**Bincar-Bonom as the basis of house formation in Singengu village settlement**

Cut Nur-Aini¹*, Achmad Djunaedi², Sudaryono² and T. Yoyok W. Subroto²

¹Department of Architecture and Planning, Institut Technology of Medan, Gedung Arca Street No. 52, Medan, North Sumatera Indonesia.
²Department of Architecture and Planning Department, Faculty of Engineering, Gadjah Mada University, Jln. Grafika No. 2 Yogyakarta, Indonesia.

*Corresponding author. E-mail: nurainicut@yahoo.com

Accepted 26 December, 2014

Singengu village is one of the vernacular settlements that have unique characteristics, mainly related to the pattern of house formation especially orientations. Houses in Singengu having masriadopan (face to face) pattern are mirrored/reflected. The orientations toward the sun is forbidden. These phenomenon raised a question, what is the underlying concept behind the pattern of house formation especially its orientation? This study aims to find the concept behind the pattern of house formation. The research was guided by Husserlian phenomenology paradigm. The results showed that the pattern of house formation is an intensional consciousness of Bincar-Bonom concept. Directions of Bincar is a symbol for the future, direction for the young, junior and something new; while the directions of Bonom is a symbol of the past, directions for the elderly, seniors and something old. Bincar-bonom is the basis of house orientations and formations which is based on the philosophy of obedience to Datu (God/The Creator) through the movement of sun. Datu gives life through the movement of the sun from Bincar to Bonom. Bincar and Bonom become a symbol of life and has always been the reference included to establish space.

**Key words:** Singengu village settlement, house orientations, house formations, intensional-consciousness, Datu, Bincar-Bonom.

**INTRODUCTION**

Vernacular settlement is an interesting research topic since it expresses the culture and the local wisdom of its people. Its believed to have potentials to build local theories for conserving and preserving the old settlements and produce new settlements design which is based on local wisdom that fit with local cultures and physical conditions and in line with sustainable architecture. Until now knowledge about architecture of settlements is still marginalized from the discourses of philosophies, approaches and theories about architecture of settlement in Indonesia (Oliver, 1997). According to Oliver (1997), vernacular architecture was built to accommodate special needs, cultural values of society, economy and the way of life of local community. Function, meaning and appearance of vernacular architecture is influenced by social structure, belief systems and behavior patterns of society. It appears by using specific symbols.

Analog with Oliver, Eliade (1959) described that a place or space is manifested into two forms, i.e. as a container and a content. A container refers to the container of social activities, while a content is actualization of spirit (mental thing or mental spirit).

Mental space in the form of values, symbols, spirit/soul will realize space as something intangible. In a religious person’s mind, a place or space is not homogeneous yet different, thus it forms a place or space that is sacred and profane. Eliade (1959) also revealed that sacred is conception of a reality that the order is considered different from the reality of nature due to the perception...
or views regarding the presence of a force. These forces might be derived from nature, spirit and the Creator. A place or space is profane in nature because the place or space is considered to be homogeneous, neutral and contains no difference in quality. The grant of sacred nature on a place or space rises the so-called universal pillar (axis mundi) which connects three types of the world, namely upward (upper world/world-purified/heavenly), center of the world (middle world, the world is, the real world of human/cosmos/earth) and downward (underworld/death world/other world).

According to Tuan (2008), the concept of the sacred-profane is conceived as the relationship of space and time that is subjective in nature ("upper world" and the "underworld") and objective (middle world) through the world of traditional society experiences. Time can serve as a measure of distance quality so it is known as a spatio temporal world that may have time world character (the objective world) and subjective world that is not measured by distance and time, or as called by Tuan (2008) as timelessness.

