Ethnobotany Wild and Semi-Wild Edible Plants of Ngis Manggis Society of Karangasem Bali

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Abstract. Wild Edible Plants are important for food security, but their existence is still neglected in the provision of land and economic development. The aim of this study was to 1)Documented the diversity of wild and semi wild edible plants by local people; 2) Analyze Relative Frequency of Citation (RFC) and Informant Concensus Factor (ICF) Values; 3)Lokal food conservation. Data were obtained from 46 informants through semi-structured interview, in-depth interview, and moderate participatory. Data were analyzed using descriptive analysis, quantitative RFC and ICF. The results showed 87 species, 35 families, and 56 genera of wild and semi wild edible plants by the Ngis Manggis Society. The plant families that have the most plant species are Anacardiaceae (22), Fabaceae (5), and Moraceae (5). Fruit (64.36%) is the most widely utilized part of the plant. There are nine plant species that have RFC value = 1. Knowledge of Wild and Semi Wild Edible Plant decreases in younger generations. Yadnya ceremonies make a positive contribution to the sustainability of Wild and Semi Wild Edible Plant

Keywords: Ethnobotany, Wild edible plants, Semi wild edible plant, Lokal food conservation, Ngis Manggis Society

1. Introduction

A reciprocal relationship exists between humans and the local environment in their daily lives. Humans get information from information, terms from flora, fauna, climate, and pests from ecosystems in the form of variations in knowledge used to utilize and manage ecosystems [11]. Although humans are part of the ecosystem, human-nature interactions are considered interactions between human social systems. The social system is everything about humans, their culture, and social organization in the form of behavior, in this case, using plants. Plant resources are the priceless wealth for human welfare. Nature provides humans with everything needed for their survival. However, the selection depends on culture, taste, nutritional value, and availability in nature [5]. Edible plants have become increasingly

difficult to obtain despite their association with the local culture. The Balinese people use this edible plant as a means of Yadnya ceremonies; however, its existence is still neglected.

The people of Ngis Manggis Karangasem Village consist of the *Bali Aga* community and the Hindu Majapahit community (Kompri Jero Mangku Sura, 2019), who occupies a mountainous area surrounded by hills and take advantage of the surrounding plant resources such as from village forests and cultivate dryland agriculture. This village has a hill about 10 km long from the southeast side of Ngis Village in a circle around the Ngis Village area. The livelihoods of the Ngis society are as much as 68% as field farmers with limited water sources and extreme weather where the river dries up in the dry season and is watered during the rainy season. The economy of the Ngis village society is driven a lot by the presence of the yadnya ceremony culture. The yadnya ceremony utilize of wild edible plant (WEP) and semi-wild edible plants (SWEP). The dependence of social life on available plant resources is reflected in a robust customary structure. The plant use system at Ngis Manggis Village has its own uniqueness. The diversity of plants in each region is related to the socio-economic aspects, livelihoods, and utilized system. The essence of cultural products has the same common thread, namely the conservation of biodiversity, even though each culture's traditional wisdom is local, and the approach and language used is different. Biodiversity is important in addition to functioning to support human life; it also has a role in maintaining ecosystems' sustainability.

As an essential method of biodiversity conservation, Ethnobotany has the potential to reveal traditional knowledge systems about the diversity of biological resources, conservation and culture of an ethnic group [2]. Tradition and local knowledge have the same goal: to protect the environment [1]. The values are mutually entangled and directly related to the social system of a society. As reflected by the practices of local wisdom, the value of the environment includes sustainable utilize, maintenance, and protection.

The edible plant (food) are plants that contain nutrients for humans. In ethnobotany research, food plants are grouped into the categories of staple foods, fruits, vegetables, additional staple food, spices, and beverage [24] (Sujarwo and Cuneva, 2016). Human nutritional needs around 85% come from plants [14]. The food consumed has a direct impact on health. The local Batak Simalungun people who consume *tinuktuk* (a traditional herb of various species of Zingiberaceae and Rutaceae) have a healthy body and avoid rheumatic [16]. The habit of consuming tinuktuk is a preserved local culture of the Batak community. Traditional knowledge about the identification, classification, and utilization of plants is passed down through duplication and cultivation practices [9]. A total of 109 plant species are used for food in Semangat Gunung Village, North Sumatra [18].

