

Huta Ginjang Dolok Site: An Indication of The Early Residence Sisingamangaraja Dynasty at Lake Toba Based on Ecological Considerations

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Abstract

Valleys and hills in Bakara, Humbang Hasundutan Regency, are the origin of the Sisingamangaraja Dynasty (the hereditary king for most of the Toba Batak ethnic community). The purpose of this study is to describe the implementation of the early Batak ethnic dwellings that thought of defense against enemy attacks while protecting the resources and environment of the area. This study uses a qualitative approach that uses data from archaeological excavations, observations, and interviews at one of the object locations in Bakara, namely Huta Ginjang Dolok. The result of the research description indicates that the location of Huta Ginjang Dolok has indeed proven to be one of the examples of early settlements in the Lake Toba area, which has several functions, including social functions related to traces of former settlements in locations located on hillsides. The ecological function is related to the abundance of clean mountain springs. The cultural function is related to the finding of human and livestock bones in archaeological excavations carried out during the research, and the economic function is related to the discovery of foreign currency, also found in the excavation activities during field activities.

Keywords: Huta Ginjang Dolok, early residence, Lake Toba, Sisingamangaraja

INTRODUCTION

The early residential area of the Sisingamangaraja dynasty in the Bakara Valley is a mainstay tourist attraction in Humbang Hasundutan Regency (Windra Aini, Mohamad Ridwan, and Emrizal 2024; Nainggolan 2022). However, the condition of the area is still considered incomplete regarding the historical information of the dynasty itself, starting from King Sisingamangaraja I to XII (National Hero). The term dynasty refers to a kingdom with rulers from the same family who do not have to be inherited from the eldest son. The Sisingamangaraja Dynasty is a kingdom that has proven stable because it has maintained a hierarchy of leaders for at least twelve generations (Situmorang 2004; Kozok 2010; Sidjabat 1983). The context of this research is to examine the history of the

Sisingamangaraja Dynasty and the location of the original residence of this dynasty. This research is considered novel because the study about Sisingamangaraja so far focuses on the story of King Sisingamangaraja XII in the colonial era. Research related to the early settlement of the Sisingamangaraja dynasty was considered important so that the data is complete for tourists to access and complete data on resources and the environment in the area.

Tourism activities across the Lake Toba area usually focused on the natural beauty and enjoyment of the lake, as well as its historical heritage. Interestingly, many historic sites were not situated on the shores of the lake but in the hills, even though the water proximity area provides more environmental resources. Forest areas in cool hills are prone to fires, which can cause severe damage to the ecosystem in the area, disrupt the ecological balance, and reduced air quality (Utari et al. 2024; Suhardono et al. 2024). Stakeholders can use this research to develop tourist installations around the Silalahi Village, Toba Caldera Geo-Park based on Geo-tourism. The additional facilities Components can be used in information centers to assist tourists who come to the site (Ginting and Sasmita 2018; Simatupang 2023). Given the importance of preserving Bakara's environmental resources, researchers are interested and have conducted research in August 2021 (phase I), including archaeological research on a hillside called Huta Ginjang Dolok. Huta Ginjang Dolok is an old village that the villagers abandoned because they wanted to live closer to the lakeshore accessible to the main road. This condition is interesting because their ancestor chose to live on the hills. This migration also affects the lake ecosystem because of the rapid escalation of the pollution in the water of the lake due to various human activities. Rapid industrialization and the rate of population growth have negatively impacted the quality of agricultural commodities and environmental resources (Barus 2004).

The resources in this research are understood as the result of interactions between humans and the Bakara environment: the shores of Lake Toba to the hillside area. The old/early settlement in Bakara is fascinating because it was known as the central government area of Sisingamangaraja. The span of the dynasty of King Sisingamangaraja I-XII was almost 400 years. King Sisingamangaraja I was known to have reigned from 1540 to 1550. The last king (XII) was also known as a National Hero (1871 - 1907). So, the 'problem' of this research is formulated to answer questions regarding the review of

the selection of the initial residential location of the Sisingamangaraja Dynasty based on the results of research conducted in the Bakara valley and hills, especially concerning the findings of archaeological excavations in Huta Ginjang Dolok. Ecological reasons why the first residential location was in the hills, not on the shores of Lake Toba, could be learned using the data derived from interviews with local people and archeological excavation. Sisingamangaraja's heritage sites are still far from maximal efforts to preserve and maintain the physical integrity of the buildings, objects, and heritage sites of Sisingamangaraja. This new heritage object should be used as a source of learning, especially educational tourism.

