

## The Utilization of Non-Timber Forest Products (NTFPs) by the Community in Malagufuk Village Makbon District Sorong Regency

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### Abstract

The level of utilization non-timber forest products (NTFPs) by the community is quite high, it needs to be balanced with sustainable forest management for sustainable use. This is because realized by the existence of public awareness in utilizing existing forest resources. The people of Malagufuk village use NTFPs to fulfill their daily needs. Data regarding the utilization of NTFPs that are carried out need to be known for certain so that efforts to cultivate and use them can be carried out in a more planned and focused so that the development of NTFPs in the village can run well and sustainably. This study aims to determine the types of non-timber forest products that are used and how to use them by the people of Malagufuk Village, Makbon District, Sorong Regency. Respondents in this study were 15 heads of families with data collection using interviews, literature studies and direct observation in the field. The results showed that the types of NTFPs used by the people of Malagufuk Village were sago (*Metroxylon sagu*), rattan (*Calamus* sp.), bamboo (*Bambusa* sp.), mat leaf (*Pandanus* sp.), itching leaf (*Laportea decumana*), Aren (*Arenga pinnata*), bark (*Cinnamomum culilaban*); vegetables such as melinjo (*Gnetum gnemon*) and fruits such as cempedak (*Artocarpus integer*), guava (*Syzygium malacensis*), langsung (*Lansium domesticum*), matoa (*Pometia pinnata*), candlenut (*Aleurites moluccana*), red fruit (*Pandanus conoideus*), betel (*Piper betie*), and areca nut (*Arreca catechu*). People use NTFPs to fulfill their daily needs because beside being consumed, they also sometimes sell processed products from these NTFPs. In addition, community harvesting of NTFPs is carried out with due regard to forest sustainability. The types of NTFPs that are taken are often balanced with replanting so that their existence is not exhausted.

Keywords: Utilization, NTFPs, Malagufuk

### INTRODUCTION

Forests have a good function from economic, ecologi and socially side. Excessive use of forests from an economic side, which prioritizes timber forest products to meet the needs of the world market and domestic industry, causes a decrease in the area, benefits and quality of forest ecosystems (Permenhut No. 21 of 2009). Based on data from the Ministry of Environment and Forestry's Directorate General of Forestry Planning and Environmental Management, the results of Indonesia's 2019 forest monitoring show that the total forested land area of Indonesia is 94.1 million ha or 50.1% of the total land area. Of this amount, 92.3% of the total forested area or 86.9 million ha, is in forest areas.

Existing forest resources are also multi-commodity in the form of goods and services. The commodity goods are benefits that can be felt directly in the form of timber forest products and non-timber forest products (NTFPs), while service commodities are benefits that are felt indirectly (Sihombing, 2011). Non-Timber Forest Products, hereinafter abbreviated as NTFPs, are biological forest products, both vegetable and animal, along with derivative and cultivation products, except for wood originating from forests (Permenhut Number 35 of 2007). It is undeniable that the existence of NTFPs can increase people's income and welfare and is thought to have reduced the level of community dependence on timber forest products. The use of NTFPs has a much smaller impact on the forest environment than logging (timber harvesting), thus providing a forest management model that is more supportive of conservation efforts. Therefore, efforts to develop NTFPs continue to be carried out as an effort to reduce the level of community dependence on timber forest products (Jafar, 2013 in Tang et al, 2019), so that communities around the forest can still benefit from the forest, without destroying existing forest stands.

According to Ikrima (2013) in Muslim et al (2019), the use of NTFPs that are collected and cultivated is one of the sources of livelihood for the community around the forest, both as a main and a side livelihood. Nugroho & Octavia (2020) revealed that people use NTFPs to meet their living needs and sell them to increase family income. Previously there were also research results from Nono et al (2017) which stated that NTFPs are one of the forest resources that are the mainstay of the population to meet their daily needs and have even become their basic needs. Added by Sinaga and Pramata (2020) that the sale of NTFPs is not only in the form of food ingredients but also processed into handicrafts and some even use them as material for livestock cages. From the results of these studies, it can be concluded that the community can fulfill their needs and at the same time obtain additional income from NTFPs. The continued use is due to the fact that the existing NTFPs are easy to obtain and do not require a fee to obtain them. The high level of community utilization needs to be balanced with sustainable forest management for sustainable use. This is of course realized by the existence of public awareness in utilizing existing forest resources. If utilization is not balanced with management, it is certain that its availability will continue to decrease and eventually run out.

Various types of non-timber forest products can also be found in Malagufuk Village, Makbon District, Sorong Regency. Considering the location of Malagufuk Village which is far from the city center, the existence of NTFPs is actually very important for them, because people often manage and utilize existing forest products (especially NTFPs) to meet their daily needs, such as sago, bamboo, leaf mats and even fruit. Malagufuk Village has been inaugurated by the Sorong Regency Government as an Ecotourism Village (especially for animal observation), so that the community is very concerned about preserving the forest and managing the area while prioritizing conservation principles so as not to damage the existing forest ecosystem. The community realizes that the forest destruction that occurs will certainly affect the existence of animals

and also directly affect their income from the tourism sector (as a tourist attraction location). As stated by Sihombing (2011) that people who realize the importance of forest functions for the balance of ecosystems always try to maintain the existence and role of forest resources for their lives.

