## IDENTIFICATION AND COLLECTION OF INDIGENOUS MEDICINAL PLANTS IN BARANGAY AGSALANAN, DINGLE, PROVINCE OF ILOILO

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#### ABSTRACT

This botanical survey was carried-out to classify and identify the indigenous medicinal plants that thrive in Barangay Agsalanan, Dingle, lloilo and assess their medicinal uses and conservation status. Frequency and percentage were the only statistics used in the study. Results showed that 155 plant species are under the 137 genera and 61 families of which 31.61%, 34.19%, 21.29%, 7.09%, 3.23%, 1.94%, and 0.65% were trees, herbs, shrubs, vines/climbers, grasses, palms, and a sedge, respectively. A relatively higher number of medicinal species belong to Euphorbiaceae, Fabaceae, Asteraceae, Solanaceae, Lumiacea, Poaceae and Verbenaceae families.. The medicinal uses range from treatment of a simple skin irritation to a deadly tumor and human cancer. Those reported to have anti-cancer property include, among others, Kalauag (Curcuma longa Linn.), Tsaang gubat (Carmona retusa (Vohl.) Masam), Bamban (Donax cannaeformis (Forst. f.) K. Schum), Rosas de Baybayon (Catharanthus roseus L.), Pandakaki (Tabernaemontana pandacagui Poir), Lomboy (Syzygium cuminii (L.) Skeels), Bulubito-on (Barringtonia asiatica (Linn.) Kurz.), and Nivog (Cocos nucifera L.). At least 59 (38.06 %) were found to be endangered, threatened, depleted, or vulnerable plant species. Meanwhile, 83 (53.55%) plant species have been assessed as abundant and 13 (8.39 %) were indeterminate in terms of conservation status.

#### INTRODUCTION

Background of the Study

The traditional use of herbal medicine is very popular in the Philippines, especially in rural areas, because of the high cost of modern drugs and health services and the lack of medical facilities. Despite the scientific breakthroughs in medicine, 60% of the Filipino people die every year without ever seeing a doctor. In a study undertaken by researchers from the University of the Philippines-Manila (UPM), the University of the East Ramon Magsaysay Memorial Medical Center (UERMMMC), and the De La Salle University (DLSU), it has been shown that the majority of the Filipino respondents had nil or little knowledge of herbal medicine. Although 73.8% of the respondents kept themselves informed about developments in the practice of herbal medicine, 67.7% did not do so often enough to be truly knowledgeable about herbal medicine (PCHRD-DOST, 1996).

There are an estimated 13,500 plants species in the Philippines of which about 3,000 to 12,000 have medicinal and therapeutic properties (The Philippine Greens, 2005; Alcala, 2002; DOST-PCHRD, 1996). Of these, 10 have been officially endorsed by the DOH and at least four are being commercially manufactured into tablets and capsules after thorough clinical studies. These are lagundi (Vitex negundo L.), an antiasthmatic and anti-cough medicine; sambong (Blumea balsamifera (Linn) DC), a diuretic agent; tsaang gubat (Carmona retusa L.), an antispasmodic agent; and verba buena (Mentha cordifolia Opiz), for headache relief. The other six medicinal plants are nivog-nivogan (Quisqualis indica L.), an antihelminthic; bayabas (Psidium guajava L.), for wound washing and diarrhea; akapulko (Cassia alata L.), as antifungal; ulasimang bato (Pepperomia pellucida (L.) HBK), for rheumatism and diabetes; bawang or ahos (Allium sativum L.), for hypertension and toothache; and ampalaya (Momordica charantia L.), for diabetes mellitus ((Reyala and Martinez, 2000; Quisumbing, 1978). Approximately, 70% of those found in tropical rainforests have been identified by the US National Cancer Institutute as having anti-cancer properties (The Philippine Greens, 2005).

The Philippines abounds with resources having medicinal potentials and the widespread development and use of herbal medicine can create more opportunities for employment aside from becoming another important agricultural crops supplying a growing number of government and private herbal medicine companies. A considerable number of these plant species simply grow unnoticed in the immediate surroundings and in the wild, but their medicinal values generally remain unknown to the local folks. The lack of information, or none of it, on these indigenous medicinal plants had significantly contributed to

the sufferings of the already financially-burdened ordinary Filipino people in the rural areas when members of a family get sick.

This study was carried-out to identify the medicinal plants that grow in Brgy. Agsalanan, Dingle, Iloilo, the University's model outreach and adopted barangay. It has a population of 921 persons with 170 households, of which 59.1 % households have a meager monthly family income of less than P4,000.00 which is not sufficient to meet their medical and nutritional needs especially of the children (Saquibal, 2002). The identified medicinal flora will be propagated later for conservation in a mini arboretum to be established inside the Agsalanan Elementary School campus. This will serve as an immediate source of information for the local folks on the specific medicinal uses of the indigenous plant species and their propagation. Herbaria collected were stored at the Life Sciences Department for instructional and research purposes.

Presently, there is no documented information on the indigenous medicinal plants that thrive in the study area. Therefore, the researcher found it imperative to conduct this botanical survey as an effective step to plant diversity conservation and as part of CPU's awareness campaign on both the medicinal applications of the indigenous flora and the need for their conservation especially those species with decreasing population which becomes another urgent concern to the environmentalists. Finally, the claimed folkloric medicinal uses of the listed plants in the study area can be further subjected to scientific validation so these can be included in the medical curriculum, and aggressive promotion among medical practitioners.

## Objectives of the Study

The general objective of the study was to establish baseline data on the indigenous medicinal plants that thrive in Brgy. Agsalanan, Dingle, Iloilo, a model outreach and an adopted barangay of the University.

This study had the following specific objectives:

- 1. To classify and identify the existing indigenous medicinal plants;
- 2. To determine the conservation status of the indigenous medicinal plants;
- 3. To know the medicinal uses of the indigenous medicinal plants; and,
- 4. To establish an arboretum of the classified medicinal plants.

Significance of the Study

Rural folks. Information that were gathered will provide the rural people the correct identification and medicinal uses of the indigenous plants that thrive in the locality to alleviate them from the bondage of expensive commercial drugs. This will also enable them to build their own backyard herbal garden and correctly label the different plant species by themselves.

Students. Information that were gathered will become vital part of the students' reservoir of knowledge about the plant world especially those of medicinal values that would develop in them awareness on their uses and stimulate them to be active partners in the country's program toward plant diversity conservation.

Researcher. Data obtained from the study will guide the researcher in the proper identification and classification of all indigenous medicinal plants encountered in the field. Furthermore, the data will help him in determining the conservation status of these species as abundant, threatened, endangered, or rare which is significant in plant conservation strategy.

Future researchers. Results obtained can be used as bases in preparing similar research proposal in the future which may be replicated in similarly situated areas. This can also be a basis of follow-up study to determine the veracity of the reported data.

Teachers. Botanical information that can be generated will be knowledge enrichment among biology teachers so they may improve their teaching competence in the subject area. The study area can be another prospect for doing field activity in plant science and related discipline thus improving the quality of knowledge of biology students considering the existence of officially and systematically gathered floristic data.

DENR. Botanical data from the study area can be a basis for future recommendation or endorsement by the Department of Energy and Natural Resources (DENR) geared towards plant diversity, conservation and protection of the area where "endangered" or "rare" plant species thrive. Besides, data gathered form part of Information Bank that will be accessible to the public in general and be made basis for future research.

### Scope and limitation of the Study.

This botanical survey was conducted to classify and identify the indigenous medicinal plants in Barangay Agsalanan, Dingle, Iloilo and its nearby surroundings; assess their medicinal values and conservation status; and collect sample herbarium specimens for instructional purposes. It was carried out employing the descriptive survey method for rapid assessment wherein every encountered plant species of known medicinal uses was listed, classified, and described accordingly. Only those medicinal plants properly classified were included in the final survey list. Data were entered into a researcher-prepared matrix before encoding and processing into the computer for analysis.

#### METHODOLOGY

### Research Design

The study employed the descriptive survey and rapid assessment method. Medicinal plants encountered were listed, identified, and classified and their conservation status and medicinal uses determined based on selected, scientific printed references, internet, and experts who were interviewed. The local folks were also interviewed on the local identification and traditional medicinal applications of the listed flora.

# Field Survey and Collection

To assess the physical distribution of medicinal plants in the study area, a reconnaissance survey was done first. Moving around and within the study area and the nearby areas, indigenous medicinal plants encountered personally were properly identified according to their local/common names and entered into the data sheet. The local folks were also interviewed on the local names and medicinal applications of the species. Herbarium collection was also done and the specimens were preserved and deposited in the Life Sciences Department, CPU for future use.

# Establishment of an Arboretum

An arboretum will be established inside the premises of Agsalanan Elementary School when funds are already available. This will be carried-out with proper consultation and coordination with the barangay officials and school authorities. Woody medicinal plants will be asexually propagated by stem cutting, grafting, or marcotting. Seeds

will also be collected and propagated in plastic pots. Herbaceous plants will be propagated using their potential vegetative propagules and seeds.

#### Data Gathered

Species composition. All medicinal plants encountered in Brgy. Agsalanan and nearby areas were listed, properly identified, and classified according to their growth habit as tree, palm, shrub, herb, grass, sedge, or vines/climbers.

