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Malan: Farming Practices of the Bakumpai People in the Tidal Lands of South Kalimantan Province

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Abstract
The public's view of a particular ethnic group is often one-sided and incomplete. The principal objective of this article is to present a rationale for the continued existence of the Bakumpai people, who engage in rice farming in the tidal lands of South Kalimantan Province. The author conducted participant observation by residing in the village for several months and engaging in direct observation of farming activities daily. Interviews were conducted in the form of conversational interviews, in which questions and answers were posed, as well as informal discussions held in a local shop. A review of the literature was also conducted, encompassing online media, articles related to agriculture and local terms, and books related to the Bakumpai people. An ethnographic approach was employed to examine the environmental possibility of Bakumpai farmers, yielding two key findings. First, The Dayak Bakumpai people have been studied before, but their practices have been overlooked because they are similar to the Banjar people's tidal farming. Second, the Bakumpai people can find good places for farming, even if they are far apart. They also have a farming cycle that lasts one year.

Keywords: Agriculture; Bakumpai people; Dayak; Tidal.

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Introduction

When the word *"peladang"* is mentioned, the general public's view will be focused on the Dayak ethnic group (Marini, 2023; Saputra, 2024; Triwibowo, 2023). Conversely, when the word "farmer" is mentioned, it tends to be done by non-Dayak people (Dedi, 2024; Dirgantara, 2024; Hadiyatna, 2024; Herin, 2024). This paper suggests that the Bakumpai people are not traditional cultivators but rice farmers who grow their crops on tidal land. They also farm on settled land within the tidal area of the Barito River, South Kalimantan Province. To ensure the long-term success of their agricultural practices, the Bakumpai have chosen a location that is not significantly affected by extreme tidal conditions. This area, located about 30 km from their village, has land conditions suitable for agriculture. However, the land within the village itself is of tidal type A and type B, making it unsuitable for farming activities. Type A tidal land is characterized by the daily ebb and water flow in rice fields, significantly impacting the farmers' activities. Type B tidal land, which is only flooded during high tides, offers the potential for a more diverse agricultural system (Hidayat, 2010). The instability is caused by precipitation in the upstream area of the Barito River, which leads to high tides within one or two days. Conversely, high tides in the downstream area also affect the village, and the confluence of the Barito River further compounds the tidal influence (Schwaner, 1854).

The Bakumpai people have developed a distinctive agricultural technique for cultivating rice. The rice is transplanted on three occasions, with the plants moved to different locations to accommodate the shifting conditions characteristic of the high tide season and for harvesting. The process begins with planting seeds in upland areas, where they form clumps of rice. These are then relocated to the rice field. As the rice grows, it is replanted in the same field. Traditional tools are used to remove vegetation from the land to avoid disrupting the soil's acid layer, which could harm the rice plants. For a more detailed explanation, please refer to the subsequent discussion section.

The primary problem of this article is to examine the reasons behind the sedentary farming practices of the Dayak people, particularly in the tidal lands of South Kalimantan province. This practice is as diverse as the technical problems of excessive chemical inputs in tidal rice cultivation in South Sumatra (Purba et al., 2021). Natural factors occur in land subsidence and flooding in tidal areas of Indramayu Regency (Putiamini et al., 2022) and Semarang (Hadi, 2017). In Jejangkit sub-district, Barito Kuala district, South Kalimantan, tidal farmers adjust planting time to overcome drought and flooding (Adi et al., 2021). Additionally, the article most importantly seeks to understand why Dayak Bakumpai farmers do not adopt more intensive farming practices despite the potential for large harvests and economic benefits. The benefits of this article include: firstly, it demonstrates that the Dayak people can cultivate rice crops not only through shifting cultivation or rolling back but also through the permanent opening and cultivation of land as agricultural practices on tidal land. Secondly, it challenges the view that the Dayak people are solely engaged in monotonous farming activities. In other words, the Dayak people can carry out their activities in various places, especially in the conquest of tidal land, as exemplified by the Banjar people in South Kalimantan.

