

Ethnographic Approach for Research on Vernacular Architecture: Four Case Studies of Indigenous Communities in Indonesia

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ABSTRACT

Many ethnic groups with unique cultures exist in Indonesia, but their vernacular architecture and living cultures need to be supported to ensure sustainability. One example of how a more anthropological approach to the design and planning of the built environment requires a better understanding is the study of the living culture of indigenous communities. Unsurprisingly, an ethnographic approach is critical to studying these communities' architecture and living culture in Indonesia. This study aims to outline the main principles of the ethnographic approach and review the implementation of these principles in previous studies on the vernacular architecture of indigenous communities in Indonesia. A comparative analysis of four case studies shows that each study has implemented the approach's main principles contextually. The results showed that the four case studies utilized observation and interviews to collect field data in slightly different terms. Although each case study's objectives, focus, and issues were different, the researchers managed to provide a cultural portrait that included the participants' views (emic) and the researcher's opinions (etic). The similarities between the four communities are religious or belief systems affecting the architecture and living culture, which are cultural aspects that significantly affect each case as part of the findings embodied in themes resulting from interpretation. These results can help to develop guidelines for designers and planners working in indigenous communities. Through ethnographic studies, architects and planners can understand indigenous communities' point of view (etic) to integrate their perspectives (emic) when working hand in hand with the community.

Keywords: ethnographic approach, vernacular architecture, living culture, indigenous community, Indonesia.

INTRODUCTION

Indonesia is a multi-ethnic country consisting of more than 600 distinctive ethnic groups (Arifin et al., 2015). Each ethnic group lives in a specific region and has its own culture and tradition, and each ethnic group's living culture profoundly expresses the characteristics of its demographical, geographical, and ecological conditions. Ethnic groups that share the same cultural values among its members constitute the numerous local or indigenous communities of Indonesia, scattered from the island of Sumatra in the west to the island of Papua in the east. The environment and area for these groups are currently decreasing in size due to pressure from developing cities, residential areas, and infrastructure. As a result, natural resources in the vernacular settlement area can no longer support population growth and increased living needs, and the cultural diversity and building skills of these communities may fade as younger generations enter modern society. On the other hand, government policy acknowledges that indigenous communities' welfare has become a pressing concern for Indonesia's development and has made development of these communities a priority (Bappenas, 2013). Thus, the empirical observation process is critical to understanding their living cultures so that the government and other stakeholders can maximally support their sustainability.

The living culture of local or indigenous communities is an example of how a more anthropological approach to the design and planning of the built environment, which emphasizes dynamic life processes, leads to a better understanding of building traditions (Vellinga, 2005). Unfortunately, documents and historical records on Indonesia's indigenous communities are currently inadequate. These facts have compelled researchers to study the architecture and living culture of indigenous communities in Indonesia to conduct empirical observations, using an ethnographic approach that they deliberately adopted from cultural anthropology. Ethnography is a longitudinal study where researchers spend a long time in the field interacting with natives and taking notes in various ways to find in-depth data of the given socio-cultural context (Lucas, 2016). The ethnographic descriptions derived from the data analysis help the researchers to interpret and

comprehend, partially or wholly, the architecture and living culture of indigenous communities in Indonesia.

The application of ethnography in architecture over the past decade, especially research on vernacular settlements in Indonesia, is still limited. Research on vernacular architecture in Indonesia is often based on historical aspects (Martana, 2006). One study used a qualitative approach, but it focuses on field observations and interviews to produce evidence while an ethnographic approach can produce detailed and comprehensive explanations of phenomena to find out more about a given context (Lucas, 2016). Thus, one point of interest lies in how this method applies to vernacular settlement research in Indonesia and its future prospects. Through ethnographic studies, architects and planners can understand the point of view of indigenous people (etic) so that they can integrate their point of view (emic) with the points of view of indigenous people (etic) when designing and planning the facilities needed by the community. This study aims to outline the main principles of the ethnographic approach and review the implementation of these principles in previous studies on the vernacular architecture of indigenous communities in Indonesia by using a comparative analysis of four case studies.

STUDY FRAMEWORK

This study comprises four stages. The first stage is a literature review on the main principles of ethnography as a methodological research approach on the culture of the vernacular community. The results of these studies form the basic framework for the review of four case studies.

The second stage is a review validating how the main principles of ethnography have been implemented in the previous studies on the architecture and living culture of indigenous communities in Indonesia. Four case studies have been purposefully selected, namely studies at the Dayak Bukit community in South Kalimantan (Muchamad et al., 2013) for case 1; at the East Madura community in Madura island (Febrianto et al., 2016) for case 2; at the Kapencar village community in Central Java (Sri

Rejeki et al., 2010) for case 3; and at the Atoni community in Tamkesi village on the island of

Timor (Tallo, 2013) for case 4. Figure 1 shows the location map of the four case studies.