The diversity of WEP and SWEP, utilization and management at Ngis Manggis village have not been explored. Before being degraded by environmental influences, information, and outside cultural interventions, it is important to documented plant diversity to benefit local culture and conservation.

2. Research methods

1.1 Study Area

The research was conducted at Ngis Village. Ngis Village is located in Manggis District, Karangasem Regency, 22 km from Karangasem Regency, 60 km from Denpasar. The boundaries of the Ngis Manggis Traditional Village in the north with Macang Village, in the south with Sengkidu Village, and in the east with Tenganan Pegringsingan Village, in the

west with Selumbung Village. Ngis Village has an area of ± 556,505 ha. With a rice field area = 0.5 ha, dry land = 404.25 ha. Total population = 1601 inhabitants. The location is in the position of 8000'00 " - 8041'37,8"LS and 115035'9.8 " - 115054'8.9"Et [19].   The Ngis people rely on local plant resources for various daily needs. The livelihood system can be described as a mixed farming system which is dry land farming. The production plants cultivated are *Cocos nucifera L.*, *Musa paradisiaca* L., and *Theobroma cacao* L. Research Map showed as bellow:

Fig. 1. Research Location Map of Wild and semi Wild Edible Plant

2.1 Data collection

2.1.1 Informant selection

The informants were obtained from five people living in the observation village who had adequate knowledge of plant species' diversity as key informants. Informants were obtained by using *a snowball sampling technique* based on the recommendation from one person to another according to the research to be interviewed [17]. Data were collected through a semi-structured interview, in-depth interviews, and moderate participatory observation in order to obtain data on WEP and SWEP. Key informants are members of the society who are considered to have more knowledge than ordinary people about WEP and SWEP by society. Each key informant also acts as a guide to show plant habitats and take photos of plants. The selection of key informants was consulted with society leaders or traditional leaders [4]. The participants' composition was selected based on the consideration of population demographic factors that are directly related to their knowledge of the plant world in their environments, such as age, gender, occupation, and education. To select participants who represent differences in the population's age, the researchers applied a population age range of 17-70 years. So that 46 people were obtained to become participants.

2.1.2 Interviews conducting

In-depth interviews were conducted with competent informants such as the Village Head, society leaders, and farming communities. Likewise, participants who previously recorded the curiculum vitae such as name, age, gender, education, and family profession. Participants identify the names and uses of each plant species photographed [27].

2.1.3 Plant selection.

40 (forty) plants were selected from 87 species used by the society, and plant photos were displayed to 46 participants.

2.2 Data analysis

The data obtained were analyzed using qualitative and quantitative approaches. Qualitative data analysis, the descriptive narrative was carried out through the process of data reduction, data display, and verification [4]. Quantitative analysis was carried out by *Relative Frequency of Citation (RFC)*.

The local interests of WEP and SWEP were calculated using relative frequency of citation (RFC). The formula of RFC index is: RFC = FC / N

(FC) = number of partisipants who mentioned species use, (N) = total number of partisipants [12] (Tardio and Pardo-de-santayana, 2008).

Informant Consensus Factor (ICF)

The informant consensus factor (ICF) Wild Edible Plant was also assessed aimed at evaluating the level of homogeneity of information provided by the participants [15]. The index was calculated as the number of use citations in each category minus the number of species used divided by the number of use citations in each category minus one. The formula of ICF index is:

ICF = *Nur – Nt/ Nur - 1*

Nur = number of use reports from informants for a particular plant-use category, Nt = the number of species that are used for that plant use category based on information provided by participants.