Secondly, several scientific articles address the subject of the Dayak people. These studies encompass a variety of topics, including the religious practices of the Dayak cultivators, who are regarded as a marginalized group by the state (Tsing, 1998). Additionally, the article addresses the Dayak people's predicament concerning their local religion, which is inextricably linked to their identity as KTP (Mahin, 2009). Conversely, the failure of the state in agricultural intervention in South Kalimantan against the Dayak and Banjar people persists (Levang, 2003). Moreover, oil palm companies are now beginning to disrupt the social life of the Dayak people (Adenansi, 2023; Peluso, 2008, 2017; Semedi & Bakker, 2014). This situation has led to increased awareness, particularly in light of the changing political landscape. It has provided an opportunity for the post-New Order Dayak people to reclaim their political and cultural identity, which is reflected in the appointment of Dayak individuals to leadership roles at the district and provincial levels (Großmann, 2017; Widen, 2017). Novelty of this article is introduces a new perspective on Dayak farmers' cultivation of land and planting of rice in a series of processes until harvesting on tidal land in South Kalimantan. Previous researchers have rarely addressed the theme of sedentary agriculture among the Dayak people, as they have been primarily concerned with the study of shifting cultivators and their local wisdom. This article, therefore, aims to contribute to a more diverse research orientation towards the Dayak people.

Methods

The article focused on the Bakumpai people in Jambu Baru village, Kuripan sub-district, Barito Kuala district, South Kalimantan province. The village was selected for three reasons: I began data collection through field research on October 17, 2021, and concluded it on July 22, 2022. This included: The first step was participant observation. The researcher was actively involved in various community activities throughout the research period. The researcher closely observed the Bakumpai people's activities in the rice fields, from traveling back and forth to staying at the *hubung* (bivouac), where farmers temporarily live in the fields. I stayed with a husband-and-wife farmer. Across from us, several other *hubung* (bivouac) was occupied by two or three people each. This research data collection is best described as autoethnography, a cultural demonstration that goes beyond self-referentiality by activating cultural forms directly involved in the creation of culture. Autoethnography unites the self and culture in a dynamic, non-balanced state (Jones, 2011).

Second, I conduct interviews through friendly conversations. I gradually introduce new elements to help the informant provide answers as an informant. I interviewed three men over the age of 65 who work as farmers, as well as three female farmers who are around 50 years old. The *warung* was the ideal setting for these conversations. It's a popular gathering spot for villagers, offering food and drinks while they chat with other customers, who are mostly over 35 and work as farmers. In addition to the *warung* (stall), the researcher also sat on the side of the road where there were chairs available for people to chat. Sometimes the topic of the conversation were unclear, but the researcher was able to discern the most important parts of the information.

Once the data had been collected, we proceeded to apply a series of analytical techniques that focused on the specific conjuncture of a set of elements, processes and relations that shape people's lives at a particular time and place. In addition, we examined the political challenges that arise from these elements, processes and relations (Li, 2020). The elemental analysis consisted of three principal areas of investigation. (1) The ecological environment, including rivers and tana (rice fields); (2) subsistence technologies, which include different types of tidal-related creeks and various agricultural labor tools; and (3) aspects of farmers' activities. These three aspects will be described in turn, concerning the research locations, tools used and farming activities. Secondly, observing rice farming practices will be outlined (Malan). The researcher examined the farming activities by first describing the agricultural cycle of the Bakumpai people. Thirdly, the relational

analysis of the relationships that shape the lives of the Bakumpai people from a balanced life between farming and various other activities will be presented.

Result and Discussion

More Etic and Low Emic Perspective: Bakumpai People Farming (Malan) on Tidal Land

The term *'Malan'* is an agricultural term that specifically refers to rice farming (Husna et al., 2022; Ibrahim et al., 1979). Geographically, the Bakumpai people reside in a tidal environment and can select suitable land for agricultural purposes, even though it is situated at a considerable distance from their residential area. However, before embarking on further discussion, it is necessary to present tidal agriculture. The study of agriculture encompasses the role of the Bakumpai people, yet it necessitates meticulous examination due to the absence of any discussion about the identity of the farmers as Dayak people. The research location is inhabited by the Bakumpai people, who are mixed with the Banjar people. This is evidenced by the research conducted by Levang, which examines the introduction of agriculture in various locations throughout Indonesia, with a particular focus on the tidal land area in Barambai, South Kalimantan and Bereng Bengkel, Central Kalimantan (Levang, 2003).

