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Ethnobotanical study of plants for the ceremony of seventh month-pregnancy (*Mitoni*) by communities of Mojosari, Mojokerto regency

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Abstract. The Ceremony of seventh month-pregnancy (*mitoni*) is a traditional ceremony that is acted at the seventh months-pregnancy. The goal of this research is to provide ethnobotany data using herbs for a ceremony of seventh months-pregnancy (*mitoni*). The research data included qualitative data, plant types, organs, ways of utilization, philosophy of utilization, and quantitative data on the percentages. The research samples are communities of Awang-awang, Sawahan, and Mojosari, Mojosari district, Mojokerto regency. The determination of sampling were conducted with a *purposive sampling* technique. The results of the research are there are 14 plant species that are used on *mitoni* traditional ceremony and they have consisted of 12 families. Plants organs are used including leaves, tubers, seeds, and fruit. Plants utilization for *mitoni* traditional ceremony has a meaning or philosophy about safety during pregnancy up to birth. While utilization of plants has not been accompanied yet by community's efforts to conserve these plants, due to the narrow land to grow crops.

1. Introduction

Ethnobotany is an interaction between communities and plants, in a study about the use of plants as the fulfillment of people's needs in various aspects of life, such as clothing, food, shelter, and traditional ceremonies [1]. Ethnobotany has an important value because through ethnobotany, every local wisdom and indigenous knowledge in certain areas can be studied. One of the plant's utilization on the communities is plants as traditional ceremony before and after the birth. The communities or Jawa tribes in Indonesia generally have birth traditional ceremony which is divided into some steps, are *tingkeban* (4 month pregnancy), *mitoni* (7 month pregnancy), and after childbirth which is consist of placenta (*ari-ari*) treatment ceremonies, the date or the remaining umbilical cord release from baby stomach, *separasaran* (5th day after giving-birth), *selapan* (36th day after giving birth), and *wetonan* commemoration on *separasaran* birthday are *Wage*, *Kliwon*, *Legi*, *Pahing*, and *Pon*, on every month [2].

Mitoni is a birth traditional ceremony that important to study. *Mitoni* is a preparation for the birth of baby. *Mitoni* comes from the word *pitu* or seven (7). The word *pitu* could also be interpreted as *pitulungan* (help), which has a purpose to ask God's help to give the smoothness and salvation in the birth process. *Rebo Wage* (Wage Wednesday) day, or *Kemis Wage* (Wage Thursday) and *Sabtu Wage* (Wage Saturday) that are recommended days to hold the traditional ceremony in the seventh month of pregnancy. Word *Pitu* also means as *born quickly* (Age metu), which means an expectation for the baby to born quickly after 7 months (being born smoothly and safely). The background of *mitoni* traditional ceremony is to present that education for the children is not only carried out after childbirth but also



since the embryo was implanted in the mother's womb. Thus, *mitoni* is intended to baby so that the baby will grow and develop become good individuals, both physically and mentally also their behavior.

Plants utilization for *mitoni* traditional ceremony is various in plants, organs, usages, and their obtaining processes. Sutiyono [3] stated that various plants are used as a wrapper or served as food in *mitoni*. Besides that, it is also necessary to know the philosophy of the usage of plant species in the *mitoni*.

The people who still hold the *mitoni* ceremony are villagers of Awang-Awang, Sawahan, and Mojosari communities, in Mojosari district, Mojokerto regency, East Java province. Based on the first observation, the communities in that region opine that *mitoni* is a local cultural heritage from the ancestral and has positive value on human resource education, so suitable to be maintained.

2. Methods

2.1 Types of Research

The type of research from this research is descriptive qualitative with *Participatory Ethnobotanical Appraisal* (PEA) approach. Use the survey method and semi-structural interview technique. Research conducted in Awang-Awang village, Sawahan, and Mojosari, Mojosari District, Mojokerto Regency (Figure 1.), East Java Province. The district center is 18 km away east of the city of Mojokerto. Mojosari District is geographically located at an altitude between 22 m above sea level. The width of Mojosari Subdistrict is 26.65 Km², precisely located in the range of 7.31°S, 112.23°E. The study was conducted in April 2019.

