



Minahasan Local Wisdom in the Art of the Indies Architecture in the Colonial Era of Minahasa, North Sulawesi: A Study of Historical Archaeology

Irfanuddin Wahid Marzuki ¹

¹Research Centre of Prehistoric-Historic National Research and Innovation Agency of the Republic of Indonesia (BRIN), Jakarta, Indonesia
wd_546@yahoo.co.id

Abstract. As a region with a strong influence on the Dutch during the colonial period, Minahasa was often referred to as "the 12th Province of the Netherlands". In fact, the great influence of the Dutch has entrenched not only in the aspect of religion and language but also in the art of building and architecture. Intact evidences of residential buildings constructed during the Dutch colonial period in Minahasa were located both in urban and in rural areas, particularly in the hinterland of Minahasa. The buildings not only reflect Dutch or European architecture but represent a fusion with the local architecture. The fusion between local and foreign architecture (European and Chinese) is renowned as Indies architecture. This study used historical archaeology, which combines archaeological data (artifacts, ecofacts, and features) and historical data (archives, maps, photos, and historical documents). The study was aimed at finding out the local wisdom adopted by the Europeans (Dutch) in the Indies architecture in Minahasa. The results showed a strong influence of Minahasan local wisdom in the Indies architecture in Minahasa. The nuance of local wisdom is not only reflected in the building materials but also in the philosophical meaning of architectural design.

Keywords: Minahasa, local wisdom, Indies architecture, historical archaeology

1 Introduction

The word Minahasa refers to two meanings, namely the ethnicity and region in North Sulawesi Province. As an ethnic group, the Minahasans are divided into eight sub ethnic: Tonsea, Tombulu, Tondano or Tolour, Totemboan, Tonsawang, Ponosakan, Ratahan, and Bantik. Meanwhile, as a region, Minahasa is separated into seven administrative areas: Minahasa Regency, North Minahasa, South Minahasa, Southeast Minahasa, Manado City, Bitung City, and Tomohon City (Figure 1). The word 'Minahasa' is made up of the prefix ma-, the infix -in-, and the independent word esa or 'one'. In English this translates as 'become one' or 'united', and refers to the unity of the eight aforementioned subethnic groups [9]. The word Minahasa was initially used in the official documents of the government since October 8, 1789, as evidenced in a report by Resident J. D. Scierstein to the Governor General of the VOC [3].

During the Dutch colonial administration, Minahasa became the area most deeply penetrated by the Dutch influence in Indonesia. The strongest influence was seen from the spread of Protestant Christianity to remote areas of Minahasa by missionaries from NZG (*Nederlandsch Zendeling Genootschap*). Other influences were evident in the education system, language, lifestyle, settlement patterns, and architecture. In terms of education, Minahasa grew into the most advanced region during the colonial period. Historical account revealed that there were 150 schools in 1860 in Minahas [24]. The Dutch also brought about a considerable impact on linguistic aspect as seen from countless loan words from the Dutch, which have been used in the daily interactions of the Minahasans today, such as *meneer*, *kas*, *koi*, *hook*, *voor*, *place*, etc. Thus far, a great number of the elderly population in Minahasa are still fluent in Dutch. Not to mention to the fact that some churches even use Dutch as the language of instruction in their worship. The Dutch influences has also infiltrated the aspect of architecture as reflected from the current presence of Indies-style buildings that combine Minahasan architecture with European (Dutch) architecture in the interior of Minahasan buildings. In this context, Heny Pratiknjo, as quoted by *detik.com*, held that this evidence served as an attempt by the Dutch to control Minahasa through religion and culture because physical control was nearly impractical [13].



Fig. 1. Map of Minahasa

The building architecture that intermixes the Dutch and traditional architecture (local style) is known as *Indo Europeesche Bouwkunst*, *Indische Huizen*, and *Indische architecture* [25]. This architectural style is distinctively unique because it exists nowhere else and comprises distinctive characteristics from the architectural style of other regions in Indonesia [27]. The word Indies is derived from the word *Nederland-*

sch Indie or the Dutch East Indies and its use refers to the architectural style, culture, and lifestyle of the supporting community that was formed during the reign of the Dutch East Indies in Indonesia [25].