Data regarding the use of non-timber forest products by the people of Malagufuk Village need to be known for certain so that efforts to cultivate and use them can be carried out more planned and focused so that the development of NTFPs in the village can run well and sustainably. Based on this background, it is necessary to conduct research on the Utilization of Non-Timber Forest Products (NTFPs) by the Malagufuk Village Community, Makbon District, Sorong Regency. This study aims to determine the types of non-timber forest products that are used and how to use them by the people of Malagufuk Village, Makbon District, Sorong Regency.

## RESEARCH METHODOLOGY

The sampling technique in this study used saturated sampling, that is taking the overall sample from the total population. This was done because there were 15 households in the research location. According to Arikunto (1998), if the population is relatively small or less than 100 people, the entire population is used as a sample.

Data was collected by means of interviews, literature studies and direct observation of the types of NTFPs used by the community. The types of NTFPs used are recorded and documented for the purposes of analysis and reporting (discussion) of research results. The interview used an interview guide that contained questions related to the utilization of NTFPs by the people of Malagufuk village.

The research data were analyzed descriptively to provide information about the types of NTFPs used by the community, by displaying pictures of the documentation produced in the field. Descriptive analysis aims to describe an object of research based on existing facts, accompanied by rational and scientific interpretations, while tabulation analysis is presented in the form of tables and figures (Muslim et al, 2019).

## RESULTS AND DISCUSSION

### Characteristics of Respondents

The characteristics of respondents are a general description of the background and condition of the people in the research location. There were 15 respondents consisting of 13 mens (86.7%) and 2 womens (13.3%). The education level of the respondents recorded is the latest level of education consisting of 6 elementary school graduates (40%), 1 junior high school graduate (6.7%), 6 high school graduates (40%) and 2 undergraduate graduates (13.3%). According to Guhardja et al. (1992) in Sihombing (2011), highly educated people are usually identical with people who have quality human resources. Education and level of welfare are two aspects that influence each other. The level of education determines the ability of a family to access the necessities of life.

The level of public education can be said to be low, causing most of them to choose to work as farmers, 86.7% and 13.3% are Civil Servants. The fulfillment of the people needs of Malagufuk village does not only depend on agricultural products but also on NTFPs in the natural forest in the area. Rifky et al, 2017 said that education affects the ability of farmers to accept something new and apply it in their lives. In a business, the level of education of farmers affects the mindset, ability to absorb information, innovation or new technology.

The closer community settlements to the forest, the more often people use existing forest resources. Utilization of forest resources is directly related to the number of family members or dependents in a household. According to Faisal, 2015 in Tang et al, 2019, that the number of family dependents is the number of people in a household consisting of a wife and children who live together. The number of family members of each respondent consists of 2-8 people. According to Sihombing (2011), the greater the number of family members the greater the household consumption. If the main job is to utilize forest resources, then respondents who have a large or large number of family members are required to produce more forest resources that are used and vice versa.

#### **Utilization of Non-Timber Forest Products (NTFPs)**

Based on the results of interviews, it is known that the people of Malagufuk village use NTFPs in the natural forest in the area to meet their daily needs, both for personal consumption and for sale to increase family income. The ingredients are easily obtained directly from the forest and the village is quite far from Sorong City and Regency, making people prefer to use the existing NTFPs.

Malagufuk Village has been inaugurated by the Regional Government as a Tourism Village (Eco Village), so that people are not allowed to hunt and sell animals because every animal in the village is used as an object of observation for domestic and foreign visitors or tourists. The use of NTFPs in natural forests has been around for a long time, but they only take what is needed when they need materials from something they are made of. The community is aware of the importance of the various types of NTFPs, especially since the area has been inaugurated as a tourist village, thus increasing public awareness not only of protecting the forest but also the environment where they live to make it look worthy to visit. Awareness of the importance of NTFPs and concerns that these species will run out when taken continuously have made the community take the initiative to replant NTFPs taken from natural forests.

The increasing number of people in a place, especially around the forest, is increasingly encouraging the occurrence of forest destruction, both logging and poaching due to the increasing needs of human life. This certainly affects the sustainability of the forest. However, this condition does not apply to the people of Malagufuk village because they have agreed to continue preserve the forest for the continued development of the village as a tourist attraction location.

## Types of NTFPs used by the community

### 1. Sago (*Metroxylon sago*)

Sago is one of the staple crops of the Papuan people in general. The people of Malagufuk village use this sago to meet their needs, whether consumed or sold in the form of raw sago or sago that is still wet, namely sago that is ready to be processed into food such as papeda. In addition to raw sago, the community also processes the material into dry sago or “Sagu Lempeng”, which is sago that is put in a mold (*forna*) and then burned and the results can be sold or consumed. Sago leaves are also used to make the roof of the house.



