

LOCAL WISDOM IN BUILT ENVIRONMENT IN GLOBALIZATION ERA

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ABSTRACT

Local wisdom means harmonious relationship between man, nature and the built environment in an area that is also influenced by its culture. The phenomenon of globalization and modernization makes the architecture more universal and creates cultural homogeneity. With globalization, the existence of local knowledge may be questioned, especially in built environment as a result of human culture. Therefore, this study aims to assess the local wisdom in built environment in the era of globalization.

Method used in this research is qualitative descriptive method through literature study related to the context of local wisdom. From this research, result showed that local wisdom on the built environment in globalization era, changing with the development of technology and communications. Changes occur in the pattern of space and building elements, but the meaning contained in the building as a form of local wisdom is maintained. In the era of globalization, a blend of cultures will occur. In this case, local wisdom can keep up with technology in a way taking into account the local character, the climate and natural conditions in the built environment.

Key words: local knowledge, built environment, globalization

1. INTRODUCTION

Nature, man and built environment have a close relationship. In the past, nature's language was understood by humans. Traditional community gathered nature's languages into a single system of knowledge which was then used to manage nature. Knowledge systems which oriented to nature's language at specific area is called local wisdom (Antaryama, 2009). Local wisdom is the positive behavior of man connecting with nature and the surrounding environment. Local wisdom can be understood as a local idea that is wise, full of wisdom, good-value, which is ingrained and observed by the people (Antariksa, 2009).

One form of local wisdom is the built environment as a place for human activities in reflecting his ideas. Built environment is formed by two factors, the main factor is the culture of the people; the second factor is the supporting factor, which includes the climate, protective needs, building materials, construction and technology, site characters, economics, defense, and religion (Rapoport, 1969). Waterson (1993) describes the diversity of traditional houses in the

archipelago of Indonesia and Southeast Asia, which is rich in architectural forms that differ from one another. The existence of the diverse architecture suitable with nature and society conditions is questionable, if it can survive in the midst of globalization today.

The phenomenon of globalization is making the world increasingly without borders. Changes in culture, development of technology and information all take place in a short time. Building designs from other country are swiftly imitated resulting architecture that is not rooted in local culture (Kusliansjah et al., 2013). The process of globalization causes cultural homogeneity (Zarzar, 2008; Berry, 2008). The dominance of Western culture have an impact on the local culture. All around the world local culture is suppressed by the development of modern culture; this resulted in the loss of cultural diversity (Sartini, 2004; Bhawuk, 2008).

At the beginning of the 20th century, modernism and the international style showed a more universal architecture and less based on an area (Smith, 2012). In architecture world, modern architecture completely rejects or removes the local image. These conditions encourage the emergence of post-modern architecture in the mid-20th century, which argued that design need to adjust to time and place (Smith, 2012). At the beginning of the 21st century, the rise of Asia phenomenon spread rapidly, global value and culture transformed resulting in heterogeneity (Syamwil, 2010). Cultural integration tends to be the most common way in which to response to the globalization (Berry, 2008).

This globalization phenomenon is impacting on the existence of local wisdom. Local wisdom is truth possessed by the community in an area that has been a tradition from generation to generation (Gobyah, 2003). Globalization, a symptom of change in society, is often considered a threat and challenge to the identity of specific local area (Sartini, 2004). With this condition the existence of local wisdom may be questioned, especially in the built environment as a result of human culture. Therefore, this study was conducted to assess local wisdom in built environment in the globalization era. This study used qualitative descriptive method through study literature of articles that correspond to the context of local wisdom, particularly in Indonesia.

2. THE MEANING OF LOCAL WISDOM

The concept of local wisdom in environmental management was described by Berkes (1993) with the terminology of traditional ecological knowledge. The term means a collection of knowledge, practices and beliefs that evolved through adaptive process (adjustment) passed from generation to generation through culture, associated to the relationship between living beings (including humans) with the surrounding environment. Traditional ecological knowledge is owned collectively and can be conveyed in the form of stories, songs, cultural values, beliefs, rituals, custom laws, local language and natural resource utilization. On the other hand Elllen, Parker & Bicker (2005) named it local knowledge (indigenous knowledge). Local knowledge is defined as follows: 1) a knowledge that is associated with a place, and a set of experience, and developed by the local people; 2) a knowledge acquired through mimicry, imitation and experimenting; 3) day-to-day practical knowledge gained from trial and error; 4) an empirical knowledge which is not theoretical; 5) a comprehensive and integrated knowledge in the realm of tradition and culture.