While there have been many studies to explore local wisdom in the art of traditional building and modern architecture, only few studies were noted to address Indies buildings, which were mainly constructed during the colonial period. Thus, the object of this study was limited to colonial buildings to accord with the scope of historical archaeological studies. Archaeological study largely examines Cultural Heritage Object (BCB) or Suspected Cultural Heritage Objects (ODCB). Law no. 11 of 2010, Chapter III article 5, stipulates that to be deemed a cultural heritage, the site must meet the following criteria: a) to be at least 50 (fifty) years of age or more, b) to represents at least the past 50 (fifty) years of style, c) to retain special meaning in terms of the aspect of history, science, education, religion, and/or culture, and d) to contain cultural values that strengthen national identity. On this basis, the object of historical archaeological study includes archaeological remnants from the earliest form of writing up to the past 50 (fifty) years. This article, hence, aims to examine the application of local wisdom in Indies buildings in the Minahasa.

2 Method

Using inductive reasoning, the research starts from the study of specific facts or symptoms to come up with the conclusion of general symptoms or empirical generalizations [29]. This research used a descriptive analytical method, which aims to make a systematic, factual, and accurate description about facts and characteristics of a particular population or area [28]. The historical archeological approach in this study was used in order to reveal more details about the existing archaeological remains. As an approach, historical archeology combines history, archeology, geography, and ethnography. Historical archeology focuses on the study of archaeological remains with written records relating to the history of these remains [2]. Historical archeological objects are archaeological remains that date back to the human period after the introduction of the earliest form of writing. The research stages consist of data collection, data processing, and data analysis that generates a conclusion.

3 Discussion

Local wisdom can be defined as the knowledge possessed by a particular community gained through a long process [30], derived from cultural values created based on environmental considerations and public trust in tangible and intangible objects [21]. Local wisdom is a system that integrates knowledge, culture and institutions and practices in managing natural resources [26]. The concept of local wisdom was initially introduced by H.G. Quaritch Wales in 1948, which refers to “the basic personality of each culture” [8]. In terms of settlements, the Minahasans have applied a local wisdom to consider their settlement as a place to be better managed and translated into practical concepts that can guide contemporary people to live in harmony with the

environment, and show their respect for pre-colonial traditions [33]. The relationship between the local wisdom of the Minahasan community is depicted in Figure 2.

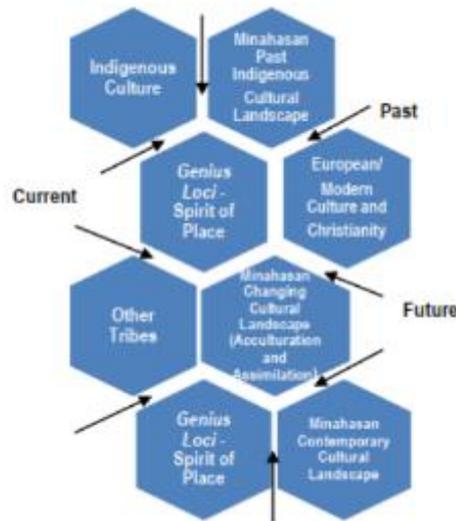


Fig. 2. Intertwined Minahasan Cultural Landscape Interactions
(source: Wuisang, 2014:309)

Formerly, Minahasan settlements were generally developed in the rural areas, instead of the coastal areas. The Minahasans, generally agricultural farmers [1], were less interested in living in coastal areas because of its uncomfortable climate, since the coastline is commonly hot, humid, swampy, sandy and has infertile soils. Moreover, it is largely unsafe due to the attacks by the Mangindano and Tobelo pirates and the expansion of the Bolaang Mongondow kingdom [18]. The pattern of past Minahasan settlements is divided into two types, namely: *pakasaan* (settlement of a certain ethnic group) and *lukarz* (small scattered hamlets) [22]. The word *lukarz* is derived from the old Tombulu language, which means a protected area, where people live together [22]. Henley described the settlement pattern of the Minahasan as follows.