Figure 1

The Location Map of the Four Cases: Case 1 Dayak Bukit in Loksado - South Kalimantan, Case 2 East Madura - Madura Island, Case 3 at Kapencar Village - Central Java, and Case 4 Atoni in Tamkesi Village – Timor Island

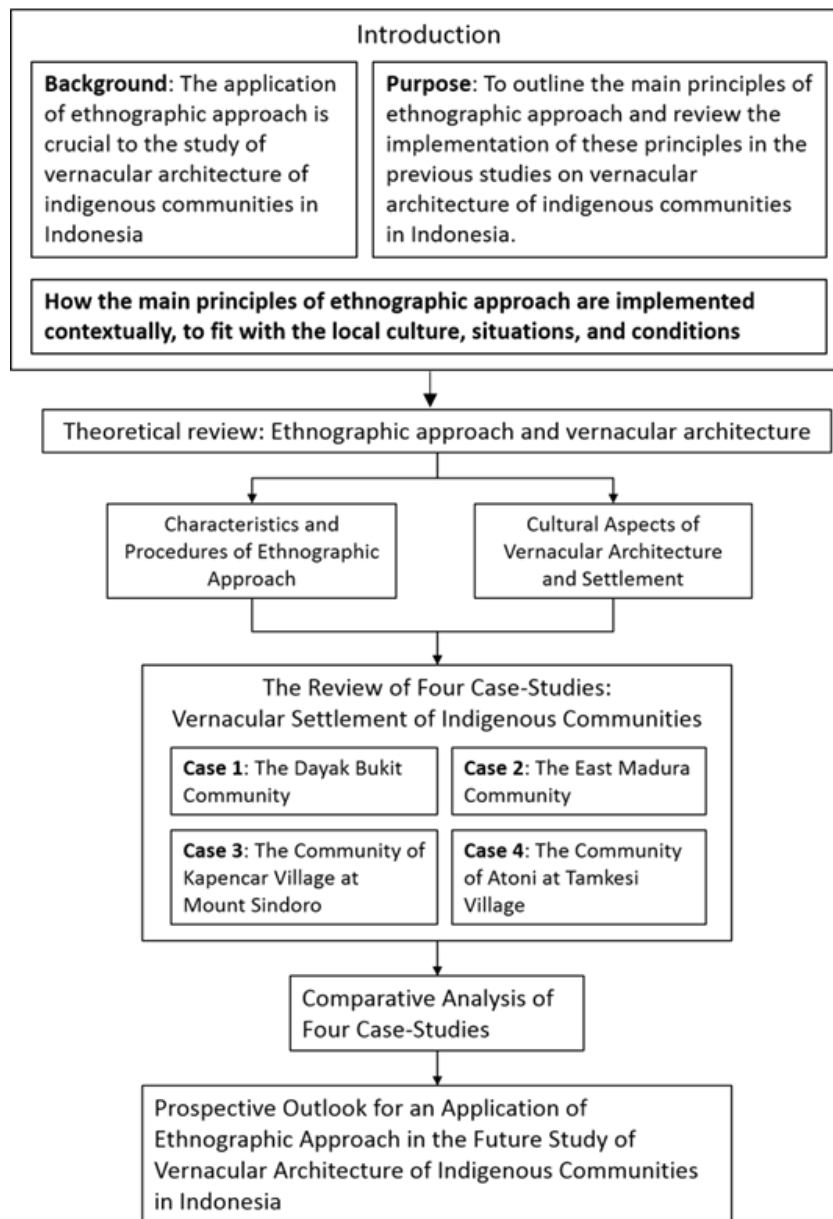


Note. Source: Adapted from *Himawari-8 natural color – Indonesia* by Badan Meteorologi Klimatologi dan Geofisika, 2020, <https://www.bmkg.go.id/satelit/satelit.bmkg?Sat=1&id=0>. Copyright 2020 by Badan Meteorologi Klimatologi dan Geofisika.

This research selected cases based on multiple criteria, specifically cases that examine the uniqueness of indigenous communities' living culture and architecture from large tribes in Indonesia, using the main principles of ethnographic methods for data collection and analysis. The first case is the Dayak tribe, the largest tribe in Kalimantan (many of which live inland), known to have a unique living culture. This study aimed to explore the spatial transformation of the Dayak Bukit housing and settlements (Muchamad et al., 2013). The second study involved the East Madura community, who are part of the Madura tribe living in Sumenep. This study is unique because it investigates the inter-relations between the agricultural landscape with the social structure, dwelling pattern, and settlement of the East Madura corn farming community (Febrianto et al., 2016). The third case is the Javanese tribe living on the slope of Mount Sindoro in Wonosobo Regency. This study aimed to describe the cosmological considerations that underlie the community's living culture and explain how the Javanese philosophy of macrocosm and microcosm governed the spatial configurations of

housing and settlement at Kapencar Village (Sri Rejeki et al., 2010). The fourth case studies the Atoni living at Tamkesi Village in the Timor Tengah Utara Regency. This study aimed to identify factors that influence the spatial structure and symbolism of the Atoni housing and settlement (Tallo, 2013).

The third stage of the study involved a comparative analysis to evaluate how the main principles of the ethnographic approach were contextually implemented in each case of study to fit with the local culture, situations, and conditions while consistently upholding the qualitative research's emic character. The fourth stage included a specific conclusion on the benefit of using the ethnographic method and the prospective outlook for applying the ethnographic approach in the future study of the vernacular architecture of indigenous communities in Indonesia. Figure 2 shows a diagram of the study framework.

