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Ethnobotanical Study of Pandanaceae by The Besemah Tribe, Lahat District, South Sumatera Province

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Abstract

The research entitled Ethnobotanical study of Pandanaceae by the Besemah tribe in Lahat Regency, South Sumatra has been conducted form October 2018 to December 2019. The objective of the research were to inventory the species diversity of Pandanaceae and its traditional utilization by the local ethnic in the studied area. The research was conducted by using survey method and field work to collect plant samples. The basic data of ethnobotany was collected by using direct interview from respondents. The result showed that there were six (6) species of Pandanaceae such as; Pandanus lais Kurz, Pandanus helicopus Kurz, Pandanus amaryllifolius Roxb. (two varieties; "large and small" size fragrant pandanus), Benstonea atrocarpa Griff, Benstonea affinis Kurz. and Freycinetia rigidifolia Hemsl. 71,4% of them were belonged to wild species and 28.8% were cultivated species. The traditional utilization of Pandanaceae was used for handycrafft (36.4%), building material (9,1%), medicinal & cosmetic ingredients, foodstuffs and customary materials (18.2% each). The Baeemah tribe was used leaves (75%) rather than other part of plant.

Keywords: Ethnobotanical, Pandanaceae

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1. Introduction

The daily life of the Indonesian people is very dependent on biodiversity, especially on the wealth of its flora. Of the various species of plants that are grown and utilized, there are at least 3 plant tribes that cannot be separated from the life of the Indonesian people, namely the grasses (Poaceae), "palem-paleman" (Arecaceae) and "pandan-pandanan" (Pandanaceae) families [1].

Pandanaceae is one of the family of the large group of monocotyledoneae. Pandan has a wide spectrum of habitats, from the coast to highland forests approaching a height of 4000 m above sea level [11]. Pandanaceae is a group of plants that have long and strong fiber types that can be used as raw materials for handicraft industries such as plaits [2].

South Sumatra is one of the provinces in Indonesia which has its own culture. The Besemah area is one of the areas that has characteristics both from customs, language, regional arts, the marriage system, and so on. Culture that exists in society can take the form of knowledge, beliefs, morals, customs, and so on. Apart from being able to be

used as a means of interaction between community members, these cultural forms can also be used as a guide in regulating the behavior of everyday life [3].

The local wisdom of the Besemah Tribe community in Lahat Regency, South Sumatra Province is knowledge passed down from generation to generation to recognize the traditional use of plants with various species of needs, such as religious rituals, death, marriage, cosmetics, food coloring, medicine, and make a webbing.

Previous research conducted by [4] regarding plants as traditional cosmetics found the type of Pandanaceae used as hair care, namely Pandanus wangi (*Pandanus amaryllifolius*) because pandanus' fragrant has a distinctive aroma that makes hair fragrant. Food fragrances, food coloring and materials for making hats or similar. The research data shows that the people of the Besemah Tribe are familiar with the type of Pandanaceae and have been used for their daily life.

Considering the importance of ethnobotany Pandancaeae in the Besemah Tribe but not yet well documented, therefore it is necessary to conduct research to obtain data and information on the types of Pandanaceae,

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their use, processing methods and as an effort to preserve uses, habitat. Processing and identification of samples were Pandanaceae in the Besemah Tribe, Lahat Regency, South conducted at the Laboratory of Plant Taxonomy, Sumatra Province.

2. Materials and Methods

2.1 Study site

The research was carried out in Pajar Bulan Subdistrict, namely in Bantunan Village, Pulau Panggung Village and Sukabumi Village. South Sumatra Indonesia from October to December 2019.

