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Ethnomedicinal Plant Diversity and Local Knowledge in Legok Raina Village, Bogor Regency, West Java, Indonesia

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ABSTRACT

The community of Legok Raina Village in Bogor Regency, West Java, continues to rely on medicinal plants for daily healthcare practices. This study aimed to inventory and identify medicinal plant species and document the plant parts used, preparation methods, therapeutic functions, and ailments treated, as no previous research has been conducted in this area. Data were collected through semi-structured interviews with one traditional healer (*tabib*), two traditional birth attendants (*paraji*), and 27 general respondents selected by community leaders, complemented by plant specimen collection, observation, and documentation. The data were analyzed using the Use Value (UV) index to determine the relative importance of each species. A total of 104 species belonging to 93 genera and 46 families were recorded, with Zingiberaceae as the most dominant family, comprising 12 species from 8 genera. Shrubs represented the most common growth form (39 species), and leaves were the most frequently utilized plant part. *Ageratum conyzoides* showed the highest UV (1.760), whereas *Lactuca sativa*, *Piper sarmentosum*, and *Kadsura scandens* had the lowest (0.003). Approximately 60% of respondents continue to preserve ancestral knowledge and actively participate in conservation efforts. These findings highlight the cultural and therapeutic significance of traditional medicinal plants in the study area.

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INTRODUCTION

Legok Raina Village in Bogor Regency, West Java, is situated within the utilization zone of Mount Salak, an area that supports a high diversity of flora, including numerous medicinal plant species. The Legok Raina community maintains a long-standing tradition of utilizing medicinal plants for primary healthcare, supported by the presence of traditional healers (*tabib*) and traditional birth attendants (*paraji*). This continued reliance on herbal medicine is further influenced by geographical limitations, as the village is located more than 20 km from the nearest formal healthcare facility (Sekretariat Desa Ciasihan, 2015). Despite the extensive use of medicinal plants, comprehensive documentation and taxonomic identification of the species utilized in this area have not yet been conducted. Moreover, Legok Raina Village functions as an access point to the Curug Ciparay tourism destination and serves as one of the primary hiking routes to Mount Salak. Increasing tourism and mountaineering activities facilitate socio-cultural interactions that may introduce modern lifestyles, potentially altering community perceptions and contributing to the gradual erosion of traditional ecological knowledge related to medicinal plant use.

Previous ethnomedicinal studies have documented diverse medicinal plant resources across Indonesia. For example, Fahrurozi et al. (2015) identified forty-five species from 29 families in Mount Gede Pangrango National Park, West Java. Oknarida et al. (2018) subsequently reported 13 species from 11 families in Colo Village, Central Java. Furthermore, Silalahi et al. (2020) recorded 42 species from 25 families specifically used for maternal healthcare in West Sumatra. These findings demonstrate the richness of ethnobotanical knowledge in different regions, while also highlighting the importance of localized documentation. This study therefore aims to document and preserve the ethnobotanical knowledge of the Legok Raina community by inventorying and taxonomically identifying medicinal plant species and systematically recording the plant parts used, preparation methods, therapeutic functions, and ailments treated.

In addition to contributing to scientific documentation, this research is expected to support biodiversity conservation within the Mount Salak landscape. Traditional knowledge regarding plant use often reflects sustainable harvesting practices and ecological awareness that are essential for maintaining plant populations in natural habitats. Recording such knowledge provides a foundation for conservation planning and community-based resource management. Furthermore, the preservation of ethnobotanical knowledge has important implications for cultural heritage and public health. As modernization and external influences continue to shape rural communities, undocumented traditional practices risk being lost across generations. Scientific validation and documentation can strengthen the recognition of traditional medicine as a complementary healthcare resource while ensuring its safe and sustainable application. Finally, the results of this study are anticipated to serve as baseline data for future pharmacological, phytochemical, and conservation-oriented research. By integrating ethnobotanical documentation with scientific investigation, medicinal plant resources in Legok Raina Village may offer potential for the development of natural product-based therapeutics and sustainable community empowerment initiatives.

MATERIALS AND METHOD

Study Area. This research was conducted in Legok Raina Village, Bogor Regency, West Jawa, located located at coordinates 6°42’10”– 6°42’20” E and 106°42’18”– 106°42’32” S, with an elevation of 900 m asl. The total research area are was 459,042 m^2.

Data Collection Semi-structured interviews were conducted using a guided questionnaire with 30 respondents. Key informants one traditional healer (*tabib*) and two traditional birth attendants (*paraji*) were purposively selected as knowledge holders. Through snowball sampling, they helped identify 27 additional respondents (aged 20–93 years) who had either used medicinal plants or possessed knowledge about them. Respondents provided data on medicinal plants, including local names, parts used, preparation methods, use values (UV), and treated diseases. All medicinal plants identified in the study area were categorized as either cultivated or wild.