Figure 2*Study Framework*

ETHNOGRAPHIC APPROACH AND VERNACULAR ARCHITECTURE

Ethnography is a qualitative research approach in which researchers describe and interpret similar patterns of values, behavior, beliefs, and language from a group with the same culture. Ethnography focuses on groups that share the same culture between members who constantly

interact with each other; the membership of a group can be small or large (Creswell, 2013). As indigenous people exist as a community with the same behavior, beliefs, and language values, their architecture and settlements represent their socio-cultural values and traditions. The belief systems and cosmology, for example, significantly underlie the physical and spatial configurations of buildings and village systems that support the everyday life of these people (Auersbach, 2018; Rapoport, 1969). The formal

appearance of vernacular architecture and settlement are not determined solely by functional attributes but also by symbolic meanings (Schefold, 2003). Cosmologically, vernacular houses in Indonesia are by and large divided into three tiers: the underworld, represented by the space underneath the house; the middle world, represented by the daily living space; and the upper world, represented by the space under the roof /attic (Auersbach, 2018; Schefold, 2003). Additionally, vernacular architecture and settlement express the seven cultural universals imbued within the community's living culture: language, technological systems, economic systems, social organizations, knowledge systems, arts, and religious systems (Koentjaraningrat, 2005). The interrelations among these cultural universals are unique for each community. Accordingly, they generate different features that characterize each vernacular community's architecture and settlement (Sri Rejeki, 2012). As a result, due to the uniqueness of the vernacular architecture, the ethnographic approach can be applied in architectural research, especially for vernacular settlements.

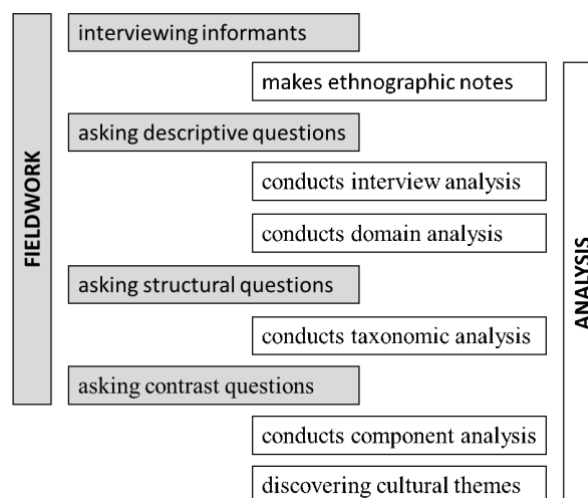
There are several characteristics of the ethnographic approach (Creswell, 2013; Spradley, 2016). First, the approach focuses on developing complicated and complete descriptions of the group culture. The descriptions of the group culture can be all or part of this approach.

Second, members of the observed groups must share a similar culture and must have interacted with each other for a long period of time. Third, researchers must hold an emic view to capture the perspective of the participants. Fourth, researchers look for various patterns, including rituals, behavior, social customs, or habits of the group's activities. Fifth, researchers rely heavily on specific data collection techniques such as fieldwork, participant observation, and open and in-depth interviews carried out intensively in their natural context. Sixth, researchers synthesize and filter the data through an etic scientific perspective to develop a comprehensive cultural interpretation.

The ethnographic research procedure comprises four stages (Spradley, 2016): preparation, fieldwork, analysis, and writing ethnographic reports. In the preparatory stage, the researcher pays initial visits to the locus, where the group of people shares their culture, and assigns resourceful participants and informants. In the fieldwork stage, the researcher conducts a series of open-ended interviews, posing descriptive, structural, and contrast questions to the participants and informants. The researcher simultaneously carries out the analysis phase by taking ethnographic notes and performing domain, taxonomical, and component analyses to discover cultural themes. The whole ethnographic research procedure can be summarized diagrammatically in Figure 3.

Figure 3

Ethnographic Research Procedure



Note. Adapted from *The Ethnographic Interview* by Spradley, J. P., 2016, Waveland Press, Inc. Copyright 2016 by Spradley, J. P.

Researchers who wish to adopt an ethnographic research procedure need to consider Creswell's seven procedures (Creswell, 2013). First, they should determine whether ethnography is the most appropriate approach for the study the researcher would like to conduct. Second, they should be able to find a group of peoples that share the same culture to be studied and to find prospective informants. Third, they should select specific themes, problems, or cultural theories that the researcher wants to explore. Fourth, they should determine whether the researcher is going to use Realist or Critical Ethnography. Fifth, they should prepare themselves to conduct a long-term field survey, observing the daily life of people who share the same culture in its natural context. Sixth, they should have the ability to analyze data, compile descriptions, develop themes, draw interpretations, and explain how the cultural systems work. Seventh, they should be able to establish a series of theories as to the outcome of the study. Ethnographic research procedures will ultimately provide a cultural portrait that includes the views of the participants (emic) as well as the opinions of the researchers (etic).

Creswell also points out up to five requisites for researchers who plan to conduct research using an ethnographic approach (Creswell, 2013).

THE REVIEW OF FOUR CASE STUDIES

Each of the cases reviewed focuses on indigenous communities who share the same culture and intends to produce a holistic description of how systems within the same cultural group work (Creswell, 2013). The review focuses on what cultural systems affect each community's spatial character (Koentjaraningrat, 2005) and how the research procedures are applied contextually according to the characteristics of the ethnographic approach (Creswell, 2013; Spradley, 2016). The cultural aspects review can provide a deeper understanding of cultural systems' influence on Indonesia's vernacular architecture. The comparative analysis illustrates how the main

First, they must understand cultural anthropology. Second, they must be willing to spend a prolonged time carrying out fieldwork. Third, they must have proficiency in writing reports in the form of narratives (almost like telling a story). Fourth, they must be able to maintain objectivity and avoid the risk of assimilating to the culture they are studying. Finally, they must be sensitive to the needs of individuals in the community. Lucas includes another essential requisite, that they are open-minded and do not make judgments based on their values (Lucas, 2016).

