Original Research Article

~~PLANTS OF MEDICINAL SIGNIFICANCE TO RURAL FOLKS OF MAPANAS, NORTHERN SAMAR, PHILIPPINES~~

IDENTIFICATION OF ETHNO-MEDICINAL PLANTS USE BY RURAL FOLKS OF THE MAPANAS, NORTHERN SAMAR, PHILIPPINES

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ABSTRACT

This descriptive research utilized the purposive sampling technique in an attempt to identify plant species used by local inhabitants as alternative medicines in five selected barangays of Mapanas, Northern Samar. It specifically aimed at collecting and identifying plant species utilized as medicine, documenting the plant part used and the ailment it reportedly cures.

Results show a total of 44 plant species with medicinal applications, and these belong~~ed~~ to 24 plant families. The most commonly used part of the plant were the leaves, which were usually prepared in a decoction.

A variety of common ailments were reportedly cured by these plant species, ranging from wound cleansing/antiseptic, chest and body pains, cough and cold, diarrhea, diabetes, dengue fever, headache, ear infections, hypertension, menstrual cramps/pain, rheumatism, sore eyes, tooth and/or stomach ache, ulcer, and urinary tract infections. Some of the plants ~~are~~ were also utilized in some rituals, like circumcision, or as purgative (dewormer), ~~as~~ antidote for poisoning, ingredients in post-partum bath, or to combat swelling in sprains.

These results imply that residents of the municipality of Mapanas, Northern Samar, Philippines, has a wealth of indigenous knowledge about plant species that possess medicinal attributes, utilizing them as alternatives to expensive commercial drugs.

It is therefore recommended that strict conservation efforts be implemented to save these valuable resources, and that chemical screening of these plants to characterize their component secondary metabolites should be done as bases for drug discovery or development.

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KEYWORDS: *medicinal plants, secondary metabolites, inventory, alternative medicine, indigenous knowledge*

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INTRODUCTION

Plants play a vital role in the planet's ecosystems by providing food, shelter, and fiber for most living organisms. Through man's ingenuity and resourcefulness, plants have been used as effective remedies for various diseases (Institute of Food and Agricultural Sciences, University of Florida, 2019; Schaal, 2019; Tilahun and Moa, 2018).

Many substances utilized in our lives are plant products, and numerous medicines were first isolated from plant seeds and extracts, as well as several industrial products, such as rubber, paint bases, non-petroleum oils, gums~~,~~ . ~~and sizing~~ Sizing starches, are also derived from seed plants. Most important of all, are the edible plants that are in the food base of human culture (Heneidy and Bidak, 2004).

Healing with medicinal plants is an old treatment method, as old as mankind itself (Petrovska, 2012). Awareness of medicinal plants' usage is a result of the many years of struggle against diseases and man learned to pursue drugs in barks, seeds, fruits, and other parts of plants (Srivastava, 2018).

Sofowara, *et al*., (2013) defines a medicinal plant as any plant which, in one or more of its organs, contain substances that can be used for therapeutic purposes, or which are precursors for the synthesis of useful drugs. Secondary metabolites in plants have been shown to possess various biological effects, which provide the scientific bases for the use of herbs in traditional medicine among many ancient communities (Hussein and El-Anssary, 2018).

Thus, this study was initiated to document the plants use ~~used~~ by local inhabitants in selected barangays of the municipality of Mapanas, Northern Samar, Philippines, as traditional or alternative medicine for common ailments, identify the plant part used, including its method of preparation, and the ailments it reportedly cures, since no previous investigation of a similar nature has yet been done in the locality.

Objectives of the Study:

This study aims to ascertain the variety of plant species used by the local inhabitants in selected barangays in Mapanas, Northern Samar, Philippines. Specifically, it had the following objectives: (1) to identify and collect medicinal plants use~~d~~ by local inhabitants in selected barangays of Mapanas, Northern Samar; and, (2) to document the different parts of the plant use~~d~~ in folk healing and for what specific ailment/disease the plant is use~~d~~ for.

LITERATURE REVIEW

Medicinal plants have been used in healthcare since time immemorial. Studies have been carried out globally to verify their efficacy and some of the findings have led to the production of plant-based medicines (Sofowora, *et al.,* 2013).

