


## Use of traditional medicinal plants on sowek Island (Manggonswan village) Aruri Islands district, Supiori regency

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Article Info	ABSTRACT
<b>Keywords:</b> Medicinal Plants, Aruri Islands District, Supiori Regency	Medicinal plants are types of plants that have medicinal functions and properties and are used to cure or prevent various diseases and have the meaning of containing active substances that can treat certain diseases. The research was carried out in Manggonswan Village from June to August 2022. The population in this study was 646 people with samples taken of 32 people. Data processing and analysis techniques use the SPSS method. The results of this research show that the types of medicinal plants used by the community in Manggonswan Village were identified as many as 22 species of plants which were used as ingredients for traditional medicine. Carica papaya, Annona muricata, Piper betle, Manihot esculenta, Jatropha curcas L, Coleus scutellarioides, Kalanchoe pinnata Syn, Vernonia amygdalina, Morinda citrifolia L, Sauropus androgynus, Orthosiphon aristatus, Annona aquamosa, Solanum torvum, Mimosa pudica, Peperomia pellucida, Averrhoa bilimbi, Psidium guajava, Cymbopogon citratus, Strobilanthes crisper, Pandanus amaryllifolius, Aloe vera, Graptophyllum pictum. The parts used are 4 parts of the plant which are used as traditional medicine ingredients, namely leaves by 25 respondents (78.1%), stems, roots, leaves. as many as 6 respondents (18.8%) and sap as many as 1 respondent (3.1%).
This is an open access article under the <a href="https://creativecommons.org/licenses/by-nc/4.0/">CC BY-NC</a> license 	<b>Corresponding Author:</b> Ingrid Nortalia Kailola Biology Study Program, Faculty of Science & Technology, Ottow Geissler University, Jayapura, Indonesia <a href="mailto:nortaliainggrid@gmail.com">nortaliainggrid@gmail.com</a>

### INTRODUCTION

Indonesia is a region with a tropical climate that has the second largest biodiversity in the world after Brazil with around 25,000 – 30,000 species (Dewoto, 2007). There are around 7,500 species of plants that have herbal or medicinal properties (Salim & Munadi, 2017). According to the World Health Organization (WHO), up to 65% of the population of developed countries and 80% of the population of developing countries have used herbal medicines for primary health care needs (Sarad, S, A, 2017). Natural resources for traditional medicinal ingredients are national assets that need to be explored, researched, developed and optimized for use. As a region that has a high level of biodiversity, the potential for existing growing resources is an asset with comparative value and is the main capital in efforts to utilize and develop it to become a competitive commodity (Rahayu, 2005).

Papua is one of the easternmost provinces in Indonesia with an area of  $\pm 421,981$  km<sup>2</sup> (Muller, 2005) and is the largest and most biodiverse tropical island in the world that has not been managed and utilized optimally. The lives of the Papuan people (Papua and West Papua) are very close to nature. Papuans consist of 254 ethnic groups who have socio-cultural characteristics that are different from each other, because they are influenced by natural conditions (ecological zones), there are 4 zones inhabited by Papuans, namely: (1) swamp zone, beach, along river flows . (2) highland zone, (3) mountain foot zone and small valleys, (4) lowland, coastal and island zones (Rumansara, 2015).

The following are the ecological zones or areas in Papua to give us an idea of how Papuan people (Papuan tribes) live in these zones. There are several opinions from several experts regarding the distribution of ecological zones in Papua based on altitude and agricultural systems in Papua. The division of ecological zones can be stated as follows: (a). Swamp, Beach and River Zone: the ethnic groups that inhabit this ecological zone are the Asmat tribe, Jagai tribe, Marind-Anim tribe, Kamoro tribe, Sebyar tribe, Simuri tribe, Iraputu tribe, Waropen tribe and Bauzi tribe. (b). Highland Zone: the ethnic groups that inhabit this ecological zone are the Lani tribe, Ngalum tribe, Mee tribe, Nduga tribe, Amungme tribe, Moni tribe, Yali tribe and Hubula tribe. (c). Foothills and Small Valleys Zone: the ethnic groups that inhabit this zone are the Sentani, Nimboran, Meybrat, Attam and Muyu people. (d). Lowland and Coastal Zone: the ethnic groups that inhabit this zone are the ethnic groups that inhabit the Sorong to Nabire, Biak and Yapen areas (Rumansara, 2015) .

