interior design element gives an impression and a cool atmosphere to the room. The appearance of the shaped design also varies according to the type of bamboo used.

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Corresponding Author:
Antonia P. Bao

INTRODUCTION

The Bambu Village Campus is located in the district of Tureto Village Ratogesa, in the district of Golewa, in the district of Ngada. It is built by the Bamboo Lestari Foundation (YBL), a non-profit organization that has been advocating and implementing bamboo as an environmental and economic solution for rural communities in the NTT since 1993. The campus is home to the Bambu Field School, an educational program that teaches children about bamboo. In the area of the bamboo campus, there are also bamboo forests that are awake and sustainable, as well as habitats full of various types of bamboo and mollusk plants, including forests and traditional dye plants (Bamboo Lestari Foundation, 2021).

Given the current situation, it is crucial to talk about and find answers to the pressing issue of global warming. A building designer plays a crucial role in designing structures that preserve the environment and natural order. By giving the use of materials that highlight the idea of sustainability first priority, such harmonization can be accomplished (Halim et al, 2014). One way to stop the development of impending global warming is to employ local expertise when choosing building materials (Hastuti, 2014). When using such material, one must consider not only its availability for staying awake but also the trash and pollution it generates in order to avoid upsetting the equilibrium of the environment (Dewi et al., 2023).

One environmentally friendly material whose use is in line with the idea of sustainable development is bamboo (Dewagana & Arif, 2022). The reason for this is that, even at its fastest growth rate in the world, bamboo grows quickly. Bamboo evaluation possesses qualities that are fundamental to the idea of local wisdom (Hastuti and Dhian Lestari, 2015).

One aspect of building design that contributes to global warming is interior design. Degradation of organic materials, like bamboo, is thought to be the solution. Therefore, we must research the application of bamboo as a material based on local intelligence in interior design. The goal of this study is to explore the phrases "bamboo," which are based on local knowledge

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and are used in interior design features found in Bamboo Campus Village Tutretogo. This is done in order to support the idea of sustainable building design in East Nusa Tenggara and to preserve the concept of indigenous wisdom.

METHOD

The research was carried out at Bamboo Village Campus Tutretogo, Ngada District, East Nusa Tenggara, and started from March 2023 until April 2023. The methodology in this research was qualitative description because the data obtained through observations, interviews, and documentation were qualitative, as were the data analysis techniques in this study (Kusmayadi & Endar, 2000). The tools used in this study are a camera and writing tools.

RESULT AND DISCUSSION

Bamboo as a Material Based on Local Wisdom

Communities' local wisdom is shaped by cultural norms ingrained in simplicity or custom. Using bamboo as a building material for interior design is one example of the local knowledge practiced by the community, which involves taking advantage of the natural resources (SDA) in the immediate region. The Bambu Village Campus community uses bamboo for the building's interior.

Local wisdom is a policy that should be owned by every person or society and guided by the philosophy of various values, customs, norms, principles, manners, and attitudes organized by individuals or traditional groups (Hastuti and Dhian Lestari, 2015). The values of local wisdom are centralized and lead to the harmony of people, nature, environment, and local culture; the diversity and sustainability of customs, values, and cultures; the conservation and conservation of resources; and the preservation of cultural heritage (Chairul, 2019). This concept of local intelligence can be applied to all areas of life, in particular building interior design. One application of the concept of local intelligence in the interior design of natural buildings is by exploiting available natural resources such as bamboo (Woga, 2009).

The community of Ngada district uses bamboo as one of the natural materials, based on local wisdom. Based on the understanding of local wisdom above, bamboo, including material based on local wisdom, can be seen from some of its characteristics, as follows:

a. Type of renewable and environmentally friendly natural material

The characteristics of bamboo are one of the materials based on local wisdom, as bamboo includes natural materials that are environmentally friendly and renewable. Bamboo has a beneficial ecological value; many grow throughout the Flores area, especially the campus area of Bambu Village, Prefecture Golewa district of Ngada Flores, so support the concept of building based on local wisdom.

Bamboo has the advantages of being easy to obtain and having a quick time to reproduce. Seeing the explanation above, the use of bamboo as an environmentally friendly material has a positive impact on the harmony of nature and the environment, so as to apply the principles to local wisdom in the district of Ngada.

b. Bamboo has an important and useful role in building design.

Bambu is a material that is widely used in the community, especially in the area of Campus Village, Bambu Prefecture, Golewa district of Ngada Flores. It is used in building design because it has a variety of values in its utilization. It is consistent with the statement by Mustakim et al. (2009) that bamboo is a plant that has a variety of benefits for humans, nature, and its environment, so it can be categorized as a sustainable material.