The World Health Organization (WHO) has accounted about 60% of the world's population relying on traditional medicine, and 80% of the population in developing countries depend almost entirely on traditional medical practices, in particular, herbal remedies, for their

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primary health. In the Philippines, more than 1500 medicinal plants used by traditional healers have been documented, and 120 plants have been scientifically validated for safety and efficacy. However, a recent study found out that majority of the medicinal plants are threatened by anthropogenic factors (cite reference). This has led to the continued decline of traditional herbal medicine. There is, therefore, a need to adopt management strategies that enhance the conservation of these valuable natural resources (Dapar, *et al.,* 2020).

Likewise, plants/trees play a very important role in man's life by fulfilling his food, fuel, timber, fibre, and medicinal needs. Plants/trees are helpful in the mitigation of environmental pollution, being the source of oxygen and a sink of carbon dioxide. Trees such as tamarind (*Tamarindus indicus*), ashok (*Polyalthia longifolia* Sonn.), and neem (*Azadirachta indica*) are very useful in the control of noise pollution. Plants/trees are also helpful in the restoration of degraded lands. Furthermore, plants are helpful in the removal of heavy metals from contaminated sites, and trees are helpful in the maintenance of ground water levels (Singh, 2018).

In Pakistan, Parveen, *et al.,* (2021), revealed that the Shahbaz Garhi Mardan, Khyber Pakhtunkhwa, area has a rich diversity of plants and the people use these plants and their products for medicinal, ~~fuel wood~~ wood-fuel, ornament, food and timber purposes, as well as support for their livelihood and other needs.

In Mount Malinao, Albay, Philippines, the vegetation was represented by 27 endemic plants, 15 economically important plants, 15 medicinal plants, 9 ornamental plants, 3 poisonous plants, 3 newly-introduced plants to the locale, and 6 newly-introduced plants to the Philippines (De Guzman, *et al.,* 2014).

Prigge, *et al.,* (2005), reported 123 plant species belonging to 90 genera and 53 families documented to be used by the farmers in Leyte, Philippines, for 77 different purposes, including 42 for human ailments. The predominant life forms are trees and herbs, and more than 60% of all recorded species are native to the Philippines~~,—. and— these—~~ These species are used for more than one purposes: eighty plants have medicinal value, 34 provide food and 32 serve for other uses.

Investigating the ethnobotany of Ilocos region in Cadaclan, San Fernando, La Union, and the flora around them, Del Rosario (1995), focused on the identification and classification of plants that are of immediate use to Ilocanos~~,—~~. He reported 60 medicinal plants representing 40 families and 36 species used from birth, while those used in adulthood represent 25 species. Plants equated to beliefs, customs, and traditions are composed of 24 species representing 17 families.

In Phatthalung Province, Peninsular Thailand, Maneenoon, *et al.,* (2015) concluded that even though conventional medicine is available, many people in rural communities still continue to depend on traditional Thai medicine, and highly experienced traditional healers are still important to the communities. A total of 151 medicinal plants were documented and 98 of these are reported in the study. Local names,

medicinal uses, parts used, modes of preparation, and the relationship between ailments and tastes of medicinal plant species were also presented.

From Ethiopia, Tuasha, *et al.*, ~~Petros and Asfaw~~ (2018), recorded seventy-one medicinal plant species, belonging to 63 genera and 46 families, used to treat 39 human ailments. A high proportion of the species recovered were shrubs (35.2%); while 64.7% were retrieved from the wild habitat. Leaves were the main parts of the medicinal plants used (42.9%), followed by fruits/seeds (13%); all preparations were made from fresh materials, and about 27.9% involved boiling. The frequent route of delivery was oral (77.9%), followed by the dermal (17.6%). About 40.8% of the MPs were used for treating two or more ailments. About 19.7% of the MPs were used to treat malignancies, with *Sideroxylon oxyacanthum being the most* frequently used, while the species *Podocarpus falcatus* and *Hagenia abyssinica* were preferred to treat jaundice and deworming in helminthiases, respectively.

In 2006, Muthu, ~~Ayyanar, Raja, and Ignacimuthu~~ and other researchers concluded that even though the accessibility of Western medicine for simple and complicated ailments is available, many people in the studied parts of the Kancheepuram district (Tamil Nadu, India) still continue to depend on medicinal plants, at least for the treatment of some simple diseases such as cold, cough, fever, headache, poisonous bites, skin diseases, and tooth infections. Well-knowledged healers have good interactions with patients and this improves the quality of healthcare delivery, but present-day traditional healers are very old. Due to lack of interest among the younger generation, as well as their tendency to migrate to cities for lucrative jobs, there is the possibility of losing this wealth of knowledge in the near future. It thus becomes necessary to acquire and preserve this traditional system of medicine by proper documentation and identification of specimens, they articulated.

