

## Sains, Teori Dan Kritik Arsitektur (STK)

---

### Analysis of Local Wisdom in Utilizing Sustainable Development Concepts in Rumah Intaran

Ummi Hanik Esaputri<sup>1</sup>, M. Galieh Gunagama<sup>2</sup>

<sup>1,2</sup> Department of Architecture, Universitas Islam Indonesia

<sup>1</sup>Email: 18512085@students.uui.ac.id

**ABSTRACT:** *Local wisdom is an ancestral heritage that binds society to generations in the form of life values integrated into the form of religion, culture and customs. Local wisdom has great potential in maintaining and preserving an environment that has long been practised by the community. Bengkala village is located in Buleleng Regency, community conditions, natural resources, and the environment is still traditional and specific. Rumah Intaran has participated by providing study space for many people. Not only as an architecture studio but also as a place to facilitate various activities for local, national, even international. Local wisdom as the foundation on utilizing sustainable development concept in Rumah Intaran which can be finished up from this paper is as local area cooperation. The driving component for the advancement of Rumah Intaran into local area places is the soul of Gandhi with the rule of "Tri Hita Karana" which turned into the premise of public activity particularly in Bengkala village. This is seen from the way that Rumah Intaran bound along with the local area, safeguarding the neighborhood climate and regarding the precursors. On the opposite side, Permaculture in its training, is an applied idea that upholds economical advancement ideas, specifically the idea of keeping up normal assets to last more, which is related with the possible life expectancy of indispensable characteristic assets and the human natural climate, like the planet's environment framework, rural frameworks, ranger service, and design.*

**Keywords:** local wisdom, sustainable, community behaviour

#### INTRODUCTION

Local wisdom is part of the culture of a society that is inseparable from the community itself. Therefore, it is necessary to know the local natural resources and their managed environment through community behavior following the norms that grow and develop. This awareness binds them to maintain cultural integrity in the form of knowledge or ideas, combined with customary norms, cultural values, and environmental activities to meet their needs. According to UU No. 32/2009 on Environmental Protection and Management, local wisdom is a noble value that applies in the system of public life, among others protecting and managing the environment sustainably.

According to Budiman quoted Tjahjono, "local wisdom is a system of values and norms that is structured, embraced, understood and applied by local communities based on their understanding and experience in interacting with the environment." (Budiman, 2012). It shows that local wisdom is holistic, as it concerns knowledge and understanding of all life with all its relationships in the universe. Besides, (Keraf 2002) said that "what is

meant by local wisdom is any form of knowledge, belief, understanding, or insight as well as customs or ethics that lead humans." This local wisdom is practiced and taught and then passed down from generation to another, forming a daily behavior pattern, both towards fellow humans and nature.

Local wisdom is a broader concept. In certain regions, local wisdom is limited to methods and strengthening the community's potential and includes understanding, perception, and feelings related to social interaction. It ultimately blends with belief systems, norms, and cultures, expressed through tradition or myth. Therefore, the community's local wisdom values need to be managed as a local potential to impact the community itself positively. It shows that the role or participation of the whole community is vital.



**Figure 1** Bali Map

Bali is an area famous for its local wisdom with a strong culture, which still pays attention to its ancestors' indigenous cultural values. In addition to having natural beauty, Bali also has many traditional villages; each village has traditions and cultures that are characteristic of the traditional village. One of the traditional villages in North Bali is Bengkala Village, located in Singaraja, which has a reasonably rapid development with natural tourism, cultural tourism, and education. This village is known as an area inhabited by dozens of deaf-mute communities, namely having communication obstacles. Bengkala village is famous for its deaf group (*kolok*). This disability group has been able to gather themselves to become independent by forming a Janger group called Janger Kolok, which is quite attractive to tourists visiting. The belief between *kolok* people and non-*kolok* people in the community is based on the value of *pawongan* in *Tri Hita Karana* teachings, which is part of Hindu teachings that teach harmonious life to fellow human beings as obedience to God. In addition to its cultural potential, Bengkala Village also has many potential crops and food that can be excavated. As the focus of research, Rumah Intaran in maintaining local wisdom with Bengkala indigenous villagers is a form of direct cooperation in applying aspects of local wisdom, one of which is the sustainable utilization of natural resources to satisfy the needs of the community.

