Diversity of Indonesian Medicinal Plant in The lowland Forest, Bodogol and Its Surrounding of Mount Gede-Pangrango National Park, West Java

S Susiarti¹, M Rahayu¹ and Rugayah¹

¹Botany Division, Research Center for Biology
Indonesian Institute of Science (LIPI).
Jl. Raya Jakarta-Bogor Km 46, Cibinong, Indonesia.

E-mail: susi.etno@yahoo.com

Abstract. Ethnobotanical research of medicinal plant was carried out in the lowland forest at Bodogol, Mount Gede Pangrango National Park, West Java. The study site is inhabited by the Sundanese community in several villages of surrounding National Park. The used methods of research were ethno-directed sampling, open-ended interviews with the local community, and a ‘walk in the woods’ in four permanent forest plots. A total of 93 medicinal plants were recorded in the Bodogol lowland forest and its surroundings, belonging to 78 genera and 50 families. Those species are used for treatment of 32 different diseases. The species is most frequently used for post-pregnancy. Three of the recorded species namely Alstonia scholaris, Cinnamomum sintoc, and Fibraurea tinctoria are endangered plants. The community rarely collects medicinal plants from the forest; they prefer to collect from around the village or from cultivated plants.

1. Introduction

Indonesia's key position as a center of the world's biodiversity is reflected in the wealth of natural resources and the variety of ecosystems. The natural diversity of plants and wildlife can be found in conservation areas, which cover a total area of about 28.26 million hectares of nature reserves and national parks [1].

Mount Gede-Pangrango National Park (NP) is one of 50 National Parks in Indonesia. It covers 21.975 ha and located in Bogor, Sukabumi and Cianjur, West Java. The flora of this area was reported containing 1400 species, including 105 species of ornamental plant, 100 species of survival plant and 107 species of medicinal plant [2].

Bodogol is the lowland area of Mt. Gede Pangrango NP that still exists in relatively good condition. This area has been a site for ecological research since 2007. To conserve this area, many activities have been carried out, and ethnobotanical studies have been conducted since 2009. The aims of this study are to create an inventory of species diversity of Indonesian medicinal plants used by the local people and to document the interaction between them and the surrounding forest area.
2. Materials and Methods
Data were collected using ethno-directed sampling and open-ended interviews with the local Sundanese community. The study was conducted for 2 years, through 4 visits from 2009-2010. Twenty households were randomly selected interviewed. The main research questions were as follow: which plant species and which part of the plant are being used for such diseases, for commercial purpose.Meanwhile, the main question was: when does the plant can be harvested and how many times a year.

In addition, the ‘walk in the woods’ method was used in four permanent forest plots, namely natural forest, Pine (Pinus merkusii) forest, Rasamala (Altingia excelsa) forest, and Agathis (Agathis borneensis) forest. Previous research reported that the numbers of trees per Ha in these forest types are 140 species (natural forest), 20 species (Pinus forest), 133 species (Rasamala forest) and 46 species (Agathis forest) [3].

Several questions concerning medicinal plants were addressed to collect information on the vernacular names of plants, localities where they were collected, parts of plants used and how they are used. Herbarium specimens were collected in the field, further identified at the Herbarium Bogoriense, Botany Division, Research Center for Biology, Indonesian Institute of Sciences (LIPI).

Characteristic of the livelihood respondents in the four villagers around the lowland forest of Bodogol, Sukabumi- West Java consisted of 3 status namely farmers (78.26 %), housewives (17.39 %) and shaman (4.35 %). The education grade of these villagers was elementary school. Total percent of respondents of men and women were 78.26 % and 21.74 % with age 45-54 years (30.43 %), 55-64 years (26.09 %), 65-74 years (30.43 %), and 75-84 years (13.04 %). The study site was presented in Figure 1.

![Figure 1. Bodogol area, Mount Gede-Pangrango NP, West Java, Indonesia](image)

3. Result and Discussion
3.1. Diversity of medicinal plant
A total of 93 medicinal plant were recorded in Bodogol, Mt. Gede Pangrango NP, belonging to 78 genera and 50 families (Table 1). Those plants are used to treat approximately 32 diseases. Most of them are Angiosperms and only 2 species are ferns. Among 51 families, the highest number of species used by the local people are Zingiberaceae (7 species) followed Asteraceae (6 species),
Euphorbiaceae, Moraceae and Piperaceae (5 species), Acanthaceae, Malvaceae (4 species), Areceaceae, Poaceae, Rubiaceae and Urticaceae (3 species), Apocynaceae, Fabaceae, Lamiaceae, Lauraceae, Marantaceae and Oxalidaceae (2 species) with the rest of the families each represented by a single species (Figure 2). Palms inventory at Bodogol Forest, Mount Gede Pangrango (NP) found 19 species of palms and Arenga obtusifolia is used as medicinal plant [4]. In this area, Abelmoschus manihot, that is known by local people as 'kawaro' mustajab' leaves was also found. The name recalls the believe that the leaves of this species can heal some diseases such as swelling.