*In most areas there were two main types of settlement: nucleated political and ritual centers, typically fortified for defense, and much less conspicuous, but often very numerous, swidden houses or small hamlets scattered in the surrounding farmland and secondary forest. In most areas, there were two types of settlement: small political and ritual centers fortified for defense and houses or small hamlets scattered around agricultural land and secondary forest. The former figure prominently in Dutch reports as *dorpen, kampung or negeri*”, but while some foreign observers recognized that these ‘can also be regarded as districts [9].*

The Minahasan land use pattern is split into four parts, namely northwest, northeast, southeast, and southwest or into two parts, namely top (north direction) and bottom (south direction) (Figure 3). The upper part is a forest area which is classified into two, namely the left side (northwest) to meet short-term needs, and the right side



Fig. 3. Land use pattern plan of Minahasan community (source: Renwarin, 2007:42).

(northeast) to meet long-term needs. The lower part is a food source area, which is also separated into two parts, namely a short-term food source area (southwest) and a long-term food source area (southeast) [15]. Renwarin further explained that in the northwest, there are wangelei plants (a type of medicinal plant), betel and areca nuts to serve guests, and sago as an ingredient for cakes. The northeast grows the materials used for travel, the lower part serves as a cultivation area, while the southwest part consists of kahukurz (a type of grass that can be cooked or vegetables), bamboo for cooking rice, and women cooking. The southeastern part consists of palm trees that produce sap, fruits, and woka trees whose leaves are used to wrap food [22].

The traditional Minahasan house is in the form of a house on stilts or a house with two stairs at front. The beliefs of the Minahasan ancestors held that such placement of the two ladders at the front part was intended to drive out the evil spirit, who try to climb up the stairs, by providing the next ladder for them to climb down [4]. History notes that in the past, the Minahasan lived in a large house inhabited by several families. The house was generally in the form of a large rectangle with a high roof. Inside there was a hallway, while on the left and right there were cubicles where one *batih* (family) lived. The height of the house was between 3 meters – 4 meters and it only had one ladder made of logs to be pulled up at night for safety [6] (Figure 4). The house was mainly constructed from wood and bamboo. The connection system used a wooden/bamboo pen, which was tied with palm fibre rope. The roof was made of thatch, reeds, or fibers. After 1845, however, there were some changes in the shape of

the Minahasan house, when there was a big earthquake that knocked down many houses. Thus, smaller houses were constructed for one family which consisted of many pillars. The traditional Minahasan houses are divided into two types, namely: *wale meithohtol* (house on stilts with high pillars), and *wale meiwangin* (house with a moderately high pillar of stone or brick).

Europeans living in Minahasa built their houses by adapting to the natural and environmental conditions in Minahasa. The European houses in Minahasa were mainly constructed by referring to Indies architecture. The typology of Indies architecture in Minahasa can be categorized into two periods, namely; period 1800-1900 and those of 1901-1945. The buildings for the period of 1800-1900 were mainly constructed as