Rumah Intaran was founded not only as a facilitator but also revived the practice of abandoned life. Through a book written by Pak Gede entitled *Revolution of the Kitchen*, this is one way to revitalize the traditional kitchen and cooking concept, which argues more environmentally friendly and human friendly. This concept is also applied to Rumah

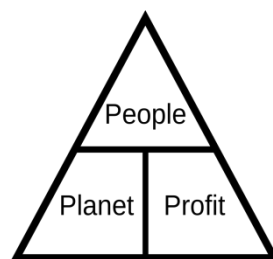
Intaran. In this way, he seeks to reject what he calls the temporary, transitory nature of modern life.



Source: Doc. Rumah Intaran

Balinese people, mostly Hindus, have several teachings that are believed to realize harmony in life, one of which is the teachings of *Tri Hita Karana*. *Tri Hita Karana* (THK) is a concept that lives and carries out among Balinese people. The Balinese fundamental of *Tri Hita Karana* contains the understanding of the three causes of well-being that stems from the harmony of the relationship between man and his God, man and his environment, and man and his neighbor. It is the teaching of wisdom to the local community that grows and develops as a foundation by people of Balinese descent to live a harmonious life among the diversity of tribes, cultures, and religions in Indonesia. All three points interconnected with each other are simultaneously to achieve life goals, i.e., happiness is born and inner. THK is a philosophy that has become a way of life for Bali's community in all aspects of life (Riana, 2011).

In the modern concept, Triple Bottom Line (TBL) is an idea that concerns sustainability or environmental sustainability. TBL and sustainability are often used interchangeably for the same purpose. TBL, as the idea of sustainability, was first used by Elkington (1997). With dimensions consisting of profit, people, and planet respectively (maintenance of nature).



**Figure 2:** Triple Bottom Line Triangular Relationship. Source: Elkington (1997).

### Problem Formulation

1. Kind of local wisdom that carried out in Rumah Intaran
2. Local wisdom values as a local potential to impact the community
3. The way that Rumah Intaran does as a form of participation in maintaining local wisdom using sustainable concepts

### **Purpose of The Research**

1. Knowing the types of local wisdom that carried out in Rumah Intaran
2. Knowing how Rumah Intaran impactful to the community
3. Knowing the value of local wisdom in the form of sustainable concepts

### **LITERATURE REVIEW**

#### **Local Wisdom**

Local wisdom is an essential insight acquired by living in equilibrium with nature. It is connected to the culture that is accumulated and spread throughout society. This awareness may be abstract and concrete, but the significant features come from life-gained experiences or reality. Self, spirit, and atmosphere are integrated through the wisdom from actual experiences. It stresses appreciation for the elderly and their experiences in life. Besides, it values morality rather than material objects. (Nakornthap et al., 1996).

Therefore, Local wisdom is an occurrence that forms the capacity to control and govern natural resources in their habitats for the members of the cultural groups that are dependent on natural resources. The close human-environmental connection and interactions between human cultures are crucial; one community's values affect its interactions with other people and its interaction with nature. An evaluation of all these social factors is based on particular and unique principles. The diverse value structures of each society are impressive. The values and behaviors of a given culture reflect this particularity.

Teezzi, Marchettini, and Rosini said that the end of this sedimentation of local wisdom would manifest into tradition or religion. In our society, local wisdom can be found in the sayings, proverbs, sasanti, exmonies, mottos, and ancient books inherent in everyday behaviour. Local wisdom is usually reflected in people's long-lasting habits. (Teezzi et al., 2003). Therefore, local wisdom can be categorized as textual, such as value systems, procedures, special provisions are ignored into the form of written notes as found in old primbon books, calendars, and cultures written on sheets of lontar leaves. It could be in an architectural form, artwork, even everyday behavior, Etc.