METHOD

The research method used in this study involves analyzing archaeological excavation data, where researchers interpret the results from the 2021 excavation at Huta Ginjang Dolok. A qualitative approach is used, where the data obtained emphasizes using the researcher himself as a tool to observe primary data (archeological data, observations, and interviews). Our respondents were selected from local community leaders (village heads, sub-district heads, priests, and elders of Bakara Village). Furthermore, interpretation requires secondary data on relevant theories sourced from library references. Furthermore, data reduction was carried out based on the indicators that the archaeological excavation site was a former residence of the early Sisingamangaraja Dynasty. The study of early human settlement in a place is part of spatial archeology, where the retrieval of information from archeological spatial relationships and the study of the spatial consequences of previous hominid activity patterns within the site, site system, and their environment. Archaeological remains were spatially patterned as a result of behavioral patterns. Thus, the spatial structure has the potential to inform how society organizes itself in three levels of spatial structure, namely the micro level, semi-micro level, and macro level (Clarke 1977). The theoretical benefits of this research are to reveal further the archaeological data of the location and its practical implications for increasing the importance of the Bakara valley area as a well-managed cultural heritage area as an educational tourism object.

RESULTS AND DISCUSSION

The early residence of the Sisingamangaraja Dynasty was believed to have been in Bakara. The remains of the palace of Sisingamangaraja, along with various artefactual items inside, are still well maintained by their descendants. The location of Bakara is a valley on the shores of Lake Toba with a row of hillsides in the southwest that fences the valley. The two natural forts have been protecting the lives of their people for hundreds of years. Until now, in the Bakara Valley, some settlements are side by side with rice fields on the edge of Lake Toba. The cool air has added to the suitability of people's residences since ancient times. The cool air is an important criterion in developing the Lake Toba tourist area, which must have a cool climate, an environment that is not polluted, and the community's participation in maintaining cleanliness and environmental sustainability (Sibarani 2020; Cahyadi and Newsome 2021). This is in line with Soejono's view, as quoted in Sibarani (2020), which states that human culture is an adaptation to its environment that is inseparable from reconstructing periods of human life. Like the phenomenon of Lake Toba's basin depth due to Mount Toba's eruption, it has the deepest level of up to 500 meters but gradually decreases. The surface of Lake Toba in 1970 never again reached a height of 905.5 m above sea level. The extreme event of the decrease in the water level of Lake Toba occurred after the Asahan Hydroelectric Power Plant was operational. Ecological intelligence in humans is required to understand natural conditions better and show their concern and sensitivity to the environment in the Lake Toba area (Jaya 2019).

The impact of the entry of economic interests in community settlements on the shores of the lake indicates the decrease in the water level of Lake Toba. The current view is very reasonable in the Bakara Valley, so it was suitable for residential use. However, the data found in the field showed that from the beginning, the people's initial residence was in the Bakara hills. According to information from the elder community in the local Sinambela Village, Huta Ginjang Dolok is an old village that has been inhabited by their ancestors, namely Ompu Humutur Sinambela, estimated to be at the same time as King Sisinga Mangaraja I, whose estimated time in power was from 1540 to 1550. This calendar must, of course, be supported by the findings in the results of excavations that have been and will be carried out at the location. At least the currency findings during the colonial period indicate cultural activities in the 1700s-1800s (see Figure 2). Coins found