Conservation status. The conservation status of the medicinal plants surveyed as threatened, endangered, depleted, vulnerable, rare, abundant, or indeterminate, was determined based on the available selected library references, information from the Internet, interviews with the local experts, and personal impressions.

Medicinal uses. The known medicinal uses of indigenous flora in the area were determined based on scientific research based reports, Internet source, and personal interviews with the local experts. The community folks' traditional utilization of the medicinal plants becomes a vital information in the investigation.

## Data Processing

Data gathered were entered into a researcher-made data sheet specially prepared for this particular study. These were properly consolidated into appropriate format before these were encoded for computer processing.

#### Statistical Tools

Frequency and percentage were the only statistical tools used.

#### **MAJOR FINDINGS**

Species composition. At least, a total of 155 medicinal plant species have been listed and classified from the study area. Of these, 49 (31.61%), 53 (34.19%), 33 (21.29%), 11 (7.09%), 5 (3.23%), 3 (1.94%), and 1 (0.65%) were trees, herbs, shrubs, vines/climbers, grasses, palms, and sedge, respectively (Table 1). These plant species were classified under 137 plant genera and 61 families. A relatively higher number of medicinal plant species belong to the plant Families Euphorbiaceae (10), Fabaceae (10), Solanaceae (7), Asteraceae (6),

Lamiaceae (6), Verbenaceae (6), and Poaceae (6). The plant species included in the top plant families are shown in Table 2.

Table1. Distribution of Indigenous Medicinal Plants According To Growth Habit

Growth Habit	Number of Species	Percent
Herbs	53	34.19
Trees	49	31.61
Shrubs	. 33	21.29
Vines / Climbers	11	7.09
Grasses	5	3.23
Palms	3	1.94
Sedge	1	0.65
Total	155	100.00

#### Conservation Status

Of the 155 medicinal plant species, about 59 (38.06 %) were found in an alarming population level or less common. At least 83 (53.55%) plant species have been listed as abundant or common and 13 (8.39%) were of indeterminate conservation status (Table 3).

The highest number of medicinal plant species with alarming population level were listed as trees to include among others, anagas (Semecarpus cuneiformis Blanco), anino or apatot (Morinda citrifolia Linn.), anonang (Cordia dichotoma Forst F.), bangkiling (Phyllanthus acidus L.), binunga (Macaranga tanarius (Linn.) Mueller (Argoviensis, d.d. van Aargau), bita /dita (Alstonia scholaris (L.) R. Br.), bignay (Antidesma bunius (L.) K. Spreng.), bulubitoon /botong (Barringtonia asiatica (L.) Kurz.), iniam (Antidesma obliquinervium), kabugao (Citrus grandis Osbeck), kasla (Jatropha curcas Linn.), and narra (Pterocarpus indicus Willd.). Two palms, buri (Corypha elata Roxb.) and bunga (Areca catechu L.) were described as vulnerable (Table 4).

Shrubs of alarming conservation status include adgaw or alagaw (*Premna odorata* Blanco), alibutbut or pandacaqui (*Tabernaemontana pandacaqui* Poir), bunlao (*Justicia gendarussa* Burm. F.), himamalak (*Leea manilensis*), katsubong (*Datura metel* Linn.), palochina (*Cassia alata* Linn.), saling uwak (*Clerodendron quadriculare* (Blanco) Merr.), soro-soro (*Euphorbia trigona* Haw.), talong punai (*Solanum nigrum* L.), tangan-tangan (*Ricinus communis* L.), and tubang morado(*Jatropha gossypifolia* Linn.) (Table 5).

Table 2. Major Families of Indigenous Medicinal Plant Species in Brgy. Agsalanan, Dingle, Iloilo.

Plan	t Families	Number of Species	Identified Medicinal Plant Species
1. E	uphorbiaceae	10	Alam, Alim (Melanolepis multiglandulosa Reinw. Reichb. f. and Zoll.) Bankiling (Phyllanthus acidus Skeels) Bugnay (Antidesma bunius (I.) Spreng. Binunga (Macaranga tanarius (Linn.)Muell.) Iniam (Antidesma gaesimbilla Gaertn.)) Luhang dalaga (Pedilanthus tithymaloides (L.) Poit. Kamoteng Kahoy (Manihot esculenta Crantz) Soro-soro (Euphorbia trigona Haw.) Tawa-tawa (Euphorbia hirta Linn.) Tubang morado (Jatropha gossypifolia Linn.)
2. F	ahaceae	10	Balatung /Hantak (Figna unquiculata ) Dapdap (Erythrina orientalis (L.) Merr. Gaway-gaway (Sesbania grandiflora (Lin.) Pers. ) Madie de Cacao (Ghricidia sepium (Jacq.)Steud) Narra (Pericarpus indicus Willd) Kabalyero (Cacsalpina pulcherrima (Linn.) Sw.) Kados (Cajanus cajan (Linn.) Millsp.) Kataykay (Desmodium pulchellum Linn. Benth.) Kamantula (Cassia tora Linn.) Palochina (Cassia alata L.)
3. S	Solanaceae	7	Kamatis (Lycopersicon escudentum Mill.) Katsubong (Datura metel Linn.) Katsubal, Sili (Capsicum frutescens L.) Malatalong (Solanum verbascifolium Linn.) Malasili (Solanum nigrum Linn.) Tabako (Nicotiana tabacum Linn. Taiong (Solanum melongena Linn.)
4. z	Asteraceae	6	Artamisa ( <i>Artemisia vulgaris</i> Linn.) Bahug-bahug ( <i>Ageratum convzoides</i> , Linn.) Cosmos ( <i>Cosmos sulphureus</i> Cav.) Dila-dila ( <i>Elephantopus scaber</i> Linn.) Hagonoy ( <i>Chromolaena odorata</i> L.)
5. Le	amiaceae	6	Alibhon ( <i>Blumea balsamifera</i> (Linn.) DC. Kalu-ui ( <i>Ocimum basilicum</i> Linn.) Lampunaya ( <i>Coleus blumei</i> Benth.) Loko-loko ( <i>Hyptis suaveolens</i> Poir.) Oregano ( <i>Coleus amboinecus</i> Lour.) Yerba Buena ( <i>Mentha arvensis</i> Linn.)
6. <i>V</i>	Verbenaceae	6	Adgao ( Premna odorata Blanco) Baho-baho (Lantana camara Linn.) Gemelina (Gmelina arborea L.) Lagundi ( Vitex negundo Linn.) Saling-uwak (Clerodendron quadriloculare (Blanco)Mer Sentimiento (Stachytarpeta Jamaicensis (Linn.) Vohl
7. P	Poaceae	6	Barire (Andropogon aciculatus Retz.) Dalusan (Bambusa vulgaris Schrad.) Kogon (Imperata cylindrica (Linn) Beauv. Mais (Zea mays L.) Palagtiki (Eleusine indica (Linn.) Gaertn. Tanglad (Andropogon citratus L).

Table 3. Distribution of Indigenous Medicinal Plants According to Conservation Status

Conservation	Tre	es/Palms	S	hrubs	l	Herbs	Vine	s/Climber	G	rass	S	sedge
Status	No.	%	No.	%	No.	%	No.	%	No.	%	No	. %
1. Abundant	24	46.15	15	45.45	31	58.49	7	63.64	5	83.33	1	100.00
2. Depleted	15	28.85	3	9.09	0	0.00	0	0.00	0	0.00	0	0.00
3. Endangered	4	7.69	2	6.07	8	15.01	0	0.00	0	0.00	0	0.00
4. Threatened	3	5.77	13	39.39	5	9/53	0	0.00	0	0.00	0	0.00
5. Vulnerable	6	11.54	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
6. Indeterminate	0	0.00	0	0.00	9	16.98	4	36.36	1	16.67	0	0.00
	52	100.00	33	100.00	53	100.00	11	100.00	0	100.00	1	100.00

Among herbs, alobera or sabila (Aloe barbadensis Mill.), bamban (Donax cannaeformis (Forst) K. Schum), bangka-bangkaan (Rhoeo discolor (L) Herit Hance, kalawag or lampuyang (Curcuma longa Linn.), kalu-ui (Ocimum basilicum L.), langkawas (Languas pyramidata (Blume) Merr.), labog (Hibiscus suratensis Linn), lubigan (Acorus calamus L.), luhang dalaga (Pedilanthus tithymalloides (Linn.) Poit.), maritana/katakataka (Bryophyllum pinnatum (Lamarck) Kurz., oregano (Coleus amboinicus Lour.), rosas de baybayon (Catharanthus roseus (L.) G.Don.), tabubunglaw (Costus speciosus (Koenig.) J. Smith), and talos (Homolocasia sp.) were of alarming conservation status (Table 6).

Among vines or climbers, buyo (*Piper betle* L.), manunggal or basyawan (*Samadera indica* Gaertn.), melon gubat (*Melothria maderaspatana* (Linn.) Cogn.) and ubi (*Dioscorea alata* L.) were found to be indeterminate in their conservation status. The rest have been found to be abundant (Table 7). Among grasses, tanglad (*Andropogon citratus* L.) has indeterminate status or with insufficient information and the rest have been found to be abundant (Table 8).



