

anggoba; Traditional Knowledge in The Planting Season Calendar of The Duhiadaa Pohuwato Gorontalo Indonesian Community

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Panggoba; Traditional Knowledge in The Planting Season Calendar of The Duhiadaa Pohuwato Gorontalo Indonesian Community

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Abstract

The traditional and cultural peculiarities of Gorontalo culture are widely recognized. What's undeniable is the idea that people habitually conduct certain things and make certain transactions at certain times. Also known as the Gorontalo seasonal phenomena, this phenomenon causes various words such as "wedding season," "planting season," and "Hajatan season" to take place in Gorontalo. Inventory of this phenomena is an essential step in documenting the values held by the people of Gorontalo, and it is imperative that it be done to preserve those values for future generations. The preliminary study uses a social research technique to develop an inventory of Gorontalo's continuous local wisdoms, notably in regards to writing a document including a season calendar. After the completion of the production phase, the following stage involved an analysis of the draft for the season calendar document. Later in the project, the group wanted to construct a computer program that could be created in the form of an information system prototype, which had a local calendar module developed by the Gorontalo community using their local wisdom. Accessible for local, national, and worldwide communities as well as featuring geographical data visualizations, this application should be helpful in supporting documentation and digital publications. The goal is to maintain the cultural traditions of Gorontalo while helping to enrich modern life and the general culture.

Keywords

Panggoba, Tradisional Knowledge, Planting Season Calendar

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Introduction

Panggoba is a designation or title for someone who masters astrology in the Gorontalo community. It has been widely studied, but not seen in the context related to determining the time of land clearing or planting crops by paying attention to natural signs based on local knowledge that has been passed down from generation to generation. Existing studies focus more on issues of auspicious days in marriage and other cultures. Tamu and Dako (2018) some see the *panggoba* issue from the complexity of the problem of determining a good day in determining the celebration of the Gorontalo community. Many experts also look at issues in terms of rituals, for example in Balinese society it is known as the term *subak*, which is a water irrigation system to support the water needs of their paddy fields, which is divided in turns and regularly and with a pattern of distribution and utilization of resources (Ardika, Weking, & Jasa, 2019; Aryawan, Windia, & Wijayanti, 2013; Yusmita, 2017).

Basically, Indonesia itself is known as an agrarian society, the striking characteristics of scattered rural communities are dominated by farmers, cultivators, and planters as the main livelihood in their daily activities. The field has the characteristics of heterogeneous plant species (miniature forest/nature), closed and hard soil, vulnerable soil conditions, and its management does not require a lot of energy; while rice fields have the characteristics of a man-made ecological type; productivity is stable, complicated and complex in technique, and requires a lot of manpower to manage (Geertz, 1973). Rice is the main agricultural production in Indonesia, recorded in 2020, the total rice production reached 31.63 million tons spread over 33 rice-producing provinces (BPS, 2020). This is one indicator that proves that Indonesia is an agricultural country with high rice production.