In the province of Northern Samar, Philippines, several studies have been done to document plants with medicinal applications. For example, from the municipality of Mondragon, Bebita, (2014), Balleta, (2011), and Pedong, (2010) reported 34 medicinal plants used to treat 17 illnesses, and that in most cases, the whole plant was utilized. These were usually prepared as decoction and drank by the patient, or poultice or hot compress, while others are eaten as food.

Similarly, in the municipality of San Roque, Nale, (2019) recorded 45 medicinal plant species, wherein the leaves, fruits, and roots, either fresh or dried, young or matured, ripe or unripe, were the plant parts used. Traditional methods of preparing these medicinal plants involves boiling (decoction), crushing, squeezing, heating, and soaking (infusion).

Diaz, (2011) revealed a total of 39 medicinal plant species from the municipality of Catarman, and these were utilized against several infirmities or ailments, with either the fruits, bark, flowers, trunk, seeds, or the whole plant used. Decoction was the most common method for processing the plant.

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In the municipality of Palapag, Chy, (2011) concluded that there were 83 species of medicinal plants, and 9 species of medicinal animals belonging to 8 families, were collected and identified by the respondents as medicinal remedies to treat different illnesses, including common ailments of the respiratory tract, the circulatory and gastro-intestinal systems of man and his animals. Others were used to treat intestinal worms and parasites, for wound healing, ~~for~~ promoting menstrual flow, relapse, insect and snake bites, spasms, urinary tract infection, diabetes, measles, dengue, sore eyes, burns, bodily injuries and rheumatism.

Balawang, (2011) also reported 41 medicinal plant species collected and identified from Bobon, Northern Samar. These plants were used to treat common ailments like headache, cough and cold, fever, stomachache/abdominal pain, asthma, diarrhea, menstrual problems, skin diseases, diseased gums, inflammation and wounds, relapse ("bughat" or "pasma"), intestinal parasitism, agalactia, poisoning, and other body pains.

Meanwhile, in Calbayog City, Samar, and Rada, (2011) also documented 41 medicinal plant species used to cure common illnesses. Also treated ~~where~~ were viral infections, such as mumps and measles; and other ailments such as paralysis and hypertension.

METHODOLOGY

Study Locale

This study was conducted in selected barangays of Mapanas, Northern Samar, particularly in Barangays Magtaon, Manaybanay, Naparasan, San Jose, and Siljagon.

The Municipality of Mapanas, Northern Samar is a 5th class municipality in the province of Northern Samar, Philippines, which is subdivided into 13 barangays. The municipality has a land area of 117.85 square kilometers, or 45.50 square miles, which constitutes 3.19% of Northern Samar's total area. According to the 2020 census, it has a population of 14,234 people, representing 2.23% of the total population of Northern Samar province, or 0.31% of the overall population of the Eastern Visayas region. Based on these figures, the population density is computed at 121 inhabitants per square kilometer or 313 inhabitants per square mile. The Municipality of Mapanas is located along the borders of the Pacific Ocean. This municipality is considered as one of the geographically isolated and disadvantaged areas (GIDA) in the Philippines because it is physically and socio-economically separated from the mainstream society. Fishing and farming are the main sources of livelihood (Commission on Audit, 2010).