Albeit with different terms, both the above theories are equally clear that local knowledge is the result of man as a cultural process in accordance with the surrounding natural environment. Connection with nature, the main factor to be considered, is acquire in a long period of time and is passed from generation to generation.

Gobyah (2003) says that local knowledge is the truth that has been established or steady in an area. Local wisdom is formed by local culture surpassing with the geography and local natural resources. Understanding local wisdom is better explained by Sartini (2004) that local knowledge is a form of expression in which people carry out their activities and behaviors adapted to the ideas, and therefore their actions produce certain works such as the manufacture of artifacts in accordance with the underlying mindset. Local wisdom is a system of society for communal rather than individual. This is in line with Antariksa (2009) in defining local wisdom. Antariksa states that local knowledge has become a tradition-physical-culture, and from generation to generation is the basis in engineering the building and its environment, which is embodied in cultural heritage as framework in physical building and neighborhood. Local wisdom is a step in the implementation of tradition that is translated into a physical artifact.

Of the three local wisdom meanings described above, Gobyah (2003) interpret local wisdom in abstract terms of ideas, while Sartini (2004) and Antariksa (2009) have more concrete meaning of local wisdom, stating that local knowledge is ideas and actions embodied in physical artifacts. Both focus on culture as an element of local wisdom. Antariksa (2009) adds that the most important thing in local knowledge is the process prior to implementing tradition on physical artifact, namely the values of nature to encourage and teach how to 'read' the potentials of nature and rewrite it as a tradition universally accepted by the public, in particular in architecture. Traditional values harmonize human life by way of respect, maintain and preserve the natural environment. It can be seen in the presence of refinement and support of each other, the point is to understand the capability and potential of nature in which they live; and manifested as a tradition.

Nature is seen as something that is outside of man and the built environment. Based on the knowledge gained from nature, humans organize space and engineer the built environment to meet their needs. Built environment is presented as a form of communication between nature, human and the built environment itself (Antaryama, 2009). In the past, harmony existed in the communication between nature, human and built environment.

Soedigyo et al (2014) mentions two main elements of local wisdom; the human, along with the pattern of his mind; and nature and climate. Human thought patterns produce wisdom in compiling the knowledge that is considered good for their lives, such as custom laws, governance, and the procedures for their daily activities. Based on these elements, Soedigyo et al (2014) distinguish local wisdom in two forms, first is tangible; local wisdom embodied in the form of writings and buildings. Second is intangible; intangible local knowledge can be found in the advices that is delivered verbally and hereditary through songs, ballads containing traditional teachings.

With globalization, Sartini (2004) see local knowledge as a form of culture and it will experience continuous reinforcement to become better. The dynamics of culture are necessary; they are associated with human activities and the role of his reasonings. The dynamics or cultural changes can occur for many reasons. Physically, the increase in population, the migration of people, the arrival of foreign residents, the influx of new equipments, the ease of access can also cause changes in civilization. Within the scope of human relationships, individual and group relationships can also affect cultural change. One thing that cannot be avoided is development and change will always occur. It is also confirmed by Setiadi (2009) that local wisdom is part of a cultural tradition that is dynamic. Local wisdom can be created from the ability of communities to receive outside influence selectively and through the creative process gave birth to a unique new creation that has not existed beforehand.

3. CULTURE IN BUILT ENVIRONMENT

Man with their knowledge can influence, change and shape the environment so that it can provide a source of life accordingly. Human relationship with the environment is mediated by cultural patterns. Through culture people learn to adapt to the environmental conditions in order to be able to survive in life.

Culture according Koentjaraningrat (1985) means the whole ideas and labors of man, which must be familiarized with studies, together with the whole cultivations and labors. In anthropology, it is said that culture concerns the human way of life that is reflected in the patterns of action and behavior (Poerwanto, 2008). Daeng (2008) stated that culture is a particular pattern of thought and action which displayed in human activities.

Culture can be seen from its form. According Koentjaraningrat (1985), culture can be seen in three forms. First, culture as a complexity of ideas, thought, values, norms, rules and so on; second, culture as a network of human activities in society; and third, culture as objects of human creation.

Rapoport (2005) defines the culture in three viewpoints; first, culture viewed as a way of life; this includes ideal thoughts, norms, rules, habits, and so on. Second, culture viewed as a system of rules which symbolically passed from generation to generation through enculturation (socialization), and acculturation with immigrants taught through language, behavior and built environment. Third, culture viewed as a tool for ecological adaptation for humans, the use of resources and the basic characteristics that allow humans to build lives by exploiting the various ecosystems.