3. Results and Discussion

3.1 Wild Edible Plants (WEP) and Semi Wild Edible Plants (SWEP) Diversity

The results obtained 87 species of 35 families and 56 genera of WEP and SWEP. by the Ngis Manggis society. The plant families that have the most plant species are Anacardiaceae (22), Fabaceae (5), and Moraceae (5). *Mangifera caesia* (wani) is quite diverse, at least 17 cultivars that grow around the forest. The plants obtained grow wild in the village forest, and semi-wild are planted in the people's house yard. This number is more than the food plants used by the Inner Baduy community in Banten, 81 species [26] (Wardah 2003), and the Tengger community in Bromo Tengger Semeru National Park, East Java, 67 species [10]. The number of plant species utilized by the society depends on the diversity of plant species that grow at Ngis village and the society's botanical knowledge. Of the 87 species utilized, only 18 were planted by the people (semi-wild). This means that as much as 79.31% of edible plants still grow wild. Edible wild and semi-wild plants are used mostly as fruits (52) species, vegetables (18), spices (12), and beverages (2) and as additional staple foods (6) species. The parts of plant used include leaf (22.98%), stem (2.29%), flower (1.15%), fruit (64.36%), seed (11.49%), tuber (6.89%), and rhizome (3.44%).
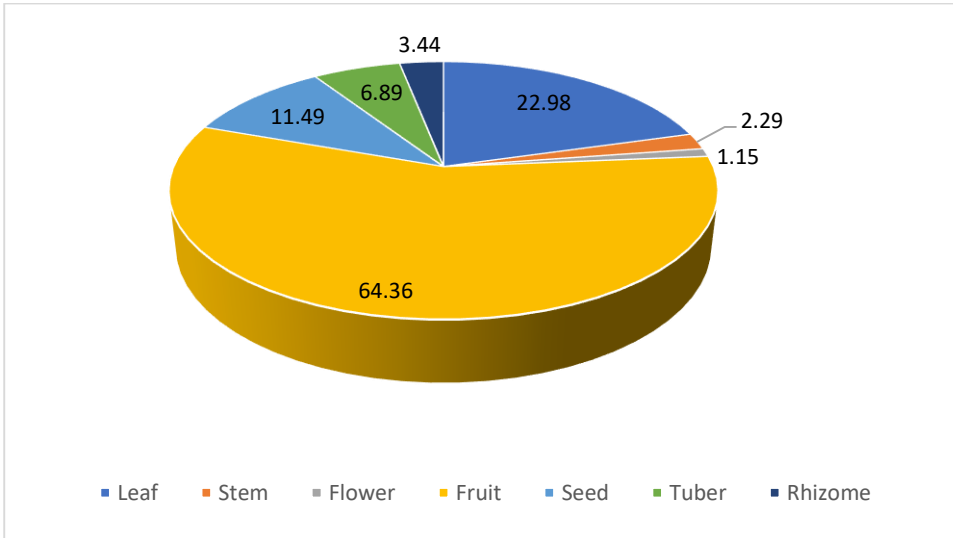
Fig 1. Percentage Plant Parts used
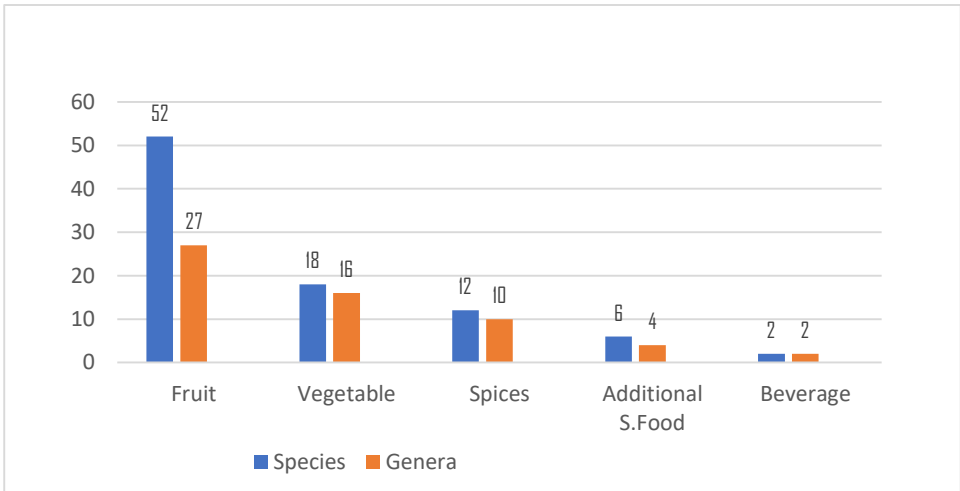
Fig. 2. Category of Plants used