Despite these daunting considerations and requisites, prospective researchers will immediately find that an ethnographic approach is a worthwhile endeavor. Through field observations, ethnographers are able to blend in with indigenous peoples, resulting in a rich understanding of the community's living culture in architecture and built environments. Aside from this, ethnographic research can identify, explore, and connect the cultural aspects that significantly affect indigenous communities' living culture; this can reveal and interpret the complex inter-relation between vernacular architecture and the cultural aspects (rituals, behaviors, social customs, ways of life, or habits) of indigenous communities in Indonesia.

ethnographic principles are applied in each case study to suit the culture, situation, and local conditions. These each describe the specific method applied and the specific findings reached in each case study.

Case 1: The Dayak Bukit Community (Muchamad et al., 2013)

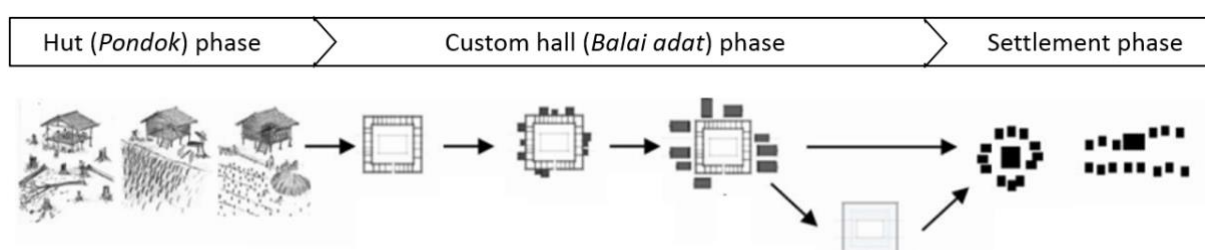
The Dayak Bukit community lives in Loksado District in the Hulu Sungai Selatan Regency of South Kalimantan province (figure 1). This ethnographic study aimed to explore the spatial transformation of the Dayak Bukit housing and settlement (Muchamad et al., 2013). The study confirmed that religious and social systems are the two primary cultural aspects that significantly influenced the Dayak Bukit housing and settlement transformation process. The researchers strongly argued that they could not

observe the transformation process of housing and settlement detached from the Dayak Bukit community's overall cultural context and daily life. The researchers heavily relied on field observations and in-depth interviews as tools to collect empirical data. The naturalistic research procedure adopted by the researchers comprises four stages, namely domain analysis, taxonomy, compounding, and themes (Muchamad et al., 2013). The researchers concluded that the transformation of the Dayak Bukit housing and settlement took place consecutively, starting from the *Pondok* (Hut) phase, leading to the *Balai Adat* (Custom Hall) phase, and finally to the

settlement phase, as shown in figure 4. The *Pondok* (Hut) phase is the initial formation of settlements, marked by establishing small huts and the nomadic tradition of settling in fields during the planting season. In the *Balai Adat* (Custom Hall) phase, the Dayak Bukit families begins to live together in a single house, while nomadic traditions still persist. In the settlement phase, the Dayak Bukit community begins to settle permanently in specific locations. The community structure and relationship between *Balai Adat* (Custom Hall) and the individual houses uniquely manifested in the form of the Dayak Bukit settlement.

Figure 4

The Transformation Process of the Dayak Bukit Settlement



Note. From “*Transformasi permukiman suku Dayak Bukit (dari Pondok menjadi Kampung)* [The Transformation of the settlement of the Dayak Bukit Tribe (from Pondok to Kampung)],” by Muchamad, B. N., Dharoko, T. A., Ronald, A., & Ahimsa-Putra, H. S., 2013, *Jurnal Arsitektur Dan Perencanaan*, 6(1), 18–25. Copyright 2013 by Universitas Gadjah Mada.

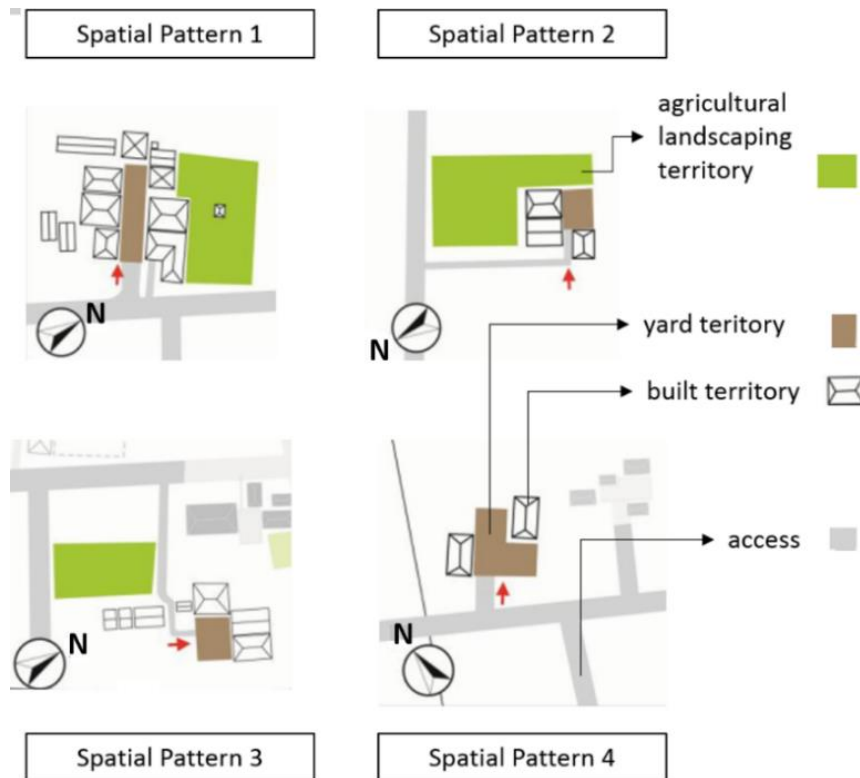
Case 2: The East Madura Community (Febrianto et al., 2016)

