

Reconstructing Agricultural Activities Of Belitung Malay Community In The Past: The Use Of Traditional Knowledge In Archaeological Interpretation

Aryandini Novita*¹, Dadang Hikmah Purnama², Edward Saleh³, Ari Siswanto⁴

Abstract

Ethnographic data is a bridge between archaeological data and past behavior based on comparisons with traditional knowledge that are still ongoing today. Ethnographic approaches have made significant contributions to knowledge about past agriculture. This article aims to reconstruct the past agricultural activities of the Sungaipadang Village community based on traditional knowledge preserved in today's society. Thus this research uses a cultural continuity model approach by observing archaeological remains and present agricultural activities. Interviews were conducted with village elders and traditional leaders of Sungaipadang village to find out the community's traditional knowledge about agricultural activities. The data was classified and then compared to produce a pattern that describes the relationship between material culture and behavior today. The existence of archaeological remains indicates a past settlement was in the interior of the Padang River watershed. The ceramic fragments indicate that the settlement was from the XIII-XIV centuries to the early XX centuries. The division of labor system reflects the characteristics of pre-industrial society. A trading system carries out through intermediaries and interactions allegedly occurring in certain places. The agricultural activities in Sungaipadang village of the present day reflect the agricultural activities of the Sungaipadang village community in the past. The community still holds the traditional values of the Belitung Malay community. Several agricultural activities carried out by the community have changed. They are no longer planting rice. These plants have been replaced by pepper and oil palm.

Keywords: *archaeological reconstruction, agricultural traditions, cultural continuity model, ethnographic approach, traditional knowledge*

Introduction

From a cultural perspective, agriculture is defined as land processing and economic activities to meet human needs and survival (Harris and Fuller 2014). Agriculture is a way of obtaining food that involves the cultivation of plants and the domestication of animals (Price and Bar-Yosef 2011). Some experts agree that agriculture is a marker of where humans started utilizing environmental resources. In contrast to hunting and gathering subsistence, where people exploit

¹Department of Environmental Science, Graduate School University of Sriwijaya
Research Center for Environmental Archaeology, Maritime Archaeology, and Cultural Sustainability, National Research and Innovation Agency.

²Department of Sociology, Faculty of Social Science and Political Science University of Sriwijaya.

³Department of Agricultural Engineering, Faculty of Agriculture University of Sriwijaya.

⁴Department of Architecture, Faculty of Engineering University of Sriwijaya.

the diversity of resources over a large area, farming communities generally utilize resources in a particular area intensively and change the environment according to their needs (Price and Bar-Yosef 2011; Bar-Yosef and Belfer-Cohen 1992).

Agriculture began in the Neolithic period when human life began to settle and emerged through shifting cultivation system (Noerwidi 2013; Harris and Fuller 2014). The Neolithic period lasted at the end of the Pleistocene period and is considered a period of increased air temperature and drought on Earth. Some archaeologists suspect that the emergence of agriculture is due to climate change (Price and Bar-Yosef 2011). Ethnographic studies conducted by Binford (1968) and Cohen (1977) show that the emergence of agriculture is more due to an increase in population as to disrupt the balance of human relations with their environment. It happens because of the decrease in food availability due to the increasing population, so it is necessary to domesticate plants and animals to increase food sufficiency. However, Bocquet-Appel's research (2011) shows the opposite result, where the population increases after the emergence of agriculture.

Shifting cultivation systems are characteristic of pre-industrial agricultural landscapes (Denevan 2001; Fleming 1988; Gade 1999; Davies, Retamero, and Schjellerup 2016). Some regions still practiced shifting cultivation, particularly in tropical regions such as Indonesia (Siahaya et al. 2016; Angelsen 1995; Feintrenie, Schwarze, and Levang 2010). Shifting cultivation is defined as any agricultural system in which land is cleared, usually by burning, cultivated for a short time, then moved to another location (Conklin 1968). The community has been practicing shifting cultivation based on traditional knowledge for generations (Siahaya et al. 2016; Thet and Tokuchic 2020).

Traditional knowledge is a legacy from the past. This knowledge results from interactions between members of a community group, knowledge about the environment in which they live and how to adapt to their environment, and the norms that govern their lives (Bruchac 2014). Local knowledge plays a significant role in archaeological research as it helps to identify past settlement patterns (Wilshusen and Stone 1990), land use (Steward, Keith, and Scottie 2004; Wilshusen and Stone 1990), and decision-making in managing environmental resources related to past agricultural activities (Pikirayi 2016). Research on traditional knowledge involves people who know the traditional values of the past that are passed down from generation to generation (Steward, Keith, and Scottie 2004; Pikirayi 2016; Wilshusen and Stone 1990). In addition, people who have experienced past activities can also be used as a source of information about traditional knowledge (Marcus 2006; Pikirayi 2016).

The use of traditional knowledge in archaeological research has been carried out by Stewart et al. (2000) in identifying land use in the Kazan River, Nunavut, central Canada. In his research, Stewart et al. reconstructed past activities at caribou crossing sites along the Kazan River based on traditional knowledge shared by the Inuit. This tribe has traditionally inhabited the region. The oral histories and archaeological information collected in the study contributed to the understanding of the Inuit people, particularly Harvaqtuarmiut. This understanding takes the form of traditional knowledge about land use, place names, and archaeological features.