Geertz (1983) explained that sacred or profane which will be manifested in the conception of circular space central figure (center point of the power) is in central/middle area and fizzle out towards the periphery. This can be seen in places or areas in which palace, temple, and shrine and activity center that are surrounded by secondary and tertiary activities. On such spot or space, different force will affect the formation of space hierarchy and social status stratification socially, culturally and politically. Hefner (1999, in Rejeki, 2012) revealed that the mountainous community always considers natural potential, spiritual attitude towards the mountain and kinship in shaping their neighborhoods. Sumardjo (2002) described the basic ideology of the mountains community as two-division or three-division ideologies. The two-division ideology is the presence of micro-cosmos and macro cosmos elements, while the three-division ideology reveals self position to the environment. Mountains are considered as part of the macro-cosmos while human as micro-cosmos elements have to address the macro-cosmos well. This understanding leads to particular views for the community who live in the mountains; that is, they are not familiar with levels or strata in kinship. Mountainous community always keeps their relationship to the mountain in the form of traditions, rituals and beliefs to the legends associated with the mountain, including in the form of spatial settlement.

According to Koencaranigrat (2004), mountainous settlements that exist in some places in Indonesia emphasize the ideology or primitive classification known as division of the world associated with the concept of Hindu cosmology. Other researcher (Mulyadi, 2001) described that Hindu cosmology emphasizes the natural function/world as macro-cosmos (the great globe) and personal/home as a micro-cosmos (little globe). Macro-cosmos relationship between God and human is expressed in spatial form of settlement, as seen in the pattern of settlement in Java or settlement system in Bali due to the influence of Majapahit; it is also found in mountainous settlements in Lombok, Nusa Tenggara Barat.

Other studies on mountain settlements that has been done focuses on the spatial formation (Parimin, 1986) with the concept of the sacred-profane and spatial systems. Researches on mountains settlements are also conducted with a focus on tribal governance and spatial planning based on spatial order of ethnic group (Purbadi, 2010). Another research on mountainous settlements is also conducted with a focus on punden-based settlements system as a symbol of pangayoman (Rejeki, 2012) which has four characteristics of papan (place). Rejeki (2012) has been found that house orientation in Kapencar Village in Java Island is based on punden areas where the tomb of people who are considered as forerunner of village community) and house should not be facing eastwards. East is considered too sacred in Kapencar Village. In this case, house orientation in Kapencar village is similar with Singengu, but it has different meanings. The pattern of house orientations in Kapencar village emphasized on the punden and the east was considered as sacred direction while in singengu the emphasis is on the direction of sun movement, so it is not only the direction of sunrising but also the direction of the sunsetting.

The pattern of house formation in Singengu village has specific symbols which have special meaning. Its different from the other pattern that was found in other places. House orientation in Singengu village is a symbol form of ‘something important’ so formation of spatial houses become a unique characteristic of Singengu village settlement. The pattern of house formation called marsiadopan with a north-south orientations is the hallmark of the vernacular settlement of Singengu village. So, as a product of vernacular settlement, house orientations in Singengu Village should appear by using specific symbols.

**Research site**

According to government of Mandailing Natal regency (2010), settlements in Mandailing Natal regency also became a partly of vernacular architecture product that have two different characters, which are “the mountains”
in Mandailing and “the coastal” in Natal, as seen in part B of Figure 1. Mandailing region in North Sumatera is known as two major areas, namely Mandailing Godang and Mandailing Julu, as seen in Figure 1B. The division of these two areas related to the division of two great kingdoms in the past, which are Lubis kingdom and Nasution kingdom. Nasution kingdom covered the entire region of Mandailing Godang, while the Lubis kingdom covered Mandailing Julu. Singengu is part of Mandailing Julu area and one of the villages in the district of Kotanopan, as seen in Figure 1C. Singengu village is the oldest village and the first village evolved as main *huta* (mother village). The pattern of house formation in Singengu village is illustrated in Figure 2.

**Questions, objectives and benefits**

The facts related to pattern of house formation called *marsiadopan* (face to face) formulate the following research questions: what is the underlying concept behind the pattern of house formation especially its orientation? This study aims to find the concept behind the pattern of house formation in Singengu village. The benefit of this research is to complete the existing settlement concepts, to increase the understanding on Mandailing tribes living culture and to serve as guidelines for anticipation and good execution for settlements development actions that conserve nature and respect the unique values of local culture.

**METHODOLOGY**

The focus of the research on house formation of Singengu village settlement in Mandailing Julu especially the orientations with all cultural background is believed to have the real reality (tangible) to the transcendent (ideas and values). Hence, the most appropriate research paradigm for this study is a phenomenological paradigm with inductive-qualitative method which raises the issue of house formation of Singengu village in depth.