2.2 Ethnobotanical Data

The research uses descriptive survey methods. The basic data on the traditional plants of Pandanaceae was used by Basemah tribe have been collected by using in-depth interviews initiated with an informed consent using an open-ended questionaire. 7 respondents such as village leaders, custom (adat) leaders, religious leaders, traditional healers, foresters farmers, labours, traders, and craft people etc., were asked a series of questions related to perceptions of the traditional use of plants. These interviews were recorded by audio recorders and notebooks. Photographs were also taken to record information

2.3 Information Gathering

The process of collecting information is carried out by interviewing trusted informants such as traditional healers.

2.4 Plant Samples

All plant Pandanaceae species found in the studied area were collected for herbarium collection. Information recorded from the field included locality, vernacular names, Department of Biology, Faculty of Mathematics and Natural Sciences Sriwijaya University Palembang and at the Herbarium Bogoriense (BO), Cibinong.

2.5 Data Analysis

The data obtained were analyzed descriptively and presented in tables and diagrams.

The percentage of Pandanaceae utilization is as follows:

$$\frac{\Sigma\,\text{Certain Pandanaceae Utilization}}{\Sigma\,\,\text{All Utilization of Pandanaceae}}\times100\,\,\%$$

The percentage portion used is as follows:

$$\frac{\Sigma\,\text{Certain parts used}}{\Sigma\,\,\text{All parts of the plant used}}\times\,100\,\,\%$$

The percentage of Sources of revenue is as follows:

$$\frac{\Sigma\,\text{Source of specific earnings}}{\Sigma\,\,\text{All specified sources of earnings}}\times 100\,\,\%$$

3. Results and Discussion

Inventory results and sources of acquisition from Pandanaceae are used by the Besemah tribe community

Based on the results of interviews and exploration of Pandanaceae in Bantunan Village, Pulau Panggung Village and Sukabumi Village, 6 types of Pandanaceae were found which can be seen in Table 1.

Table 1. Inventory results of the Pandanaceae group used by the Besemah tribe community

| No | | Source of Acquisition | |
|----|----------------------------|--------------------------------|-------------------------|
| | Local Name Scientific Name | | — Source of Acquisition |
| 1. | Pandan wangi kecil | Pandanus amaryllifolius Roxb. | Planted |
| | Pandan wangi besar | Fanadnus amaryinjonus Roxu. | Planted |
| 2. | Bengkuang | Pandanus lais Kurz. | Wild |
| 3. | Bengkuang | Pandanus helicopus Kurz. | Wild |
| 4. | Bengkuang | Benstonea atrocarpa (Griff.) | Wild |
| 5. | Gegas hutan | Benstonea affinis (Kurz.) | Wild |
| 6. | Pandan epifit | Freycinetia rigidifolia Hemsl. | Wild |

Based on Table 1. It is known that in the Besemah area, there are six species of Pandanaceae found, which consisted of three genera, namely Pandanus, Benstonea and Freycinetia. Three types of Pandanaceae originating from the Pandanus genus, namely Pandanus lais Kurz., Pandanus helicopus Kurz., Pandanus amaryliifolius Roxb. (Big fragrant pandanus and small fragrant pandanus).

Fragrant Pandanus is found in two types, namely large fragrant pandanus and small fragrant pandanus. The difference between the two fragrant pandanus is only in the growth phase where there is large fragrant pandanus and small fragrant pandanus pandanus, but taxonomically, largefragrant pandanus and small-fragrant pandanus cannot be distinguished so that they remain the same species Pandanus amaryllifolius. Two types of pandan wangi were found, namely large fragrant pandanus and small fragrant pandanus. Large, medium-sized fragrant pandanus with a height of 1.5 m-2.5 m, has clearly visible supporting roots. Leaves have a fragrant smell, leaves \pm 95 cm long and \pm 5-6 cm wide. The spines on the leaves are only at the tips of the leaves. At a young age, this large fragrant pandanus stature is the same as the usual small fragrant pandanus pandanus, but after adulthood its growth is increasingly visible with the appearance of supporting roots and growing large. Small fragrant pandanus with a height of 0.5 m - 1 m, this small fragrant pandanus has a stature like general fragrant pandanus, the leaves have a fragrant smell, do not have thorns and the roots are not clearly visible.