Table 4. Classification and Conservation Status of Indigenous

Local Name	English/Common Name	Scientific Name
1. Agoho	1. Beach Agoho	Casuarina equisetifolia Lin.
2. Akasya	2. Rain tree	<ol><li>Samanea saman (Jacq.)Merr.</li></ol>
3. Alum, Alim	3. Croton mollucana	3. Melanolepis multiglandulosa
		(Reinw. Reichb. f. and Zoll.
4. Anagas	4. Euphlebia	4. Semecarpus cuneiformis Blanco
5. Anino, Apatot	5. Indian mulberry	5. Morinda citrifolia Linn,
6. Anonang	6. Soap berry	6. Cordia dichotoma Forst. F.
7. Atis	7. Sugar apple	7. Annona squamosa L.
8. Avocado	8. Alligator pear	8. Persea americana
9. Babana	Soursop     Horse radish tree	9. Annona muricata L.
10. Balungay 11. Banaba	11. Queen's CrapeMyrtle	<ul><li>10. Moringa oleifera Lam.</li><li>11. Lagerstroemia speciosa (L.) Pers.</li></ul>
12. Bangkal	12. Southern bangkal	12. Nauclea junghuhnii (Miq.) Merr.
13. Bangkiling	13. Otaheite gooseberry	13. Phyllathus acidus L.
14. Bayabas	14. Guava	14. Psidium guajava L
15. Binunga	15. Parasol leaf tree	15. Macaranga tanarius (Linn.) Mueller
io. Simanga	15, 1 414501 1041 1100	Argoviensis, d.d. van Aargau)
16. Bita, Dita	16. Milky pine	16. Alstonia scholaris (L.) R. Br.
17. Bugnay	17. Bignay	17. Antidesma bunius (L.)K. Spreng
18. Bulubitoon	18. Black mangrove	18. Barringtonia asiatica (L.) Kurz.
19. Bunga(Palm)	19. Betel nut	19. Areca catechu L.
20. Buri (Palm)	20. Buri Palm	20. Corypha elata Roxb.
21. Cacao	21. Cocoa	21. Theobroma cacao Linn.
22. Dalusan	22. Spineless bamboo	22. Bambusa vulgaris Schrad.
23. Dapdap	23. Coral Tree	23 Erythrina orientalis L.
24. Datiles	24. Japanese Cherry	24. Muntingia calabura L.
25. Duldol	25. Silk cotton tree	25.Ceiba pentandra (L.) Gaertn.
26. Estiwitis	26. Lipstick plant	26. Bixa orellana L.
27. Garangan	27. Starfruit	27. Averrhoa carambola Linn
28. Gaway-gaway	28. Annato	28. Sesbania grandiflora (L.)Persoon
29. Gemelina	29. Gemelina	29. Gmelina arborea Roxb.
30. Iba	30. Cucumber tree	30. Averrhoa carambola L.
31. Iniam	31. Aniam tree	31. Antidesma gaesembilla Gaertn.
32. Ipil-ipil	32. Ipil-ipil	32. Leucaena leucocephala (Lamk.) eWitt
33. Kabugao	33. Pomelo	33. Citrus grandis Osbeck
34. Kalachuchi	34. White calachuchi	34. Plumeria obtusa L.
35. Kamunsil	35. Sweet Camachille	35. Pithecelobium dulce (Roxb.) Benth.
36. Kapayas 37. Kasla	36. Papaya 37. Physic nut	36. Carica papaya Linn. 37. Jatropha curcas Linn.
38. Langka	38. Jackfruit	38. Artocarpus heterophyllus Lamk.
39. Lubi (Palm)	39. Coconut	39. Cocos nucifera L.
40. Lomboy	40. Java plum	40. Syzygium cuminii (L.) Skeels
41. Madre de Kakaw	41. Madre de Cacao	41. Gliricidia sepium (Jacq.) Kunth ex Wal
42. Mahogani	42. Large leaf mahogany	42. Swietenia macrophylla King
43. Narra	43. Narra	43. Pterocarpus indicus Wild.
44. Neem tree	44. Phil Neem tree	44. Melia dubia Cav.
45. Paho	45. Mango	45. Mangifera indica L.
46. Saging	46. Banana	46. Musa spp.
47. Sambag	47. Tamarind	47. Tamarindus indicus L.
48. Santol	48. Santol	48. Sandoricum koetjape (Burm. F) Merr
49. Starapple	49. Star apple	49. Chrysophyllum cainito L.
50. Suha	50. Panama orange	50. Citrus microcarpa Bunge
51. Talisay	51. Talisay tree	51. Terminalia catappa Linn.
52. Tsiko	52. Chico	52. Manilkara zapota (L.) van Royen

Family Name	Conservation Status
1. Casuarinaceae	1. Vulnerable
2. Mimosaceae	2. Abundant
3. Euphorbiaceae	3. Depleted
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4. Anacardiaceae	4. Depleted
5. Rubiaceae	5. Depleted
6. Boraginaceae	6. Depleted
7. Annonaceae	7. Abundant
8. Lauraceae	8. Abundant
9. Annonaceae	9. Abundant
<ol><li>Moringaceae</li></ol>	10. Abundant
11. Lythraceae	11. Abundant
12. Rubiaceae	12. Depleted
13. Euphorbiaceae	13. Depleted
14. Myrtaceae	14. Abundant
15. Euphorbiaceae	15. Depleted
	1/ B 1/ 1
16. Apocynaceae	16. Depleted
17. Euphorbiaceae	17. Depleted
18. Lecythidaceae	18. Depleted
19. Arecaceae	19. Vulnerable
20. Arecaceae	20, Vulnerable
21. Sterculiaceae	21. Abundant
22. Poaceae	22. Abundant
23. Fabaceae	23. Endangered
24. Elaeocarpaceae	24. Abundant
25. Bombacaceae 26. Bixaceae	25. Depleted 26. Abundant
	27. Endangered
27. Averrhoaceae 28. Fabaceae	28. Vulnerable
29. Verbenaceae	29. Abundant
30. Averrhoaceae	30. Threatened
31 Euphorbiaceae	31. Vulnerable
32.Mimosaceae	32. Abundant
33. Rutaceae	33. Depleted
34. Apocynaceae	34. Abundant
35. Mimosacease	35. Abundant
36. Caricaceae	36. Abundant
37. Euphorbiaceae	37. Threatened
38. Moraceae	38. Abundant
39. Arecaceae	39. Abundant
40. Myrtaceae	40. Depleted
41. Fabaceae	41. Threatened
42. Meliaceae	42. Abundant
43. Fabaceae	43. Vulnerable
44. Meliaceae	44. Depleted
45. Anacardiaceae	45. Abundant
46. Musaceae	46. Abundant
47. Mimosaceae	47. Abundant
48. Meliaceae	48. Abundant
49. Sapotaceae	49. Abundant
50. Rutaceae	50. Abundant
51. Combretaceae	51. Vulnerable
52. Myrtaceae	52. Vulnerable

Table 5. Classification and Conservation of Indigenous Medicinal Shrubs.

<b>Local Name</b>	English/Common Name	Scientific Name
1. Adelfa	1.Ccylon tree	1. Nerium oleander Blanco
2. Adgaw, Alagaw	2. Smelly Premna	2. Premna odorata Blco.
3. Alibutbut	3. Banana bush	3. Tabernaemontana pandacaqui Poir
4. Baho-baho	4. Coronitas	4. Lantana camara (Linn.)
5. Baston ni San Jose	5. Cordyline	5. Cordyline fruticosa (Linn.) A.Cheval
6. Bunlao	6. Gandarussa	6. Justicia gendarussa Burm f.
7. Himamalak	7. Leca	7. Leea manilensis
8. Kabalyero	8. Peacock flower	8. Caesalpina pulcherrima (L.) Swartz.
9. Kadios	9. Pigeon pea	9. Cajanus cajan (L.) Millsp.
10. Kamoteng kahoy	10 .Cassava	10.Manihot esculenta Crantz
11. Kalaykay	11. Wild shrimp plant	11.Desmodium pulchellum (I.) Benth.
12. Katsubong	12. Thorn apple	12.Datura metel Linn
13. Lagundi	13. Five-leaved Chaste tree	13. Vitex negundo L.
14. Lima-lima	14. Five fingers	14. Schefflera odorata(Blanco)Merr.&Rolfe
15. Loko-loko	15. Hyptis	15. Hyptis suaveolens Poir.
16. Malatalong	16. Bugweed	16. Solanum verbascifolium Linn.
17. Okra	17. Okra	17. Abelmoschus esculentus
18. Palad/ kaktus	18. Prickly pear	18. Nopalea cochenillifera (L.)Salm Dyck.
19. Palochina	19. Ringworm shrub	19. Cassia alata Linn.
20. Pasao/ Atai-atai	20. Broadleaved morado	20. Graptophyllum pictum(Linn.) Griff.
21. Platito	21. Cup-leaved papua	21. Polyscias scutellaria (Burm. F) Fosh
22. Pinion	22. Honey suckle	22. Quisqualis indica L.
23. Rosal	23. Gardenia	23. Gardenia jasminoides Ellis
24. Santan	24. Santan	24. Ixora coccinea L.
25. Saling uwak	25 Pagoda flower	25. Clerodendron quadriloculare (Blanco) Mer
26.Sudo-sudo	26. Candle stick	26. Euphorbia trigona Haw.
27. Tagabang	27. Jute	27. Corchorus olitorius L.
28. Talong punai	28. Black nightshade	28. Solanum nigrum L.
29. Talong	29. Eggplant	29. Solanum melongena L.
30. Tangan-tangan	30. Castor Oil plant	30. Ricinus communis L.
31 Tapulanga	31. China Rose	31. Hibiscus rosa-sinensis L.
32. Tsaang gubat	32. Tea plant	32. Carmona retusa (Vahl.) Masam.
33. Tubang morado	33. Purple Jatropha	33. Jatropha gossypifolia L.

