



ASTRONOMY AND THE WARI-WARI TRADITIONS OF THE KARO TRIBE: DETERMINING GOOD AND BAD DAYS

Cinta^{1*}, Ansi Br Tarigan², Tomi Arianto³

tomy2088.ta@gmail.com¹

^{1,2} Universitas Negeri Medan, Medan, North Sumatra, Indonesia

*) corresponding author

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Abstract

The Wari-Wari tradition of the Karo tribe is a calendar system used to determine good and bad days in various aspects of life. However, knowledge of this system is starting to fade due to modernization and lifestyle changes. This research aims to examine the relationship between astronomy and Wari-Wari and identify the factors that led to its decline. Rahmadi's (2022) relevant dating system theory was used to examine the relationship and tradition of the Karo tribe's wari-wari: the determination of good and bad days. A qualitative approach was used with natural observation methods and centered interviews in Suka Sipilihen Village, Tiga Panah Sub-district, Karo Regency. The results showed that Wari-Wari has an astronomical basis related to the movement of the moon and sun, but its understanding is diminishing due to the lack of cultural inheritance and written documentation. Modernization and shifting cultural values have also accelerated its extinction. This study emphasizes the importance of preserving the WariWari tradition through education and documentation to remain sustainable in the midst of changing times.

1. INTRODUCTION

The calendar system has been an important part of human civilization, used to determine the right time for various social, economic and spiritual activities (Rahmadi, 2022). In various parts of the world, traditional dating evolved along with astronomical observations and the local wisdom of local communities. One of the unique dating systems in Indonesia is the *Wari-Wari* Tradition of the Karo Tribe. This tradition is used to determine good and bad days in various aspects of life, such as marriage, agriculture, and other traditional events. However, the relationship between this system and astronomy has not been studied academically. In Karo society, the *Wari-Wari* Tradition acts as a social guideline that is passed down from generation to generation. This system is believed to help the community in making important decisions by considering the time factor that is considered good or bad. Nonetheless, the influence of modernization and the introduction of the global calendar system has caused a shift in the practice of using the *Wari Wari* Tradition

(Frifana, 2022). Younger generations are using them less and less, and scientific literature on the astronomical aspects of these systems is limited.

The problem statement in this research is the lack of scientific studies linking the *Wari-Wari* Tradition with astronomical principles. While many other cultures have examined the relationship between traditional calendar systems and astronomical phenomena, research on the Karo calendar system is minimal. It is important to examine whether the *Wari-Wari* Tradition has an astronomical basis in determining good and bad days and how it survives modernization.

This research aims to analyze the relationship between the Wari-Wari calendar system and astronomical principles. The Wari-Wari system used by the Karo people in determining good and bad days is thought to have a calculation basis related to the movement of celestial bodies, such as the moon and the sun. Therefore, this study seeks to explore how this calendar system can be linked to the broader concept of astronomy.

In addition, this research also aims to identify the factors that influence Karo people's perception of the Wari-Wari system in the modern era. Along with the times, modernization and digitalization have changed the way people understand and use this traditional dating system. Several factors, such as changes in the mindset of the younger generation, the introduction of the global calendar system, and the lack of documentation and education about Wari-Wari, have contributed to the shift in its use. By understanding these factors, this research can provide insight into how Karo people currently view the Wari-Wari system and the challenges it faces to remain sustainable.

This research also seeks to present a new perspective in ethnoastronomy studies by highlighting traditional dating systems that are still less well known in Indonesia. Studies on ethnoastronomy often focus on the calendar system of the dominant culture, while the Wari-Wari system as part of the Karo cultural heritage has rarely been studied in depth. By examining this system in the context of astronomy and culture, this research is expected to enrich the scientific discourse on the relationship between astronomy and local traditions in Indonesia.

Previous research by Bayu Kaesarea Ginting in "*Dimensions of Ecological Spirituality of the Karo Traditional Calendar*" highlighted that the Wari Sitelupuluh (WS) or traditional Karo calendar system has three dimensions of ecological spirituality, namely spirit experience, religious manifestation, and expression of the spirit of the times. The study shows that the Karo calendar not only functions as a calendar system, but also has spiritual and ecological values that can strengthen the cultural identity of the Karo people, including in a religious context.

This finding is in line with our research shows that although Wari-Wari is still used in some aspects of Karo people's lives, especially in traditional events, its use is diminishing among the younger generation due to modernization. Thus, the preservation of this dating system is not only important in a cultural context, but also in maintaining the spiritual and ecological values contained within it.