The study of agriculture implicitly incorporates the role of the Bakumpai people, yet it necessitates meticulous examination due to the absence of discourse concerning the identity of the farmers as Dayak individuals. Indeed, the research location is inhabited by the Bakumpai people, who are of mixed Banjar and Dayak descent. This is evidenced by Levang's research, which examines the advent of agriculture in several locations across Indonesia, with a particular focus on the tidal land area in Barambai, South Kalimantan, and Bereng Bengkel, Central Kalimantan (Levang, 2003). Subsequently, the Barambai area became a focal point for researchers due to the government's transmigration initiative, prompting investigations into the adaptation of local and national migrants to the land. Furthermore, the Dutch government also conducted transmigration from Java to Kalimantan, particularly to the Barito Kuala area, which was known as Anjir Muara, Anjir Pasar, and Tamban (Aditjondro, 2003). Once more, the capabilities of the local farmers from Banjar are underscored.

This illustrates how earlier research has viewed the Dayak as cultivators, whereas the Bakumpai people, who are engaged in tidal land farming, have been overlooked. Indeed, empirical evidence indicates the existence of Bakumpai settlements engaged in agricultural activities in the Anjir Pasar and Barambai subdistricts (Satria, 2023). It is notable that the only dissertation that provides a comprehensive discussion of tidal farming in the context of social science studies, namely the contestation of science and local knowledge of tidal farmers in the Barito Kuala district, does not include any reference to the existence of the Bakumpai people. Indeed, the Bakumpai people had been cultivating rice on tidal land long before the Japanese colonization. However, they relocated to new land when the Japanese army suspected their crops (Wahyu & Nasrullah, 2012). This does not necessarily indicate that the Bakumpai people are shifting cultivators, as they select a location and continue to manage rice fields there.

An anthropological perspective, studies tend to adopt an outsider's viewpoint, or what is termed 'etic'. Consequently, any aspect of the livelihoods of the Dayak people is often framed on the assumption that they are farmers, with rice farming being the preserve of the Banjar people or transmigrants who have migrated to Kalimantan. This framing has become a deeply entrenched mindset, even among social science researchers. It is imperative to consider a different perspective, one that encompasses the emic or native viewpoint. Initially, the Bakumpai people in South Kalimantan were observed engaging in agricultural activities on tidal land. The local terms used are representative of the emic point of view and serve to illustrate the essence of the Bakumpai people as farmers on tidal land. They demonstrate an understanding of the environment in which they cultivate rice fields, as well as the local terms used to describe the stages of rice farming about the season and water conditions. This knowledge is indicative of the expertise of the Bakumpai people as farmers.

Farm Location and Land Options

Rice Field Location (Tana)

The location of the rice fields is approximately 30 km from the settlements or villages situated on the Kambe River, a tributary of the Kapuas River in the Tabukan sub-district, Barito Kuala district. The rationale behind selecting land in distant locations is that the land surrounding their villages is unsuitable for rice cultivation. The water conditions, particularly when the tide is too deep and long, result in the submergence of rice plants, which ultimately leads to their demise. Although there have been instances of successful harvests, these have only been achieved for a period of one to two years, after which the farmland has been damaged by flooding. Consequently, the Bakumpai people did not commence land clearance operations in

the vicinity of their village without delay. The selection of this geographically distant location was made with careful consideration of the tidal conditions in the downstream and upstream regions of the Barito River. This was particularly important due to the presence of Type A and Type B tidal lands (Hidayat, 2010). As the distance traversed by rivers increases, the rate of fall of the water decreases. Consequently, the sea can rise further into these rivers at high tide, resulting in a greater impact felt at greater depths inland (Schwaner, 1854).

The placement of paddy fields, or *tana*, near the village settlement area, does not indicate that the Bakumpai people engage in shifting cultivation practices. However, they are aware of the optimal locations for rice cultivation, enabling them to harvest in tidal environments. This is an example of local wisdom related to the community and its environment, which allows them to anticipate and address potential tidal challenges that could otherwise result in crop failure. This local wisdom is designed to effectively and appropriately address the issues and difficulties they encounter, regardless of whether they have legal implications (Ahimsa-Putra, 2009).

Tana, Rice Farming Environmental Possibilism

The term "Tana" is used in the Bakumpai language to refer to rice fields (Husna et al., 2022; Ibrahim et al., 1979; Kawi, 1985). In general, the Bakumpai people employ several terms to differentiate between types of agricultural land. One such term is *pamatang*, which refers to higher land areas that are particularly suited to agriculture. The defining characteristic of *pamatang* is that, in the transition from the rainy season or high tide to the low tide or dry season, the *pamatang* area is the first to dry. The term *baruh* is the antonym of *pamatang* and denotes a lower area or land (Anonymous, 2016a). In the event of a transition from the rainy season or tide to low tide or dry season, the *baruh* area is the slowest to dry.