Family Name	Conservation Status
1.Apocynaceae	1.Threatened
2. Verbenaceae	2.Threatened
3. Apocynacea	3. Vulnerable
4. Verbenaceae	4. Abundant
5. Agavaceae	5. Abundant
6. Acanthaceae	6. Threatened
7. Leeaceae	7. Threatened
8. Fabaceae	8. Abundant
9. Fabaceae	9. Abundant
10. Euphorbiaceae	10.Abundant
11. Fabaceae	11.Abundant
12. Solanaceae	12.Threatened
13. Verbenaceae	13.Abundant
14. Araliaceae	14.Vulnerable
15. Lamiaceae	15.Vulnerable
16. Solanaceae	16.Abundant
17. Malvaceae	17.Endangered
18. Cactaceae	18.Abundant
19. Fabaceae	19.Threatened
20. Acanthaceae	20.Abundant
21. Araliaceae	21.Abundant
22. Combretaceae	22.Threatened
23. Rosaceae	23.Endangered
24. Rubiaceae	24.Abundant
25. Verbenaceae	25.Threatened
26. Euphorbiaceae	26.Threatened
27. Tiliaceae	27.Abundant
28. Solanaceae	28.Threatened
29. Solanaceae	29.Abundant
30. Euphorbiaceae	30.Threatened
31. Malvaceae	31.Abundant
32. Boraginaceae	32.Threatened
33. Euphorbiaceae	33.Threatened
33. Euphorbiaceae	33.Threatened

Trees species that registered the highest multiple medicinal applications worldwide include, among others, anino or apatot, avocado, balunggay, bayabas, bita/dita, duldol, estiwitis, garangan, iba, kapayas, kasla, kawayan tunokon, lubi/niyog, sambag, and talisay. Medicinal trees that have potential anti-cancer property include lomboy, lubi/niyog, and bulubito-on butong (Table 9).

The medicinal plants can be prepared in different methods depending on how they should be applied. These include preparations as aromatic waters of saturated aqueous solution; as poultices by grounding parts into semi-liquid and applied externally to alleviate inflammations or to re-activate a part; as decoctions by boiling plant parts in water for a period of time, then strained and cooled; as elixirs by mixing decoctions with wine and sugar for oral use; as infusions by stepping the plant in boiling water for at least 15 minutes, prepared as tea and flavored with honey; as plasters by grounding or macerating plant parts and percolate in alcohol until preparation is concentrated.

Among shrubs, bunlao, alibutbut, baho-baho, loko-loko, baston ni san jose, rosal, tangan-tangan, and tapulanga appeared to have greater medicinal uses than the rest. Alibutbut or pandakaki has also been reported to have anti-cancer property (Table 10).

Among herbs, ahos or bawang, alibhon, alom-alom/colitis, gatas-gatas/tawa-tawa, kalauag/lampuyang, kalu-ui, kusol, mansanilya, oregano, rosas de baybayon, sentimiento, tabako, and oray were found to have greater medicinal application than the other species. Only rosas de baybayon has been widely reported to have an anti-cancer property (Table 11).

All the 11 vines or climbers have multiple medicinal applications although alogbate and amargoso appeared to have more uses than the rest. Despite the abortive effect of manunggal, the plant has been effective in curing malignant fevers, rheumatism, asthma, and chest afflictions (Table 12).

Five common grasses and a sedge were found to have multiple medicinal uses but tanglad was shown to be the most prominent and is a cure for many common human illnesses. Sudsud, a common sedge, can also cure certain illnesses such as furuncle infection, painful menstruation, and chest pain (Table 13).

Table 6. Classification and Conservation Status of Indigenous Medicinal Herbs

Local /Common Name	English Name	Scientific Name
1. Ahos/Bawang	1. Garlic	1. Allium sativum Linn.
<ol><li>Ajos-ajos nga maputi</li></ol>	2. Spider lily	<ol><li>Hymenocallis littorale (Jacq.) Salisb.</li></ol>
3. Alibhon	<ol><li>Ngai Camphor</li></ol>	3. Blumea balsamifera (L.)DC.
4. Alobera, Sabila	4. Aloe	4. Aloe barbadensis Mill.
5. Alom-alum / Uray	<ol><li>Common amaranth</li></ol>	5. Amaranthus viridis L.
6. Amarillo	6. Marigold	6. Tagetes erecta Linn.
7. Alusiman	<ol><li>Common purslane</li></ol>	7. Portulaca oleraceae Linn,
8. Artamisa	8. Mugwort	8. Artemesia vulgaris L.
9. Asistasia	9. Asystasia	9. Asystasia gangetica (L.) T. Anders
10. Badyang	10. Giant taro	10. Alocasia macrorrhiza (L.) G. Don
11. Bahug-bahug	<ol><li>Goat weed</li></ol>	11. Ageratum convzoides L.
12. Balatong(Hantak)	12. Bush sitao	12. Vigna unguiculata ssp. unguiculata
13. Bamban	13. Giant reed	13. Donax cannaeformis (Forst.) K. Schum
14. Bangka-bangkaan	<ol><li>Boat of Moses</li></ol>	14. Rhoeo discolor (L. Herit) Hance
15. Dagmai	15. Taro	15. Colocasia esculenta L.
l6. Dila-dila	<ol><li>Prickly-leaf</li></ol>	16. Nopalea cochinellifera (L). Salm Dyck
17. Gatas-gatas	17. Milkweed	17. Euphorbia hirta Linn.
18. Huya-huya	18. Sensitive plant	18. Mimosa pudica L.
20. Kalawag Lampuyang	20. Turmeric	20. Curcuma longa Linn.
21. Kalu-ui	21. Sweet Basil	21. Ocimum basilicum L.
22. Kamantulan	22. Foetic Cassia	22. Cassia tora (Linn)
23. Kamatis	23. Tomato	23. Lycopersicon esculentum Mill.
24. Kätumbal, Sili	24. Cayenne	24. Capsicum frutescens L.
25. Kiyapo	25. Water cabbage	25. Pistia stratiotes L.
26. Kolitis	26. Spiny Amaranth	26. Amaranthus spinosus Linn.
27. Kusol	27. Kusol	27. Kaempferia galanga
28. Labog	28. Rosemallow	28. Hibiscus suratensis Linn.
29. Lampunaya	29. Coleus	29. Coleus blumei Benth.
30. Langkawas	30. Red turmeric	30. Languas pyramidata (Blume). Merr.
31. Loko-loko	31. Bush tea-bush	31. Hyptis suaveolens (L) Poir.
32. Lubigan	32. Sweet Flag	32. Acorus calamus L.
33. Luhang dalaga	33. Slipper plant	33. Pedilanthus tithymaloides (Linn.)Poit
34. Lupo-lupo	34. Prickly chaff flower	34. Achyraranthes aspera Linn.
35. Luy-a	35. Ginger	35. Zingiber officinale L.
36. Mansanilya	36. Winter aster	36. Chrysanthenum indicum L.
37. Maritana	37. Life plant	37. Byophyllum pinnatum L.
38. Oregano	38. Spanish thyme	38. Coleus amboinicus Lour.
39. Pansit-pansitan	39. Shiny peperomia	39. Pepperomia pellucida (L.)HBK
40. Rosas de Baybayon	40. Periwinkle	40. Catharanthus roseus (L.)G. Don
41. Sabilaw	41. Commelina	41. Commelina diffusa (Linn.)
42. Saging	42. Banana	42. Musa spp.
43. Sentimiento	43. Jamaican vervain	43. Stachytarpheta jamaicensis (L.) Vohl.
44. Solanga	44. Touch-me-not	44. Impatiens balsamina L.
45. Sibuyas	45. Onion	45. Allium cepa L.
46. Badyang nga pula	46. Giant red taro	46. Alocasia sp.
47. Tabako	47. Tobacco	47. Nicotiana tabacum L.
48. Tabubunglaw	48. Spiral ginger	48. Costus speciosus (Koenig) J. Smith
49. Talos	49. Red taro	49. Homolocasia sp.
50. Tigre-tigre	50. Bowstring hemp	49. Homotocasta sp. 50. Sanseviera zevlanica L.
51. Trompa elepante	50. Bowsing nemp 51. Snakeweed	
51. Frompa elepante 52. Yahong-yahong		51. Heliotropium indicum (Linn.) 52. Centella asiatica (Linn.) Urb.
52. Yanong-yanong 53. Yerba buena	52. Pennyworth	52. Centeua astatica (Linn.) Urb. 53. Mentha arvensis L.
D. Terba bueha	<ol><li>Peppermint, Mint</li></ol>	55. Menina arvensis L.



