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# Ethnobotany of traditional wedding: a comparison of plants used by Bugis, Palembang, Sundanese and Karo ethnic in Indonesia

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**Abstract.** Various ethnic in Indonesia including Bugis, Palembang, Sundanese and Karo utilize plants species in their traditional wedding processions as a science of ethnobotany. This study aims to identify and compare the most widely used plant species, the parts of the organ used, and their meaning. The method used is descriptive explorative through semi-structured interviews using open-ended question. The results show there are four plants of same species that most widely used by the four ethnic groups: *Piper betle*, *Oryza sativa*, *Pandanus amaryllifolius* and *Musa* sp. in every traditional wedding processions. Ethnic communities still cultivate these plants to prevent extinction in their regions.

## 1. Introduction

Plant diversity in Indonesia is an extraordinary source of natural wealth and invaluable. This potential can provide great benefits and profit for the community if they can be utilized and explored optimally. Indonesia has a tropical climate [1] with fertile soil, thus many types of plants can grow and adapt to the soil [2]. Plants in Indonesia are used to meet the needs of life [3], such as for the needs of clothing, food, boards, drugs, cosmetics, pesticides and spiritual experience [4]-[5]. Knowledge is obtained based on practical experience and unwritten knowledge, which is passed on from generation to generation [6].

Indonesia is a pluralistic nation, consisting of various ethnic groups, religions and languages [7]. The number of ethnic groups in Indonesia as a whole reached more than 1,300 ethnic groups with each local wisdom inherited from generation to generation [8]-[9]. Natural wealth is used by various ethnic groups in traditional ways that have not been fully explored and developed [10].

Ethnobotany studies the views of community about nature through filters of trust, knowledge and purpose, and how they imagined the use, cultivation and utilization opportunities of resource, especially the plant [11]-[13]. The plants usage is a basic knowledge that very important in maintaining their survival [14]. But in line with the changing ecosystem in which they live, changes in the environment,



communication and information from the outside, causing cultural values that have been growing in the community are also developing [15].

Each ethnic has a different marriage ceremony but does not leave the elements of tradition. This difference occurs because of the habit of an ethnic that has been passed down from generation to generation. The four tribes examined in this study are four major ethnic in Indonesia, namely: Bugis, Palembang, Sundanese and Karo. Therefore, it is necessary to do research on plant species, meaning, and how to use plants in the traditional wedding ceremonies of the four ethnics.

## 2. Methodology

This research was conducted in four provinces in Indonesia, including South Sulawesi (Bugis ethnic), South Sumatra (Palembang ethnic), West Java (Sundanese ethnic) and North Sumatra (Karo ethnic) (Fig.1). This type of research is descriptive explorative methods. The research sample was taken using purposive sampling technique [16]. Data collection was obtained through semi-structured interviews using open-ended question. Data processing and analysis was carried out to obtain information about the plants species, the parts of the plants used, and the symbol meaning of these plants in the traditional wedding ceremonies of the four ethnics.



**Figure 1.** Map of Bugis, Palembang, Sundanese and Karo ethnic territories in Indonesia

## 3. Result and Discussion

The results showed that the four ethnic studied were Bugis, Palembang, Sunda, and Karo still preserving the traditional wedding processions. Various types of plants are most widely used in traditional wedding of four ethnic, as in table 1 below:

**Table 1.** Plants used by the four ethnic in the traditional wedding processions

| No.  | Ethnic    | Name               | Scientific name     | Organ used      | Type of wedding ceremony                                                                                                  | The meaning of plant usage                                                                                           |
|------|-----------|--------------------|---------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| 1.   | Bugis     | Betel              | <i>Piper betle</i>  | Leaf            | <i>Mappasiarekkeng; mappae nre balanca; cemme passili</i>                                                                 | A symbol of tribute to the bride family; Symbol of shame/pride as the bugis culture of upholding the honor and shame |
|      | Palembang | Betel              | <i>Piper betle</i>  | Leaf            | <i>Sirih panyapo; berasan</i>                                                                                             | A symbol to take and give; as a symbol that both of family have bonded themselves to one family                      |
|      | Sundanese | Betel              | <i>Piper betle</i>  | Leaf            | <i>Wedding ceremony; ngeuyek Seureuh; Narosan (ngalamar/nyeureuhan)</i>                                                   | Symbol of prosperity; symbolizing if there is excess fortune must be shared; the propose ceremony                    |
|      |           |                    |                     | Root            | <i>Wedding ceremony</i>                                                                                                   | Bind the marriage be strong                                                                                          |
| Karo | Betel     | <i>Piper betle</i> | Leaf                | <i>Pinangan</i> | As the tepa salira (introductory sign against representatives of the families sent out and also to honor to the kalimbubu |                                                                                                                      |
| 2.   | Bugis     | Rice               | <i>Oryza sativa</i> | Seeds           | <i>Mappanre botting; Mappasau</i>                                                                                         | Grain sown to the groom as a symbol of prosperity; The bride is treated by mappasau so that the body becomes fresh   |
|      | Palembang | Rice               | <i>Oryza sativa</i> | Seeds           | <i>Cavalcade of the groom</i>                                                                                             | A symbol of prosperity                                                                                               |