Confirmed by Altman and Chemers (1984), there are five important factors about the relationship between culture and the environment; namely 1) the natural environment includes temperature, rainfall, geography, flora and fauna; 2) environmental orientation and outlook on life, including cosmology, religion, values and norms; 3) environmental cognition includes perceptions, beliefs, and judgments; 4) environment behavior, including privacy, personal space, territory and density; 5) environment as an end product in the form of built environment, houses, farms, and towns. These five factors are related to each other, it suggests a link between the culture and the built environment.

For easier understanding of the culture of the built environment, Rapoport (2001, 2005) describes culture to be more specific and concrete, making it easier to observe. Social expressions include: kinship, family structure, social roles, social networks, status, identity, institutions and so on. Culture is also translated to way of life in the form of values, ideals, images, schemata, purpose and so on, norms, standards, expectations, rules and so on, lifestyle and system activity. Rapoport (2005) reaffirmed that cultural manifestation in built environment can be seen as an organization of space and time, purpose and communication, activity and setting system, cultural landscapes and fixed, semi-fixed and non-fixed elements.

4. THE LOCAL WISDOM IN BUILT ENVIRONMENT AND CULTURE TRANSFORMATION

Local wisdom is culture resulted from human thought processes to adjust its existence in natural surroundings which can be manifested in his works tangibly as the built environment and intangibly. Local wisdom is always changing, because it follows the culture dynamics and it cannot be separated from the human mindset. The most important thing is to selectively accept outside influences so that local knowledge can be maintained in accordance with the place. According to Rapoport (1983) such changes do occur, but the desired change is one that does not eliminate the core characteristics of a culture. Thus, there are parts that changed and parts still maintained.

As built environment, houses have changeable form, but still dynamic in which they constantly renew themselves over times. Houses, as space for daily activities, are modified to meet human needs, to demonstrate the prevailing attitude, culture and lifestyle. Wulandari (2010) stated the main factor triggering the change is the development of accessibility (road and access), as well as the influence of modernization in the context of globalization. House changes include changes of construction, material, shape, and layout. This is done to meet the needs and desires of the residents to be able to improve the quality of life over time (Ariffudin, 2009).

Dahlani et al.(2015) saw changes on *lanting* houses along the River Martapura in Banjarmasin. *Lanting* house is a traditional house of Banjar, South Kalimantan, Indonesia, which floats on the river as the embodiment of Banjarese culture to adapt the river. *Lanting* house grow with the development of river transport in the past. Currently, settlements develop on land; river transportation started to be abandoned. This impacted the *lanting* houses. *Lanting* houses expression changed related to the meaning of the river for the residents in terms of system activity. Based on Muchammad (2010), the expression *lanting* house can be viewed from the layout of the room (plan), building facade, construction and building materials. Room layout previously oriented towards the river, it then changed towards land after the development of land transport. Activities related to the river have been reduced. Floating structure of bamboo materials and lightweight boards remain in use despite the presence of current technological developments. Similarly the semi-fixed elements, such tires on the outside of the foundation that serves to protect the foundation from the collision while docked, are still existed. The structure and semi-fixed elements remained as local wisdom possessed by residents of *lanting* to adjust to the natural conditions of the river. Although activities are no longer oriented to the river, dependence on the river continues.



Figure1. Bamboo foundation and semi-fixed element “tire” as protection for foundation still in place
Source: Dahlani et al, 2015

Widyastomo et al (2015) describes the changes of setting and significance of house in indigenous Sentani tribe, the research done on the house "*Imaekholu*". The house is undergoing layout changes while still maintaining its meaning. *Imaekholu* house consists of two main rooms, the men and women space. Men's area is in the front area adjacent to the entrance, while the women are in the back, with rear access to the lake. Women's area serves as kitchen and dining area and divided into other several spaces for sleeping. The men's area serves as gathering space and a place of deliberation, as well as sleeping space without room division. In subsequent developments, men's area in the front area is divided into several additional spaces that serve as sleeping space. From this layout, indigenous Sentani tribe retains the meaning of space in residences, as their local wisdom. Women's area is still in the rear for their security,

while the men's area is in front as protector. That is influence from the outside with the need for privacy while resting, namely the provision of sleeping space.