The Bakumpai people employ the terms *bantangan* and *burungan* as units of paddy fields (*tana*). The area of one *bantangan* is typically between 10 and 11 *burungan*. The number of *burungan* is uncertain due to the fact that the area is not the same as the other *burungan*. This is because the tip of Ni Amang Sehat's rice field is pointed, which in the past resulted in the division of land being unevenly arranged. However, about the unit of *bantangan*, the average equation is that a hectare is comprised of three *bantangan* or up to 30 burungan. This equation with hectares is merely a means of facilitating comprehension, given that the units of *burungan* and *bantangan* do not employ the metric system. Consequently, the precise area cannot be equated with hectares, which are 10x10 hand spans. However, an alternative viewpoint posits that one *burungan* is equivalent to 10 x 10 fathoms, which equates to 17 x 17 meters, or 28922. Consequently, one hectare is calculated to be 35 *burungan* (Hidayat, 2010).

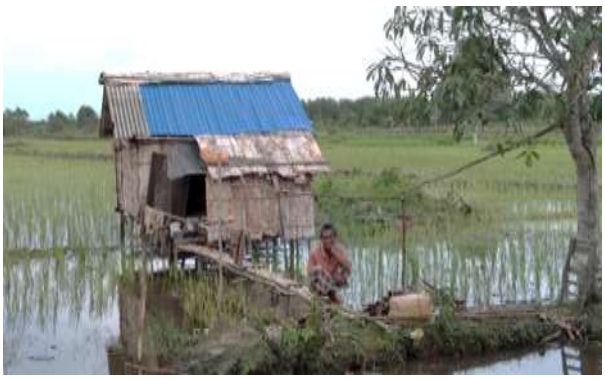

Figure 1. Gulu Idut (60 years old) Bakumpai Farmer sitting in front of his Hubung (bivouac) with rice plants in the background.
Source: Authors

The Bakumpai people also know waterways through different types of rivers that function as irrigation. This can be started from large rivers (*batang danum*) such as the Barito River, and Kapuas River, then tributaries or branches of rivers (*sungei*) that connect directly to agricultural sites. Then the term *handil, which is an* artificial tributary as part of *anjir* (canal connecting two large rivers), is widely mentioned in various studies related to tidal land (Aditjondro, 2003; Hidayat, 2010; Levang, 2003). Then within the creeks (*Sungei*) and *handil*, there is a traditional irrigation technique called *tabat* that functions to dam water for agriculture (Lounela, 2021; Osaki et al., 2015).

The Bakumpai people's version of the rice field (*tana*) shows a correlation with the views of cultural ecologists supporting a view called "*environmental possibilism*". This view considers the characteristics of the natural habitat not as a determinant role but as a possibility or limit provider. Natural habitat features provide

open opportunities to go in certain directions while "prohibiting" going in other directions (Kavlan & Manners, 2002). That is what the Bakumpai people do in choosing land to be used as rice fields, even though the distance is quite far. Therefore, the existence of rice fields (*tana*) is one of the means for the Bakumpai people to show their ability to utilize their environmental resources using their tools and skills, namely hunting, gathering, farming, and so on (Ahimsa-Putra, 2020).

Thus, the agriculture practiced by the Bakumpai people in the downstream area of the Barito River, which is highly influenced by the tides, and the farming culture will be very different from the farmers who carry out agricultural activities in the upland areas which tend to be mobile (Dove, 1988; Yuwono, 2013) or called scroll back. Therefore, every form of agriculture is an attempt to change a particular ecosystem so that it can increase energy for humans. Rice paddies achieve this by reworking the natural surroundings, while farming mimics the natural surroundings (Geertz, 2016). In other words, as an affirmation of the agricultural endeavor called *sawah* as an artificial, highly specialized, continuously cultivated, and open structure that requires water management or irrigation, rice paddies are a form of agriculture (Geertz, 2016).

Manunggal to Manggetem: Rice Farming Process (Malan) with Techno-environmental

The Bakumpai people plant rice three times a year and harvest once a year, which requires months of process and time until harvest time. Scheme 1 shows the process of rice farming.

