



GOOD AND BAD DAYS ACCORDING TO THE BADUY AGRICULTURAL CALENDAR

Siska Wulandari¹

¹ Sunan Ampel State Islamic University Surabaya (c96219065@student.uinsby.ac.id)

Abstract: Calendar is a system for arranging the right time. Calendar is a system of organizing units of time for the purpose of marking and calculating time in the long term. Calendars have a variety of variations depending on the needs of the people who use them, such as the Baduy calendar. The Baduy calendar is a calendar system used by the Baduy Tribe in the Banten area which is included in the solar calendar where an average year equals one tropical year. The purpose of forming this article is to find out the determination of good days and bad days carried out by the Baduy community. Especially the determination of good and bad days to start work in the fields. The discussion of the problems raised in this study is discussed and analyzed using qualitative research methodology with the type of qualitative research. The research analysis used is inductive analysis, and the approach used is an ethnographic approach. From the results of the discussion discussed, a finding was obtained that the determination of good and bad days carried out by the Baduy community has differences with the determination of good and bad days carried out by the Javanese community.

Keywords: Calendar; Farm; Baduy; Good Day; Bad day

1. INTRODUCTION

The calendar in the Big Dictionary Indonesian is a list of days and months of the year. Calendars are also called calendars, almanacs, and takwim. In Arabic, the calendar is called *taqwim* which means to balance, balance and limit. The calendar in Arabic is also called *Tarikh* or *ta'rikh* which means knowing and limiting time. According to Al-Biruni in "*al-Atsar al-Baqiyah 'an al-Qurun al-Kaliyyah*", defining *dates* as events that have occurred in ancient times where the Prophets sent with verses and *Burhan* and marked by the rule of kings who had extraordinary authority. *Tarikh* is the destruction of a nation (ummah) with the occurrence of various natural events such as storms, earthquakes, violent disease outbreaks, the movement of a population (country), the change of religion (*millah*) or the occurrence of other major events (Butar-Butar, 2014). Calendar is a system of organizing units of time for the purpose of marking and calculating time in the long term (Azhari et al, 2008). Calendars have a variety of variations depending on the needs of the people who use them, such as the Baduy calendar.

The Baduy calendar is a calendar system used by the Baduy Tribe in the Banten area which is included in the solar calendar where an average year is equal to a tropical year (365 days 5 hours 48 minutes 45.19 solar seconds). This calendar is very useful for the Baduy tribe as a reference for agricultural activities. In addition, this calendar is also included in the astronomical calendar which in determining the beginning of the year is carried out by taking into account the factors of sky observation and seasonal observation (Baduy Calendar, 2022).

2. RESEARCH METHODS

The discussion of the problems raised in this study is discussed and analyzed using qualitative research methodology with the type of qualitative research. The research analysis used is inductive analysis, which is an analysis whose research process is from fact to theory and aims to avoid falsification of data. The problem approach used is an ethnographic approach, which is an empirical and theoretical approach that aims to



obtain an in-depth description and analysis of the concept of the Baduy agricultural calendar. The ethnographic approach is used to describe, explain, and analyze mathematical concepts contained in the life of the Baduy people.

3. ANALYSIS OF STUDY FINDINGS

3.1 Baduy Farm Calendar

The Baduy people's knowledge of the calendar cannot be separated from the elements of belief used to seek salvation, fortune, determine good and bad days and so on. The Baduy people have a calendar system that is in accordance with the pattern of agricultural activities that are properly adhered to. Their calendar calculations are based on the lunar circulatory system (Suardi, 2022).

In the Baduy indigenous community there is a local wisdom that has been carried out for hundreds of years in terms of customary obligation rules to have Baduy leuit, one of the goals is that the people will never go hungry. Leuit Baduy is a storage place for crops which is a symbol of food security for the Baduy tribe. Rice stored in leuit will last for decades to come. This ensures the availability of food for their children and grandchildren

The Baduy calendar is a calendar system used by the Baduy tribe in the Banten area which is very useful for the Baduy community as a reference in carrying out activities related to agriculture. In addition, the Baduy calendar is also included in the astronomical calendar whose determination of the beginning of the year is carried out by taking into account the factors of sky observation and seasonal observation and not only relying on a certain calculation system (Wikipedia, 2022).

