Plants Diversity of Sasak Tribe Homegarden in Villages around Mandalika, Lombok Island, Indonesia

Slamet Mardiyanto Rahayu
Doctoral Program in Biology, Faculty of Mathematics and Natural Sciences, Brawijaya University, Malang, East Java, Indonesia.
Department of Biology, Faculty of Mathematics and Natural Sciences, Al-Azhar Islamic University, Mataram, West Nusa Tenggara, Indonesia.
slamet.mardiyantorahayu84@gmail.com
https://orcid.org/0000-0002-4693-7662

Luchman Hakim (corresponding author)
Department Biology, Faculty of Mathematics and Natural Sciences, Brawijaya University, Malang, East Java, Indonesia
luchman@ub.ac.id
https://orcid.org/0000-0002-6059-3341

Jati Batoro
Department Biology, Faculty of Mathematics and Natural Sciences, Brawijaya University, Malang, East Java, Indonesia
jati_batoro@yahoo.com
https://orcid.org/0000-0003-0145-2765

Kurniasih Sukenti
Department Biology, Faculty of Mathematics and Natural Sciences, Mataram University, Mataram, West Nusa Tenggara, Indonesia
kurniasihsukenti@yahoo.com
https://orcid.org/0000-0002-0181-4933

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Abstract

Homegarden is part of an interesting cultural landscape in tropical areas, such as on the island of Lombok, Indonesia. Sasak is a native tribe in Lombok Island. Plants that grow in open spaces around the home are called homegarden plants. The owners of homegarden use them for a variety of purposes. There hasn't been much research done on the flora of Lombok Island. The diversity of plants in homegarden around Mandalika, Lombok Island has not been documented until now. This research was conducted to determine the diversity of homegarden plants and their use by the Sasak tribe community in villages around Mandalika, Pujut District, Central Lombok Regency, West Nusa Tenggara Province, Indonesia. The research was conducted using a purposive sampling method. Based on the research, there are 97 families, 304 genera, and 428 plant species. Homegardens in villages around Mandalika, Lombok Island have a high diversity of plant species. Homegarden plants are used for food, ornamental, animal feed, shade, medicine, rituals, industrial, handicrafts, and building materials. Homegardens have the potential for development of sustainable tourism in villages around Mandalika, Lombok Island.

Keywords

Useful Plants, Cultural Landscape, Species Diversity, Local Community, Ecocultural Tourism

Introduction

Homegarden is a part of an interesting cultural landscape in the tropics, namely: an area with diverse types of plants to fulfill the needs of the owner, which physical environmental and socio-cultural aspects cause plants diversity (Rahu et al., 2013; Solossa et al., 2013; Zimmerer, 2014). Homegarden has many important roles. Homegardens are widely researched to answer various global issues, ranging from climates changes mitigation, wildlife conservation, food security and community health. Home gardens conservation support SDGs achievements. Some research reports that home gardens contributes to the SDGs achievements, including Goals 1 (No poverty) (Hossain and Khan, 2023; Irham et al., 2021), Goals 2 (Zero Hunger) (George and Christopher, 2020; Nicholls et al., 2020), Goal 3 (Good Health and Well-being) (Dewi et al., 2023; Hu et al., 2023), Goal 6 (Water Conservation) (Al-Mayahi et al., 2020; Lakshmi et al., 2021), Goal 7 (Affordable and Clean Energy) (Seid & Kebebew, 2022; Sholekha et al., 2023), Goal 8 (Decent Work and Economic Growth) (Ogutu et al., 2023; Tega & Bojago, 2023), Goal 13 (Climate Action: carbon sequestration potencial and climate change mitigation) (Awazi et al., 2023; Darge et al., 2023), Goal 15 (Life on Land: sustainable management and biodiversity) (Hong & Zimmerer, 2022; Kassa et al., 2023).

Coastal areas have been developed rapidly around the world (Saputra et al., 2021). Massive tourism development is one of the main factors causing land use change in coastal areas (Sari & Sari, 2020) resulting in a decrease in the area of agriculture (Lakshmi & Shaji, 2016; Warlina & Ikhsan, 2020), including homegarden. Homegarden is a productive landscape because it has a diversity of plant species so that it is able to maintain ecosystem stability (Hakim, 2014; Santos et al., 2022) and helps the community in building resilience to environmental change (Wiryono et al., 2023). Therefore, reducing the number of homegarden will reduce the stability of the ecosystem and reduce community resilience to environmental changes. Plants in the homegarden are a source of food to meet family food needs (Suwartapradja et al., 2023; Yinebeb et al., 2022). This shows that a decrease in home gardens will reduce household food security. The homegarden can function as a children's playground, a place for social interaction, and a place for carrying out traditional ceremonies (Suwartapradja et al., 2023). Therefore, the reduction of the homegarden will affect the socio-cultural life of the community. The homegarden is the result of community culture in farming. As a result of culture, the homegarden in each region have distinctive characteristics including the plant species in them depending on the needs of the homegarden owner (Hakim & Nakagoshi, 2007). Homegarden play an important role in the development of sustainable tourism (Faruq et al., 2021; Zhou et al., 2022). As a cultural landscape, homegarden is a tourism resource for three reasons. First, the unique vegetation structure and composition plays a role as an object of interest in the development of quality tourism products. Second, the extraordinary appearance of the physical environment gives the landscape uniqueness. Third, there are cultural attributes as an attraction, for example: traditional lifestyles, local customs, festivals, and the arts (Hakim, 2017). Pamungkas et al. (2013) in their research in Rajegwesi, a village on the north coast of Banyuwangi Regency, East Java Province, Indonesia, found 132 plant species in homegardens. They are used as food sources, medical materials, fodder, ornamental plants, building materials, cultural ceremonial materials, and other categories of uses. The diversity of homegarden plants is the main resource for managing tourist destinations. The homegarden provides a comfortable place for visitors, the homegarden is a place to grow various species of food and non-food plants to meet tourist needs, and the homegarden is a tourist attraction (Pamungkas et al., 2013).

Lombok is an island in the Lesser Sunda Islands chains, located between Bali and Sumbawa. Geographically, Lombok is in West Nusa Tenggara Province, Indonesia (Central Bureau of Statistics for West Nusa Tenggara Province, 2023). In order to support the development of Lombok, one of the Special Economic Zone built by Indonesian government in Mandalika (Government of the Republic of Indonesia, 2014). The Special economic zone was surrounded by several villages inhabited by the Sasak tribe, a native people of Lombok Island. The Sasak people interact with their surroundings environment, including their homegarden, on a daily life. Apart from having a positive impact on the economy, Special

Economic Zones also have a negative impact. Some of the negative impacts of Special Economic Zones in India include: land acquisition causing local communities to lose their livelihoods; loss of productive land on the coast and inland; environmental damage; and social alienation (Numani & Rauf, 2013). Some of the negative impacts that occurred in the Kuban Tourism Special Economic Zone, Russia, include: landscape degradation, slope erosion, and loss of soil; garbage pollution; air pollution; lack of drinking water supply; seawater pollution; and water pollution by pesticides (accumulation of harmful compounds in soil and water). The potential negative impact of Special Economic Zone has been observed in Mandalika. Currently, Mandalika is growing into a coastal tourism area with massive tourism facilities and infrastructure developments. This causes erosion of hillsides, flooding, changes in land use including homegarden. Loss of homegarden will result in loss of habitat and decreased biodiversity. Therefore, it is necessary to conserve homegarden in villages around Mandalika. This is because homegardens play a role in preserving biodiversity, socio-economics, food security, and providing various ecosystem services for the community (Chakravarty et al., 2017; Kodoh et al., 2023).

Preserving the homegarden is one of the in-situ conservation strategies, especially plant conservation (Amberber et al., 2014). Homegarden preservation in Mandalika is key for sustainable tourism in coastal area. As of recently, there is no information on the diversity of homegarden plants in villages around Mandalika, Lombok Island. It is especially potential to support community tourism development program. Thus, this research was carried out with the aim of analyzing the diversity of homegarden plants and their use by the Sasak tribe community in villages around Mandalika, Lombok Island.

Methods

Study area

Lombok falls under the ecoregion category of tropics that experience seasonal drought (Brearley et al., 2019). The primary livelihood of the local people in the research area is as a farmer. The Mandalika Special Economic Zone is located in Pujut District. Geographically, Pujut is in the southern part of Central Lombok Regency which is a hilly area and borders with Indian Ocean. Therefore, there are many marine tourism objects. This research was conducted in villages around Mandalika including Sengkol, Kuta, Sukadana, and Mertak Villages which are located in the Pujut District, Central Lombok Regency, West Nusa Tenggara Province, Indonesia (Figure 1).

Field survey

The ethnobotanical approach was combined with the qualitative and quantitative methods. (Albuquerque et al. 2014; Iskandar, 2018). Consent seeking, rapport building, and ethical considerations are important first steps in botanical research. A research permit was made by Brawijaya University, and afterward submitted to the National Unity and Politics Agency of Central Lombok Regency and the Village Government of Sengkol, Kuta, Sukadana, and Mertak. Field research through observation of the homegardens. From each village, 15 samples of homegarden were taken, so that there were 60 homegarden. Each homegarden is averages 400 m^2 in size. Plant species in the homegardens were recorded and the number of individuals counted. Identification of plants refers to several identification books (Van Steenis, 2008; Henderson, 2009; Setyawati et al., 2015). Furthermore, interviews were conducted with the homegarden owner regarding the vernacular name of plant and the uses of these plants. Categories of plant use, namely: food, ornamental, animal feed, medicine, ritual, shade, craft materials, industrial, and building material. In this study, measurements of abiotic factors were carried out, namely: soil temperature and soil pH.

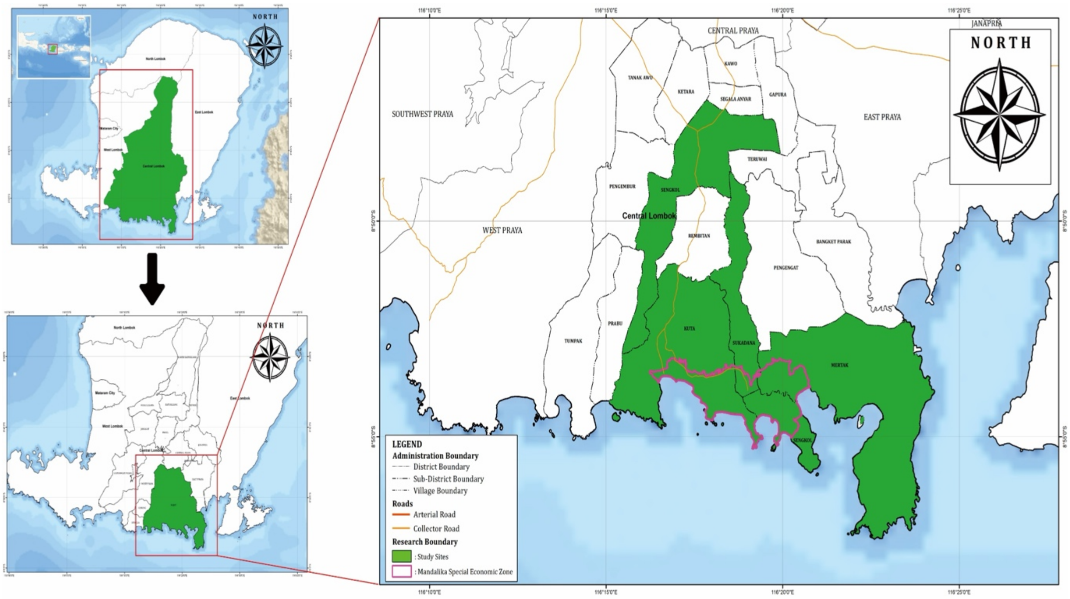

Fig 1. Map of the study area in villages around Mandalika, Lombok Island, Indonesia

Data analysis

The plants that have been identified are then tabulated including families, vernacular names, functions, and Summed Dominant Ratio (SDR). The dominant plant species were analyzed using the index of SDR (Summed Dominant Ratio) from relative density and relative frequency.

$$SDR = \frac{(RD + RF)}{2}$$

...where SDR = summed dominance ratio, RD = relative density (sum of individuals of a plant species/sum of all individuals of all plant species), RF = relative frequency (frequency of certain plant species/total frequency of all plant species) (Whitney et al., 2017).

The plant diversity index and dominance index were calculated in this study. The Shannon-Wienner diversity index was utilized for the analysis of plant diversity.

$$H' = -\sum Pi \ln Pi$$

...where H' = Shannon-Wienner diversity index, Pi = Proportion of the number individuals of a plant species (ni/N), ni = abundance of a plant species, N = total abundance of all plant species. Results of Shannon Wiener diversity index calculation should be categorized below (Odum & Barrett, 2009), there are three levels of biodiversity: high ($H' > 3$), medium ($1 \leq H' \leq 3$), and low ($H' < 1$).

