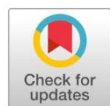


The utilization of marigold (*Tagetes erecta* L.) for traditional ceremonies in Indonesia: A systematic review

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Abstract

Ethnobotanical heritages in Indonesia are exceptionally diverse because of the multicultural, multi-religious practice, and acculturation between them. The megabiodiverse island nation is home to more than 800 ethnicities and naturally acts as sanctuary for the lush tropical ecosystems and its inhabitants. The hospitable nature of Indonesian land provides asylum for numbers of plants, including non-native species. Marigold (*Tagetes erecta*), a non-native ornamental plant that exhibits distinct showy flowers is cultivated and extensively grown in Indonesian lands. Besides being used as ornamental plants, some of the local communities are using marigold as a part in conducting their traditional ceremonies. This article provides some recorded traditional usage of marigold in traditional ceremonies of Indonesian communities from scientific articles. Significant usages of marigold are notably practiced by Hindu communities in Bali, Java (Tengger) and Lombok as part of their respective traditional-religious ceremonies. Vibrant color of the flower, its availability throughout the year, and easiness of cultivation are desirable traits that keep marigold usages significant. Local beliefs value marigold's prominent flower color because it represents their Lord. The presence of marigold and its significant usage in the local communities provides space for native species to grow.

Keywords: Cultural, Ethnobotany, Marigold, Traditional ceremonies

Introduction

Marigold (*Tagetes erecta* L.) is a plant which originated from Central America. According to Plants of the World Online (POWO)¹, the distribution of marigold is native to Mexico and Guatemala. Outside its native area, this plant species is cultivated as ornamental plants and grown in home gardens or agricultural sites. In Indonesia, this plant is also known as *bunga tahi ayam* (re: chicken's dung flower) due to its foul odor that is perceived similar to that of chicken excrement. Marigold became one of the most popular ornamental plants not only for its beautiful flower but also because of its convenience in cultivation.



The Indonesian archipelago consists of more than 17,000 islands that spread right in the equator. Fortunate geographic position provides Indonesian land with tropical climate, warm temperature combined with immense availability of water supply from rainfall. The variability of geographic features also serves Indonesia with diversity of ecosystems, ranging from tropical rainforest to tropical monsoonal forest, in dry-land as well as wetland. Advantageous conditions mentioned above have given about 25,000 species of plants in Indonesian land to flourish². Adjacent to the biodiversity, Indonesian cultural diversity is thriving as well, with hundreds of indigenous tribes, each of them has unique cultural practice. The tribes are aware of how dependent they are to nature; hence they develop strong ethnobotanical relationships toward the environment.

Combined richness of biodiversity and cultural diversity are developing local wisdom among indigenous people in every region in Indonesia. Need for food, medicine, pharmacy, and shelter has forged the creativity of people to utilize anything nature gives them. Walujo³ showed how far this knowledge is documented. Other than being used to fulfill basic needs of people, particular plant species are often used as symbolic properties in traditional ceremonies. Wijana et al.⁴ documented 29 species of plant utilized in Hindu religious ceremonies by Tenganan Pegringsingan villagers in Bali, most of them having multiple uses other than ceremonial properties, such as food, medicine, clothing, and shelter. Some of them are not local species.

Other than its utilization as an ornamental plant, marigold is known for some purposes in agricultural, medicinal, and traditional ceremonial activities. For agricultural purposes, marigold is planted as intercrops⁵ and companion⁶ of plants in agricultural land. For medicinal purposes, several regions in Indonesia such as Aceh^{7,8} and North Sumatera⁹ uses marigold as traditional medicine to treat cold or specifically known as *masuk angin* in Indonesian term as well as for abdominal pains. For traditional ceremonial purposes, there are several reports about the utilization of marigold in it, particularly from West and East Java, Bali, and also West Nusa Tenggara province. This article review aims to compile and explain about the utilization of marigold in some traditional ceremonies in several regions in Indonesia, regarding the kind of ceremonies, philosophical meaning, plant part used, and the way to serve it.

Materials and methods

This article review research was carried out by literature reviews using scientific articles including papers, conference proceedings, and undergraduate theses as sources of information about marigold (*T. erecta*) utilization for traditional ceremonial purposes. Several of the keywords on Google Scholar which were used are: "*etnobotani Tagetes erecta*", "*etnobotani gemitir*", "*upacara adat Tagetes erecta*", "*upacara adat gemitir*". The results from these scientific articles which are relevant to this topic were then compiled and analyzed to explain the utilization of marigold as plant material for traditional ceremonies based on local wisdom by the people in several regions in Indonesia. The picture of Marigold is shown in **Figure 1**.