Pikirayi's research (2016) on the Great Zimbabwe Site was conducted based on aspects of tradition and community related to material cultural remains in the region. This research was carried out by involving direct descendants or settlers who traditionally settled around the site. The study aims to determine the community's decision-making in the past in managing water resources for the success of agricultural production and other domestic needs in the past. The research involved various disciplines, such as geology, soil science, hydrology, and traditional knowledge of local communities, and successfully reconstructed water resource management systems for agricultural activities in the Great Zimbabwe Site.

These studies show a distinctive characteristic in archaeological research that uses an ethnographic approach, which utilizes traditions carried out by today's society. Tradition is a

continuation of history and has cultural similarities with the history and culture of the past. Thus researchers understand past cultures based on analogies with the cultural systems of present societies (Wasita 2011; Hartatik 2015).

The ethnographic approach has contributed significantly to knowledge of past agriculture. Observations of today's traditional farmers have contributed to reconstructing past agriculture. Ethnographic data provides valuable insights that cannot be acquired using archaeological methods. Ethnographic data is considered a bridge between archaeological data and past behavior based on comparisons with traditions that are still ongoing today (Taylor-Hollings 2017; Mitchell 2015; Wright, Repu, and Passi 2021).

Archaeologists often use traditional knowledge as a source of information. Every society has a heritage of knowledge about how to live in its group and environment. The knowledge is learned through experience and passed down from generation to generation. This knowledge includes interactions among community members, knowledge about their environment, how to adapt to their environment, and the norms that govern their lives. Anthropologists refer to this as traditional knowledge (Bruchac 2014). In general, traditional knowledge is not only in the form of historical knowledge, both oral and written, but all knowledge derived from the past that is passed down from generation to generation in a community (Simons 2017; Nicholas and Markey 2015; Steward, Keith, and Scottie 2004).

The introduction of agriculture in Indonesia dates back 3500 years ago when Austronesian-speaking communities first implemented it (Noerwidi 2014; Bellwood 2000). Agricultural practices are still prevalent in Indonesia, including on Belitung Island. Even though Belitung Island has been a tin producer since the early 20th century, the local community is not involved in these activities. According to historical records, the residents of Belitung used to support themselves through shifting cultivation. Sungaipadang Village is one of the tin mining locations carried out by Billiton Maatschapij on Belitung Island in the early 20th century. Research conducted by Novita et al. (2019) states that sandy areas dominate the soil type of the Sungaipadang Village area and have a podzolic soil layer suitable for agriculture.

Administratively, Sungaipadang Village is located in Sujuk District, Belitung Regency, Bangka Belitung Islands Province (Fig. 1). This village consists of two hamlets: Sungaipadang and Munsang. Sungaipadang is the administrative center of Sungaipadang Village, located near the Padang River. Munsang is a settlement that developed in the latter days and is located west of Sungaipadang.

The Sungaipadang Village community has an agricultural tradition carried out for generations. This traditional knowledge is not only historical, both orally and in writing, but all knowledge derived from the past that is passed down from generation to generation in a community group (Simons 2017; Nicholas and Markey 2015; Steward, Keith, and Scottie 2004). Therefore, information about traditional knowledge helps reconstruct past cultures. This article aims to reconstruct the agricultural activities of the Sungaipadang Village community in the past based on traditional knowledge preserved in today's society.

Material and Method

Researchers use ethnographic analogies to reconstruct the agricultural activities of the Belitung Malay community in the past. This analogy assumes that past behavior is the same as present-day behavior. Thus, this study uses a cultural continuity model approach. This model compares archaeological, historical, and ethnographic data to establish their relationship. This model assumes that the closer the time distance, the stronger the analogy result, or the more conservative the nature of the comparison society, the stronger the analogy result. (Tanudirjo 1987; Hartatik 2015; Arunagren and Nayati 2019; Taniardi 2009).

The cultural continuity approach assumes that the agricultural tradition of Sungaipadang Village today continues the pre-existing culture. This study uses ethnographic data to describe and explain the reconstruction of past agricultural activities in Sungaipadang Village. In the process, researchers observed the agricultural activities of the people of present-day Sungaipadang Village. The ethnographic analogy considers that the Sungaipadang village community today has lived in the area for generations. In addition, the community has a collective memory of agriculture traditions that are still remembered, especially by traditional leaders and village elders.

The data source in this article is the result of archaeological research conducted in 2017, 2019, and 2022 in Sungaipadang Village. Research conducted in 2017 focused on collecting archaeological resources in Sungaipadang Village, which indicated community use of activity space at different times. Research conducted in 2019 focused on maritime relationship patterns in the Padang River watershed in the past. Meanwhile, the 2022 research focuses on using environmental resources in the community in the present-day related to the adaptation system and the factors that influence it.

The technique of data collection uses survey, observation, and interview techniques. The survey aims to collect data on material culture in the research area. This survey is to find out the remains of material culture associated with past settlements. In addition, researchers also conduct literature surveys. The literature survey aims to collect written data about the history and culture of the Belitung Island community and the geographical and geological conditions of Belitung Island. The observation aims to determine the geographical condition of archaeological sites and settlements in present-day Sungaipadang Village. In addition, the observation also aims to determine the agricultural activities of the people of Sungaipadang Village today.