According to Smith (2007), Husserlian phenomenology is an attempt to understand the consciousness as it is experienced from the first-person perspective. Husserl's phenomenology is more accurate to be called as a descriptive psychology that puts meaning as the essential content of conscious human experience. The focus of phenomenology is the structure of the consciousness experience, namely objective reality which manifests in the subjective experience of the per-person or subjective meaning of the objective reality in the consciousness of
the people who pursue their daily life activities, which is explicitly expressed by Husserl as "objects of consciousness as experienced" (Smith, 2007).

The essence of the Husserlian phenomenology according to Smith (2007) is the awareness that is directed or intentionality (consciousness directivity). Intentionality has a deep meaning, i.e. act directivity that aims to an object to know the true essence of a phenomenon. The effort to reach the essence of things can be done through a process of phenomenon filtering, or the so-called reduction. Reduction, according to Husserl (1970) consists of three stages: (1) phenomenology reduction, i.e. filtering some experiences to get phenomenon in the pure form (real phenomenon), or uncover what is visible, (2) eidetic reduction, i.e. reduction to uncover eidos (truth/essence) or the essence of the phenomenon, and (3) transcendental reduction, i.e. reduction that is done to get the meaning or ultimate truth.

The study is conducted in several stages. First, the exploration of theories relevant to the research through a literature study that serves as knowledge background to help researchers see and interpret the phenomenon. Furthermore, the grandtour is conducted to see the initial phenomena that can be caught and followed with minitour to deepen the observations on objects or information that often reveal and keep repeating, especially the one related to the direction of sunrise-sunset. All information obtained during the grandtour and minitour was collected and compiled in a logbook then categorization was made.

The categorization on information units obtained during the grandtour and minitour then was reduced through phenomenology reduction to obtain appropriate data for the actual situation at the field. The next stage is to reveal the essence of the phenomenon through eidetic level reduction. The analysis was performed simultaneously with the data collection in the field. Researcher conducted an analysis toward the data, information, and unstructured interviews. The results of this analysis are used as a guide of observation and discussion to obtain data and information about the next object. The analysis is performed separately for each case to obtain a temporary conclusion of each case. Furthermore, at the final stage of the study, all findings in each case will be discussed to formulate abstraction findings. Findings obtained will be associated with the formation of the pattern of the 'face to face' and 'mirrored' house or 'reflected house' in order to get a final conclusion of this research.

RESULTS AND DISCUSSION

History of Mandailing people’s settlement: The cosmology

According to Lubis et al. (1999), Mandailing community...
believe that the universe is divided into three parts called the Banua. Banua cosmology is divided into three, as seen in Figure 3, namely:

1. **Banua Parginjang** (the top world), world of the creator (local term: *Datu Natumompa Tano Nagumorga Langit*).
2. **Banua Tonga** (middle world), world of humans life/activities.
3. **Banua Partoru** (bottom world), world of people who have died.

Three worlds cosmology namely Partoru, Parginjang and Tonga was adopted by Mandailing community in their residential houses. The house is raised off the ground position (the bottom world) because the bottom world is considered as a man who had died and harsh or dirty areas. Therefore, the building in which they live is designed with pillar house. This research found that the application of the banua concept at the level of house applies not only vertically but also horizontally. It could be seen through the historical development of house from one’s new family to the youngest son’s right as house devisor.

**Early settlements in mountain regions and movement to river bank**

According to Nuraini (2004), the villages located in the region of Mandailing Julu were developed by Singengu as *Huta Induk* (main village). Singengu village was the first village opened by the Lubis clan ancestors after down the mountain. Previously, the ancestors of Singengu Lubis clan lived in *tor* (mountain). Settlement in *tor* (mountain) adhered to the principle converge to the midpoint as a sacred axis. The peak of the mountain is regarded as a place which has a high value (Figure 4).

According to Harahap (2004), mountain peak is
regarded as an abode of ancestral spirits to the Datu (creator) world in banua parginjang (top world). Mual (springs) that are at the top of the mountain is used as a medium for worshiping Sipelebegu (ancestral spirits) and Datu (creator). Banua tonga (middle world) is used as a place for living on the slopes of the mountain, while the edge of the mountain is considered as banua partoru (bottom world) as the place of the dead bodies, as shown in Figure 4. The sun is considered as an important element and as a source of Datu (creator) strength so that the direction of sun movement should not be challenged.