According to [5], Fragrant pandanus (*P.amaryllifolius*) is a plant that can reach a maximum height of about 4.5 m if it gets good support from its environment. Fragrant pandanus grows in two forms, namely 1.6 m high which is often called small fragrant pandanus and 4.5 m high for large fragrant pandanus.

Other types of Pandanaceae found in Besemah are *Pandanus lais* Kurz, *Pandanus helicopus* Kurz. and *Benstonea atrocarpa* (Griff). The three types of Pandanaceae are often referred to by the Besemah tribe as bengkuang. The name Jicama is used for all types of Pandanaceae which are large like trees. According to [6], the Semende people call Pandanus furcatus by the name of the area "Bengkowang". The words "bengkuang" and "bengkowang" are almost the same because the language used by the people of the Besemah Tribe and the Semende Tribe is also almost the same.

Two types of Pandanaceae from the genus Benstonea were found, namely Jicama (*Benstonea artocarpa*) and Forest Gegas (*Benstonea affinis*). Jicama was found wild in the garden while Gegas forest was found wild in the forest. According to [7], Benstonea is the third largest genus of Pandanaceae with 50 species found.

The next genus of the Pandanaceae group found in Besemah is Freycinetia which is an epiphytic pandanus. There is one type of genus Freycinetia, namely *Freycinetia rigidifolia* Hemsl. This type has a distinctive characteristic, in contrast to other Pandanaceae species, namely the direction of growing stems climbing on large trees in the forest. *F.rigidifolia* is the only type of Pandanaceae that is not used by the people of the Besemah tribe for their daily needs.

Based on Figure 1, the source of the species of Pandanaceae was found to be wild at 71.4%. Pandancaeae

are usually found wild in plantations and wild in forests. There are 3 types of pandanaceae that grow wild in the garden, namely *Pandanus lais* Kurz., *Pandanus helicopus* Kurz. and *Benstonea atrocarpa* Griff. The wild Pandanaceae in plantations are generally used by the Besemah tribe as raw material for handicrafts because the Pandanaceae that grow wild in the garden are easier to obtain than the Pandanaceae species that grow wild in the forest.

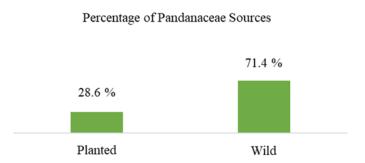


Figure 1. Percentage of Pandanaceae Sources

There are two types of Pandanaceae that grow wild in the forest, such as the type of forest rush and the epiphytic pandanus. The people of the Besemah Tribe are used by the people of the Besemah Tribe to make handicraft materials, but considering that the process is quite difficult because they have to explore the forest first so that the people of the Besemah Tribe are rarely used for handicraft materials. The next type of Pandanaceae that grows wild in the forest, namely epiphytic Pandanus is a type of pandanus that grows on tree trunks. Many of the Besemah Tribe people do not know if the epiphytic pandanus is a type of Pandanaceae so that there is no use of the epiphytic pandan by the Besemah tribe community for their daily needs.

The next source of acquisition is planted with a percentage of 28.6%, this indicates that the way to obtain Pandanaceae by planting is very low because only large fragrant pandanus and small fragrant pandanus species are obtained by planting (table 1.) According to [8], fragrant pandanus grows in tropical areas and is widely planted in the yard or gardens. Fragrant pandanus sometimes grows wild on the banks of rivers, swamps and in places that are slightly damp.

Utilization of Pandanaceae which is used by the people of the Besemah Tribe

The use of Pandanaceae by the Besemah tribe community is divided into several categories of use, this can be seen in Table 2.