Like other calendars, the Baduy calendar also recognizes a day system that has a number of seven days in one week (saptawara) consisting of Sunday, Senen, Tuesday, Rebo, Kemis, Friday, and Sabtu.

No	Day
1.	Ahad
2.	Senen
3.	Selasa
4.	Rebo
5.	Kemis
6.	Jumat
7.	Sabtu

Table 1-Baduy Calendar Day Names

In one year of the Baduy calendar, there are 12 months, each month consisting of 30 days including Kasa, Karo, Katilu, Kapat/Sapar, Kalima, Kaenm, Kapitu/Kaseven, Kadalapan, Kasalapan, Kasaten, Hapit Lemah, and Hapit Kayu. The names of the months indicate that the Baduy calendar is in line with the Pranata Mangsa calendar system used by farming communities throughout Java and Bali.

No	Baduy Calendar	Beginning	End
1.	Kasa	23 June	August 2
2.	Karo	August 3	August 25
3.	Katilu	August 26	18 September
4.	Kapat	19 September	13 October



5.	Kalima	14 October	9 November
6.	Kanem	10 November	December 22
7.	Kapitu	December 23	3 February
8.	Kadalapan	4 February	March 1
9.	Kasalapan	March 2	March 26
10.	Kasapuluh	March 27	April 19
11.	Hapit Lemah	April 20	May 12
12.	Hapit Kayu	May 13	June 22

Table 2-Month Names and Cycles of Baduy Calendar

Quoted from the book Study of Religion of the Baduy Community in Kanekes Village Banten 2007, the first month in the Baduy calendar, the month of Kasa coincides with the kapat prey on the Pranatamangsa calendar. The number of months on the Baduy calendar is 10 months, each month has a total of 30 days. However, to adjust to the period of appearance of the constellation at a certain position, which is 359 days, two moons were inserted named Hapit Lemah and Hapit Kayu.

Because there are only 30 days in each month, there is a difference of five or 6 days between the Baduy calendar and the tropical year. This difference is not included in the previous year or the following year. These days are called the days that are wagekeun. New Year falls on the 1st of the month of Kapat or Sapar and should not coincide with Friday, Sunday, or Monday. Therefore, if the New Year falls on these days, it is shifted to adjacent days, Thursday, Saturday, or Tuesday.

Adverse events do not occur every year and the days that are observed are not always fixed depending on the calculation results of traditional meetings. In addition, if in the month of Hapit Kayu has not been able to do mipit (the first rice harvest in huma serang by the wife of girang seurat), then the customary meeting will decide whether the mipit will still be carried out or postponed. If the customary meeting decides that the mipit is postponed, there will be a death of the month which means that the current year consists of 13 months.

According to Jacobs and Meijer, the Baduy calendar does not recognize the date that is the reference for calculating years. However, according to Kurnia and Sihabudin, the Baduy calendar recognizes a seven-year-based calculation system. This calculation system consists of Windu (1 windu = 8 years), Padalung (1 padalung = 7 windu), Margasana (1 margasana = 7 padalung), and Sareat (1 sareat = 7 margasana). The result was then added with 500 years of empty time called the world improvement period. The windu cycle in the Baduy calendar is the same as the windu cycle in the Javanese calendar. The windu cycle consists of 8 years, including Alip, Ehe, Jimawal, Je, Dal, Be, Wau, and Jimakhir.