|    |           |            |                                |             |                                            |               |                                                                                             |
|----|-----------|------------|--------------------------------|-------------|--------------------------------------------|---------------|---------------------------------------------------------------------------------------------|
|    | Sundanese | Rice       | <i>Oryza sativa</i>            | Seeds       | <i>Sawer panganten</i>                     |               | The bride and groom are expected given the food sufficiency and humble                      |
|    | Karo      | Rice       | <i>Oryza sativa</i>            | Seeds       | <i>Pemasu-masun erdemu bayu</i>            | <i>tumbuk</i> | A symbol of new life and happiness                                                          |
| 3. | Bugis     | Screw pine | <i>Pandanus amaryllifolius</i> | Leaf        | <i>Mappasau</i>                            |               | Bride showering ingredient; used in the simpolo tattong of bride's bun to remains fragrant  |
|    | Palembang | Screw pine | <i>Pandanus amaryllifolius</i> | Leaf        | <i>Cacap-cacapan</i>                       |               | Symbol of manners                                                                           |
|    | Sundanese | Screw pine | <i>Pandanus amaryllifolius</i> | Leaf        | Wedding ceremony; <i>Siraman</i>           |               | Symbols of purify themselves physically and mentally before marriage                        |
|    | Karo      | Screw pine | <i>Pandanus amaryllifolius</i> | Leaf        | Rice bowl on wedding ceremony              |               | Symbol of the welfare and prosperity                                                        |
| 4. | Bugis     | Plantain   | <i>Musa sapientum</i>          | Fruit       | <i>Mappaenre balanca; mappanre botting</i> |               | Symbol of the honor to prospective brides including her entire family; as gift to the bride |
|    |           | Banana     | <i>Musa paradisiaca</i>        | Leaf; stem  | <i>Mappacci</i>                            |               | Symbol of sustainable life                                                                  |
|    | Palembang | Banana     | <i>Musa paradisiaca</i>        | Fruit       | Propose; <i>Berasan</i>                    |               | Symbol of prosperity                                                                        |
|    | Sundanese | Banana     | <i>Musa paradisiaca</i>        | Leaf; fruit | <i>Ngeuyeuk seureuh</i>                    |               | The bride and groom will live well and happily anywhere                                     |
|    | Karo      | Banana     | <i>Musa paradisiaca</i>        | Fruit       | Wedding ceremony                           |               | Food ingredient served at the wedding ceremony                                              |

### 3.1 Distribution

The most widely used plants in each of four ethnic wedding processions are betel (*Piper betle*), rice (*Oryza sativa*), screw pine (*Pandanus amaryllifolius*) and banana (*Musa* sp.) The four types of this plant shows 100% similarity index. The utilization of the fourth plant could not be replaced with other plants hence it has a very sacred meaning and cannot be abandoned in any traditional wedding procession. Although the territory distance between the four ethnic groups is not close, located on a different island, and flanked by the sea, the use of the four types of plants is comparable.

Since the beginning of civilization in 1500 BC, Indonesian people have been planting rice in various regions [17]-[18]. Rice grains that separated from the stalk are called unhulled rice, and those that removed from the outermost layer (husk) are called rice [19]. Rice can be widely spread since they brought by traders who dock at the ports of each island in Indonesia [20]. The topography of the islands in Indonesia with moist soil structure, well-drained and warm temperature causes rice to thrive [21]-[22]. In fact, the area of rice barns in Indonesia is mostly on Sumatra, Java and Sulawesi Islands [23]-[24]. The four ethnic groups use the abundant availability of rice in these islands as a form of appreciation to the plants.

Betel appears to be native to the Indonesia. The main ingredient of betel chewing habit (local: *nyirih*) uses betel leaves that have occurred since centuries ago [25], including these four ethnic communities. Thus, that betel leaves become the main component in the wedding ceremony. Screw pine, a wild plant originated in Maluku Island [26]-[27] that lives in swamps, humid, shady and tropical habitat causes its population spread evenly throughout Indonesia, including Sumatra, Java, and Sulawesi thru the silk trade route [28]. Banana has a long journey and history that starts from forests in Southeast Asia and was introduced to Indonesia by the propagators of Islam and trade routes [28]. Banana was the first cultivated species by the community and preceded the rice [29]. Hence, bananas can be found on every island in Indonesia. The similarities in the use of plant species by four ethnic groups related to the origin of local culture. The ancestors interacted with the natural surroundings in regulating the life order of the community. So the belief and culture system continues until now.