Plant identification was based on the following references: the Book of Medicinal Plants (Hidayat and Napitupulu, 2015), Five Plant species in Mount Halimun Salak National Park, West Jawa (Priyadi et al., 2010), and an Identification of Medicinal Plants and Their Utilization by Community in Kendal Village, Kendal Sub-district (Hanum and Wijayanti, 2023).

Data Analysis. The use value (UV) for each medicinal plant species was calculated using the formula adapted from Phillips and Gentry (1993).

$UV_{is} = (\sum U_{is}) / n$
Where: UV_{is} = use value of a specific species (i) reported by respondent (s)
$\sum U_{is}$ = total number of uses reported for species (i) by respondent (s)
n = total number of respondents interviewed regarding the use value of the species
The criteria for interpretation were as follows:
$UV_{is} = 0$: Species not used
$1 < UV_{is} < 3$: Rarely used species
$3 \leq UV_{is} \leq 6$: Important species
$6 < UV_{is} \leq 9$: Very important species

The percentage of local community knowledge was calculated using the formula referenced from Arikunto (2006).

$\%Pr = (\sum TOr / \sum TOsr) \times 100\%$

Where: %Pr = percentage of local knowledge
$\sum TOr$ = total number of medicinal plants reported by all respondents
$\sum TOsr$ = total number of medicinal plants known by a single respondent

The knowledge level was categorized as:
% < 50%: Low local knowledge
% 50 – 60%: Moderate local knowledge
% > 60%: High local knowledge

RESULTS AND DISCUSSION

Diversity of Medicinal Plants

A total of 104 species of medicinal plants (93 genera and 46 families) were identified based on interviews with respondents in Legok Raina Village, Bogor Regency, West Java. These plants are categorized into two groups: Pteridophyta (2 species) and Spermatophyta (102 species) (Table 1). **Figure 1** shows that the families with the highest number of medicinal species are Zingiberaceae (12 species), Poaceae (8 species), and Asteraceae (7 species), followed by Fabaceae and Rubiaceae with 6 species each. Other families are represented by 1-4 species. In terms of generic diversity, Zingiberaceae consists of 8 genera, followed by Asteraceae (7 genera), Fabaceae and Poaceae (6 genera each). The dominant use of Zingiberaceae plants in Legok Raina supports the previous research by Patiola et al. (2023) among the Dayak Kanayatn Ahe ethnic in Sumiak Hamlet, Landak Regency.

Zingiberaceae are found in diverse habitats such as yards or plantations, which is demonstrating their ability to thrive across various ecological environments (Rahmi et al., 2023). Beyond their ecological resilience, this family holds significant value. Zingiberaceae are widely utilized as essential spices in Indonesian cuisine (Hamidi et al., 2022) and are also renowned for their medicinal properties. This is due to their richness in bioactive compounds with therapeutic potential (Nurjannah et al., 2022). Therefore, the conservation and sustainable use of these plants are crucial to ensure their availability for future generations. The habitus of medicinal plants were categorized into lianas (2 species) and erect plants (102 species) **(Figure 2)**. The erect plants consisted of herbs (35 species), shrubs (39 species), and trees (28 species). This research is consistent with Yatias et al. (2019), while previous studies reported that herba were the most dominantly habitus utilized for medicinal plants (Fahrurozi et al. 2015; Patiola et al. 2023; Loilatu et al. 2024). The following is a list of the names of the drugs used

Table 1. Scientifif and local name of medicinal plants in Legok Raina Village, Bogor Regency, West Java