Currently, the value of participatory approaches of local wisdom in deciding sustainable development provides the basis for grassroots decision-making. The indigenous knowledge of ecological zones, natural resources, agriculture, aquaculture, forest, and game management is far more sophisticated than previously assumed (Posey, 1995).

Balinese people uphold the region's local wisdom, both customs, culture, and other bonded diversity. One of the philosophies of life of Balinese people is *Tri Hita Karana*. According to the meaning, *Tri Hita Karana* means three causes of well-being. (Tri = Three, Hita = Prosperous, Karana = Cause). *Tri Hita Karana* (THK) contains the understanding of the three causes of welfare based on the harmony of man and his God, man and his neighbor, and man with the environment. Understanding the three causes of welfare is applied in sustainable development that is aligned with nature. It has a positive impact on the environment, not only on human life. Therefore, its implementation in daily life is part of sustainable development.

### **Sustainable Development**

Ecologically, humans are part of the environment. The components around humans that are at once the absolute source of life are the human environment. This environment provides a variety of natural resources that are a supporting capacity for human life and other components. Natural resources are everything in nature that is useful to man to meet his life needs for both the present and the future. Therefore the community has wisdom in maintaining forests, rivers, land, lakes, and hillsides. Human survival depends on the integrity of the environment; otherwise, the environment's integrity depends on how human wisdom manages it. These values of wisdom are very beneficial for environmentally based sustainable development.

As stated by Suanda, sustainable development aims to create a convenient life, productive, and sustainable. Convenient means that society can apply socio-cultural values and their function as human beings. Productive means the production and distribution process runs efficiently to provide economic value for welfare. Sustainability means the physical environment's quality must continue to be maintained and can even be improved, not only for the benefit of the present but also for generations to come. (Suanda, 2013)

According to Permatil, permaculture can be seen as a philosophy and sustainable lifestyle that combines various ecological knowledge components (natural processes). Interconnected things that occur in nature); human ability to design systems products such as agriculture and livestock; utilization of appropriate and friendly technology environment; and awareness to work together with local culture and environment. In general, permaculture can be defined as permanent agriculture, which is to manage agriculture and agriculture sustainably by maintaining or improving the quality of nature; and permanent - cultures that preserve, support, and cooperate with local cultures and environments. Permaculture principles should be applied to all sustainable community planning activities. (Permatil, 2006, p. 3-4). The ethics of permaculture are usually in terms of care about the earth, caring for the community, and care about the future. Those are environmentally friendly activities in designing and building the human environment and improving human living standards, such as housing, water supplies, health, waste management, agriculture, energy, aquaculture, rivers, forests, livestock, and others.

Permaculture is tied in with making unquestionably the vast majority of what you have, reusing all common waste as assets, and making houses, ranches, and networks that make a large portion of the assets they need. This produces versatile and really manageable networks. Permaculture achieves its 'permanence' by constantly changing, moving, and improving. Permanence is never achieved by staying the same, it involves continuous learning, using new techniques, and applying new experiences. This allows sustainable lifestyles, food sovereignty, and resilience to grow, leading to better and stronger families, communities and societies, and a healthy environment. Also as a framework for sustainable development that is now being taught and used in many different countries and cultures, and promotes practical and empowering solutions. ethics and principles guide the designs people make and the strategies and techniques they use. They guide people to be more responsible for their own lives: with responsibility comes more control over their own destinies. They guide people towards a secure future for themselves, their land, and their culture.

### Place Making

Warsilah explains placemaking as defined by Nick Beattie in his work, *Place, and Placemaking* (1985). Placemaking, a place as a bridge between people and the physical environment. Establishes placemaking to set something special, both inside and outside the space. Also mentioned, placemaking is the process of transforming space into a place. (Warsilah, 2017). While based on the article "What Is Placemaking?" Project for Public Spaces (2007), Placemaking describes the implementation of a collective vision focused on the needs and properties of the city, culture and history, local environment and topography.