The agricultural tradition in Sungaipadang Village is still practiced today and is believed to have been developed from past culture. Based on this, interviews were conducted to find out the traditional knowledge of the people of Sungaipadang Village about their ongoing and extinct agriculture activities. Interviews were conducted with traditional leaders of Sungaipadang Village, namely dukun kampung, penghulu gawe, and village heads. In addition, interviews were conducted with several village elders who still experience the tradition of shifting cultivation systems (Fig. 2). Triangulation techniques are used to test the validity of research data. This technique compares observational data with interview results during data collection. In addition, triangulation is also done by asking the same question to different informants.

The selection of traditional leaders and village elders as informants are based on the assumption that informants are cultural actors and recipients of cultural heritage. Village elders are categorized as cultural actors because they still carry out and understand the tradition of shifting farm farming in Sungaipadang Village. Meanwhile, traditional leaders are categorized as cultural actors and recipients of cultural heritage. As recipients of cultural heritage, some traditional leaders, although they no longer carry out the tradition of shifting farm farming, know the tradition practiced by their parents or grandfathers. This knowledge is usually gained from stories told by their ancestors.

The analysis was carried out by classifying the data collection results into three categories: history, material cultural remains, and traditional knowledge of the Sungaipadang Village community related to agricultural traditions. The three categories are then compared to produce a pattern that illustrates the relationship between material culture and the community's behavior today. Furthermore, this pattern indicates the characteristics of pre-industrial societies that also characterize past agricultural societies. Thus, the research objective to interpret the agricultural activities of the Sungaipadang Village in the past community can be achieved.

History of Sungaipadang Village Community

Geographically, Sungaipadang Village has an area of 75.56 km². This village is the last in the northern part of the Belitung Regency, directly adjacent to East Belitung Regency. Sungaipadang Village has flat conditions in residential areas and rather hilly in forest areas. This area has slopes ranging between 15 - 35 %, but the altitude is relatively low at around 0 - 50 meters above sea level. The soil type is dominated by sandy areas resulting from weathered granite and kaolin rocks. The Sungaipadang region also has a podzolic soil layer suitable for agricultural land. The soil layer contains good minerals but a low water content. The aquifer layer in this area is also relatively close because it can be penetrated at a shallow depth. It can be seen from the depth of the well, which ranges from 3-5 meters. Although the soil layer in the Sungaipadang region is dominated by a relatively thick red and yellow podzolic layer, along the Padang River watershed, quite a lot of tin sediments are found. These sediments spread evenly from the coast to the interior.

The vegetation in Sungaipadang Village is dominated by oil palm and pepper plantations. Its natural vegetation consists of shrubs and secondary forests. However, it can also be seen that the secondary forest in this area is a former primary forest that has changed due to utilization activities. It can be seen from the density of vegetation that is quite dense and the discovery of primary plants in this area.

Based on statistical data released by the Central Bureau of Statistics of Belitung Regency in 2021, it is stated that the population of Sungaipadang Village has two versions. Based on the results of the 2020 population census, it is known that the population of Sungaipadang Village is 2377 people, consisting of 1,249 men and 1,128 women. In detail, the number of heads of families in Sungaipadang Village is 766, with an average number of family members of 3. Meanwhile, from the same publication, based on data from village offices in the Sijuk sub-district, the population of Sungaipadang Village amounted to 2,240 people, consisting of 1,166 men and 1,074 women.

The Sungaipadang Village community are indigenous people who have traditionally settled in this village. Like most Belitung Island communities, the original inhabitants of Sungaipadang Village are Malays. Vorderman (1891) referred to it as Billiton Maleisch or Belitung Malay. It is also mentioned that the Belitung Malay community has a Malay dialect but differs from other Malay tribes.

In the history of tin mining in Belitung, it is stated that the Sungai Padang watershed is one of the first tin mining locations managed by Billiton Maatschappij (Novita et al. 2019). When the Dutch East Indies government opened tin mining in this village, several infrastructures were built, including a road network connecting the mining site with Tanjungpandan City. This development was followed by relocating people who initially settled in the interior along the road. This relocation was intended to make it easier for the government to control the population and weaken the influence of local leaders over the local community (Heidhues 1991). The Dutch East Indies government also hoped that the relocation of this residence could improve the economy of the local population because they could directly sell forest and agricultural products (Nijhoff 1927). The new settlement then developed into the present.

Remains of Material Culture in Sungaipadang Village

Material cultural remains in Sungaipadang Village can be classified into three types: sites, artifacts, and ecofacts. The site located in the area of Sungaipadang Village is a burial site. The artifacts found in Sungaipadang Village are ceramic fragments. Meanwhile the ecofact found in this village is the remains of marine fauna. This fauna is considered the leftover food consumed by the community in Sungaipadang Village in the past.

Archaeological sites in Sungaipadang Village indicate past dwellings. These sites are Padang Kelarin and Padang Pendam. Both sites are in the inland part of Sungai Padang (Fig. 3). Both sites are located on a vast plain. The site of Padang Kelarin is burial site. On this site, there are approximately 60 tombs. The tombstone is made of bulian wood (*Eusideroxylon zwageri*). The shape of the tombstone belongs to the Acehese type², namely the mace shape for male characters and the flat shape for female characters (Fig. 4) (Novita et al. 2019).