Table 6 Continued

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	Family Name	Conservation Status			
	1. Amaryllidaceae	1. Abundant			
	2. Amaryllidacee	2. Indeterminate			
	3. Lamiaceae	3. Abundant			
	4. Liliacae	4. Endangered			
	5. Amaranthaceae	5. Abundant			
	6. Asteraceae	6. Indeterminate			
	7. Portulacaceae	7. Abundant			
	8. Asteraceae	8. Indeterminate			
	9. Acanthaceae	9. Indeterminate			
	10. Araceae	10. Indeterminate			
	11. Asteraceae 12. Fabaceae	11. Abundant 12. Abundant			
	13. Maranthaceae 14. Commelinaceae	13. Indeterminate 14. Threatened			
	15. Araceae	15. Abundant			
	16. Cactaceae	16. Abundant			
	17. Euphorbiaceae	17. Abundant			
	18. Mimosaceae	18. Abundant			
	20. Zingiberaceae	20. Endangered			
	21. Lamiaceae	21. Endangered			
	22. Fabaceae	22. Abundant			
	23. Solanaceae	23. Abundant			
	24. Solanaceae	24. Abundant			
	25. Araceae	25. Abundant			
	26. Amaranthaceae	26. Abundant			
	27. Zingiberaceae	27. Indeterminate			
	28. Malvaceae	28. Endangered			
	29. Lamiaeae	29. Abundant			
	30. Zingiberaceae	30. Endangered			
	31. Lamiaceae	31. Abundant			
	32. Araceae	<ol><li>Endangered</li></ol>			
	33. Euphorbiaceae	33. Endangered			
	34. Amaranthaceae	34. Abundant			
	35. Zingiberaceae	35. Abundant			
	36. Asteraceae	36. Abundant			
	37. Crassulaceae	37. Endangered			
	38. Lamiaceae	38. Threatened			
	39. Piperaceae	39. Abundant			
	40. Apocynaceae	40. Threatened			
	41. Commelinaceae 42. Musaceae	41. Abundant 42. Abundant			
	42. Musaceae 43. Verbenaceae	42. Abundant 43. Abundant			
	43. Verbenaceae 44. Balsaminaceae	44. Abundant			
	45. Amaryllidaceae	45. Abundant			
	46. Araceae	46. Indeterminate			
	47. Solanaceae	47. Abundant			
	48. Zingiberaceae	48. Threatened			
	49. Araceae	49. Threatened			
	50. Liliaceae	50. Abundant			
	51. Boragianceae	51. Abundant			
	52. Apiaceae	52. Abundant			
	53. Lamiaceae	53. Abundant			
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Table 7. Classification and Conservation Status of Indigenous Medicinal Vines/Climbers.

Local Name	English/Common Name	Scientific Name	Family Name	Conservation Status
1. Alughate	1. Malabar spinach	1.Basella alba L	1.Basellaceae	1. Abundant
2. Amargoso	2. Bitter gourd	2.Momordica charantia L	2.Gunthitaceae	2. Abundent
3. B2yo	3. Betle vine	3.Piper betle L.	3.Piperaceae	3.Indeterminate
4. Hagonoy	4. Devil weed	4.Gromolaena odorata L.	4.Asteraceae	4.Abundant
5. Kalabasa	5. Squash	5.Gıcıobita maxima L.	5.Convolvulaceae	5.Abundant
6. Karnote	6. Sweet potato	6.1pomoea batatas (L.) Poir.	6.Convolvulaceae	6.Abundant
7. Manunggal	7. Bitter vine	7.Samadera indica Gaertn.	7. Imarubaceae	7.Indeterminate
8. Melon gubat	8. Wild Ivy gourd	8.Melothria maderaspatana (L) Cogn.	8.Cucurbitaceae	8.Indeterminate
9. Patola	9. Sponge gourd	9 Luffa cylindrica Roem	9.Gucurbitaceae	9. Abundant
10. Tankong	10. Water cabbage	10.lpomoea aquatica Forsk	10.Convolvlaceae	10.Abundant
П. Uбі	11. Purple Dioscorea	11.Dioxorea alata L.	11.Діоколецеве	11. Indeterminate

Table 8. Medicinal Grasses and Sedge

Local Name	English / Common Name	Scientific Name	Family Name	Conservation Status
1.Barire	1.Amorsecos	1. Andropogon acia ilatus Retz.	1.Poaceae	1.Abundant
2.Kogon	2. Cogon	2. Imperata cylindrical L.	2.Poaceae	2,Abundant
3.Mais	3. Com	3. Zea maize L.	3. Poaceae	3.Abundant
4.Mutha (Sedge)	4. Purple nutsedge	4. Gpens roundus Linn	4.Gyperaceae	4. Abundant
5.Palagtiki	5. Goose grass	5. Eleusine indica L.	5. Poaceae	5.Abundant
6.Tanglad	6. Lemon grass	6. Andropogon citratus L	6.Poaceae	6. Indeterminate

Table 9. Indigenous Trees and Palms and Their Medicinal Applications

Local/ Common Name	Medicinal Applications
1. Agoho	Diuretic, colic, astringent, emmenagogue, ecbolic, haemoptysis, arres diarrhea, dysentery, beriberi, swellings, pimples, tonic
2. Akasya	Antipyretic, Stomachic, Astringent, Antidermatoses, cures blood in the stool, dandruff, fever, snakebites, wounds, stomachache
3. Alom, Alim	Flatulence, induce sweating, poulstice for scurf; expel intestinal worms
4. Anagas	Oil as caustic or escharotic, treats indulent ulcers
5. Anino, Apatot, Noni	Promotes menstruation, cures ulcers, remedy for arthritis, fever, tuberculosis, coughs, enlarged spleen, nausea, colic, wounds, ulcers, infantile diarrhea, dysentery, pain in gout, leucorrhoea, sapraemia, dysuria, diabetes, liver disease, beriberi, hacmorrhage, coughs, kidney disease, spongy gums, cleans bowels, and sore throat.
6. Anonang	Treats headache, stomach ache, fever, ulcers, coughs, gonorrhea, and ringworm, relieves colicky pain, astringent, boils, tumors, antidyseptic, coughs, laxative
7. Atis	Fainting spells, Insect bites, Head lice infestation, Gastric pain, bone fracture, dandruff, toothache, and chest pain
8. Avocado	Promote menstruation, De-worming, Toothache, Anti- rheumatism, Neuralgia, Sunburned skin, Promotes digestion, Antibacterial, Antifungal, Pectoral, Stomachic, Anti-Helminthic, Anti-periodic, Treats diarrhea, Pyorrhea, Hoarseness, Headache, Tuberculosis
9. Babana	Dysentery, Astringent, Antispasmodic, Anti-emetic, alleviates fever, treats wounds, arthritis, stomachic, gangrene, gastric distention, El Tor
10. Balunggay	Cures wounds, anemia, diarrhea, headache, abdominal pain, arthritis, toothache; purgative, diuretic, Cleans bowels, promotes lactation, reduces high blood pressure, alleviates abdominal pain and eliminates body odor.
11. Banaba	Treats diarrhea, fever, jaundice, dizziness, diabetes mellitus, headache, cough, renal discharge, wound, abdominal pain, and edema, eases urination,
12. Bangkal	Applied to boils and tumors; Decocted bark is vulnerary, antidiarhetic, and cures toothache.
13. Bangkiling	Treats bronchial catarrh, urticaria, coughs, lumbago, gonorrhea, sciatica, psoriasis, diaphoretic, demulcent
14. Bayabas	Astringent, Anti-spasmodic, Anthelminthic, Toothache, Wound cleaning, Promotes blood circulation, Cures diabetes, asthma, toothache, "alap-ap", hemorrhoids, tuberculosis, blood in the stool, gastric pain, diabetes, skin irritation, diarrhea, wound, arthritis, headache, kidney trouble, tonsillitis, cough, dandruff
16. Bugnay	Promotes appetite, Astringent, Anti-dysentery, Induces salivation, Cures sprains