### 3.2 Types and uses of plants in four ethnic traditional wedding procession

Traditional wedding procession of four ethnic groups: Bugis, Palembang, Sundanese, and Karo are generally divided into three parts, namely pre-wedding, weddings ceremony and post-wedding. The four

ethnic communities utilize the same four species in the three parts of each traditional wedding procession with different characteristics and meanings (Table 1).

**Sirih** (*Piper betle* L.), **Familia Piperaceae**, **Ethnic name: gapura, siri (Bugis); sirieh, siri, suruh (Palembang); seureuh (Sundanese); belo (Karo)**. Morphology: semi-wood, dioecious, betel stems are greenish brown, round, segmented. Single leaf with heart-shaped, tapering at tip, flat leaf margin, curved nervatio, leaves about 2,5-10 cm wide, 5-18 cm long, alternating, and emitting a pungent flavor when squeezed.

In Bugis culture, betel leaves are used in three pre-wedding processions: *mappasiarekkeng*, *mappaenre balanca* and *cemme passili*. *Mappasiarekkeng* (*mappetu ada*) is a decision-making process and talks related to the implementation of marriage, such as the determination of the wedding date, wedding costs, types of clothing and others. *Mappaenre balanca* is a process of bringing a batch of money as wedding cost according to the agreement between the family of prospective groom and the prospective bride at *mappasiarekkeng*. This procession usually joins with *mappasiarekkeng* process. In this procession, the groom brings betel leaves to the bride's family as a symbol of honors. The two prospective bride and groom do *cemme passili*, bathing with certain ingredients as a begging to God to be kept away from all kinds of dangers. In this procession, betel leaves are used in bath ingredients as a symbol of self-esteem.

Palembang culture applies betel leaves in *berasan* and *sirih panyapo* processions. *Berasan* is a pre-wedding process means counseling or deliberation. In this *berasan*, both of prospective bride and groom family discuss the continuation of the wedding plan while carrying betel leaves as a gift. *Betel panyapo* is a procession at the wedding ceremony, the bride gives betel leaves to her husband as a symbol in their family life they will give and receive each other.

*Ngeuyeuk seureuh* and *narosan* are pre-wedding processions in Sundanese culture. *Narosan* is a propose process to prospective bride carried out by the groom parents and his close family, as a starting point for a further relationship. The prospective groom family carries betel leaves shaped triangular and tapered down as a symbol of prosperity hope for the bride and groom later. *Ngeuyeuk seureuh* is held a day before the wedding ceremony at the bride's house. Both the prospective bride and groom ask for their parents' blessings. Through this procession, parents also give advice through the symbols of objects, including betel leaves as a symbol for sharing the happiness. In Karo culture, betel leaves are used in *pinang* (*maba belo selambar*). The *maba belo selambar* is a ceremony to propose a woman according to Karo tradition to ask about the willingness of the woman, her parents and all of her closest relative. The groom parent brought betel leaves as a symbol of honor for the bride's family.

**Rice** (*Oryza sativa*), **Familia Poaceae**, **Ethnic name: berre' (bugis); beras (Palembang); pare (Sundanese); piaru (Karo)**. Morphology: rooted fibers, short stems, lanceolate leaves, light green to dark green, first leaf is coleoptile, rectinervis, the spikelet consist of a short stalk, oval and thick, grain weighs about 10-50 mg and 3-15 mm long.

In Bugis culture, rice are used in *mappasau* (pre-wedding) dan *mappaenre botting* (wedding ceremony). A few days before the wedding is held, the prospective bride will be treated with *mappasau* (steam bath) using a potion of *bedda lotong* (black powder) made from scorched fried rice and pounded until smooth. This event aims to make the body fresh. Whereas the use of rice in *mappaenre botting* with sprinkling rice grains to the groom by the bride family as a symbol of prosperity. *Mappaenre botting* means accompanying the groom to the bride's house by using traditional clothing (*bodo* costume). *Mappaenre botting* also took place in Palembang ethnic wedding at the cavalcade of the prospective groom to the prospective bride house.