The community believes the figures buried at this site are Datuk Menggala, Datuk Pasik, and Mina Zahari. However, the role of these figures has yet to be discovered. The informant only mentions that the three figures have spiritual power beyond others. The tombs of the three figures are placed in the front of the arrangement of other tombs. The placement is typical at the tomb of leaders in the Belitung community (Novita, Atmodjo, and Ramadhan 2017; Andhifani and Ali 2017).

The ceramic fragments found at the Padang Kelarin Site are bowls, clap lids, jars, and plates. The ceramics found came from China during the Yuan Dynasty (XIII-XIV centuries), which were celadon green with ornaments of flora and geometric motifs. In addition, there were also blue and white ceramics during the late Ching Dynasty (XIX – early XX centuries) decorated with flora motifs. Ecofacts found at the Padang Kelarin Site are *Corbiculidae*, *Tridacnidae*, and *Strombus turturella*, which are thought to be food scraps consumed by the site's inhabitants.

The Padang Pendam site is also a burial site consisting of 40 tombs. According to informants, the person buried at this site is Abdullah Jafar. The placement of Abdullah Jafar's tomb is in front of other tombs. Abdullah Jafar's tombstone is made of granite with Demak-Troloyo type³ (Fig. 5). In the middle of the tombstone body is a circle with calligraphy writing, but the condition is worn out so that it can no longer be read. At the foot of the tombstone is a calligraphy that reads 'Laillahailallah.' In addition to Abdullah Jafar's tombstone, other tombstones are made of bulian wood (*Eusideroxylon zwageri*) with Acehese type (Novita et al. 2019).

Traditional Knowledge of Sungaipadang Village Community

For the Belitung Malay community, agricultural traditions are carried out with shifting cultivation called *beume*. In an interview conducted with a village elder named Mr. Basri (82 years old), the local community called him *Ki Tili*, who still experienced the practice of shifting cultivation. Before settling in his current house, *Ki Tili* lived in *ume*, land in the forest to be used as a farm. *Ki Tili* lives in *ume* with his family. Near his farm is another farm, complete with another family's hut. This settlement group comprises 6 to 10 people or three families known as *kubok*.

Ki Tili started farming when he was 13 years old. He obtained land for farming by clearing forests with the permission of the *dukun kampong*. *Ki Tili* clears the forest without the help of others. It takes him 10 to 15 days to prepare the land using machetes and axes. The first activity was cutting down shrubs and tree branches with a machete. Large trees were cut down with axes. People call this activity *nebas*. After that, land clearing was carried out twice. First, by burning it, known as *nunu*. After the burning is complete, a second cleaning is carried out

²This type is based on the typology of tombstones made by Hasan Muarif Ambary (1998) in his dissertation, which has been published in the form of a book entitled "Menemukan Peradaban, Jejak Arkeologis dan Historis Islam di Indonesia"

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to accumulate the remnants of plants that are not burned so that the land is ready for cultivation. This activity is known as *ngereda*.

Before planting, the land is given a wooden fence to mark the boundary of the land. In addition, the fence also serves to dispel wild boar pests. To measure the land area, used a hand span known as *depa* or with straight logs called *pa'* wood. If converted to meters, one *depa* is equivalent to 1.5 meters. One *pa'* wood is equivalent to 2.5 meters. Generally, the land used as a farm measures 10 (wood) *pa'* x 10 (wood) *pa'*, known as *sesurik* or one *surik*. In one *surik*, it is usually divided into six grids. These grids are known as *galang jurai*. Then each I is divided into 10 to 20 columns called *galang kerat*.

The plant cultivated by *Ki Tili* is rice. In addition, *Ki Tili* also grows pepper (*sahang*), cassava (*menggale*), yams, *keladi*, chili, turmeric, and *galangal*. The rice grown by *Ki Tili* is used for daily consumption. Likewise, cassava (*menggale*), yams, and taro are food substitutes for rice while waiting for the harvest. Pepper plants (*sahang*) are cultivated for sale. In addition to these plants, *Ki Tili* also grows *jewawut* (*jawak*), *jali-jali*, *kecipir* (*butor beans*), and cucumber (*belungka*).

Rice is cultivated by planting seedlings in land hollowed out with logs. This activity is known as *nugal*. The rice planting period lasts 5 – 6 months, after which the rice is ready to be harvested. This rice harvesting activity is known as *ngetam*. The *dukun kampong* first started harvesting using sickles, known as *nyempuli*. The rice stalks that have been cut are then separated from the fruit by smashing. The process of separating rice or grain from the stem is called *ngempas*. After the grain is detached from the stem, it is dried in the sun. The following process is *nutuk*, which separates the fruit from the epidermis by pounding it into rice. This process is carried out using a mortar and pestle. After that, the rice is put into sacks and stored at home for supply for one year.