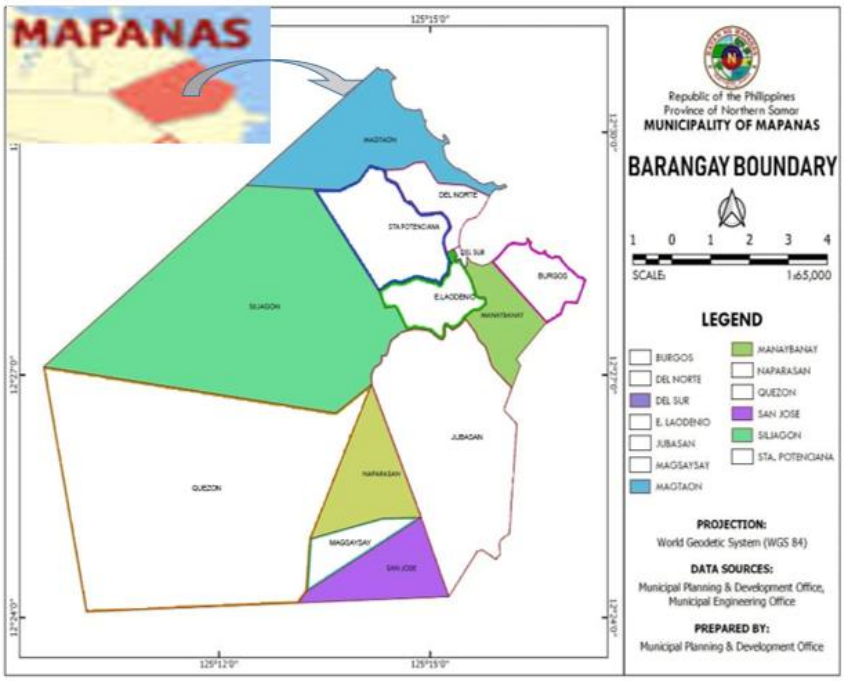

Figure 1. Map of the municipality of Mapanas, Northern Samar with sampling barangays highlighted in color.

Research Design

This study used the descriptive research design focusing on the identification of plants and their uses (Aggarwal and Ranganathan, 2019).

Sampling Techniques

This study utilized the purposive sampling technique, also called judgment sampling~~—~~. It is the deliberate choice of an informant due to the qualities the informant possesses, and it is a non-random technique that does not need underlying theories or a set number of informants (Tongco, 2007). Collection of plant specimen was done for identification purposes, and respondents were sought out relative to the medicinal uses of plants to humans and animals. A field walk and data gathering was conducted during day time from morning until the afternoon.

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Data Gathering Procedures

The researchers did a preliminary ~~to~~ survey, and asked permission from the concerned barangay captains to conduct the study in their area and stayed in each barangay for two weekends to collect all the data needed to answer the objectives of the study.

An interview guide was used to gather data. The first part elicited information of the respondents; the last part determined the medicinal uses of the plants to the people of Mapanas, Northern Samar. Also included were questions or the

identification of which part of the plants are useful and the process with which these plants are used.

The respondents were villagers of the five selected barangays of Mapanas, Northern Samar, aged at least 40 years old or older, either male or female and who have resided in the area for most of their lives, including the Barangay Health Workers (BHW), Barangay Health Stations (BHS) personnel, and Barangay Nutrition Scholars (BNS). Other groups of respondents were the "albularyos", "manarams" and "manhihilot" in each of the barangay regardless of age or gender.

A field notebook was provided to record important data for each specimen collected that would serve as guide in the identification.

Specimen Collection

The researchers collected at least three specimens for every species and each specimen measured approximately 31cm (12 inches). Information tags were attached to every specimen.

Preparation for Herbarium

Preservation of the newly collected plant specimen followed the procedures of Guevarra (2005):

Drying

Plant specimens were dried either by natural drying (sun-drying), which may take a few days or a full week or even more, or artificial drying using a heat source, either a stove or electric bulbs in a cabinet. In either means, dryers/blotters and newspapers in between specimens ~~must be~~ were changed two or more times a day, taking care to prevent loss of parts of the specimen during the changing process.

Poisoning

The thoroughly dried specimens were preserved by treatment with a poisoning solution, either by dipping the specimen in the poison or by painting it with the poisoning solution. In the latter case, both upper and lower surfaces are equally treated. This treatment preserves the specimen from insects and fungal attacks.

Mounting

The dried and poisoned specimens were mounted in standard sized (11 ½ x 16 ½ inches [29 x 49 cm]), white mounting sheets or cartolina of sufficient thickness. The specimens were mounted in upright position at the same time allowing ample space for the herbarium label. Detached plant parts such as seeds, flowers, leaves, tiny fruits were placed inside suitable packets and were pasted at a convenient place on the mounting sheet.

Identification of Specimens

Collected samples were brought to the College of Science, University of Eastern Philippines - Main Campus in Catarman, Northern Samar, where a plant expert did the authentication of the pre-identified plant specimens.

Labeling

The label of each specimen was glued to the mounting sheets. The field label was placed in the upper left-hand corner and the smaller herbarium label, on the lower right-hand corner of the sheet.