Figure 1. Sago Processing (*Metroxylon sago*)

Sago trees that are old enough are usually cut down and split in two vertically. The white inside which is the content of sago is then crushed using a sago holder. The smooth part is then washed and filtered to get clean starch or sago flour.

### 2. Rattan (*Calamus sp.*)

Rattan is used by the people of Malagufuk village as a wooden bond for sago stumps. In addition, rattan rope is also used to tie the roof of the house.



Figure 2. Ties of Sago Bearing Wood from Rattan (*Calamus sp.*)

### 3. Bamboo (*Bambusa sp.*)

Bamboo is a type of grass plant with cavities and segments in the trunk. In general, bamboo is found in open places and the area is free from standing water (Rahmawati,

2009 in Tang, Malik and Hapid, 2019). The people of Malagufuk village use bamboo as a material for making tent poles and also to cook food by filling food into bamboo and then burning it. In addition, young bamboo is also usually taken to be made into vegetables which are usually called bamboo shoots.



Figure 3. Bamboo (*Bambusa sp.*)

4. Itchy leaves (*Laportea decumana*)

Itchy leaf is one of the plants that is often used by the people of Malaku and Papua as a traditional medicine that can be used on body parts that feel sore or achy. This plant is also used by the people of Malagufuk village because for them itchy leaves are a very effective medicine when they experience fatigue and aches after doing their activities. These itching leaves are taken for their own use without being sold.



Figure 4. Itchy Leaves (*Laportea decumana*)

5. Aren (*Arenga pinnata*)

Aren or commonly known as Enau is used by the community by making drinks such as sageru from the fruit. There are also people who sometimes process it into brown sugar. In addition, the leaves are separated until the remaining bones are used as broom sticks.

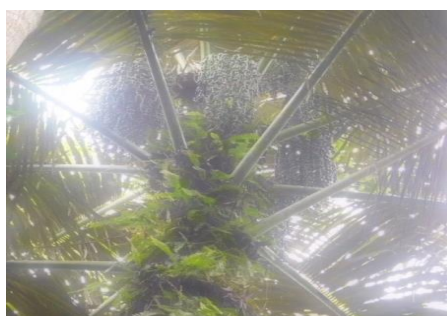


Figure 5. Sugar palm (*Arenga pinnata*)

#### 6. Leaf mat (*Pandanus* sp.)

The leaves of the mat are used by the people of the Malagufuk Village to make mats as a sitting mat or also for sleeping. In addition, the leaves of the mats are also woven and used as a substitute for umbrellas when it rains which is called by the people in the Moi language, namely *koba-koba*.



Figure 6. Leaf Mats Instead of Umbrellas

#### 7. “Ohowo” Bark

*Ohowo* (Moi language) is a type of wood found in the natural forest of Malagufuk village. This type of wood is used to make bags or *noken* which are used to fill refined sago to be taken to the washing place. The part used is the inner bark which is taken and dried in the sun to dry and then made into *noken*.



Figure 7. Noken to fill Sago

#### 8. Skin of Lawang (*Cinnamomum culilaban*)

Based on the results of interviews, people use the skin of Lawang as oil. However, currently the processing is not running because the community is focusing on managing the area as an ecotourism area. In previous years, the proceeds from the sale of Lawang oil were used to meet their daily needs, school fees for the children and build a church when they were still in the village of Suatuk.

#### 9. Vegetables and fruits

The type of vegetable that is usually used by the community is melinjo (*Gnetum gnemon*) which is processed into vegetables to be eaten. The fruits used are langsat (*Lansium domesticum*), matoa (*Pometia pinnata*), cempedak (*Artocarpus integer*),

guava (*Syzygium malacensis*), candlenut (*Aleurites moluccana*), areca nut (*Arreca catechu*), betel (*Piper betie*) and red fruit (*Pandanus conoideus*).

Candlenut is used as one of the spices for cooking, while langsung, guava, matoa and cempedak if obtained in large quantities, some of them are sold. Areca nut and betel nut are not for sale. People use it for their own benefit. Red fruit is usually cultivated or planted by the community as food for Cendrawasih and several other bird species in the natural forest. People never sell it, only use it to attract birds to its location.

## CONCLUSION

The types of NTFPs used by the people of Malagufuk village are sago (*Metroxylon sago*), rattan (*Calamus* sp.), bamboo (*Bambusa* sp.), mat leaf (*Pandanus* sp.), itching leaf (*Laportea decumana*), Aren (*Arenga pinnata*), skin of Lawang (*Cinnamomum culilaban*); vegetables such as melinjo (*Gnetum gnemon*) and fruits such as cempedak (*Artocarpus integer*), guava (*Syzygium malacensis*), langsung (*Lansium domesticum*), matoa (*Pometia pinnata*), candlenut (*Aleurites moluccana*), red fruit (*Pandanus conoideus*), betel (*Piper betie*), and areca nut (*Arreca catechu*).

People use NTFPs to fulfill their daily needs because apart from being consumed, they also sometimes sell processed products from these NTFPs. In addition, community harvesting of NTFPs is carried out with due regard to forest sustainability. The types of NTFPs that are taken are often balanced with replanting so that their existence is not exhausted.

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