Table 2. Utilization Categories of Pandanaceae by the Besemah Tribe

| Category Utilization | Name of Plant | |
|----------------------|-------------------------|-------------------------------|
| Category Offization | Local Name | Latin Name |
| Medicine / Cosmetics | Small fragrant pandanus | Pandanus amaryllifolius Roxb |
| Medicine / Cosmetics | Jicama | Pandanus lais Kurz |
| Foodstuffs | Small fragrant pandanus | Pandanus amaryllifolius Roxb. |
| Podusturis | Great fragrant pandanus | Pandanus amaryllifolius Roxb. |
| Building material | Bengkuang | Pandanus lais Kurz. |
| | Bengkuang | Pandanus lais Kurz. |
| Craft Materials | Bengkuang | Pandanus helicopus (Kurz.) |
| Clait Waterials | Bengkuang | Benstonea atrocarpa (Griff.) |
| | Gegas Hutan | Benstonea affinis Kurz |
| Indigenous Materials | Small fragrant pandanus | Pandanus amaryllifolius Roxb. |
| margenous materials | Great fragrant pandanus | Pandanus amaryllifolius Roxb. |

Pandanaceae is divided into 5 categories, namely medicine and cosmetics, foodstuffs, building materials, handicrafts and traditional materials. The types of Pandanaceae used for medicine are small fragrant pandanus (*P.amaryllifolius* Roxb.) and (*P.lais* Kurz.), Foodstuffs namely small fragrant pandanus (*P.amaryllifolius* Roxb.) and large fragrant pandanus (*P.amaryllifolius* Roxb.), the building material is yam (*P.lais* Kurz.), the craft material is jicama(*P.lais* Kurz.), Bengkuang (*P.helicopus* Kurz.), Bengkuang (*B.artocarpa* Griff.), And forest gegas (*B.affinis* Kurz.), And for traditional materials, namely Pandan wangi Kecil (*P.amaryllifolius* Kurz.) And large fragrant pandanus (*P.amaryllifolius* Kurz.)

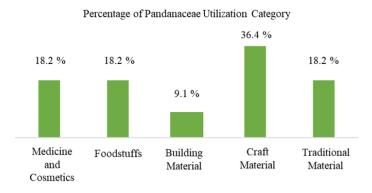


Figure 2. Percentage of Pandanaceae Utilization Categories

Based on Fig. 2. The highest utilization category was in the category of handicraft materials, which was 36.4%, then in a row, the categories of medicinal / cosmetic ingredients, foodstuffs and traditional materials had the same percentage (18.2%), and the lowest utilization category was building materials (1%).

Craft material is the highest utilization category at 36.4% because based on the results of interviews with informants it is known that there are four types of pandanus namely jicama (*P.lais* Kurz.), Yam (*P. helicopus* Kurz.), Bengkuang (*B.artocarpa* Griff.) and forest rush (*B.affinis* Kurz.) whose leaves are used as raw material for woven.

The people of the Besemah tribe often use the leaves of the three types of jicama as raw material for handicrafts rather than forest rush because to get the forest rush, they must first look into the forest or the hills of Pajar Bulan. Forest rush is usually found only in the forest, while yam can be found wild in the garden.

The people of the Besemah tribe use pandanus leaves for making various household needs such as making mats, hats (hats) and kampek (bags) which are used in everyday life. The use of bengkuang or pandan mats in the Besemah area is decreasing day by day because they have been replaced by plastic mats on the grounds that plastic mats are easy to get (bought) and also relatively cheaper, but there are also people from the Besemah Tribe who still use pandan mats for reasons of comfort when using pandanus mats instead of plastic mats.

This is almost the same as that obtained from the research of [9] on the comfort provided when using pandanus mats. Some people claim that pandanus mats are unique, that is, when it is summer, they are cool and comfortable, and vice versa, when it is winter, they are warm and comfortable. Apart from mats, pandan leaves are also made for kampek or bags. Kampek (bag) is also a handicraft product produced by the people of the Besemah Tribe. Kampek is used by the people of the Besemah tribe as a place to carry goods or objects.