Compare to other locations, the diversity of medicinal plants found in Bodogol (93 species) is lower than in Mount Halimun NP, which has 117 medicinal species [5]. Twenty-eight species found in this research area are similar to those in Mt. Halimun NP [5], five species found in this research area are similar to those reported by Agustini et al (2003) [6], 17 species are similar to those reported by Sihotang (2010) [7] and four species the same as representative medicinal plants from Java [8]. Two species, namely Cinnamomum sintoc and Schima wallichii, are also found in Cidahu, West Java [9].

Three species for medicinal plant uses were reported in Bodogol Alstonia scholaris, Cinnamomum sintoc, Fibraurea tinctoria are include in the endangered plant list of Indonesia [10, 11].

From the 93 species of medicinal plant recorded in this National Park, about 60 % (66 species) are growing wild in the forest (permanent plots), 2 species are found wild in the open area around the village, and the remaining species are cultivated in home gardens.

The more value a plant uses, the greater the importance of the plant [12]. The plants species with high index cultural significance (ICS) values such as Altingia excelsa, Arenga pinnata, and Mikania micrantha used for medicinal plants are originated from lowland forests of Bodogol [13].

Figure 2. Composition of species and family used for medicinal plants by people

3.2. Diversity of plant parts used
In traditional medicine, different plant parts are used to treat different diseases, and different components of one medicinal plant may have different effects. For some medicinal plants, only one part usually used, while for other species, several parts or the whole plant are used. Of the identified medicinal plants in the research area, the part of the plant used most commonly was leaf only or bark only, while only 2 species were used as the whole plant (Figure 3). Leaves are the most commonly used, including young, old or dry conditions. Roots and rhizomes are also commonly used. Parts of the
stem used can be either pith or the liquid inside, for example, the liquid from the stem of *Dinochloa scandens* to cure eye problems. Root of *Arenga obtusifolia* (Arecaceae) can be consumed at post pregnancy [4]. In this study, the stem pith of the same species of and the young saray stalk (*Caryota myitis*) can be consumed post-pregnancy.

The local people collect most of the plant used from the village surrounding their house or they cultivate some of them in their garden. Only few species such as *Cinnamomum sintoc*, *Dinochloa scandens*, *Fibraurea tinctoria* are collected from forest.

---

3.3. Diversity of diseases found in Bodogol, Mt. Gede Pangrango NP

The 93 medicinal plant species recorded in Bodogol were used for treatment of 32 different diseases (Table 1). Commonly, the local people use one medicinal plant for each disease, but some people also used one medicinal plant for several diseases, for example *Ageratum conyzoides* to treat the stomach, as well as for wound problems, and post pregnancy.

The highest number of species used is for post pregnancy (36), followed by fever (10), backache, problems of the stomach, swelling (7), cough (6), aches, eye, wounds (5), toothache, tonic (4), aphrodisiac, hemorrhoids, liver and warts (3), with other complaints using 1 – 2 species (Figure 4). Pulus (*Laportea stimulans*) is used for asthma treatment. Meanwhile in Mt. Halimun NP area, *Pinanga coronata* is used to treat asthma [5]. A decoction of the plant of *Euphorbia hirta* is also used to treat asthma and its extract has analgesic properties [14]. *Carica papaya*, *Curcuma longa*, *C. xanthorrhiza*, *Datura metel*, *Plantago major*, and *Zingiber officinale* are also used for asthma [15].

Fabaceae from Mt. Gede-Pangrango NP have been used extensively as medicinal plants. *Archidendron clypearia* (haruman) and *Euchresta horsfieldii* (local name “ki jiwa”/ or “panjang jiwa”) are used as a tonic and for rheumatism, while *Spatholobus littoralis* (kawao) is used as fish poison [16]. *Archidendron clypearia* contains flavonoids which have antiviral activity and polyphenol compounds with anti-inflammatory activity. *Euchresta horsfieldii* contains isoflavone compounds with potential as a lipid-lowering agent. The genus *Spatholobus* contains alkaloids and flavonoids as antioxidants.