### Table 9. Continued

Table 9. Continued	
Local/ Common Name	Medicinal Applications
17. Gaway-gaway	Rheumatism, catarrh, haemopthisis, astringent, smallpox, eruptive fevers, expels worms, diarrhea, dysentery, headache, diuretic, emollient
18. Gemelina	Athritis, coughs, eczema
19. Iba	Skin itches, pimples, piles, syphilis, coughs, fever, rectal inflammation, astringent, mumps, rheumatism, thrush, stomachache, internal hemorrhoids, beriberi, biliousness
20. Iniam, Aniam	Treats tuberculosis, coughs; stimulates salivation
21. Ipil-ipil	Intestinal parasitism (Deworming), fever, colds, headache, poisoning, anti-amenorrhea, muscle pains
22. Kabugao	Nausea and fainting, Cough, Ulcers, Dyspepsia
23. Kakaw	Eczema, emmenagogue, diuretic, dilates blood vessels
24. Kalachuchi	Cure asthma. Roll 2 dried leaves and use as eigarette. One in the morning and one in the evening
25. Kamunsil	Allay pain, venereal sores, convulsions, dysentery, indigestion
26. Kapayas	Expels worms, asthma, heart tonic, laxative, antibacterial, achne and pimples, constipation, beriberi, fever, dog bite, burns, arthritis, gastric pain, tonsillitis
27. Kasia	Acute gastroenteritis, expels worms, treats paralysis, sciatica, skin diseases, "almoranas", bone fracture, asthma, malaria, headache, cough, sores, ulcers, cuts, abrasions, snakebites, sprains and dislocations, rheumatism, scabies, ringworm, bleeding, toothache, spongy gums, boils, fevers, mouthwash, jaundice
28. Langka	Skin diseases and rashes, ulcers and wounds, diarrhea fever, asthma, milky juice for glandular swelling, snake bites, abscesses, bilious colic, aphrodisiac
29. Lomboy	Diarrhea, Gum gingivitis, Astringent, blood in the stool, diabetes, cancer, toothache, stomachache, cough
30. Madre de Cacao	Leaves cure Dermatitis, Skin Itching, Rheumatic pains, Sap for, Wound healing, scabies, allergies, sprained ankle or joints, stomachache, typhoid fever
31. Mahogani	Antipyretic, tonic, astringent
32. Narra	Bladder stone, diarrhea, dysentery, boils, ulcers, prickly heat, syphilitic sores
33. Neem tree	Fruit is anthelminthic, cures scabies, skin sores
34. Niyog, Lubi	Constipation, Dandruff control, Diarrhea and vomiting, Dry skin, Anti-cancer, HIV-AIDS, diuretic, anthelminthic, astringent, eczema, skin lesions, wound, headache, constipation, ear pain, diabetes, obesity
35. Paho, Manga	Laxative, diuretic, relieves constipation, diarrhea, expels intestinal parasites, tuberculosis, cracked skin, hemorrhage, coughs, dysentery, boils, chest ailment, scorpion stings
36. Sambag	Jaundice, erysipelas, boils, chronic diarrhea, amenorrhea, indolent ulcers, asthma, rheumatism, inflammatory swellings, colic, indigestion, sore throat, apthae, laxative, anticholera, fever, astringent, asthma, skin lesions, malaria, wound, abdominal pain, cough

Table 9 Continued

Local/ Common Name	Medicinal Applications
37. Santol	Fever, Diarrhea, Tonic after birth, Ringworm, dysentery, skin lesions, astringent, stomachache, antispasmodic
47. Starapple	Dysentery, anthelminthic, cures abscess, dandruff
48 .Suha /Kalamunding	Cough, sore throat, nausea and fainting, aromatic bath, mumps, itching, antiphlogestic, expels intestinal gases
49. Talisay	Sudorific, expels worms, purgative, breast pain, astringent, gastric fever, bilious diarrhea, dysentery-leprosy, gonorrhea, astringent, leucorrhea, stomach cramps, rheumatism, scabies, headache, colic, tonsillitis
50. Tisa	Astringent, lowers blood pressure
51. Tsiko	Diarrhea, dysentery, fever, delayed menstruation, diuretic, febrifuge, tonic, biliousness, febrile attacks,

Table 10. Indigenous Shrubs and Their Medicinal Applications

Medicinal Applications
Treats skin irritations, herpes, ringworm, leprosy, boils, hemorrhoids, malaria and dysmenorrhea, asthma, eczema, snake bites, epilepsy
Loosens phlegm, treats coughs, vaginal irritation, tuberculosis, cardiac troubles, tympanites, beriberi, expels intestinal gas
Treats snake bites, dysentery, affections of the chest and lungs, jaundice as emollient
Anti-venom, Anti-cancer, inflammation of testicles, wound, pneumonia, erectile dysfunction, pyorrhea, promotes menstruation, gastric pain, eczema, nosebleed, headaches, cures affections of the stomach and intestines
Influenza, Cough, Mumps, Continuous high fever, Malaria, Cervical lymph node tuberculosis, Hemoptysis, Pulmonary tuberculosis, Dermatitis, Eczema, Pruritus, Sprains, Wounds, Contusions, Stomachache
Hemoptysis, Premature abortion, Excessive menstruation, Blood in urine, Bleeding due to piles, Enteritis-bacillary dysentery, Rheumatic Bone pains, Swelling due to sprain, Asthma, Headache, Tuberculosis
Emetic in coughs and asthma, helpful in edema of beriberi, rheumatism, fevers, dysuria, carbuncles, jaundice, and diarrhea, diuretic, daphoretic, and febrifuge, glandular swelling, amenorrhea, rheumatism, eczema, cephalalgia, hemiplegia, facial paralysis, earache, hemicrania
Decoction is considered vulnerary
As purgative and emmenagogue, treats intermittent fever, colds, skin diseases, liver affections, erysipelas and inflammation of the eyes, diarrhea, and dysentery
Blood in stool, diarrhea, coughs

# Table 10 Continued

Local/ Common Name	Medicinal Applications
11. Kalaykay	Cold, fever,malaria, swelling and enlargement of liver and spleen, rheumatism, bone pains, swelling due to sprain and contusions, excessive menstrual flow
12. Kamoteng kahoy	Diarrhea, "pasma, "sikmat"
13. Katsubong	Asthma, muscle pains and cramps, gastric pains, sprains, contusions, snakebites, piles, severe cold, rheumatism, psoriasis
14. Lagundi	Fever and headache, toothache, cough, asthma, wounds and ulcers, chicken pox and measles, skin rashes
15. Lima-lima	Cures coughs, anti-scorbutic, vulnerary
16. Loko-loko	Treats fever with cold and headache, affections of the uterus, stomachache, wounds, boils, catarrh, colic, and skin diseases; flatulence, anti-rheumatic and antisuporific baths, antispasmodic, emmenagogue,
17. Malatalong	Relieves headache, treats dysentery, diarrhea, ulcers, boils, fever, vaginal discharge, and expel urine impurities
18. Okra	Root and leaf for washing and wound healing; young pods for fever, difficult urination, diarrhea, roots for headaches, varicose veins, arthritis, and fever, leaves for abdominal pain
19. Palad (Kaktus)	Poulstice relieves articular rheumatism, erysipelas, opthalmia, earache, and toothache
20. Palochina	Intestinal parasitism, purgative, cough, ringworm, tinea infections, insect bites, herpes
21. Pasao, Atai-atai	Decoctions for apthae, treats wounds and ulcers, fever
22. Platito	Induces urination, dressing for ulcers
23. Rosal	Jaundice, hepatitis, cough, fever and headache, bacillary dysentery, nephritic edema, epistaxis, mastitis, furuncle, lymph node tuberculosis, boils, snake bites, dermatitis, eczema, bed bug repellant
24. Saling uwak	Topicals for wound and ulcers, flatulence
25. Santan	Infusion for incipient tuberculosis, hemorrhage, urinary
26. Soro-soro	Treats earache, snake bites, asthma, glandular swellings, external hemorrhoids, induce urination, expels worms, prevents suppuration,
27. Tagabang, Tugabang	Purgative, Fever, Chronic cystitis, Gonorrhea, Dysuria
28. Tangan-tangan	Dried root decoction for rheumatism, arthritis, paralysis, epilepsy, distention of the uterus, prolapsus, poultice for difficult partus (non-lowering of the fetus during delivery, lymph node TB, facial paralysis, wounds, milk stimulation, seeds oil as laxative, vermicide, Cure for hardened cerumen, cure for warts, roasted seeds for hemorrhoids.
29. Tapulanga	Poulstice to boils, cancerous swellings, and mumps; decoction as emollient, for venereal diseases, fevers; antidote for poisons; treats coughs, bronchitis, paralysis, dysmenorrhea, cystitis, gonorrhea, headache, boils, carbuncles, sore eyes, regulate menstruation
30. Tsaang gubat	Colic cough, diarrhea, dysentery, mouthwash, antispasmodic, stomach and abdominal pains.
31. Tubang morado	Treats swelling mammary glands, leprosy, stomachache, fever, headache, ulcers, tongue sores, venereal diseases

The specific effects of medicinal plants and some examples, among others include: antihelminthic, like manga (Mangifera indica), atsuete (Bixa orellana), and balunggay Moringa oleifera); antiinflammatory such as gumamela ( Hibiscus rosa-sinensis), (Averrhoa bilimbi), and maritana (Kalanchoe pinnata); febrifuge, such as colitis (Amaranthus sp.), atsuete, and gaway-gaway (Sesbania grandiflora); anti-asthmatic, such as duldol (Ceiba pentandra), sambag (Tamarindus indicus) and manga; diarrhea and dysentery remedies, like avocado, kamunsil (Pithecelobium dulce), and langka (Artocarpus heterophyllus); diuretic, as in lomboy (Syzygium cuminii), luy-a (Zingiber officinale) and colitis; emmenagogue, such as santan (Ixora sp.), garangan (Averrhoa carambola), and tapulanga; antirheumatism, like sili (Capsicum sp.), iba, and balonggay; skin problems, like adelfa, ahos, and alugbati; anti-poisonous bites/bruises, like adelfa (Nerium oleander), ahos (Allium sativum), and babana (Annona muricata); liver and gall bladder problems, such as artamisa (Artemesia vulgaris) and tangan-tangan (Ricinus communis); and tooththache, such as maritana and avocado, and gaway-gaway. Meanwhile mouth disorders can be cured by medicinal plants such as avocado (Persea americana), bayabas (Psidium guajava), gatas-gatas (Euphorbia hirta), and luy-a (Zingiber officinale); abdominal pain and stomachache cure such as estiwitis, kosol, lagundi, and herbabuena; bloody stool using bangka-bangkaan, cogon, iba and lagundi; and other common sickness such as ulcer using avocado and bayabas ( Tables 9-13).