Table 1. Wild and Semi Wild Edible Plant at Ngis Manggis Village

Scientific Name	Local Name	Family	Category	Part of Plant	RFC
Aegle marmelos L.	Bila	Rutaceae	Fruit	Fruit	0.304
Aleurites molccanus L.	Tingkih	Euphorbiaceae	Spices	Seed	0.478
Alpinia galanga L.	Isen	Zingiberaceae	Spices	Rhizome	0.478
Ananas comusus Mer.	Manas	Bromeliaceae	Fruit	Fruit	0.652
Annona muricata L.	Srikaya	Annonaceae	Fruit	Fruit	0.521
Antidesma bunius Spreng	Boni	Phyllanthaceae	Fruit	Fruit	0.347
Araujia sericifera Brot.	Pepe	Apocynaceaej	Vegetable	Leaf	0.478
Arenga pinnata Merr.	Jaka	Arecaceae	Fruit	Fruit, Stem	1.000
Artocarpus camansi Blanco.	Timbul	Moraceae	Vegetable	Fruit, Seed	0.195
Artocarpus communis Forst.	Sukun	Moraceae	Fruit	Fruit	0.195
Artocarpus heterophyllus Lamp.	Nangka	Moraceae	Vegetable, Fruit	Fruit	0.956
Artocarpus odoratissimus Blanco.	Teep	Moraceae	Fruit	Seed	0.782
Averrhoa carambola L.	Belimbing besi	Oxalidaceae	Vegetable	Leaf	0.695
Baccaurea racemosa Reinw.	Kepundung	Phyllanthaceae	Fruit	Fruit	0.282
Benincasa hispida (Thunb.)	Beligo	Cucurbitaceae	Vegetable	Fruit	1.000
Caesalpinia sappan L.	Kayu cang	Fabaceae	Beverage	Stem	0.695
Canna discolor L.	Ubi sebek	Cannaceae	Additional staple food	Tuber	0.304
Capsicum frutescens L.	Tabia	Solanaceae	Fruit	Fruit	0.673
Citrus amblycarpa Hassk.	Limo	Rutaceae	Spices	Fruit	0.478
Citrus aurantiifolia Swingle.	Juuk lengis	Rutaceae	Fruit	Fruit	0.478
Citrus grandis L.	Jerungga	Rutaceae	Fruit	Fruit	1.000
Coccinia grandis L.	Paspasan	Cucurbitaceae	Vegetable	Leaf	0.347
Colocasia esculenta Schott.	Keladi	Araceae	Additional staple food	Tuber	0.260
Curcuma longa Linn.	Kunyit	Zingiberaceae	Spices	Rhizome	0.239
Cyclea barbata L.Miers)	Daluman	Menispermaceae	Beverage	Leaf	0.369
Dioscorea alata L.	Ubi Injin	Dioscoreaceae	Additional staple food	Tuber	0.260
Dioscorea bulbifera L.	Ubiaung	Dioscoreaceae	Additional staple food	Tuber	0.417
Dioscorea hispida Dennst	Gadung	Dioscoreaceae	Additional staple food	Tuber	0.217
Durio zibethinus L.	Duren	Malvaceae	Fruit	Fruit	1.000
Erythrina fusca Lour..	Canging	Fabaceae	Vegetable	Leaf	0.260
Erythrina hypaphorus Boerl.	Delundung	Fabaceae	Vegetable	Leaf	0.347
Eugenia cumini L.	Juwet	Myrtaceae	Fruit	Fruit	0.521
Etlingera elatior Jack.	Kecicang	Zingiberaceae	Spices	Flower	0.347
Euphorbia pulcherrima Willd.	Beludru	Euphorbiaceae	Vegetable	Leaf	0.217
Flacourtia rukam Z.&.M	Ngkem	Salicaceae	Fruit	Fruit	0.434
Garcinia dulcis Roxb.	Mundeh	Clusiaceae	Fruit	Fruit	0.195