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RESULTS AND DISCUSSION

This section presents the medicinal plants found in the study area, which are traditionally used by the residents.

Appendix Table 1 presents the 44 species of medicinal plants used by the respondents in the study area. They are classified to belong to 24 plant families, namely: Amaryllidaceae, Acanthaceae, Annonaceae, Apocynaceae, Araceae, Araliaceae, Arecaceae, Asparagaceae, Asteraceae, Celastraceae, Costaceae, Crassulaceae, Cucurbitaceae, Euphorbiaceae, Labiatae (Lamiaceae), Fabaceae, Lauraceae, Lecythidaceae, Malvaceae, Myrtaceae, Poaceae (Graminae), Rutaceae, Sapotaceae, and Zingiberaceae. This implies that these families include plants that are traditionally important for their medicinal properties and are commonly used to treat ailments and diseases in the study area. Further, it shows a diversity of flora with medicinal application that may be evaluated for potential drug development.

These results are similar to the previous study of De Guzman, *et al.,* (2014) who found plants from similar families as being used to treat illnesses and diseases in Albay, Philippines. Similarly, Prigge, *et al.,* (2005) reported 123 plant species, belonging to 90 genera and 53 families, to be used by farmers in Leyte, Philippines for 77 different purposes, including 42 for human ailments.

Remove space

The ailments and diseases said to be cured by the identified medicinal plants were mostly common ones like body pain, chest pain, cough, dengue, deworming, diabetes, diarrhea, ear infection, fever, headache, hypertension, menstruation, rheumatism, runny nose, sore eyes, sprain, stomachache, swelling, ulcer, and toothache. The plants were also used as antidote for poisons, postpartum bath, or as anti-microbial or wound rinse and for circumcision healing.

Moreover, the most common plant part used were the leaves, and the most common method of processing was decoction, which was drank by the patient. ~~But,~~ other preparations ~~used~~ utilizes the flowers, ~~the~~ fruits, ~~the~~ roots, or ~~the~~ shoots of the plants. Other methods of preparation include the use of ~~the~~ fresh extract directly administered orally, eating the fruit, or by steam inhalation ~~or treatment~~ ("uslob") [Appendix Table 2].

These medicinal plants ~~are~~ were also reported to cure ailments and diseases of other animals, like dogs and chickens, particularly respiratory tract infections, fever, and poisoning. The leaves, prepared as decoction, was the most commonly used part and preparation method, while coconut milk with sugar was often made as cure for intoxication or poison ingestion for these animals.

CONCLUSION

Findings of the study draw the conclusions that there were 44 species of medicinal plant species in the five (5) sampling barangays of Mapanas, Northern Samar, belonging to 24 plant families, implying that the municipality harbors

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a diversity of plant species with traditionally important healing properties. Plants were commonly used to treat common ailments, like body pains, cough and cold, dengue, hypertension, or diabetes. They were also used as anti-microbial or wound rinse and for circumcision healing, postpartum treatment or deworming. This implies that several common illnesses of the residents are remedied using plants with medicinal properties.

The most common method of preparation for these plants is decoction, or sometimes the juice or crude extract, is used as a drink, and/or topically applied. Fresh plant leaves may also be crushed or pounded to extract the juice, or the plant part maybe heated over low fire, and used as poultice, or as an infusion.

Recommendations

A replicate study be done in other sites to fill the information vacuum on plants used by local inhabitants in the treatment of several common illnesses, especially in remote areas of the province. In as much as there is a decreasing number of individuals with knowledge and skills in utilizing plants with medicinal applications, it is imperative that an information repository for these plants, their uses, the methods of preparation, the parts used, and the illnesses treated or cured by such plants should be properly documented. The plant extracts may be tested to verify the existence of secondary products that could be the bases for drug discovery or drug development.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that they have no known competing financial interests OR non-financial interests OR personal relationships that could have appeared to influence the work reported in this paper.