Table 11. Indigenous Herbs and Their Medicinal Applications

Ilongo /Common Name	Medicinal Applications
1. Ahos/Bawang	Cures toothache, reduces cholesterol and triglyceride levels, lowers blood pressure, promotes blood circulation; prevents cold and flu; prevents chronic yeast infection; prevents cancer, antiseptic, diuretic, anthelmithic, expectorant, diaphoretic, boost the immune system, for fat metabolism, antispasmodic, cholagogue, febrifuge, antibacterial, (staphylococcus, streptococcus, and salmonella); beri-beri, baldness, fever and flu, ringworm, old sores, bruises, falling hair, wounds, skin irritation, hoarseness, detoxifies the blood, arteriosclerosis, hemorrhoids, impotence, asthma, arthritis, anti-venom, tuberculosis, colds, bronchitis,
2. Ajos-ajos nga maputi	Bulb is used as vulnerary drug (wound-healing)
3. Alibhon	Asthma, Boils, Bronchitis, Febrifuge as bath for women after childbirth, Sinusitis Sores. Stomachache, Boils, Bad breath, Liver ailment, Beri-beri, Sore throat, Vomiting, Fainting, Paralysis, Promote menstruation, Arthritis. Fever, Cystitis, Rheumatic pains of waist, Coughs, Stimulate appetite, Wounds and cuts, Gaseous distention, Upset stomach, Diuretic, Dissolution of renal and kidney stones, Analgesic to post-operative dental pain



# Table 11 Continued

Ilongo /Common Name	Medicinal Applications
4 Alobera	Baldness, Cancer, Gastric pain, dandruff
5.Alum-alom, Kolitis	Bacillary dysentery, Diarrhea Acute and Chronic gastroenteritis, Urinary tract infection, Eczema, Snake and scorpion bites, Bleeding in piles, Asthma, Beriberi, Inflammation, Bronchitis, Poor Lactation of mothers, Bleeding hemorrhoids, Sore throat, Coughs, diuretic
6. Alusiman	Beriberi , edema, Diarrhea, Eczema, Furuncles, Gastroenteritis and dysentery, Nephritis Orchitis, Poisonous boils, Pulmonary tuberculosis, Snake bites, Whooping cough,
7. Amarillo	Antiseptic: decoction of flowers as carminative: anemia, irregular menstruation and dysmenorrhea, rheumatic muscular and bone pain
8. Artamisa	Abdominal colic pains, Asthma, Convulsions, Dyspepsia, Eczema, Headache, Herpes, Inflammed dermal afflictions Induce menstruation, Purgative, Wounds and cuts, Scabies
9. Asistasia	Intestinal astringent, lightens pains of childbirth, swellings, vermifuge, rheumatism
10. Badyang	Alleviate toothache, fever; roots as application to pains in joints,; rubefacient, fever
11.Bahug-bahug or Kulong-kugon	Cough, colds, fever, furuncles, skin diseases, high blood pressure; stops bleeding due to external wounds, treats carbuncle, headache
12. Balatong (Hantak)	Skin diseases (alap-ap)
13. Bamban	Antidote for snake bites and blood poisoning; Juice from young leaves for sore eyes; anti cancer property
14. Bangka-bangkaan	Cough, Colds, Nose bleed, Bacillary dysentery, Blood in the stools (balaod)
15. Dagmai	Leprosy, Tuberculosis
16. Dila-dila (Kaktus)	Astringent, Febrifuge, Dysentery, Increases urine discharge, Anthelminthic for roundworms, Coughs, Dyspepsia, as emollient, diaphoretic, Asthenic fevers
17. Gatas-gatas /Tawa-tawa	Enteritis, dysentery, dermatitis, eczema, pruritus, poor lactation after delivery; abdominal pain, stomachache, colic, intestinal worm, parasites, impurities, asthma, cough, bronchitis, difficult urination, eye sore, mouth sore, sore throat, hoarseness, loss of voice, skin diseases, fresh wound bleeding, snakebite
18. Himag-himag	Wounds and bruises
19. Huya-huya	Cure mumps by crushing leaves to prepare paste and apply directly to swollen gland after a cold compress for 30 minutes, 3 times a day
20. Kalauag, Lampuyang	Rhizomes is stimulant. Tonic, and carminative; emmenagogue, and astringent;; prevents skin eruptions, cures sprains and bruises, facilitate scabbing of in small pox and chickenpox, cures ringworm and parasitic skin diseases, helps cure purulent conjunctivitis, neuralgia, and rheumatism; acts as stomachic, vulnerary, and anthelminthic, alleviates intermittent fevers, flatulence, and dyspepsia; useful to colic, amenorrhea, congestions, catarrh, diarrhea and dysentery
21. Kalu-ui	Fever, Colds and Influenza, Poor digestion, Nausea, Abdominal cramps, Gastroenteritis, Migraine, Insomnia, Depression, Exhaustion, Acne, Gonorrhea, Dysentery, Chronic diarrhea, Remove film and opacity from the eyes, Loss of smell, Insect sting, Snake bite, Skin infections, Skin diseases, Bowel complaints in children, Ulcers, Earache and dullness of hearing, Coughs, Diuretic, Delayed menstruation, Gonorrhea, sores and unhealthy sinuses, habitual constipation, anti-inflammation

# Table 11 Continued

Local/ Common Name	Medicinal Applications
22. Kamantulan	Hepatitis, Edema due to hepatic sclerosis, Hypertension, Infantile convulsions, Night blindness due to fever, Habitual constipation
23. Kamatis	Kidney stimulant, wash away toxins, promotes gastric secretions, blood purifier, intestinal antiseptic, cures mouth sores, stimulate torpid liver, treats anotic dyspepsia, promote flow of bile, helps alleviate bronchitis and asthma
24. Katumbal / Siling labuyo	Cures arthritis and rheumatism, promotes digestion, rubefacient, stomachache, atonic gout, dyspepsia accompanied with tympanitis, flatulence, and paralysis, for wounds and sores, ringworm of scalp, intermittent fevers
25. Kiyapo	As laxativ, diuretic, emollient, demulcent and refrigerant; cures dysuria, coughs, asthma, dysentery, ringworm, boils, syphyllitic eruptions, and many skin complaints
26. Kusol	Mumps. Abdominal pain, stomachcic, colic, Gas in the alimentary tract, indigestion, dyspepsia, sore throat, rheumatism, furuncles, fevers, swellings, sore eyes, dandruff, scabs of head, wounds and bruises, cancerous swellings, dyspepsia, headache, malarial chills, as gargle, diurctic agent
27. Labog	Cures coughs, as emmolient, treats penile irritation, cures venereal sores, urethritis, gonorrhea, and similar complaints
28. Lampunaya	Bruises and sprains, Carminative, Headache, Mild bleeding, Sinusitis, bone fracture, swelling, wound, headache, tuberculosis, chest pain, dyspepsia, eye sores
29. Langkauas	Rhizomes are carminative and stimulative, antirheumatic and stimulant baths, "Alap-ap"
30. Loko-loko	Fever, colds, headache, cough, antipyretic, stimulates blood circulation, Flatulence, wonds, stomachache, tuberculosis
31. Lubigan	Rheumatic arthritis, lumbago, leg pains, Indigestion, Gastritis, tinnitus, Insanity
32. Luhang dalaga	Treats venereal diseases
33. Lupo nga pula	Anemia
34. Luy-a	Cough remedy, diuretic, antiemetic, nausea, motion sickness, sore throat and hoarseness, anti-inflammatory, anticoagulant, removes blood cholesterol, antifungal
35. Mansanilya	Headache due to sinusitis, fever, flatulence, boils, liver ailment, fainting spells, paralysis, diarrhea, stomachic, cough, flu, bronchitis, hypertension, snake bite, mammary carbuncle, epidemic meningitis, gas pains, eczema, boils, abscesses, rheumatism, fungal infection, abdominal pain, hysteria, dysmenorrhea, nervousness, muscle pain, sore eyes, open wounds and sores, sprains, bruises, calluses, cervical infection
36. Maritana	Poultice from fresh leaves cures sprains, eczema. infections, burns, headaches, mosquito bites, diarrhea, hypertension, skin lesions, swelling, burns, and toothache
37. Oregano	Constipation, centipede bite, burns, cough, indigestion, otalgia, asthma, dyspepsia, chronic coughs, bronchitis, colic, flatulence, rheumatism, carbuncles, boils, sprains, felons, painful swelling, sore throat