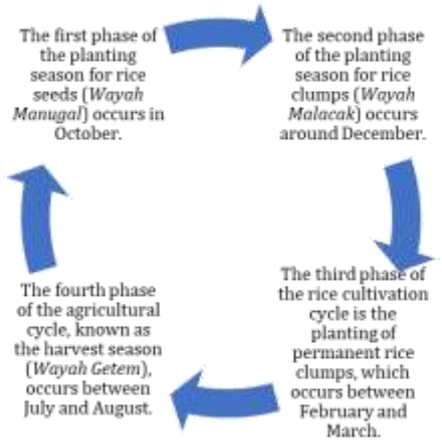

Figure 2. The Bakumpai People's Process of Farming (*Malan*) in Four Phases on Tidal Land
Source: (Wahyu & Nasrullah, 2012)

Figure 2 illustrates the four stages of rice farming, with three planting times: the first, second and third stages. The rationale behind this approach is to allow rice plants to adapt to the high tide season of certain months ending in 'er'. The condition of rice that is ready for planting in all rice fields will be evaluated during the third stage of the planting period, which occurs between February and March and culminates in the fourth stage, the harvest period. This scheme also represents the life cycle of the Bakumpai people in relation to agriculture, as the three planting seasons and one harvest season mark significant events in their lives, including birth, death, and marriage. The explanation of these four stages constitutes what the researcher terms the ethnography of the Bakumpai people in farming.

Planting Rice Seeds (Manugal)

The first process is to plant the rice seeds, called *manugal,* in the high ground (*pamatang*) around the village. *Tugal* in the Bakumpai language is different from the meaning in the Indonesian language, which means a stick or wooden tool with a pointed end to plant rice seeds (Anonymous, 2016c) because in the Bakumpai language *tugal* means rice seed or seedling (Fauzi, 2019; Ibrahim et al., 1979; Rangga, 2007). The way to plant *tugal* is by hollowing out the soil with a stick the size of an adult's wrist called *tatundang* and some also call it *halu (pestle*) because it looks like a pestle used to pound rice flour in a mortar or in Banjar language it is called *tatanjang/tutujah* (Yanti, 2007). Then in the hole, dozens or tens of grains of rice are put into the ground which is covered with a layer of grass, leaves, and even ashes if the surrounding land is burned. The rice grains then become *tugal* and grow into small rice stalks.

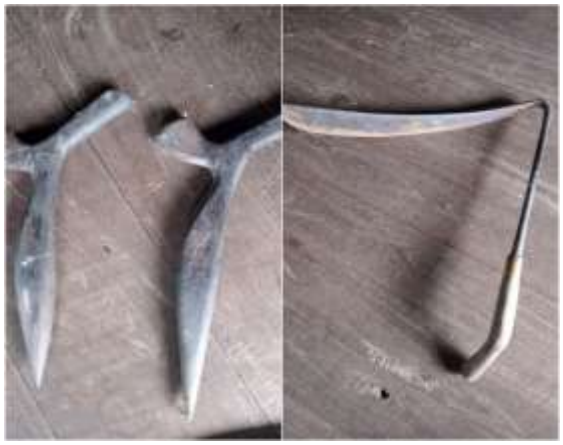

Figure 3. Tantajuk and Tajak, Farming Equipment (Malan) used by Bakumpai people
Source: Authors

As illustrated in image 3, farmers utilizing rudimentary technologies, including hand tools such as digging sticks, hoes, machetes, and axes, demonstrate an impressive aptitude for conducting small-scale experiments and accumulating knowledge (Bernstein, 2019). The horticulturalists employed a range of rudimentary cultivation tools, with digging sticks being the most prevalent. Their prevalent cultivation technique involved the incineration of the land before planting, a practice known as slash-and-burn farming (Eriksen, 2009). Post-planting activities are not only related to planting but also to maintaining the fertility of the land. The use of hoes, plows, and rakes is also included in efforts to prevent soil compaction, thereby maintaining a high oxygen content. The use of sickles and herbicides is an effort to streamline the absorption of nutrients by the main crop, by removing competing plants. As a result of these efforts to increase input and nutrient efficiency, the techno-environmental efficiency of intensive farming is very high (Yuwono, 2013).