Dominance is analyzed using Simpson's Dominance Index:

$$C = \sum (Pi)^2$$

...where C = Simpson dominance index, Pi = Proportion of the number individuals of a plant species (ni/N). According to Odum & Barrett (2009) that the range of Dominance index values (C) is between 0-1. If the Dominance index value (C)

is close to 0, it means that there are no dominant species, but if the Dominance index value (C) is close to 1, there are dominant species.

The results of the research, included: plant identification, SDR calculation, diversity index, dominance index, measurement of abiotic factors, and categories of plant utilization were then analyzed descriptively.

Results and Discussion

Homegarden Plants Diversity

The Sasak people in the research area have long connected with nature, through using natural resources for their survival. This action creates a direct interaction between humans and plants. Simultaneously, this also creates dependence on plants for society. This is in accordance with Hong (2013), humans have utilized the landscape and surrounding biological resources for the long term. Yinebeb et al. (2022) stated that the homegarden is very important for the conservation of useful plant species because it frequently contains species that do not currently exist or that have been lost from other production systems.

Based on this research, there are 97 families, 304 genera, and 428 plant species found in the homegarden of villages around Mandalika, Lombok Island, as seen in Table 1. This shows that homegarden is a conservation area for a variety of plants and is in accordance with research by Yinebeb et al. (2022), Amberber et al. (2014), and Kewessa (2020). There are 277 species of homegarden plants in Sengkol village, 179 species in Kuta village, 187 species in Mertak village, and 209 species in Sukadana village.

Table 1. Plant diversity in the homegarden of the villags around Mandalika, Lombok Island

Family	Number of genera	Number of species
Acanthaceae	7	9
Acoraceae	1	1
Amaranthaceae	6	14
Amaryllidaceae	3	4
Anacardiaceae	4	4
Annonaceae	3	4
Apiaceae	2	2
Apocynaceae	9	12
Araceae	15	22
Araliaceae	4	6
Araucariaceae	1	1
Arecaceae	15	15
Asparagaceae	9	20
Asteraceae	10	11
Basellaceae	1	1
Begoniaceae	1	1
Bignoniaceae	1	1
Boraginaceae	1	1
Bromeliaceae	1	1
Cactaceae	6	8
Cannaceae	1	2
Caricaceae	1	1
Casuarinaceae	1	1
Celastraceae	1	1
Cleomaceae	1	3
Clusiaceae	2	2
Combretaceae	2	3
Commelinaceae	3	5
Compositae	4	5
Convolvulaceae	1	4
Costaceae	2	2
Crassulaceae	1	1
Cucurbitaceae	8	9
Cycadaceae	1	1
Cyperaceae	1	1
Dennstaedtiaceae	1	1
Dioscoreaceae	1	2
Dryopteridaceae	1	2

Family	Number of genera	Number of species
Loganiaceae	1	1
Lygodiaceae	1	4
Lythraceae	2	2
Magnoliaceae	1	1
Malpighiaceae	1	1
Malvaceae	11	13
Marantaceae	2	2
Meliaceae	3	3
Menispermaceae	1	1
Moraceae	5	18
Moringaceae	1	1
Muntingiaceae	1	1
Musaceae	1	4
Myrtaceae	2	7
Nyctaginaceae	3	5
Oleaceae	2	2
Ophioglossaceae	1	1
Orchidaceae	3	3
Oxalidaceae	1	1
Pandanaceae	1	3
Passifloraceae	2	4
Phyllanthaceae	2	4
Phytolaccaceae	1	1
Piperaceae	2	5
Pittosporaceae	1	1
Poaceae	12	14
Polygonaceae	3	3
Polypodiaceae	3	3
Portulacaceae	1	2
Primulaceae	1	1
Pteridaceae	2	2
Rhamnaceae	2	2
Rosaceae	2	2
Rubiaceae	5	5
Rutaceae	2	5
Salicaceae	2	2
Sapindaceae	3	3
Sapotaceae	2	3

Family	Number of genera	Number of species
Ebenaceae	1	1
Ericaceae	1	1
Euphorbiaceae	8	20
Fabaceae	16	18
Gesneriaceae	2	2
Heliconiaceae	1	4
Iridaceae	2	2
Lamiaceae	13	19
Lauraceae	1	1
Lecythidaceae	1	1
Leguminosae	8	9
Solanaceae	5	7
Talinaceae	1	1
Taxodiaceae	1	1
Thelypteridaceae	1	1
Thymelaeaceae	1	1
Urticaceae	3	3
Verbenaceae	3	3
Vitaceae	3	3
Xanthorrhoaeceae	2	2
Zingiberaceae	5	8

Araceae is the family with the most species in the homegarden of the villages around Mandalika, Lombok Island. According to Croat & Ortiz (2020), the Araceae family includes 144 genera and 3645 species and is found worldwide. Araceae is the most diverse family in morphology, life forms, habitat preferences, growth patterns, phenology, and adaptive modifications for effective pollination (Zulhazman et al., 2021). Araceae is a family of monocotyledon plants known for their morphological and species diversity (Ortiz et al., 2018). This family thrives in a wide range of environments, including forests with an understory, riverbanks, open swamps, and even areas that are relatively dry. Araceae is highly diverse in Indonesia (Yuzammi, 2018).

Homegarden Plants Diversity Index

Based on the analysis of Shannon-Winner diversity index (H') that homegarden plant diversity in the four villages into the high diversity category (H'>3), as seen in Table 2. This is consistent with the statement of Berkowitz & Medley (2017) that homegarden is a landscape with high plants diversity. Based on a survey of 14 homegardens and interviews at St. Eustatius, Deutch Carribean there were 277 plant species. Homegarden plants can be a useful resource and a source of income. Gardening activities offer a biocultural approach to conservation that supports plant diversity and community livelihoods throughout the landscape of St. Eustatius Island, Deutch Carribean (Berkowitz & Medley, 2017). The number of species that live in a certain place and differ in both form and nature, as well as between members of the same group, is known as species diversity (Ewuise, 1990). An ecosystem's stability is synonymous with diversity. An ecosystem's condition is stable when its diversity is relatively high. (Odum & Barret, 2009). This means that the homegarden conditions in the villages around Mandalika, Lombok Island is stable.

In terms of ecology, the variety of plant species indicates that the current system is stable and resistant to disease and pests. Additionally, litter layers frequently have the ability to prevent surface soil erosion. Globally, the variety of plant species found in homegardens varies based on the climate. The physiology and adaptation of plant species that can grow in the homegarden are greatly influenced by the local climate. The huge number of plant species in the homegarden makes the homegarden as a natural gene bank (Hakim, 2014).

The homegarden plant diversity is heavily influenced by socioeconomic and cultural factors. The homegarden becomes richer in plant species as a result of awareness of the significance of conserving the environment, appreciation of the environment, and appreciation for plants. The plant species planted will either increase the household's income or not depending on economic factors. The existence of a variety of valuable plants frequently serves as a symbol of prosperous economic conditions. The ability to import these plants from the flower market to add to the homegarden plant collection is impacted by established family economic conditions. Several plant species of high economic value and planting these plants is a representation of the economic ability of the homeowner. For instance: various species of orchids are expensive flowers that are purchased by certain people after their basic life needs are met. Strong community culture in maintaining traditions affects the profile of the community homegarden (Hakim, 2014).

Conservation is the act of using resources in a sustainable manner. Conservation is protecting species, studying and using natural and biological resources wisely. Conservation is currently an important issue for the world community because it is one of the hopes in preserving global biodiversity for human life in the future. Homegarden conservation means utilizing the homegarden with numerous plants species in it optimally and sustainably (Hakim, 2014).

Homegarden Plants Dominance Index

Summed Dominant Ratio (SDR) is the sum of relative frequency and relative dominance. Therefore, plants that have a high SDR are plants that have a high frequency or can be recorded in many samples and have a high number of individuals in the research location samples. Fifty plant species with highest Summed Dominance Ratio (SDR) and their fuctions were recorded in homegardens of the villages around Mandalika, Lombok Island can be seen in Appendix. In this study, the plant species with the highest total SDR value was *Cocos nucifera* L. (*nyiur*) (28.62%) followed by *Sesbania grandiflora* (L.) Pers. (*ketujur*) (16.67%). Plants with high SDR values mean that these plants are commonly found in the homegarden of villages around Mandalika, Lombok Island. This is because these plants are widely used by the community so that they cultivate these plants in their homegarden.

Dominance index range between 0-1. Dominance index categories according to Ludwig & Reynold (1988), to be specific: low dominance ($0 < C \leq 0.5$), moderate dominance ($0.5 < C \leq 0.75$), and high dominance ($0.75 < C \leq 1.0$). In light of the Simpson dominance index analysis, homegarden in each village has a low plant dominance index (Table 2). This indicates that there is no species that dominate other species in an extreme, that the environment is stable, and that there is no ecological pressure in the homegarden of the villages around Mandalika, Lombok Island.

Table 2. Biotic and abiotic factors in homegarden of villages around Mandalika, Lombok Island

Village	Number of Species	H’	C	Soil Temperature (°C)	Soil pH
Sengkol	277	4,684	0,017	25-33	5.5-7.0
Kuta	179	4,211	0,032	27-30	6.0-6.5
Mertak	187	4,076	0,035	26-30	6.5-6.8
Sukadana	209	4,507	0,022	28-30	6.0-7.0

Homegarden Abiotic Factors

Plants interact with abiotic factors (Heinze et al., 2017). The following abiotic factors influence plant growth: soil temperature and pH. One of the abiotic factors that control plant growth is temperature (Walne & Reddy, 2022). Because it provides mechanical support, nutrients, and water, the soil is essential for plant life’s maintenance. The soil is a significant heat store. Numerous biological processes are catalyzed by soil temperature. The moisture, aeration, and availability of plant nutrients that are necessary for plant growth are all affected by soil temperature (Onwuka, 2018). The temperature for plant growth goes from 15-40°C. Plant growth slows down at temperatures above 40°C and below 15°C. Temperature plays a role in activating biochemical and physiological reactions in plants (Wiraatmaja, 2017). The biogeochemical processes of soil are significantly influenced by the soil pH. As a result, soil pH is referred to as the “master soil variable” because it has a significant impact on a wide range of biological, chemical, and physical properties as well as processes that influence plant growth and biomass yield (Neina, 2019). Soil pH influences the availability of soil nutrients, soil microbial activity, and plant growth and development (Zhang et al., 2019). The entire chemistry of plant nutrient colloidal solutions is controlled by the concentration of hydrogen ions, which is what determines the soil's pH (Msimbira & Smith, 2020). Soil pH affects the ability of the soil to provide nutrients for plants. Thus, the pH of the soil is one indicator of soil fertility. In the pH range of 6-7, plant nutrients are most readily available (Hutasuhut, 2020). The result of measuring soil temperature and soil pH can be seen in Table 2. Based on measurements, it can be said that soil temperature (25-30°C) and soil pH (5.5-7.0) at the research site are appropriate for plant growth. As a result, homegardens in the villages around Mandalika, Lombok Island, can support a variety of plant species and are rich in biodiversity.

Based on the SDR analysis, three plant species were found most commonly in the homegarden of villages around Mandalika, Lombok Island, namely: *Cocos nucifera* L. (*nyiur*) (28.62%), *Sesbania grandiflora* (L.) Pers. (*ketujur*) (16.67%), and *Mangifera indica* L. (*paok*) (15.63%). This suggests that the abiotic factors at the study site are suitable for the three-plant species' growth and development. *C. nucifera* L. (*nyiur*) can be found throughout the tropics, where it is entwined with local people lives. It can be found in every tropical and subtropical region located 23 degrees north and south of the equator. According to Chan & Elevitch (2006), *C. nucifera* L. (*nyiur*) thrives in soil with a pH of 5.5-7. According to the Australian Center for International Agricultural Research (2020), *S. grandiflora* (L.) Pers. (*ketujur*) can thrive in soils ranging from slightly alkaline to slightly acidic, with the lowest pH being 4.5. Fitmawati et al. (2016) stated that *Mangifera* is one of the most important genera in the Anacardiaceae plant family, which produces a significant amount of fruit worldwide. *M.indica* L. (*paok*) can grow ideally at pH 5.5-7.5 (Bally, 2006).

The Use of Homegarden Plants

Landscape diversity that creates biodiversity and cultural diversity is related to human survival which is closely related to traditional life and related natural resources (Hong et al., 2018). Homegarden is a cultural landscape. Homegarden plants in the villages around Mandalika, Lombok Island are used by local people, as seen in Figure 2. In the research area, the majority of homegarden plants were ornamental plants, followed by food plants, plants for animal feed, shade plants, plants for ritual, plants for building materials, medicinal plants, plants for handicrafts, and industrial plants. The community relies on homegarden plants to meet a variety of needs. This is in line with Nair et al. (2021) that the homegarden consists of various plant species and is used by the community for various purposes. This shows that community respects and uses natural resources. People inherit a bioculture that they use throughout their lives and have a close relationship with biological resources (Okano & Matsuda, 2013). Biocultural diversity is a sign that nature and human life always coexist. Humans are very dependent on nature and cannot live without natural resources. Humans and nature are interdependent, interconnected and complementary in the ecosystem (Hong, 2019).