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Appendix Table 1. Species Composition of Medicinal Plants in Selected Barangays of Mapanas, Northern Samar, Philippines

SCIENTIFIC NAME	COMMON NAME	LOCAL NAME	SAMPLING SITES				
			1	2	3	4	5
Andrographis paniculata (Burm. F) Nees.	Marabillosa/ Serpentina	Marabillosa/ Serpentina	/	/	/	/	/
Allium sativum L.	Garlic	Lasona	/	/	/	/	/
Allium odorum L.	Ganda/Kutsay	Ganda/Kutsay	/	/	/	/	/
Annona muricata Linn.	Soursop	Dyatilis	/	/	/	/	/
Catharanthus roseus (L.) G. Don	Periwinkle	Rosas de Baybay	/	/	/	X	X
Acorus calamus L.	Sweet Flag	Lubigan	/	/	/	/	/
Polyscias fruticosa (L.) Harms	Ming arilia	Kamalunggay sa Halas	/	/	/	/	/
Cocos nucifera L.	Coconut	Lubi	/	/	/	/	/
Sansevieria trifasciata Prain	Snake plant/mother-in- law's tongue	Sigbin sa Hangin	/	/	X	X	X
Artemesia vulgaris Linn	Herba Maria	Herba Maria	/	/	X	/	/
Blumea balsamifera (Linn) DC.	Sambong	Lakdan bulan	/	/	/	/	/
Salacia korthalsiana Miq.	Polipog	Polipog	X	X	/	/	/
Costus woodsonii Maas	Red button ginger	Insulin plant	X	X	/	/	/
Kalanchoe pinnata (Lam.) Pers.	Katakataka	Anghelikom	/	/	/	/	/
Momordica charantia L.	Bitter gourd	Ampalaya	/	/	/	/	/
Euphorbia hirta Linn	Snake weed	Tawa-tawa	/	X	X	/	/
Jathropa curcas Linn	Tubang bakod/Physic Nut	Tuba-tuba	/	/	/	/	/
Leucaena leucocephala (Lam.) de Wit	River tamarind	Ipil-ipil	/	/	/	/	/

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Mimosa pudica L.	Touch-me-not	Makahiya	/	/	/	/	/
Senna occidentalis (L.) Link	Septic weed/Coffee senna	Sunting	/	/	/	/	/
Cymbopogon citratus (DC.) Stapf.	Lemon grass	Tanglad	/	/	/	/	/
Coleus aromaticus Benth	Oregano	Klabo	/	/	/	/	/
Moschosma tenuiflorum (Burn) Heynh	Poliyo	Poliyos	/	/	/	/	/
Coleus blumei Benth	Mayana	Bidyara	/	/	X	X	X
Mentha arvensis Linn	Herba buena	Herba Buena	/	/	/	/	/
Ocimum tenuiflorum L.	Holy basil	Kulong-kugong	/	X	X	/	X
Ocimum basilicum L.	Lemon basil	Sangig	/	/	/	/	/
Vitex negundo L.	Lagundi	Lagundi	/	/	/	/	/
Persea americana Mill.	Avocado	Avocado	/	/	/	/	/
Petersianthus quadrialatus (Merr.)	Bishop wood	Toog	X	X	/	/	/
Urena lobata L.	Caesar weed	Rukot-dukot	/	X	/	/	/
Hibiscus rosa-sinensis Linn	Gumamela	Gumamela	/	/	/	/	/
Theobroma cacao L.	Cacao	Kakaw	/	/	/	/	/
Psidium guajava Linn.	Guava	Bayabas	/	/	/	/	/
Piper betle Linn	Betel	Luba	/	X	X	X	X
Eleusine indica (Linn.) Gaertn.	Goosegrass	Bikang/Paragis	/	/	/	/	/
Saccharum spontaneum Linn.	Talahib	Puti	X	/	X	/	/
Citrus maxima (Burm)Merr	Pomelo	Suha	/	/	/	/	/
Citrus microcarpa(Bunge) Wijnands	Kalamansi	Lemon	/	/	/	/	/
Citrus reticulata Blanco	Dalandan	Dalandan	X	X	/	X	/
Chrysophyllum cainito L.	Kaimito	Kaimito	/	/	/	/	/
Cucurma longa Linn.	Turmeric/luyang dilaw	Dulaw	/	/	/	/	/
Kaempferia galanga Linn	Aromatic ginger	Kusol/Dusol	/	/	/	/	/
Zingiber offinale Roscoe	Ginger	Luya	/	/	/	/	/

Legend: / = Present X = Absent
Sample Barangays: 1 - Manaybanay, 2 - Magtaon, 3 - Naparasan, 4 - San Jose, 5 - Siljagon.