Planting Rice (Malacak)

The second process is *malacak,* where the *tugal* is already large in the form of a clump of rice and about 40 cm long or more so that it is not submerged in the water season. The rice seeds that were originally called *tugal* then become *lacak* or a collection of clumps of rice stalks gathered in a bundle the size of an adult's grip (*kacakan*). The small bundles (*kacakan*) are then put together again in a collection of *lacak* called *basung*. One *basung* generally consists of 30 to 40 *lacak*. 12 *basung lacak are* estimated to be enough to plant rice in an area of 20 *burungs* (1 hectare is about 35 *burungan*) (Wahyu & Nasrullah, 2012).

The equipment used to plant rice (*malacak*) is called a *tantajuk* made of hardwood, usually ironwood, which functions as a hole in the ground to plant rice seedlings that have previously been raised (Sjarifudin & Sjarifudin; Wahyuhadi, 1992). The *tantajuk* is shaped like the letter Y with the upper part horizontally functioning for handrails of about 20 cm and the lower part tapering vertically with a length of about 40 cm. Farmers use the *tantajuk* to poke holes in the soil in a bent state similar to the letter "n" so that the *tantajuk* can be thrust in to make holes. After the hole is made, the rice seedlings called *lacak* are immediately inserted into the ground, and so on until the entire rice plant is planted. Before *malacak*, farmers first clear the grass in the rice fields (*tana*) using a *tajak,* which is a manual grass cutting tool similar to the letter L or a straight-stemmed hoe for working the fields, clearing grass and so on (Anonymous, 2016).

Planting Rice Seeds (Lacak) in a Rice Field (Maimbul)

The third process, planting the rice seeds for the second and final time (*maimbul*) is done between February and March. This is after ensuring that the *lacak is* indeed large and ready to be planted. The definition of planting *lacak* (*maimbul)* means planting, but what distinguishes it from the previous process is that the *imbulan* (plant) is no longer replanted but will continue to grow in the planting position until harvest.

The *maimbul* work also uses equipment like the *malacak,* the *tantajuk*. However, the difference is that planting lacak or *maimbul* is the most tiring work of all the farming process activities because the work is constantly bent over. Therefore, the process of planting (*maimbul*) *is* the maximum work because it is done on all the land owned by each farmer. This automatically implies the work of clearing the land or *manajak* on all the land to be planted. This work can be done alternately, *manajak* then planting (*maimbul*), another way is that the land is cleaned as a whole then after that planting (*maimbul*) is done.

The third process demonstrates that farming necessitates patience on the part of farmers, as the desired results are not immediately apparent. Nevertheless, this patience enables them to progress to the subsequent

process, namely harvesting. The aforementioned efforts are characterised by a combination of simple technology and the materialist anthropological perspective, which posits that culture is inextricably linked to humans. This perspective also encompasses the notion that mental products are as fundamental as material products within the materialist orientation (Saifuddin, 2005). It is this mentality that shapes the conditions of life (Price, 1982). Consequently, this approach is founded upon the concept that material conditions within society shape human consciousness, rather than the other way around (Saifuddin, 2005).

Harvesting Rice (Manggetem)

The fourth process, after planting (*maimbul*) for a period of about four or five months, farmers just wait for the results or the harvest period is called *wayah getem* or harvest season. The Bakumpai people use harvesting tools in the form of ani-ani or *ranggaman,* which is a tool for cutting rice by holding it and at the end there is a razor blade to cut the rice stalk. The cut rice stalks are put in an *ambin* or basket made of bamboo or woven purun which is behind the farmer.

Once enough paddy has been collected, the next step is to remove the grains that are still attached to the stalk or twig by trampling while rubbing the stalk until it is completely separated from the stalk. The next step is to separate the full paddy from the empty paddy using an air pump. Inside the pump are fans that are driven by hand rotating tools, or driven by electric machines. The Bakumpai farmer just needs to collect the paddy back into the sack to take home. At this point, the rice harvest can be said to be completely finished.

The harvested rice is collected in the house, which is precisely the kitchen. There is a rice barn made of woven purun in a round shape and as tall as an adult called *bandat.* To prevent the *bandat* from tearing, a wooden frame is usually made according to the size of the *bandat*. However, for practical reasons, Bakumpai farmers end up storing their paddy in warehouses in Tabukan, of course by paying a certain amount to the warehouse owner.