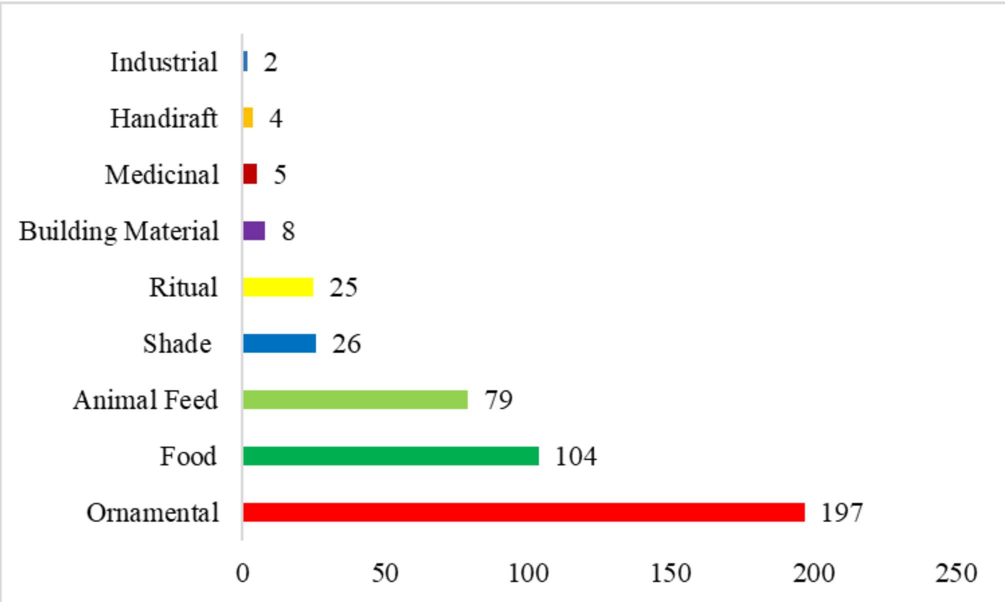

Fig 2. Number of species indicating the use of homegarden plants

Multipurpose Plants

Multipurpose plants are plants that have more than one use. Based on SDR analysis, the most common multipurpose plants found in the homegarden of villages around Mandalika, Lombok Island are *Cocos nucifera* L. (*nyiur*) (28.62%) and *Mangifera indica* L. (*paok*) (15.63%). *C.nucifera* L. (*nyiur*) is planted as a food crop and building material plant. Meanwhile, *M. indica* L. (*paok*) is planted to harvest its fruit and be consumed by the community and this tree causes the homegarden to be more shady.

The coconut tree is the most broadly established tree on the world (Sobral et al., 2018), such as in homegardens of the villages around Mandalika, Lombok Island, as seen in Figure 3. Coconuts (*C. nucifera* L.) (*nyiur*) are grown and consumed by many people. The part of the coconut plant that is used as food by people in villages around Mandalika, Lombok Island are coconut fruit and stem. Coconut meat can be processed into coconut milk and grated coconut which is then used as an ingredient in making traditional food. Coconut water is consumed as a fresh drink. It also used in making traditional drinks. They also use coconuts to make coconut oil.

Coconut milk is a white, milky liquid extracted from old coconut meat (Grumezescu and Holban, 2019). Coconut milk contains energy in calories, all-out fat content, pH, water, total sugars, reducing sugars, and sucrose as per the following: 135.94 kcal, 14.00 grams, 790.33 grams, 0.70 grams, 0.15 grams, and 0.55 grams, respectively. Also, the derived results for protein content, total solids, ash, total carbohydrate, non-fat milk solids, calcium, and vitamins are as per the following: 2.22 grams, 9.67 grams, 0.83 grams, 0.89 grams, 1.99 grams, 92.46 mg, and 18.59 mg, respectively (Tulashie et al., 2022).

Young green coconut water is perhaps of the most famous drinks in Indonesia. A portion of the advantages of young green coconut water is dispensing with lack of hydration in the body, neutralizing toxins, eliminating skin break out, and treating measles. The coconut flesh and water are typically consumed together. Green coconut water is effective for expelling urine output and treating urinary tract infections (Sukenti, 2019). Coconut water is widely consumed because of its properties that strengthen, improve digestion, and refresh. Protein, fat, carbohydrates, phosphorus, and calcium can all be found in coconut water (Coulibaly et al., 2023).

Coconut oil is a vegetable oil that has been used in food for thousands of years in tropical areas (Boateng et al., 2016), such as in villages around Mandalika, Lombok Island. Coconut oil is one of the basic needs of society. As one of the important food substances for the human body, oil is a source of energy. As much as 1 gram of oil contains 9 kcal (Winarno, 1984). Coconut oil plays an important role in food processing because it has a high boiling point. Therefore, coconut oil can be used to fry food to make it drier (Janurianti et al., 2018).

C.nucifera L. (*nyiur*) is grown as a building material plant because it has strong and durable wood, light weight, available in large quantities, environmentally friendly, and sustainable (Sodangi & Kazmi, 2020). The community uses *C. nucifera* L. (*nyiur*) wood for roof trusses, walls, and building pillars. *C. nucifera* L. (*nyiur*) wood is strong and durable because it is not easily damaged by termites, wood beetles, rats, or fungi. *C.nucifera* L. (*nyiur*) wood also has straight, firm grain with a brownish-black color reflecting its beautiful artistic value. The use of *C. nucifera* L. (*nyiur*) as a building material is environmentally friendly because the *C. nucifera* L. (*nyiur*) wood used comes from unproductive coconut trees.

Mangifera indica L. (*paok*) is a tropical fruit that is very popular because of its sweet taste, fragrant aroma, and quite large size. Ripe mangoes can be consumed directly as fruit. The Sasak people in villages around Mandalika, Lombok Island process young mangoes into *beberok paok*. Bally (2006) stated *M. indica* L. (*paok*) tree is 3-10 m high and is used as a shade tree because it has dense leaves and an evergreen, shady umbrella-shaped canopy.

Ornamental Plants

Numerous ornamental plants are grown in homegardens of the villages that surround Mandalika, Lombok Island. Ornamental plants are plants that have certain beauty and appeal. Ornamental plants assume a part in making the aesthetic value of a homegarden. Aesthetics is a form of harmony and beauty that comes from the harmony of biodiversity that humans need to feel calm, balanced, happy, and at peace. In a dynamic landscape system, the diversity in the number, structure, and composition of species creates aesthetic values that humans can appreciate. People are continuously searching for the magnificence of nature, and saving biodiversity at all levels is the way to give wonderful nature to be delighted in from generation to generation (Hakim, 2014).

Based on SDR analysis, the most common ornamental plants found in the homegarden, namely: *Dypsis lutescens* (H.Wendl.) Beentje & J.Dransf (*palem kuning*) (3.02%) and *Syzygium myrtifolium* Walp. (*pucuk beak*) (2.13%). Rakotoarinivo & Dransfield (2012) considered that *D. lutescens* (H.Wendl.) Beentje & J.Dransf (*palem kuning*) is a species with Near Threatened (NT) status. *D. lutescens* (H.Wendl.) Beentje & J.Dransf (*palem kuning*) can be found planted in the homegarden in villages around Mandalika, Lombok Island, as seen in Figure 3. This mean that the homegardens in the villages around Mandalika, Lombok Island are a good conservation area for a plant species. Aranda-Jimenez et al. (2020) stated that *D. lutescens* (H.Wendl.) Beentje & J.Dransf (*palem kuning*) is the most widely used species of palm as an ornamental plant in the landscape. The fact that *D. lutescens* has multiple stems, each of which contains its own roots, makes it possible for it to be divided and planted in different areas without dying. This makes it easier for it to reproduce (Shanmugasundaram et al., 2018). *D. lutescens* (H.Wendl.) Beentje & J.Dransf (*palem kuning*) is much liked by people to be planted in their homegarden. The leaves are pinnate yellowish green and the midrib is bright yellow.

Syzygium is a genus of flowering plants. This genus is widely distributed in tropical and subtropical areas, including: South Africa, South America, Australia, and Southeast Asia (Badou et al., 2020), such as in villages around Mandalika, Lombok Island, Indonesia. *S. myrtifolium* Walp. (*pucuk beak*) is a species that is widely known as an ornamental plant. *S. myrtifolium* Walp. (*pucuk beak*) is popular by community because it has a unique color. When young, the leaves are red, then over time the leaves will turn green.

Food Plants

Numerous of homegarden plants species are utilized for food by community in villages around Mandalika, Lombok Island. Vegetables, fruits, cooking spices, beverages for humans, and food coloring are all included in the food category. This indicates that home gardens contribute significantly to food diversity and security (Castaneda-Navarette, 2021). Homegarden is a cultural landscape of an agroecosystem. Cultural landscape based agroecosystem conservation assumes a significant part in land conservation and supports food security for local communities. Because of their high biodiversity, many cultural landscapes play a role in storing genetic diversity reserves for plant breeding. Planting various species of plants in the homegarden can be said to be a community culture in farming in the environment around the house. The intensity of utilization of vegetables, spices and other foodstuffs causes these plants to be planted in the homegarden, where the locations are easily accessible (Hakim, 2014).

Homegardens are an important component of the local food systems of families around the world. The amount of food and nutrients consumed by a household can be increased by proper homegarden management (Issahaku et al., 2023). In the Law of the Republic of Indonesia No. 18 of 2012 Chapter I, it is explained that what is meant by food security is the condition of fulfilling food for the state up to individuals, which is reflected in the availability of sufficient food, both quantity and quality, safe, diverse, nutritious, equitable, and affordable and does not conflict with the religion, belief, and culture of the community, to be able to live a healthy, active, and productive life in a sustainable manner (Government of the Republic of Indonesia. 2012). In addition to providing healthy and fresh food, homegarden is one of the pillars of food security. Homegarden also serves as a means of achieving household food diversity by providing a variety of household food sources (Onomu et al., 2022). The homeowner cultivates a variety of plants and vegetables for consumption. Occasionally, particularly during harvest time, homegarden provides the household with an abundance of food (Rammohan et al., 2019).

Based on SDR analysis, the most common food plants found in the homegarden, namely: *Musa paradisiaca* L. (*puntik lumut*) (15.13%) and *Carica papaya* L. (*gedang*) (8.45%). Bananas are the leading fruit commodity in Indonesia. One of the species is *M. paradisiaca* L. (*puntik lumut*). Bananas can be consumed in fresh form or processed first. Ripe *M. paradisiaca* L. (*puntik lumut*) fruit is orange-yellow in color and smells good (Syukriani et al., 2021).

C.papaya L. (*gedang*) is a sweet tropical fruit. This plant was first cultivated in Mexico several centuries ago. Currently this plant has been widely cultivated in most tropical countries (Ali et al., 2012), such as Indonesia. *C.papaya* L. (*gedang*) fruit contains vitamins A, B, C, E, and K, folic acid, pantothenic acid, zeaxanthin, lycopene, lutein, magnesium, copper, calcium, potassium, phosphorus, iron, fiber, sugar, carbohydrates, and protein (Koul et al., 2022). Young *C. papaya* L.

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(*gedang*) fruit is processed into dishes and eaten with rice. While the old *C. papaya* L. (*gedang*) fruit is consumed directly by the community in villages around Mandalika, Lombok Island.

Plants for Animal Feed

One factor that influences livestock growth is animal feed (Foenay & Koni, 2021). Ruminants like cattle are widely cultivated by people in villages around Mandalika, Lombok Island. Forage is used to feeding ruminant animals (Ginting & Mirwandhono, 2021). Therefore, many people grow various plants that are useful as animal feed in their homegardens.

Cocos nucifera in the homegarden

Sesbania grandiflora in the homegarden

Dypsis lutescens in the homegarden

Corypha utan in the homegarden

Fig 3. Homegarden in villages around Mandalika, Lombok Island

Based on SDR analysis, the most common animal feed plants found in the homegarden, namely: *Sesbania grandiflora* (L.) Pers. (*ketujur*) (16.67%) and followed by *Leucaena leucocephala* (Lam.) De Wit (*seputre*) (11.23%). According to Bunma and Balslev (2019), *Sesbania* is a genus in the Leguminosae family that is widely cultivated and used by people in tropical regions, particularly Southeast Asia, such as the villages around Mandalika, Lombok Island, as seen in Figure 3. *S. grandiflora* (L.) Pers. (*ketujur*) is one of the plants grown in homegarden that is used as animal feed (Bunma and Balslev, 2019; Patric et al., 2020). *S. grandiflora* (L.) Pers. (*ketujur*) is a good feed for ruminants (Unnawong et al., 2021) because it contains 18.8-31.7% protein, 1.9-4.8% crude fat (Utami et al, 2012) and 15.4-17.8% crude fiber (Gohl, 1981).