Appendix Table 2. Ailments Treated by Medicinal Plants, the Part Used, and Method of Preparation

Medicinal Plant	Ailment Treated	Part Used	Preparation Method
Bayabas	Anti-microbial Wound Rinse	Leaves	Pound or boil to get the juice and use for rinsing wound
Ganda	For Body Pains	Leaves	Heat and extract the juice and serve as a drink; rubbing the whole body as liniment (banyos).
Herba buena		Leaves	Extract the juice and apply to the body where the pain is located.
Lemon	For Chest Pains	Leaves	Boil the leaf and serve as drink
Suha		Leaves	Boil the leaf and serve as drink
Dalandan		Leaves	Boil the leaf and serve as drink
Bayabas	For Circumcision	Leaves	Rinse and chew then put in the wound
Polipog		Leaves	Rinse and chew and put in the wound
Toog		Bark	Scrape the bark off and rinse then put in the wound.
Lakdan bulan	For Cough	Leaves	Boil and serve as drink
Ganda		Leaves	Extract the juice as drink
Lagundi		Leaves	Boil and serve as drink
Klabo		Leaves	Extract the juice as drink
Kusol		Leaves	Extract the juice as drink
Puti		Shoot	Extract the juice as drink
Tawa-tawa		Body	Extract juice as drink

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Polipog		Roots	Boil and serve as drink
Poliyo		Leaves	Pound to extract juice then drank by patient
Lemon		Fruit	Extract the juice, add hot water, and serve as drink
Dalandan		Fruit	Peel off the skin then eat the fruit.
Cacao		Leaves	Boil and then serve as drink
Tawa-tawa	For Dengue Fever	Leaves	Boil and serve as drink
Ipil-ipil	For Deworming	Young pods	Peel off the skin and eat
Ampalaya		Leaves	Boil and then serve as drink
Cacao		Leaves	Boil and then serve as drink
Marabillosa	For Diabetes	Leaves	Extract juice and then serve as drink
Ampalaya		Leaves	Boil and serve as drink
		Fruit	Cook and eat
Sunting	For Diarrhea	Roots; leaves	Boil the roots and serve as drink or heat the leaves, then place over the stomach
Rosas de Baybay		Roots	Boil and serve as drink
Kaimito		Leaves	Boil the leaves and serve as drink
Bayabas		Leaves	Boil the leaves and serve as drink
Avocado		Leaves	Boil the leaves and serve as drink
Poliyo	For Ear Infection/ Pain	Leaves	Pound to extract juice then drank by patient
Katakataka	For Fever	Leaves	Heat and place in the forehead
Herba buena		Leaves	Extract juice and serve as drink
Ganda		Leaves	Extract juice and serve as drink
Lubigan		Leaves	Heat leaves, extract the juice and rub in the nose and head

Appendix Table 2. Ailments Treated by Medicinal Plants . . . . (con't)

Medicinal Plant	Ailment Treated	Part Used	Preparation Method
Tawa-tawa	For Fever	Whole plant	Extract juice as drink
Klabo		Leaves	Extract juice and serve as drink
Puti		Shoot	Extract the juice as drink
Poliyo		Leaves	Pound to extract juice, then drank by patient
Sangig		Leaves	Extract juice, then serve as drink.
Lakdan bulan	For Headache	Leaves	Extract juice and serve as drink
Klabo		Leaves	Extract juice and serve as drink
Herba Maria		Leaves	Pound to extract juice, drank by patient
Suha		Leaves	Heat leaves and place in the head
Kamalunggay sa halas		Leaves	Heat the leaves and put in the head
Kulong-kugong		Leaves	Boil and serve as drink
Bidyara		Leaves	Extract juice as drink
Poliyo		Leaves	Pound to extract juice, then drank by patient
Herba buena	For Headache	Leaves	Extract juice, then apply to body part where pain is located.
Katakataka		Leaves	Heat the leaves and put in the head
Tanglad	For Hypertension	Leaves	Boil and serve as drink
Guyabano		Leaves	Boil and serve as drink
Bikang		Leaves	Extract juice and serve as drink
Red button ginger		Leaves	Chew the leaves or boil to extract juice and serve as drink