No	Year Name	Name Suro	Day
1.	Alip	Pon Tuesday	354
2.	Ehe	Saturday Pahing	355
3.	Jimawal	Thursday Pahing	354
4.	Je	Monday Legi	354
5.	Dal	Friday Kliwon	355
6.	Be	Wednesday Kliwon	354
7.	Wawu	Ahad Wage	354
8.	Jimakhir	Thursday Pon	355
Total			2835

Table 3-Windu Cycle of Baduy Calendar



In addition to relying on calendar calculations, the Baduy Tribe also makes astronomical observations to peg the running of the calendar and determine the right time in agricultural activities. The constellations that are very important for the Baduy people are the constellation Orion (other names: Bintang Kidang, Bintang Waluku, Bintang Bajak, or Guru Desa) and the constellation Pleiades (other names: Bintang Kartika, or Bintang Gumarang).

Kartika usually appears two weeks before the appearance of Bintang Kidang when the Sun is in the northern hemisphere. According to the Baduy people, that's when the land is cold. Conversely, when Bintang Kidang begins to set on the western horizon and cannot be seen is not the right time to plant rice because the soil is hot and there are many insect pests.

Among the two, Bintang Kidang plays the most important role for farming activities in huma serang which is a communal field of the Baduy Tribe and has always been a reference for farming activities in the fields of huma puun, huma girang seurat, huma tangtu, huma tuladan, and huma panamping. The importance of Bintang Kidang is evident in the following expression that describes the position of the height of Bintang Kidang from the eastern horizon at sunrise:

- a. Date of Kidang Turun Kujang, when Kidang appears, a kujang knife is used. Although Orion has appeared in early March, the clearing of bushes in the attack huma is only carried out in Kalima (May – June).
- b. Kidang Ngarangsang Kudu Ngahuru, when Kidang starts to rise, must burn the bush. Although Orion has begun to rise in mid-April, bush burning in huma serang is carried out in Kanem (June – July).
- c. Kidang Mancer Kudu Ngaseuk, when Kidang is overhead, must plant rice. Although Orion was zenith in early June, rice planting in huma serang was carried out in Katjuh (July – August).
- d. Kidang Marem Turun Sloth, when Kidang has gone out, pest insects come down. Since Orion sets in early September, rice planting in huma serang should not extend beyond the month of Kadalapan (August – September).

3.2 Baduy Agricultural Calendar Calculation

The Baduy community uses tools called *Kolenjer* and *Sastra* to calculate time. *Collenjers* are made of small boards measuring 6x25 cm and are given holes as a sign in the form of points and lines that are not translucent to form boxes or pictures.

Figure 1-Collender





Until now there is no specific historical record about when the beginning of *kolenjer* was known by the Kanekes community, which is certain that *kolenjer* has been used for a long time by the Kanekes community. This makes sense because *kolenjer* has become a tool or science that is in contact with the daily life of the Kanekes people. Knowledge of *kolenjer* became important for the Kanekes, as was the Gregorian calendar in society in general (Setiawan, 2022).

Kaneker Village Regulation Number 1 of 2007 made by the Lebak Banten Regency Government states in Chapter 1 Article 1 (Megenai Perterminologyan), *kolenjer* is a calendar or calendar system used by the indigenous people of Kanekes and applies for generations. *Kolenjer* is a dating tool that serves to determine the date, naptu poe, and wanci.

Three functions of *kolenjer* in terms of fortune-telling refer to various types of *kolenjer* itself, namely (1) *indit-inditan*, is *kolenjer* which is used to determine which day and direction when going to travel, (2) *kolenjer durujana*, used by people who experience theft, and (3) *kolenjer bajo*, which is used to attack or destroy others. The use of *kolenjer bajo* is kept secret by the Kanekes community.