In addition to *S. grandiflora* (L.) Pers. (*ketujur*), the plant *L. leucocephala* (Lam.) De Wit (*seputre*) is also widely cultivated and utilized as animal feed in the villages around Mandalika, Lombok Island. According to Zapata-Campos et al. (2020), the leaves and pods of *L. leucocephala* are valuable forage for ruminants because of their low fiber content, high crude protein content, moderate in vitro fermentation characteristics, and high mineral content.

Plants for Building Materials

One of the classes of plant usage by the local people in the research area is for building materials. This is consistent with the findings of Suwartapradja et al. (2023) and Yinebeb et al. (2022), there are plants in the homegarden that can be used as building materials.

Based on SDR analysis, the most common building material plants found in the homegarden, namely: *Bambusa vulgaris* Schrad. (*treng aur*) (7.71%) and followed by *Swietenia mahagoni* (L.) Jacq. (*mahoni*) (5.25%). *B. vulgaris* Schrad. (*treng aur*) (bamboo) is woven into fences, cages, walls and roofs of houses, as well as *berugaq* in the villages around Mandalika, Lombok Island. *Berugaq* is a traditional building that serves as a place to welcome guests and is separate from the main house.

Bamboo has potencial applications in sustainable architecture. Its advantages include being renewable, growing with solar energy, absorbing carbon dioxide rather than releasing it into the atmosphere and growing faster than wood. Bamboo can be reintegrated back into the environment at the end of its cycle life, and its physicomechanical properties make it suitable for engineering applications (Neto et al., 2021). Escamilla et al. (2016) and Escamilla et al. (2018) emphasized bamboo's long-term viability. It has been shown that bamboo-based construction has no ecological effect concerning carbon dioxide emissions (Neto et al., 2021).

S. mahagoni (L.) Jacq. (*mahoni*) is planted by people in villages around Mandalika, Lombok Island and the wood is used as building material, for example: as door and window frames for houses. *S. mahagoni* (L.) Jacq. (*mahoni*) wood is also used as a material for making *berugaq*. This is because the wood of this plant is hard and has a beautiful texture.

Medicinal Plants

Since ancient times, plants have been used in medicine (Ojha et al., 2020). According to Fauzi & Widodo (2019), a community's relationship with its environment and local culture both influence its medicinal practices. Traditional medicinal plants are typically found in homegarden (Agustina et al., 2022; Iskandar et al., 2023). Information about the use of plants as traditional medicine has been passed down from generation to generation of Sasak people in villages around Mandalika, Lombok Island.

Based on SDR analysis, the most common medicinal plants found in the homegarden, namely: *Chromolaena odorata* (L.) R. M. King & H.Rob. (*daun pki*) (2.54%) and followed by *Morinda citrifolia* L. (*pace*) (2.29%). The majority of people living in the location of the research have cattle, so they constantly look for plants to feed their animals. During these activities, they frequently sustain injuries, such as accidental scratches or abrasions from being struck by a sickle, wood, or thorny branches. The local people at the research site use *C. odorata* (L.) R. M. King & H.Rob. (*daun pki*) leaves to treat wounds as first aid. A few leaves of *C. odorata* are crushed and afterward pressed and the water is taken and rubbed on the injured skin. This is in line with the findings of Resmi & Amsamani (2022) research as well as those of Vijayaraghavan et al. (2017) that the leaves of *C. odorata* (L.) R. M. King & H.Rob. (*daun pki*) are helpful for wound healing. *C.odorata* (L.) R. M. King & H.Rob. (*daun pki*) is reported to have antibacterial, haemostatic, and wound-healing efficacy (Paul et al., 2021). Fresh leaves of *C. odorata* (L.) R. M. King & H.Rob. (*daun pki*) or its decoction have been used by practitioners of traditional medicine for the treatment of burns, soft tissue wounds, ulcers, and postpartum wounds (Panyaphu et al., 2011). The effectiveness of wound healing is linked to this plant extract's flavonoids (Gopalakrishnan et al., 2016). Flavonoids, a large group of phytochemicals, have a variety of known beneficial effects related to health including antioxidant and free radical effects (Chandra et al., 2015; Mamta et al., 2015). The healing of cutaneous wounds is significantly accelerated when compounds with free radical scavenging properties are applied topically (Martin, 1996).

The Sasak people in villages around Mandalika, Lombok Island use *M.citrifolia* L. (*pace*) leaves as a fever-reducing drug (antipyretic). This is in accordance with the research of Herdaningsih et al. (2019). The antipyretic effect of *M.citrifolia* L. (*pace*) leaf extract is thought to be due to the presence of flavonoid compounds contained in *M.citrifolia* L. (*pace*) leaf. Flavonoid content in *M.citrifolia* L. (*pace*) leaves can inhibit cyclooxygenase enzymes, especially cyclooxygenase-2 which plays a role in the formation of prostaglandins so that fever is inhibited (Herdaningsih et al., 2019).

Plants for Handicraft

All over the world, crafts based on plant are a part of folk culture. Handicraft materials are made from a variety of plant parts, including leaves, stems, twigs, shrubs, roots, fruits, and seeds (Nedelcheva et al., 2011). Based on SDR analysis, the plants used for handicraft that are most commonly found in the homegarden, namely: *Corypha utan* Lam. (*male*) (2.08%) and followed by *Pandanus tectorius* Parkinson ex Du Roi (*pudak dui*) (0.70%). In Indonesia, *C. utan* Lam. (*male*) is native in Java, Kalimantan, Papua, Maluku, Sulawesi, Sumatera, and Lesser Sunda Islands (Loftus, 2013), such as in homegardens of the villages around Mandalika, Lombok Island, as seen in Figure 3. *P.tectorius* Parkinson ex Du Roi (*pudak dui*) is distributed near the coast in Southeast Asia, including Indonesia (Thomson et al., 2019). Therefore, this plant can be found in villages around Mandalika which is the southern part of Lombok Island which is close to the beach. In the community where the research was conducted, *C. utan* Lam. (*male*) leaves are used to weave hats and fans. While the leaves of *P.tectorius* Parkinson ex Du Roi (*pudak dui*) are woven into mats by people in villages around Mandalika, Lombok Island. Setiawati et al. (2017) stated an ancient art form is *anyaman* or woven. Since the beginning of human civilization, its existence has been documented (Setiawati et al., 2017). The old leaves of the *C. utan* Lam. (*male*) and *P.tectorius* Parkinson ex Du Roi (*pudak dui*) are used as a raw material for weaving. The community in the villages around Mandalika, Lombok Island says that old leaves are chosen because the fiber used in the weaving doesn't break easily. This is in line with the findings of Nedelcheva et al. (2011), who stated that the fibers and parallel venation of monocot plant leaves contain a significant quantity of silicon compounds that guarantee flexibility, toughness, and durability. *C.utan* Lam. (*male*) and *P.tectorius* Parkinson ex Du Roi (*pudak dui*) woven leaf handicrafts are usually sold so that they can play a role in increasing people's income. Culturally, handicraft art can demonstrate or introduce a cultural identity that has been handed down from one generation to the next. This should keep on being kept up with, safeguarded, and passed down flawlessly from the older generation to the younger generation so that its presence is all around protected. One of the supporting community's cultural potentials will be the existence of cultural craft arts, which will then become a particular society's main characteristic. Skills based on local wisdom, such as woven craft arts, have improved the economic quality of the local community in terms of economic value (Latifah et al., 2019).

Industrial Plants

The industrial plants found in the homegarden, namely: *Nicotiana tabacum* L. (*mako*) (0.16%) and *Gyrinops versteegii* (Gilg.) Domke (*gaharu*) (0.08%). *N. tabacum* is an annual plant that is closely related to the cigarette industry. According to Septiadi et al. (2022), tobacco L. (*mako*) is a superior product with high economic value. Tobacco L. (*mako*) farming activities in West Nusa Tenggara Province have established good cooperation through a partnership pattern between tobacco processing companies and farmers (Nur & Salim, 2014). *G.versteegii* (Gilg.) Domke (*gaharu*) is a species of agarwood that distributed in eastern Indonesia, including Lombok Island, West Nusa Tenggara (Sukenti et al. 2021). Some people in villages around Mandalika, Lombok Island cultivate *G.versteegii* (Gilg.) Domke (*gaharu*) in their homegarden. This is in accordance with the statement of Sukenti et al. (2021), *G.verstegii* (Gilg.) Domke (*gaharu*) can be cultivated in yards and harvesting can be done 6-7 years after planting. The use of *G.versteegii* (Gilg.) Domke (*gaharu*) stems or wood is primarily intended for extracting agarwood resin. Agarwood is then sold to buyers for further processing such as distillation to obtain agarwood oil which is used in the manufacture of perfumes, fragrances, cosmetics, aromatherapy, and others (Hadi et al., 2011).

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Plants for Ritual

Landscape use in an area reflects the socio-economic and cultural conditions of the area (Kim, 2016). Ritual is a form of culture. People in Indonesia are accustomed to doing ritual activities in their lives (Izzah et al., 2021). Several plants are used in ritual activities (Suwartapradja et al., 2023; Yinebeb et al., 2022). In ritual activities, a species cannot be substituted for another (Koentjaraningkrat, 2009). According to Iskandar and Iskandar (2017), the primary function of these plant species is related to symbolism. Homegarden is one of the landscape used by Sasak people to cultivate plants used in various rituals. Based on SDR analysis, the most common ritual plants found in the homegarden, namely: *Areca catechu* L. (*buak*) (3.52%) and *Ziziphus mauritiana* Lam. (*gol*) (2.83%). *A.catechu* L. (*buak*) and *Z.mauritiana* Lam. (*gol*) are distributed in Africa, the Pacific Islands, Asia, including in Indonesia (Staples & Bevacqua, 2006; Ye & Qin, 2019), such as in villages around Mandalika, Lombok Island.

A.catechu L. (*buak*) fruit is used in *Sembeq* activities. *Sembeq* is performed to drive evil spirits out of an individual's body. People in the villages around Mandalika, Lombok Island, still conduct *Sembeq* tradition, which has been handed down from generation to generation. *Sembeq* is a symbolic tradition of the people of Lombok and in practice, it is accompanied by prayer or chanting spells. *Sembeq* develops in various traditional ceremonial activities, for example, *pedaq api*, *peresean*, *bau nyale*, weddings, and welcoming traditional guests. While *Z.mauritiana* Lam. (*gol*) leaves are kneaded and then mixed into the water to bathe the corpse. This is intended as a perfume and clean the dirt on the body of the corpse.

Shade Plants

In the villages around Mandalika, Lombok Island, homegardens with a lot of plants species serve important ecological functions like producing oxygen, shading or shielding from the sun, and providing strong wind protection. Based on SDR analysis, the most common shade plants found in the homegarden, namely: *Terminalia catappa* L. (*ketapang*) (4.14%) and followed by *Hibiscus tiliaceus* L. (*waru*) (3.61%). Shade plants are plants that are planted with the aim of protecting existing people or objects under or around it from the scorching sun.

The two plant species are widespread in tropical America, Australia, the Pacific Islands, Asia, including Indonesia (Thomson & Evans, 2006; Elevitch & Thomson, 2006). Marjenah & Putri (2017) and Marjenah et al. (2021) stated that the shady crown of the *T. catappa* L. (*ketapang*) makes it a shade plant. Likewise with *H.tiliaceus* L. (*waru*) which has a spreading canopy. *T.catappa* L. (*ketapang*) is a perennial tree that has a symmetrical canopy that spans about 9 meters and reaches heights of 15-25 meters (Oboh, et al., 2008). The impact of the plant canopy on the microclimate is connected with the presence of the crown and stem. Branches and leaves reflect daylight and retain a portion of the solar radiation during the day, so less energy reaches the ground below the canopy (Arx, 2012). The advantages of growing *T. catappa* L. (*ketapang*) trees will affect the environment that feels shadier because the leaves and branches filter a lot of sunlight so which can lower the air temperature and allow the area to cool down (Marjenah et al., 2021).

Homegarden and Tourism Development

This research is one of the very few studies to describe the ecoculture of Lombok Island. Especially, these are great resources to learn about how local communities are utilizing the plants around them. Homegarden can be an important keyword to describe ecoculture. Therefore, homegarden in villages around Mandalika, Lombok Island, have the potential to contribute in ecocultural tourism development. So that these villages can become rural tourism destinations. Pamungkas et al. (2013) stated that a rural tourism destination is an area that has several characteristics and special attractions to become a tourist destination. The interaction of local people with plants is a tourist attraction (Blandariz et al., 2020). Innovations in the form of a combination of tourism and agriculture can be carried out (Santiago & Buot, 2018), such as gardening activities in homegardens of villages around Mandalika, Lombok Island.