Community-based participation becomes a fair placemaking process in leveraging the assets, inspiration, and potential of local communities. When a community-building phase continues, individuals are evolving. Deepening partnerships and building more energy together, so they found a way to change the society in which they work indirectly. Placemaking is based on the conviction that everyone is a designer and that social engagement and society should benefit from an outstanding design. The primary functions of place-making in this study are building a community, creating public spaces and creating a sustainable ecological, community-centered environment.

### METHODOLOGY

The research is conducted with a qualitative research method. At the beginning of the research, a theoretical study was conducted to create a framework for local wisdom in sustainable concepts, which was then used to formulate essential aspects to be analyzed. The data was collected based on a qualitative study through original data, primary and secondary data. The primary data, such as observation and interviews from the sources to get a direct answer, and secondary data from the literature to strengthen the finding. The interview directly with Mr. Gede Kresna and Mrs. Ayu Gayatri as the owner and initiator of Rumah Intaran. The interview contains the history of Rumah Intaran and its role with the village community on utilizing sustainable concepts. By making literature studies as references relevant to case studies. Where the parameters used are based on the criteria of sustainable development.

The interview-based on the literature study conducted, consisting of a series of questions about local wisdom and its relationship to sustainable development. Each parameter is described in the form of questions asked to interviewees. The variables and parameters asked in the interview are as follows.

**Table 1.** Research Variables and Parameter

Variables	Parameter		Types of Data
The background of the establishment of Rumah Intaran	History of Rumah Intaran		Descriptive
	Types of local wisdom	Food, Crafts, and Architecture	Descriptive

Local wisdom in Rumah Intaran	Activities related to local wisdom		Descriptive
	Fulfillment of local wisdom as a form of sustainable development concepts		Descriptive
Community participation	The participator that involved	Diverse	Descriptive
	The forms of participation that are accommodated		Descriptive
	The role of Rumah Intaran in Society		Descriptive

**FINDING AND DISCUSSION**

Bengkala village is a village famous for *Janger Kolok*, a typical art played by some people with speech impairments who come from the village. Besides, Bengkala Village is also known to inspire local architecture and culinary. In this village, Rumah Intaran is one of the off-campus models, which offers a "study in the village" experience for visitors.



Figure 3. Source: Doc. Rumah Intaran

Rumah Intaran has initially been an architectural studio, but now it has focused more on the food sector. Gede Kresna and Ayu Gayatri, as initiators as well as owners of Rumah Intaran, actively assist several community groups in the village, especially in Bengkala village and its surroundings, one of which provides education to the group of mothers about the procedures for making palm sugar, coconut oil and other local foodstuffs.

This initiative arises when there is a desire to learn from the local community, learn something traditional, and continue teaching it to others. As a native of Bengkala Village, this is the way that Gede Kresna does to preserve the local wisdom of his area. Rumah Intaran is used as a connector and a place to share existing knowledge with the community. Local people can also display their handicrafts at Rumah Intaran.

### Local Wisdom and Sustainability



Source: Doc. Rumah Intaran

The various activities held in Rumah Intaran are by holding classes/workshops, gathering village leaders, and opening internships for students. The class teaches traditional sciences that do not exist on campus. *Nimbasrama* is a term for the study space of traditional knowledge and skills. The learning model that follows "pesantren" in the past, the one that is not limited by age. Learning very simple things; all the traditions in Balinese teach to live better.

Community involvement is seen in their participation to develop their business as part of local wisdom is shown in the following figure.

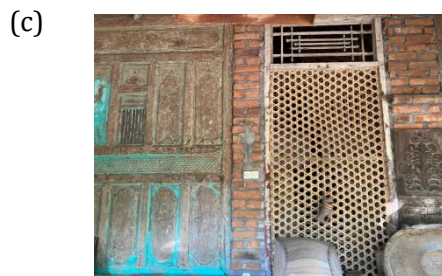






(a) Natural honey (b) Woven bottle (c) Coconut oil (d) Woven craft (e) Palm sugar (f) Black Terracotta. (Doc. Rumah Intaran)

Intaran House helps keep indigenous craftspeople and artisans sustainable by applying them to structures designed in architecture. Shown in the following figure.