Although in the Kanekes or Baduy community do not know numbers, but they know numbers that are memorized with their respective values as described below:

Day	Value	Designations
Ahad	Lima Five	Hadma
Senen	Opat (Four)	Nenpat
Salasa	Tilu (Three)	Salu
Rebo	Tujuh (Seven)	Bojuh
Kemis	Dalapan (Eight)	Mispan
Jumahat	Genep (Six)	Manep
Saptu	Salapan (Nine)	Tupan

Day	Value	Designations
Pahing	Dalapan (Eight)	Papan
Pon	Opat (Four)	Ponpat
Wage	Tujuh (Seven)	Wajuh
Kliwon	Salapan (Nine)	Wonpan
Manis	Lima (Five)	Nisma

Table 4-Number of Days and Markets

In addition to *collenjer* to calculate good and bad days, *literature* is also used which is a tool used to determine attitudes and actions based on various qualities contained in each of them. This tool is made of bamboo whose back (hinis or sembilu) is striped with longitudinal strokes. It is divided into 20 sections based on the Sundanese or Javanese (cacarakakan) alphabet. The first sequence starts at the end of the *literary* handle expressed by the lines of each space by a small sphere. The alphabetical order and the number of lines indicate the value of that alphabet (Sopiah, 2020).



Figure 2-Literature

No	Alphabet	Value
1.	Ha	4
2.	Na	3
3.	Ca	3
4.	Ra	2
5.	Ka	2
6.	Da	3
7.	Ta	3
8.	Sa	2
9.	Wa	4
10.	La	5
11.	Pa	2
12.	Dha	5
13.	Ja	3
14.	Ya	8
15.	Nya	9
16.	Ma	1
17.	Ga	7
18.	Ba	5
19.	Tha	6
20.	Nga	6

Table 5-Alphabetical Order and Literary Value

On the basis of the particular value of each alphabet, each person with a specific intent can be calculated whether or not the intent and work are suitable for execution. In addition to being able to count good days to carry out a job or intention, it can also be determined or sought for ill-fated days (unlucky) so that people can avoid or not take certain actions to avoid the adverse consequences of these actions.

The determination of good and bad days is based on the value of the day and the market associated with a certain purpose so that it can be known whether the intention can be successful or not. For example, if a person born on a Thursday with the wage market means to travel on Kaliwon Sunday, will there be a good or bad day on that day?

Then an example of the calculation is as follows:

Thursday = 8
Wage = 7
Sunday = 5



Kliwon = 9
 Total number = $8 + 7 + 5 + 9 = 29$
 Sum divided by 5 = $29 : 5 = 5$ remaining 4.

The remaining numbers of the calculation are connected with the following set of properties:

- a. *Sri* (rice)
- b. *Lungguh* (position)
- c. *Gedong* (wealth)
- d. *Lara* (misery)
- e. *Starch* (death)

From the calculation above, the remaining 4 = *lara* which means miserable. Then, the person is not good to travel on Sunday kliwon because he will get misery.

The determination of a good day to hold a marriage by looking for the fateful day is as follows (Sopiah, 2020):

Add up the values of the names of the couples who are about to get married, then the alphabetical number plus one, then subtract the sum of the values of the names of both spouses. The subtraction result is matched with the day value, and that's the ill-fated day for both pairs. By knowing the fateful day, it can be determined that the day is good for holding a wedding by shifting it to another day. For example, Santeu and Karmi are getting married. Calculation:

Santeu: Sa = 2, Na = 3, Tha = 6, number = 11

Karmi: Ka = 2, Ra = 2, Ma = 1, sum = 5

Number of pair values: $11 + 5 = 16$ $x + y = k$... (1)

Number of alphabets plus 1: $20 + 1 = 21$ $n + 1$... (2)

Ill-fated day value: $21 - 16 = 5$ $(n+1) - k$... (3)

The ill-fated day value of 5 is Sunday. So, the fateful day for Santeu and Karmi is a Sunday and it is a taboo for them to get married on that day because according to the assumption of the Baduy community will cause various difficulties in married life.

The determination of a good day to start work in activities in huma with the aim of avoiding wrong actions and reducing the risks that may arise due to wrong actions are as follows:

The first basic calculation is to find the ill-fated husband and wife who will carry out activities in huma and then start the activity on a day other than the fateful day. The second method is based on the benchmark for the remaining results of the sum of the value of husband and wife divided by five. The remainder of zero is considered with the remainder of one.