The existence of some local wisdom practices tends to still be found, such as Huyula (Annas & Wahyuni, 2014; Indrawardana, 2012), local community food culture (Fadhilah, 2013). Likewise, determining the planting season based on astrology based on poliyama/stars (Dako, 2015; Hamid, 2005). Determination of the beginning of the planting season based on local wisdom is also found in the Buton area (Burhan, 2012). To simply determine the planting season, an Integrated Planting Calendar (Katam) application has been found which can be accessed from (Cultivation calendar, 2020; Mulyadi, 2012), but is more national and is not based on the local wisdom of the Gorontalo people. From the preliminary research that has been done, one of the areas in Gorontalo Province that still utilizes the role of *panggoba* is Pohuwato district, especially in Pohuwato sub-district. The majority of the population in this sub-district are farmers and a small number of fishermen and other professions. The main agricultural commodities are rice and corn. In 2018, the harvested area of rice was recorded at 4,064 ha and for corn, it was 391 ha (Pohuwato sub-district in figures, BPS, 2019). From this figure, Pohuwato District certainly is one of the rice barns in Pohuwato Regency. In this regard, many entrepreneurs take advantage of it to gain profits, namely by building a place to process rice into rice as a staple food for the general public (Arsyad & Saud, 2020). This issue is so complex, a focus of research that has not received much attention. This paper is intended to analyze how the process and system for planning the planting season in the Gorontalo community. We argue that in a society there are expected behaviors that every farmer must adhere to. Disobedience will result in major harvests, as experienced by other rice farmers who do not use a calendar system based on *panggoba*. The calendar system occurs more as cultural coercion, no longer an individual choice that takes place on personal consciousness. Something that is considered a non-ideal value in a culture will be rejected as an expression of community resistance which will provide various forms of social pressure on rice farmers who do not use a planting season calendar system based on *Panggoba* and traditional knowledge. In this context, the planting season calendar system is inadequate because it does not rely on principles or norms accepted by the community. Rice farmers are not seen as victims of a social process, in which every farmer has a responsibility, but are seen as "actors" who should be punished socially for the social damage they have created.

Traditional Knowledge of Farming Society in Literature

The study of traditional knowledge in farming communities has long attracted the attention of researchers. Historically, researchers have been interested in systematically analyzing the traditional knowledge of farming communities, as (Hijjang, 2019) the farming community is a

society that has a reciprocal relationship with existing environmental conditions which is one of the factors in the formation of a culture that becomes the style and characteristics Human society relations to carry out their lives always develop mechanisms of adaptation patterns to be able to adapt to their environment so that they can be adaptive and ensure their survival (Purwanto & Ariane, 2010). The emergence of an agrarian society which is a type of rural community is the result of the process of adjusting to the environment so that it is adaptive by developing a domestication pattern for plants that are used as commodities to meet the needs of life, by managing existing and available land and plants and taking place continuously, reciprocal relationships This exchange between humans and plants is called ethnobotany (Hakim, 2014). The most important characteristic of farming communities is that they are subsistence by developing cooperation mechanisms in carrying out their activities, as rural communities (Koentjaraningrat, 2004). In contrast to Scott and Sumpter (1983) the characteristics of farming communities are that they have the principle of "safety first: subsistence economy" that farmers prefer to grow subsistence crops for their consumption, the main safety of their families is that they earn profits, every season they struggle with hunger with all the consequences, have a slightly different view of risk-taking farming families who have to live on small plots of land in overpopulated areas will work hard and long to maintain their subsistence needs.

Factors Causing Seasonal Calendar in Farming Communities

An analytical study conducted by Tamu and Dako (2018) shows that important factors for predicting auspicious days in holding celebrations, whether weddings, circumcisions, or similar traditional ceremonies, including sowing seeds and planting are one of the factors causing the farming community in Digorontalo to calendar the seasons. This seasonal calendar is local wisdom for the people of Gorontalo, known as the lowanga concept, (unlucky day) kalisuwa (day lethargy).

Local wisdom is the identity or cultural personality of a nation that causes the nation to be able to absorb, even cultivate a culture that comes from outside/other nations into its character and abilities (Wibowo, 2015). The identity and personality of course adjust to the live view of the surrounding community so that there is no shift in values. Local wisdom is one of the means of cultivating culture and defending oneself from foreign cultures that are not good.

Local wisdom is a view of life and knowledge as well as various life strategies in the form of activities carried out by local communities in responding to various problems in meeting their needs. In a foreign language, it is often conceptualized as a local policy of local wisdom or local knowledge "local knowledge" or local genius (Fajarini, 2014). Various strategies are carried out by the local community to maintain their culture.