Results

In Sumatra, study carried out by Yulia¹⁰ in Simpang Bayat Village, Bayung Lencir Sub-district, Musi Banyuasin Regency, South Sumatera found that marigold is used for traditional ceremonies

purposes. Balinese people there use marigold for several religious Balinese Hindu ceremonies such as *Galungan*, *Kuningan*, and *Nyepi*. Not only Balinese, Javanese and Malays people also utilize marigold in their traditional ceremonies. The plant part of marigold which is utilized in ceremonies is the flower that is collected from their home gardens.

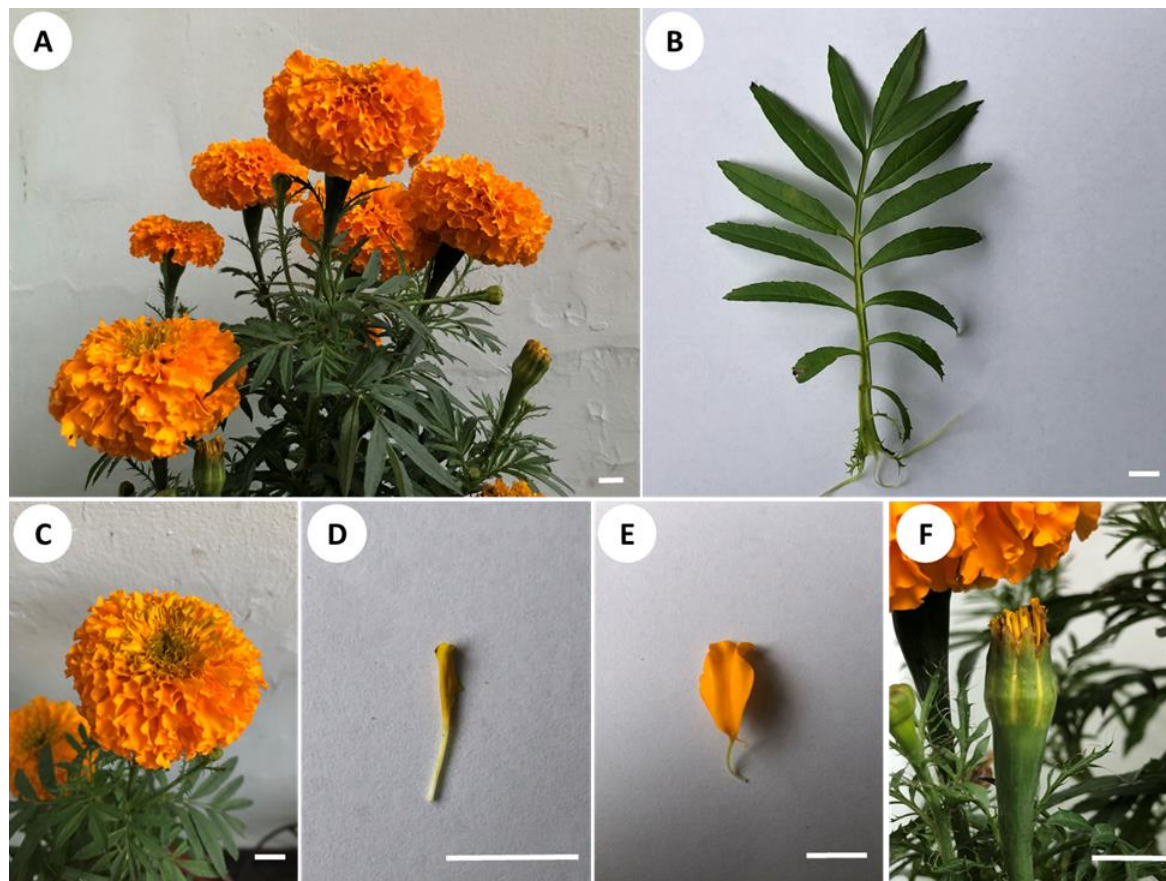


Figure 1. Marigold (*Tagetes erecta* L.): A. a whole plant, B. leaf, C. inflorescence, D. tube floret, E. ray floret, F. involucre. Scale bar in 1 cm. (Personal Documentation).