Calculation example:

Lala: La = 5, La = 5, the number: 10

Raka: Ra = 2, Ka = 2, number: 14

Total conjugal value = 14

Calculation = $14/5 = 2$ remaining 4.

The remaining 4 are matched with the benchmark resulting in *lara* or misery and the day that has a value of 4 is Monday. So, the husband and wife huma activity should not start on Monday because it is an ill-fated day. In addition, the meaning of *lara* means that huma activities carried out on that day will not produce results because of wrong actions such as being attacked by pests or diseases (Sopiah, 2020).

3.3 Sociological Analysis



The Baduy tribe or often referred to as Baduy is an indigenous and sub-ethnic community of the Sundanese tribe in the Kendeng Mountain region, Kanekes Village, Leuwidamar District, Lebak Regency, Banten. The Baduy tribe is divided into two groups called the Inner Baduy and the Outer Baduy. The most fundamental difference between these two tribes is in carrying out *pikukuh* or customary rules when they are implemented. The calendar system used by the Baduy Tribe in the Banten area is included in the solar calendar where an average year is equal to a tropical year.

The Baduy community regarding the calendar cannot be separated from the elements of belief used to seek salvation, fortune, determine good and bad days and so on. Their calendar calculations are based on the lunar circulatory system. The Baduy calendar is also included in the astronomical calendar whose determination of the beginning of the year is carried out by taking into account the factors of sky observation and seasonal observation and not relying only on a certain calculation system.

In general, the Baduy people use their calendar or calculations to determine good or bad days in carrying out agricultural activities. Anytime is the right time to plant and also the time they avoid doing agricultural activities. In addition, they also have a tradition called *Leuit Baduy*. *Leuit Baduy* is a storage place for crops which is a symbol of food security for the Baduy tribe. This tradition is so that they will never go hungry.

In addition to relying on calendar calculations, the Baduy Tribe also makes astronomical observations to peg the running of the calendar and determine the right time in agricultural activities. The constellations that are very important for the Baduy people are the constellation Orion (other names: *Bintang Kidang*, *Bintang Waluku*, *Bintang Bajak*, or *Guru Desa*) and the constellation Pleiades (other names: *Bintang Kartika*, or *Bintang Gumarang*).

When calculating time, the Baduy people use a tool commonly called a *kolenjer*. Knowledge of *kolenjer* became important for the Kanekes, as was the Gregorian calendar in society in general. *Kolenjer* also has a variety based on their respective functions. The uniqueness possessed by the Baduy community is still trusted and used today.

4. CONCLUSION

The Baduy people's knowledge of the calendar cannot be separated from the elements of belief used to seek salvation, fortune, determine good and bad days and so on. The Baduy people have a calendar system that is in accordance with the pattern of agricultural activities that are properly adhered to. Their calendar calculations are based on the lunar circulatory system. The Baduy calendar is a calendar system used by the Baduy tribe in the Banten area which is very useful for the Baduy community as a reference in carrying out activities related to agriculture.

Like other calendars, the Baduy calendar also recognizes a day system that has a total of seven days in one week, namely Sunday, *Senen*, *Salasa*, *Rebo*, Thursday, Friday, and *Saptu*. In one year of the Baduy calendar, there are 12 months, each month consisting of 30 days including *Kasa*, *Karo*, *Katilu*, *Kapat/Sapar*, *Kalima*, *Kaenm*, *Kapitu/Kaseven*, *Kadalapan*, *Kasalapan*, *Kasaten*, *Hapit Lemah*, and *Hapit Kayu*. The Baduy calendar recognizes a seven-year-based calculation system. This calculation system consists of *Windu* (1 *windu* = 8 years), *Padalung* (1 *padalung* = 7 *windu*), *Margasana* (1 *margasana* = 7 *padalung*), and *Sareat* (1 *sareat* = 7 *margasana*).

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