Scientific Name	Local Name	Family	Category	Part of Plant	RFC
Gnetum gnemon L.	Melinjo	Gnetaceae	Vegetable, Fruit	Leaf, Seed	0.478
Garcinia dulcis Roxb.	Badung	Clusiaceae	Fruit	Fruit	0.217
Inocarpus fagifer Fosberg.	Gatep	Fabaceae	Fruit	Seed	0.826
Lannea grandis Engl.	Kayu santen	Anacardiaceae	Vegetable	Leaf	0.478
Lansium domesticum L.	Ceroring	Meliaceae	Fruit	Fruit	0.652
Leea indica (Burm.f)	Gegirang	Leeaceae	Spices	Leaf	0.304
Mangifera caesia Jack.	Wani I Payukprungpung	Anacardiaceae	Fruit	Fruit	0.217
Mangifera caesia Jack.	Wani I talenan	Anacardiaceae	Fruit	Fruit, Seed	0.195
Mangifera caesia Jack.	Wani I gula pasir	Anacardiaceae	Fruit	Fruit	0.856
Mangifera caesia Jack.	Wani I tumbeg	Anacardiaceae	Fruit	Fruit	0.304
Mangifera caesia Jack.	Wani I temaga	Anacardiaceae	Fruit	Fruit	1.000
Mangifera caesia Jack.	Wani I gadang	Anacardiaceae	Fruit	Fruit	0.478
Mangifera caesia Jack.	Wani I galuh	Anacardiaceae	Fruit	Fruit	1.000
Mangifera caesia Jack.	Wani I madu	Anacardiaceae	Fruit	Fruit	0.652
Mangifera caesia Jack.	Wani I sambuk	Anacardiaceae	Fruit	Fruit, Seed	0.375
Mangifera caesia Jack.	Wani I sangku	Anacardiaceae	Fruit	Fruit	1.000
Mangifera caesia Jack.	Wani I bangkal	Anacardiaceae	Fruit	Fruit	0.347
Mangifera caesia Jack.	Wani I carang telu	Anacardiaceae	Fruit	Fruit	0.195
Mangifera caesia Jack.	Wani I anggrek	Anacardiaceae	Fruit	Fruit	0.217
Mangifera caesia Jack.	Wani I ngumpen	Anacardiaceae	Fruit	Fruit	1.000
Mangifera caesia Jack.	Wani I kahkah	Anacardiaceae	Fruit	Fruit	0.282
Mangifera caesia Jack.	Wani I ketimun	Anacardiaceae	Fruit	Fruit	0.239
Mangifera caesia Jack.	Wani I sampyan	Anacardiaceae	Fruit	Fruit	0.195
Mangifera indica L	Poh Angus	Anacardiaceae	Fruit	Fruit	0.195
Mangifera indica L	Poh gedang	Anacardiaceae	Fruit	Fruit	0.456
Mangifera indica L	Poh pakel	Anacardiaceae	Fruit	Fruit	0.521
Maranta arundinaceae L.	Ubi parus	Marantaceae	Additional staple food	Tuber	0.217
Manilkara zapota L.	Sabo	Sapotaceae	Fruit	Fruit	0.347
Maranta ramosissima Wall.	Kayu telengisan	Marantaceae	Vegetable	Leaf	0.239
Mimordica charantia L.	Paye	Cucurbitaceae	Vegetable	Fruit	0.173