In several ethnic groups in the island of Java, study conducted by Hidayat et al.¹¹, the Sundanese Tribe in Dukuh Traditional Village, Garut Regency, West Java uses marigold or known as bunga tahi kotok for some traditional ceremonies to marks childbirth, marriage, and death. Therefore, marigold is collected outside the village. Discovery from Batoro et al.¹² in Ngadas Kidul Village, Poncokusumo District, Malang Regency, East Java revealed that marigold is used by the Tengger people in traditional rituals of commemorating one's 1000th day of demise called *Entas-Entas*. In this ceremony, marigolds are believed to exorcise evil spirits. Illiyyin et al.¹³ reported that the Tengger people in Tosari Village, Tosari District, Pasuruan Regency, East Java used marigold in the *Pujan Kasanga* (*puja*: worship; *sanga*: nine; a worship ceremony held in ninth month of Tengger calendar). *Pujan Kasanga* ceremony is meant to ward off misfortune from the village. Study from Wijayanti¹⁴ showed that people who live in villages around Bromo Tengger Semeru National Park, Sukapura Sub-district, Probolinggo Regency utilize marigold from their home gardens for several traditional ceremonies including *Kasada* (*sada*: ten; ceremony held in tenth month of Tengger calendar to express gratitude to God in Tengger community); *Karo* (*ro*: second; ceremony held in second month of Tengger calendar), *Tugel Kuncung* and *Tugel Gombak* (*tugel*: cut; hair-

cutting ritual for Tengger children; *Tugel Kuncung* for girls and *Tugel Gombak* for boys), *Sayut* and *Kekerik* (childbirth commemoration ceremony), *Walagara* (marriage ceremony), *Penguburan* and *Entas-Entas* (death rituals). In all of the rituals mentioned, marigold flowers are used as a component of *sesaji* (offerings).

In Bali, according to some studies, results showed that marigold is used more extensively compared to other regions such as Sumatra, Java, or West Nusa Tenggara. Marigold is known as *gemitir*, *gumitir*, or *mitir* by Balinese Hindu community in Bali. Ethnobotanical study about plant utilization in Balinese Hindu religious ceremonies of which categorized to *Panca Yadnya* by Surata et al.¹⁵ discovered that the flower of marigold is used in all five *Panca Yadnya* categories including *Dewa Yadnya* (offering ceremony for Gods), *Manusa Yadnya* (offering ceremony for fellow people), *Rsi Yadnya* (offering ceremony for Hindu priest), *Pitra Yadnya* (offering ceremony for the deads), and *Butha Yadnya* (offering ceremony for the nature). Artha et al.¹⁶ reported that the local community of Trunyan Village in Bali use marigold flowers as a component for ritual equipment in Balinese traditional ceremonies such as *banten*, *canang*, and *daksina*. Study carried out by Purnamawati¹⁷ about inventory of ornamental plants which is used for traditional ceremonies around the campus of Hindu Dharma State Institute, Denpasar, Bali, discovered that marigold is among the plants planted in campus. Zuraida et al.¹⁸ found out that Balinese Hindu community in Penglipuran Village, Bangli District, Bali, utilize the flower of ornamental plant marigold in their religious ceremony.

Ethnobotanical study through market survey by Sujarwo et al.¹⁹ in Tabanan Regency, Bali, found that marigold is traded in Marga Traditional Market where the flower is used as a component for religious ceremony purposes. Ristanto et al.²⁰ in their study about Balinese Hindu religious ritual plants usage by people around West Bali National Park and Bali Botanical Garden, interviewing Balinese Hindu priests and Balinese Hindus, and also expert knowledge by ethnobotanical experts, they found that marigold is also used in their religious ceremony. Study conducted by Ratnani et al.²¹ found that the Tenganan Pegringsingan community in Karangasem, Bali use marigold flowers in Ngusaba ceremony (traditional ceremony to connect with God; *Sang Hyang Widhi*) despite the very low value of the Index of Cultural Significance (ICS) for the plant, which means marigold usage is insignificant compared other plants species or easily substituted by another species. Study carried out by Darma et al.²² about the value of conservation in the culture of Balinese Hindu Community in Tabanan Regency, Bali showed that marigold is utilized for making *canang*, offerings in *Panca Keramaning Sembah*. Marigold flowers are used for decorating around the area where the sacred dance *rejang* is performed. Study from Wirabumi et al.^{23,24} regarding *Ngaben* Ceremony on *Tri Mandala* system of spatial planning in Penglipuran Village, Bali, found that marigold is planted and included as one of plant materials used in *Ngaben*.

In contrast with some areas in Bali, study conducted by Sutraningsih et al.²⁵ in Lombok Island for several areas such as Mataram City, West Lombok Regency particularly Suranadi Village, North Lombok Regency, Central Lombok Regency, and East Lombok Regency in West Nusa Tenggara, showed that utilization of marigold had a high value of ICS. For conducting various traditional ceremonies such as marriage, *metatah* (dental trimming practice), and major religious ceremonies, Balinese Hindu communities in Lombok use *daksina*, a kind of oblations. Here, the ICS of marigold was considered high which shows that the existence of the plant is important.