Scientific Name	Family	Habitus	Cultivated Wild	Part of Uses	Uses	Processing	Use Value
Sericocalyx crispus	*Acanthaceae*	Shrub	Wild	Leaves	Gastrointestinal, Wounds, Postpartum, Refreshment of Body	Pound, eat	0,230
Staurogyne longata		Shrub	Wild	Leaves	Gastrointestinal, Wounds, Postpartum	Pound, eat	0,560
Altingia excelsa	*Altingiaceae*	Tree	Cultivated	Leaves	Gastrointestinal	Fresh, eat	0,030
Spandias javanica	*Anacardiaceae*	Tree	Cultivated	Leaves	Influenza	Pound, eat	0,003
Goniothalamus macrophyllus	*Annonaceae*	Shrub	Wild	Leaves	Fever, Postpartum, Redreshment of Body	Pound, eat	0,130
Annona muricata		Shrub	Cultivated	Leaves	Gastrointestinal, Fever, Wounds, Postpartum	Pound, eat	0,330
Centella asiatica	*Apiaceae*	Herb	Wild	Leaves	Fever, Postpartum, Toothache	Boil, drink	0,200
Pimpinella pruatjan		Shrub	Cultivated	Leaves	Gastrointestinal	Pound, drink, eat	0,030
Parameria laevigata	*Apocynaceae*	Shrub	Wild	Leaves	Gastrointestinal, Wounds, Postpartum	Pound, eat, topically applied	0,500
Alstonia scholaris		Shrub	Cultivated	Bark	Refreshment of body	Boil, drink	0,030
Ilex triflora	*Aquifoliaceae*	Shrub	Wild	Leaves	Gastrointestinal	Pound, eat	0,030
Colocasia esculenta	*Araceae*	Herb	Cultivated	Stem, Leaves	Influenza, Gastrointestinal, Skin disease, Postpartum	Fresh, drink, eat	0,500
Arenga pinnata	*Arecaceae*	Tree	Cultivated	oot, Palm sap	Fever	Fresh, Boil, drink	0,100
Cocos nucifera		Tree	Cultivated	Fruit, Leaves, Root	Fever, Gastrointestinal, Wounds, Toothache	Fresh, drink	0,360
Salacca edulis		Tree	Cultivated	Leaves	Gastrointestinal, Fever, Toothache	Boil, Pound, drink	1,560
Dracaena angustifolia	*Asparagaceae*	Shrub	Cultivated	Leaves	Gastrointestinal, Influenza, Toothache	Boil, Pound, drink	0,200
Pluchea indica	*Asteraceae*	Shrub	Cultivated	Leaves	Gastrointestinal, Postpartum	Pound, eat	0,300
Mikania cordata		Herb	Wild	Leaves	Gastrointestinal, Wounds, Skin disease, Postpartum, Toothache	Pound, eat	0,800
Ageratum conyzoides		Herb	Wild	Leaves, oot, Stem	Gastrointestinal, Fever, Wounds, Postpartum, Toothache	Boil, Pound, drink, eat, topically applied	1,760
Spilanthes iabadicensis		Herb	Wild	Leaves, Flower	Toothache, Fever	Boil, drop, Pound, drink	0,060

Chromolaena odorata		Herb	Wild	Leaves	Fever, Postpartum, Refreshment of Body, skin disease, wounds	Boil, Pound, eat	0,260
Lactuca sativa		Herb	Cultivated	Leaves	Toothache, Fever	Pound, eat	0,033
Blumea balsamifera		Herb	Wild	Leaves	Gastrointestinal, Influenza, Skin disease, Reproductive, Postpartum	Pound, dink, drop	0,833
Anredera cordifolia	*Basellaceae*	Herb	Cultivated	Leaves	Refreshment of body	Pound, eat	0,033
Radermachera glandulosa	*Bignoniaceae*	Tree	Wild	Leaves	Gastrointestinal, Skin disease, Wounds, Postpartum	Pound, eat	0,330
Hippobroma longiflora	*Campanulaceae*	Herb	Wild	Leaves, Stem	Fever	Boil, drink	0,100
Canna indica	*Cannaceae*	Herb	Cultivated	Leaves	Fever	Pound, eat	0,066
Carica papaya	*Caricaceae*	Shrub	Cultivated	Flower	Gastrointestinal, Toothache	Fresh, eat	0,300
Drymaria cordata	*Caryophyllacea*	Herb	Wild	Leaves	Gastrointestinal, Skin disease, Wounds	Pound, eat, topically applied	0,160
Cycas rumphii	*Cycadaceae*	Shrub	Cultivated	Leaves	Gastrointestinal	Pound, eat	0,030
Homalanthus populneus	*Euphorbiaceae*	Tree	Wild	Leaves	Gastrointestinal, Wounds, Postpartum, Refreshment of Body, Fever, Skin disease	Pound, drop to eye, eat	1,160
Exoecaria cochinchinensis		Shrub	Cultivated	Leaves	Gastrointestinal, Wounds, Postpartum, Refreshment of Body, Skin disease	Pound, eat, topically applied	0,760
Acalypha boehmerioides		Herb	Wild	Leaves	Postpartum	Pound, eat	0,030
Manihot utilissima		Shrub	Cultivated	Leaves	Skin disease	Pound,topically applied	0,133
Pterocarpus indicus	*Fabaceae*	Tree	Cultivated	eaves, Sap	Gastrointestinal, Fever, Toothache	Pound,topically applied	0,330
Tamarindus indica		Tree	Cultivated	Leaves, Fruit	Influenza, Postpartum, Refreshment of Body	Boil, Pound, drink, eat	0,230
Erythrina lithosperma		Tree	Cultivated	Leaves	Gastrointestinal, Fever, Reproductive, Postpartum, Refreshment of Body	Boil, Pound, eat	0,730
Pithecelobium jiringa		Tree	Cultivated	Sap	Toothache	Topically applied	0,006
Leucaena leucephala		Tree	Cultivated	Fruit	Gastrointestinal, Fever	Boil, Pound, drink, eat	0,066
Abrus precatorius		Shrub	Cultivated	Leaves	Gastrointestinal, Toothache	Boil, drink	0,166
Plectranthus scutellaroides	*Lamiaceae*	Herb	Cultivated	Leaves	Gastrointestinal, Wounds, Skin disease, Postpartum, Refreshment of Body	Boil, Pound, eat, topically applied	0,760
Orthosiphon aristatus		Herb	Cultivated	Leaves, Flower	Gastrointestinal, Postpartum, Wounds	Boil, Pound, drink	0,300