The East Madura community lives in the Sumenep Regency of Madura Island (figure 1). This ethnographic study investigates the interrelations between the agricultural landscape with the social structure, dwelling pattern, and settlement of the East Madura corn farming community (Febrianto et al., 2016). Figure 5 shows four types of spatial patterns in these vernacular settlements. The study results confirmed that the livelihood system (field ecological culture) and the religious system (Islam) were the two cultural aspects significantly influencing the orientation, hierarchy, and pattern of dwelling and settlement of the East Madura

community. The researchers relied on interviews, field surveys, field measurement, and documentary investigation (documents relevant to building owners, occupants, and physical artifacts) as tools to collect empirical data (Febrianto et al., 2016). The researchers have drawn the following conclusions: First, the dwelling (*tanèyan lanjèng*) and its landscape are significantly related to the historical background, social structure, and settlement pattern of the East Madura Community. Second, there is a close-knitted relationship between nuclear families belonging to one dwelling unit (*tanèyan lanjèng*), but not among different dwelling units situated far apart from each other. Third, the relationships between dwelling units (*tanèyan lanjèng*) and the agricultural landscape are marked by boundaries of dwelling units and boundaries of the settlement in its entirety.

Figure 5

Spatial Pattern of Agricultural Landscape, Dwelling, Settlement, and Street of East Madura Community



Note. From “Pola spasial teritori pada lanskap-hunian masyarakat peladang desa Juruan Laok Madura Timur [Spatial patterns of the territory in the residential landscape of the farmers in Juruan Laok Village, East Madura],” by Febrianto, R. S., Wulandari, L. D., & Santosa, H., 2018, *ARTEKS, Jurnal Teknik Arsitektur*, 2(1), 59 (<https://doi.org/10.30822/arteks.v2i1.41>). CC BY-NC-SA 4.0.

Case 3: The Community of Kapencar Village at Mount Sindoro (Sri Rejeki et al., 2010)

The Javanese community of Kapencar Village lives on the slope of Mount Sindoro in Wonosobo Regency, Central Java (figure 1). The community members come from the same offspring and are traditionally instructed to maintain an intimate relationship with nature. This ethnographic study aimed to describe the cosmological considerations that underlie the community's living culture and explain how the Javanese philosophy of macrocosm and microcosm governed the spatial configurations of housing and settlement at Kapencar Village (Sri Rejeki et al., 2010). Kapencar Village consists of two areas: Sontonayan Hamlet and Kapencar Hamlet, which have different spatial structures

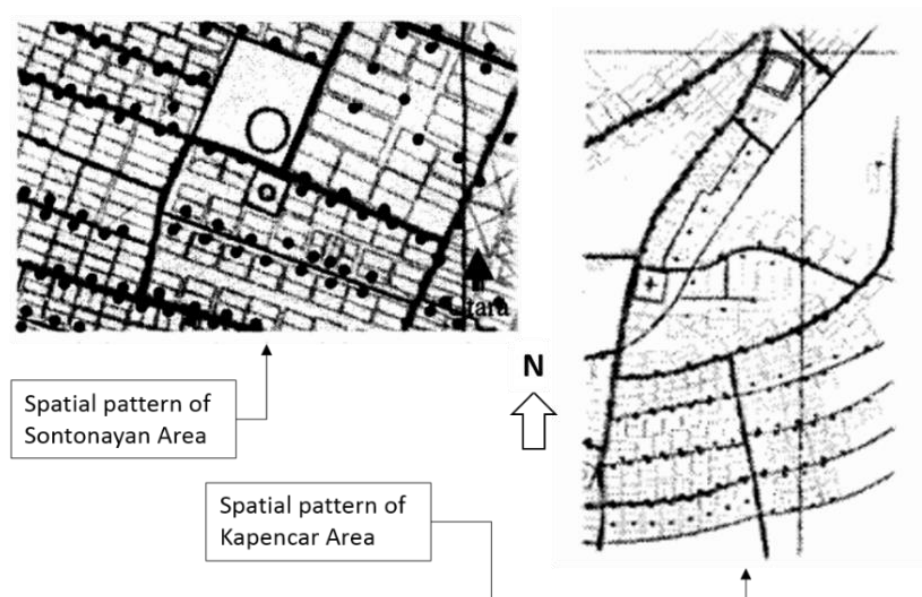
based on their beliefs (figure 6). In Sontonayan Hamlet, residential buildings' orientation should not face east because the east symbolizes the rising sun; the indigenous people there believe they cannot fight the sun. In Kapencar Hamlet, the orientation of housing is freer because the people are not bounded by this belief. Figure 6 shows the spatial pattern of the settlement. The researchers relied on phenomenological procedures as tools to collect and analyze the empirical data simultaneously. This naturalistic research procedure adopted by the researchers comprises three stages (Sri Rejeki et al., 2010). The initial stage, where the researchers prepared to enter the field; the second stage, where the researchers collected and analyzed the empirical data simultaneously; and the third stage, where the researchers finalized the research process and departed from the locus of the study. The researchers were convinced that there are