Bambu is a local wisdom-based material because it plays an important role as a natural material in buildings in the area of Bambu Village Campus in the Golewa district of Ngada Flores, whose use can help mitigate global warming issues. The use of bamboo as a building material, in particular as a tree material, is adapted to the concept and function of the building to be planned (Agung and Gregorius, 2013). Some of the benefits of bamboo in building planning in the area of Bambu Village Campus are as follows:

1. Structure and Construction of Buildings

Bamboo is used as an alternative material for building buildings such as houses, slopes, chairs, tables, stairs, swings, bathrooms, and others to replace some almost rare wood. The benefits of bamboo as a structure and in the in the construction of buildings are generally used for foundations, columns, walls, and roof structures. The application of bamboo in building construction, from the beginning of formation to the maintenance period of the building, needs attention so that bamboo can last longer (Muhsin., et all. 2015).

2. Space-Shaping Elements

Bambu Village Campus uses bamboo as a material for building space in building design, such as roofing material, walls, and flooring.

3. **Complementation of Space and Building Decoration**

In building design, Bambu Village Campus uses bamboo as a complement to space such as door materials, chairs, tables, cabinets, stairs, beds, rails, and others.

Bamboo's Relationship with Rural Life

Based on the characteristics of bamboo, which is a natural material and is easy to find in rural areas, especially in the area of Bambu Village Campus, it has a close relationship with the community in the surrounding area. This is in accordance with the statement of Abimanyu et al. (2021) Bamboo is a material that has been widely used since ancient times, especially by the rural community, and has become a material of excellence in the construction of its houses.

The result of interviews in the area of Bambu Village Campus is that the processors and the surrounding community in particular in the processing of bamboo material to build buildings such as dormitories and residential houses are more trying to explore all new ideas in developing their creativity in the management of Bamboo Village Campus. The processors of Bambu Village Campus and surrounding communities have a lot of ideas to create in processing natural building materials, including bamboo as well. As time progresses, bamboo undergoes exploration that varies both in form and construction.

The Use of Bamboo in The Preservation of The Culture of Ngada

One of the positive impacts of bamboo use is the preservation of culture in a particular area. One area that uses bamboo is the Bambu Village Campus, which has unique architecture, houses, accommodations, and others. All the dominant buildings use bamboo as the material that can be seen in the buildings of houses, dormitories, lobbies, kitchens, bathrooms, playgrounds, and all the accessories that are made of bamboo, so that it is clear that the administrators of the Bambu Village Campus and the community preserve culture.

The exploitation of bamboo in the area of the Bambu Village Agroforestry Campus of Golewa district of Ngada Flores is one of the ways to introduce the Ngada region of Flores because bamboo has a very meaningful philosophy for the Ngada community and helps the local government with the revenue inputs of the region. It can then be concluded that the existence of bamboo plants in the area of the Bambu Village Campus of Golewa district of Ngada Flores belongs to many, so that the community uses it as a building material and becomes a culture inherited by previous ancestors. It shows that bamboo is a material based on local wisdom that has a variety of positive impacts because bamboo that serves as a building material can become a modern cultural identity for its users among the crowds of various industrial cultures (Suriani, 2017).

The Use of Bamboo As a Material in Interior Design

The use of bamboo as a material in interior design indirectly also applies the concept of local intelligence in support of sustainable building design. The following is a discussion of the use of bamboo as a material in interior design that is applied to the shaping elements of space (roof cover, walls, floor), space complementary elements (doors, closets, beds, chairs, and tables), furniture and accessories, and interior decoration.

a. Space-Forming Elements

On space-forming elements, bamboo is applied to roof coverings, walls, and floors.

1. **Roof cover**

Bamboo can be used as a roof cover that can be designed with the latest innovations and display a cool atmosphere. The application of bamboo on ceilings is based on bamboo characteristics that can be shaped according to the desired design. The use of bamboo as a ceiling material can help reduce the heat so that the room feels cooler.



Figure 1. Roof Cover from Bamboo

2. **The wall**

The use of bamboo as a building wall can be developed with a more varied appearance. Bamboo can be developed with certain techniques. Besides, the bamboo material can be applied and modified in various forms that can give a beautiful impression. Color games can also be derived from different types of bamboo, like brown, old colat, yellow, and green.



Figure 2. Walls from Bamboo

3. Floor

Bamboo is used in buildings as a floor cover because it has the advantages of flexibility and the ability to withstand heavy pressure or loads. In terms of design, the appearance of the floor with bamboo material can make a natural and charming impression. Bamboo flooring is categorized as a cheaper material than hard wood. The design of this bamboo floor is also available in a variety of colors and styles. Other advantages of the use of this bamboo material are also assessed as environmentally friendly, and its maintenance is not difficult.



Figure 3. Floor from Bamboo

b. Completion of Space

Bamboo is used as a material in complementary elements of space such as windows and doors because of its properties that are resistant to various weather conditions, such as rain and sunlight. Application techniques can be some bamboo sticks arranged neatly, lamination techniques, or a form of webbing.