The ethylacetate extract of *Eryngium foetidum* showed the strongest antimicrobial activity among the five extracts against the four bacterial strains and *Candida albicans* [17]. In addition, ethanol extract of *Eryngium foetidum* flowers has antibacterial activity against *Staphylococcus aureus* at the concentration of 25 % w/v, with the diameter of growth inhibition is 13.1 mm [18].
Another important species, rasamala (*Altingia excelsa*), is rarely used for traditional medicine in many places in Indonesia. It might be correlated to the narrowly distribution of this species. This species only found in Sumatera and Java [19]. In the research area (Bodogol), the young leaves used by the local people for post pregnancy consumption, and in South East Asia, however, it has been used to cure cough [20]. In China, this plant contains tonic remedy particularly recommended for chest complaints [21].

Plant species in Bodogol such as *Lantana camara* and *Physalis minima*, are used to treat bruises and post pregnancy. Meanwhile, *Lantana camara* and other species of genus *Physalis*, *P. peruviana* have anti cancer potential [22].

**Figure 4.** Diversity of diseases found in Bodogol.

### 3.4. Route of drug administration

Traditional medicinal plants are commonly exploited in simple ways. Medical administrations include oral intake and application to external body parts. Most of the species were orally administrated, mainly as a decoction from plant parts and eaten or chewed (**Table 1**). A number of species were externally applied, namely capituheur (*Mikania micrantha*), jawer kotok (*Plectranthus scutellaroides*) to treat wounds and itches.

Vernacular names usually have meaning, and according to Sundanese in the study area, for example Pulus Rhino means large Pulus (*Laportea* sp.). This species is also named “daun gatal” (itch leaves). Although the leaves cause itching, but the water from the root (tuak akar) can be used in treatment for asthma and coughs.

### 3.5 Commercialization of medicinal plant

*Amomum compactum* and *Orthosiphon aristatus* were commercialized medicinal plants in the research area. Local people in Bodogol, Mt. Gede Pangrango NP have been cultivating these two species in home gardens. The two species are perennial herb, the round cardamom (*Amomum compactum*) harvest after 6 months and they commercialized the fruits for Rp. 40,000 – Rp. 60,000/Kg. In the other hand, Javanese tea (*Orthosiphon aristatus*) usually harvested after 3 months and in interval times 2 weeks. They sold the dried leaves Rp. 5,000/Kg to a collector. They received additional income Rp.
2,880,000 - Rp. 3,600,000/ a year (about US$ 360 from the round cardamom and Rp. 1,680,000 - Rp. 2,400,000,-/ a year (about US $ 200) from java tea.

Indonesian exports Javanese tea to Europe and other countries an average of 170 ton/year of dried leaves in the period 1991-1995 [23]. Meanwhile, there is no statistical data for round cardamom. In Asian market, the round cardomum is still included under true cardamom (*Elettaria cardamomum*) production. The production of round cardamom is unstable and varies for 90-300 ton annual harvest during 1976-1983. The species is only traded in Asia [24].

4. Conclusion
A total of 93 Indonesian medicinal plants were recorded and recognized by the local people in Bodogol lowland forest and the surrounding area in Mt. Gede Pangrango NP, belonging to 78 genera and 50 families. Those species are used for treatment of 32 different diseases. The highest numbers of species are used as post pregnancy consumption. *Alstonia scholaris*, *Cinnamomum sintoc*, *Fibraurea tinctoria* are included in the endangered plant list of Indonesia. The community rarely collects medicinal plants from the forest; they prefer to collect from around the village or from cultivated gardens. Further research on ethno pharmacology for post pregnancy of several species (*Altingia excels*, *Arenga obtusifolia*, *Beilschmiedia madang*, *Ficus glabella*, *Pilea trinervia*) might be very interesting to be carried out.