Based on the results of interviews with the people of the Besemah Tribe, they prefer hats or servings made from pandanus leaves to hats made from other materials. Serampak is a handicraft made by the people of the Besemah tribe as shown in Figure 3 (d) which is used as a head protector used to go gardening. The pandan leaves have their own advantages, namely that they are not easy to mold, are not easily damaged, are durable and lightweight. As pandanus when the weather is hot, it is cooler than a hat made of bamboo (*Bambusa sp.*). Serapak is made from the leaves of jicama (*P.lais*) as shown in Figure 3 (a), yam

(P.helicopus) and yam (B.artocarpa).

Other utilization categories, namely medicinal & cosmetic ingredients, foodstuffs and customary materials, had the same percentage at 18.2%. The types of Pandanaceae that are most often used from the 3 utilization categories are small pandan wangi and large fragrant pandanus. According to [10], fragrant pandanus is the only type of Pandanaceae that has fragrant leaves.



Figure 3. Utilization of Pandanaceae (a) (*Pandanus lais*.) (B) Raw material from (*Pandanus lais*.); (c) the concurrent manufacturing process; (d) in unison

Small fragrant pandanus used by the people of the Besemah tribe for cosmetics, namely hair care such as hair fragrances and hair oils. Small fragrant pandanus has a distinctive aroma that can make hair smell good. Fragrant pandanus is also used as a medication for high blood pressure and dry diabetes medication by the people of the Besemah tribe. According to [10], fragrant pandan leaves contain alkaloids, flavonoids, saponins, polyphenols, tannins and dyes.

The food material used by the Besemah tribe community is large fragrant pandanus and small fragrant pandanus. Fragrant pandanus is used for food fragrance, food coloring and food wrapping. Fragrant pandanus contains essential oils that produce a distinctive aroma that can be mixed with various food preparations and used as a natural colorant for food. The natural dye was chosen by the Besemah tribe because it has no side effects and getting it is not difficult.

Based on the results of the interview that pandan wangi is used for grave pilgrimages, flower sprinkles and

death. The people of the Besemah tribe use fragrant pandan leaves for bathing water on corpses, but fragrant pandanus leaves are only used in bathing water for young or young corpses if the deceased is an adult or elderly people use lemon juice and camphor. This is almost the same as the research conducted by [11], pandan wangi (Pandanus amaryllifolius) is used by jungle people for a death ritual called belangun. If in the Orang Rimba community someone dies, the body is generally buried, but before being buried, it is cleaned with boiled water with fragrant pandanus water through a death ritual.

Tradition in Besemah uses large fragrant pandanus and small fragrant pandanus for weddings and aqiqah. Fragrant pandanus is used for decoration on the bride, the bridal bun is decorated with fragrant pandanus leaves that have been strung with various fragrant flowers to enhance the bridal decoration. Marhabah is a process of shaving hair on babies in which fragrant pandan leaves are filled with various fragrant flowers to be given to invited guests and headbands are made for baby girls with fragrant pandan leaves and then tied with roses (Rosa sp.) To adhere to the baby girl's head, so that it looks pretty and beautiful.

Building material is the lowest utilization category of Pandanaceae at 9.1% because only one type of pandanaceae is used, namely yam (Pandanus lais) which is used to make the roof of the hut in the garden (Figure 3). The people of the Besemah tribe have very rarely used the roof of the hut made of black thorny jicama leaves because it has been replaced by roofs from thatch. The root of bengkuang (*P.lais*.) Is used to make benches by the people of the Besemah tribe. Bengkuang root benches are usually used for garden benches.



Figure 4. Hut roof made of bengkuang leaves

The processing method and the parts used from Pandanaceae by the Besemah Tribe Societ

Based on the results of interviews from 8 resource persons in Bantunan Village and Suka Bumi Village, Lahat Regency, South Sumatra Province, the processing methods and parts used from Pandanaceae used by the Besemah Tribe can be seen in Table 3.