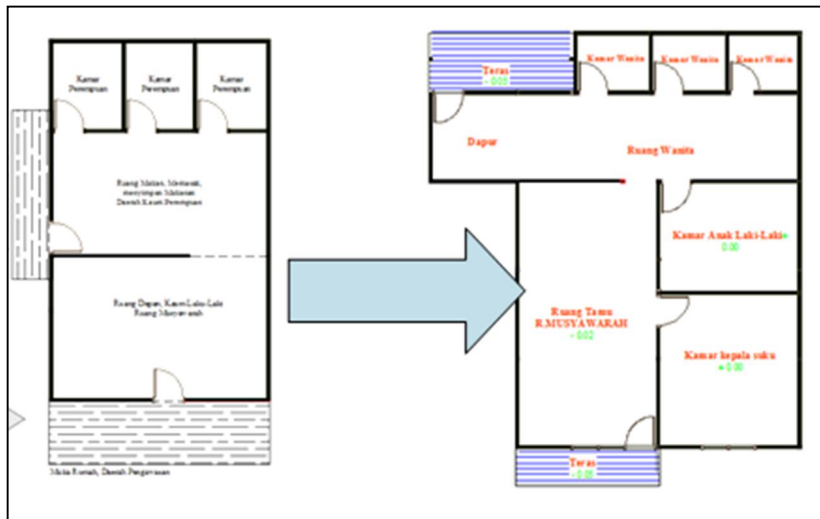


Figure 2. Changes in house layout in “*Imaekholu*”
Source: Widyastomo et al, 2015

Widyastomo et al (2015) also discuss the physical elements contained in *Imaekholu* house. Fixed elements in *Imaekholu* houses which still in existence and cannot be removed include; 1) *Gaba-gaba* as house wall, and explicit boundary between men and women, and same room function; 2) human and bird-shaped ornaments on house beams; 3) *hukulu Kai* system of columns and beams (beam supported by column); 4) floor boards using wood planks and palm tree bark.

Based on fixed elements which remain in *Imaekholu* house, it showed that local wisdom survived and tried to adapt to outside influence. Outside influences were not immediately accepted by local community, it went through a process of reinforcement. The mindset of the community will continue to evolve; the culture will evolve as well. With the development of culture, it will automatically affect the built environment; in housings, commonly changed is its room layout.

Ridjal (2014) describes the changes of function in *Taneyan lanjhang* house in Madura migrant community in Krajan Jember village. *Taneyan lanjhang* is a traditional house of Madura in East Java. The room layout has clear hierarchy, visible division between the public space for men and the private space for women. *Taneyan* which means yard and *lanjhang* which means long or elongated, as in group of houses of one family or one descendent, usually consisting of 3 to 5 houses accompanied with praying space as a place of worship. There is also an outhouse (animals) and kitchen. Madura migration to Jember is one example of acculturation with the local community materialized in the built environmental. This acculturation brings out new architectural style called *Koleman*. *Koleman* as a new form of *Taneyan lanjhang*. *Koleman* comes from the word *kolem* in Madura means together, or groups. Thus, *Koleman* states a place, a place to gather. Housing groups or *Koleman* seen in Madurese settlements in Jember are built adjacent to each other in groups and near to each other. In one group, there is always a praying space like in *Taneyan lanjhang* in

Madura. Some still have the same shape and pattern as *Taneyan lanjhang* in Madura. The difference is the absence of a long yard like in *Taneyan lanjhang*.

This suggests that local culture owned by a group of people will not simply disappear. Existing local culture brought by the people was combined with new culture. *Koleman* do not emphasize the elongated shape of the yard, but rather on the creation of a cluster or group of dwelling.

The presence acculturation is described by Widodo (2012) in the development of built environment in Southeast Asia since the start of settlement until the emergence of the current era of globalization. Vernacular buildings in Southeast Asia is the result of adaptation to local climate. Wide roof, raised floors, and porous walls are all reactions to hot-humid tropical climate. The existence of Indian philosophy and the introduction of Islam affects the morphology of settlements and the building design principles, but still with regard to the tropical climate. The entry of the Chinese, Indian, Arabic, Persian, and other people from the South China Sea during the maritime trade also influenced the built environment. The shape and construction of buildings were the same from their place of origin, but roof typology, open porches, building materials and flooring, adopt to the local climate. In the Dutch colonial period, the buildings were in colonial style with attention to the local climate. After the second world war appeared a new spirit of nationalism. International-style building with strong tropical character were applied in a variety of building typologies. This condition indicates that the cultural transformation occurs naturally in the presence of cultural assimilation. Local wisdom possessed by local people still exist in buildings that consider the local climate despite existing cultural assimilation.

5. LOCAL WISDOM AND GLOBALIZATION

Globalization is a condition that causes the activity of local life is not in one country but worldwide (Sartini, 2004). Globalization as a process that refers to the number of relationships and interconnections between countries which makes life increasingly intertwined with people far across the world (Berry, 2008). Globalization resulted in shorter distance and everything else is getting closer.