2.2 Samples and Populations

Populations on this research are communities Mojosari Districts, Mojokerto Regency. The research samples are Communities Awang-Awang village, Sawahan, and Mojosari, Mojosari District, Mojokerto Regency that understand about *mitoni* traditional ceremony consists of the elders of the village (traditional personage), and traditional birth attendants (who has help birth traditionally). Samples determination was done with the *Purposive Sampling* method. The Research samples (respondents) must age over 40 years, and come from the District of Mojosari.

2.3 Tools and Materials

The equipment used was a camera, research instruments in the form of interview questions, paper sheets, sound recording devices, and stationery. The language used in the interview is Javanese.

2.4 Data analysis

The results of this study are qualitative and quantitative plant data that users of communities for *mitoni* traditional ceremonies. The analysis is content analysis based on data from the respondent's knowledge of the plants used. The qualitative data of plants that used in *mitoni* obtained from interviews include: (1) Plants types, (2) Plants organs, (3) Utilization, (4) philosophy of the use of plants, and (5) plants ways to gain. The quantitative data include (1) Plants type percentage, (2) Organ percentage, and (3) gain percentage.

3. Results and Discussion

3.1 Types of plants used in Mitoni ceremony

Based on interview results, it obtained around 14 plant types from different family used in *Mitoni* Ceremony. Table 1 showed the the percentage of the plant which used in *Mitoni* ceremony. The plants with highest percentage in utilization is jackfruit (*Artocarpus heterophyllus*), banana (*Musa* sp.), rice (*Oryza sativa*) and white sticky rice (*Oryza sativa* var. *Glutinosa*). Other plants shows lower percentage which is Uwi (*Dioscorea alata* L.) and Ganyong (*Canna discolor*). While other plants consist of Pumpkin (*Cucurbita maxima* D.) and Taro (*Colocasia esculenta*) have equal percentage are 7%, Cassava

(*Manihot esculenta*) and Peanut (*Arachis hypogaea*) have equal percentage around 8%. Based on Table 1, it known that family of Euphorbiaceae, Araceae, and Poaceae are widely used in traditional *Mitoni* ceremonies.

Table 1. Plants Types and Percentages Utilization in *Mitoni* Traditional Ceremony.

English Name	Local Name	Scientific Name	Family	Percentage (%)
Jackfruit	Nongko	<i>Artocarpus heterophyllus</i>	Moraceae	12
Banana	Gedhang	<i>Musa sp.</i>	Musaceae	12
Pumkin	Waluh parang	<i>Cucurbita maxima D.</i>	Cucurbitaceae	7
Cassava	Telo	<i>Manihot esculenta</i>	Euphorbiaceae	8
Cassava	Pohong	<i>Manihot utilisma</i>	Euphorbiaceae	10
Taro	Tales	<i>Colocasia esculenta</i>	Araceae	7
Uwi	Uwi	<i>Dioscorea alata L.</i>	Dioscoreaceae	1
Ganyong	Ganyong	<i>Canna discolor</i>	Cannaceae	1
Peanuts	Kacang	<i>Arachis hypogaea</i>	Fabaceae	8
Rice	Beras	<i>Oryza sativa</i>	Poaceae	12
White sticky rice	Ketan	<i>Oryza sativa var. glutinosa</i>	Poaceae	12
Pandan	Pandan	<i>Pandanus amaryllifolius</i>	Pandanaceae	5
Ivory coconut	Cengkir	<i>Cocos nucifera L.</i>	Arecaceae	3
Cocoyam	Mbothe	<i>Xanthosoma sagittifolium</i>	Araceae	2

3.2. Plants organs used in *Mitoni* traditional ceremony

Plants organs used in *Mitoni* traditional ceremony and their percentage are listed in Figure 1.