significant relationships between cosmological values adhered to by the community members with the spatial character and the layout of the housing and settlement at Kapencar Village. They concluded that the cosmological values, the preservation of ancestors' wisdom, and the

cultural dynamics within the community would gradually affect the cultural traditions of the vernacular community at Kapencar Village.

Figure 6

Spatial Pattern of Sontonayan and Kapencar Area



Note. From “*Nilai kosmologi pada tata spasial permukiman desa Kapencar, lereng gunung Sindoro, Wonosobo* [Cosmological Value in the Spatial Layout of Settlement in Kapencar Village on the slope of Mount Sindoro, Wonosobo],” by Sri Rejeki, V. S., Soewarno, N., Sudaryono, S., & Subroto, T. Y. W., 2010, *Forum Teknik*, 33(3), 140–148 (<https://jurnal.ugm.ac.id/mft/article/view/654/504>). Copyright 2010 by Universitas Gadjah Mada.

Case 4: The Community of Atoni at Tamkesi Village, Timor Island (Tallo, 2013)

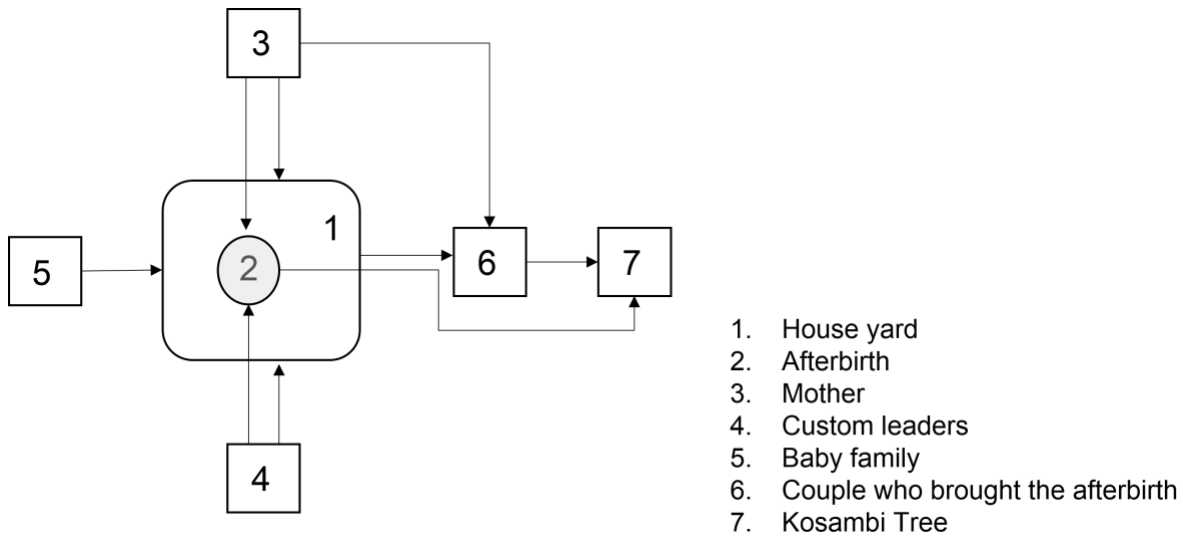
The community of Atoni lives at Tamkesi Village in the Timor Tengah Utara Regency of East Nusa Tenggara province (figure 1). This ethnographic study aimed to identify factors influencing the spatial structure and symbolism of the Atoni housing and settlement (Tallo, 2013). The study results confirmed that gender relations, kinship system, power, and ritual are cultural aspects that significantly influenced the spatial structure and symbolism of the Atoni housing and settlement. The researcher relied on observations and semi-structured interviews with key informants as tools to collect empirical data. The key informants, including the village chief

and community leaders, were purposefully selected to depict the architecture and living culture of the community.

The researcher recapitulated, categorized, and classified the interview data systematically and validated their reliability, adequacy, and consistency (Tallo, 2013). Three themes concurrently appeared from the data analysis: the settlement structure, the location of houses, and the Atoni housing and settlement development trajectory. The researcher concluded that the Atoni spatial order, particularly the scale and structure of the housing and settlement, are meticulously connected with the life cycle rituals (birth, marriage, death) and agricultural rituals. Figure 7 shows the spatial structure based on birth rituals in the Atoni community. Figure 8 provides an overview of the spatial pattern of settlements in Tamkesi Village.