Table 3. Processing methods and parts used of Pandanaceae by the Besemah tribe

| No | Name of Plant | Benefits | Parts Used | Processing Method |
|----|---------------------------------------|-------------------------------------|----------------------------|---|
| 1. | Pandan wangi kecil (P.amaryllifolius) | Hair Freshener | Leaf | Pandan leaves are cut into pieces and then placed in a hair bun. Squeezed pandan leaves then rubbed on the head. |
| | | Food Freshener and Food Coloring | Leaf | Pandan leaves are mashed and the water squeezed in a filter then extracted the water extract from the pandan leaves, mixed in the food to be made |
| | | Marhabah (baby hair shaving) | Leaf | Pandan leaves are filled with several kinds of fragrant flowers then wrapped or tied using thread |
| | | Aqiqah Baby Girl | Leaf | Fragrant pandan leaves are made headbands and then stringed with roses. |
| | | Bridal Ornament | Leaf | Pandan leaves are sliced into small pieces and then placed in a decorative bun for the bride Pandan leaves are attached with various kinds of fragrant flowers that are placed in the bridal bun. |
| | | High Blood Medicine | Leaf | Pandan leaves are boiled with water then drunk immediately |
| | | Dry Diabetes Medication | Leaf | Pandan leaves are crushed / squeezed then the juice is taken and drunk immediately |
| | | Food Wrap (bugis cake) | Leaf | Pandan leaves are cut to size and used as a wrapper for bugis cakes. |
| | | Hair Oil | Leaf | The juice of the pandan leaves is mashed and added with vegetable oil and then brought to a boil. After cooking, add the wax to make it hard like hair oil. |
| | | Body bath water (Death) | Leaf | Pandan leaves are sliced plus some fragrant flowers to be mixed in the corpse bath water. |
| 2. | Pandan wangi besar (P.amaryllifolius) | Food Wrap (Lemper) | Leaf | Pandan leaves are inserted into the bamboo to coat the rice so that it gives off the distinctive smell and oil of pandan leaves |
| | | Wrap Ketupat and Hump | Leaf | The leaves are cut to size and then formed into diamond and head. |
| | | Potpourri (Pilgrimage to the grave) | Leaf | Pandan leaves are cut according to size strung with various types of flowers so that they are strung on the pandan leaves. |
| | | Flower sprinkles | Leaf | Pandan leaves are cut into small pieces and then mixed with various kinds of fragrant flowers. |
| 3. | Bengkuang (P.lais) | One Piece (hat) | Leaf | Jicama leaves cleaned of thorns then dried in the sun. Cut to size and then woven into a hat and tied to the rattan as a support. |
| | | The roof of the hut | Leaf | Jicama leaves are cleaned of thorns then dried in the sun and cut to size and then assembled to be used as the roof of the hut. |
| | | Sprue medicine, heartburn and cough | Stems (young tubers) | Take young umbut then cleaned and boiled with water then drunk. |
| | | Garden bench | Root | The roots are cut to size and then arranged |

