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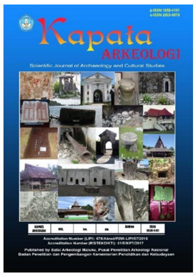

SUBSISTENCE STRATEGY OF HERE SOROT ENTAPA CAVE IN KISAR ISLAND, MALUKU: DWELLING SITE IN ISLAND WITH LIMITED TERRESTRIAL RESOURCES

Alifah [1] *, **Mahirta** [2] *
[1] Balai Arkeologi Yogyakarta
Jl. Gedongkuning No.174, Yogyakarta 55171, Indonesia
[2] Universitas Gadjah Mada
Jl. Sosio-Humaniora, Bulaksumur, Yogyakarta 55281, Indonesia
*[1] alifah.ali@gmail.com, *[2] mahirta.fib@ugm.ac.id

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Abstract

Research in the Wallacea area always produces exciting information, including the role of the islands in this region in human migration routes. Several small islands in this region are islands with limited terrestrial resources. Here Sorot Entapa cave is one of the sites located on Kisar Island, Southeast Wallacea region. The occupation of small islands presents particular challenges for human communities related to limited terrestrial resources and susceptibility to natural disasters. Then how the adaptation made by humans at that time in an environment with limited terrestrial resources is discussed in this study. This study used excavation methods to obtain data accumulation of artifacts, ecofacts, and features. Literature study and botanical data analysis were used to determine environmental changes and resource utilization. The results of this study indicate that the Here Sorot Entapa Cave has been occupied since around 16,000 BP. Marine resources were the primary subsistence along with several types of plants food in the same quantity. The function of the Here Sorot Entapa Cave may also be related to the existence of rock art that spread on Kisar Island. Eventually, Kisar Island was the main purpose of a prehistoric human in carrying out religious and artistic activities, and the Here Sorot Entapa Cave served as a temporary shelter for these activities.

Keywords: Here Sorot Entapa Cave; limited natural resources; human adaptation

INTRODUCTION

Archaeological research in small islands with limited terrestrial resources environment is an exciting issue to develop. Several similar studies have been conducted, including on Rote Island (Mahirta, Aplin, Bulbeck, Boles, & Bellwood, 2004; Mahirta & Eti, 2006), Sawu Island (Mahirta, 2003), Talaud Islands, and Sangir Islands (Tanudirjo, 2001). Chronologically, these small islands in the Wallacea area have been inhabited since the end of the Pleistocene to early AD by using caves and natural niches as shelters. These studies provide references to the uniqueness of human culture in the past, both in adaptation and subsistence strategies.

O'Connor et al. (2010: 38) research in Lene Hara Cave, Timor Leste, found that the earliest occupation layer dated from 42,000 BP. In comparison, the oldest modern human findings in Australia recently dated from 60,000 to 50,000 BP (Bellwood, 2015: 89). More specifically, recent research reveals the results of excavations in dwelling sites at the Madjedbebe dating to about 65,000 years ago (Clarkson et al., 2017). This reference makes the small islands at the north of the Australian continent even more interesting for understanding human migration from the Sunda Shelf to Australia as part of the Sahul Shelf. Small islands in the Wallacea archipelago area are believed to be stepping stones in the context of the spread of humans (Tanudirjo, 2001: 1).

The discussion of prehistoric human occupation is related to the caves as the initial human shelter. One of the caves representing early human shelter in the Wallacea Region is the Here Sorot Entapa Cave on Kisar Island. This cave is located in the southern part of Kisar Island and faces directly towards Timor Island. As also interpreted by other researchers (Ansyori, Choa, & Sémah, 2016: 58), this small cave might function as a transit place, a place for rituals, a grave location, and a place to express art in the form of rock art.

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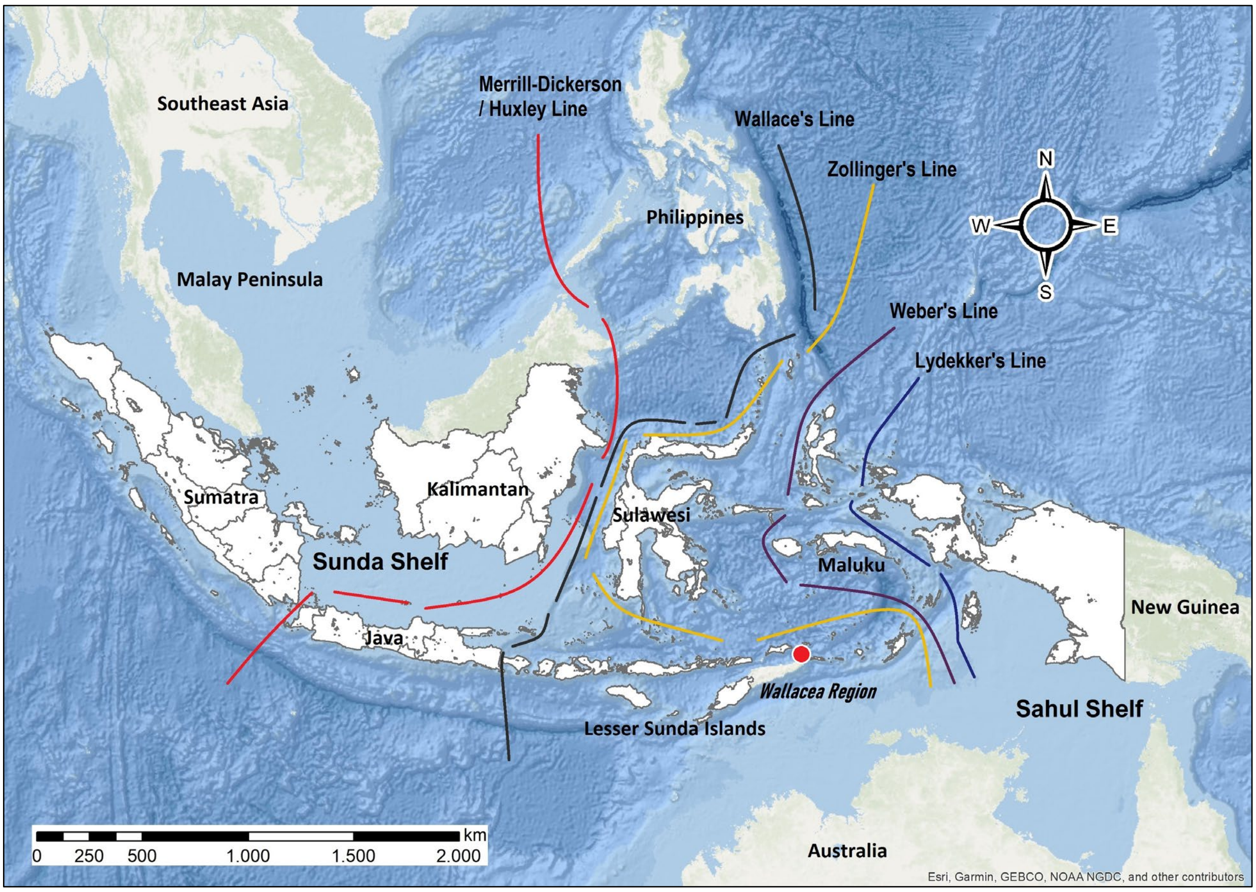