Figure 7

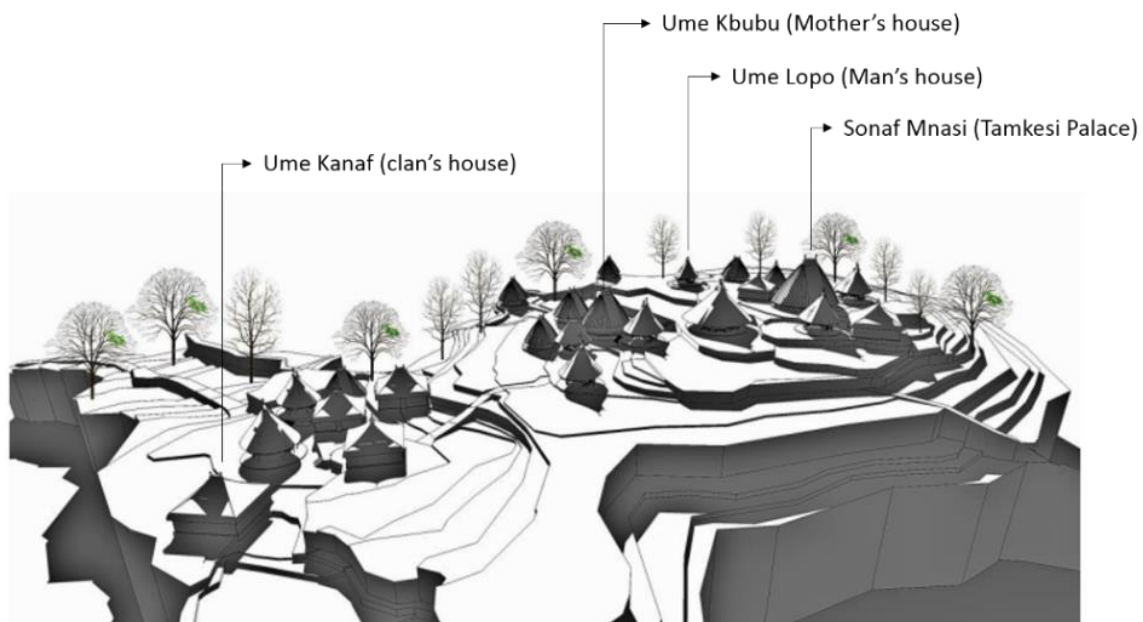
Spatial Structure Based on Birth Rituals in the Community of Atoni



Note. From “Struktur ruang permukiman suku Atoni berbasis budaya, studi kasus: Kampung adat Tamkesi kabupaten Timor tengah utara [Cultural-based settlement structure for the Atoni Tribe: A case study of Tamkesi Traditional Village, North Central Timor Regency],” by Tallo, A. J., 2013, *Tesa Arsitektur Journal of Architectural Discourses*, 11(1), 16–30 (<http://journal.unika.ac.id/index.php/tesa/article/view/221/215>). Copyright 2013 by Soegijapranata Catholic University

Figure 8

Tamkesi Settlement



Note. From “Tata spasial arsitektur tradisional suku Atoni Di Kampung Tamkesi Pulau Timor [Spatial planning of traditional architecture as observed among the Atoni Tribe in the Tamkesi Kampong on Timor Island],” by Lake, R. C., 2016, *ATRIUM Jurnal Arsitektur*, 2(1), 31–41 (<https://doi.org/10.21460/atrium.v2i1.51>). CC BY-NC-SA 4.0.

COMPARATIVE ANALYSIS OF FOUR CASE STUDIES

This study performs a comparative analysis among the four case-studies to validate how the researchers implemented ethnography's main principles in the previous studies on vernacular architecture and indigenous communities' living culture in Indonesia. Not all the researchers who conducted these studies explicitly stated that they are using an ethnographic approach, either purely or partially. The researcher of the Javanese community at Kapencar Village instead mentioned that she used phenomenological methods (Sri Rejeki et al., 2010), while the

researcher of the Atoni community at Takemsi Village modestly confessed that he used a qualitative study (Tallo, 2013). However, judging from the principles they embraced, these studies shared the characteristics of an ethnographic approach. All case-studies focused on a specific community who shared the same culture with the intent of producing a holistic description of how the system in the same culture group works (Creswell, 2013). The analysis focuses on what cultural systems affect each community's spatial character and how the research procedures are applied contextually in terms of the themes/ issues explored, data collection methods, informants, interpretation results, and writing structure.

Table 1

Comparative Analysis of the Implementation of Ethnographic Principle

	Case 1	Case 2	Case 3	Case 4
Researcher(s)	Muchamad et al. (2013)	Febrianto et al. (2016)	Sri Rejeki et al. (2010)	Tallo (2013)
Vernacular community	The Dayak Bukit Community at Loksado District	The East Madura Community at Sumenep	The Javanese Community at the village of Kapencar	The Community of Atoni at Tamkesi Village
Research objectives	To explore the spatial transformation of the Dayak Bukit housing and settlement	To investigate the interrelations between the agricultural landscape with the social structure, pattern of dwelling, and settlement	To describe the cosmological considerations that underlie the living culture of the community, and to explain how the Javanese philosophy of macrocosm and microcosm governed the spatial configurations of housing and settlement	To identify factors that influence the spatial structure and symbolism of the housing and settlement
Cultural aspects	Religious and social systems	Livelihood system (field ecological culture) and religious system (Islam)	The belief system (cosmology), the Javanese philosophy of macro and microcosm	Gender relations, kinship system, power, and ritual.