| No | Name of Plant | Benefits | Parts Used | Processing Method |
|----|---------------|---------------------|------------|--|
| | | | | and used as a bench to sit in the garden. |
| | | Mat | Leaf | Jicama leaves are cleaned of thorns then |
| | | | | dried in the sun and cut to size then woven |
| | | | | so that a mat is formed. |
| | | Kampek (Bag) | Leaf | Jicama leaves are cleaned of thorns and |
| | | | | dried in the sun and then woven to form a |
| | D 1 | O B: (1.1) | T C | kampek (bag). |
| 4. | Bengkuang | One Piece (hat) | Leaf | Jicama leaves cleaned of thorns then dried |
| | (P.helicopus) | | | in the sun. Cut to size and then woven into |
| | | The roof of the hut | Leaf | a hat and tied to the rattan as a support. Jicama leaves are cleaned of thorns then |
| | | The fool of the nut | Leai | dried in the sun and cut to size and then |
| | | | | assembled to be used as the roof of the hut. |
| | | Mat | Leaf | Jicama leaves are cleaned of thorns then |
| | | 11240 | Loui | dried in the sun and cut to size and then |
| | | | | woven to form tkar. |
| | | Kampek (Bag) | Leaf | Jicama leaves are cleaned of thorns and |
| | | 1 () | | dried in the sun and then woven to form a |
| | | | | kampek (bag). |
| 5. | Bengkuang | One Piece (hat) | Leaf | Jicama leaves cleaned of thorns then dried |
| | (B.atrocarpa) | | | in the sun. Cut to size and then woven into |
| | | | | a hat and tied to the rattan as a support. |
| | | Cottage roof | Leaf | Jicama leaves are cleaned of thorns then |
| | | | | dried in the sun and cut to size and then |
| | | 3.6 | T C | assembled to be used as the roof of the hut. |
| | | Mat | Leaf | Jicama leaves are cleaned of thorns then |
| | | | | dried in the sun and cut to size then woven so that a mat is formed. |
| | | Kampek (Bag) | Leaf | Jicama leaves are cleaned of thorns and |
| | | Kampek (Bag) | Leai | dried in the sun and then woven to form a |
| | | | | kampek (bag). |
| 6. | Gegas Hutan | One Piece (hat) | Leaf | Jicama leaves cleaned of thorns then dried |
| ~• | (B.affinis) | · (11111) | | in the sun. Cut to size and then woven into |
| | \ JJ / | | | a hat and tied to the rattan as a support. |
| | | Mat | Leaf | Jicama leaves are cleaned of thorns then |
| | | | | dried in the sun and cut to size then woven |
| | | | | so that a mat is formed. |
| | | Kampek (Bag) | Leaf | Jicama leaves are cleaned of thorns and |
| | | | | dried in the sun and then woven to form a |
| | | | | kampek (bag). |

Based on Table 3, the processing method of Pandanaceae as medicine and cosmetics used by the Besemah Tribe is still relatively easy and simple, namely by slicing, cutting and boiling [12]. Fragrant pandan leaves contain essential oils which are used by the people of the Besemah Tribe, one of which is for hair care as hair fragrance and hair oil.

The people of the Besemah tribe are people who still use plants in their daily life such as for traditional medicine and the belief of the Besemah tribe in the ability of plants to cure a disease is still very large.

The results showed that the people of the Besemah tribe used and processed pandanus leaves with several stages or processes so that they became handicrafts, namely mats, serendang and kampek. The plaiting done by the Besemah tribe community is still very simple. The process of making weaving is carried out by women while the ones who get the raw material for wickerwork are men.

Based on Figure 5., the most used part of Pandanaceae is leaves, which is 75%. Leaves are used for handicrafts, medicinal/cosmetic ingredients, cultural materials, foodstuffs, and building materials. Leaves are

most widely used because the parts of the plant are easier to obtain from plants than other parts such as roots and do not damage other organs.

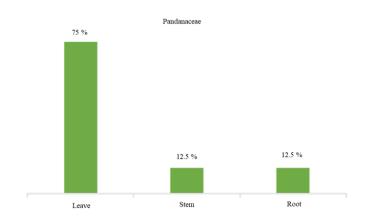


Figure 5. Percentage of share used from Pandanaceae

Based on Figure 5, the most used part of Pandanaceae is leaves, which is 75%. Leaves are used for handicrafts, medicinal/cosmetic ingredients, cultural materials, foodstuffs, and building materials. Leaves are most widely used because the parts of the plant are easier to obtain from plants than other parts such as roots and do not damage other organs.