From the perspective of tourist attractions and destinations, homegarden management is important. Homegarden plays a significant role in tourism development, specifically: related to efforts to improve the quality of the environment, homegarden role as an educational setting, and homegarden provides a lot of materials for tourism needs. The number of plants with aesthetic value (ornamental plants) that enhance the landscape beauty is related to the homegarden contribution to environmental quality. Diversity and unique character of plant species is an interesting object for education, that is important in conservation programs. This is beneficial for the development of ecotourism. Homegarden is full of fruit, vegetables, and other as a local menu dishes. It plays a role in development of culinary tourism using local ingredients (Alelang et al., 2018). Local dishes such as *plecing kangkung, ares, beberok, pelalah olah-olah, basang, serebuk, bes-bes* and other traditional Sasak food can be offered to tourists. This is in accordance with Hong et al. (2018), various kinds of native food that utilize organisms (for example: plants) on an island have high utilization value as tourism resources for the island. The use of plants in ritual activities among the Sasak people in villages around Mandalika, Lombok Island also has the potential to become a tourism commodity. This is in accordance with Hong et al. (2018) and Izzah et al. (2021), community ritual activities can become tourism commodities. The use of homegarden plants as handicraft materials also plays a role in tourism development in villages around Mandalika, Lombok Island. Tourists can see and have direct experience in making the handicrafts. Handicrafts based on homegarden plants can also be sold to tourists so that they can increase the household income of local communities.

In the perspective of tourism destination planning, the diversity of ornamental plants in the homegarden is an important component in developing an appropriate location plan for ecotourism. The existence of several plant species has the potential to build authenticity as a key to destination competitiveness. It also has a key role in the conservation programs of rare and endangered plant species (Hakim & Nakagoshi, 2007). In various tourism spots, homegarden are important instruments in tourism accommodation, for example: homestays. Homestay frequently highlight plant diversity in the homegarden (Hakim & Nakagoshi, 2014).

Connectivity between homegardens as an ecocultural tourism resource needs to be designed well. Kim (2018) stated that this provides comfort for local residents and tourists. Small roads with less traffic and lower vehicle speeds tend to be safer (Kim, 2018). Therefore, tourists can take small roads using bicycles or on foot when visiting homegardens in villages around Mandalika, Lombok Island. Another thing to consider is the impact of seasonal changes. Kim (2018) stated that it is necessary to plant trees on the roadsides which can be useful as shade from the hot sun during the dry season. Meanwhile, during the rainy season, smallroads become muddy and slippery, so efforts to anticipate this need to be made. Okano & Matsuda (2013) stated that walking tours can help tourists see more closely the biodiversity and biocultural diversity in villages. Developing homegardens as ecocultural tourism can maintain homegardens as cultural landscape, preserve biocultural diversity, strengthen socio-culture, and increase the economic income of local communities.

Conclusion

Based on the research, there are 97 families, 304 genera, and 428 plant species. Homegardens in villages around Mandalika, Lombok Island have a high diversity of plant species. This means that the homegarden conditions in the villages around Mandalika, Lombok Island is stable. Homegarden in each village has a low plant dominance index. This indicates that there is no species that dominate other species in an extreme, that the environment is stable, and that there is no ecological pressure in the homegarden of the villages around Mandalika, Lombok Island. Homegarden plants are used for food, ornamental, animal feed, shade, medicine, rituals, industrial, handicrafts, and building materials. Homegardens have the potential for development of ecocultural tourism in villages around Mandalika, Lombok Island.

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References

Agustina, N., Hutauruk, T.J.W., Sulistyaningrum, N., Yudhanto, S.M., Liza, N., Kusumaningrum, L., Sugiyarto, Yasa, A., Saensouk, S., Naim, D.M.D., & Setyawan, A.D. 2022. Diversity of the medicinal plant in homegarden of local communities in the coastal area of Prigi Bay, Trenggalek, East Java, Indonesia. *Biodiversitas*, 23 (12): 6302-6312. https://doi.org/10.13057/biodiv/d231226

Al-Mayahi, A., Al-Ismaily, S., Al-Maktoumi, A., Al-Busaidi, H., Kacimov, A., Janke, R., Bouma, J., & Simunek, J. 2020. A smart capillary barrier-wick irrigation system for home gardens in arid zones. *Irrigation Science*, 38: 235-250. https://doi.org/10.1007/s00271-020-00666-3

Albuquerque, U.P, de Lucena, R.F.P., & Neto EML. 2014. Selection of research participants. In: Albuquerque, U.P., Cruz da Cunha, L.F., Paiva de Lucena, R.F., & Alves, R.R.N. (eds.). *Methods and Techniques in Ethnobiology and Ethnoecology*. Humana Press, Springer Science+ Business Media, New York. 10.1007/978-1-4614-8636-7

Alelang, I.F., Hakim, L., & Batoro, J. 2018. The Ethnobotany of Abui's Homegardens and its Potentiality to Support Rural Tourism Development in Alor, Indonesia. *Journal of Indonesian Tourism and Development Studies*, 2: 120-125.

Ali, A., Devarajan, S., Waly, M.I., Essa, M.M., & Rahman, M.S. 2012. Nutritional and medicinal values of papaya (Carica papaya L.). In: *Natural Products and Their Active Compounds on Disease Prevention:* 307-324. Nova Science Publishers, Inc.

Amberber, M., Argaw, M., & Asfaw, Z. 2014. The role of homegardens for in situ conservation of plant biodiversity in Holeta Town, Oromia National Regional State, Ethiopia. *International Journal of Biodiversity and Conservation*, 6 (1): 8-16. https://doi.org/10.5897/IJBC2013.0583

Aranda-Jiménez, Y.G., Zuñiga-Leal, C., Fuentes-Perez, C.A., & Suárez-Dominguez, E.J. 2020. Physical Properties of the Stem of Dypsis Lutescens and Chrysalidocarpus Lutescens as a Vernacular Roofing Material. *Civil Engineering and Architecture*, 8 (4): 641-645. https://doi.org/10.13189/cea.2020.080427

Arx, G.V., Dobbertin, M., & Rebetez, M. 2012. Spatio-temporal effects of forest canopy on understory microclimate in a long-term experiment in Switzerland. *Agricultural and Forest Meteorology*, 166-167: 144- 155. https://doi.org/10.1016/j.agrformet.2012.07.018

Australian Centre for International Agricultural Research. 2020. *Sesbania grandiflora*. Australian Centre for International Agricultural Research, Bruce.

Awazi, N. P., Temgoua, L.F., Tientcheu-Avana, M-L., & Tchamba, M.N. 2023. Reducing vulnerability to climate change through agroforestry: Case study of small-scale farmers in the northwest region of cameroon. *Forestist*, 73 (1): 11-20. https://doi.org/10.5152/forestist.2022.22031

Badou, R.B., Yedomonhan, H., Adomou, A.C., & Akoegninou, A. 2017. Phénologie florale et production fruitière de *Syzygium guineense* (Willd.) DC. Subsp. *Macrocarpum* (Myrtaceae) en zone soudano-guinéenne au Bénin. *International Journal Biological and Chemical Sciences*, 11 (5): 2466-2480. https://doi.org/10.4314/ijbcs.v11i5.41.

Bally, I.S.E. 2006. *Species Profiles for Pacific Island Agroforestry: Mangifera indica (mango)*. Permanent Agriculture Resources, Hawai.

Berkowitz, B.N. & Medley, K.E. 2017. Home Gardenscapes as Sustainable Landscape Management on St. Eustatius, Dutch Caribbean. *Sustainability*, 9, 1310: 1-20. https://doi.org/10.3390/su9081310

Blandariz, S.R., Veliz, R.S.S., Gonzalez, A.J., & Figueroa, F.E.P. 2020. Criteria affecting the identification and use of plants of interest for tourism in Jipijapa, Manabí, Ecuador. Revista Cubana de Ciencias Forestales, 8 (1): 54-74.

Boateng, L., Ansong, R., Owusu, W.B., & Steiner-Asiedu, M. 2016. Coconut oil and palm oil's role in nutrition, health and national development: A review. *Ghana Medical Journal*, 50 (3): 189-196. https://doi.org/10.4314/gmj.v50i3.11

Brearley, F.Q., Adinugroho, W.C., Cámara-Leret, R., Krisnawati, H., Ledo, A., Qie, L., Smith, T.E.L., Aini, F., Garnier, F., Lestari, N.S., Mansur, M., Murdjoko, H., Oktarita, S., Soraya, E., Tata, H.L., Tiryana, T., Trethowan, L.A., Wheeler, C.E., Abdullah, M., Aswandi, Buckley, B.J.W., Cantarello, E., Dunggio, I., Gunawan, H., Heatubun, C.D., Arini, D.I.D., Istomo, Komar, T.E., Kuswandi, R., Mutaqien, Z., Pangala, S.R., Ramadhani, Prayoto, Puspanti, A., Qirom, M.A., Rozak, A.H., Sadili, A., Samsoedin, I., Sulistyawati, E., Sundari, S., Sutomo, Tampubolon, A.P., & Webb, C.O. 2019. Opportunities and challenges for an Indonesian forest monitoring network. *Annals of Forest Science*, 76: 54. https://doi.org/10.1007/s13595-019-0840-0

Bunma, S. & Balslev, H. 2019. A Review of the Economic Botany of Sesbania (Leguminosae). *The Botanical Review*, 85: 185-251. https://doi.org/10.1007/s12229-019-09205-y

Castaneda-Navarette, J. 2021. Homegarden diversity and food security in southern Mexico. *Food Security*, 13: 669–683. https://doi.org/10.1007/s12571-021-01148-w

Central Bureau of Statistics for West Nusa Tenggara Province. 2023. *West Nua Tenggara Province in Figures 2023*. Central Bureau of Statistics for West Nusa Tenggara Province, Mataram.

Chakravarty, S., Puri, A., Subba, M., Pala, N.A., & Shukla, G. 2017. Homegardens: Drops to Sustainability. J. C. Dagar, V. P. Tewari (eds.) Agroforestry. Springer Nature Singapore Pte Ltd, Singapore. https://doi.org/10.1007/978-981-10-7650-3_20

Chan, E. & Elevitch, C.R. 2006. *Species Profiles for Pacific Island Agroforestry: Cocos nucifera (coconut)*. Permanent Agriculture Resources, Hawai.

Chandra, A.K., Mondal, C., Sinha, S., Chakraborty, A., & Pearce, E.N. 2015. Synergic actions of polyphenols and cyanogens of peanut seed coat (*Arachis hypogaea*) on cytological, biochemical and functional changes in thyroid. *Indian Journal of Experimental Biology*, 53 (3): 143-151.

Coulibaly, W.H., Camara, F., Tohoyessou, M.G., Konan, P.A.K., Coulibaly, K., Yapo, E.G.A.S., & Wiafe, M.A. 2023. Nutritional profile and functional properties of coconut water marketed in the streets of Abidjan (Côte d'Ivoire). *Scientific African*, 20: e01616. https://doi.org/10.1016/j.sciaf.2023.e01616

Croat, T.B. & Ortiz, O.O. 2020. Distribution of Araceae and the diversity of life forms. *Acta Societatis Botanicorum Poloniae*, 89 (3): 8939. https://doi.org/10.5586/asbp.8939

Darge, A., Haji, J., Beyene, F., & Ketema, M. 2023. Smallholder Farmers' Climate Change Adaptation Strategies in the Ethiopian Rift Valley: The Case of Home Garden Agroforestry Systems in the Gedeo Zone. *Sustainability*, 15 (11): 8997. https://doi.org/10.3390/su15118997

Dewi, A.P., Peniwidiyanti, P., Hariri, M.R., Hutabarat, P.M.K., Martiansyah, I., Lailaty, I.Q., Munawir, A., Giri, M.S., Ambarita, E. 2023. Ethnobotany of food, medicinal, construction and household utilities producing plants in Cikaniki, Gunung Halimun Salak National Park, Indonesia. *Journal of Mountain Science*, 20: 163–181. https://doi.org/10.1007/s11629-021-7108-5

Elevitch, C.R. & Thomson, L.A.J. 2006. *Species Profiles for Pacific Island Agroforestry: Hibiscus tiliaceus (beach hibiscus)*. Permanent Agriculture Resources, Hawai.

Escamilla, E.Z., Habert, G., & Wohlmuth, E. 2016. When CO2 counts: Sustainability assessment of industrialized bamboo as an alternative for social housing programs in the Philippines. *Building and Environment*, 103: 44-53. https://doi.org/10.1016/j.buildenv.2016.04.003

Escamilla, E.Z., Habert, G., Daza, J.F.C., Archilla, H.F., Fernandez, J.S.E., & Trujillo, D. 2018. Industrial or Traditional Bamboo Construction? Comparative Life Cycle Assessment (LCA) of Bamboo-Based Buildings. *Sustainability*, 10: 3096. https://doi.org/10.3390/su10093096

Ewuise, J.Y. 1990. Introduction to Tropical Ecology. ITB Press, Bandung.