(a) Bamboo basket for wall (b) Traditional kitchen/Paon (c) Used wood and woven bamboo for wall (d) Used Alang-alang Roof. (Doc. Ummi Hanik & Rumah Intaran)

Summarizing the learning through a book called "Revolution from the Kitchen", they remember the habits of the past and practice them. It starts with building a kitchen. Local wisdom in Bali has prioritized the function of the kitchen because it is a sacred area and restoration. For example, family members who have just traveled far, when they come home are encouraged to enter the kitchen first. To rest and recuperate. The movement of cooking using a stone furnace is believed to be one of exercise or yoga. Then *ngidu*, the local term for warming the body. How the kitchen gives healing when parents are not healthy is proven by Sudaji Village, one of the villages in Buleleng. Gede believed ash was an important element of the natural balance of the kitchen. First, residual ash burning is important for soil fertility that grows a variety of food and kitchen spices. Second, ash is favored by *gayas* which is often attacked as a pest. Another important benefit of kitchen residue is ash plus *lerek* as a laundry material that is considered not to pollute water and soil sources compared to soap.

In Rumah Intaran, the use of bottled water is avoided by making natural water filters from palm oil and charcoal as activated carbon. For drinking water, this filtered water is cooked first and then put in earthenware that makes it colder and fresher. Efforts to reduce plastic waste also have an impact on food independence efforts. Not entirely but contributing. By utilizing the land with kitchen needs such as spices, chilies, and others. Then bamboo, bananas, palms, until honey production. Creating a bee house is also considered very important because the balance of ecosystems occurs if the bees are not extinct. Bees in addition to honey production also ensure pollination of flowers and fruits. He claimed to start making his own coconut oil, his waste is used as animal feed. Likewise, processing palm sugar into healthier sugar while preserving large trees to keep landslides from landslides during the rainy season.

Rumah Intaran also conducts observations to other areas that have traditional wisdom that preserves its ecology. For example, appreciate the use of rumbia from sago trees as a roof compared to zinc. In addition to sharing knowledge with the students, they also collaborated with the bengkala villagers and this was very helpful for village farmers.

### **Place Making**

The concept of place is seen as a space created so that the meanings of local culture can be preserved by the community. With the concept of place, people will be able to get a certain atmosphere, build emotional connections, and eventually learn the values contained in a particular local culture. Placemaking strategy of the community fosters local wisdom in the form of farming and handicrafts that are then used as the identity of Rumah Intaran, and interpreted as a medium to accommodate various problems related to problems that develop in their village, and find solutions.

The main concept in Rumah Intaran is how a configuration of space and mass of an area can affect the user interaction based on socio-cultural communities. The building as a place creates interaction, after the interaction inside the building is created, existing interactions affect the socio-cultural life of the surrounding community in a more positive direction. In other words, Rumah Intaran is not just an architectural studio; but forming a community in the village, becoming a public space for anyone, and creating a sustainable environment.

The place making process in Rumah Intaran is out - reach and involved. Starting from documenting the potential local features, open dialogues with the community, begin relationship building through socials and community, then build partnerships with local people, businesses, organizations, schools, and government groups.

### **CONCLUSION**

Local wisdom as the foundation on utilizing sustainable development concept in Rumah Intaran which can be concluded from this paper is in the form of community participation. The driving factor for the development of Rumah Intaran into community places is the spirit of Gandhi with the principle of "*Tri Hita Karana*" which became the basis of social life especially in Bengkala Village. This is seen from the way that Rumah Intaran bound together with the community, preserving the local environment and honoring the ancestors. *Tri Hita Karana* as part of custom is proven to be able to preserve

the nature and culture of Bali, if practiced in the positive side has the potential to return people to the sustainability of humanity.

On the other side, Permaculture in its practice, is an applied concept that supports sustainable development concepts, namely the concept of maintaining natural resources to last longer, which is associated with the potential lifespan of vital natural resources and the human ecological environment, such as the planet's climate system, agricultural systems, forestry, and architecture. It is also carried out to improve the quality of life of current and future generations.