Ki Tili said that after harvesting rice, he would move to another place. At the same time the old fields are planted with pepper. Unlike rice planting, pepper is cultivated using wooden poles as a medium for plant propagation called *junjung*. The poles chosen are *pelawan wood* (*Tristanopsis merguensis*), *bulin* (*Eusideroxylon zwageri*), or *jelanjangan*. *Jelanjangan wood* is the best to be upheld because it is considered strong and can last long. The seedlings are prepared by taking tendrils from pepper plants already two years old as the mother plant. The tendrils are planted and attached to a small stem called *tunangan* until it releases roots. The next step is planting seeds prepared in advance, and the stems are tied upside down using raffia rope. Before using raffia rope, *Ki Tili* used a rope made from the bark of a banana tree trunk. Care from planting to harvesting is carried out by applying fertilizer and watering. In addition, cleaning weed plants and pruning stems and leaves that are considered unproductive are also carried out. 1-year-old pepper plant called *setengah junjung*. When the pepper is two years old, it will grow the first fruit, the *buah pangkal*. This *buah pangkal* is usually discarded to produce good fruit. After three years of age, pepper plants begin to be harvested. The pepper ready for harvesting is yellow or red, and the stalk is slightly yellowed.

How to harvest pepper is by picking, known as *mutik*. If the pepper to be harvested is at the top of the *junjung*, farmers usually use a wooden ladder called an *anjan*. The wood used for *anjan* is *betor wood*. The pepper picked is then put into sacks and soaked in running water, usually in a small river near the farm. This soaking process is carried out to produce white pepper. This process is known as *soaking* and is carried out for one week until the epidermis comes off. A pepper whose epidermis has been removed is known as *maram*. The floating of the sacks marks these bags of pepper with the epidermis.

The following process is cleaning. The cleaning process is carried out twice, namely *digisak* and *dikisar*. The *gisak* process is done by immersing pepper in running water to release the remaining epidermis, while the *kisar* is done by shaking the sieve to wash away the removed epidermis. Both processes are carried out using a sieve in the form of a serving hood made of

plastic. Before using a plastic serving hood, the sieve is a container of bamboo or rattan known as sauk. After cleaning, the following process is drying. This process is carried out for 24 hours if the weather is hot.

Meanwhile, the drying process will be postponed if the weather is rainy. After the drying process is complete, the dried pepper is put into a bag with a capacity of 20 kg and then sold to collectors from Tanjungpandan City. The drying process is usually done in the yard of the house, as well as the storage of bags of pepper that are ready for sale stored in the house.

As the last procession of this farming tradition, a ceremony called *maras taun* is carried out. *Maras Taun* was originally a rice harvest ceremony held once a year after harvest. In its development, this ceremony transformed into a village salvation because the types of plants cultivated by the community have changed, such as oil palm (Wildan, Dulkiah, and Irwandi 2019; Novita et al. 2020). This ritual aims to find the safety of the village. In a tradition held every year, all residents gather at the house of *dukun kampong*. This event is filled with prayers led by *dukun kampong*, then eating together and performing traditional dances.

Discussion

Using a cultural continuity model, this research can be used as a reference for similar research in other areas where people inherit or even practice traditions. The remains of material culture and historical records of the Sungaipadang Village community represent the community's life in the past. On the other hand, agricultural traditions and related socio-economic aspects are traditional knowledge of the community in this village, which are passed down from generation to generation. The integration of archaeological, historical, and ethnographic aspects in Sungaipadang Village results in interpretations of the agricultural activities of the community in the past.

The existence of burial sites in the interior of the Padang River watershed indicates that the area was part of a past settlement. Ceramic fragments indicate that habitation in the interior of the Sungaipadang watershed has been going on from the XIII-XIV centuries to the beginning of the XX century. Heidhues (2008), states that the dwelling of the Belitung Malay community in the past was located not far from gardens or fields and consisted of several houses. These moving dwellings follow the farming period and are connected by paths.

The life of the Sungaipadang Village community characterizes the pre-industrial society. It can be seen in their daily activities centered on efforts to extract environmental resources. The economic activities of pre-industrial societies were carried out based on tradition and faced limited land and other resources (Alkın 2016). In pre-industrial societies, the family was part of the unit of production. In addition, pre-industrial society is also synonymous with rural society, and agriculture is its main livelihood (Alexakha 2020; Alkın 2016).

Based on the results of the study, it is known that the main livelihood of the people of Sungaipadang Village in the past was to utilize the potential resources available in their environment. The land used is a forest used as a field for cultivation. They know about shifting cultivation according to the resources available in their environment. In general, shifting cultivation begins with clearing forests to be used as a farm. Then the fields are planted until harvest. After that, the farm is abandoned and moved to new locations until finally, it reused.

The results showed two ways to acquire land: inheritance and reusing land others have managed. In the Belitung Malay community tradition, if a man dies, his son will inherit his farm. A man gets land to farm based on his father's lineage. In addition, he could open his land with the permission of the *dukun kampong*. However, if, according to the *dukun kampong*, the forest is a *pemali* forest, then the community may not open land at that location. *Pemali* forest is believed to be the place of supernatural creatures so that it cannot be disturbed. When going to clear land, a ritual is carried out by sprinkling *kesalan*. *Kesalan* is a slice of *neruse* leaves

(*justicia gendarrussa*) and *ati-ati* leaves (*coleus scutellarioides*) that the *dukun kampong* has given a mantra. This ritual aims to produce a good harvest for the plants to be cultivated on the farm.

Another informant, Mr. Syahrani (50 years old), the local community called him *Ki Busu*, was the *penghulu gawe*. In the structure of the customary institution of *Sungaipadang Village*, the *penghulu gawe* is the coordinator of implementing a traditional ceremonies. *Ki Busu* said that besides clearing forests, people could use the existing *kelekak* that others have already worked on. *Kelekak* is a land that was once cultivated and has been abandoned. If anyone wants to use the *kelekak*, he must ask permission from the owner of the *kelekak* (*betaré*), and if the owner allows, he can work on it. In addition, the person must reward the old owner. There is no provision in regulating the value of such rewards only based on agreement and voluntary.