Figure 1. Map of Southeast Asia showing Wallace's Line and variants thereof. The lines represent the boundaries between the three biogeographical regions: the Sunda shelf, Wallacea, and the Sahul shelf. Redpoint shows the position of the Kisar Island
(Source: References based to Rutgrink, Visser, & van Welzen (2018), base map from ArcGIS Database, 2019)

Kisar Island is one of the small islands in the Southeast Wallacea region, located in Northern Australia. The island is bordered by Timor Island in the south and Wetar Island in the northwest. Kisar Island is a small island with an area of 117.07 km2. This island has a lowland topography on the island's edge coast and a hilly topography in the middle. Environmental conditions in this area are pretty arid. Geologically, the southern coast of Kisar Island is composed of five terraces with elevations varying from 5 meters to 140 meters (Major et al., 2013: 152). Surveys and excavations were conducted by a collaborative research team between the Department of Archeology Universitas Gadjah Mada (UGM), The Australian National University (ANU), and The Balai Arkeologi Maluku in 2015 in Kisar Island. The research team has found archaeological objects in the form of 36 caves that have rock art and hand stencils. In addition, other objects were found in the form of stone forts, which indicate ancient settlements and the findings of a stepped pyramid (O'Connor, 2016).

The results of surveys and excavation at the Here Sorot Entapa Cave are interesting to observe, including 1). Based on the quantity and quality of excavation findings, especially in the Here Sorot Entapa Cave, the stratigraphic conditions are still pure (not mixed). In addition, there is a tendency for several findings to dominate in distinct layers, both artifacts, and ecofacts. 2). The micro botanical findings were patterned, i.e., seeds were found in particular layers and not in the next layer. 3). The current environmental condition of Kisar Island is an arid area with limited freshwater sources but has found rock shelters or caves with quite a lot of rock art (O'Connor et al., 2018).

Currently, several ethnic groups inhabited Kisar Island. The two largest groups are the Oirata and the Meher. The arid condition on the island does not provide many options for subsistence. People in Kisar Island are more rely on livestock and fisheries. The lack of freshwater sources and arid soil conditions make agriculture less developed on this island. Currently, the production plant that is cultivated and becomes the leading commodity is Kisar orange fruit. Based on these findings, this research discusses how prehistoric humans inhabited the Here Sorot Entapa Cave adapt to environmental conditions with limited terrestrial resources.

METHODS

The description of the site conditions is presented based on the results of surveys and excavation that the Research Team has conducted. This research uses micro-botanical data in the form of pollen, phytolith, and starch. Pollen data were obtained from library sources to

Figure 2. Maps showing the location of Kisar Island Here Sorot Entapa Site
(Source: ArcGIS Database, 2019)

overview global environmental changes in the Southeast Wallacea region. Meanwhile, phytolith and starch data were obtained from Alifah's (2016) thesis, which had carried out a laboratory analysis using sedimentary materials and artifact residues. Comparison of ecofact findings from animals and plants was also carried out to obtain an overview of the existing resource utilization patterns.

Furthermore, the analysis of the three data sources was conducted to determine changes in the environment and cultural developments in chronological order and the utilization of plant resources. Comparison with dating data was conducted to find out how the development of plant resources and utilization is. The Kisar dating data refers to the analysis conducted by O'Connor et al. (2018).

Figure 3. Layered tuff soil found in Kio Village as evidence of volcanic activity
(Source: Alifah Documentation, 2015)

Result and Discussion

Geological Conditions, Environment, and Archaeological Potential in Kisar Island

The forming process of Kisar Island was inseparable from geological processes that occur on a macro scale. Kisar and other surrounding islands, such as Timor, Moa, Leti, Wetar, and Romang, were formed by the collision between the Australian and Eurasian plates (Kadarusman et al., 2010: 190). Among these islands, Kisar Island located at the boundary between the non-volcanic area on the outer side of the Banda Arc (Timor, Moa, Leti, and other islands formed from the accumulation of plate encounters) and the volcanic area on the inner side of the Banda Arc (volcanic islands of Wetar, Romang, and Damar) (Kadarusman et al., 2010; Kaharudin, 2016; Major et al., 2013).