As a scientific contribution, this research offers new value in the study of culture and astronomy. By delving deeper into the relationship between the *Wari-Wari* Tradition and astronomy, this research can provide greater insight into how traditional societies understand time and celestial phenomena. In the results of this

study can be taken into consideration in efforts to preserve local culture and develop scientific literature in the field of ethnoastronomy. Thus, this study not only contributes to the understanding of the Karo calendar system, but also opens up space for further research on the interaction between astronomy and culture in Indonesia.

2. LITERATURE REVIEW

The Wari-Wari tradition of the Karo Tribe is a traditional calendar system that has an important role in the life of the Karo people. This system is not only used to determine good and bad days but also reflects cultural values that have been passed down from generation to generation. Wari-Wari is used in various aspects of life, including marriage, agriculture, and traditional rituals (Agustine *et al.*, 2023). According to Ecclesia *et al.* (2023), the Karo calendar system has links to Sanskrit, which is seen in the names of days such as Mamis, Kala, Suri, Burma, and Bisnu. However, the meanings have been adapted to the cultural context of the Karo people. The system also has an ecological spirituality dimension that connects the community with nature and the cycle of life. Despite its important role in people's lives, modernization and digitalization have led to a decline in the use of this system.

Mawarni (2024) explains that many younger generations no longer understand Wari-Wari due to the lack of written documentation and the influence of the modern calendar. The Wari-Wari calendar system is increasingly marginalized due to changes in lifestyle and the entry of the global calendar system. Therefore, preservation efforts through education and documentation are needed so that this tradition is preserved in the midst of the times (Shinta, 2023).

The Wari-Wari calendar system not only functions as a time marker, but also has strong social and cultural values in Karo society. According to Mawarni (2024), this system plays a role in maintaining social harmony and strengthening relationships between individuals in the community. The determination of good and bad days is a form of local wisdom inherited by the ancestors and is still a guideline in making important decisions. In a social context, Shinta (2023) explains that the Karo people have traditionally believed that choosing the right time for an event will bring success and prosperity. Therefore, many families still consult with traditional elders or shamans before setting a date for a wedding, opening a new business, or other traditional activities.

Modernization and digitalization bring new challenges to the sustainability of the Wari-Wari system. Agustine *et al.* (2023) highlighted how globalization and lifestyle changes caused a shift in this traditional practice. While rural communities still maintain its use, urban communities are more likely to rely on modern calendars and digital technology in timing their activities. Cultural preservation efforts have been made, but are still limited to certain aspects such as the more common customary rituals. Ecclesia *et al.* (2023) mentioned that the digitization of the Wari-Wari dating system has not been widely implemented, in contrast to other traditional ceremonies such as *Erpangir Ku Lau*, which have

been documented on various digital platforms, a concrete strategy is needed to digitize and document the Wari-Wari system so that it remains sustainable amidst modernization.

3. RESEARCH METHODS

This research uses a qualitative approach with natural observation methods and focused interviews to explore the role of astronomy in the Wari-Wari tradition of the Karo Tribe. This research was conducted on March 6-7, 2025 in Suka Sipilihen Village, Tiga Panah District, Karo Regency, North Sumatra. The type of research used is exploratory qualitative, which aims to understand cultural phenomena and the practice of determining good and bad days in the Wari-Wari tradition.

The methods used in this research include observation, which involves observing social practices and interactions related to the Wari-Wari dating system. In addition, focused interviews were conducted with key informants, such as parents and elders in the village, to obtain in-depth information about this tradition.

This research was conducted through three main stages:

1. Data Collection

This included oral source research through interviews with traditional leaders, elders and parents regarding the use of the Wari-Wari dating system. In addition, written source research was conducted by reviewing documents related this tradition in various literatures and archives. Participatory observation was also applied by directly observing how the local community uses the Wari-Wari calendar in their daily lives.

2. Data Analysis

This was done using thematic analysis (Braun & Clarke, 2006). Data from interviews were grouped into main thematic categories, so as to reveal certain patterns or meanings in the practice of the Wari-Wari tradition. Data validation was conducted through source triangulation by comparing the results of interviews, observations, and written documents to ensure the accuracy of the findings.

3. Report Preparation

The data that has been analyzed is presented in descriptive narrative form and reinforced with supporting illustrations. Data interpretation is done by considering theories of cultural anthropology and ethnographic astronomy to understand more about the relationship between the Wari-Wari calendar system and astronomical principles.

4. RESULTS AND DISCUSSION

This research was conducted on March 06-07, 2025 in Suka Sipilihen Village, Tiga Panah District, Karo Regency, North Sumatra. Based on observations and interviews with informants, namely parents and village elders, several main findings were found related to the Wari-Wari tradition and the Karo calendar system.

4.1. Community Understanding of Wari-Wari

Most people in Suka Sipilihen Village still understand the concept of Wari-Wari as a traditional Karo calendar system. This system is used to determine good and bad days in various activities, such as weddings, farming, and traditional events. The village elders still actively use this system in giving advice to the community, especially in big events.