Rice is the main crop and is used for needs for one year. Companion plants are not only for consumption but also to trick pest animals, such as monkeys and birds, into not disturbing rice or other crops. If there is excess stock, such companion plants are only sold. Pepper was another plant cultivated by the *Sungaipadang Village* community in the past. Pepper is planted in former rice fields, while rice is planted in new fields. Pepper is a commodity crop that is grown only for sale. Research by Wibisono et al. (2018) estimates that the people of *Belitung* had known pepper cultivation since the XVII century when the *Palembang Darussalam Sultanate* controlled this region.

Ecofact findings in the site are marine fauna remain to show that the people of *Sungaipadang Village* in the past also used marine resources to fulfill their proteins. This fact also shows that the community utilizes terrestrial and marine ecosystems. Information obtained during the interview shows that until now, the people of *Sungaipadang Village* are still utilizing environmental resources from the two ecosystems. However, the use of marine resources is only one of the livelihood systems. Their main livelihood is agriculture. Some residents' main livelihood is fishermen, but fishermen's work is only done when they are young. When they turned 50, they switched to farming.

In daily life, the *Sungaipadang Village* community usually carries out agricultural activities in the morning until nearly noon, then in the afternoon, they go to sea until before midnight. However, this activity is carried out only sometimes, only in certain months they do it. November, December, and January for the community are known as the west wind season. In these months, the strength of winds results in high waves making it dangerous to navigate. At this time of unfavorable water conditions, the people of *Sungaipadang Village* do not go to sea and prefer farming.

The geographical location of archaeological sites along the *Padang River* shows that in the past, the river was a medium of transportation to distribute commodity goods from outside to be exchanged for goods produced by settlements in the interior. For example, ceramic findings from China represent commodities from outside *Belitung Island*. The findings of Chinese ceramics during the *Cing Dynasty* show that dwellings in the interior continued until the beginning of the XX century when the *Dutch East Indies* government began tin exploration.

Since the community's resettlement from inland areas to coastal areas, there has been a change in the transportation media of the people of *Sungaipadang*. Initially, the interaction of people in this region with the outer region was carried out through rivers. After the construction of the road network in this region, the role of rivers was replaced.

The economic system of the local population is carried out by trading system through intermediaries. The middleman went to the villagers to buy forest products and fields to resell in *Tanjungpandan* (Nijhoff 1927). In addition to acting as collectors, they also act as traders who sell commodity goods from outside *Belitung* that residents need or order. Agricultural and marine products for the *Sungaipadang Village* community are only used for daily needs. If

there is an excess of new inventory, the produce is sold to buy other household needs that cannot be produced by themselves. Generally, these buying and selling activities are carried out outside the market, but some people come to the village to buy the excess inventory. This activity is known as *berae*, while people who carry out their activities are called *perae*. In carrying out buying and selling activities, a *perae* buys the community's products and sells other household needs to the community. The produce purchased by *perae* is then resold in the market. Sometimes the produce is also sold in other villages. Today, the term *perae* has changed to *toke* (*tauke*) or *bos*, and they only play the role of buyers.

The interaction of past societies with intermediaries allegedly took place in a particular place known as a *pangkalan*. For the Belitung Malay community, this term refers to a pier that serves to raise and lower goods and people from boats. In addition, the base is also a meeting place for intermediary traders with locals to make exchanges. Currently, in Sungaipadang Village, there is a location with a toponym, namely *Pangkalan Asam*. Local people believe the location is a port of the past. *Pangkalan Asam* is located only 800 m from the Padang Kelarin Site and the Padang Pendam Site. It is believed that the economic activities of the Sungaipadang community in the past took place in *Pangkalan Asam*. All commodities the community produces, in the form of daily consumption and production commodities, are exchanged at this location.

The characteristics of pre-industrial society in the people of Sungaipadang Village in the past are also seen in the division of labor system. Findings in the field show that in cultivating land, the workforce that does it comes from the nuclear family. Information from sources states that the more children a family has, the more land can be managed. The preparation of land to be used as land is usually done by men. However, in the process of planting seedlings until harvesting, it is carried out by all family members, both men, and women.

In the social structure of the Belitung Malay community, *dukun kampong* occupies the highest level. Related to agricultural activities, the community will first ask permission from the *dukun kampong* to determine whether the land can be used. The ritual carried out by the *dukun kampong* communicates with supernatural beings believed to occupy the land. The communication aims to determine whether the land to be cultivated is a *pemali* forest. After the *dukun kampong* allows it, the community can work on the land. Likewise, at harvest time, the process of cutting rice is first carried out by *dukun kampong*, whom the field owner then continues.