The same thing is also expressed by Alfian (2013) Local wisdom is defined as a view of life and knowledge as well as a life strategy in the form of activities carried out by local communities in meeting their needs. Based on (Alfian, 2013) opinion, it can be interpreted that local wisdom is a tradition and custom that has been carried out by a group of people from generation to generation which is still maintained by certain customary law communities in certain areas. Based on the above understanding, it can be interpreted that local wisdom can be understood as local ideas that are wise, full of wisdom, of good value, which are embedded and followed by members of the community.

Consequences Experienced by Rice Farmers

Lowland rice farmers have a bad impact in the long term, for current and future farmers. This traditional knowledge is also termed *panggoba* which is defined as a title given to someone who knows a good day in sowing seeds. The traditional knowledge possessed by this *panggoba* not only changes the production of lowland rice significantly but also leads to the prosperous life of the farmers and their families. Dipohuwato agricultural commodities of lowland rice reached 4,964 harvested areas (ha) and rice farmers who experienced the highest production were farmers who used traditional knowledge, namely 60% of those who used modern knowledge. Arifin, Ismail, and Basa (1987) showed that traditional knowledge in lowland rice management in Makassar, South Sulawesi has a high production as well by using 12 traditional knowledge activities namely, *mapalilik, malleorok, mengpong, mampok, manguma, mattenang, mabisa finger, maddupa bua, mengala, mabbesse., mallapok, mappadendeng.*

Meanwhile, in the management of lowland rice using modern knowledge, it is relatively significant

that the production is below standard and some exceed the standard, but only 40% of those who use lowland rice management using traditional knowledge. The impact of modern knowledge in lowland rice management is the most important factor in population dynamics and public health, especially farmers who have an impact on disease.

Research Process and Data Management

Selection Of Research Location and Research Informants

Pohuwato is one of the areas with a high level of productivity in rice farming and is evenly distributed in all sub-districts. The BPS report, in the range of 2017 to 2021, shows that lowland rice production is relatively high compared to other agricultural production. With a total of 47%. This regional election is also interesting in terms of Gorontalo's status as one of the provinces that have high natural resources, especially in the agricultural sector which strengthens the reason for studying this phenomenon.

Farmers are the key subjects in this study for two reasons: (a) the old farmer group is the largest category in lowland rice management in Pohuwato district (b) the young farmer group is categorized as a farmer group that is easily influenced by modern knowledge. The selection of the informant category also considers the representation of the economic, educational, social, and cultural backgrounds of each farming family. In this way, it is hoped that a comprehensive picture will be obtained of the management of traditional lowland rice using the seasonal calendar in Pohuwato district and the factors that influence it.

The farmers who were directly involved were interviewed in-depth to obtain information about the challenges and problems of traditional knowledge in lowland rice management as well as the factors and consequences faced by farmers and the support system provided to lowland rice farmers.

Observation And Interview

Field observations were carried out during the period from early 2021 to the end of 2021 to visit rice farmers to get an overview of their life situation, both those who are still young farmers or farmers who do not have families or farmers who are already married. At the same time, a series of interviews were conducted with religious leaders as well as community leaders, cultural figures, traditional leaders, and the local government. The interview was intended to obtain a socio-cultural explanation regarding the process of traditional knowledge in lowland rice management by using the seasonal calendar in the community from various perspectives. The interview was also intended to obtain the socio-cultural context which is assumed to be an important basis for the validity of traditional knowledge practices and the calendar of the seasons.

Interviews with community leaders and religious leaders were also conducted to obtain information about the condition of the community, including economic, educational, social, and cultural aspects to understanding the determinants of the practice of managing rice fields using traditional knowledge. Interviews with religious leaders were conducted to obtain information about the traditional knowledge process. Apart from the community and religious leaders, in-depth interviews were also conducted with village and sub-district officials, traditional leaders, and farmers. This in-depth interview with stakeholders also aims to obtain information about the support system received by lowland rice farmers in Pohuwato district.