History of houses

This study is a part of research on spatial arrangement of Singengu village settlement. Related to pattern of house formation, research was initiated by the observation of several house groups that have same pattern, which is ‘face to face’ and mirrored. In next step, extracting information about the house is done, and then proceeds with the study of the underlying conception. At initial observation, it was found that the majority of the houses located in the area of Jae (downstream) have undergone no significant change compared with the group in Julu region (upstream). Changes that occur are replacement of building materials (from wood to masonry), as shown in Figure 5 and the use of modern houses design from the early stage form.

According to Nuraini (2013), houses which are located in jae area (downstream) also have changed owners, so it is very difficult to identify the house development. Observation was then carried out in a house group located in the area of Julu (upstream). This area found eight houses that ‘face to face’ and ‘mirrored’ or reflected, with two characteristic of orientations, namely four houses oriented to the south and four houses oriented to the north. Then, further information explored through in-depth interviews about the development process of these houses.

There are eight marsiapahan houses in julu (headwaters) area that has been investigated about process of house orientations, as seen in Figure 6. A simple house model in Singengu village is illustrated in Figure 7.

The development process of eight houses showed that at the first time, the house only consisted of one Pantar bilik (bedroom), Pantar tonga (living room) and kitchen (Figures 8-9) then developed to bincar direction. These phenomenon was explained by all of houses resident and also clarified by key persons explicitly as described below:

“Pertama kali dulu, rumah di singengu sini hanya ada tiga ruang saja. pantar bilik, pantar tonga sama dapur lah. Contohnya, rumah ompong Mahyudin itulah. Lama-lama, rumahnya dilebarkan seperti sekarang ini, karena sudah punya anak. Kalau anak perempuan mau menikah, dia ikut suami ke desa suaminya. Tapi, anak laki-laki, kalau menikah dia boleh tetap tinggal di desa sini, tapi harus keluar dari rumah pusaka orangtuanya dan bikin rumah...
Figure 6. Eight Cases of ‘Face-to-Face’ houses (marsiadopan) Source: (Minitour, 2013).

Figure 7. A Simple House Model in Singengu Village Source: (Minitour, 2013).

“At the first time, houses in this village only have three rooms, namely master bedroom, guest room and kitchen room. You can see a simple house model at ompung Mahyuddin’s house there. Then, the house developed as you see right now, because the family have children. If the daugther get married, she has to follow her husband sendiri. Anak bungsu laki-laki tetap tinggal di rumah pusaka, karena dia adalah pewaris. Jika dia menikah, kamarnya dipindahkan ke arah bincar, di jolo, itu di bagian depan rumah” (Hatobangan, ketua adat, ompung Imran Dalimunthe/72, Singengu, Thursday, April, 22-2010 : 16.45 pm)
and leave this village. But, if the son get married, he can settle in this village but he has to leave the main house or heirlomm house. Only the youngest boy that still stay at main house or heirlomm house, because he is a heir. When youngest boy get married, his bedroom moved to bincar, in “front-side (jolo) of house” (Head of ethnic group, Ompung Imran Dalimunthe/72, Singengu, Thursday, April, 22-2010 : 16.45 pm)

Before the child was born, pantar bilik and pantar tonga were extended to the right, towards the east or to bincar (direction of the sun-rise) as well as towards jolo (front-
The kitchen was expanded towards the right direction, to the east or to *bincar* in *pudi* (back-side). In the third phase, the kitchen expanded to *pudi* and then added with *pantar bilik* using partial of the *pantar tonga*. This phase occurs when the children grow up. Phase one to three, house is still in pillar house as a whole. In the fourth phase, all the kitchens that were originally above the pillar were removed into the ground, and still maintain the shape of the pillar at the *pantar bilik* and *pantar tonga*. At this phase, most houses build bathrooms in back-side area. The analysis of house development (case-1) toward *bincar* is illustrated in Figure 8 and case-2 in Figure 9. The analysis showed that all of room in house always develop to *bincar* or to direction of sun-rise (Figure 10).