Kisar Island is also composed of limestone that overlaps old volcanic rocks. These rocks are scattered along the coast, surround Kisar Island, and form terraces of steps due to the uplifting process by tectonic forces and sea-level changes. The process of uplifting Kisar

Figure 4. Left: vegetation landscape in the limestone area of Kisar Island. Right: burned plants in the Nomaha savanna due to extreme heat during the peak of the dry season.
(Source: Alifah Documentation, 2015)

Island occurred during the Quaternary period (Monk, Fretes, & Reksodihardjo-Lilley, 2000: 253). Due to its lithological conditions, Kisar Island and small islands in the Southeast Wallacea region have meager groundwater supplies (Monk et al., 2000: 96-97). The island's limestone layer is a groundwater accumulation place because these rocks quickly dissolve and absorb water. This limestone area usually has a deep groundwater table, depending on the thickness of the rock (Monk et al., 2000: 104).

Limestone on the coast of Kisar Island undergoes an abrasion process caused by sea waves. It undergoes a weathering process that produces recesses that are scattered throughout the limestone facing the coast. Evidence of this process can be found in the layers of cave walls that show traces of sea level. The morphology of the caves is shallow and located close to each other from one cave to another. Savanna areas currently dominate the environment of Kisar Island. In the central part of the island is a more fertile area. There are groups of palms such as *koli* (a type of sap), sago, and several types of trees (forest mango, forest cotton, banyan, and cultivated plants). The condition of minimal freshwater supply causes Kisar Island to be highly dependent on rainwater as a water source for the animals and plants that inhabit this island.

Excavation at The Here Sorot Entapa Site

A survey conducted by the joint team of UGM, ANU, and The Balai Arkeologi Maluku in 2015 found 36 caves

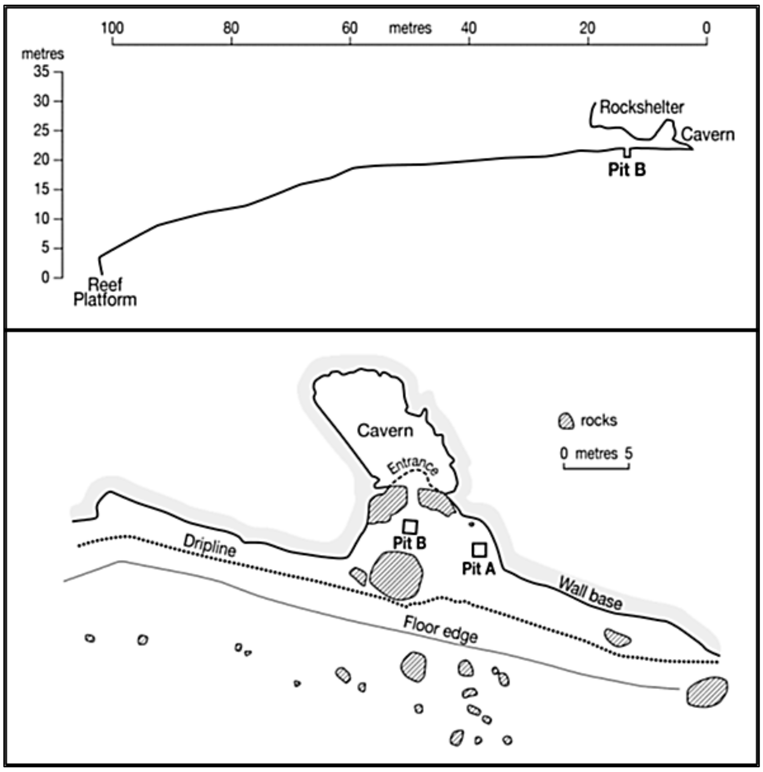

Figure 5. Top: Profile of Here Sorot Entapa ridgeline down to coast showing height above coast and distance to coast and bottom: Plan of the Here Sorot Entapa shelter and cave with excavation squares
(Source: Illustrated by Stuart Hawkins, 2015)

indicating archaeological findings in the form of rock art and hand stencils. Here Sorot Entapa Cave is one of them that has been excavated. The cave is located in the southern part of Kisar Island. Excavations were conducted in two test pit square with a size of 1x1 meter—soil stripping using a spit method by 5 cm intervals. Excavation results prove the intensity of this island occupation from the last Pleistocene to the early Holocene. This is indicated by an intensive culture layer starting from the ground surface to a depth of ±135 cm. The morphology of the cave's relatively flat terrace contains animal bone fragments found on the ground surface. The excavation process found various archaeological remains, artifacts, and ecofacts in the same context as charcoal fragments and ash features.

The accumulation of ecofacts and artifacts remains from excavations in the Here Sorot Entapa Cave shows fluctuations in the intensity of occupation. Two excavation squares to a depth of ±135 cm of the natural layer have provided evidence of a relatively intensive human presence. The types of ecofacts found were dominated by marine ecofacts such as clamshells, fish bones, crab shells, turtle shells and bones, and urchin shells. At the same time, the findings of other resources such as bones of mice, birds, bats, and lizards were also found, but not in large numbers. This condition raises the suspicion that land animals were not the primary source of food needs. The same thing was also found in cave dwellings in Northern Wallacea, especially in Talaud Islands (Tanudirjo, 2001: 400). However, the analysis conducted by Kaharudin (2016) suggests that these types of land animals were also consumed as food sources. Still, the intensity is not as high as marine resources (Kaharudin, 2016: 102).