Scientific Name	Local Name	Family	Category	Part of Plant	RFC

Moringa oleifera Lamk.	Kelor	Moringaceae	Vegetable	Fruit, Leaf	0.478
Morus alba L	Besar	Moraceae	Fruit	Leaf, Fruit	0.239
Mucuna pruriens Wilmot.	Juleh	Leguminosae	Vegetable	Seed	0.108
Muntingia calabura L.	Singepur	Muntingiaceae	Fruit	Fruit	0.304
Nephelium lappaceum L.	Buluan	Sapindaceae	Fruit	Fruit	0.652
Ocimum basilicum L.	Gencarum	Lamiaceae	Spices	Leaf	0.217
Ocimum gratissimum L.	Sulasih	Lamiaceae	Spices	Leaf	0.521
Plectranthus amboinicus L	Ginten	Lamiaceae	Spices	Leaf	0.630
Phyllanthus acidus Skeels.	Cermen	Phyllanthaceae	Fruit	Fruit	0.173
Pangium edule Reinw.	Pangi	Achariaceae	Spices	Seed	0.717
Pisonia alba Span.	Dagdag see	Nyctaginaceae	Vegetable	Leaf	0.978
Psidium guajava L.	Nyambu Sotong	Myrtaceae	Fruit	Fruit	1.000
Punica granatum L.	Delima	Punicaceae	Fruit	Fruit	0.608
Sauropus androgynus L.Merr.	Don kayu manis	Phyllanthaceae	Vegetable	Leaf	0.478
Spondias pinnata Kurz.	Cemcem	Anacardiaceae	Vegetable, Spices	Leaf	0.347
Schleichera oleosa Merr.	Kesambi	Sapindaceae	Fruit	Fruit	0.239
Syzygium aqueum Alston.	Nyambu wer	Myrtaceae	Fruit	Fruit	0.413
Syzygium malaccense L.	Nyambu taluh	Myrtaceae	Fruit	Fruit	0.434
Sandoricum koetjape Merr.	Sentul	Meliaceae	Fruit	Fruit	0.413
Tamarindus indica Linn.	Celagi	Fabaceae	Fruit	Leaf, Fruit, Seed	0.369
Zingiber cassumunar Roxb.	Bangle	Zingiberaceae	Spices	Rhizome	0.478

3.2 Ngis Manggis Society Knowledge in Recognizing and Naming Edible Plants

Ngis people recognize the plants that grow in the surrounding environment from plants' various characteristics, such as morphological and sensory characteristics. Morphological characteristics include the color, size, and shape of plant organs such as leaves, flowers, and fruit because they are most easily observed with the five senses. Morphological characteristics are the easiest to observe, so they are often used in the description of plant species [6]. The smell is a sensory characteristic produced by plants. Sensory characteristics are used to distinguish two or more species when the morphological characters are similar, especially when plants are not flowering or fruiting.

The diversity of *Mangifera caesia* (wani) is relatively high. At least 17 cultivars The naming of Mangifera caesia (wani) is given by the society just like naming of the human being based on shape, size, color, taste, texture (fruit), presence or absence of seeds, and location. This plant is a potential commodity because it has a high economic value. *Wani* (Mangifera caesia Jack.) fruit from Ngis village is famous for its specific sweet taste. *Durio zibethinus* (durian) Which also has the potential of relatively high economic value. It is *a skipper tree* classified by society as a fruit that cannot be picked. People have to wait for the fruit to fall from the tree if they want to take it. So that people who are diligent and patient will get the fruit both for consumption and for sale. The list includes the *skipper* are *Pangium edule* L, *Aleurites molccanus L.*, *Artocarpus odoratissimus* Blanco. And *Mangifera indica* L

In this study, 79.31% of the plants found were wild plants, and of the 52 species that were used in the form of fresh fruit which was directly consumed, some of which were becoming hard to be found, such as *Garcinia dulcis* Roxb., *Mangifera indica* L., and *Mangifera caesia* Jack., The factors that cause the scarcity of these plants include the lack of society effort to cultivate them because the fruit not tasty and other fruit types that are preferred and easier to find in the surrounding environment.

Age groups show high variation in the ability of participants to recognize WEP and SWEP species. The mean number of species identified by each age group of 17-30 years 12.4 ± 14.25, the 31-50 age group identified 23.8 ± 27.35. Age > 50 years, mean 32.6 ± 37.47. People who are more than 50 years recognize WEP and SWEP better than people aged 17-30 years. This shows that the number of time people spends interacting with edible plants, such as eating snacks in their childhood, the habit of playing in the forest around their home and carrying out traditional practices such as cultivation and Yadnya ceremonies, causes them more familiar with plants. Meanwhile, the younger generation is reluctant to pursue a livelihood as farmers and carry out traditional practices like their predecessors. Generally, members of society, especially the younger generation with a higher education level, pursue work outside the agricultural sector. The real cause is isolation from nature, which impacts decreasing botanical knowledge in the younger generation. Many aspects of modernization can cause this alienation, one of which is education [3]

Age does not directly affect one's knowledge of plants, but age is related to certain activities that affect their interactions with plants [27]. Parents in Sukamandi Village, Subang, West Java can recognize tree ferns better than the younger generation [22] (Suryana et al., 2018). In this study, it was found that age is in line with traditional society practice activities such as cultivation and Yadnya ceremonies. The lack of involvement of the Ngis young generation in traditional practices such as cultivation due to changes in livelihoods and involvement in the practice of preparing Yadnya ceremonies has implications for the opportunities obtained to interact with plants. This confirms the general trend of erosion of botanical knowledge among young people around the world [21].