Malan as Intensive Farming of Dayak people

The process of farming (*malan*) has shown that the ability of the Bakumpai people is not only in choosing an effective farming location but also in the application of rice seeds suitable for tidal land and the use of farming equipment. Furthermore, the Bakumpai people as farmers meant that the agricultural work required the farmers to settle down, densely packed in one area, to facilitate labor mobility and defense interests. Yuwono (2013) or refers to "farmers" being small-scale community producers (*petty commodity production*). They must produce their subsistence needs by joining a broader, market-integrated division of labor structure (Bernstein, 2019).

In tidal farming, although the harvest is done once a year, the agricultural stages go through four cycles, namely *manugal* (making seeds), *malacak (*sowing), *maimbul (*planting), *getem* (harvesting) (Wahyu & Nasrullah, 2012). The pause between seasons ranges from 3 months to 5 months. During this pause, land clearing efforts are carried out. That is why this agricultural intensification has at least three aspects. The first is the extension of the farmers' working hours. Secondly, the extension of the land use period, or in other words, the shortening of the fallow period. Third, increasing the input to an efficient use of nutrients in the soil so that the extension of the land use period is not followed by a decrease in production per unit of land (Yuwono, 2013).

Then practically, the transfer of soil location and *replanting* of rice seeds up to the third stage (*transplanting*) aims to prepare seeds to have resistance to water depth (Hidayat, 2010). Sowing rice seeds in the first stage, really choose a place that is high and safe from tidal water or when it rains. The second stage is the same, although it has been moved to the rice field, but the seeds are planted in a limited area. Once the rice seeds are large, the third stage is planted permanently and is expected to be able to withstand high tide conditions.

The use of *tajak* tools is effective if the water depth is around 5-15 cm. The *tillage* system with *tajak* tools in modern agriculture is known as minimum *tillage* (Hidayat, 2010). If using a *tajak,* or modern technology equipment in cutting grass, the soil will be inverted so that high acid levels will interfere with plant fertility. The tools and techniques of a particular technology are the product of a long process of cultural accumulation in the past (Wolf, 1983). For peasants the technology is indispensable for the basic needs of doing their work. Subsistence technology among *peasant* communities is intensive agriculture as a form of continuous effort in land utilization (Yuwono, 2013).

As has been previously outlined, the utilization of specific technological tools and techniques by farmers is a product of a lengthy process of cultural accumulation in the past (Wolf, 1983). For peasants, technology is an indispensable component of their basic work requirements. Subsistence technology among peasant communities is intensive farming (Yuwono, 2013). Which may be defined as a form of continuous effort in land utilization. In tidal farmers, although the harvest is conducted annually, the agricultural cycle encompasses four distinct phases: *manugal* (seed production), *malacak* (seeding), *maimbul* (planting), and

manggetem (harvesting) (Wahyu & Nasrullah, 2012). The interval between these seasons ranges from three to five months. During this interval, land clearance operations are conducted. Consequently, this agricultural intensification encompasses at least three aspects. The first is the extension of the farmers' working hours. The second is the extension of the land use period, or in other words, the reduction of the fallow period. The third is the increase in the input and efficient use of nutrients in the soil so that the extension of the land use period is not followed by a decrease in production per unit of land (Yuwono, 2013).

Conclusion

In conclusion, three points are presented. Firstly, the practice of *malan* (farming) has positioned the Bakumpai people, like the Banjar people in South Kalimantan, as having the ability to cultivate land for agricultural purposes. This also reveals another facet of the Dayak people's capabilities, which have been historically associated with agricultural expertise. Secondly, the Bakumpai people's choice of location demonstrates their capacity to comprehend the environmental context and select a site conducive to sustainable rice cultivation. This also demonstrates the intimate relationship between the Bakumpai people and their surrounding environment. Thirdly, the utilisation of manual farming equipment provides evidence of the Bakumpai people's proximity to the natural environment. The Bakumpai people cultivate the land directly with their limbs through agricultural practices, including the planting of rice seeds (*tugal*) and replanting in the fields (*malacak*), as well as the cutting of grass without disturbing the soil fertility. Fourth, this study is constrained by its focus on the use of simple tools by the Bakumpai people. The results of this research have strong implications for efforts to preserve local cultural traditions. Further research should examine the Bakumpai people's role as farmers in the context of climate change, external factors such as government policies, and the potential impact of companies converting agricultural land to monoculture plantations.

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