Rotheca serrate		Shrub	Wild	Leaves	Gantrointestinal, Influenza, Wounds, Postpartu	Pound, eat	0,600
Vitex pinnata		Tree	Wild	Leaves	Postpartum	Pound, eat	0,030
Persea americana	*Lauraceae*	Tree	Cultivated	Bark, Leaves, Fruit	Fever, Gastrointestinal, Skin disease, Refreshment of Body	Boil, Pound, drink, eat	0,200
Cinnamomum sintoc		Tree	Cultivated	Leaves	Gastrointestinal, Influenza, Refreshment of Body	Pound, eat	0,100
Allium ascalonicum	*Liliaceae*	Herb	Cultivated	Bulb	Fever	Pound,topically applied	0,300
Allium sativum		Herb	Cultivated	Bulb	Fever, Postpartum	Pound,topically applied	0,400
Dendrophthoe	*Loranthaceae*	Herb	Wild	oot, Stem, Leaves, Flower, Fruit	Gastrointestinal	Boil, drink	0,066
Hibiscus rosasinensis	*Malvaceae*	Shrub	Cultivated	Leaves, Flower	Postpartum	Pound, eat	0,166
Sida rhombifolia		Shrub	Wild	Leaves	Skin disease	Pound,topically applied	0,033
Clidemia hirta	*Melastomatacea*	Shrub	Wild	Fruit, Leaves, Root	Gantrointestinal, Influenza, Wounds, Postpartum, Toothache	Boil, Pound, drink, eat	0,360
Pternandra azurea		Tree	Wild	Leaves	Postpartum	Pound, eat	0,060
Cyclesa barbata	*Menispermacea*	Shrub	Cultivated	Leaves	Gastrointestinal, Fever	Boil, Pound, eat	0,400
Arcangelisia flava		Liana	Wild	Leaves	Gastrointestinal, Skin disease, Postpartum	Pound, eat	0,160
Arthocarpus elasticus	*Moraceae*	Tree	Cultivated	Leaves	Postpartum	Pound, eat	0,166
Arthocarpus altilis		Tree	Cultivated	Flower	Skin disease	Burned, topically applied	0,066
Musa parasidiaca		Herb	Cultivated	Leaves, Fruit	Gastrointestinal, Fever, Toothache, Wounds	Burned, Fresh, drop, eat, topically applied	0,033
Eugenia aromatia	*Myrtaceae*	Tree	Cultivated	Leaves, Fruit	Gastrointestinal, Toothache	Boil, drink	0,060
Psidium guajava		Tree	Cultivated	Leaves	Gastrointestinal, Fever, Postpartum	Boil, Pound, eat	0,830
Pandanus furactus	*Pandanaceae*	Tree	Cultivated	Leaves	Influenza	Pound, drink	0,066
Piper sarmentosum	*Piperaceae*	Herb	Wild	Leaves	Influenza, Helminthiasis	Pound, eat	0,003
Piper betle		Herb	Cultivated	Leaves	Gastrointestinal, Influenza, Postpartum, Reproductive, Toothache	Boil, Pound, drink, eat	0,833
Plantago major	*Plantaginaceae*	Herb	Wild	Leaves	Gastrointestinal, Wounds, Postpartum	Pound, eat	1,060