5. References
[1] Anonim 2007 *Buku Informasi: 50 Taman Nasional Di Indonesia* Dep. Kehutanan R I Lestari Hutan Indonesia dan Jica pp 291.
[2] Anonim 2006 *Buku Informasi: Flora Taman Nasional Gunung Gede-Pangrango Balai TN G Gede-Pangrango* pp 62.
[3] Alhamd L, Rahajoe J S and Wardi 2008 Biodiversity and Ecosystem Function gunung Gede Pangrango National Park Bodogol West Java Presented in Seminar JSPS- Int. Training Program Andalas University. Padang.
[4] Alandana I M, Rustiami H and Widodo 2015 Inventarisasi Palem di hutan Bodogol Taman Nasional Gunung Gede Pangrango Buletin Kebun Raya 18 81-97.
[5] Harada K, Rahayu M and Muzakkir A 2002 Medicinal plants of Gunung Halimun National Park, West Java, Indonesia BCP-JICA PalMedia Citra Bandung pp 135.
[6] Agustini E, Kindarliah I, Gumilang A R, Djaenudin H, dan Sopian 2003 *Buku Informasi: TumbuhanSurvival Dan Tumbuhan Obat Taman Nasional Gunung Gede Pangrango*. Mulyana A, Agustini E dan Hendrian (Eds.). Balai TN Gn. Gede Pangrango Dir. Jen. Perlindungan Hutan dan Konservasi Alam pp 66.
[7] Sihotang V B L 2010 Ethnomedicinal study of the Sundanese people at the Bodogol area, Gede Pangrango Mountain National Park West Java In: Wong, Lee, et al. (Eds.), Proc. of The 8th Flora Malesiana Symp. Singapore 23-27 August 2010 pp 519-526.
[8] Paik J, Lee J, Choi S, Park S, Marwoto B, Widjhati R, Irawan D, Juniarti F and Surya A 2012 Medicinal Plants of Indonesia: Representative Medicinal Plants from Java. KRIIBB. Korea, Indonesia pp 123.
[9] Royyani M F 2009 Pengetahuan dan pemanfaatan tumbuhan oleh masyarakat Desa Cidahu dan Giritjaya, Kecamatan Cidahu, Sukabumi. In: Purwanto and Walujo (Eds.). Proc. of Seminar Nasional Etnobotani IV LIPI Press. Jakarta pp 145-150.
[10] Hidayat S 2006 Tumbuhan Obat Langka di P Jawa: Populasi dan Sebaran. Pusat Konservasi Tumbuhan Kebun Raya Bogor – LIPI pp 99.
[11] Mogea J P, Gandawidjaja D, Wiriadinata H, Nasution, R E and Irawati 2001 Tumbuhan Langka Indonesia. Seri Panduan Lapangan. Pusat Penelitian Biologi LIPI Bogor Indonesia pp 86.
[12] Turner N J 1988 The importance of a rose: evaluating the cultural significance of plants in Thompson and Lillooet Interior Salish Am Anth. 90 272- 90.
[13] Rahayu M, Purwanto Y and Susiarti S 2012 Nilai kepentingan budaya keanekaragaman jenis tumbuhan berguna di hutan dataran rendah Bodogol Sukabumi Jawa Barat Berita Biologi 11 313-320.

[14] Thin N N and Sosef M S M 1999 Euphorbia L. In: Padua et al. (Eds.) Medicinal & Poisonous Plants 1. Plant Resources of South-East Asia 12 Backhuys Publishers, Leiden pp 263 – 272.

[15] Vaidya G K and Braganza V J 2009 Medicinal Plant solutions to asthmatic problems in: Trivedi P C (Ed). Medicinal Plants, Utilisation and Conservation. 2nd Revised & Enlarged Edition. Aavishkar Publishers Distributors, Jaipur 302 003 9Raj India pp 425-452.

[16] Dwipa A S, Irawan D and Juniarti F 2011 The Uses of Fabaceae from the Mount Gede-Pangrango National Park as medicinal plants. Widjaja et al. (Eds.): Proc. of The 2nd Int. Symp. on Temulawak And The 40th Meeting of National Working Group on Indonesia Medicinal Plant. IPB. Bogor. Indonesia. pp 234 -236.

[17] Lingaraju D P, Sudarshana M S, Mahendra C and Rao K P 2016 Phytochemical screening and antimicrobial activity of leaf extracts of Eryngium foetidum L. (Apiaceae), Indo American J. of Pharmaceutical Research 6 4339-44.

[18] Untari B 2014 Ekstrak etanol dari bunga Ketumbar Laut (Eryngium foetidum L.) sebagai insektisida alami dan antibakteri. Proc. of Seminar Nasional Biodiversitas. 3 128-131.

[19] Vink W 1957 Hamamelidaceae Flora Malesiana 1 363-379.