The percentage results showed that the use of the same roots and stems was 12.5%. The stem (young umbut) is used by the people of the Besemah tribe to treat mouth ulcers, heartburn and coughs. The roots are used to make benches from the roots of black prickly jicama because it has large and long brownish black roots

4. Conclusion

The results of the inventory Pandanaceae group found three genera consisting of six types of Pandanaceae, namely three types from the Pandanus genus namely Pandanus lais Kurz, Pandanus helicopus Kurz, Pandanus amaryllifolius Roxb. (Large fragrant pandanus and small fragrant pandanus), two types from the Benstonea genus, namely Benstonea atrocarpa Griff. and Benstonea affinis Kurz. and one species from the genus Freycinetia, namely Freycinetia rigidifolia Hemsl., and how to obtain it from Pandanaceae in two ways, namely wild at 71.4% and planted by 28.6%. Utilization from Pandanaceae is divided into five categories, namely handicrafts, medicinal & cosmetic ingredients, foodstuffs, customary materials and building materials. The highest percentage was from handicraft building materials at 9.1%. The most frequently used part is the leaves of 75% and the processing method of Pandanaceae is done in various ways, namely slicing, cutting, boiling and

References

- [1]. Keim, AP. 2017. Flora Pandan, Semende Region, Muara Enim, South Sumatra. *Technical Report of the Center for Biological Research- LIPI*. 1 (2): 38-47.
- [2]. Rahayu, M., Siti, S., and Ary, PK. 2008. Ethnobotany Pandan Samak (*Pandanus odoratissimus* Lf) Study: Its Use and Role in Supporting Family Income in Ujung Kulon, Banten. *Biodiversity*. 9 (4): 310-314.
- [3]. Nurhayati, ED, Dadang, H., and Mery, Y. 2016. Changes in the Marriage System of the Besemah Community in Pagar Alam, South Sumatra Province. *Empirical Journal*. 1 (2): 203-216.
- [4]. Dewi, NL. 2017. Ethnobotany of Essential Oil Producing Plants for Traditional Cosmetics by the Besemah Tribe, Lahat Regency. *Thesis*. Department of Biology. Faculty of Math and Science. Sriwijaya University.
- [5]. Wakte, KV., Altafhusain, BN., Ratnakar, JT., and Narendra, J. 2009. *Pandanus amaryllifolius* Roxb. Cultivated as a Spice In Coastal Regions of India Genet Reour Crop Evol. 56
- [6]. Keim, AP 2007. 300 Years of Linneus: Pandanaceae, Linnaeus and the Swedish Connection. "Celebrating 300 years of Carolus Linnaeus". Biology Research Center-LIPI. Bogor.
- [7]. Callmander, M; Lowry II, P. P; Forest, F; Devey, D. S; Beentje, H. & Buerki, S. (2012). Benstonea Callm. & Buerki (Pandanaceae): Characterization, circumscription, and distribution of a new genus of screw-pines, with a synopsis of accepted species. *Candollea*, 67 (2): 323-345.
- [8]. Dalimartha, S. 2005. *Medicinal Plants in the Surrounding Environment*. Jakarta: Puspa Swara.
- [9]. Batoro, J., Serfinah, I., and Brian, R. 2015. Ethnobotany of Local Communities, Beneficial Atanomic Structure of Pandan (Pandanaceae) Species in East Java. Research *Journal of Life Science*, 2 (2): 133-144.
- [10]. Hidayat, RS and Rodame, MN. 2005. *The Book of Medicinal Plants*. Jakarta: AgriFlo.
- [11]. Prasaja, D., Muhadiono., And Iwan, H. 2015. Pandan (Pandanaceae) Ethnobotany in Bukit Dua Belas Jambi National Park. Department of Biology. Faculty of Math and Science. Bogor Agricultural Institute.
- [12]. Hidayat, S., Sri, W., and Sofia, A. 2008. *Medicinal Plants with Ornamental Potential*. Jakarta: Gramedia.