Faruq, M.K., Muhdlar, M.H.I.A., Sari, M.S., & Mardiyanti, L. 2020. Ethnobotany Homegarden Karang Kitri in Tourist Area of Wurung Crater, Jampit Village, Bondowoso Regency, East Java. *AIP Conference Proceeding*, 2330, 070001-1–070001-6. https://doi.org/10.1063/5.0043106

Fauzi & Widodo, H. 2019. Short communication: Plants used as aphrodisiacs by the Dayak ethnic groups in Central Kalimantan, Indonesia. *Biodiversitas* 20 (7): 1859-1865. https://doi.org/10.13057/biodiv/d200710

Fitmawati, Hayati, I., & Sofiyanti, N. 2016. Using ITS as a Molecular Marker for Mangifera Species Identification in Central Sumatra. *Biodiversitas*, 17 (2): 653–656. https://doi.org/10.13057/biodiv/d170238

Foenay, T.A.Y. & Koni, T.N.I. 2021. Study on the Physical Quality of Complete Rabbit Feed Pellets Using Different Forage Protein Sources. *Jurnal Sain Peternakan Indonesia*, 16 (4): 322-327. https://doi.org/10.31186/jspi.id.16.4.322-327

George, M.V. & Christopher, G. 2020. Structure, diversity and utilization of plant species in tribal homegardens of Kerala, India. *Agroforestry System*, 94 (1): 297–307. https://doi.org/10.1007/s10457-019-00393-5

Ginting, N. & Mirwandhono, R.E. 2021. Productivity of Turi (*Sesbania grandiflora*) as a multipurposes plant by eco enzyme application. *IOP Conf. Series: Earth and Environmental Science*, 912: 012023. https://doi.org/10.1088/1755-1315/912/1/012023

Gohl, B. 1981. *Tropical Feeds*. FAO of United Nations, Rome.

Gopalakrishnan, A., Ram, M., Kumawat, S., Tandan, S.K., & Kumar, D. 2016. Quercetin accelerated cutaneous wound healing in rats by increasing levels of VEGF and TGF-β1. *Indian Journal of Experimental Biology*, 54 (3): 187-195.

Government of the Republic of Indonesia. 2012. *Law Number 18 of 2012 Concerning Food*. Government of the Republic of Indonesia, Jakarta.

Government of the Republic of Indonesia. 2014. *Regulation of the Government of the Republic of Indonesia No. 52 Year 2014 about The Mandalika Special Economic Zone*. Government of the Republic of Indonesia, Jakarta.

Grumezescu, A. & Holban, A.M. 2019. *Natural Beverages: The Science of Beverages Volume 13*. Academic Press, London.

Hadi, S., Muliasari, H., Sukma, N.S, & Ratnaningsih, P.E.W. 2011. Phytochemical Screening and Antibacterial Testing of Gaharu Trees (*Gyrinops versteegii* (Gilg.) Domke) from Lombok Island. *Proceedings* of the *2nd International Seminar* on *Chemistry 2011*: 79-82.

Hakim, L. 2014. *Ehtnobotany and Homegarden Management: Food Security, Health, and Agrotourism*. Selaras, Malang.

Hakim, L. 2017. Cultural Landscape Preservation and Ecotourism Development in Blambangan Biosphere Reserve, East Java. *Landscape Ecology for Sustainable Society*: 341-358. Springer International Publishing, Tokyo.

Hakim L. & Nakagoshi N. 2007. Plant species Composition in Home gardens in the Tengger Highland (East Java Indonesia) and its Importance for Regional Ecotourism planning. *Hikobia*, 15: 23-36.

Hakim, L. & Nakagoshi, N. 2014. Ecotourism and Climates changes: the ecolodge contribution in global warming mitigation. *Journal of Tropical Life Science*, 4 (1): 26-32.

Heinze, J., Gensch, S., Weber, E., & Joshi, J. 2017. Soil temperature modifies effects of soil biota on plant growth. *Journal of Plant Ecology*, 10 (5): 808-821. https://doi.org/10.1093/jpe/rtw097

Henderson, A. 2009. *Palms of Southern Asia*. Princetown University Press, New Jersey.

Herdaningsih, S., Oktafiyeni, F., & Utari, I. 2019. Antipyretic Activity of Ethanol Extract of Noni (*Morinda Citrifolia* L.) Leaves on Wistar Male White Rats (*Rattus Norvegicus*) Induced Peptone 5%. *Medical Sains*, 3 (2): 75-82. https://doi.org/10.37874/ms.v3i2.70

Hong, S-K. 2013. Biocultural diversity conservation for island and islanders: Necessity, goal and activity. *Journal of Marine and Island Cultures*, 2: 102-106. https://doi.org/10.1016/j.imic.2013.11.004

Hong, S-K. 2019. The Role of Ecological Diversity and Identity for Sustainable Development of Islands. *Journal of Marine and Island Cultures*, 8 (1): 36-47. https://doi.org/10.21463/jmic.2019.08.1.04

Hong, S-K., Lee, G-A., Cho, M-R., Kim, J-E., Won, Y-T., Han, E-S., Park, H-Y., & Samantha, C.H. 2018. Interdisciplinary Convergence Research Design on Island Biocultural Diversity – Case Study in Wando-gun (County) Island Region, South Korea. *Journal of Marine and Island Culture*, 7 (1): 12-37. https://doi.org/10.21463/jmic.2018.07.1.02

Hong, Y. & Zimmerer, K.S. 2022. Useful Plants from the Wild to Home Gardens: An Analysis of Home Garden Ethnobotany in Contexts of Habitat Conversion and Land Use Change in Jeju, South Korea. *Journal of Ethnobiology*, 42 (3): 1-21. https://doi.org/10.2993/0278-0771-42.3.6

Hossain, M.R. & Khan, M.A. 2023. Impact of Household Interventions on Homestead Biodiversity Management and Household Livelihood Resilience: An Intertemporal Analysis from Bangladesh. *Small-scale Forestry*. https://doi.org/10.1007/s11842-023-09540-4

Hu, R., Xu, C., Nong, Y., & Luo, B. 2023. Changes in homegardens in relocation villages, a case study in the Baiku Yao area in Southern China. *Journal of Ethnobiology and Ethnomedicine*, 19: 7. https://doi.org/10.1186/s13002-023-00578-4

Hutasuhut, M.A. 2020. *Plant Ecology*. State Islamic University of North Sumatera, Medan.

Irham, Gusfarina, D.S., Widada, A.W., & Nurhayati, A. 2021. Contribution of home-garden farming to household income and its sustainability in Yogyakarta City, Indonesia. *IOP Conf. Series: Earth and Environmental Science*, 883: 012035. https://doi.org/10.1088/1755-1315/883/1/012035

Iskandar, J. 2018. *Ethnobiology, Ethnoecology and Sustainable Development*. Plantaxia, Yogyakarta.

Iskandar, B.S., Suryana, Y., Mulyanto, D., Iskandar, J., & Gunawan, R. 2023. Ethnomedicinal Aspects of Sundanese Traditional Homegarden: A Case Study in Rural Sumedang, West Java, Indonesia. *Journal of Tropical Ethnobiology*, 6 (1): 57-78. https://doi.org/10.46359/jte.v6i1.167

Iskandar, J. & Iskandar, B.S. 2017. Various plants of traditional rituals: Ethnobotanical research among the Baduy Community. *Biosaintifika*, 9 (1): 114-125. https://doi.org/10.15294/biosaintifika.v9i1.8117

Issahaku, G., Kornher, L., Islam, A.H.M.S., & Abdul-Rahaman, A. 2023. Heterogeneous impacts of home-gardening on household food and nutrition security in Rwanda. *Food Security*, 15 (2). https://doi.org/10.1007/s12571-023-01344-w

Izzah, L., Rochwulaningsih, Y., and Sulistiyono, S.T. 2021. Commodifying Culture in A Frontier Area: The Utilization of Madurese Culture for Developing Tourism in the Eastern Tip of Java Island, Indonesia. Journal of Marine and Island Cultures, 10 (1): 118-137. https://doi.org/10.21463/jmic.2021.10.1.07

Janurianti, N.M.D., Sudiarta, I.W., & Semariyani, A.A.M. 2022. Technological Engineering for Traditional Coconut Oil Making. *SEAS (Sustainable Environment Agricultural Science)*, 2 (2): 122-128. https://doi.org/10.22225/seas.2.2.823.121-128

Kassa, G., Bekele, T., Demissew, S., & Abebe, T. 2023. Plant species diversity, plant use, and classification of agroforestry homegardens in southern and southwestern Ethiopia. *Heliyon*, 9: e16341. https://doi.org/10.1016/j.heliyon.2023.e16341

Kewessa, G. 2020. Homegarden agroforestry as a tool for sustainable production unit in Ethiopia. *Journal of Resources Development and Management*, 67: 14–9. 10.7176/JRDM/67-02

Kim, J-E. 2016. Land use patterns and landscape structures on the islands in Jeonnam Province's Shinan County occasioned by the construction of mainland bridges. *Journal of Marine and Island Cultures*, 5: 53-59. https://doi.org/10.1016/j.imic.2016.05.007

Kim, J-E. 2018. Spatial Distribution and Connectivity of Eco-Cultural Resources on Cheongsando Island, Republic of Korea. *Journal of Marine and Island Cultures*, 7 (1): 50-64. https://doi.org/10.21463/jmic.2018.07.1.04

Kodoh, J., Jaunis, O., Maid, M., Lintangah, W., & Mojiol, A.R. 2023. Urban Forestry in Kota Kinabalu: Home Garden practices by urban villages for biodiversity, socio-economic and environmental services. *IOP Conf. Series: Earth and Environmental Science*, 1145, 012012. https://doi.org/10.1088/1755-1315/1145/1/012012

Koul, B., Pudhuvai, B., Sharma, C., Kumar, A., Sharma, V., Yadav, D., & Jin, J.O. 2022. *Carica papaya* L.: A Tropical Fruit with Benefits Beyond the Tropics. *Diversity*, 14, 683. https://doi.org/10.3390/d14080683

Lakshmi, G., Beggi, F., Menta, C., Kumar, N.K., & Jayesh, P. 2021. Dynamics of soil microarthropod populations affected by a combination of extreme climatic events in tropical home gardens of Kerala, India. *Pedobiologia (Jena)*, 85: 150719. https://doi.org/10.1016/j.pedobi.2021.150719

Lakshmi, S.R. & Shaji, T.L. 2016. Transformation of Coastal Settlements Due to Tourism. *Procedia Technology*, 24: 1668-1680. https://doi.org/10.1016/j.protcy.2016.05.188

Latifah, A.E., Suardana, I.W. & Hasiru, M.D. 2019. Ergonomic Aesthetic Existence in Tasikmalaya Woven Crafts. *Advances in Social Science, Education and Humanities Research*, 444: 160-163. https://doi.org/10.2991/assehr.k.200703.032

Loftus, C. 2013. *Corypha utan. The IUCN Red List of Threatened Species 2013: e.T44393716A44411787*. http://dx.doi.org/10.2305/IUCN.UK.20131.RLTS.T44393716A44411787.en

Ludwig, J.A. & Reynolds, J.F. 1988. *Stastical Ecology: A Primer Methods and Computing*. John Wiley and Sons, New York.

Mamta, Mehrotra, S., Amitabh, Kirar, V., Vats, P., Nandi, S.P., Negi, P.S., & Misra, K. 2015. Phytochemical and antimicrobial activities of Himalayan *Cordyceps sinensis* (Berk.) Sacc. *Indian Journal of Experimental Biology*, 53: 36-43.

Marjenah & Putri, N.P. 2017. Morphological characteristic and physical environment of *Terminalia catappa* in East Kalimantan, Indonesia. *Asian Journal of Forestry*, 1 (1): 33-39. https://doi.org/10.13057/asianjfor/r010105

Marjenah, Karyati, Sarminah, S., Syafrudin, M., Irwan, Aswar, A., & Ruardianto, I. 2021. The Role of Canopy Structure of *Terminalia catappa* Linn. On Decreasing Light Penetration and Ambient Temperature as Climate Change Mitigation. *Wood Research Journal*, 12 (1): 35-40. https://doi.org/10.51850/wrj.2021.12.1.35-40

Martin, A. 1996. The use of antioxidants in healing. *Dermatologic Surgery*, 22 (2): 156-160. https://doi.org/10.1111/j.1524-4725.1996.tb00499.x

Msimbira, L.A. & Smith, D.L. 2020. The Roles of Plant Growth Promoting Microbes in Enhancing Plant Tolerance to Acidity and Alkalinity Stresses. *Frontiers in Sustainable Food Systems*, 4: 106. https://doi.org/10.3389/fsufs.2020.00106

Nair, P.K.R., Kumar, B.M., & Nair, V.D. 2021. *An Introduction to Agroforestry*. Springer Cham, Switzerland.

Nedelcheva, A., Dogan, Y., Obratov-Petkovic, D., & Padure, I.M. 2011. The Traditional Use of Plants for Handicrafts in Southeastern Europe. *Human Ecology*, 39: 813-828. https://doi.org/10.1007/s10745-011-9432-9

Neina, D. 2019. The Role of Soil pH in Plant Nutrition and Soil Remediation. *Applied and Environmental Soil Science*, 2019: 5794869. https://doi.org/10.1155/2019/5794869

Neto, J.A.G., Barbosa, N.P., Beraldo, A.L., & de Melo, A.B. 2021. Physical and Mechanical Properties of The *Bambusa vulgaris* as Construction Material. *Engenharia Agrícola*, 41 (2): 119-126. https://doi.org/10.1590/1809-4430-Eng.Agric.v41n2p119-126/2021

Nicholls, E., Ely, A., Birkin, L., Basu, P., & Goulson, D. 2020. The contribution of small-scale food production in urban areas to the sustainable development goals: a review and case study. *Sustainability Science*, 15: 1585-1599. https://doi.org/10.1007/s11625-020-00792-z

Numani, M.Z.M & Rauf, M. 2013. *Impact of Special Economic Zone on Environment and Social Change in Biodiversity and Environmental*, Issues: 95-110. Lambert Academic Publishing, Moldova.