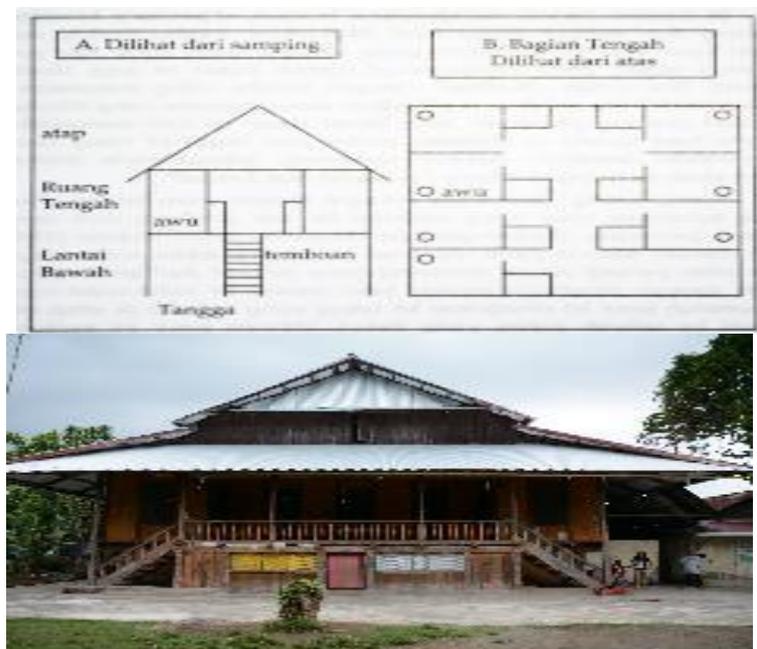


Fig. 4. Plan of the old Minahasan house [22] and one of the remaining large houses in Remboken, Minahasa Regency (Author's documentation).

houses on stilts with a combination of wall and wooden materials (Figure 5). The buildings were elongated in shape and had two stairs at the front with the floor height at about 1 meter - 1.5 meters [5]. The roof was largely in the form of a high saddle made of thatch, reeds, or fibers and had a small window (*pepenet oki*). The small window (*pepenet oki*) in a traditional Minahasa house served as a way for light to enter the attic (*soldor*) and a place to look down (*tetemboan*) when the homeowner was in the attic [31]. Nonetheless, the intact evidence of houses built during this period is no longer available. The only available data were derived from photos, which are made accessible from the [https://Digital Collections \(universiteitleiden.nl\) site](https://Digital Collections (universiteitleiden.nl) site).

These photos indicate that the buildings of Europeans settlers who lived in Minahasa constituted a fusion between Minahasan architecture and European architecture. However, it remains unclear whether the walls and the foundation of these buildings were constructed from brick or stone/coral, given the fact that no archaeological evidence is left from this period. The artifactual data found in the foundations of other buildings (forts, warehouses, and churches) dating from the 1800s, revealed that they generally used rock mixed with limestone as the foundation and walls. The materials for the Indies houses in Minahasa likely share similarities with the artifacts ever discovered.



Fig. 5. The shape on indies building period 1800-1890 in Minahasa(source: Digital Collections (universiteit.leiden.nl))



Fig. 6. The shape on indies buildings 1900-1945 period in Minahasa (source: Author's documentation)

The shape of the Indies building in the period 1900-1945 witnessed some changes, particularly in terms of size and stage. They were no longer built as large houses on stilt but were more varied (Figure 6). They were still mainly constructed from a blend of local materials and foreign materials. Their shapes were more varied, not only on stilts and elongated as in the previous period. Some houses even had an octagonal shape at the front, the shape resembling the letters L, U, or couples. The floor height was mainly less than 1 meter and some used tiles or cement floors. Indies buildings of this period were no longer owned solely by the Europeans since most of them belonged to natives who worked as Dutch government employees (*ambtbaar*), soldiers (KNIL), or employees of Dutch companies (KPM and BPM). The houses were generally named on their front facade, such as *Huiz Makassar*, *Wale Borneo*, *Wale Paloe*, *Wale Koelawi*, *Huize Esther*, and *Huize Maria*. This naming was largely based on their workplace (Makassar, Borneo, Palu, and Kulawi), and the name of the owner (Ester and Maria) [14].

The roof was no longer merely in a saddle shape but had various overlapping shapes, pyramid, shield, or a combination of several shapes. Some of the roofs were constructed from zinc, which were installed using nails and bolts. Some building frames used iron, but most of them still used wood. The walls of the buildings were made of concrete walls or wooden walls with the main frame using wood. It is noteworthy that some houses used bamboo slats (*pitate*) to support the walls. Bamboo slats (*pitate*) were placed on the inside of the wall to serve as a reinforcement (Figure 7). The window section had a canopy of concrete to prevent heat and water from leaking when it rained. The foot of the building was generally constructed from river stones. The location of the kitchen was generally separated from the main building like that in traditional Minahasan houses.