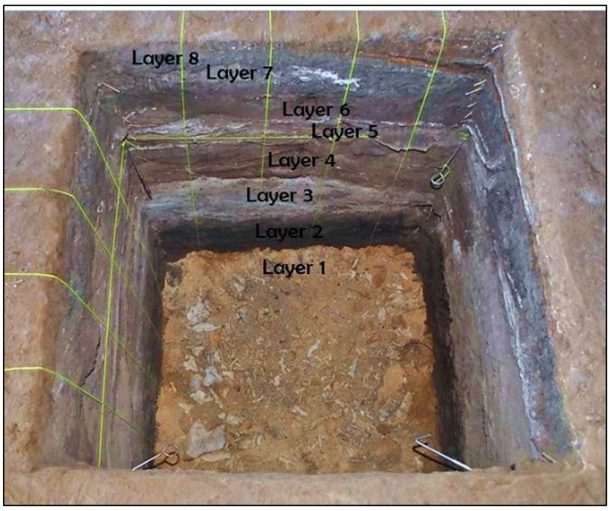

Figure 6. Stratigraphy of the excavation square (Square B) shows soil layers ranging from natural layers to topsoil. It looks that there are eight layers in sequence and not mixed.
(Source: Alifah Documentation, 2015)

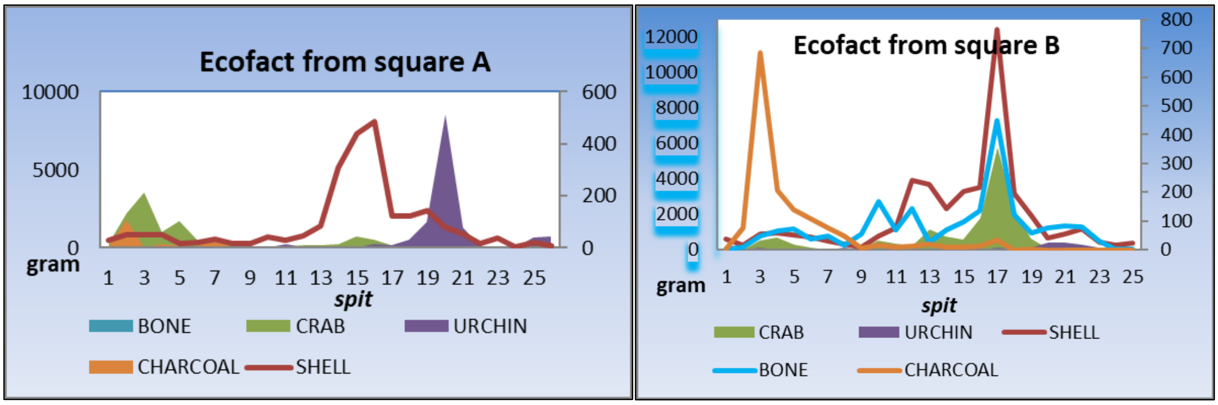

Figure 7. Comparative graph of ecofact findings from excavations in the Here Sorot Entapa Cave. (Scallops with units on the left, bones, crabs, charcoal, and sea urchins with units on the right)
(Source: O'Connor et al. (2018), modified by author)

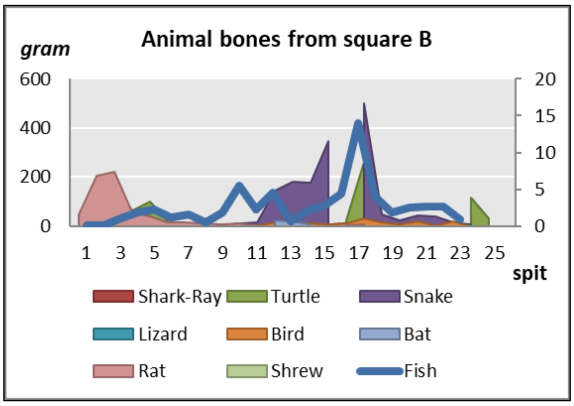

Figure 8. Comparison graph of fauna species from bone ecofacts found at the second test pit or Square B.
(Source: O'Connor et al. (2018), modified by author)

The results of dating tests using samples of charcoal and seashells showed that the intensity of the cave occupation was quite long, with a trace length of 16,330-1,128 Cal BP. However, there was a 'jump' between 8,849±20 to 4,314±26 BP (O'Connor et al., 2018). This long void appears to be a hiatus phase, where the Here Sorot Entapa Cave was temporarily abandoned and then used again as a shelter until it was entirely abandoned at 1,128 Cal BP.

Environmental Changes in the Southeast Wallacea Region and Human Adaptation in Here Sorot Entapa Cave

Research conducted by van der Kaars (1989) using pollen data taken from Banda waters shows that environmental changes occur in the surrounding area. The Wallacea region before 38,000 BP was a closed forest characterized by the abundance of pollen findings from woody plants. There was quite a drastic change in the environment in the next period and reached its peak at 18,800 BP. This change is recorded from the dominance of the findings of grasses such as *Gramineae* and *Cyperaceae*. Environmental changes in the Wallacea area occurred again in the period of 14,500 BP. The previously arid environment gradually became more fertile with indications of the decline in grass plants and the emergence of various types of woody plants (W. A. van der Kaars, 1989: 449).