Bambusa vulgaris	*Poaceae*	Tree	Cultivated	.oot, Stem	Fever	Boil, Cooked, drink, eat	0,190
Imperata cylindrica		Herb	Wild	Root	Influenza, Gastrointestinal, Refreshment of Body	Boil, Pound, drink	0,300
Oryza sativa var. glutinosa		Shrub	Cultivated	Seeds	Gastrointestinal, Postpartum, Refreshment of Body	Boil, Pound, eat	0,330
Eleusine indica		Herb	Wild	Leaves	Postpartum	Pound, eat	0,006
Oryza sativa		Herb	Cultivated	Stem	Postpartum	Pound, eat	0,030
Cymbopogon citratus		Herb	Cultivated	Leaves, Rhizoma	Postpartum	Pound, eat	0,233
Cymbopogon winterianus		Herb	Cultivated	Leaves, Rhizoma	Fever, Postpartum	Boil, Pound, eat	0,266
Saccharum officinarum		Tree	Cultivated	Leaves, Stem	Gastrointestinal, Postpartum	Boil, Pound, eat	0,990
Rubus moluccanus	*Rosaceae*	Shrub	Wild	Leaves	Gastrointestinal, Postpartum	Pound, eat	0,500
Gardenia jasminoides	*Rubiaceae*	Shrub	Cultivated	Leaves	Fever, Gastrointestinal, Wounds, Toothache	Boil, Pound, eat	0,630
Paederia foetida		Herb	Wild	Leaves	Fever, Gastrointestinal, Postpartum	Pound, eat	0,530
Cinchona pubescens		Tree	Cultivated	Bark, Leaves	Refreshment of body	Boil, Pound, drink	0,030
Cinchona sucirubm		Tree	Cultivated	Bark	Refreshment of body	Boil, drink	0,330
Uncaria ferrea		Shrub	Wild	Leaves, Stem	Gastrointestinal	Boil, Pound, drink	0,030
Morinda citrifolia		Shrub	Cultivated	Leaves, Stem	Gastrointestinal	Boil, drink	0,130
Citrus nobilis	*Rutaceae*	Tree	Cultivated	Leaves	Fever, Toothache	Pound, eat	0,230
Citrus aurantifolia		Shrub	Cultivated	Leaves, Stem	Influenza	Boil, Pound, eat	0,400
Luvunga sarmentosa		Liana	Wild	Leaves	Toothache	Pound, eat	0,100
Flacourtia rukam	*Salicaceae*	Shrub	Cultivated	Leaves, Stem	Gastrointestinal, Postpartum, Refreshment of Body	Pound, eat	0,100
Nephelium lappaceum	*Sapindaceae*	Tree	Cultivated	Leaves	Gastrointestinal, Fever, Postpartum	Boil, Pound, drink	0,233
Kadsura scandens	*Schisandraceae*	Shrub	Wild	Fruit	Influenza	Fresh, eat	0,003
Selaginella plana	*Selaginellaceae*	Shrub	Wild	Leaves	Gastrointestinal, Wounds, Postpartum, Toothache	Pound, eat, topically applied	0,600

Capsicum annuum	*Solanaceae*	Shrub	Cultivated	Leaves, Fruit	Fever, Wounds	Pound, drop, topically applied	0,100
Nicotiana tabacum		Shrub	Cultivated	Leaves	Fever, Wounds	Pound, drink, drop	0,660
Turpinia montana	*Staphyleaceae*	Shrub	Wild	Leaves, Stem	Influenza, Wounds, Refreshment of Body	Boil, Pound, drink	0,200
Camellia sinensis	*Theaceae*	Shrub	Cultivated	Leaves	Gantrointestinal, Postpartum, Refreshment of Body	Boil, drink	0,200
Schima wallichii		Tree	Cultivated	Flower	Refreshment of body	Boil, eat	0,033
Phaleria macrocarpa	*Thymelaceae*	Shrub	Cultivated	Fruit	Gastrointestinal	Boil, drink	0,030
Etlingera elatior	*Zingiberaceae*	Herb	Cultivated	Leaves, Stem	Gastrointestinal	Boil, Pound, eat	0,066
Zingiber officinale		Herb	Cultivated	Leaves, Rhizoma	Gantrointestinal, Influenza, Postpartum, Refreshment of Body	Pound, eat, topically applied	0,560
Kaempferia galanga		Shrub	Cultivated	Leaves, Rhizoma	Gastrointestinal, Influenza, Postpartum	Pound, drink	0,230
Curcuma xanthorrhiza		Shrub	Cultivated	Leaves, Rhizoma	Postpartum	Pound, eat	0,030
Curcuma manga		Shrub	Cultivated	Leaves, Rhizoma	Postpartum	Pound, eat	0,030
Curcuma purpurascens		Shrub	Cultivated	Rhizoma	Postpartum	Pound, eat	0,030
Curcuma domestica		Shrub	Cultivated	Leaves, Rhizoma	Gastrointestinal, Wounds, Postpartum, Refreshment of Body, Skin disease	Pound, drink, eat	0,760
Alpinia galanga		Herb	Cultivated	Leaves, Rhizoma	Influenza, skin disease	Pound, drink, topically applied	0,700
Zingiber aromaticum		Herb	Cultivated	Leaves, Rhizoma	Reproductive, Postpartum, Refreshment of Bod	Pound, drink, eat	0,366
Costus specious		Herb	Cultivated	Leaves	Postpartum	Pound, eat	0,066
Boesenbergia pandurate		Herb	Cultivated	Rhizoma	Postpartum	Pound, eat	0,660
Hornstedtia megalochelius		Herb	Cultivated	Rhizoma	Postpartum	Pound, eat	0,100