Based on interviews conducted, some respondents revealed that Wari-Wari is still used, especially in traditional events and important activities. One informant stated:

Interviewer:

Adi bas kuta kena enda, pa kusus na Suka Sipilihen, mbue denga nge Kalak si make Wari-Wari Karo?

(In this village, especially in Suka Sipilihen, are there still many who use the Karo calendar?)

Informant 1:

"It depends on the child, lit ka si make lit si lang, usurna kel bas traditional work janah enter new house bage, lang bas ndahi kalimbubu Adi erjabu ate Kalak, je p biasana nen na with Karo calendar katawari ndia wari si mejile."

(It depends, Nakku. Some still use it, some don't. The most common is during traditional parties, entering a new house, or when visiting the kalimbubu (maternal uncle) to ask for blessing before marriage. Usually, in such situations, people still look at the calendar to determine the right day).

However, there are also those who are starting to abandon this habit, especially those who don't see a big impact in their daily lives.

Interviewer:

"Adi km gua kada pa? Nen km denga nge Wari-Wari Karo bagi Kalak e ndai tah Lang?"

(What about you, sir? Do you still see Karo calendars like this guy?)

Informant 2:

"Adi, my son, because of the influence of my bage, wari kai saja p Adina nuan ateku, mis nge je ku suanken, saja adi erkerja Galang bage ku nen denga."

(Not for me, my son. Because I don't think the impact is too big. No matter what day it is, if I want to plant, I still plant. But for parties, I still look at the calendar to choose the day).

From the data collected, there are differences in the use of Wari-Wari by age group:

Category Respondents	Still Using Wari-Wari	Not Using Wari-Wari
Older People (60+)	80%	20%
Adults (30-59)	55%	45%
Teenagers (15-29)	25%	75%

Table 1. Respondent Data in Suka Sipilihen Village

From the table above, it can be seen that the use of Wari-Wari is still quite high among the elderly (60 years and above) with a percentage of 80%, but decreases in the adult group (30-59 years) at 55%, and gets lower among teenagers (15-29 years) with only 25%. This decline shows that the younger generation is shifting more to the Gregorian calendar due to the influence of modernization, globalization, and lack of direct cultural inheritance. If there is no preservation effort, then the use of Wari-Wari will likely decrease in the future.

4.2 The Use of Wari Pointers in Daily Life

The use of Penitik Wari (Karo calendar system) is still quite strong in this village. Many people still consult with traditional elders or shamans before determining the date of an important event. However, the younger generation is starting to rarely use this system, due to the influence of modernization and lifestyle changes.

Interviewer:

"Adi kam sendiri bage bik, ban lah lit dahinndu tah kai-kai saja bage, nen Kam denga nge calendar Karo enda?"

(For yourself, Bi, if there is an event or something else, do you still look at the Karo calendar?)

Informant 3:

"Adi me ku nen denga nakku, bagi sange nindu merdang page aku ras nuan jong, ku nen tanggal piga ndia pas waktuuna ateku, ntah erban tambar p bage ngenen wari nge aku, sebab go bage iajari sange."

(For myself, I still look, my son. Like yesterday when I planted rice and corn, I still look at the calendar to determine a good day. Also, when I want to make traditional medicine, I still look at the day because that's how I was taught from the past).

Table 2. Karo dating system in Indonesian language

Day	Description
Aditia	A good day to start something or have a discussion about a certain matter
Suma	Good day for hunting and fishing
Nggara	A bad day because one is irritable, a day suitable for fighting, jinxing, making medicine traditional, hunting, and plowing the fields
Budaha	A day suitable for planting rice, other crops, and feasting
Starch Rice	A slippery day, perfect for laying the first stone of a new home, starting a business, and applying for a job
Sukra Enem Berngi	A day suitable for wandering, traditional feasts, planting crops, and proposing to someone
Split Up	King's day, commonly used for erpangir ku lau (ritual bathing in the river to fulfill a wish)
Aditia Naik	A good day for all kinds of parties
Sumasiwah	A bad day and need to be careful
Nggara Ten	Hot days, being careful of what others say, suitable for making traditional medicine, entering a new house, traditional feasts, and removing bad luck.
Budaha Ngadep	A day suitable for all types of parties
Starch Tangkep Rice	A good day to meet the mbelin (traditional elder), apply for a job, ask for sustenance, and worship God.
Cukra Dudu (Lau)	A good day for traditional feasts, visiting parents, entering a new home, and erpangir ku lau (ritual bathing in river).