Phytolith analysis is one of the archaeobotanical studies that can answer the environmental conditions and human behavior in using them (Piperno, 2006: 103). Sediment sampling and knowing the environmental conditions around the cave can also be used to determine the cultural aspects that cause a plant to be deposited inside the cave. The condition of the cave terrace is dry and relatively flat, so it does not allow plants, especially trees and shrubs, to grow in the cave. This is because, in the cave's chamber, there is no water source either from above (water dripping from the roof of the cave) or from below (underground river flow). Therefore, the plants deposited in the cave probably have occurred due to human or animal intervention. Meanwhile, Alifah (2016) shows changes in the content of micro botanical data in the Here Sorot Entapa Cave environment generally from the microscope. Alifah (2016) uses micro-botanical data taken from cave sediments, pottery fragments, and lithic artifacts residues.

Microbiological analysis in phytolith and starch showed a significant change in plant species and quantity from the first layer to the second layer. The first stratigraphic is a natural layer of beach sand, coral fragments, and shells. The dating of the coral samples in this layer shows 45,000 BP (O'Connor et al., 2018), but there was no anthropomorphic presence at this phase, and the condition of the cave's surface was most likely still on the shoreline so that a layer of sand and coral was formed. The results of the phytolith identification obtained showed several findings that had homogeneous characteristics, particularly the elongate form, which is a phytolith form found in all types of plants. However, this phytolith form may come from grasses (*Poaceae*) (Alifah, 2016: 56).

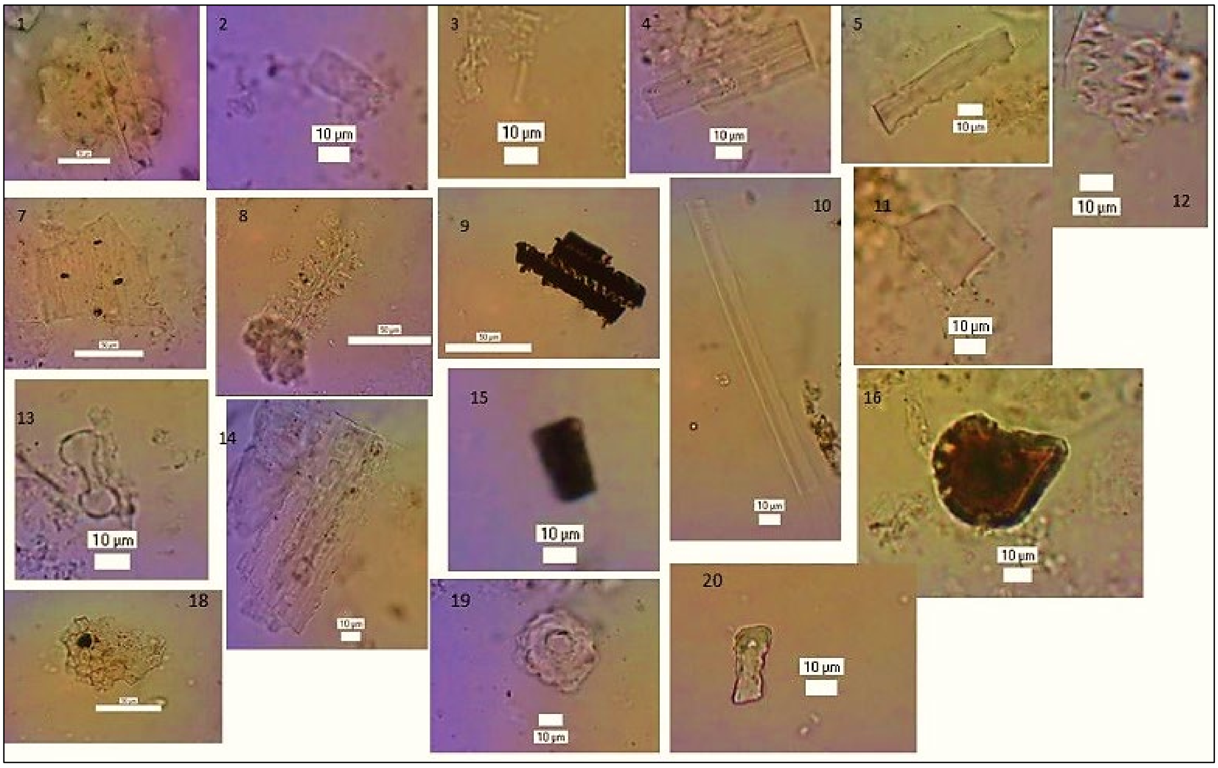

Figure 9. Some phytolith sample forms at the Here Sorot Entapa Cave Site and Eu Lapa Temple (Source: Alifah (2016)