As part of the local wisdom, the architecture of Indies buildings in Minahasa adapts to the natural environmental conditions of the Minahasa region with its tropical climate, high rainfall, rapid changes in heat and rain, and its location in an earthquake-prone area. The values of local wisdom in the field of architecture can be explored by way of applying ‘smart solutions’ that are balanced with ‘sensible and prudent solutions’, to achieve a ‘smart and sensible solution’ [21]. Four rules are stipulat-



Fig. 7. Bamboo slats (*pitate*) placed the wall to serve reinforcement (source: Author’s documentation)

ed for designing earthquake-resistant houses, as listed in the following: the plan or shape of the building must be simple and symmetrical, the materials used must be light, the connection system must be rigid and flexible, and the structural and construction systems are unified, especially in the roof, wall, and foundation structures [7]. To construct high-quality buildings, the community must learn from high-quality existing buildings, which adapt to the natural, environmental, and cultural conditions of the community [27].

4 Conclusion

The local wisdom of the Minahasan community flourished and developed through a long process in the life of the Minahasan community. Natural conditions, environment, traditions, and disasters are the main lessons to learn and construct the Minahasan local wisdom. Local wisdom in Indies architectural buildings in Minahasa can be grouped based on three functions, namely; the roof of the building, the body, and the legs (building foundation). The roof of the building was mainly constructed using lightweight materials (thatch, fibers, reeds or zinc) because it was located in an earthquake-prone area. The roofs were made of naturally derived materials as an effort to take advantage of the existing potential in the surrounding environment, which was abundant and available. In addition, the roof was constructed with a high ridge to serve as an attic to store natural products and reduce high humidity. The buildings were made of naturally-derived existing materials in the surrounding environment, such as wood, and bamboo combined with concrete walls. The foot of the building was adapted to the local design using wooden poles and a splicing system with pins and natural stone. In its later stage development, the building design and the materials of the Indies architecture in Minahasa did not eliminate the use of the old materials,

which served as the local wisdom of the Minahasan community. They simply combined new technology with the local Minahasan wisdom that has existed for a long time.

References

1. Bhatta, M. J. . (1958). *Tinjauan Tentang Tempat Kediaman Orang Jang Beragama Islam di Minahasa*. Jakarta, Indonesia.
2. Funari, P. P. (1999). *Archaeology in History*. In P. P. Funari (Ed.), *Historical Archaeology Back From the Edge*. London: Routledge.
3. Godee Molsbergen, E. . (1928). *Geschiedeniss van de Minahassa tot 1829*. Weltevreden: Landsdrukkerij.
4. Gosal, P. H. (2012). Kearifan Lokal Masyarakat Minahasa Membangun Rumah Hijau dan Nyaman. *Medi*, 9(3), 67–81.
5. Gosal, P. H. (2015). Morfologi Arsitektur Rumah Tradisional Minahasa. *Prosiding Temu Ilmiah IPLBI*, 145–152.
6. Graafland, N. (1991). *Minahasa Negeri, Rakyat, dan Budayanya*. Jakarta: Pustaka Utama Grafiti.
7. Gutierrez, J. (2004). Notes on the Seismic Adequacy of Vernacular Buildings. 13th World Conference on Earthquake Engineering. Vancouver.
8. H.G. Quaritch Wales. (1948). Culture Change in Greater India. *Journal of the Royal Asiatic Society*, 80(1–2), 2–32.
9. Henley, D. (1993). Nationalism and Regionalism in Colonial Indonesia: The Case of Minahasa. *Indonesia No. 55, The East Indies and the Dutch*, (55), 91–112.
10. Henley, D. (2005). *Fertility, Food, and Fever Population, Economy, and Environment in North and Central Sulawesi 1600-1930*. Leiden: KITLV Press.
11. Hickson, S. (1889). *A Naturalist in North Celebes*. London: John Murray.
12. Lundstrom, B. W. (1981). *Minahasa Civilization: a Tradition of Change*. Sweden: Acta Universitatis Gothoburgensis.
13. Mais, T. (2022). Bahasa Kolonial Belanda yang Masih Lestari di Sulut, Digunakan Sehari-hari. <https://www.detik.com/sulsel/budaya/d-6284053/bahasa-kolonial-belanda-yang-masih-lestari-di-sulut-digunakan-sehari-hari>. Retrieved from <https://www.detik.com/sulsel/budaya/d-6284053/bahasa-kolonial-belanda-yang-masih-lestari-di-sulut-digunakan-sehari-hari>
14. Marzuki, I. W. (2014). *Kajian Arsitektur Bangunan Indis di Kota Tomohon*. Manado.
15. Nayati, W. (2012). Data Arkeologi Sebagai Penguat Budaya Sulawesi Utara. In *Mengenal Sulawesi Utara Dari Sejarah dan Temuan Arkeologis untuk Pembangunan Karakter dan Penguatan Jatidiri Bangsa Jilid I: Minahasa*. Yogyakarta: Mentari Pustaka.
16. Padtbrugge, R. (1866). *Beschrijving der Zeden en Gewoonten van de Bewooners der Minahasa*. BKI, 13, 304–331.
17. Palar, H. . (2009). *Wajah Lama Minahasa*. Bogor: Yayasan Gibbon Indonesia.
18. Pangemanan, H. H. (2004). *Politik dan Perubahan Masyarakat di Bolaang Mongondow 1895-1942*. Yogyakarta.
19. Pantouw, B. (1994). *Beberapa Perubahan Kebudayaan di Minahasa Tengah 1829-1859 Suatu Kajian Sejarah Berdasarkan Tulisan-tulisan J.G.Schwarz*. Jakarta.
20. Penyusun, T. (1978). *Sejarah Daerah Sulawesi Utara*. Jakarta.
21. Piutanti, R. (2015). Pemaknaan Kembali Kearifan Lokal Dalam Arsitektur (Keterkaitan Manusia, Budaya dan Alam Nusantara). *SEMINAR NASIONAL :2015 “Finding The Fifth*