*Sawer panganten* in Sundanese wedding done by sprinkling a number of small objects that are of special significance carried out by parents of the two brides, including rice that symbolizes prosperity and happiness to the marriage couple. In Karo culture, rice also are used in *pemasu-masun tumbuk erdemu bayu* procession. After the statement of the marriage promise, the priest took *piher rice* (white rice), placed it on the bride head and prayed for the bride and family to be given an abundance of grace, sustenance, health and longevity and peace from God.

**Screw pine** (*Pandanus amaryllifolius*), **Familia Pandanaceae**, **Ethnic name: pondang (Bugis); pandan wangi (Palembang); pandan seungit (Sundanese); pandan jau (Karo)**. Morphology: elongated leaves, spiny, aerial root and thick, fruit head varies ovoid, green leaves, used as fragrances, food coloring, and ornamental plants.

In Bugis culture, screw pine leaves are used in two wedding processions: *mappasau* dan wedding ceremony. The bathing ingredients of prospective brides (*mappasau*) consist of screw pine leaves, so that the body gives off a fragrant aroma. In addition, screw pine leaves are clamped to the bride's bun (*simpolo tattong*) as a head accessory with *bodo* costume. *Simpolo tattong* implies an upright bun, meaning that Bugis women have a high dignity in society. The screw pine leaf slices strengthen the bun, not to sway, stay upright and balance. In Palembang culture, screw pine leaves are applied in one wedding processions namely *cacap-cacapan*. This procession is part of the wedding ceremony where the parents of the groom rub the flower water to the sinciput and forehead both of brides. Representing a prayer and advice to the bride and groom to think calmly as clear as water, think positively, high intention, and consistently maintain a good dignity. Screw pine leaves are sliced and placed on the bride-bed as a symbol of manners.

As in the Bugis tradition (*mappasau*), screw pine leaves in Sundanese culture utilized as bath ingredients of the bride and groom in siraman procession, implying a symbol of inner self purify before the wedding. Both parents will pour the *siraman* water into the *bokol* (a large concave and wide-brimmed container made of metal). Then *siraman* starts from the mother of bride, father, and followed by the elders. Likewise, at wedding ceremony, screw pine leaves are used on the Sundanese bride bun (*puspasari* bun), the hair is filled with slices of screw pine leaves then trimmed with hairnet. Besides causing a fragrant aroma, this screw pine slice keeps the bun symmetrical and sturdy. Karo culture utilizes screw pine leaves in wedding ceremony. Screw pine leaves are a rice container (*perakan*). The leaves are arranged in such a way to form screw pine webbing. This container is filled with rice and brought by invited guests as gifts to the marriage couple representing a symbol of prosperity.

**Banana** (*Musa* sp.), **Familia Musaceae**, **Ethnic name: otti (Bugis); punti (Palembang); cau (Sundanese); galuh (Karo)**. Morphology: pseudostem, sympodial, underground stem called corm, green spiral leaf, blunt blade at the tip, tapered, parthenocarpy, generally have no seeds.

Bugis culture applies banana in *mappaenre balanca*, *mappaenre botting* and *mappacci*. In *mappaenre balanca* and *mappaenre botting* procession, the groom family brought a bunch of banana fruit as gifts and symbols of appreciation to bride and her entire family. However, bananas offered are not common banana (*Musa paradisiaca*), but the plantains (*Musa sapientum*). *Mappacci* is a pre-wedding procession as a reflection night and purification tradition for bride. The prospective bride raised her palm on a pillow and *mappacci* ornaments. Then the parents and family rub the screw pine leaves on the prospective bride palm. One of the *mappacci* ornaments is banana leaves and stems placed on seven sheets of silk sarongs as a symbol for obtaining the offspring and helpful for the community.

The propose tradition in Palembang culture is the visit of prospective groom family to the prospective bride's home to determine the wedding date (*memutus kato*). They brought the gifts wrapped and placed on trays. A bunch of banana fruit is one of the gifts offered to prospective brides as a symbol of prosperity. While Sundanese culture shows banana usage in *ngeuyeuk seureuh* and wedding ceremony. The plantains and banana leave used as ingredients for *parawanten (sajen)*, meaning that the bride and groom will live well and happily anywhere. In Karo culture, the invited guests could find banana fruits presented in the wedding ceremony procession and served during the wedding parties, thus the invited guests can enjoy them as dessert.

#### 4. Conclusion

The results showed that four ethnic groups: Bugis, Palembang, Sundanese and Karo still preserve the traditional wedding processions in this modern era, including pre-wedding, wedding ceremony and post-wedding. There are four plants of same species that most widely used by the four ethnic groups, namely *Piper betle*, *Oryza sativa*, *Pandanus amaryllifolius* and *Musa* sp. Ethnic communities still cultivate these plants with the aim of preventing extinction in their respective regions.

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