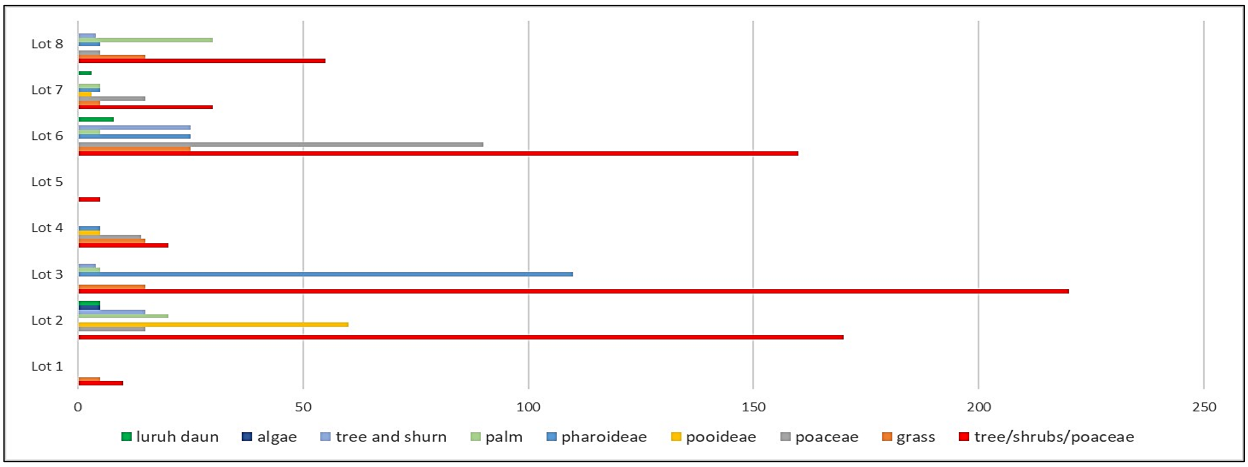

Figure 10. Morphology of phytolith findings from sediment samples (Figure 9), diagram of plant analysis results per layer in Here Sorot Entapa Cave
(Source: Alifah (2016)

The results of phytoliths identification in the second layer indicate that there has been a significant environmental change. This change is physically indicated by the change in soil texture from sandy conditions to dark, moist soil. The first layer associated with the coastal environment has become humid and overgrown by more diverse plants. The results of the phytolith analysis showed evidence of the number of plant remains and the emergence of several types of plants such as algae (*Algae*), grasses (*Pooideae*), deciduous plants, and the appearance of palms. The existence of this plant describes a savanna environment interspersed with trees, shrubs, and palms. The second layer is the first evidence of human activity by charcoal and lithic fragments. Dating using clamshell samples shows corresponding period to the global environmental changes in Eastern Indonesia as evidenced by pollen analysis, especially in the Timor core and Banda core (Read S. van der Kaars, Wang, Kershaw, Guichard, & Setiabudi, 2000; W. A. van der Kaars, 1989).

There was a change in environmental conditions on Kisar Island in the next period, especially in the southern part. This change shows evidence of the increasing presence of plants and along with the intensity of their use. *Pharoidea* grasses dominate the plant species found in this layer. Many of the phytoliths (30%) cannot be identified in the third layer because they are fragmentary. This is due to the high density of combustion, as evidenced by the thick layer of ash and charcoal. The finding of burnt phytoliths in the third layer associated with the accumulation of burned shells, crabs, and fish bones is evidence of the increasing use of food resources from the sea and land (Alifah, 2016).

The increased utilization of plant resources in the third layer is not only shown by the results of the phytolith analysis but also the sediment samples found in the analysis of the residue samples. In this layer, the presence of micro-botany also increases and indicates the diversity of plants used. After experiencing the peak density of biological resources, the condition of plant resources decreased in quantity but did not experience a decrease in species. There was even a bamboo phytolith in a burnt condition in the fourth layer that did not found in the previous layer. This condition occurred at around 13,500 BP and became the peak utilization of both plant and marine resources in Kisar Island. The presence of plant findings has decreased drastically in the fifth layer. This is in line with other findings, both in the form of artifacts and ecofact findings. This condition occurs at around 11,000—9,000 BP (Alifah, 2016: 60).

In the sixth layer, phytolith findings began to increase again compared to the previous layer. Grasses still dominate the types of plants found as a description of a dry environment. Still, deciduous plants, shrubs, and trees also appear, which describes a gradually more humid environment. The dating obtained from this layer shows around 4,663—4,957 cal BP. This condition was following the changing conditions of seawater, which has level increased. This condition did not last long because the phytolith findings again decreased in quantity in the next layer. The plant species found still describe the savanna environment, namely the dominance of grasses with various families such as *Pharoideae* and *Pooideae*. In the next layer, the plant resources again increased with the increasing number of phytolith findings. The many phytolith findings from the palms (*Arecaceae*) plants illustrate the same environmental conditions as today. The dating obtained from this layer is around 2,152—1,128 cal BP (Alifah, 2016: 62).

Here Sorot Entapa Cave and Kisar Island as Transit Points

Kisar Island's environment is an area with not too much diversity of animal resources from the early Holocene to the present. The terrestrial fauna that lives on this island does not provide many choices for consumption. Several types of birds, reptiles, snakes, and

Figure 11. Obsidian and flint blade found in spit 17 or third layer at Here Sorot Entapa Cave
(Source: Alifah, 2016)

mice are the most available options in this environment (Kaharudin, 2016: 137). At the same time, plant resources are also not much different. The diversity of plants on this island is limited, and freshwater sources are minimal. This condition reduces the attractiveness of Kisar Island to be inhabited permanently in the long term. However, its position, which connects several large islands such as Timor and other islands in the West such as Alor and Flores, is enough to explain why this island was later visited and inhabited.

The limitations of biodiversity and water resources on Kisar Island require high adaptability. Phytolith findings obtained from sediments show that the types of plants that existed during the cave occupation did not change much compared to the current environmental conditions. The many findings of rock art and hand stencils can explain this phenomenon. The dominance of grasses (*Poaceae*, *Pooideae*, *Pharoidea*) describes a savanna environment followed by the findings of tree and shrub phytoliths, and palms describe a savanna environment interspersed with trees, shrubs, and palms. This environment provides biological resources that are not too much to be used as a food source.