In the present study, wild medicinal plants (such as *Ageratum conyzoides, Centella asiatica, Goniothalamus macrophyllus, Ilex trifloral, Parameria laevigata,* etc.) were collected from various area such as village roadsides, rice field embankments, and along the trekking path to Ciparay Waterfall. Aware of the medicinal potential of plants aroud their settlements, the Legok Raina community and local leaders have initiated cultivation efforts in home gardens, plantations, and rice fields to ensure easier access. This practice represents a form of the conservation aimed at sustaining medicinal plant resources within the village. **Figure 3** shows that leaves are the primary source of medicinal raw materials (85 species), followed by other plant parts such as roots, rhizome, bulbs, stem, bark, sap, flowers, fruits, and seeds. This aligns with existing literature on the prevalence of leaf usage (Oknarida et al., 2018; Silalahi et al., 2020). The preference of leaves is attributed to their rich chemical compounds, accessibility (Ahmad et al., 2015), and the ease of cultivating herbaceous plants (Patiola et al., 2023). The following is a description of the species in the habitat where they were found.

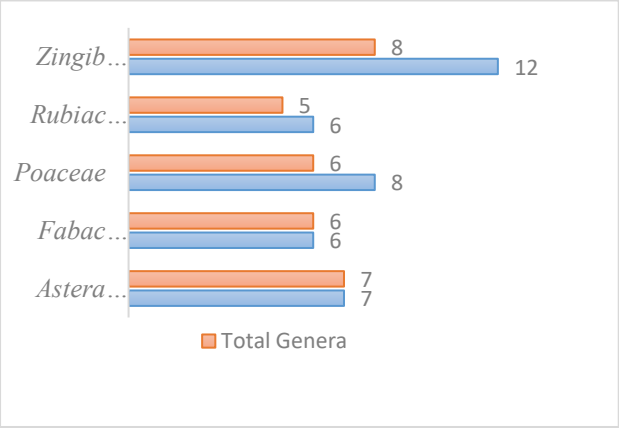

Figure 1. Families with the highest number of genera and species

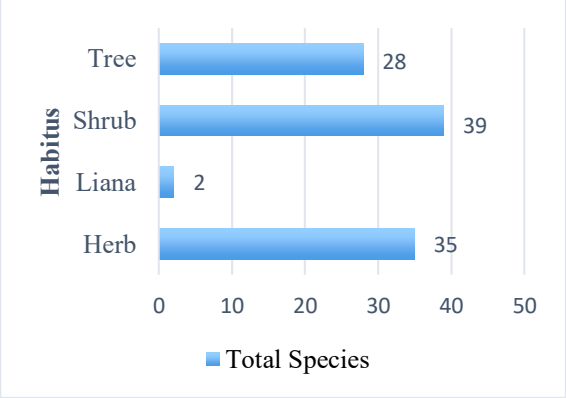

Figure 2. Various medicinal plants habitus

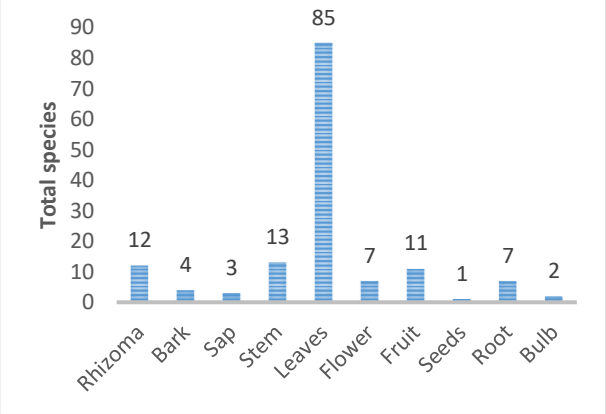

Figure 3. Medicinal plants part used to treat various diseases

Leaves are the most frequently utilized plant organ in traditional medicinal practices, as consistently reported in ethnobotanical literature (Hamzah et al. 2022; Patiola et al. 2023). Their preference is attributed to several factors, including their ease of harvest compared to other plant parts and their abundant availability (Elfrida et al., 2021; Patiola et al., 2023). Furthermore, the selective harvesting of leaves supports sustainable use and plant conservation, as leaves are renewable organs that allow repeated and continuous collection without causing permanent damage to the plant. Ecologically, leaves serve as primary sites for the biosynthesis of secondary metabolites, which function as defensive compounds against herbivores through toxic, repellent, or anti-nutritional properties (Qamariah et al., 2020). As the central organ of photosynthesis, leaves accumulate high concentrations of photosynthates and associated bioactive compounds, contributing to their significant medicinal value.

Based on interviews with respondents, medicinal plants were categorized according to the diseases they treated **(Table 2).** A total of 56 species were used to treat gastrointestinal disorders, followed by postpartum conditions (50 species), fever (29 species), body refreshment (23 species), and wounds (22 species). Meanwhile, ailments such as influenza, toothache, skin diseases, reproductive disorders, and helminthiasis were treated with 1–18 plant species of each. This study is consistent with the study by Silalahi *et al.* (2015), which reported that 72 species of 239 medicinal plant species were utilized by the Batak Simalungun community to treat gastrointestinal disorders. According to an ethnobotanical study of the Dawan (Amanatun) community in Hoineno Village, South Central Timor Regency, East Nusa Tenggara, 13 plant species are utilized for treating gastrointestinal disorders (Tefu et al. 2022).