Conclusion

In general, agricultural activities in the people of Sungaipadang Village in the past are illustrated in agricultural activities in Sungaipadang Village today. Some activities carried out by the Sungaipadang Village Community have changed. They no longer plant rice; these crops have been replaced by pepper and palm oil. Even now, the palm is the dominant crop. The people of Sungaipadang Village still hold the traditional value of the Belitung Malay community. This value is reflected in selecting agricultural activities to fulfill their living needs. In addition, agriculture is also considered a guarantee of their future life. Historically, Sungaipadang Village has tin mining potential; now, the community uses it by mining in old mining areas. This activity was carried out when tin prices were high, so the Sungaipadang Village community did mining to raise capital to buy plant seeds. Agriculture is also chosen when a fisherman is old to guarantee future life. It is based on the assumption of the people in Sungaipadang Village that fishermen need greater physical strength than agriculture, and farming can be done every season. In addition, fishermen's activities are also considered riskier than agriculture.

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Reference

- A.G. Vorderman. 1891. "Bijdrage Tot de Kennis van Het Billiton Maleisch." *Tijdschrift Indische Taal, Land En Volkenkunde Deel XXXIV*, 373.
- Alexakha, Andrey. 2020. "Social Revolutions in Pre-Industrial and Industrial Societies." Cambridge Open Engage. <https://doi.org/doi:10.33774/coe-2020-3knrv>.
- Alkin, Ruhi Can. 2016. "Introduction to Development of Academic and Scientific Knowledge in Turkey in Specific to Post-Industrial Society." *OPUS – Uluslararası Toplum Araştırmaları Dergisi* 6 (11): 539–62.
- Andhifani, Wahyu Rizky, and Nor Huda Ali. 2017. "Progress Report Survei Arkeologi Islam Di Pulau Belitung." Palembang.
- Angelsen, A. 1995. "Shifting Cultivation and Deforestation: A Study from Indonesia." *World Development* 23: 1713–29.
- Arunagren, and Widya Nayati. 2019. "Rekonstruksi Pekan Tiga Lingga, Sumatera Utara Abad Ke-19 (Studi Etnoarkeologi)." *Sangkhakala Berkala Arkeologi* 22 (1): 1–18.
- Bar-Yosef, Ofer, and Anna Belfer-Cohen. 1992. "From Foraging to Farming in the Mediterranean Levant." In *Transitions to Agriculture in Prehistory*, edited by AB Gebauer and TD Price, 21 – 48. Madison: Prehistory Press.
- Bellwood, Peter. 2000. *Prasejarah Kepulauan Indo-Malaysia*. Jakarta: PT Gramedia Pustaka Utama.
- Binford, Lewis R. 1968. "Post-Pleistocene Adaptations." In *New Perspectives in Archaeology*, edited by L. R. Binford and S. R. Binford, 313–341. Chicago: Aldine Publishing Company.
- Bocquet-Appel, Jean-Pierre. 2011. "The Agricultural Demographic Transition during and after the Agriculture Inventions." *Current Anthropology* 52 (supplement 4): S497–S510.
- Bruchac, Margaret M. 2014. "Indigenous Knowledge and Traditional Knowledge." In *Encyclopedia of Global Archaeology*, edited by Claire Smith, 3814–24. New York: Springer Science and Business Media.
- Cohen, Mark. 1977. *The Food Crisis in Prehistory: Overpopulation and the Origins of Agriculture*. New Haven: Yale University Press.
- Conklin, Harold C. 1968. "An Ethnoecological Approach to Shifting Agriculture." In *Man in Adaptation The Cultural Present*, edited by Yehudi A Cohen, 126–30. Chicago: Aldine Publishing Company.
- Davies, Althea L., Felix Retamero, and Inge Schjellerup. 2016. "Introduction: Strategies That Shaped Non-Industrial Landscapes." In *Agricultural and Pastoral Landscapes in Pre-Industrial Society: Choices, Stability and Change*, edited by Fèlix Retamero, Inge Schjellerup, and Althea Davies, xx–xxiv. Havertown, PA: Oxbow Books.
- Denevan, W M. 2001. *Cultivated Landscapes of Native Amazonia and the Andes*. Oxford: Oxford University Press.
- Feintrenie, Laurène, Stefan Schwarze, and Patrice Levang. 2010. "Are Local People Conservationists? Analysis of Transition Dynamics from Agroforests to Monoculture Plantations in Indonesia." *Ecology and Society* 15 (4): 37.
- Fleming, A. 1988. *The Dartmoor Reaves: Investigating Prehistoric Land Divisions*. London: BT Batsford.
- Gade, D W. 1999. *Nature and Culture in the Andes*. Wisconsin: University of wisconsin Press.
- Harris, David R., and Dorian Q Fuller. 2014. "Agriculture: Definition and Overview." In *Encyclopedia of Global Archaeology*, edited by Claire Smith, 104–13. New York: Springer.
- Hartatik. 2015. "Religi Dan Peralatan Tradisional Suku Dayak Meratus Di Kota Baru, Kalimantan Selatan." *Kindai Etam* 1 (1): 95–120.
- Heidhues, Mary F Somers. 1991. "Company Island: A Note on The History of Belitung." *Indonesia* 51 (April): 1–20. <https://doi.org/10.2307/3351063>.
- . 2008. *Timah Bangka Dan Lada Mentok*. Jakarta: Yayasan Nabil.