Belah Purnama Raya	The day of the king, many traditional wedding parties, parties of people of rank, and a good day to deliver children to their uncles to ask for blessings before marriage.
Tula	Unlucky day, rarely a party. Suitable for planting coconuts and cleaning the fields
Suma Cepik	A day that is not good. If a family member dies, it is necessary to make Bulung Bulung si malem (pilgrimage with Simalem-Simalem leaves and flowers). Suitable for hunting and fishing
Nggara Enggo Tula	A suitable day to get rid of bad luck, make traditional medicine, and erpangir Selamsam (flower bath ritual)
Budaha Gok	Days for abundant harvest and planting
Starch Rice 19	A suitable day to start work in the fields, fishing, and building huts in the fields
Cukra si 20	Great for making medicine, entering a new home, and holidays
Split Down	A good day for jinxing, hunting, and fishing
Aditia Turun	Suitable for making medicine, bathing in the river, removing bad luck, hunting, fishing, and treating diseases
Sumana Mate	Suitable day for ncibali siding (hunting certain animals with traps)
Nggara Si Mbelin	Suitable for making medicine, bathing in the river to get rid of bad luck, and praying to God for good things.
Budaha Medem	A day of going out to the fields, putting in rice fertilizer, and taking long trips
Medem Starch Rice	A good day for visiting sick parents, inviting family to eat together, making medicine, and traditional feasts.
Cukrama Mate	Days for jinxing, making medicine, hunting, and fishing

Moon Mate	A day for jinxing, hunting, and fishing
Dalin Bulan	Unfavorable day
Sami Sara	A day suitable for working in the fields together, praying to God, rituals to ancestors, or meeting smart people

decline in the use of Wari-Wari among the Karo community is influenced by several main factors.

1. One of the main factors is modernization, where the development of technology and education has changed the way people determine time and carry out daily activities. The more practical and accessible Gregorian calendar makes the Wari-Wari system less and less used.
2. In addition, the influence of religion also played a role in this change, as some communities began to abandon traditional practices that were considered incompatible with their religious teachings.
3. Another contributing factor is the lack of documentation. The WariWari system is largely passed down orally, making it difficult for younger generations to learn without direct guidance from parents or elders. As a result, understanding of the system has diminished over time.

Despite this, some preservation efforts are still being made by indigenous communities and academics. Some indigenous communities still teach the system to the younger generation through community activities and traditional rituals. There is interest from researchers and cultural observers to document the system in the form of scientific papers and digitization efforts.

The results show that although Wari-Wari still an important role in the lives of the Karo people, its use is declining, especially among the younger generation. This finding is in line with research published in (Ecclesia, Z., et al. 2023), which mentioned that modernization has caused a cultural shift in the use of traditional dating systems. In addition, this study also reinforces the findings of (Kaesaera, B. 2022), which highlighted the importance of cultural preservation efforts in the face of changing times.

One solution that can be applied to maintain the existence of Wari-Wari is the digitization of the Karo calendar system. As with the *Erpangir Ku Lau* tradition, digital documentation can help people more easily access and understand this tradition without having to rely entirely on oral transmission. Furthermore, the integration of Wari-Wari in local cultural education can also be a strategic step to ensure the sustainability of this tradition. If introduced in the school curriculum or extracurricular activities, the younger generation will better understand and appreciate their own cultural heritage.

From the results of this study, it can be concluded that although Wari-Wari is still used by some Karo people, especially in rural areas, its existence is increasingly threatened by modernization and social change. Therefore, concrete steps are needed in preserving this tradition through documentation,

education, and digitization. This research also provides insights for academics, local governments and cultural communities to consider more effective preservation strategies. If there is no concrete action, there is a possibility that this Karo dating system will become increasingly forgotten in the future. However, this study has some limitations. The limited research area is one of the main obstacles, as the study was only conducted in one village, so the results do not fully reflect the overall condition of the Karo community. In addition, as the data is qualitative, there is a possibility of subjectivity in the interpretation of the findings. The lack of written sources is also a challenge, as the system is mostly passed down orally, making it difficult to find documentation that can be used as additional references. Therefore, further research that is broader and more in-depth is needed to understand the Wari-Wari system more comprehensively.

5. CONCLUSIONS

The Karo Wari-Wari tradition is a traditional calendar system used to determine good and bad days in various aspects of life, such as marriage, deliberation, and agriculture. This study shows that Wari-Wari not only has practical value in the lives of the Karo people, but also reflects a local astronomical understanding that has been passed down through generations. Although it is still practiced in some areas, modernization and religious influences have led to a decline in its use. Preservation efforts through digitization and academic studies are important steps to maintain the existence of this system. This research provides new insights into the relationship between astronomy and local culture and proposes a technology-based preservation strategy to keep the Wari-Wari tradition relevant in the modern era.

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