# Table 11 Continued

Local/ Common Name	Medicinal Applications
38. Pansit-pansitan	Warm poulstice for abscess and boils; treats convulsions, diabetes
39. Rosas de Baybayon	Purgative in chronic constipation, Diabetes, emmenapopue, treats menorrhagia, indigestion, dyspepsia, dysentery, and toothache, expels intestinal worms, purifies blood, and treats wasp stings, anti-cancer
40. Sabilaw, Alikbangon	Fever associated with infections, mumps, snakebites, cold, difficult urination, acute gastroenteritis, tonsilitis, erysipelas, wound healing
41. Saging	Dressing for inflamed and blistered surfaces; cool applications for headaches; treats diabetes; sap for earaches
42. Sentimiento	Mump, wound, dizziness, cough, spasms, hyperacidity,ulcers, pains, indigestion, high blood pressure, poor lactation in mothers, difficult defecation, nervousness, asthma, allergy, boil, colds, constipation, neuralgia, sores, stomachache, arhritis, bronchitis, Tumors, Edema, Dyspepsia, Gastritis, Hemorrhoids, Rheumatism, Syphilis, Urinary disorders, Diabetes Inflammation, Intestinal worms, Liver ailment, Poor blood circulation, Menstrual disorders, Fever
43. Sibuyas	Anthelminthic, stomachic, and tonic; treats diarrhea, choleraic attack, pains in joints, headaches, and amenorrhea; alleviate earache and an aprhodisiac.
44. Sodo-sodo / Badyang nga pula	Leprosy, Tuberculosis
45. Solanga/ Kamantigue	Snake bite, Confusion, Painful inflammation, Carbuncles Dysmenorrhea, Lumbago
46. Tabako	Leaf poultice as sedative and maturative, decoction expels intestinal worms, as styptics, antispasmodic, purgative, helps alleviate coughs, spasmodic laryngitis, asthma, nervous irritability, sleeplessness, nasal polypi, nasal catarth, headache, chronic giddiness, fainting, bleeding sores; relieve pain and irritation in rheumatic swelling, for syphilitic nodes, and skin diseases
47. Tabubungiaw	Rhizome forephritis, beriberi, edema, difficulty in urination, pricking pain in the urinary tract, nettle rash, whooping cough, antidote, antipyretic, antidermatosis
48. Talong	Sore throat, hoarseness, loss of voice, boils, abscesses, sore, ulcer
49. Talos	Inflammation
50. Tigre-tigre	Emollient, coughs, purgative, tonic, febrifuge
51. Trompa elepante	Treats skin pruritus, scabies
52. Yahong-yahong	Infectious hepatitis, measles, respiratory tract infections, colds, tonsilitis, aryngopharyngitis, bronchitis
53. Yerba buena	Fever. stomachache, dysmenorrhea, diuresis, toothache, insect bites, dizziness, arthritis

Table 12. Indigenous Vines./ Climbers and their Medicinal Applications

Local Name	Medicinal Applications
1. Alogbate	Rubefacient, reduces swellings, treats acne, skin irritations, diuretic, emollient, laxative, boils, ulcers, abscesses, catarrhal affections, gonorrhea, balanitis, burns and scalds, habitual headaches
2. Amargoso/mpalaya	Cures diabetes mellitus, hemorrhoids, dysentery and chronic colitis, cough, scalds, fever; antihelminthic, purgative, coughs
3. Buyo	Rheumatism gastric pain; bronchial asthma, Indigestion, antitussive, cures flatulence or tympanism
4. Hagunoy	Emmenagogue.diuretic, stomachache, fever, flatulence, venereal diseases, purgative, vaginal disorders vulnerary, antiscabies, malaria, haematuria,
5. Kalabasa	Carbuncles, boils, ulcers, venomous insect bites, intestinal worms
6. Kamote	Diabetes, boils and acne, diarrhea
7. Manunggal/Basyawan	Skin diseases, malignant fevers, febrifuge, tonic, stomachic, emmenagogue, erysipelas, rheumatism, asthma, chest affections
8. Melon gubat	Flatulence, toothache, biliousness
9. Patola	Uroemia, amenorrhea, splenitis, hemorrhoids, leprosy, conjunctivitis, sores, bites, purgative, emetic, jaundice
10. Tankong	Fresh roots as purgative, tonic, alterative, aphrodisiac, demulcent, galactagogue, liver enlargement, moderates menstrual discharge.
II Ubi	Dysentery, syphilis, boils, diuretic, sores, diarrhea, piles

Table 13. Indigenous Grasses and Sedges and Their Medicinal Applications

Local Name	Medicinal Applications
1. Kogon	Rubefacient, reduces swellings, treats acne, skin irritations, diuretic, emollient, laxative, boils, ulcers, abscesses, catarrhal affections, gonorrhea, balanitis, burns and scalds, habitual headaches
2. Mais	Nephritic edema, urinary tract infection and lithiasis, sclerosis of the liver, biliary tract lithiasis, cholocystitis, jaunditic hepatitis, diabetes Hypertension
3. Palagtiki	Diuretic; anti-dysentery; anti-dandruff and hair loss; anthelminthic; sudorific; treats fevers and liver complaints; poulstice for sprains; infusion for haemoptysis and dislocation
4. Paray	Roots and rhizomes for anuria, emollient in diarrhea, chronic bronchitis, coughs, febrile, inflammatory diseases, dysuria, erysipelas, burns, scalds, biliousness, wounds, treats discolored teeth
5. Sudsud, Mutha	Indigestion and constipation, skin diseases, chest pain, neurogenic gastralgia, abdominal distention, acid vomiting, Irregular menstruation, Painful menstruation, sprains and bruises, furuncle infection
6. Tanglad	Diarrhea, Decoction for toothache, diuretic, promotes perspiration, emmenagogue, stomachic for children, diaphoretic in fevers, dysmenorrhea, chronic malaria, carminative, tonic, flatulence, spasmodic affections, cholera, lumbago, chronic rheumatism, neuralgia, sprains, ringworm,

## Summary of Findings

- 1. There was a total of 155 indigenous medicinal plant species listed under 137 genera and 61 families of which 31.61%, 34.19%, 21.29%, 7.09%, 3.23%, 1.94%, and 0.65% were trees, herbs, shrubs, vines/climbers, grasses, palms, and a sedge, respectively.
- 2. A relatively higher number of indigenous medicinal species belong to Plant Families *Euphorbiaceae* and *Fabaceae*, with 10 each; *Solanaceae* and *Poaceae*, with 7 each; and *Asteraceae*, *Lamiacea*, *Poaceae* and *Verbenaceae* having 6 plant species each.
- 3. At least 59 (38.06 %) of the indigenous medicinal plants have alarming population level otherwise categorized as endangered, threatened, depleted, or vulnerable plants. Meanwhile, 83 (53.55%) plant species have been assessed as abundant and 13 (8.39 %) were indeterminate in terms of conservation status.
- 4. The medicinal uses range from treatment of a simple skin irritation to a deadly tumor and human cancer. Those reported to have anticancer property include tsaang gubat (*Carmona retusa* (Vohl.) Masam), bamban (*Donax cannaeformis* (Forst. f.) K. Schum), rosas de baybayon (*Catharanthus roseus* L.), pandakaki (*Tabernaemontana pandacaqui* Poir), lomboy (*Syzygium cuminii* (L.) Skeels), bulubitoon (*Barringtonia asiatica* (Linn.) Kurz.) and niyog(*Cocos nucifera* L)

#### CONCLUSIONS AND RECOMMENDATIONS

#### Conclusions

Based on the results obtained in this study, the following conclusions are made:

- 1. A list of 155 indigenous medicinal plants representing at least 137 plant genera and 67 plant families that thrive in the area is a good indicator that Barangay Agsalanan has a moderate level of medicinal plant diversity.
- 2. Most, if not all, of the plant species identified have multiple medicinal applications aside from a good number of them that have potential anti-cancer property. This means that the place itself can rely on the already existing flora, both cultivated and growing in the wild, for its herbal medicine needs as alternative to highly-priced commercial drugs.
- 3. A considerable number of medicinal plants listed have an alarming conservation status many of which were categorized as endangered, depleted, threatened, or vulnerable. However, a large majority are still

thriving in abundance.

### Recommendations

Based on the findings and conclusions from this study, the following are recommended:

- 1. Barangay Agsalanan folks should be more encouraged to establish their family medicinal garden aside from the already existing but sometimes neglected community herbal gardens sporadically located in the area. These can provide them a ready answer to health problems being aggravated by the high rising prices of commercial drugs.
- 2 Since a considerable number of the medicinal plants, both the domesticated species and those that grow in the wild, have alarming conservation status, it is recommended that an initiative to establish a mini arboretum in the area should be put forward. This mini arboretum can serve as GermBank and Plant Collection site where rare, endangered, depleted, threatened, and vulnerable medicinal plants will be mass propagated and temporarily allowed to grow and multiply before they will be re-established in the wild as one practical measure towards plant diversity conservation.
- 3. The community folks should be taught some simple but more scientific and efficient methods of propagating indigenous medicinal plants so they can better play their role as local plant conservationists in the community.

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