[20] Soerianegara I, Rifai M A, Martawijaya A and Ilic J 1994 Altingia Norona In: Soerianegara & Lemmens (Eds.), Plant Resources of South-East Asia, No. 5 Timber Trees: Major Commercial Timbers, Indonesia pp 90-94.

[21] Wiart C 2006 Ethnopharmacology of Medicinal Plants, Asia and The Pasific. Humana Press Totowa, New Jersey pp 228.

[22] Arbiastutie Y, Marsono D, Hartati M S, & Purwanto R 2017 The potential of understorey plants from Gunung Gede Pangrango National Park (West Java, Indonesia) as cervixx anticancer agents Biodiversitas 18 109-115.

[23] Padua L S De, Bunyapraphatsara N and Lemmens R H M J 1999 Medicinal & Poisonous plants 1 PROSEA 12 711.

[24] Guzman C C De and Siemonsma J S 1999 Spices, Plant Resources of South-East Asia 13 Backhuys Publishers, Leiden, pp 399.
Table 1. List of medicinal plant in the lowland forest, Bodogol, the mount Gede Pangrango NP, West Java

| No | Local name | Scientific name         | Family      | Part of plant | Preparation & administration | Medicinal application                      |
|----|------------|-------------------------|-------------|---------------|------------------------------|---------------------------------------------|
| 1  | Kaworo     | Abelmoschus manihot     | Malvaceae   | leaves        | Pounded and applied to body  | swelling                                   |
| 2  | Babadotan  | Ageratum conyzoides     | Asteraceae  | Leaves        | 1. Boiled, drunk. 2. Pounded and applied to the body | 1. post pregnancy, problem of the stomach, 2. wounds Aphrodisiac, post pregnancy |
| 3  | Ki lame    | Alstonia scholaris      | Apocynaceae | Bark          | Boiled with other plant then drunk |                                    |
| 4  | Rasamala   | Altingia excelsa        | Hamamelidaceae | Young leaves | eaten                        | post pregnancy                             |
| 5  | Kapol      | Amomum compactum        | Zingiberaceae | Fruits       | Pounded and applied to stomach | post pregnancy                             |
| 6  | Paku kebo  | Angiopteris evecta      | Marattiacae | Stem          | Pounded and applied to body  | fever                                      |
| 7  | Langkap    | Arenga obtusifolia      | Areaceae    | Pith of stem  | eaten                        | Post pregnancy                             |
| 8  | Kawung     | Arenga pinnata          | Areaceae    | 1. pith of young stem and root, 2. Old leaves stalk | 1. Soaked then drunk 2. Burned, cooled, applied to face | 1. post pregnancy, 2. Anti-acne |
| 9  | Putat      | Barringtonia racemosa   | Lecythidaceae | Young leaves stalk | eaten                        | post pregnancy                             |
| 10 | Hariang    | Begonia robusta         | Begoniaceae | leaves        | Crushed and applied to body | fever                                      |
| 11 | Songgom    | Beilschmeidia madang    | Lauraceae   | Young leaves  | eaten                        | post pregnancy                             |
| 12 | Sembung    | Blumea balsamifera      | Asteraceae  | leaves        | Boiled with other plant, drunk | post pregnancy                             |
| 13 | Temu kunci | Boesenbergia pandurata  | Zingiberaceae | Rhizome      | Chewed                       | post pregnancy                             |
| 14 | Kakatukan  | Breynia microphylla     | Euphorbiaceae | leaves       | Cooked                       | post pregnancy                             |
| No. | Name       | Scientific Name         | Family      | Part Used                           | Uses                                                                 |
|-----|------------|-------------------------|-------------|-------------------------------------|----------------------------------------------------------------------|
| 15  | Kanyere    | Bridelia glauca         | Euphorbiaceae | leaves                              | Pounded and applied to body Fever (child)                             |
| 16  | Gedang     | Carica pepaya           | Caricaceae   | 1. Root and Young leaves, 2. Dry leaves | 1. Boiled then drunk 2. Pounded and applied in face 1. malaria, post pregnancy 2. Antiacne |
| 17  | Saray      | Caryota mitis           | Arecaeeae    | Young stem                          | Cooked post pregnancy                                                |
| 18  | Temung     | Cerbera odollam         | Apocynaceae  | leaves                              | Crushed, with water and drunk fever                                  |
| 19  | Karas tulang | Chloranthus officinalis | Chloranthaceae | Stem                                | Boiled with other plant then drunk post pregnancy, backache, liver    |
| 20  | Ki sintok  | Cinnamomum sintoc       | Lauraceae    | bark                                | Boiled with other plant then drunk post pregnancy                    |
| 21  | Hanjuang   | Cordyline fruticosa     | Liliaceae    | Water of young stem                 | Drop in eye Eye (itches, red)                                         |
| 22  | Pacing     | Costus speciosus        | Costaceae    | 1. Stem, 2. Water of stem           | 1. Applied to body, 2. Drop in eye 1. Itches because of plant, 2. Eye (itches, red) |