The utilization of grass plant species is possible only as a medium to build a fire. The excavation also found

Figure 12. Illustration of build a fire with wood and dry grass
(Source: Edelen, 2017)

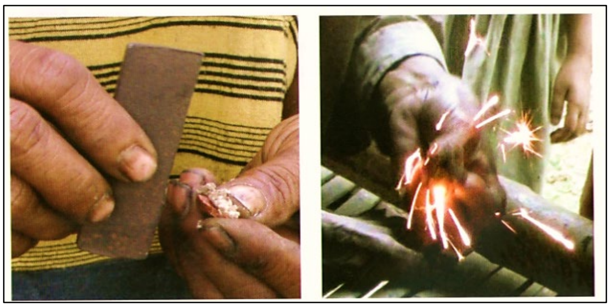

Figure 13. Illustration of the use of flint as a way of rubbing it with other objects in Palawan Island, Philippines
(Source: Ansyori et al., 2016: 20)

flint, along with other lithic tools. The use of flint is still common today, especially in traditional communities. The lithic findings with a very minimal number and variety made it possible that the lithics found at the Here Sorot Entapa cave site were tools and instruments for making another tool. The use of organic materials is also possible. The use of organic materials is very likely related to food processing, especially fish and shellfish. The findings of phytoliths from trees may have come from the trunks used as fuel and roasting tools in the firing process.

Figure 14. Phytolith of bamboo in the fourth layer (13,500 BP)
(Source: Alifah, 2016)

The results of the grain and starch analysis by Alifah (2016) found evidence of the utilization of plant resources in the form of tubers (*Alocasea* and *Amorphophallus*) and sago. The utilization of sago is found at the upper layer. Sago is a native plant in Papua,

Figure 15. A bamboo knife in Palawan, Philippines, used for cutting leaves
(Source: Ansyori et al., 2016: 22)

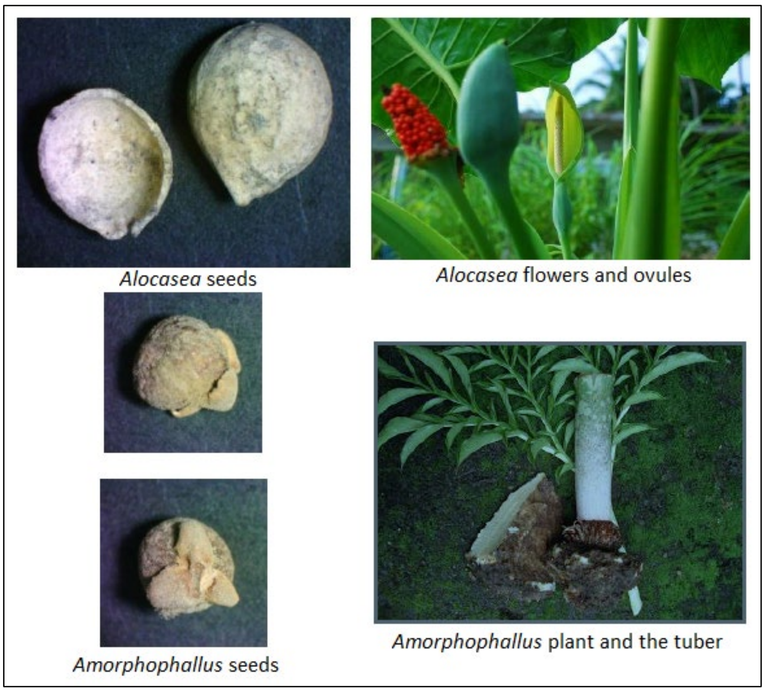

Figure 16. Findings of identified grains and illustrations of plant species. Indicates the use of tubers at the upper stratigraphic layer
(Source: Alifah, 2016)

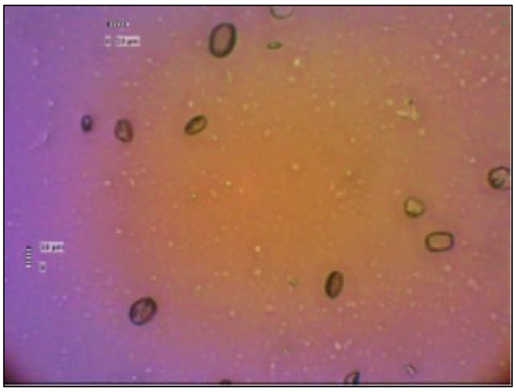

Figure 17. Sago starch grains found as a residue of the edge of the pottery at the upper culture layer
(Source: Alifah, 2016: 81)

especially Sentani (Whitten & Whitten, 1996: 104). The existence of sago in the last occupation phase, which is around the beginning of AD, has become an interesting phenomenon. The possibility of contact between the community of Kisar Island and Papua is possible. This is also reinforced by the similarity of rock art motifs found in Kisar and Papua and the similarity in colors of rock art and hand stencils, such as red, yellow, and black (read Arifin, 1992; Arifin & Delanghe, 2004; Ballard, 1988).

Based on the characteristics of the artifacts and ecofacts found on Kisar Island, there are several similarities compared with other sites in the Wallacea region. The cave-dwelling site in the Wallacea region has a subsistence pattern character by exploiting marine resources such as shells, fish, turtles. Meanwhile, the findings of ecofacts from land animals such as birds, bats, and lizards are other sources that are also used. The dominance of the findings of oyster shells, crab shells, and fish bones shows the high exploitation of marine resources to meet food needs. Meanwhile, the utilization of plant resources is carried out following the availability on Kisar Island, and it is also possible to utilize plant resources from outside Kisar Island. Kisar Island is a stopover place and not a long-term permanent residence. This interpretation is built on evidence that no human skeleton has been found. In fact, based on the dating test in the Here Sorot Entapa Cave, it was occupied at least from 16,000 BP to 1,100 BP with various intensities. In addition, the findings of artifacts in this cave are very minimal, both artifacts made of stone, shells, and earthenware.