The proximity and value of Intaran House to the community bonds formed from generation to generation continue to develop during the process of human interaction with nature. This bond will in turn shape the identity of a place. Various activities in Rumah Intaran are facilitated where the community can express themselves in the space provided.

## REFERENCES

- Budiman, (2012). Keberadaan Kearifan Lokal dalam Pengelolaan Hutan Mangrove: Studi Kasus di Desa Peniti Luar Kecamatan Siantan Kabupaten Pontianak, Tugas Akhir Program Magister, Program Pascasarjana Universitas Terbuka, Jakarta.
- Hutasoit, H., & Wau, R. (2017). Menuju Sustainability Dengan Tri Hita Karana (Sebuah Studi Interpretif Pada Masyarakat Bali). *Business Management Journal*, 13(2). <https://doi.org/10.30813/bmj.v13i2.917>
- Keraf, S. A.. (2002). *Etika Lingkungan*. Jakarta, Indonesia: Pn. Buku Kompas.
- Nakornthap, S. (1996). Education for sustainable development. In *The conference document: education and research for the future in Thailand*. Bangkok: The Thailand research fund (TRF).
- Permatil. (2006). *Buku Panduan Untuk Permakultur Menuju Hidup Lestari*. Yayasan IDEP. Retrieved from [Www.Idepfoundation.Org](http://www.idepfoundation.org)
- Posey, D. A. (1995). *Indigenous Peoples and Traditional Resource Rights: A Basis for Equitable Relationships?*. Green College Centre for Environmental Policy and Understanding.
- Purnama Wati, E., & Hidayah, A. (2017). Kearifan Lokal Menjaga Lingkungan Hidup Melalui Program Gotong Royong Di Kota Palembang. *Bina Hukum Lingkungan*, 2(1), 57-69. <https://doi.org/10.24970/jbhl.v2n1.6>
- Riana, I. G., Zain, D., Troena, E. A., & Sudarma, M. (2011). Dampak Penerapan Budaya Tri Hita Karana Terhadap Orientasi Kewirausahaan Dan Orientasi Pasar Serta Konsekuensinya Pada Kinerja Usaha (Studi Pada Industri Kecil Menengah Kerajinan Perak di Bali). *Jurnal Aplikasi Manajemen*, 9(2), 601-610.
- Suanda, I. W. (2013). Konsep Ajaran Tri Hita Karana Dapat Menjaga Kelestarian Biodiversitas Hayati Untuk Pembelajaran Biologi. *Emasains*, 2(2), 14-20.
- Suhartini. (2009). *Kajian Kearifan Lokal Masyarakat Dalam Pengelolaan Sumber Daya Alam Dan Lingkungan*. Retrieved from <http://staff.uny.ac.id/sites/default/files/penelitian/Ir.%20Suhartini>
- Syarif, E. (2017). Environmental Management in Local Wisdom Perspective of Karampuang People, Sinjai District, South Sulawesi. *Sainsmat*, VI(2), 2086-6755. Retrieved from <https://ojs.unm.ac.id/sainsmat/article/download/6465/3698>

Tiezzi, E., Marchettini, N., & Rosini, M. (2003). Extending the environmental wisdom beyond the local scenario: eco-dynamic analysis and the learning community. *WIT Transactions on Ecology and the Environment*, 63.

UU No. 32/2009 on Environmental Protection and Management

Warsilah, H. (2017). Place Making Process, Cultural and Identity Formation of Community In Urban Coastal Areas: Case Communities of Kenjeran and Bulak Surabaya, Indonesia. Research Center For Society and Cultural. Indonesian Institute of Science.

“What Is Placemaking?” Project for Public Spaces, 2007, Retrieved from <https://www.pps.org/article/what-is-placemaking>

Suryani, L. D., 2018. Kesadaran Ekologi Dan Konsumsi Dari Revolusi Dapur. [online] Mongabay Environmental News. Retrieved from: <https://www.mongabay.co.id/2018/03/11/kesadaran-ekologi-dan-konsumsi-dari-revolusi-dapur/> [Accessed 12 December 2020].