Table 1 (Continued)

	Case 1	Case 2	Case 3	Case 4
Themes / Issues explored	The transformation of the Dayak Bukit housing and settlement	The orientation, hierarchy, and pattern of dwelling and settlement	The relationships between cosmological values and the spatial character and the layout of the housing and settlement	The relationships between spatial order and life cycle rituals and agricultural rituals.
Methods of data collection	Field observations and in-depth interviews	Interviews, field survey, field measurement, and documentary investigation	Phenomenological procedures	Observations and semi-structured interviews
Informant	Not mentioned	Not mentioned	The community leaders	The village chief and community leaders
Interpretation results	The transformation of the Dayak Bukit housing and settlement took place in three consecutive phases.	The relationships between dwelling units (<i>tanèyan lanjèng</i>) and the agricultural landscape. The boundaries of dwelling units and the settlement in entirety.	The relationships between cosmological values with the spatial character and the layout of the housing and settlement	The relationships between spatial order and the life cycles rituals (birth, marriage, death) and agricultural rituals
Writing structure	Introduction; Architecture and Culture; Research Methods; Results and Discussion; Conclusions and Suggestions.	Introduction; Materials and Methods; Results and Discussion; Conclusions.	Introduction; Fundamental (description of cultural aspects); Research Methods; Results and Discussion; Conclusions.	Introduction; Literature Review; Research Methods; Research Results and Discussion; Closing

Note. Source: Data of case 1 from Muchamad et al. (2013); case 2 from Febrianto et al. (2016); case 3 from Sri Rejeki et al. (2010); case 4 from Tallo (2013).

Table 1 shows that the four case-studies utilized observations and interviews as tools for collecting field data. However, they used slightly different terms for these methods and accordingly relied on informants to gain relevant and reliable information. Although the research objectives, focus, and issues of each case-study are dissimilar, the researchers managed to provide a cultural portrait that includes the participants' views (emic) and the researchers'

opinions (etic). Each ethnographic study is unique and demands different outlooks and responses from the researchers.

Each researcher's success from the four case studies in applying the ethnographic method can be seen from the suitability of the research objectives with the themes that were successfully explored from the indigenous peoples' culture of residence in each case (Table 1). The success of

applying an ethnographic method is marked by researchers' success in informing the cultural bonding theories and finding grounded theories (Spradley, 2016). The similarities that emerge from the four case studies are the religious or belief systems that influence the architecture and living culture. The religious or belief system is a cultural aspect that significantly influences each case as part of the findings manifested in the themes that emerged as grounded theory. The cultural aspects of this system have a close relationship with or significantly affect each case's settlement pattern and living culture. This fact arises from the participants' views (emic) and the researcher's opinion (etic), which is an essential part of applying ethnographic methods. These findings are in line with Auersbach (2018) and Rapoport (1969), which state that belief systems and cosmology significantly underlie the physical and spatial configuration of buildings and village systems supporting people's daily lives. Differences in method implementation may arise because researchers try to adapt to local culture, situations, or conditions while consistently attempting to uphold the qualitative research's emic character.

The written articles presented by each of the case-studies share roughly the same structure (Table 1). Each contains an introduction, research methodology, description of the culture, analysis of cultural themes, interpretation of research results, and conclusions. This structure fits into the general structure of ethnographic research reports, as Creswell (2013) suggested.

PROSPECTIVE OUTLOOK FOR THE APPLICATION OF AN ETHNOGRAPHIC APPROACH IN THE FUTURE STUDY OF THE VERNACULAR ARCHITECTURE OF INDIGENOUS COMMUNITIES IN INDONESIA

The existence of numerous and diverse ethnic groups in Indonesia, and the limitations of a quantitative approach in providing deeper understanding of the architecture and living culture of indigenous communities in Indonesia,

will inevitably compel the researchers, sooner or later, to resort to a naturalistic approach. Limited written documentation and surviving oral traditions will push researchers to more strongly favor the naturalistic or ethnographic approach. In the future, the ethnographic approach will undoubtedly occupy a central position in the study of indigenous communities' architecture and living culture in Indonesia. The main challenge to this approach is introducing a new research paradigm different from the previously dominant quantitative approach. In this case, guidance and instructions are less critical than the researchers' mental attitudes, preferences, and acceptance.

Researchers who aspire to adopt an ethnographic approach for their research should familiarize themselves with different versions of ethnographical approaches before deciding which version is suitable for their research domain, objectives, timeframe, and available resources. Overall, these are the prerequisites that researchers must meet before applying an ethnographic approach to their research project:

- A conviction that ethnography is the most appropriate approach for the research they would like to conduct;
- Good command in a research paradigm, procedures, and methods of ethnographic approach, including their various derivative versions;
- A comprehensive idea of the frontiers and boundaries of the research study;
- A strong motivation to contribute to the development of knowledge on indigenous communities' architecture and living culture in Indonesia.

Research using ethnographic methods can reveal indigenous communities' local wisdom in their vernacular architecture and living culture. This local wisdom appears throughout themes or local theories due to research exploration, as is revealed in the four case studies. From a practical point of view, architects and planners can take advantage of this local theory to solve design or planning problems that directly affect the indigenous community. Therefore, they can work hand in hand with the community to support the communities' sustainability.

Cultural aspects have always played a part in the lives of indigenous peoples. Cultural systems that have a significant influence on vernacular architecture and living culture are the primary components underlying the formation of local wisdom; as seen in the four case studies, the religious or belief system of an indigenous people significantly influences its people's settlement pattern. Architects and planners who understand the cultural aspects that affect indigenous peoples' architecture and living culture can better communicate solutions to design and planning problems relating to indigenous peoples.

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