Prosesing Data Dan Interpretasi

The analysis and interpretation of primary data (the results of interviews with informants and direct observations) and secondary data (data from the Department of Agriculture and the Central Bureau of Statistics of Gorontalo) were carried out through the following stages. (a) Identification and classification of data. Identification is done to sort out the results of interviews to get statements that are directly related to lowland rice management practices and their causal factors. Data identification was also carried out to obtain data related to statistics on the number of farmers who still use the seasonal calendar. In addition, this stage is also useful for testing the

validity and reliability of the data through data triangulation; (b) Presentation of data. Data is presented through narrative descriptions of information from interviews, observations, and secondary data processing. Data by research variables (amount of production, process and causes of traditional knowledge practices, and support systems for farmers to obtain a comprehensive picture to draw conclusions and provide research recommendations); and (3) Concluding. Conclusions are drawn by interpreting each symptom obtained from the results of data analysis which is then explained briefly and clearly to answer research questions about Panggoba; traditional knowledge in the calendar of the seasons in the district of Pohuwato.

Data Findings

Traditional knowledge in seasonal calendar calendaring is a practice that has always been used since the ancestors by the Pohuwato people, Pohuwato Regency from generation to generation in the Gorontalo community. First, statistical data on the level of rice production increased more using the seasonal calendar than with modern knowledge. Field observations and interviews with informants confirmed that seasonal calendar calendaring in the implementation of lowland rice processing is a common practice.

Pohuwato Farmers in Numbers in Gorontalo

Number	Subdistrict	Amount
	10	
1	Buntulia	26
2	Dengilo	20
3	Duhiadaa	68
4	Lemito	43
5	Marisa	32
6	Paguat	36
7	Patilanggio	38
8	Popayato	36
Total		299

Table 1. Data on farmers who use the practice of seasonal calendar calendaring (traditional knowledge)

From the 6 regencies/cities throughout Gorontalo province, the management of lowland rice using *panggoba* or traditional knowledge in the calendar season occurs in almost all regions, only one district (Pohuwato) declares a high level of rice production, about 47% of rice production using the practice modern knowledge. the level of production in one area and another is not balanced, from 4,964 ha of rice fields owned by Pohuwato Farmers. This difference does not show the real thing, because as Pak Siru (64 years old) said, "not everyone wants to report their rice production. Government officials are also reluctant to record their production because they think it will reduce their profits.

Based on data obtained from the Pohuwato Regency Agriculture Office, there are 299 lowland rice farmers who use traditional knowledge, namely the seasonal calendar until June 2021 (Table 1). From the results of observations and interviews, it is known that the production figures listed in government agencies are very low compared to the actual production. One farmer said that traditional knowledge of the seasonal calendar in the management of lowland rice also occurred in the rice fields where he worked. This statement is in line with what one religious leader said:

"In our village, there are still many traditional knowledge practices in the calendar. Every year, there are about 20 rice fields that are managed using the seasonal calendar. (MP 43 Years)"

If it is assumed that the traditional knowledge practice of the seasonal calendar in the management of lowland rice occurs as many as 299 plots in each village every 3 times a year, then the production rate reaches 60%. or service related to the actual production amount.

The reason for not reporting this high production to the relevant agencies is feared that it will affect

village farmers who are already using modern knowledge facilitated by the government who will later switch to traditional knowledge of the seasonal calendar.

"The practice of panggoba or traditional knowledge in the seasonal calendar in the management of lowland rice is not published to other sub-district farmers. (UB 42 Years)".

The results of interviews with farmers about the high production rate that is not reported to the relevant agency officials in Pohuwato Regency are in line with the 2019 Gorontalo Province BPS data about the proportion of high rice production rates in Pohuwato Regency. Data obtained from BPS of Pohuwato district shows that Pohuwato district has a high proportion of rice production in Gorontalo.