The final phase of house development showed an interesting phenomenon. At this phase, the *pantar bilik-2* (children badroom) has been moved toward *bincar-jolo* (sunrise-frontside), i.e the cases of C-1, C-2, C-4, C-5 and C-7. Other house, i.e the cases of C-3, C-6 and C-8 still defend the position of *pantar bilik-2*. Two cases of house C-4 and C-8 instead eliminated one *pantar bilik-2*, but kept *pantar bilik* (master badroom for parent). Most houses which continue to extend the space retain the position of master bedroom for parent (*pantar bilik*) in accordance with early position when it is built (the case of C-3, C-4, C-6, C-7 and C-8).

All cases also showed a similar trend in terms of placement of the entrance, which is in the direction of *bincar-jolo* (sunrise-frontside) mainly from the early phase till the fourth phase. The change of entrance of some house occurs in the fifth phase of development. Five houses changed the location of the entrance into the *tonga-jolo* (center - frontside), which are in the cases of C-1, C-2, C-4, C-5 and C-7, while the other three houses, C-3, C-6 and C-8, maintained the entrance in the *bincar-jolo* (sunrise-frontside). There are three cases of houses which were found to develop additional entrance to *bincar* direction (C-1, C-3 and C-4) and there is no entrance to the house to *bonom* (sunset). The same trend is also showed by the majority of house in the development of the kitchen and bathroom in *pudi* (back-side) direction (C-3, C-4, C-5, C-6, C-7 and C-8).

First phase until fourth phase showed that the blueprint of a house is always reflected by another, *Marsiadopan* houses (face-to-face/facing each other) and its orientation showed an opposite during its development always implying to the direction of *Bincar* (sunrise) and the direction of *Jolo* (front-side). House structures which formed *marsiadopan* pattern is a physical manifestation from sacred value in the direction of *Bincar* (sunrise). Sun is considered as the source power of *Datu* (The creator or God) and its direction cannot be gazed. Therefore, the house orientation does not go towards *Bincar* but in direction of *Marsiadaopan* which extends along the direction of *Bincar-Bonom* (sunrise-sunset). The direction of *Bincar* which is considered with sacred value also becomes a progression of house because it is a source.
of new life. The complete analysis of house development illustrated in Figure 11.

The analysis showed that at the house scale, spaces for the young and the old are also set in accordance to bincar-bonom axis. The parents’ bedroom is at the direction of bonom while the child's bedroom is at the direction of bincar. Houses that are built with the concept of marsiadopan (face-to-face) are also representing forms of bincar-bonom axis consciousness that always places the parents’ bedroom at the direction of bonom. New spaces in a house is always 'back to the origin' (local term: mangulaki pangkal) towards the beginning or the origin of life, namely bincar (direction of sun-rise), so the development is always at the direction of bincar (sunrise). The old spaces remain in bonom. The parents’ bedroom is always at the direction of bonom, while the children's bedroom is at the direction of bincar.

**The function related to activity and space value**

Space functions related to certain activities also have certain values. These values will determine direction of space directions in the development of a Bagas. Since beginning, pantar bilik (master bedroom) and pantar tonga (living room) have neutral value built in tonga (centre), while kitchen with its dirty value (hodar) built in pudi area (back-side). But, staircase in jolo (front-side) has only one access into house, located in Bincar area. For its first development, those all rooms sustained the development to the directions of Bincar area. For the next development, it showed that kitchen with its dirty value moved into pudi (back-side), while pantar bilik-2 built by taking some parts of pantar tonga. For this step, the main access into house is the entrance door and jolo (front-side) staircase remains in the directions of Bincar. Long time ago, relative house is a pillar house model which in its development changed the kitchen area built directly on the ground. This change does not occur on pantar bilik and pantar tonga in tonga (centre-part) area. To connect tonga area which still has panggung (pillar) model with kitchen area on the ground, therefore pudi staircase was built in the back part. For the next step, the bathroom was built also in pudi area but in the directions of Bincar. The direction of Bincar was always considered sacred and becomes a development and a progression of house as seen in Figure 12.