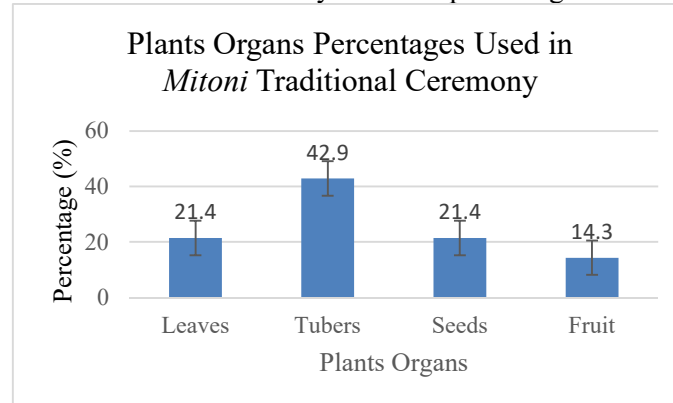


Figure 1. Plants Organs and Their Percentage Used in *Mitoni* Traditional Ceremony.

Based on Figure 1, it can be stated that tubers have the highest percentage (42%), caused these tubers are part of the plants in a traditional ceremony that consumed beside seeds. While the leaves have second-highest percentage (21%) caused leaves to have functioned as snacks wrapper. Ivory coconut (*Cocos nucifera*) is not consumed but as a complement, while pandan leaves (*Pandanus amaryllifolius*) used as food fragrance.

Leaves that used in *Mitoni* traditional ceremonies include the leaves from jackfruit, banana, and pandan leaves. Jackfruit leaves and banana leaves are used to snack wrapper, because these leaves have antibacterial properties, so they can inhibit bacteria that accelerate snacks putrefaction. Harahap et al. [4] stated that are banana leaves are used as snacks wrapper in Indonesia, because it has a cheap price and easy to find it, and there is a wax layer that has a specific aroma. Hidayati et al. [5] stated that leaves jackfruit extract contains several compounds include are tannin, saponin, and flavonoid that can be used

antibacterial. While pandan leaves can be used to fragrance food, that is caused in leaves pandan contains essential oils, so they have a fragrant aroma. The statement in accordance with Wibawa et al. [6] who stated is pandan leaves have a specific aroma. The pandan leaves fragrant caused the presence of the essential oils and often are used by Balinese as a complement to ceremonial facilities and have important functions in daily life.

3.3. Philosophy of plants utilization in The Mitoni traditional ceremony

Plants utilization in Mitoni traditional ceremonies included has a certain philosophy, which is generally a symbol ask to God's Almighty help to gives mothers and baby the smoothness and salvation or safely in the birth process. The numbers of tubers are 6 types including *Manihot esculenta*, *Manihot utilissima*, *Colocasia esculenta*, *Dioscorea alata* L., *Canna discolor*, dan *Xanthosoma sagittifolium*, these tubers indicate that ages of six months are their pregnancy and the Mitoni ceremony will be done on six-month pregnancy to 7-month pregnancy. According to the Awang-Awang, Sawahan, and Mojosari villagers, the tubers have the meaning of hope to God, so the baby in the mother's womb that could be born as well as the tubers removed from the ground. Some people also believe that tubers describe human creates from the ground. Peanuts have the same meaning as the tubers that the mother will give birth easily.

Snack or cake from rice flour that wrapped with jackfruit leaves have a shape like a cone with taper end that means of prayer to the baby will have good physic with the sharp nose, so namely *pasung*. Snack or cake from sticky rice that wrapped banana leaves called *ketan procot* that aims to the baby will be born "procat-procot" which means hope that childbirth gets easier. Besides that, pandan leaves (*Pandanus amaryllifolius*) have fragrant aroma beside as food fragrant, have also a philosophy that the newborn baby will have a fragrant body, so that makes people happy.

Pumpkin or waluh parang (*Cucurbita maxima* D.) is the fruit that would be consumed in the ceremony, by processed making a hole in the middle of pumpkin and taking its seed that aims to open the way for the baby to be born, that aims to have the second child after the first child is born. Coconut milk called *juruh* and brown sugar were entered into the middle of pumpkin have a philosophy that birth fluid called amniotic fluid, while closed again the pumpkin that means the mother is not the time to give birth because of age pregnancy still 7 months (prevention of premature birth).