Calendar Seasons

The people of Gorontalo know the rainy, dry, and transitional seasons. The rainy season usually starts in "October/November" and lasts until "February/March". As the farmer said below "We in sowing seeds of rice still refer to the calendar of seasons that have been agreed upon by the Panggoba from generation to generation"; (LI 54 Years)

In the case of writing, 'bulan_1 / Bulan_2' is intended to avoid the nature of human arrogance that precedes the will of God the Creator. The people of Gorontalo realize that all events on earth are the will of God Almighty. Furthermore, it can be understood that for example for the possibility of the start of the rainy season starting in October or November. After the rainy season, it is followed by a transitional season or known as the transition season which starts from February/March to June/July. The next season is the dry season which starts from June/July to October/November. To illustrate the uncertainty of changing seasons, the boundary between the two seasons is intentionally blurred to tolerate errors in timing the change of seasons (figure 2).

Figure 2. Seasonal Division by some Gorontalo Masyarakat People

Fishing Season

The people of Gorontalo, especially those who have a livelihood as fishermen, recognize 4 types of seasons for fishing/catching fish in the sea ('sembo lo po hala liyo').

"We fishermen still rely on the division of seasons in the calendar of the Gorontalo season."



The fishing seasons in question are the shady season, the transition season, the east wind season, and the west wind season, and each has its characteristics (figure 3).



Figure 3. Calendar of Fishing Seasons in the Sea

Planting Season

The planting season is defined as a certain time that is used as the initial stage of planting. The people of Gorontalo recognize 4 types of planting seasons (figure 4), classified based on the

amount of rainfall that falls, namely:

- The main planting season (Tauwa) or nationally known as the rendengan planting season in the Rainy Season 1 (MH1) period. This season lasts from October to December. This season is marked by heavy rainfall, so farmers start planting corn, paddy fields, and other crops. In this season usually, langsung and candlenut plants begin to be harvested. The recommended planting time is on October 21 – November 8.
- The rendengan planting season in the rainy season 2 (MH2), referred to as the afternoon tualanga season, runs from February to March. The recommended planting time is between 23 February to 16 March and 23 March to 8 April.
- The gadu growing season in the dry season 1, known as the *hulita/pobole* season, starts from April to June. This season is the end of the rainy season. Farmers in this season usually plant relatively short-lived crops to take advantage of the remaining time from the rainy season. The recommended planting time is April 21 to May 6.
- Gadu's planting season is in the dry season 2, known as the *tualanga* morning season, starting from July to September. In this season there are usually very few plantings because there is relatively little rainfall. The recommended planting time is between 23 August to 16 September and between 23 September to 8 October.



Figure 4. Planting Season Calendar

In determining the time of planting, in the social structure of the Gorontalo community, the *panggoba* figure is known, namely, a person who masters astrology and can read natural signs, which then because of his strengths he is given the trust to regulate and become a place to ask questions related to farming matters, especially relating to determining the planting period, and how to protect plants from pests and diseases. At that time pesticides, insecticides, and the like were not known. With local knowledge of astrology (astronomy) and other capabilities possessed by *Panggoba*, the determination/prediction of the planting period can be made. Likewise, during the plant maintenance period, pest and disease management can be consulted directly with *Panggoba*. Until now, in several areas in Gorontalo local knowledge and the practice of *panggoba* is still ongoing and continues to be preserved. Usually, the local knowledge possessed by the *Panggoba* is passed on from generation to generation until now.

In carrying out their duties, *Panggoba* and the people of Gorontalo rely on four stars that guide them in starting a farming job (figure 5). The stars are Totokiya (King Star/Altar located in the star cluster Alshain, Alfair, and Tarazed), Tadata (Tutupito/Seven Star, 7 stars in the Aldebaran star cluster), Otoluwa (six star or Tweligen star cluster), and Maluo (Chicken Star). or Kref, consisting of 3 stars namely Procyion, Cirus, and Canopus). The circulation of 4 guide stars is observed in the afternoon around 18:00 or in the morning at 6:00 local time.