According to Shott (1986), there is a model about the relation between the number of artifacts and site occupancy (Pradsojo, 2002: 20). The results of his ethnographic research on several hunting and gathering communities show a correlation between movement or mobility with the number and diversity of tools or

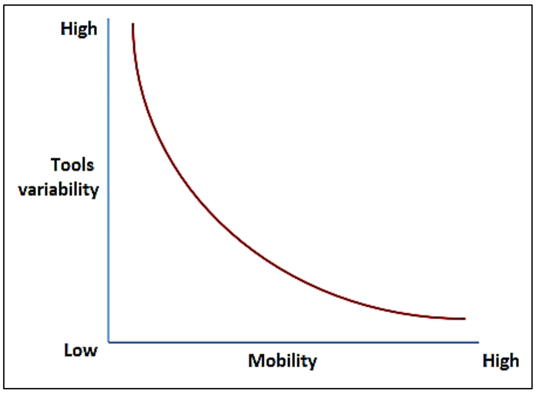

Figure 18. Shott (1986) graph showing a comparison of tools variation and human mobility
(Source: Shott, 1986, modified by Author)

artifacts. The theory states that the higher the variability of the tools, the smaller the community's mobility. On the other hand, the smaller the variability of the tool, the higher the mobility.

The artifacts found in the Here Sorot Entapa Cave show relatively slight variation. The findings are only pottery fragments (found in the upper layer), lithic, shell, and glass artifacts (found in the first spit). In addition, the artifacts found do not show good quality. Based on the stone tool-making analysis does not show any pruning. The stone tools found were chert flakes and several small obsidian tools. In addition, the findings of the pottery fragments were only plain pottery and in a fragile condition of the surface of the pottery.

Based on all the analysis results of artifacts, ecofacts, features, the following table is a chronological matrix of the human settlement process on Kisar Island. This chronology is compiled to describe the environmental and cultural changes resulting from the human adaptation process.

Table 1. The general chronology of culture and cave-dwelling in Kisar Island

Chronology	Environmental Conditions in General	Main Vegetation	Cultural Characteristics and Resource Utilization
Before 38,000 BP	Densely covered forest	*Eucalyptus*	No dwelling cave yet
38,000—17.000 BP	In the form of open field fields that characterize an arid environment, the peak of drought occurs at 18,800 BP	*Gramineae* and *Cyperaceae*	No dwelling cave yet
15,000 BP	The humid climate was a transition from dry to humid conditions	*Poaceae*, *Algae*, shrub, *Araceae*, *Pooideae,* and deciduous plants	- Dwellings cave began to appear, utilization of marine resources (shellfish, crabs, fish, sea urchins) - Fishhook was discovered as a form of emerging fishing technology - Utilization of existing plants with the dominance of *Pooideae* was possible as fish processing materials and other marine sources
13,500 BP	The climate is still humid, the number of vegetation is increasing but not increasing in species	*Poaceae*, *Pharoideae,* tree, and *Araceae*	- Cave dwelling is at its peak - The utilization of marine resources and plant resources has also increased rapidly from the previous period - Discovery of lithic artifacts increased; some of them made of obsidian - The use of plants has also increased, and the use of tubers has begun to emerge - How to use plants as food ingredients is to burn, especially for types of tubers such as *Alocasea* and *Amorphophallus*
11,000—9,000 BP	Environmental conditions began to change. The climate was drier than in the previous period	*Poaceae*, tree, and shrub	- Cave occupation continues - Decreased occupancy intensity as indicated by decreased of ecofact and artifact findings - Utilization of plants decreased from the previous period - Utilization of plants still occurs by the combustion process - The discovery of ocre is at its peak as a material for hand stencils and rock art
9,000—5,000 BP	Dry climatic conditions resulted from a cold event (sudden cooling), which peaked at 8,200 BP	*Poaceae*	- There is no indication of dwelling cave on Kisar Island
4,500—1,700 BP	The climate was back to warm, and the environment was starting to change from arid to more humid	*Poaceae*, *Pharoidea*, tree, shrub, and *Araceae*	- The dwelling cave starting back to intense - Pottery has been known as a food processing container - The utilization of bananas and sago appears - The utilization of tubers, bananas, and sago by boiling

	- The utilization of marine resources is still dominant - Sedimentary layers in this phase are relatively thin

Source: Alifah (2016)

CONCLUSION

This study reveals the subsistence strategy of the human community that has occupied Kisar Island in the past. The arid conditions on this island cause extremely depauperate terrestrial fauna, and protein were acquired almost exclusively from marine resources. Plant foods would have been critical to complement the predominantly marine diet. Based on the analysis of micro botanical samples, it is known that several plant species were part of the food source. There is no doubt that they have great adaptability. The archaeological record of Kisar also demonstrates that continual subsistence on the island, but there was an up and down period of human occupation following several environmental changes in global conditions that impacted Kisar Island.

In general, it is interesting to know the position of Kisar Island in the human migration path through the Wallacea region. The position of Kisar Island, which is between other large islands such as Timor, Alor, and Wetar, opens the opportunity to have an important position related to these islands. However, the dating obtained from cave dwellings on Kisar Island is relatively young compared to the two surrounding islands. Some excavation results also show the diversity of findings, especially artifacts, concluding that Kisar, especially the Here Sorot Entapa Cave, is probably only a transit site. The function of the Here Sorot Entapa Cave may also be related to the existence of rock arts that were spread on Kisar Island. Eventually, Kisar Island was the main purpose of prehistoric humans in carrying out religious and artistic activities, and the Here Sorot Entapa Cave served as a temporary shelter for these activities.

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