Ivory coconut called cengkir gading (*Cocos nucifera* L.) has a philosophy hope to the baby that later will grow up and develop into an adult and being a useful person like a coconut which is multi benefit plant. The writing of the name Yusuf and Maryam or Janaka and Srikandi puppets drawing on the coconut (Cengkir) or (*Cocos nucifera* L.) It aimed that the mother will give birth easily and the baby will have a handsome face as Janaka or Yusuf and beautiful as Srikandi or Maryam, and also will be a good child (sholeh and sholihah). It is appropriate with Lina [2] states that the purpose of breaking up a coconut is for pregnant women to get easily to give birth. Furthermore, drawing puppet characters on coconut is aimed at the hope that the baby later apparently handsome as janaka or beautiful as Srikandi.

3.4. Plants utilization in Mitoni traditional ceremony

Plants that are used in Mitoni traditional ceremony include 14 types. Each type have different utilization methods are listed in Table 2.

The tubers that were used in Mitoni traditional ceremony through the boiling stage to obtain their advantage as a consumed. The boiling process has the aim to reduce cyanide acid (HCN) levels in the tubers, and tubers attemper so that easy to consume. Kurniati et al. [7] stated that Cassava is food containing high carbohydrates. Cassava has a toxic compound that is a cyanide acid (HCN), it can reduce with some process, that is with the washing stage, soaking stage, and boiling stage. It happened because there is free cyanide vaporization when the drying process at 70 °C and there are soluble free cyanide in the soaking process and boiling process.

Table 2. Plants Utilization in *Mitoni* Traditional Ceremony.

Local Name	Scientific Name	Utilization
Jackfruit	<i>Artocarpus heterophyllus</i>	Snacks/ cake wrapper
Banana	<i>Musa sp.</i>	Snacks/ cake wrapper
Pumpkin	<i>Cucurbita maxima D.</i>	Boiled and consumed
Cassava (Tela)	<i>Manihot esculenta</i>	Boiled and consumed
Cassava (singkong)	<i>Manihot utilissima</i>	Boiled and consumed
Taro	<i>Colocasia esculenta</i>	Boiled and consumed
Uwi	<i>Dioscorea alata L.</i>	Boiled and consumed
Ganyong	<i>Canna discolor</i>	Boiled and consumed
Peanuts	<i>Arachis hypogaea</i>	Boiled and consumed
Rice	<i>Oryza sativa</i>	Flour, cooked, consumed
White sticky rice	<i>Oryza sativa var. glutinosa</i>	Cooked and consumed
Pandan	<i>Pandanus amaryllifolius</i>	Food deodorizer
Ivory coconut	<i>Cocos nucifera L.</i>	Complement
Mbote	<i>Xanthosoma sagittifolium</i>	Boiled and consumed

3.5. Acquisition of plants that Used in *Mitoni* traditional ceremony

The villagers of Awang-Awang, Sawahan, and Mojosari get a variety of these plants for *Mitoni* traditional ceremony using 80% from buying, while 20% obtained with own planted (Table 3.). Things cause that 80% to be obtained the plants with buying due to the increasingly narrow land to be used as fields or plantations for farming. However, this way indicates the respondent's communities have not carried out the conservation of plants for traditional ceremonies such as *Mitoni*.

Table 3. Acquisition of Plants That Used in *Mitoni* Traditional Ceremony.

Acquisition	(%)
Buying	80
Planting	20

4. Conclusion

Mitoni Traditional Ceremony uses 14 kinds of plants including 2 of them consist of agricultural results like rice (*Oryza sativa*) and white sticky rice (*Oryza sativa var. Glutinosa*). There are 12 other plants as follow: Jackfruit (*Artocarpus heterophyllus*), Banana (*Musa sp.*), Pandan (*Pandanus amaryllifolius*), Ivory coconut (*Cocos nucifera*), Peanuts (*Arachis hypogaea*), Cassava (*Manihot esculenta*), Cassava (*Manihot utilissima*), Mbote (*Xanthosoma sagittifolium*), Uwi (*Dioscorea alata L.*), Taro (*Colocasia esculenta*), Ganyong (*Canna discolor*), and Pumpkin (*Cucurbita maxima D.*). Plants organs that were used are leaves, tuber, fruit, and seed. Plants utilization in *Mitoni* has a symbol philosophy of hope (pray) for the safety of the mother and the baby at childbirth. In this case, the Utilization of plants has not been accompanied yet by communities' efforts to conserve these plants, due to the narrow land to grow crops.

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