*Jolo* (front-side) has a sacred value and symbolized by yard (local term: alaman) in front of two marsiadopan (face to face) houses. *Tonga* (centre) has a neutral value and place for human activities. *Pudi* (back-side) has a profane value and place for the toilet. The function related to activity and space value could be seen in Figure 13.

Singengu village settlement is the result of architecture work of Mandailing tribe people that is planned with full awareness and purpose, based on the depth of thought insight and owned since the earlier time until the present. The agreement on Bincar-Bonom awareness was set by the ancestors as a sacred guide for the next generation.
**Bincar** which means the directions of sunrise and **bonom**; that means, the directions of sunset are not merely terms to indicate the direction of sunrise-sunset, but have become principal guidelines in arranging living spaces in residential areas. The pattern of house formation called **marsiadopan** (face-to-face) house is an intentional consciousness of **Bincar-Bonom**. **Bincar** is identical with young, junior and something new; while the directions of **Bonom** is a symbol of the past, directions for the elderly, seniors and something old, as illustrated in Figure 14.

**Conclusion**

Settlement of Singengu village has revealed the behavior of Mandailing society’s through cultural and environmental settings of environment and building. Conceptualizing the formation of space in vernacular settlements always suggest a link between behavior, activities shaped spaces. Correlation between space and the activities are very close. In case of Singengu village, behavior dan activities has formed a spiritual spaces,
namely Bincar-Bonom and become a specific symbol. Bincar-Bonom as the direction of sunrise and sunset becomes the base of forming house formation especially the orientation which is empirically translated in the form of placement, setting or location of physical elements such a way, so it is always on the Bincar-Bonom axis with an emphasis on three important relations, i.e. the relation between humans, humans to the ancestors, and humans to the Datu (Creator).

House formation in Singengu village is a part of container as Eliade (1959) described about with Bincar-Bonom as content refers to mental spirit. The purpose of life for the Singengu village people is to retain a continuous relationship with the ancestors and the Datu (Creator) for tondi (zest, soul, spirit) that is in every human being to be maintained. The effort to establish a continuous relationship with the Creator is carried out through an attitude of constructing a house formation that always refers to Bincar-Bonom axis as the direction of sunrise-sunset, due to the thought of the sun as the source of Datu’s strength. Datu as the owner of tondi gives life to human through the direction of sunrise-sunset. So then, by always referring to the direction of sunrise-sunset, human may continue to live or like Tuan (2008) said, live in timeless.

Tondi existing in every human being must always be protected, preserved and maintained continuously in order to live a life in the world by achieving meaningful of glory (hamoraon) in spiritual wealth. Hamoraon from the Creator (Datu/God) can be achieved if the spiritual wealth is maintained continuously by complying with all patik, uhum dohot ugari. Patik is an ethical behavior while uhum is binding norms, rules, regulations that are used as a guide to behave. Uhum has forced power; the meaning is, if it is broken then there will be a penalty. Ugari is a rule that has been set by the ancestors and must be respected, obeyed and executed from the past until the present, which always refers to the direction of Bincar-Bonom in all respects.

In Singengu village, house as microcosm showed its development. House has always applied Banua principle. From macrocosm, Banua principle has sacred value in the center, however in house rank, the sacred value was located in the directions of Bincar (sunrise). The directions of Bincar as sacred place cannot be denied, that’s why each house is built face-to-face (marsiadopan). If house develops its plan space, therefore each space has hodar value (dirty) which develops into pudi direction (back-side), whereas the spaces with neutral value and sacred (ias) will be developed into jolo (front-side). The directions of Bincar-Bonom is the base of house formation and development as a form of obedience to the Datu (the Creator/God). The directions of Bincar is a symbol for the future, direction for the young, junior and something new; while the directions of Bonom is a symbol for the past, directions for the elderly, seniors and something old. The research showed that marsiadopan (face-to-face) pattern of houses is an intensional consciousness of Bincar-Bonom concept to retain a continuous relationship with the Datu (Creator) for keeping tondi (soul/spirit) in a whole life.
ACKNOWLEDGEMENTS

The authors are grateful to ompung Imran Dalimunthe, the hatobangan (ethnic leader) of Singengu village who provided the information of village history, and also thanks to all of houses resident in Singengu village for their discussion and information during the writing of this paper.

REFERENCES