Nur, Y.H. & Salim, Z. 2014. The Competitiveness of Local Virginia Tobacco: A Value Chain Analysis. *Jurnal Ekonomi dan Pembangunan*, 22 (1): 1-10. https://doi.org/10.14203/JEP.22.1.2014.15-24

Oboh, B., Ogunkanmi, B., & Olasan, L. 2008. Phenotype diversity in *Terminalia catappa* from South Western Nigeria. *Pakistan Journal of Biolological Science*, 11 (1): 135-138. https://doi.org/10.3923/pjbs.2008.135.138

Odum, E.P. & Barrett GW. 2009. *Fundamentals of Ecology-5thed*. Cengage Learning, Melbourne.

Ogutu, S.O., Mockshell, J., Garrett, J., Labarta, R., Ritter, T., Martey, E., Swamikannu, N., Gotor, E., & Gonzales, C. 2023. Home gardens, household nutrition and income in rural farm households in Odisha, India. *Journal of Agricultural Economics*, 2023: 1-20. https://doi.org/10.1111/1477-9552.12525

Ojha, S.N., Tiwari, D., Anand, A., & Sundriyal, R.C. 2020. Ethnomedicinal knowledge of a marginal hill community of Central Himalaya: diversity, usage pattern, and conservation concerns. *Journal of Ethnobiology and Ethnomedicine*, 16: 29. https://doi.org/10.1186/s13002-020-00381-5

Okano, T. & Matsuda, H. 2013. Biocultural diversity of Yakushima Island: Mountains, beaches, and sea. *Journal of Marine and Island Cultures*, 2: 69-77. https://doi.org/10.1016/j.imic.2013.11.008

Onomu, A.R., Aliber, M., Taruvinga, A., Chinyamurindi, W.T., & Megbowon, E.T. 2022. Drivers of home garden growth beyond food security and income: lessons from South Africa. *International Journal of Development and Sustainability*, 11 (5): 144-165.

Onwuka, B.M. 2018. Effects of soil temperature on some soil properties and plant growth. *Advances in Plants & Agriculture Research*, 8 (1): 34-37. https://doi.org/10.15406/apar.2018.08.00288

Ortiz, O.O., Croat, T.B., & Baldini, R.M. 2018. Current status of aroid species diversity in Panama, including new records for the country. *Webbia: Journal of Plant Taxonomy and Geography*, 73: 141-153. https://doi.org/10.1080/00837792.2018.1452451

Pamungkas, R. N., Indriyani, S., & Hakim, L. 2013. The ethnobotany of homegardens along rural corridors as a basis for ecotourism planning: a case study of Rajegwesi village, Banyuwangi, Indonesia. *Journal of Biodiversity and Environmental Sciences*, 3 (9): 6-69.

Panyaphu, K., On, T.V., Sirisa-Ard, P., Srisa-Nga, P., Chansa Kaow, S., & Nathakarnkitkul, S. 2011. Medicinal plants of the Mien (Yao) in Northern Thailand and their potential value in the primary healthcare of postpartum women. *Journal of Ethnopharmacology*, 135 (2): 226–237. https://doi.org/10.1016/j.jep.2011.03.050

Patric, A., Raj, A.K., Kunhamu, T.K., Jamaludheen, V., & Santhoshkumar, A.V. 2020. Productivity of tree fodder banks in a typical homegarden of Central Kerala. *Indian Journal of Agroforestry*, 22 (1): 17-23.

Paul, T.S., Das, B.B., Gurav, M.P., Talekar, Y.P., & Apte, K.G. 2021. A preliminary study on perioperative hemostatic effect of spray dried powder of *Chromolaena odorata* leaf extract. *Indian Journal of Experimental Biology*, 59 (8): 547-555. https://doi.org/10.56042/ijeb.v59i08.54433

Rahu, A.A., Hidayat, K., Ariyadi, M., and Hakim, L. 2013. Ethnoecology of Kaleka: Dayak's Agroforestry in Kapuas, Central Kalimantan Indonesia. *Research Journal of Agriculture and Forestry Sciences*, 1 (8): 5-12.

Rakotoarinivo, M. & Dransfield, J. 2012. *Dypsis lutescens.* The IUCN Red List of Threatened Species 2012: e.T195960A2436709.

Rambey, R, Purba, E.R., Hartanto, A., Prakoso, B.P., Peniwidiyanti, Irmayanti, L., & Purba, M.P. 2022. Short communication: Diversity and ethnobotany of Araceae in Namo Suro Baru Village, North Sumatra, Indonesia. *Biodiversitas*, 23 (11): 6006-6012. https://doi.org/10.13057/biodiv/d231155

Rammohan, A., Pritchard, B., & Dibley, M. 2019. Home gardens as a predictor of enhanced dietary diversity and food security in rural Myanmar. *BMC Public Health*, 19 (1): 1145. https://doi.org/10.1186/s12889-019-7440-7

Resmi, G. & Amsamani, S. 2022. Antibacterial and wound healing efficacy of *Chromolaena odorata* treated dressings. *Indian Journal of Fibre and Textile Research*, 47: 78-86. https://doi.org/10.56042/ijftr.v47i1.64920

Santiago, J. & Buot, I. E. 2018. Conceptualizing the Socio-Ecological Resilience of the Chaya Rice Terraces, a Socio-Ecological Production Landscape in Mayoyao, Ifugao, Luzon Island, Philippines. *Journal of Marine and Island Culture*, 7 (1): 107-126. https://doi.org/10.21463/jmic.2018.07.1.07

Santos, M., Moreira, H., Cabral, J.A., Gabriel, R., Teixeira, A., Bastos, R., & Aires, A. 2022. Contribution of Home Gardens to Sustainable Development: Perspectives from A Supported Opinion Essay. *International Journal of Environmental Research & Public Health*, 19 (20), 13715. https://doi.org/10.3390/ijerph192013715

Saputra, E., Ariyanto, I.S., Ghiffari, R.A., & Fahmi, M.S.I. 2021. Land Value in a Disaster-Prone Urbanized Coastal Area: A Case Study from Semarang City, Indonesia. *Land*, 10 (11), 1187. https://doi.org/10.3390/land10111187

Sari, K.E. & Sari, N. 2020. Sustainable Tourism Development'S Effecton Land Use in the Coastal Area of Surabaya City. *Jurnal Tata Loka*, 22 (4): 463-473. https://doi.org/10.14710/tataloka.22.4.463-473

Seid, G. & Kebebew, Z. 2022. Homegarden and coffee agroforestry systems plant species diversity and composition in Yayu Biosphere Reserve, southwest Ethiopia. *Heliyon*, 8: e09281. https://doi.org/10.1016/j.heliyon.2022.e09281

Septiadi, D., Usman, A., Rosmilawati, Hidayati, A., & Nursan, M. 2022. The potential of tobacco in supporting farmers in East Lombok Regency during the Covid-19 Pandemic. *IOP Conference Series: Earth and Environmental Science*, 1107: 012019. https://doi.org/10.1088/1755-1315/1107/1/012019

Setiawati, T., Mutaqin, A.Z., Irawan, B., An'amillah, A., & Iskandar, J. 2017. Species diversity and utilization of bamboo to support life's the community of Karangwangi Village, Cidaun Sub-District of Cianjur, Indonesia. *Biodiversitas*, 18 (1): 58-64. https://doi.org/10.13057/biodiv/d180109

Setyawati, T., Narulita, S., Bahri, I.P., & Raharjo, G.T. 2015. *A Guide Book to Invasive Alien Plant Species in Indonesia*. Research, Development and Innovation Agency, Ministry of Environment and Forestry of Indonesia, Bogor.

Shanmugasundaram, N., Rajendran, I., & Ramkumar, T. 2018. Characterization of untreated and alkali treated new cellulosic fiber from an Areca palm leaf stalk as potential reinforcement in polymer composites. *Carbohydrate Polymers*, 195: 566-575. https://doi.org/10.1016/j.carbpol.2018.04.127

Sholekha, A.M., Yulia, I.T., Hanun, Z., Perwitasari, I.G., Cahyaningsih, A.P., Sunarto, Sutarno, Sugiyarto, Buot, Jr. I.E., Setyawan, A.D. 2023. Local knowledge and the utilization of non-medicinal plants in home garden by the people of Donorejo Village in the Menoreh Karst Area, Purworejo, Central Java, Indonesia. *Biodiversitas*, 24: 645-657. https://doi.org/10.13057/biodiv/d240173

Sobral, K.M.B., Queiroz, M.A.D., Ledo, C.A.D., Loiola, C.M., Andrade, J.B., & Ramos, S.R.R. 2018. Genetic diversity assessment among tall coconut palm. *Revista Caatinga Mossoró*, 31 (1): 28-39. https://doi.org/10.1590/1983-21252018v31n104rc

Sodangi, M., Kazmi, Z.A. 2020. Integrated Evaluation of the Impediments to the Adoption of Coconut PalmWood as a Sustainable Material for Building Construction. *Sustainability*, 12, 7676. 10.3390/su12187676

Solossa, A.H., Soemarno, I.R., Sastrahidayat, & Hakim, L. 2013. Home garden of the local community surrounding Lake Ayamaru, West Papua Province, and its consequences for tourism development and lake conservation. *Journal of Biodiversity and Ecological Conservation*, 3 (3): 1-11.

Staples, G.W. & Bavecqua, R.F. 2006. *Species Profiles for Pacific Island Agroforestry: Areca catechu (betel nut palm)*. Permanent Agriculture Resources, Hawai.

Sukenti, K., Hakim, L., Indriyani, S., & Purwanto, Y. 2019. Ethnobotany of Sasak traditional beverages as functional foods. *Indian Journal of Traditional Knowledge*, 18 (4): 775-780.

Sukenti, K., Rohyani, I.S., Sukiman, Mulyaningsih, T., Hadi, S., Ito, M., & Yamada, I. 2021. Ethnobotanical study of *Gyrinops versteegii* (Gilg.) Domke from Lombok Island, West Nusa Tenggara, Indonesia as an effort in supporting the conservation of agarwood-producing species. *Indian Journal of Natural Products and Resources*, 12 (2): 307-315.

Suwartapradja, O.S., Iskandar, J., Iskandar, B.S., Mulyanto, D., Suroso, Nurjaman, D., & Nisyapuri, F.F. 2023. Plants diversity and socioecological functions of homegarden in Sundanese rural area: a case in Sumedang district, West Java, Indonesia. *Biodiversitas*, 24 (1): 156-175. https://doi.org/10.13057/biodiv/d240120

Syukriani, L., Febjislami, S., Lubis, D.S., Hidayati, R., Asben, A., Suliansyah, I., & Jamsari, J. 2021. Physicochemical characterization of peel, flesh and banana fruit cv. Raja (*Musa paradisiaca*). *IOP Conf. Series: Earth and Environmental Science*, 741, 012006. https://doi.org/10.1088/1755-1315/741/1/012006

Tega, M. & Bojago, E. 2023. Farmer's Perceptions of Agroforestry Practices, Contributions to Rural Household Farm Income, and Their Determinants in Sodo Zuria District, Southern Ethiopia. *International Journal of Forestry Research*, 2023, Article ID 5439171. https://doi.org/10.1155/2023/5439171

Thomson, L.A.J. & Evans, B. 2006. *Species Profiles for Pacific Island Agroforestry: Terminalia catappa (tropical almond)*. Permanent Agriculture Resources, Hawai.

Thomson, L., Thaman, R., Guarino, L., Taylor, M. & Elevitch, C. 2019. *Pandanus tectorius*. The IUCN Red List of Threatened Species 2019: e.T62335A135987404. http://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T62335A135987404.en

Tulashie, S.K., Amenakpor, J., Atisey, S., Odai, R., & Akpari, E.E.A. 2022. Production of coconut milk: A sustainable alternative plant-based milk. *Case Studies in Chemical and Environmental Engineering*, 6: 100206. https://doi.org/10.1016/j.cscee.2022.100206

Unnawong, N., Cherdthong, A., & So, S. 2021. Influence of Supplementing Sesbania grandiflora Pod Meal at Two Dietary Crude Protein Levels on Feed Intake, Fermentation Characteristics, and Methane Mitigation in Thai Purebred Beef Cattle. *Veterinary Sciences*, 8: 35. https://doi.org/10.3390/vetsci8020035

Utami, I. K., K. Haetami, dan Rosidah. 2012. The using effect of fermentation product Turi leaves meal in artificial feed on the growth of Red Belly Pacu Fry (*Colossomamacropomum cuvier*). *Jurnal Perikanan dan Kelautan*, 3 (4): 191–199.