Table 2. Number of medicinal plant species used to treat various diseases in the Legok Raina community

Name of Disease	Number of Species
Gastrointestinal	56
Wounds	22
Postpartum	50
Refreshment of Body	23
Influenza	18
Fever	29
Toothache	17
Skin Disease	16
Reproductive	4
Helminthiasis	1

The high incidence of gastrointestinal disorders in the area is linked to poor sanitation in both households and the surrounding village environment. These conditions foster the proliferation of bacteria, viruses, parasites, and fungi that cause gastrointestinal infections (Hutasoit et al. 2022). Furthermore, the considerable distance to healthcare facilities has led the community to turn to medicinal plants as a primary treatment. Among the species used by respondents to treat gastrointestinal issues are *Ageratum conyzoides*, *Camelia sinensis, Psidium guajava*, and *Mikania cordata*. Tannins and flavonoids found in the leaf extracts of *Psidium guajava* (Huynh et al., 2025) and *Mikania cordata* (Rahman et al., 2020), as well as in the root, leaf, and stem extracts of *Ageratum conyzoides* (Baral et al., 2022) are known to function as antibacterial and anti-inflammatory agents.

A total of 50 plant species are used for postpartum care (Table 2), including *Oryza sativa* var. *glutinosa*, *Cymbopogon citratus* (Poaceae), *Alpinia galanga*, and *Kaempferia galanga* (Zingiberaceae) (Table 1). These species are also utilized for postpartum recovery in Aceh (Fuadi et al. 2019). Similarly, the Dayak Kalis tribe in Nanga Danau, West Kalimantan, uses *Cymbopogon citratus* (Poaceae) and *Kaempferia galanga* (Zingiberaceae) as ingredients in traditional postpartum medicine (Panjaitan et al. 2025).

Use Value

The five highest Use Values (UV) (0.990–1.760; **Figure 5)** were recorded for *Ageratum. conyzoides* **(Figure 4a)**, *Salacca edulis* **(Figure 4b),** *Saccharum officinarum* **(Figure 4c)**, *Homalanthus populneus*, and *Plantago major* (Figure 4c), while other species ranged from 0.003 to 0.833 (Table 1). All recorded species are categorized as 'rarely used' (0 < UV < 3 (Hoffman & Gallaher, 2007). These low UV align with findings in Ngadisari Village, East Java (0.80; Kurniawan and Jadid, 2015) and Hoineno Village, East Nusa Tenggara (0.97; Tefu et al., 2022).

Figure 4. A few medicinal plants in Legok Raina Village, a *Ageratum conyzoides*, b *Salacca edulis*, c *Saccharum officinarum*

Beyond gastrointestinal issues, *Ageratum conyzoides* is used in Legok Raina for fever, wounds, postpartum care, and toothaches (Table 1). Preparations involve boiling or pounding roots, stems, or leaves for consumption or topical application. This use is pharmacologically supported by its secondary metabolites (e.g., alkaloids, flavonoids) (Baral et al., 2022) and finds parallels in other regions, such as Nigeria, where it is a prominent remedy for wounds, burns, and postpartum topical care (Kotta et al., 2020; Baral et al., 2022).