- Element... After Water, Earth, Wind, and Fire” Local Wisdom and Cultural Sustainability PEMAKNAN, 1(1), 13–21.
22. Renwarin, P. R. (2007). *Matuari Wo Tonaas Jilid I Mawanua*. Jakarta: Penerbit Cahaya Pineleng.
 23. Riedel, J. (1869). *Het Oppergezag der Vorsten van Bolaang over de Minahasa*.
 24. Schouten, M. J. (1998). *Leadership and Social Mobility in A Southeast Asian Society Minahasa 1677-1983*. Leiden: KITLV Press.
 25. Soekiman, D. (2011). *Kebudayaan Indis dari Zaman Kompeni sampai Revolusi*. Jakarta: Komunitas Bambu.
 26. Suhartini. (2009). *Kearifan Lokal dan Konservasi Keanekaragaman Hayati*. Yogyakarta: UGM Press.
 27. Sumalyo, Y. (1993). *Arsitektur Kolonial Belanda di Indonesia*. Yogyakarta: Gadjah Mada University Press.
 28. Suryabrata, S. (2018). *Metodologi Penelitian (28th ed.)*. Jakarta: Raja Grafindo Persada.
 29. Tanudirdjo, D. A. (1989). *Ragam Metode Penelitian Arkeologi dalam Skripsi Karya Mahasiswa Arkeologi Universitas Gadjah Mada*. Yogyakarta.
 30. Triyadi, S., Sudradjat, I., & Harapan, A. (2010). *Kearifan Lokal pada Bangunan Rumah Vernakular di Bengkulu dalam Merespon Gempa, Studi Kasus: Rumah Vernakular di Desa Duku Ulu*. *Local Wisdom*, 2(1), 1–7.
 31. Walukow, A. (2010). *Wale’ Tou Minahasa (Studi Awal Tentang Arsitektur Tradisional Minahasa)*. Manado: BPSNT.
 32. Wenas, J. (2007). *Sejarah dan Kebudayaan Minahasa (1st ed.)*. Jakarta: Institut Seni Budaya Sulawesi Utara.
 33. Wuisang, C. E. . (2014). *Defining Genius Loci and Qualifying Cultural Landscape*. The University of Adelaide.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