| 23  | Ki banen   | Cryptera paniculata     | Crypteroniaceae | Water of stem                        | Drunk Cough                                                          |
| 24  | Marasi     | Curculigo cardifolia    | Hypoxidaceae | Fruit                               | Eaten tonic                                                          |
| 25  | Ki beunyeur | Cyathea junghuhniana    | Cyathecaceae | Latex                               | Apply to tooth Tooth ache, warts                                     |
| 26  | Seureh     | Cymbopogon citratus     | Poaceae      | Root                                | Boiled with other plant then drunk post pregnancy                    |
| 27  | Reundeu    | Cyrtandra picta         | Gesneraceae  | leaves                              | Pounded and applied to headache fever                                |
| 28  | Cangkore   | Dinocloa scandens       | Poaceae      | Water in stem                       | Drop into eye Eye                                                    |
| 29  | Bangban    | Donax canimormis        | Marantaceae  | Stem, young leaves                  | Pounded Antidote                                                     |
| 30  | Ki sa'ut   | Drypetes longifolia     | Euphobriaceae | Stem and leaves                     | Boiled then drunk post pregnancy                                     |
| 31  | Kado       | Durio zibethinus        | Bombaeaceae  | Skin of fruit, bark                 | Boiled with other plant then drunk post pregnancy                    |
| 32  | Sinrong    | Erechites valerianifolia| Asteraceae   | leaves and root                     | Pounded and applied to body,  Boiled then drunk swelling, high blood pressure, post |
| No. | Plant Name       | Family       | Part Used                  | Uses                                                                 | Conditions                               |
|-----|-----------------|--------------|----------------------------|----------------------------------------------------------------------|------------------------------------------|
| 33  | Walang          | Eryngium foetidum | Asteraceae | leaves Crushed, mixed with coconut oil and applied to body            | aches                                    |
| 34  | Ki koneng       | Fibraurea tinctoria | Menispermaeae | Stem Boiled with other plant then drunk                               | post pregnancy, stomachache, backache and liver |
| 35  | Tabat barito    | Ficus deltoidia | Moraceae | 1. latex, 2. Leaves 1. Drop in warts, 2. Boiled then drunk           | 1. warts, 2. Tonic                       |
| 36  | Bunut           | Ficus glabella | Moraceae | Young leaves Eaten                                                   | post pregnancy                           |
| 37  | Walen           | Ficus ribes   | Moraceae | Latex Apply to tooth                                                | Tooth ache, warts                        |
| 38  | Beunying        | Ficus vasculosa | Moraceae | Latex Apply to tooth                                                | Tooth ache                               |
| 39  | Ki rapet        | Ficus villosa | Moraceae | Whole part Boiled with other plant then drunk                        | post pregnancy, stomachache, backache and liver |
| 40  | Hahapaan        | Flemingia strobilifera | Fabaceae | leaves Boiled with other plants then drunk                         | tonic                                    |
| 41  | Ki besi         | Garcinia rostrata | Clusiaceae | Bark Boiled then drunk                                               | Problem of stomach, backache             |
| 42  | Ki cantung      | Goniolalimum | Annonaceae | Whole part Boiled with other plant then drunk                        | post pregnancy                           |
| 43  | Handeuleum      | Graptophyllum pictum | Acanthaceae | 1. Young leaves, 2. Old leaves 1. Eat, 2. Boiled and drunk           | Hemorrhoids                              |
| 44  | Gandasuli       | Hedycium coronarium | Zingiberaceae | Rhizome Boiled then drunk                                            | Cough                                   |
| 45  | Ki sariawan     | Helicia robusta | Proteaceae | Young leaves Eaten                                                  | mouth sores                              |
| 46  | Ki remek tulang | Hemigraphis alternata | Acanthaceae | leaves Pounded and applied to body                                   | Bone fractures                           |
| 47  | Remek daging    | Hemigraphis sp. | Acanthaceae | 1. bark, 2. Leaves 1. Boiled with other plant then drunk 2. Crushed and applied | 1. post pregnancy, 2. Bruises           |
| 48  | Wera            | Hibiscus rosa-sinensis | Malvaceae | leaves Crushed with water and drunk                                  | Pregnancy (easier)                       |
| 49  | Pacar tere      | Impatiens platypetala | Balsaminaceae | leaves Crushed and applied to swollen                               | swollen (stimulant)                      |
| No. | Plant Name | Scientific Name | Family | Part Used | Application Method | Condition |
|-----|------------|----------------|--------|-----------|--------------------|-----------|
| 50  | Cikur      | Kaempferia galanga | Zingiberaceae | Rhizome | Pounded or chewed and applied to breast | post pregnancy |