in some of the dug boxes indicate that there has been economic activity in the hilly areas, at least since the colonial period. Archaeological research has been conducted by digging 15 dug boxes in various soil positions in Huta Ginjang Dolok (see Figure 1). The archaeological finds from the fifteen boxes are human skeletons, ancient currency, ceramic fragments, pottery, animal bones, glass, iron, and many other findings. The position of the skeletons found in the excavation area indicates at least three presumptions: (1) the skeleton was an ancient burial that was displaced due to the occurrence of natural disasters such as landslides, (2) ancient people in Huta Ginjang Dolok have an open-air/ cast out burial tradition, (3) the skeletons was the remain of the victims in a massacre that happened in the past. The existence of human bones in residential areas raises questions because the Batak people have taboos about building houses in cemeteries. Even if it is known that someone was buried, the bones must be removed first before the house is built. The assumption that the houses already existed when the skeletons were buried is weak because there is more than one, and information that the public has never heard of is a grave in that location. The results of archaeological excavations support the hypothesis that the selection of the initial residential location of the Sisingamangaraja Dynasty was indeed in the Bakara hills. The utilization of hillside areas, an idea valid since the past, is associated with Batak's religious concepts of the cosmology of water, land, and mountains (Simatupang 2008).

Batak cosmology related to water, land, and mountains could be directed to understanding spiritual concepts, such as mobility from Huta Ginjang Dolok towards higher hills to Mount Pusuk Buhit (a sacred area believed to be the beginning of The Batak civilization). Crossing the hills of Lake Toba is a daily activity of the community by going up and down the valley according to the contours of the land. Soil contours in the highlands or mountains of settlement patterns are scattered. It is different in the lowlands. The settlement pattern is round or elongated clusters. However, settlement adaptation can be done in the highlands by peeling the land into flat and terraced areas to build houses on stilts like Toba Batak. According to Vita (2016), she quotes Mundarjito's opinion which states that, to meet their needs, the past community used environmental resources, including consideration of ecological factors, including the placement of buildings for holding activities, both related to obtaining food and protecting themselves.

The distribution pattern of settlements also varies, caused by various factors of interest such as the presence of rivers or roads, centers of economic activity, land use patterns, and so on (Vita 2016). Housing in the hills is indicated because of its importance as a location for defense from enemy attacks coming from the shores of Lake Toba. At least this thought is logical because, from the hills, you can see the enemy's arrival from below. However, it can't be done if the enemy comes from the hillside or higher. The system of attack and defense between groups is influenced by the initial motivation for interaction between humans in the context of housing, influenced by environmental resource factors. Archaeological excavation sites generally describe settlements, ecosystems whose biotic and abiotic components are mutually interconnected from prehistoric times to the present. In hilly areas, settlement patterns generally follow the contours of the relatively flat land and tend to have a relatively regular pattern, such as lattices and linear patterns. In waterfront areas, such as lakes, the settlement pattern tends to be irregular, clustered, and grows naturally (Simarmata 2021).

From the picture above, the Huta Ginjang Dolok excavation site is a former settlement divided into three terraces: upper, middle, and lower. The empty house that still stands is only on the lower terrace. The middle and lower terraces only separate flat vacant land with relatively the same area. The ancient people chose the more sloping area, leveled it, and divided it into three terraces. The wall between terraces is reinforced using stones. The *hula-hula* inhabited the upper and lower layers by the *boru*, while the middle layer was used to carry out social and religious rituals. However, the last generation that inhabited the site until the late 2000s was completely unaware of the existence of the seven skeletons. This fact indicated an absence of occupancy in Huta Ginjang Dolok. The presumption is there was a time when a certain generation abandoned the site and then occupied it again after a few generations.