Five decades after the WWII, the wave of globalization and consumerism swept across Asia and around the world. Many national and regional cities in Southeast Asia has risen into metropolis, megalopolis, and the cities of the world (Widodo, 2012). This rapid growth has accelerated the process of cultural and physical transformation, the transformation does not go naturally. These conditions resulted in local wisdom can not do reinforcement. Reinforcement interpreted as strengthening and acceptance of cultural values by the people because it is considered good or getting better (Sartini, 2004).

There is a clear distinction between cultural transformation that goes naturally and the rapid unnatural transformation. Natural transformation occurs while retaining local character, especially relating to climatic influences on the building. On the other hand, unnatural transformation creates a cultural homogeneity that does not pay attention to local characters, such as outbreaks of minimalist housing without considering the influence of local tropical climate.

Cultural dynamics in today's advanced era is common practice and unavoidable. Moreover, with the support of rapid technological and information that makes the world increasingly global. Modernism taken categorically have made local wisdom marginalized and considered old-fashioned. Edress (2009) asserts that local wisdom nowadays should not be interpreted merely hereditary knowledge based on experience. Local wisdom reflects the attitude of the

people who behave and build with attention to the presence of nature. This local knowledge should be used as the basis for developing a better built environment with the use of today's technology.

Antarayama (2009) reaffirmed that knowledge systems oriented to nature's language specific to an area is local wisdom. Since time immemorial, nature, people and the built environment are intimately connected; but in the present, communication between them is not as tight as it used to be. Antaryama further highlights the built environment in a humid tropical climate. Humid tropical climate with solar radiation, high humidity and rainfall, architecturally form a roof that express shade and protection from rain, with gap that gives an opportunity for wind flow. Language of lines, edges, nets, shade, cluster of buildings and form spread is the characteristic architecture in Indonesia. The use of nature's language contained in traditional architecture can be used as a reference in the design. Rapid technological progress distanced the interaction and communication between nature, humans and the built environment. It is not to mimic the architecture of the past, but to understand the language of nature-human-built environment can give birth to works that is creative and innovative.

Nature's language which is owned by the traditional architecture in Indonesia can protect people from natural disasters. Siswanto et al (2013) have studied the architecture local wisdom of South Sumatra that response to natural disasters. *Lamban Tuha* is a traditional architecture that has construction and building material system that responds to the environmental conditions of tropical climate and earthquake. This proves that local knowledge developed by the community for generations has been responsive and adaptive to the local environment.

Rachmawati (2009) in Rachmawati and Mappajaya (2012) revealed that in the 21st century architecture will be faced with three major issues, namely nature, technology and human. Rachmawati explains that the function of nature conservation is to create architectural harmony with nature through building without harmful materials and adjusting to the site. The function of technology is to make architecture with ecological technology; and the function of man is to make the architecture more sensitive to human culture, whether individuals, groups and communities, by preparing young people to learn and develop knowledge of architecture in harmony with nature. Through the study of the architecture of Java, Rachmawati has proven that wisdom possessed by the Java architecture can integrate with nature, technology and people. This shows that local wisdom can be used as a solution for the challenges of the 21st century to obtain a sustainable life.

6. CONCLUSION

Local wisdom has two main elements, namely human with its mindset and nature with its climate. Humans in olden days use nature's language to form a built environment, namely the interaction between nature-human-built environment. In contrast to today which prefers the technology.

Globalization affects the local wisdom through human mindset. Globalization can lead to cultural transformation. There are two cultural transformation that can be concluded, the natural transformation and the unnatural transformation. In natural cultural transformation, the changes occur in the form of combination of cultures. Local culture is still maintained but combined with foreign cultures. This combination produces a new architecture while maintaining their local wisdom. Examples can be seen in *lanting* houses in Banjarmasin, *Imaekholu* houses in Papua and *Koleman* houses in Jember. The purpose of the house is maintained as well as the elements of the building, although there is a change in the layout. The development of architecture in Indonesia until the second world war also

showed a natural cultural transformation, where styles of the building were brought by immigrants from other countries, combined with the local climate.

Globalization also can cause unnatural cultural transformation. This condition is triggered by the rapid advances in technology and the rise of today's communications media. The existence of local wisdom in traditional settlements in suburban or rural has no drastic effect. Unlike the built environment in cities and urban areas, where cultural homogeneity that ignores local wisdom is growing rapidly.

Based on several studies, it is proven that local knowledge has more value because of the integration between the nature-human-built environment. Local wisdom can provide comfort and protection for shelter. Therefore, the sustainability of local wisdom needs to be maintained and developed. This can be done through knowledge and adjustment of present technology for human survival.

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