Figure 5. Configuration of 4 guide stars
Celebration Season

Another interesting phenomenon is the hectic celebration of the people of Gorontalo at certain times. Celebrations are interpreted as activities that are rarely carried out, maybe even once in a lifetime, for example building a house, getting married, or carrying out relatively large-scale transactions, such as buying a motorbike/car, land, or other relatively expensive items. The celebration season is usually based on the Hijri calendar (figure 6).

PENANGGALAN HIJRIYAH												
MUSIM	MUH	SAF	RAW	RAK	JAW	JAK	RAJ	SAB	RMD	SYA	DUL	DZH
Kawin	Tidak mufakat, mati jagara	Afial baik	Segera bertapa (man)	berserah	Dukacita kematian carai	Mendapat harta	Mendapat anak	Amat baik & nikmat	rapat anak durasa pada Allah taala	siapa	kesaktian	Amat baik & baik jagara yang dibuat.
Bangun rumah	Berjanj hulu-haru	Mulia, baik, beroleh nikmat, Tidak putus asa, Rejeki	Kesukonan, Tazak beroleh rejeki, kamatan	Maha baik, semesta, sukacia	Maha baik, beroleh rejeki, seja	Tertalu jahat, peralihan berbarak-kemabeh	Tertalu jahat, beroleh, berkehaji, sahlangan	Maha baik, beroleh rejeki, harta, emas dan perak	Maha baik, beroleh harta, emas dan perak	Jahat, beroleh sahlangan	Beroleh orang sajukan	Amat baik, beroleh harta dan hamba sahaya
Hati-Hati						Disarankan						

Figure 6. Celebration Season Calendar

Besides paying attention to the 'signs' above, the Gorontalo people also practice determining the day and time both based on the beliefs and empirical experiences of the ancestors of the Gorontalo people. The process of preparing the seasonal calendar is an activity of compiling and recording the content of local wisdom obtained during the research into a manuscript equipped with a seasonal calendar chart which is a compilation and simplification of the various seasons known by the people of Gorontalo (figure 7).



Figure 7. Manuscript of the Gorontalo community season calendar

At this stage, an initial study was carried out on the development of a prototype seasonal

calendar information system based on the local wisdom of the Gorontalo community. The results of the study found that the recurring seasonal pattern found in the practice of local wisdom of the Gorontalo community is very possible to be developed into a computer-based application so that it can be coupled with modern knowledge.

The Support System in The Farming Community

Panggoba and traditional knowledge and various problems experienced by young farmers and old farmers show the poor support system that exists, both in the farming community, the government, field findings show that there is no adequate support system for rice farmers, especially from the government. The biggest support system only comes from this family of farmers themselves, from farmers' parents, as well as fellow farmers' relatives. Support from government institutions is more administrative.

Government Support System

The support system provided by the government is more in the form of appeals and administrative assistance. Community leaders in particular can only urge the community to stay away from the practice of traditional knowledge *panggoba* in calendaring the seasons in the management of lowland rice.

"We often carry out counseling to farming communities not to use the seasonal calendar in the management of lowland rice by motivating that modern knowledge using fertilizers provided by the government is easier than using the seasonal calendar (NI 48 Years)"

An MN Community leader emphasized:

"Every time there is counseling in the village, what we convey is always inserted so that young and old farmers must pay attention to modern knowledge in rice management (RM 56 years). The limited support system that can be provided by the government is caused by the efforts and government programs that make the fertilizer program provided by the government free of charge, which is expected to help the community, especially farmers so that in the management of lowland rice they are no longer busy looking for or determining good days to sow rice seeds through calendar season, but with the provision of free fertilizer by the government the farming community as soon as possible can plant rice so that time is more efficient.

A Support System That Comes from A Farming Family

The real support system received by farmers only comes from the nuclear family. Although initially most of the nuclear families did not approve of the management of lowland rice through the calendar because it was considered to take a long time compared to the management of lowland rice using modern knowledge. But in the end, the nuclear family continued to provide support for the implementation of this lowland rice management practice through the seasonal calendar. The form of support obtained was by doing odd jobs such as selling cakes and daily groceries or taking daily salaries as factory workers while waiting for the rice harvest.