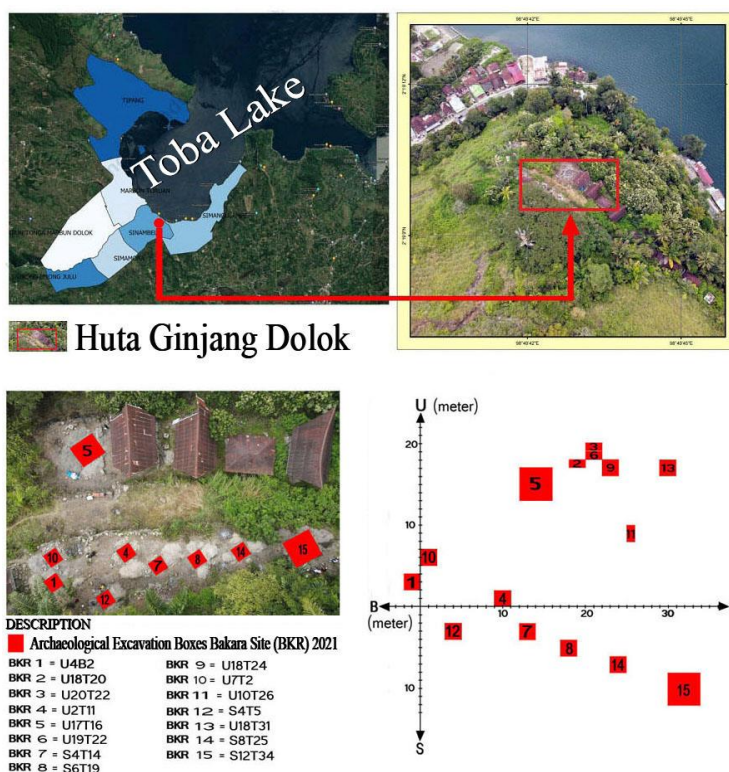


Figure 1. The excavation site is in Huta Ginjang Dolok, Bakara, Humbang Hasundutan Regency (Source: North Sumatra Archeology Center Documentation 2021)

East India Company coins found in the same excavation layer (lower terrace) indicate this area was used by the community in Huta Ginjang Dolok in the mid-19th century. But further study regarding this fact must ensure whether this date shows the last period of the first occupation or the early re-occupy period. These coins show trade between the Batak tribe and the East India Company. Historical sources about the trade between the East India Company and the Batak tribe on the west coast of Sumatra were reported by Raffles (XIX century). Commodities brought from the interior were camphor, frankincense, and rice, which were then brought to the coast and exchanged for salt, iron, silk candies, gongs, and other commodities. This trade is carried out through a third party called *pangalong*. *Pangalong* received payments in dollars, horses, and rice. The only way of delivery was using human power, but once inland, horse herd transportation could be used (Gallop, 2020). Commodity exchange is highly dependent on the availability of resources that must be maintained sustainably. As population growth increases, the availability of natural resources becomes limited. Therefore, it is imperative to utilize

them efficiently.

The contribution of archaeological data to sustainable agriculture lies in the ability to show that there are recurrent historical factors related to sustainability and focus on its artifacts. The absence of occupancy in certain periods shows something that happened in the past that made this area uninhabitable. Natural disasters such as floods, landslides, or other natural causes can be reckoned as the main cause besides social conflict. If translated into more serious action, this contribution can advance modern agriculture and environmental justice initiatives. Diversity of agricultural intensity, which combines low and high agricultural intensity, is highly desirable for achieving high village sustainability (Fisher, 2020; Mulya & Hudalah, 2024). So, the assumption that the existence of Huta Ginjang has existed since the XVI century (RSM I) is considered logical even though the discovery of the currency is from a later era. Similarly, the findings of human skeletons, pottery fragments, ceramics, trench formations (fortifications), stacked stones, stone mortars, and others can also be used as a basis to reinforce this assumption. It can still be used as a basis for strengthening these allegations.



Figure 2. Seven human skeletons and foreign currency were found in the 2021 North Sumatra Archeology Center research at Huta Ginjang Dolok (Source: North Sumatra Archeology Center Documentation 2021)

From the picture above, the findings of human skeletons and pieces of foreign currency are evidence that the residence of Huta Ginjang Dolok is a former residence of the origin of the Toba Batak people. Toba Batak cosmology must be related to the original religious concepts of the Toba Batak who use the concept of the three cosmic worlds of God's manifestation: the upper, middle, and lower worlds. The underworld is more dominant than the upper world because the upper gives life sources to the middle world, such as rain, sunlight, moonlight, lightning, thunder, etc., which are not all beneficial as

expected. In comparison, the underworld is believed to be able to grow plants to be fertile. In essence, religion emerges in harmony between the three worlds. These three elements are always expected to be harmonious so that human life in the middle world is not disturbed by the underworld and above (Tobing 1963). Unfortunately, this concept does not regulate the life of the middle world (human habitation), which has the potential to interfere with each other because it is controlled by those who have the capital and great motivation to rule. Uncertainty in housing will always appear in the form of vigilance, such as living on the slopes of the hills, which are relatively safer from the dangers of strangers. The suspicious factor will always appear to see some humans on Lake Toba's shores (just leaning the boat to the shore). They communicate verbally and non-verbally to ensure the newcomer is a friend or foe. Their communication will take place relatively well if they are aware of the situation (mindful) of each other's attitude changes. This situation will be achieved if each party manages the anxiety and uncertainty (Tkachenko and Khukhlaev 2022).