Discussion

Plants are involved and can be used in conducting traditional or religious ceremonies²⁶. In Bali, plants have important meaning due to the utilization in their traditional-religious ceremonies²⁷. The meaning of each plant in every traditional ceremony is also different from one another²⁸. In Bali, plants are an important component and always utilized in traditional ceremonies²⁹. This can be the main factor on why Bali has the most articles in this paper review. In Bali, flowers are the most used plant part in traditional ceremonies. Flowers are a symbol for life. Flowers can also be an expression of gratitude toward Lord³⁰. In addition, the color for each flower symbolizes Supreme God of Hinduism: yellow symbolizes Mahadeva, black symbolizes Lord Vishnu (The Protector), white symbolizes Lord Shiva (The Destroyer), and red symbolizes Lord Brahma (The Creator)³¹, meanwhile marigold flowers could be colored orange or yellow.

Regarding the conservation aspect, plant utilization in traditional ceremonies gives a message and responsibility on sustainability of the plant to ensure that the plant can be used in traditional ceremonies following³². One of the utilized plants in traditional ceremonies is marigold. Flower is the plant part which is mainly used in traditional ceremonies. Marigold is collected from the home gardens and bought from the traditional market. The utilization of marigold flowers in some traditional ceremonies is quite popular due to its considerable size and impressively conspicuous orange color, in contrast to its dense green leaves and stem¹⁹. Moreover, marigold is significantly easy to cultivate with enough sunlight's exposure, in a neutral pH and well-drained soil³³. Because of its easily cultivated culture and showy flowers, nowadays marigold is easy to find around the settlement. Marigolds with other ornamental plants are cultivated and planted by the people, so that they can be used for traditional ceremonies¹⁸.

In regards to the local community and its ethnobotanical heritage, the majority of communities that use marigold flowers in Indonesia are predominantly Hindus, particularly Tengger Hindu and Balinese Hindu communities in East Java and Bali. In the two traditions, the Hindus use marigold flowers as a component in their religious ceremony as offerings. Sujarwo et al.³³ mentioned that in Balinese Hindu communities, offerings resemble one's self-sacrifice, hence it has to be attractive and prepared well when presented to their gods. Moreover, the offerings have to be made from fresh materials and not meant to be reused. Marigold is easy-to-cultivate, frequently bloomed and produces flowers with striking coloration. The characters of marigold are suited with Balinese Hindu communities' criteria on which plant should be selected and used in their regular ceremonies. Even though not counted as native plants and originated from Central America and then brought to Indonesia by Dutch colonials³⁴, marigolds are easily reachable by Balinese Hindu communities due to its common cultivation in home gardens and cosmopolitan habit, and also it is found to be sold in traditional markets¹⁹.

Marigold is used in the *Ngaben* Ceremony^{23;24}. *Ngaben* is a cremation ceremony when the deceased body is burned. Generally, in Bali the funeral ritual (*Pitra Yadnya*) is conducted through cremation³⁴. Marigold is used during the second step in the *Ngaben* Ceremony called *Nundunin*²³. Besides *Ngaben*, marigold is also used in *Ngusaba* Ceremony. *Ngusaba* is a social activity with the purpose to connect toward the Lord³⁵. The utilization of marigold flowers also occurs in *Panca Yadnya*. *Panca*

Yadnya means five holy offerings which consist of *Dewa Yadnya*, *Manusa Yadnya*, *Pitra Yadnya*, *Rsi Yadnya*, and *Butha Yadnya*¹⁵.

Conclusions

Despite originating from Central America and commonly used as ornamental plants, marigold is also used in some traditional ceremonies, especially in Bali. Not only in Bali, some regions in South Sumatera (Simpang Bayat Village, Musi Banyuasin Regency), West Java (Dukuh Traditional Village, Garut Regency), East Java (Ngadas Kidul Village, Malang Regency; Tosari Village, Pasuruan Regency; around Bromo Tengger Semeru National Park, Probolinggo Regency), and West Nusa Tenggara (Lombok Island) are also utilize marigold as one of the materials for conducting their own traditional ceremonies. Commonly marigold is collected from the home gardens or bought from traditional markets. Marigold easiness of cultivation, flower availability throughout the year, and impressive flowers are main reasons for notable usage of marigold in traditional ceremonies. From the compiled scientific articles including papers and undergraduate thesis, there is no specific information mentioned about the philosophical meaning of marigold in traditional ceremonies. Marigold is used mostly to represent Lord Shiva, the Destroyer. However, it should be concerned that the number of local or even endemic plant species which are used in traditional ceremonies is not as many as introduction species.

Acknowledgments

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Conflicts of Interest

We declare there is no conflict interest between us.

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