"We have no other choice. Even though they (farmers) continue to use the seasonal calendar in managing paddy fields, they are still our husbands and family. We have to support until the harvest later. (FM 45 years)"

The support provided by the nuclear family continues until the next rice seed is sown. The nuclear family usually assists at work to meet daily needs while waiting for the next harvest.

"Although we are aware that waiting for the harvest using the seasonal calendar is a bit long compared to modern knowledge, we still help our husbands (farmers) by a having side job, for example taking care of the neighbor's children or washing the neighbor's cloth, which for us can help reduce the cost of living. our family as long as the harvest has not yet taken place. (TM 52 years).

This support is given as a form of responsibility and help between us and the family. Because then

we can be comfortable until harvest time arrives.

From the explanation above, it appears that the support system is very weak institutionally. Existing support rests on the individual and the nuclear family. The government does not have an adequate support system which shows that the phenomenon of lowland rice management through traditional knowledge in the calendar season by the *Panggoba* has not been seen as an important issue, but is still considered a normal problem.

Discussion

Panggoba's practices in managing lowland rice through the calendar of the seasons in a community do not have a support system which causes them to face two big problems. First, farmers are faced with the modernization of the agricultural system which is the focus of the work of the government of the Republic of Indonesia at this time. Although the people of Pohuwato still apply traditional knowledge in their agricultural work, the existence of *panggoba* is very likely to experience degeneration. Modernity with its contemporary society, however, practices practical and effective things to increase material productivity. Second, the farmers will experience a very big impact when farmers give in and in the end, use modern knowledge because the effects of rice yields from pesticide fertilizers will affect the health of the farmers themselves. And by itself, the local wisdom of the farming community is no longer one of the cultures that is maintained. The practice of traditional knowledge is based on local people's thinking which involves 3 things, namely the relationship between humans and humans, the relationship between humans and nature and the surrounding environment, and the relationship between humans and the Divine. Therefore, it is important to always revive or revive this local wisdom as the main reference for the development of lowland rice farming in Pohuwato district. Agricultural modernization cannot be avoided, however, as long as Gorontalo province is still part of the Unitary State of the Republic of Indonesia. However, modernization of the agricultural system can be integrated with all local wisdom possessed by Gorontalo, especially Pohuwato, so that agricultural business as one of the livelihoods of the Pohuwato Gorontalo community can be managed sustainably without compromising the socio-ecological factors that exist in Pohuwato Regency.

Conclusion

Panggoba; Traditional knowledge in seasonal calendar calendaring occurs in Pohuwato, some local wisdom practices, especially for seasonal activities/customs, are currently still taking place in Pohuwato Gorontalo. The identified seasonal activities are the season for sowing rice seeds, catching fish in the sea, planting season and celebration season. The identified areas that still practice local wisdom have been mapped. However, the local wisdom is not practiced by all the people in the area. Pola kegiatan ataupun kebiasaan musiman berulang yang ditemukan pada praktek kearifan lokal masyarakat Pohuwato Gorontalo, selanjutnya telah dibuat dalam bentuk dokumen kalender musim praktek kearifan lokal masyarakat Gorontalo, dan kajian awal menunjukkan bahwa ada peluang pengembangan aplikasi kalender musim berbasis kearifan lokal masyarakat Gorontalo, dan tulisan ini menyarankan suatu redefini yang selanjutnya diharapkan dapat bersanding dengan ilmu pengetahuan modern.

To overcome various problems that cause the extinction of local wisdom and the consequences, the government should prepare a comprehensive support system. Provision of a seasonal calendar in each village, which can be used as the government's first step in dealing with this problem. Not only that, the government needs to implement a mentoring program for old farmers, especially for young farmers who come from nuclear families. The presence of the government is also needed in implementing this step to the extinction of local wisdom or traditional knowledge by implementing innovative programs that can help young and old farmers.

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