Papua Island is the second largest island in the territory of the Republic of Indonesia after Kalimantan Island and is the province with the largest land area in Indonesia. Irian Jaya (Papua) is also one of the provinces in Indonesia that has natural resource potential, in the form of forests covering an area of 41,066,000 ha which holds a variety of biodiversity, both flora and fauna. As a tropical forest, Irian Jaya's forests are affected by fairly high temperatures throughout the year and do not have extreme seasonal changes, so most of its flora and fauna are found in abundant quantities. The condition of Papua's bio-forests places Papua with a diversity of endemic and abundant forest flora and fauna (Wisnugroho, 1998).

The use of medicinal plants has been used for a long time by the people of Papua. There are many types of medicinal plants used by the Marind people, the Marind people are one of the indigenous tribal communities of Merauke Regency. From the results of research conducted by (Dwi Haryanto, et al. 2009). There are 46 types of plants from 29 families that are used as plants that have medicinal properties. These plants have different habitats, such as in gardens, forests, house yards and roadsides. Apart from that, the results of research conducted by Yansip 2017 show that the types of plants used by the people of Yanim and Braso Villages, Kemtuk Gresi District, Jayapura Regency show that the total number of plants used by the local village community is 57 types of plants out of 35. Types of plants There are 30 types of medicinal plants used in Yanim Village and 55 types in Braso Village. The most widely used plant organ is the leaf (66.7%) and the least is the seed (1.78%). in Nansfori Village, Supiori Regency, 48 types of medicinal plants from 32 families were found (Sada, 2010). The Maybrat tribe is one of the tribes in Papua who

inhabit the Bird's Head area, and it is known that their people also use plants in their daily lives. Based on the results of interviews with 10 respondents, 47 plant species from 30 families were found which could be used by the Maybrat tribe community in Renis Village as traditional medicine (Frengki, 2009). Based on observations and interviews with Moorish people living in Arui Village, 39 types of plants were found, belonging to 30 families, which were used as medicine (Sadsoeitoeboen, 2010) .

Sowek Island is located in the Aruri Islands, Supiori Regency and is occupied by 3 villages, namely Manggonswan Village, Rayori Village and Mbruwandi Village, included in the lowland, coastal and island zones. The use of medicinal plants has been used for a long time by the people of Papua. Including medicinal plants that are used by the Manggonswan Village Community, but there have been no reports on the results of research on medicinal plants in these 3 villages.

## METHODS

This research was carried out in Manggonswan Village, Aruri Islands District, Supiori Regency. Implementation time is from June – October 2022. Type of data used are primary data and secondary data. The method used \_ is method interviews and observations . Data were analyzed using SPSS where data obtained in the field was presented in tabulated form, then analyzed descriptively with a quantitative approach. Data collection regarding the use of plants or medicinal plants as traditional medicine was carried out by interviewing respondents (Hardianti, 2021).

## RESULTS AND DISCUSSION

Based on the research results, it was found that 22 types of herbs and plants were used as traditional medicine in Manggonswan Village, Aruri Islands District, Supiori Regency. The types of plants or plants in Manggonswan Village which are used as traditional medicines are presented in Table 1

**Table 1** Types Medicinal Plants in Manggonswan Village

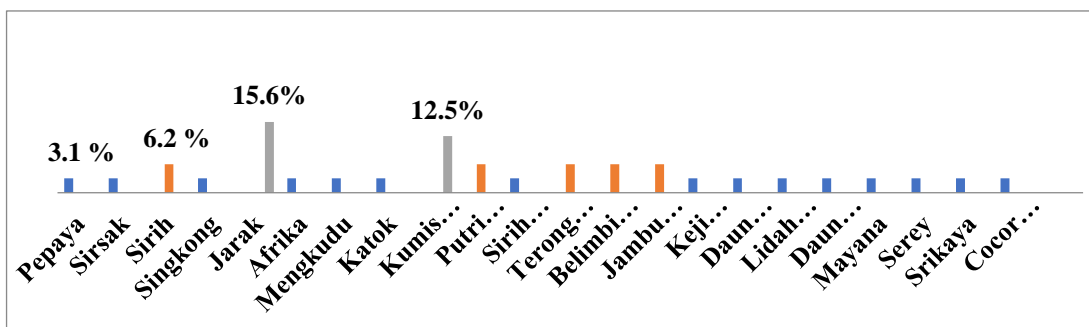
No	Plant or Crop Name			Family	Coordinate point
	Indonesian name	Regional Name	Scientific name		
1	Soursop	Soursop	Annona muricata	Annonaceae	0° 48'35.28072" 135° 30'8.27856"
2	Srikaya	Srikaya	Annona aquamosa		0° 48'35.13856" 135° 30'8.51834"
3	Betel leaf	Inan Ram	Piper Bethle	Piperceae	0° 48'35.442" 135° 30'8.334"
4	Chinese Betel	Chinese Betel	Peperomia pellucida		0° 48'35.13852" 135° 30'8.51832"
5	Cassava	Timur Ram	Manihot esculenta	Euphorbiaceae	0° 48'34.58196 135° 30'9,1998"
6	Castor	Castor	Jatropha curcas L		0° 48'28.45872"