Lasona		Clove	Peel off skin, put inside the mouth for a few minutes
Lakdan bulan	For Menstruation	Leaves	Boil and serve as drink
Bidyara		Leaves	Extract juice and serve as drink
Klabo		Leaves	Extract juice and serve as drink
Coconut	For Poisoning	Coconut meat	Grate and extract milk, mix with sugar, then serve as drink.
Lemon		Fruit	Extract juice, add hot water and sugar, serve as drink.
Tanglad	For Postpartum Treatment	Leaves	Boil, transfer to a basin; cover patient with a blanket to allow steam inhalation/treatment ("uslob")
Makahiya		Roots	Boil, transfer to a basin; cover patient with a blanket to allow steam inhalation/treatment ("uslob")
Kamalunggay sa halas		Leaves	Boil, transfer to a basin; cover patient with a blanket to allow steam inhalation/treatment ("uslob"). May also be heated and placed directly on abdominal area.
Herba Maria		Leaves	Extract juice and serve as drink
Suha		Leaves	Boil the leaves, mix with water that will be used for bath
Bikang	For Rheumatism	Leaves	Extract juice and serve as drink
Luba		Leaves	Boil and serve as drink
Lubigan	For Runny Nose	Leaves	Heat leaves, extract the juice and rub on nasal area and head
Sangig		Leaves	Extract juice, add water, and serve as drink

Appendix Table 2. Ailments Treated by Medicinal Plants . . . . (con't)

Medicinal Plant	Ailment Treated	Part Used	Preparation Method
Ganda	For Sore Eyes	Leaves	Extract juice and serve as drink
Tuba-tuba	For Sprain/Swelling	Leaves	Heat leaves with coconut oil, apply as heat compress on affected part.
Makahiya		Flower	Place in affected area to lessen swelling
Gumamela		Flower	Place in affected area to lessen swelling
Polipog		Leaves	Pound into small pieces and place in swollen part
Rukot-dukot		Flower	Rinse and place on swollen part
Luy-a	For Toothache	Rhizome	Peel, cut into small sizes, place onto aching tooth until pain is gone.
Lasona		Clove	Peel, cut into small sizes, place onto aching tooth until pain is gone.
Polipog	For Peptic Ulcer	Roots	Pound the roots, boil it, then serve as drink.
Ganda	For Stomachache	Leaves	Extract the juice as drink
Kusol		Leaves	Extract the juice as drink
Sunting		Roots or leaves	Boil the roots, serve as drink; or heat the leaves and then place over the stomach
Herba maria		Leaves	Extract juice and serve as drink
Makahiya		Flower or roots	Pound flowers to extract juice, then drink; boil the roots, serve as drink

Herba buena		Leaves	Extract the juice, apply on painful body part
Dulaw		Tuber	Heat over flame, then over the stomach to heal the pain
Marabillosa		Leaves, roots	Boil and then serve as drink
Sigbin sa hangin		Leaves	Heat and extract the juice then serve as drink
Lakdan bulan	For Urinary Tract Infections	Leaves	Extract juice and serve as drink
Coconut		Young coconut	Cut open portion of the young coconut, place over fire to heat the juice; then set outdoors overnight ("patun-ogan"), drink the juice the following day.

FIG 2. PLANTS OF MEDICINAL SIGNIFICANCE

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Andrographis paniculata (Burm. F) Nees.

Allium odorum L.

Allium sativum L.

Annona muricata Linn.

Catharanthus roseus (L.) G. Don

Acorus calamus L.

Polyscias fruticosa (L.) Harms

Cocos nucifera L

Sansevieria trifasciata Prain

Artemesia vulgaris Linn.

Blumea balsamifera (Linn.) DC

Salacia korthalsiana Miq.

Costus woodsonii Maas

Kalanchoe pinnata (Lam.) Pers.

Momordica charantia L.

Euphorbia hirta Linn.

Jatropha curcas Linn.

Leucaena leucocephala (Lam.) de Wit

Mimosa pudica L.

Senna occidentalis (L.) Linn

Cymbopogon citratus (DC.) Stapf.

Coleus aromaticus Benth

Coleus blumei Benth

Mentha arvensis Linn.

Moschosma tenuiflorum (Burn) Heynh.

Ocimum basilicum L.

Ocimum tenuiflorum (L.) Heynh.

Vitex negundo L.

Persea americana Mill

Petersianthus quadrialatus (Merr.) Merr.

Hibiscus rosa-sinensis L.

Theobrama cacao L.

Urena lobata L.

Psidium guajava Linn.

Piper betle Linn

Eleusine indica (L.) Gaertn.

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