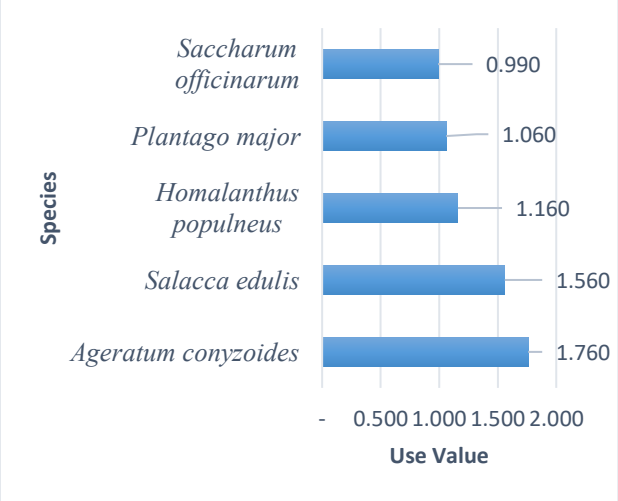

Figure 5. The highest use value (UV) of medicinal plants

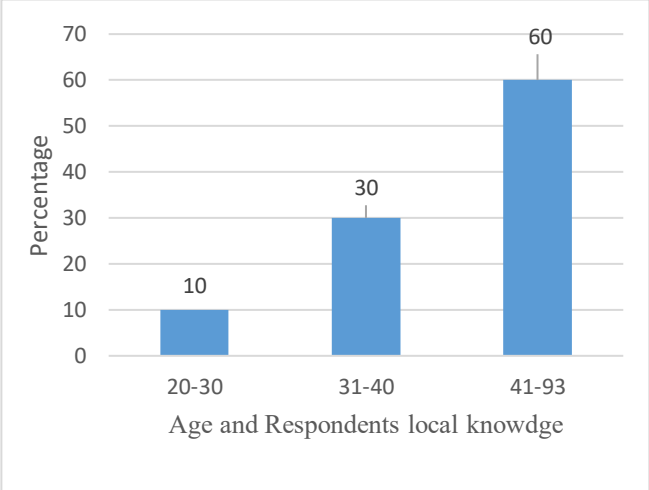

Figure 6. Percentage of respondents local knowledge based on various age

The Legok Raina community treats gastrointestinal disorder, fever, and toothache with *Salacca edulis* (Salak) leaves, ailments often of microbial origin. The leaves are boiled or pounded, and the aqueous extract is consumed. Bioactive compounds like alkaloids, tannins, phenolics, and flavonoids shared with *S. sumatrana* impart antioxidant, antibacterial, anticancer, and anti-inflammatory properties (Lubis et al., 2023). *Homalanthus populneus* (kareumbi) is used ethnobotanically to treat gastrointestinal disorders, wounds, fever, skin diseases, and for postpartum care and body refreshment. The leaves are typically pounded for oral consumption or processed into an extract for use as eye drops (Table 1). These leaves contain bioactive compounds such as terpenoids, flavonoids, coumarins, and prostratins, which are responsible for antibacterial, anti-HIV, antiprotozoal, and estrogenic properties, as well as for promoting wound healing (Wirasisya and Hohmann, 2023). Its use in postpartum recovery is further documented among the Dayak Ngaju tribe in Mantangai, Central Kalimantan (Rohmat et al., 2019). The leaf extract of *Plantago major* (*ki urat*) contains alkaloids, terpenoids, flavonoids, and iridoid glycosides, among other bioactive compounds. These constituents exhibit antioxidant, antibacterial, anti-inflammatory, anticancer, and anti-ulcer properties (Baimakhanova et al., 2025). Consequently, the leaves are traditionally pounded and ingested to treat gastrointestinal disorders, wounds, and postpartum ailments (Table 1).

The Legok Raina community uses *Saccharum officinarum* (*tiwu*) to treat gastrointestinal disorders and aid postpartum recovery, typically by boiling or pounding its leaves and stems for consumption (Table 1). The phenolic compounds in these parts inhibit pathogenic gut bacteria, while the stem's dietary fiber helps prevent gastrointestinal issues and colon cancer, lowers cholesterol, and supports postpartum nutrition (Wibawa et al., 2021). Respondents consider sugarcane a keystone species due to its dual role as a palatability enhancer (taste neutralizer) and an ergogenic aid (energy restorative) in their ethnobotanical practices. It is consistently utilized to counteract the bitterness of herbal decoctions, typically by consuming a small amount of granulated sugar immediately after ingestion. Furthermore, to alleviate fatigue after agricultural activities, respondents consume *tiwu* juice to restore stamina.

Documentation from 30 respondents (aged 20-93) revealed an uneven distribution of the local knowledge underlying medicinal plant use at the site: 60% of those aged 41-93 possessed it, while only 10% in the 20-40 age group **(Figure 6)**, leading to an overall low to fair classification (Arikunto, 2016). The traditional knowledge

held by the older group is considered adequate, being generationally inherited and based on a belief in herbal safety (Oktaviani et al., 2021; Yuda et al., 2022). In contrast, the younger group's limited traditional knowledge arises from a shift toward modern medicine and associations of traditional healing with mysticism (Caesarine & Setyaningsih, 2023).

CONCLUSION

The study concluded that Legok Raina community utilizes 104 species of medicinal plants, which are classified into 93 genera and 46 families. Zingiberaceae was found to have the highest number of species (12) and genera (8). A total of 39 species werre identified as shrubs. Leaves were the most commonly used plant part for medicinal preparations. These plants are used to treat 10 distinct categories of ailments. The species with the highest recorded Use Values (UV) were *Ageratum conyzoides, Salacca edulis, Hommalanthus populneus, Plantago mayor,* and *Saccharum officinale*. Traditional knowledge regarding these plants is dominantly held by respondents aged 41-93 years, who inherited this knowledge from their ancestors.

AUTHORS CONTRIBUTION

Priyanti contributed to data analysis, interpretation, and initial manuscript drafting. B.S. Jori was responsible for study design, execution, and data analysis. I. Aminudin, Dasumiati, and Junaidi reviewed the manuscript and provided overall supervision.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest. They are solely responsible for the content of this article.

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