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	Leaves	Leaves			135°30'8.2764"
7	Mayana Leaf	Mayana leaves	Coleus scutellarioides	Lamiaceae	0°48'42.43356"
8	Cat whiskers	Cat whiskers	Orthosiphon aristatus		135°30'2.28384"
9	Keji Belling	Keji Belling	Strobilanthes crispa	Acanthaceae	0°48'42.18552"
10	Daun Ungu	Daun Ungu	Graptophyllum pictum		135°30'2.0268"
11	Cocor Bebek	Cocor Bebek	Kalanchoe pinnata Syn	Crassulaceae	0°49'45.90876"
12	Daun Afrika	Daun Afrika	Vernonia amygdalina	Asteraceae	135°29'51.10044"
13	Noni	Drive	Morinda citrifolia L	Rubiaceae	0°48'35.13642"
14	Katok leaves	Katok leaves	Sauropus androgynus	Phyllanthaceae	135°30'8.57132"
15	Forest Eggplant	Forest Eggplant	Solanum torvum	Solanaceae	0°48'29.00196"
16	Mimosa	Mimosa	Mimosa pudica	Fabaceae	135°30'8.69904"
17	Starfruit	Starfruit	Averrhoa bilimbi	Oxalidaceae	0°48'28.7316"
18	Guava	Guava	Psidium guajava	Myrtaceae	135°30'8.02584"
19	Lemongrass Leaves	Ampuy	Cymbopogon citratus	Poaceae	0°48'34.53804"
20	Vile Beling	Vile Beling	Strobilanthes crispa	Acanthaceae	135°30'8.98308"
21	Purple Leaf	Purple Leaf	Graptophyllum pictum	Acanthaceae	0°48'28.48572"
22	Pandan leaves	Pandan leaves	Pandanus amaryllifolius	Pandanales	135°30'8.0012"
23	Aloe vera	Aloe vera	Aloe vera	Xanthorrhoeaceae	0°48'39.62916"
24	Papaya	Ansawi	Carica papaya	Caricaceae	135°30'5.796"
					0°48'55.71936"
					135°30'5.7132"
					0°48'41.8284"
					135°30'4.80384"
					0°48'42.55164"
					135°30'3.82284"
					0°43'18.25392"
					135°43'48.57924"
					0°49'45.90876"
					135°29'51.10044"
					0°48'35.13642"
					135°30'8.57132"
					0°48'35.14852"
					135°30'8.51732"
					0°43'17.6682"
					135°43'48.43128"
					0°48'34.54884"
					135°30'8.99064"

Based on Table 1 , it can be seen that there are 22 types of plants from 17 families or tribes that are used as traditional medicine in Manggonswan Village. The plants and crops that are most widely used are plants from the Annonaceae, Piperaceae, Asteraceae and Euphorbiceace tribes, each of which consists of 2 types and at least one type. The medicinal