| 51  | Buntris    | Kalanchoe pinnata | Crassulaceae | leaves   | Pounded and applied to headache | fever |
| 52  | Dudurenan  | Knema intermedia | Myristicaceae | leaves   | Boiled then drunk | tonic, backache |
| 53  | Cente      | Lantana camara   | Verbenaceae | leaves   | Pounded and applied to body | bruises |
| 54  | Pulus badak| Laportea sp.     | Urticaceae | water of root | Drunk | Asthmatic, cough |
| 55  | Pulus      | Laportea stimulans| Urticaceae | water of root | Drunk | Asthmatic, cough |
| 56  | Kahitutan  | Lasianthus inidorus | Rubiaceae | leaves   | Eaten | stomachache |
| 57  | Kopi leuweung | Lasianthus purpureus | Rubiaceae | leaves   | Boiled then drunk | Problem of stomach |
| 58  | Tangkur    | Lophatherum gracile | Poaceae | Root | Boiled then drunk | Aphrodisiac |
| 59  | Kaliki     | Macaranga sp.    | Euphorbiaceae | Leaves stalk | Warmened and smoke blown to ear | Problem of ear |
| 60  | Kaliki beureum | Macaranga sp. | Euphorbiaceae | Leaves stalk | Warmened and smoke blown to ear | Problem of ear |
| 61  | Patat      | Maranta arundinacea | Marantaceae | Rhizome | Eaten or steamed | hemorrhoids |
| 62  | Capituheur | Mikania micrantha | Asteraceae | leaves   | Pounded and applied to body | wounds, fever |
| 63  | Cau kale   | Musa acuminata   | Musaceae | Pith of stem | Pounded and applied to headache | fever |
| 64  | Kumis kucing | Orthosiphon aristatus | Lamiaceae | leaves | Boiled then drunk | Backache, post pregnancy |
| 65  | Calincing  | Oxalis corniculata | Oxalidaceae | Root | Pounded and applied to tooth | Tooth ache |
| 66  | Babawangan | Oxalis sp.       | Oxalidaceae | leaves | Pounded and applied to body | swelling |
| 67  | Menter     | Peperomia pellucida | Piperaceae | leaves | Pounded and applied to headache | fever |
| 68  | Cecenet    | Physalis minima  | Solanaceae | leaves | Boiled | post pregnancy |
| 69  | Pohpohan   | Pilea trinervia  | Urticaceae | Young leaves | Eaten | post pregnancy |
| 70  | Seuseureuhan | Piper aduncum | Piperaceae | Distillation of root leaves | Drunk | Cough |
| 71  | Seureuh    | Piper betle      | Piperaceae | leaves | Boiled then drunk | Birth Control |
| 72  | Gedebong   | Piper umbellatum | Piperaceae | leaves | Pounded and applied to stomach | stomachache (child) |
| No. | Village Name  | Plant Name                  | Family       | Part Used                          | Uses                                                                                           |
|-----|---------------|-----------------------------|--------------|-----------------------------------|------------------------------------------------------------------------------------------------|
| 73  | Seureuh hideung | *Piper ungaramense.*       | Piperaceae   | Leaves                            | Soak in water, drop into eye                                                                      |
|     |                |                             |              |                                   | Eye (red)                                                                                        |
| 74  | Jengkol       | *Pithecellobium jiringa*    | Fabaceae     | Young leaves                      | Pounded and applied to headache                                                                      |
|     |                |                             |              |                                   | wounds and skin infection in headache 1. wounds, swollen (stimulant) 2. post pregnancy, aphrodisiac |
| 75  | Ki unat       | *Plantago major*            | Plantaginaceae | Leaves                            | 1. Pounded and applied to body 2. Boiled with other plant then drunk                                   |
|     |                |                             |              |                                   | 1. wounds 2. post pregnancy                                                                        |
| 76  | Jawer kotok   | *Plectranthus scutellaroides* | Lamiaceae   | Leaves                            | 1. Pounded and applied to body 2. Boiled with other plant then drunk                                   |
|     |                |                             |              |                                   | 1. wounds 2. post pregnancy                                                                        |
| 77  | Baluntas      | *Pluchea indica (L.) Lees.* | Asteraceae   | Leaves                            | Eaten or Boiled with other plants then drunk                                                        |
|     |                |                             |              |                                   | post pregnancy                                                                                     |
| 78  | Ki encok      | *Plumbago zeylanica*        | Plumbaginaceae | Leaves                            | Pounded, mixed with coconut oil and applied to foot                                                  |
|     |                |                             |              |                                   | Rheumatism                                                                                        |