Gender is also not a factor that directly affects botanical knowledge, but in many communities, men and women have different roles, which in turn affect the intensity of their interactions with plants. In this study, men's botanical knowledge was not different from that of women, although they had different roles in interacting with plants. Involvement in interactions with plants both through livelihoods as farmers together and individually and the use in Yadnya ceremonies in the preparation of ceremonial facilities is carried out by both men and women to have equal opportunities to interact with plants.

Several studies in Bengkulu Province did not find differences in botanical knowledge between men and women [27]

3.3 *Relative frequency of citation (RFC)*

Nine plant species are easily recognized by all participants who have RFC = 1. These plants include *Benincasa hispid* (Thunb.), *Durio zibethinu* L, *Arenga pinnata. Merr*, *Citrus grandis*, *Artocarpus heterophyllus*, *Psidium guajava* L., *Mangifera caesi* cultivar of I Sangku, *Mangifera caesia,* cultivar of I Temage, and *Mangifera caesia,* cultivar of I

galuh. Apart from the availability factor, the frequency of plants' use is thought to be one of the factors affecting the participants' knowledge. This plant is very popular, so people widely consume it. In this study, plants with a low RFC value (<0.5) generally grew in village forests and were hard to find around the resident area, were not well known, and doest taste good.

Human survival is very dependent on food, while the variety of food eaten is mostly obtained from food ingredients derived from plants. As much as 85% of food ingredients come from plants [14] (Ministry of Trade of the Republic of Indonesia, 2013). However, in terms of choosing foodstuffs, it depends on culture, taste, nutritional value, and availability in nature [5]   There are changes in the younger generation's dietary habits, gender, occupation, and the level of formal education that impact botanical knowledge [25].

3.4 Informant consensus factor (ICF)

The value of the informant consensus factor (ICF) obtained from this study's results varies widely, ranging from 0 to 1. The highest value of ICF (0.941-0.988) indicates the level of agreement or the best understanding of the informants in terms of WEP and SWEP. [13]. Plants that are used as a beverage have the highest ICF value (0.988), the lowest ICF value in plants used as fruit (0.407). There are two species used as a beverage: *Cyclea barbata* L. Miers., And *Caesalpinia sappan* L. As many as 69 species are utilized for yadnya ceremonies, 11 species are medicinal ingredients, and 3 (three) species for cattle fodder.

Yadnya ceremonies that mostly use WEP and SWEP make a positive contribution to the sustainability of WEP and SWEP, either used directly or processed in the form of local food. There is a tradition called megibung (eating together in the form of a group) on Yadnya ceremonies using local foodstuffs.   and another tradition called *Mecane* usingvariety of tuberous rhizome such as *Maranta arundinaceae* L., *Dioscorea bulbifera* L., *Dioscorea alata* L., *Canna discolor* L. and *Colocasia esculenta* Schott. as mandatory food for *Krama Desa* (Villagers special) after completing the ceremony of *mecane*. The younger generations of New Yorkers who migrated from the Dominican Republic still retain the knowledge of edible plants by continuing to consume them [7].

Maintaining botanical knowledge for the existence of wild and semi-wild edible plants in Ngis Manggis Village, it is very important to make conservation efforts by domestication and cultivation.

4 Conclusion

 Based on the results of research and discussion, it can be concluded that:
1. The Ngis Manggis society, Karangasem, Bali utilizes 87 species with 35 families and 56 plant genera. Edible wild and semi-wild plants are used mostly as fruits (52) species, vegetables (18), spices (12), beverage (2) and additional staple foods (6) species.
2. The Informant Consensus Factor (ICF) value for the WEP and SWEP for the fruit category was (0.407) for the beverage category (0.988). There are 9 species known to all participants (RFC = 1,000).
3. Knowledge of Wild and Semi Wild Edible Plant decreases in younger generations.

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