plants most often used by the community are Leaves of Distance with 5 respondents (15.6%) and Cat's Whiskers with 4 respondents (12.5%), Putri Malu with 4 respondents (12.5%). Meanwhile, the least frequently used are Betel Leaves by 2 respondents (6.2%), Forest Eggplant by 2 respondents (6.2%), Starfruit by 2 respondents (6.2%), Guava by 2 respondents (6.2 %), Papaya as many as 1 respondent (3.1%), Soursop as many as 1 respondent (3.1%), Cassava as many as 1 respondent (3.1%), African leaves as many as 1 respondent (3.1%), Noni as many as 1 respondent (3.1%), Katok 1 respondent (3.1%), Chinese Betel 1 respondent (3.1%), Keji Beling 1 respondent (3.1%), Pandan Leaf 1 respondent ( 3.1%), Aloe Vera by 1 respondent (3.1%), and Purple leaf by 1 respondent (3.1%), Srikaya by 1 respondent (3.1%), Cocor Bebek by 1 respondent (3, 1%), Mayana leaves were 1 respondent (3.1%) and Lemongrass leaves were 1 respondent (3.1%). Of 22 types plant medicine found in Manggonswan Village type plant most drugs \_ used is leaf distance , Based on results interview from respondents say that there are many village people use plant the For mucous stones in children . \_ A number of study about content from leaf distance that is saponins, flavonoid compounds include kaempferol, nicotoflorin, quercitin, astragalin, ricinin, and vitamin C (Sudibyo, 1998). That has potency For Scabs, fungus and itching , Wounds and bleeding , Medicine for cavities , Medicine for canker sores , Treating coughs and thinning phlegm , Difficulty defecating , Reducing geothermal , Treating rheumatism (Riani, 2018)



**Figure 1.** Types of plants and medicinal plants used as traditional medicinal plants in Manggonswan Village.

Based on research on the types of plants and medicinal herbs that people use as medicinal ingredients, of course there are similarities and differences in how plants are used depending on each type. The differences in how each medicinal plant is used depend on the form of the plant and the type of disease. This aims to ensure that the substances contained in each medicinal plant can be released and function in healing quickly. The results of interviews with respondents regarding the use of medicinal plants by the community in Manggonswan Village, Aruri Islands District, Supiori Regency. So it was obtained that several parts of the plants used by the people of Manggonswan Village can be seen in Table 2.

No	Plant Parts	Number of Respondents	%
1	Leaf	25	78.1
2	Roots, Stems, Leaves	6	18.8
3	Sap	1	3.1
	<b>Total</b>	32	100

This is because the leaves contain more medicinal or necessary substances, and the leaves are easy to process due to their soft structure compared to other parts of the plant, the leaves are also available continuously, and are more often used by people to treat them from generation to generation. The part of the plant that is most widely used is the leaf because it is used as a food processing agent, it is easy to obtain and easy to make or mix as medicine compared to the skin, stem, seeds and roots of the plant. Leaves are a part (organ) of plants that is widely used as a medicinal plant because the leaves generally have a soft texture and have a high water content (70% -80%) Apart from that, leaves are a place of accumulation of photosynthesis which contains elements (organic substances) which have properties to cure disease. Substances that are often found in leaves are alkaloids, essential oils, phenols, potassium compounds, chlorophyll and anti-inflammatory oleonic acid from hyptis plants. Leaves also have soft fibers, making it easy to extract substances used as medicine (Nalisha, 2022) . This research is different from research conducted by Dodi Musaicho, et al (2021) in Sebalu Village, Bengkayang District, Bengkayang Regency, showing that the people of Sebalu Village, Bengkayang District, Bengkayang Regency use parts of plants or plants that are used as medicinal plants, namely the roots, stems, leaves, fruit. , rhizomes, and flowers. The most widely used plant parts are the leaves (18 types) and roots (10 types). The part that is least used is the flower part (1 type).

This research is almost the same as research conducted by Sada.JT (2010) in Nansfori Village, North Supiori District, Supiori Regency, showing that the people of Nansfori Village use 48 types of medicinal plants found from 32 families. The parts of the plant used as medicine are: leaves (52.08%), fruit (6.25%), seeds (2.08%) and stems (4.17%), bark (4.17%), sap (4.17), tubers (2.08%), roots (2.08%) and more than 1 part of the plant used (22.92%).

## CONCLUSION

From research on can concluded that the types of plants and medicinal herbs used by the community in Manggonswan Village, Aruri Islands District, Supiori Regency, namely that there are 22 species of plants that are used as ingredients for traditional medicine. The parts of plants and plants that are used or exploited by the community in Manggonswan Village, Aruri Islands District, Supiori Regency as traditional medicine are leaves, roots, sap and stems.

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