- Marcus, Benjamin. 2006. "Last One In: Community, Conflict, and the Preservation of McCarren Park Pool." Columbia University.
- Mitchell, Suzanne. 2015. "At The Water's Edge: An Integration of Ethnographic and Archaeological Method in The Study of Rock Art in Northern Central British Columbia, Canada." University of Leicester.
- Nicholas, George, and Nola Markey. 2015. "Traditional Knowledge, Archaeological Evidence, and Other Ways of Knowing." In *Material Evidence*, edited by Robert Chapman and Alison Wylie, 287–307. New York: Routledge.
- Nijhoff, Martinus. 1927. *Gedenkboek Billiton 1852-1927 (Eerste Deel)*. s'Gravenhage: NV Billiton Maatschappij.
- Noerwidi, Sofwan. 2013. "Analisis Cakupan Situs- Situs Permukiman Neolitik Di Banyuwangi Selatan." *Berkala Arkeologi* 3 (1): 13–32.
- . 2014. "Migrasi Austronesia Dan Implikasinya Terhadap Perkembangan Budaya Di Kepulauan Indonesia." *Amerta* 32 (1): 1–76.
- Novita, Aryandini, Junus Satrio Atmodjo, Dadang Hikmah Purnama, Jepriyadi A Lumbu, Wastu Hari Prasetya, Muhammad Reyhan Qois, Armadi, and Ismayati. 2019. "Pola Hubungan Maritim Situs-Situs Di Daerah Aliran Sungai Padang Kecamatan Sijuk Kabupaten Belitung Pada Awal Abad XX." Palembang.
- Novita, Aryandini, Junus Satrio Atmodjo, and Ahmad Surya Ramadhan. 2017. "Kesinambungan Pemanfaatan Ruang-Ruang Aktivitas Di Pantai Utara Belitung." Palembang.
- Novita, Aryandini, Sigit Eko Prasetyo, M Nofri Fahrozi, Armadi, and Ismayati. 2020. "Ritual Masyarakat Belitung Sebagai Cerminan Keterikatan Dengan Lingkungan." Palembang.
- Pikirayi, Innocent. 2016. "Archaeology, Local Knowledge, and Tradition: The Quest for Relevant Approaches to the Study and Use of the Past in Southern Africa." In *Community Archaeology and Heritage in Africa Decolonizing Practice*, edited by Peter R. Schmidt and Innocent Pikirayi, 112–35. London: Routledge. <https://doi.org/https://doi.org/10.4324/9781315621708>.
- Price, T Douglas, and Ofer Bar-Yosef. 2011. "The Origins of Agriculture: New Data, New Ideas." *Current Anthropology* 52 (Supplement 4): S163–74.
- Siahaya, Martha E., Thomas R. Hutauruk, Hendrik S. E. S. Aponno, Jan W. Hatulesila, and Afif B. Mardhanie. 2016. "Traditional Ecological Knowledge on Shifting Cultivation and Forestmanagement in East Borneo, Indonesia." *International Journal of Biodiversity Science, Ecosystem Services & Management* 12 (1–2): 14–23. <https://doi.org/10.1080/21513732.2016.1169559>.
- Simons, Eric. 2017. "Archaeologists and Indigenous Traditional Knowledge in British Columbia." Simon Fraser University.
- Steward, Andrew M, Darren Keith, and Joan Scottie. 2004. "Caribou Crossings and Cultural Meanings: Placing Traditional Knowledge and Archaeology in Context in an Inuit Landscape." *Journal of Archaeological Method and Theory* 11 (2): 183–211.
- Stewart, Andrew, T. Max Friesen, Darren Keith, and Lyle Henderson. 2000. "Archaeology and Oral History of Inuit Land Use on the Kazan River, Nunavut: A Feature-Based Approach." *Artic* 53 (3): 260–78.
- Taniardi, Putri Novita. 2009. "Sumbangan Antropologi Dalam Penelitian Arkeologi." *Papua* 1 (2): 25–37.
- Tanudirjo, Daud Aris. 1987. "Laporan Penelitian Penerapan Etnoarkeologi Di Indonesia." Yogyakarta.
- Taylor-Hollings, Jill S. 2017. "'People Lived There A Long Time Ago': Archaeology, Ethnohistory, and Traditional Use of The Miskweyaabiziibee (Bloodvein River) in Northwestern Ontario." University of Alberta.
- Thet, Akari Phyu Phyu, and Naoko Tokuchic. 2020. "Traditional Knowledge on Shifting Cultivation of Local Communities in Bago Mountains, Myanmar." *Journal of Forest Research* 25 (5): 347–53. <https://doi.org/https://doi.org/10.1080/13416979.2020.1764166>.
- Wibisono, Sonny C, I Made Geria, Naniek Harkantiningasih, Fadlan S. Intan, Vita, Mathori, Aryandini Novita, et al. 2018. "Jalur Maritim Rempah Nusantara: Pertumbuhan Perniagaan Wilayah Hulu-Hilir Di Belitung Timur Abad Ke 16-18." Jakarta.
- Wildan, Asep Dadan, Muhamad Dulkihah, and Irwandi. 2019. "Pemaknaan Dan Nilai Dalam Upacara Adat Maras Taun Di Kabupaten Belitung." *Panggung* 29 (1): 15–18.

- Wilshusen, Richard H, and Glen D Stone. 1990. "An Ethnoarchaeological Perspective on Soils." *World Archaeology* 22 (1): 104–14.
- Wright, Duncan, Cygnet Repu, and Falen D Passi. 2021. "The 'Waiat Archaeology Project' in Torres Strait, Northern Australia." *Antiquity* 95 (379): 1–9.