Van Steenis, C.G.G.J. 2008. *Flora for schools*. Penebar Swadaya, Jakarta.

Vijayaraghavan, K., Rajkumar, J., & Seyed, M.A. 2017. Efficacy of Chromolaena odorata leaf extracts for the healing of rat excision wounds. *Veterinarni Medicina*, 62 (10): 565–578. https://doi.org/10.17221/161/2016-VETMED

Walne, C.H. & Reddy, K.R. 2022. Temperature Effects on the Shoot and Root Growth, Development, and Biomass Accumulation of Corn (*Zea mays* L.). *Agriculture*, 12 (4): 443. https://doi.org/10.3390/agriculture12040443

Warlina, L. & Ikhsan, A. 2020. Land Use Change and Suitability Analysis in Coastal Area. *IOP Conf. Series: Materials Science and Engineering*, 879, 012161. https://doi.org/10.1088/1757-899X/879/1/012161

Whitney, C.W., Luedeling, E., Tabuti, J.R.S., Nyamukuru, A., Hensel, O., Gebauer, J., & Kehlenbeck, K. 2017. Crop diversity in homegardens of southwest Uganda and its importance for rural livelihoods. *Agriculture and Human Values*, 35: 399-424. https://doi.org/10.1007/s10460-017-9835-3

Winarno, F.G. 1984. *Food Chemistry and Nutrition*. Jakarta, Gramedia.

Wiratmaja, I.W. 2017. *Temperature, Solar Energy, and Water in Relation to Plants*. Udayana University, Denpasar.

Wiryono, Kristiansen, P., Bruyn, L.L.D., Saprinurdin, & Nurliana, S. 2023. Ecosystem services provided by agroforestry home gardens in Bengkulu, Indonesia: Smallholder utilization, biodiversity conservation, and carbon storage. *Biodiversitas*, 24 (5): 2657-2665. https://doi.org/10.13057/biodiv/d240518

Ye, J., Qin, H. 2019. *Ziziphus mauritiana*. The IUCN Red List of Threatened Species 2019: e.T147482710A147637366. http://dx.doi.org/10.2305/IUCN.UK.2019-2.RLTS.T147482710A147637366.en

Yinebeb, M., Lulekal, E., & Bekele, T. 2022. Composition of homegarden plants and cultural use in an indigenous community in Northwest Ethiopia. *Journal of Ethnobiology and Ethnomedicine*, 18: 47. https://doi.org/10.1186/s13002-022-00545-5

Yuzammi, Y. 2018. The diversity of aroids (Araceae) in Bogor Botanic Gardens, Indonesia: Collection, conservation and utilization. *Biodiversitas*, 19 (1): 140-152. https://doi.org/10.13057/biodiv/d190121

Zapata-Campos, C.C., Garcia-Martinez, J.E., Salinas-Chavira, J., Ascacio-Valdes, J.A., Medina-Morales, M.A., & Mellado, M. 2020. Chemical composition and nutritional value of leaves and pods of *Leucaena leucocephala*, *Prosopis laevigata* and *Acacia farnesiana* in a xerophilous shrubland. *Emirates Journal of Food and Agriculture*, 32 (10): 723-730. https://doi.org/10.9755/ejfa.2020.v32.i10.2148

Zhang, Y.Y., Wu, W., & Liu, H. 2019. Factors affecting variations of soil pH in different horizons in hilly regions. *PloS ONE*, 14 (6): e0218563. https://doi.org/10.1371/journal.pone.0218563

Zhou, L., Huang, X., Zhao, C., Pu, T., & Zhang, L. 2022. Regional landscape transformation and sustainability of the rural homegarden agroforestry system in the Chengdu Plain, China. *Regional Sustainability*, 3 (1): 68-81. https://doi.org/10.1016/j.regsus.2022.04.001

Zimmerer, K.S. 2014. Conserving agrobiodiversity amid global change, migration, and nontraditional livelihood networks: the dynamic uses of cultural landscape knowledge. *Ecology and Society*, 19 (2): 1-16. http://dx.doi.org/10.5751/ES-06316-190201

Zulhazman, H., Aweng, E.R., Mohamad-Faiz, M.A., Muhamad-Azahar, A., Kamarul-Ariffin, H., Nor-Hizami, H., Mohammad-Firdaus, A.K., Fiffy, H.S., Norhazlini, M.Z., & Norzielawati, S. 2021. Diversity and ecology of Araceae in the water catchment area of Ulu Sat, Kelantan, Peninsular Malaysia. *IOP Conference Series: Earth and Environmental Science*, 756: 012087. https://doi.org/10.1088/1755-1315/756/1/012087

Appendix

Fifty plant species with highest Summed Dominance Ratio (SDR) and their fuctions were recorded in homegardens of the villages around Mandalika, Lombok Island

No	Species	Family	Vernacular Name	Utilization	Part Used	Summed Dominant Ratio (SDR)				
						Sengkol Village	Kuta Village	Mertak Village	Sukadana Village	Total SDR
1	*Cocos nucifera* L.	Arecaceae	Nyiur	F, Bm	Fr, St	4.54	7.96	8.70	7.42	28.63
2	*Sesbania grandiflora* (L.) Pers.	Fabaceae	Ketujur	Af	L	2.06	5.06	4.46	5.10	16,68
3	*Mangifera indica* L.	Anacardiaceae	Paok	F, S	Fr, Tc	4.12	4,47	3.96	3.09	15.64
4	*Musa paradisiaca* L.	Musaceae	Puntik Lumut	F	Fr	4.08	2.85	6.26	1.95	15.14
5	*Leucaena leucocephala* (Lam.) De Wit	Fabaceae	Seputre	Af	L	3.72	2.84	3.23	1.44	11.23
6	*Lannea coromandelica* (Houtt.) Merr.	Anacardiaceae	Bantel	Af, S	L, Tc	2.12	2.92	3.17	1.18	9.39
7	*Gliricidia sepium* (Jacq.) Walp.	Fabaceae	Gamal	Af	L	0.81	1.77	5.64	0.51	8.73
8	*Carica papaya* L.	Caricaceae	Gedang	F	Fr	3.05	2.82	1.54	1.05	8.46
9	*Muntingia calabura* L.	Muntingiaceae	Singgafor	F, S	Fr, Tc	1.70	1.52	1.75	3.41	8.37
10	*Bambusa vulgaris* Schrad.	Poaceae	Treng Aur	Bm	St	2.24	3.78	0.32	1.37	7.71
11	*Moringa oleifera* Lam.	Moringaceae	Kelor	F	L	2.35	0.55	2.47	2.17	7.55
12	*Annona squamosa* L.	Annonaceae	Sekaye Bembek	F	Fr	2.77	0.94	2.05	1.59	7.35
13	*Zea mays* L.	Poaceae	Jagung	F	Fr	0.66	2.39	1.96	1.76	6.76
14	*Tamarindus indica* L.	Fabaceae	Bagek	F, S	Fr, Tc	1.28	1.57	2.04	1.86	6.75
15	*Psidium guajava* L.	Myrtaceae	Nyambuk Batu	F	Fr	0.42	1.88	1.73	2.38	6.41
16	*Manihot esculenta* Crantz	Euphorbiaceae	Ambon Jawe	F	Tu	1.80	0.52	1.73	1.58	5.62
17	*Swietenia mahagoni* (L.) Jacq.	Meliaceae	Mahoni	Bm	St	0.71	0.99	1.93	1.63	5.26
18	*Artocarpus heterophyllus* Lam.	Moraceae	Nangke	F	Fr	1.16	1.25	0.78	1.88	5.07
19	*Imperata cylindrica* (L.) Raeusch.	Poaceae	Rei	Af	L	2.02	1.16	0.98	0.20	4.36
20	*Gmelina arborea* Roxb.	Lamiaceae	Jati Putek	Bm, S	St, Tc	1.04	2.08	1.16	0.00	4.29
21	*Ficus racemosa* L.	Moraceae	Ara	F	Tc	2,28	0.76	0.00	1.21	4.25
22	*Terminalia catappa* L.	Combretaceae	Ketapang	S	Tc	0.34	2.97	0.24	0.59	4.15
23	*Musa acuminata balbisiana*	Musaceae	Puntik Sabe	F	Fr	1.06	0.00	0.00	2.68	3.73
24	*Hibiscus tiliaceus* L.	Malvaceae	Waru	S	Tc	1.13	1.70	0.62	0.17	3.62
25	*Areca catechu* L.	Arecaceae	Buak	R	Fr	0.63	1.70	0.19	1.01	3.53
26	*Colocasia esculenta* (L.) Schott	Araceae	Tojang	F	Tu	0.67	1.61	0.11	0.83	3.22
27	*Dypsis lutescens* (H.Wendl.) Beentje & J.Dransf	Arecaceae	Palem Kuning	O	St	0.00	2.24	0.27	0.51	3.02
28	*Solanum melongena* L.	Solanaceae	Terong	F	Fr	0.70	0.34	0.46	1.43	2.93
29	*Ziziphus mauritiana* Lam.	Rhamnaceae	Gol	R	L	0.13	0.21	2.41	0.09	2.84

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No	Species	Family	Vernacular Name	Utilization	Part Used	Summed Dominant Ratio (SDR)				
						Sengkol Village	Kuta Village	Mertak Village	Sukadana Village	Total SDR
30	*Pennisetum purpureum* Schumach.	Poaceae	Pupak Gajah	Af	L	0.28	0.00	1.09	1.45	2.82
31	*Azadirachta indica* A.Juss.	Meliaceae	Imbe	S	Tc	0.00	0.52	2.08	0.09	2.68
32	*Capsicum frutescens* L.	Solanaceae	Sebie Kodek	F	Fr	0.60	0.75	0.27	1.05	2.67
33	*Arenga pinnata* (Wurmb) Merr.	Arecaceae	Enau	F	Fr	0.98	0.31	0.32	1.00	2.62
34	*Chromolaena odorata* (L.) R. M. King & H.Rob.	Asteraceae	Daun pki	M	L	0.33	0.47	0.89	0.85	2.54
35	*Synedrella nodiflora* (L.) Gaertn.	Asteraceae	Jotang Kuda	Af	Wh	1.26	0.63	0.00	0.59	2.48
36	*Ficus hispida* L.f.	Moraceae	Bunut	S	Tc	0.76	0.55	0.33	0.85	2.48
37	*Musa balbisiana* Colla	Musaceae	Puntik Batu	F	Fr	0.17	0.65	0.00	1.54	2.36
38	*Tectona grandis* L.f.	Lamiaceae	Jati	Bm	St	0.77	0.58	0.99	0.00	2.34
39	*Morinda citrifolia* L.	Rubiaceae	Pace	M	L	1.63	0.16	0.00	0.51	2.29
40	*Dimocarpus longan* Lour.	Sapindaceae	Kelengkeng	F	Fr	0.78	0.18	0.16	1.14	2.26
41	*Acacia auriculiformis* Cunn. ex Benth.	Fabaceae	Akasia	Bm, S	St, Tc	0.00	1.64	0.57	0.00	2.21
42	*Curcuma longa* L.	Zingiberaceae	Kunyik	F, M	Rh	1.21	0.00	0.30	0.66	2.16
43	*Syzygium myrtifolium* Walp.	Myrtaceae	Pucuk Beak	O	L	0.33	0.91	0.24	0.66	2.14
44	*Corypha utan* Lam.	Arecaceae	Male	H	L	0.40	0.00	0.86	0.83	2.08
45	*Citrus aurantifolia* (Christm.) Swingle, orth. var.	Rutaceae	Jeruk Nipis	F	Fr	0.66	0.55	0.33	0.51	2.04
46	*Euphorbia milii* Des Moul.	Euphorbiaceae	Mahkota Dui	O	Fl	0.12	0.31	0.78	0.82	2.04
47	*Piper betle* L.	Piperaceae	Lekok	R	L	0.57	0.37	0.22	0.69	1.84
48	*Coccinia grandis* (L.) Voigt	Cucurbitaceae	Bikan	Af	Fr	0.16	0.47	0.76	0.42	1.81
49	*Manilkara zapota* (L.) P.Royen	Sapotaceae	Sabo Coklat	F	Fr	0.40	0.00	0.81	0.57	1.78
50	*Ipomoea batatas* (L.) Lam.	Convolvulaceae	Ambon Jamak	F	Tu	0.13	0.16	0.85	0.52	1.66

Utilization: F = Food, O = Ornamental, Af = Animal feed, S = Shade, Bm = Building material, M = Medicinal, H = Handicraft, R = Ritual
Part used: Wh = Whole plant part, L = Leaf, Fl = Flower, Fr = Fruit, St = Stem, Tc = Tree canopy, Tu = Tuber, Rh = Rhizome
Summed Dominant Ratio (SDR): Sk = Sengkol Village, Kt = Kuta Village, Mt = Mertak Village, Sd = Sukadana Village