Figure 4. Door and Window from Bamboo

c. Furniture/Mebel

Bamboo is one of the materials used in the making of furniture because it has excess natural impressions and has strong durability. Besides, in terms of the maintenance of bamboo furniture, this belongs to the ease and cost of manufacture, which is also relatively economical. There are different kinds of bamboo for making this furniture, such as bamboo brass, cotton bamboo, bamboo cotton, and bamboo beads. Its characteristics are flexible, making it easy to cut and shape according to the desired furniture design. In terms of appearance, bamboo furniture has a charming impression and embellishes the interior of the room.





Figure 5. Furniture/Mebel from Bamboo

d. Accessories/Interior Decoration

Bamboo is an environmentally friendly basic material alternative for producing interior accessories. The interior accessory is one of the interior elements that functions to give an image and generate a perception of space for its users. In other words, space accessories are useful to add aesthetic value to a room. Interior accessories can be divided into three categories: the first accessories that merge on a piece of furniture (e.g., trade on the door of the closet, cushions on the sofa, and so on), the two accessories that increase the aesthetic value of the interior of the room (e.g., decorative lamps, guci, paintings, sculptures, ornament decorations, and so forth), and the three accessories that support the function of a piece of furniture (e.g., various hangings, a kitchen sink or toilet, etc.) (Mariana & Madiono,2013). The use of bamboo as an accessory material and interior decoration gives it a quiet and comfortable style. There are various examples of accessories and interior decorations made of bamboo, such as flower vases, ticks, bamboo-framed mirror baskets, lamps, and so on.

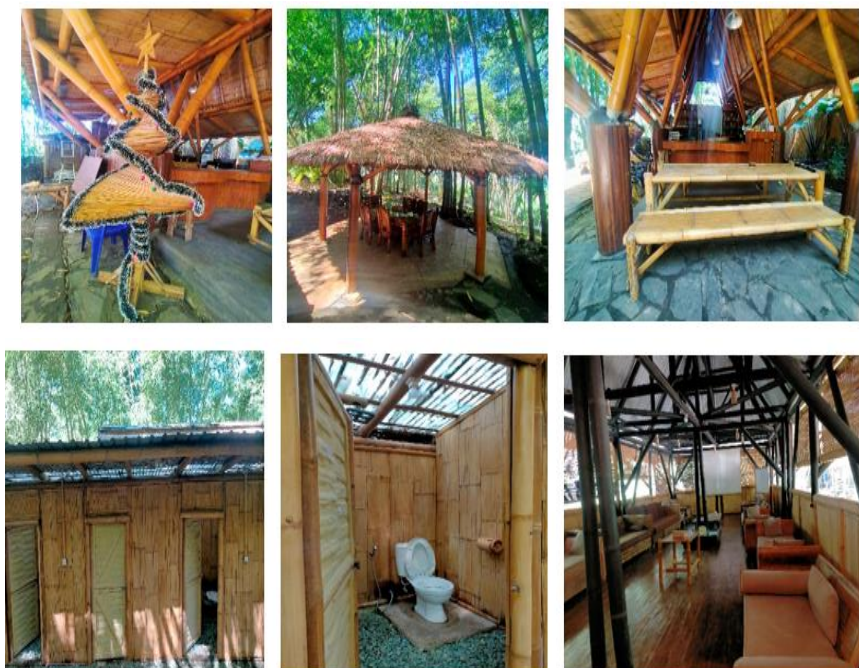


Figure 6. Accessories/ Interior Decoration from Bamboo

CONCLUSION

Local wisdom inherited from past ancestors is considered effective in tackling the issue of global warming today. In terms of building design, designers and society as a whole should pay attention to building design to be in harmony with nature and the surrounding environment. One of the efforts to reduce the impact on the environment is to pay attention to the use of building materials. Bamboo is one of the kinds of natural materials that is easily available and can be categorized as a local intelligence-based material.

This is due to the characteristics that are present in bamboo as a material in accordance with the essence of the concept of local wisdom. Some characteristics of bamboo are that it is a kind of natural material that is environmentally friendly and renewable, plays an important role and has various benefits in the design of buildings, has a close connection with the lives of rural communities, and supports the realization of local cultural conservation through its use as a building material.

In interior design, bamboo can be applied to elements such as space-shaping elements (ceiling/roofing, walls, floor), space-complementary elements (window and door), furniture, and interior accessories and decorations. In line with its

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characteristics as a natural material, its application to the interior design element gives an impression and a cool atmosphere to the room. The appearance of the shaped design also varies according to the type of bamboo used.

The bamboo used can be any kind of bamboo or whole bamboo. In terms of color variation, there are yellow, old brown, young brown, and green. Seeing that the dominant characteristics of bamboo have advantages as a building material, it is expected that the community can increase the use of bamboo as a material in the design of its buildings. It will surely be able to preserve the concept of local intelligence and support the idea of sustainable building design.

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