It is simply understood that the decision to leave Huta Ginjang Dolok may be due to anxiety due to threats from other ecosystem components. The results of excavations and interviews indicate that the location is abandoned but still lives in the unity of the Bakara Valley area. Another factor could be the rising tension between descendants of the Sisingamangaraja Dynasty that led to a conflict. As for the results of the interviews, data were obtained that from the three terraces, the upper terrace was the initial residence of the *boru* party, the middle terrace was used as a place to hold ceremonies, and the lower terrace was used as the house of the *Boru Hula-Hula* clan. The results of excavations on the upper and lower terraces indicate that the settlement in Huta Ginjang Dolok is likely an ancient dwelling. This hypothesis is supported by discovery of several skeletons and 18th-century currency artifacts during the excavation. These findings suggest that the site could be the oldest settlement in Bakara, especially since this is the first archaeological excavation in the area. The local community, serving as informants, was unaware of the presence of skeletons beneath the ruins on the hills. Based on local oral traditions, they hypothesize that the skeletons must belong to individuals from more than three generations ago. However, this remains speculative since there is no definitive knowledge about the site's history. Further analysis through carbon dating has yet to be conducted,

which limits the ability to determine the remains' age precisely. Thus far, the interpretation relies heavily on the site's geographical context, as the choice to settle in the hills rather than by the lake may reflect important social, environmental, or defensive considerations during its occupation.

The results of interviews data mining are divided into four indicators of the availability of environmental resources (see Table 1). The selection of the location of the early residence of the Sisingamangaraja dynasty in the Bakara hills was also associated with the belief that the world of spirits lived in the highest place. The higher the hillside, the higher the degree of power of the spirits living in the area. In the Toba Batak culture, there is a belief that the spirits try their best to improve themselves to increase their respective levels. Some spirits are still in a very low level of development and spirits have reached the highest level and can give blessings (already be equated with the creator gods). The souls will continually walk by self-improvement to perfection (Vergouwen 2004; Sibeth 1991). People of The Sisingamangaraja Dynasty were initially required to meet their needs and survive the challenging environmental conditions with the mastery of technology that was not yet qualified. Environmental validity factors are influential, such as the availability of water and food sources, shelter, and relatively flat land conditions, even on hilly slopes. This condition makes it easier for them to see towards Lake Toba, which is very beneficial, especially fortifying them from enemy attacks from below (Lake Toba). They can stay for a long time. After all, they have been able to produce food ingredients independently and sustainably because they can create an agricultural system with the help of simple technology to live long in Huta Ginjang, so it is strongly suspected that they meet the criteria as an initial residential concept. The initial occupancy shows the intention that there will be newer dwellings in the next stage, and there has been a residential transformation from one place to another (in this case, traces of the residence of the Sisingamangaraja Dynasty). The existence of a newer dwelling means that the initial dwelling becomes an old dwelling that can remain occupied or abandoned in nature. It could be later occupied again (became a new residence). Cooperative relationships between kinship groups usually influence migration of residents. The data shows an acceptable logic, showing that Huta Ginjang Dolok was the initial residential location in Bakara (see table below).