| 79  | Ki remason    | *Polygala venenosa*         | Polygalaceae | Root                              | Pounded, mixed with coconut oil and applied to foot                                                  |
|     |                |                             |              |                                   | Aches                                                                                             |
| 80  | Panggang badak | *Schefflera sp.*            | Araliaceae   | Fruit                             | Boiled then drunk                                                                                   |
|     |                |                             |              |                                   | Aches                                                                                             |
| 81  | Puspa         | *Schima wallichii*          | Theaceae     | Flower                            | Crushed, mixed with coconut oil and applied to foot                                                  |
|     |                |                             |              |                                   | Aches                                                                                             |
| 82  | Pakis rane    | *Selaginella plana*         | Selaginellaceae | Young leaves                      | Eaten                                                                                             |
|     |                |                             |              |                                   | post pregnancy                                                                                     |
| 83  | Sandagori     | *Sida rhombifolia*          | Malvaceae    | 1. leaves, 2. Root                | 1. Crushed and applied to body 2. Boiled and drunk                                                   |
|     |                |                             |              |                                   | 1. swelling, 2. rheumatism                                                                           |
| 84  | Reundeu       | *Staurogyne elongata*       | Acanthaceae  | 1. leaves, 2. Flower               | 1. Eat 2. dried, pounded, mixed with coconut oil and applied to foot                                  |
|     |                |                             |              |                                   | 1. Cough, kidney 2. aches                                                                           |
| 85  | Hantap        | *Sterculia oblata*          | Sterculiaceae | Leaves                            | Boiled                                                                                             |
|     |                |                             |              |                                   | fever                                                                                             |
| 86  | Mahoni        | *Swietenia mahagoni*        | Meliaceae    | Bark                              | Boiled then drunk                                                                                   |
|     |                |                             |              |                                   | hemorrhoids                                                                                        |
| 87  | Jirak         | *Symplocos fasciculata*     | Symplocaceae | Leaves                            | Boiled                                                                                             |
|     |                |                             |              |                                   | post pregnancy                                                                                     |
| 88  | Jukut sisiletan | *Taccarum sp.*          | Araceae      | Leaves and root                   | Boiled with other plant then drunk                                                                 |
|     |                |                             |              |                                   | Backache, post pregnancy                                                                           |
| 89  | Pungpurutan   | *Urena lobata L.*           | Malvaceae    | 1. leaves, 2. root                | 1. Pounded and applied to body 2. Boiled and drunk                                                   |
|     |                |                             |              |                                   | 1. swelling, 2. Urinating problems                                                                  |
| No. | Name     | Scientific Name          | Family          | Part Used         | Use                  | Condition          |
|-----|----------|--------------------------|-----------------|-------------------|----------------------|--------------------|
| 90  | Cecengkehan | *Urophyllum arboreum* | Rubiaceae       | Young leaves      | Eaten                | Bad breath         |
| 91  | Tongtak  | *Zingiber odoriferum*    | Zingiberaceae   | Water on young leaves | Applied to hair/ head | Hair treatment and dandruff |
| 92  | Jahe     | *Zingiber officinale*    | Zingiberaceae   | Rhizome           | Grated, applied to vagina | post pregnancy     |
| 93  | Lampuyang | *Zingiber aromaticum*    | Zingiberaceae   | Rhizome           | Boiled with other plant then drunk | post pregnancy     |