Table 1. Parameters - indicators show Huta Ginjang Dolok as the initial residential location

No.	parameters -indicators	Explanation of the results of observations, interviews, and archaeological excavations
1	Social function: traces of former settlements	Shows that there are many artifacts, ecofacts, surface findings, and even human skeletons, so it can be ascertained that the excavation site is a former dwelling that its inhabitants have abandoned
2	Ecological function: a source of clean water	Even though located in the highlands, abundant sources of clean water are found with the shower water in a closed location, which is indicated.
3	Cultural function: findings of human and livestock bones in archaeological excavations	The findings of seven human bone skeletons, as well as the bones of cattle bone buffalo (<i>Bovidae</i>) strongly strengthen the hypothesis that the excavation site was an old residence of the local community; it needs further investigation to know the context already having a relatively long period (400 years)
4	Economic function: the discovery of foreign currency	The results of the excavations related to the findings of several foreign currencies (see Figure 2) show that the excavation site is a former residence that has had interactions with foreign parties, especially during the colonial period (the currency was in the XIX-XX centuries)

Huta Ginjang Dolok, the location of the initial settlement in Bakara, is certainly expected to be maintained by the local government. The four functions described in the table above show that this object must be managed continuously. The environmental sustainability aspects of Huta Ginjang Dolok as an initial settlement (described in Table 2) will influence one another. So, to achieve a sustainable life, efforts must be made to instill these three aspects in the minds of stakeholders. Not only implementing how to maintain a balance towards the environment but also implementing efforts to uphold socio-cultural equality and always campaign for wise economic development.

Table 2. Environmental resources sustainability aspects of Huta Ginjang Dolok as initial settlement

No.	review aspect	description
1	Economy Development	It has great potential, especially after the pier's construction, which will be completed in Bakara, which connects the entire Lake Toba area and land routes that are already good and smooth.
2	Environment Preservation	It is still very well maintained because the level of occupancy density has not yet reached an alarming threshold, plus the local community has long understood the importance of protecting the environment.
3	Social-cultural Resilience of the local community	The community continues to maintain and practice their ancestors' local wisdom through customs maintained as

The increasingly bald forest area of Lake Toba will result in unstable lake water levels and interfere with the utilization of the lake. The reduced water availability will disrupt the continuity of community operations and the lake ecosystem. On the other hand, if too much water is available, the lake's water level will rise, and even floods will occur, disrupting the ecosystem on the outskirts of the lake. For this reason, it is necessary to protect, conserve, and use the lake sustainably (Murti and Mathez-Stiefel 2019). However, if you want to be safer, living on the Bakara Hills slopes is considered more suitable because the soil is more fertile (volcanic soil) and suitable for upland agricultural land. So, the residence in the Hills is undeniably very suitable for the early people of the Sisingamangaraja Dynasty, who still hold strong spirituality with the supernatural world (spirit realm). Spirituality in social unity, as well as as an individual human being, is believed to be impossible if it is not restored by the old religious rites that maintain harmony with the powers of the upper and lower spirit worlds (Sihotang, Yanuar Purwanto, and Basuni 2012), one example of which is staying on the slopes of the Bakara Hills. Likewise, adaptation in preserving Sisingamangaraja sites, which could be due to the old religious transformation factor, adapted to the people's current interests in the Bakara Valley.

CONCLUSION

The hypothesis that the Huta Ginjang Dolok site in the Bakara Valley served as an early settlement of the Sisingamangaraja Dynasty is logically plausible. This site was believed to have functioned as a settlement and agricultural area, as it met the four parameters outlined in the previous table. Continued excavations at this location are necessary to gather more data from the excavation units and conduct further analyses, including archaeological interpretations and carbon dating. Despite being located on a hillside, the strategic positioning of the Huta Ginjang Dolok settlement may reflect efforts to anticipate threats from external attacks while ensuring access to intact environmental resources along the shores of Lake Toba. However, the site's elevated location also presented potential challenges, such as isolation during conflicts with neighboring regions, including Muara and Dolok Sanggul. The risks associated with hillside habitation could have been mitigated as the Sisingamangaraja Dynasty achieved political and social

stability rooted in settlement organization and religious practices. Pilgrims visiting Bakara to explore the legacy of the Sisingamangaraja Dynasty are encouraged to engage not only with its historical narratives but also with the environmental conditions of the past compared to the present. Archaeological evidence from the Huta Ginjang Dolok site provides insight into how early communities adapted to their environment and managed resources through practices aligned with local wisdom. The dynasty was also known for its religious figures, or *parbaringin*, who emphasized teachings that promoted environmental stewardship, reflecting a deep integration of spirituality and ecological conservation within the community.

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