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The inventory of local wisdom: Amanuban-Dawanese medicinal plant in Timor Tengah Selatan District

Meti OFI Tefu*, Dian R Sabat

Biology Education, Sekolah Tinggi Keguruan dan Ilmu Pendidikan SoE, Indonesia

*Corresponding author: metitefu@gmail.com

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ABSTRACT

One of the preserved local wisdom of Dawanese (Amanuban) Timor Tengah Selatan District is using plants as traditional medicine. The Dawanese (Amanuban) knowledge of using herbal plants is inherited spontaneously based on the experience and skill of the ancestors. The knowledge is inherited orally and limited to family members and siblings. This research aims to invent species of plants, the plant parts, and their functions used by Dawanese (Amanuban) as traditional medicine. This research is descriptive qualitative research with observation and structured interviews as the instruments. The informants were chosen based on Purposive Sampling using Snowball Sampling. There are 40 informants in this research. The data in this research were analysed using the descriptive qualitative analysis technique and were tabulated in tables. Based on the research result, there are 103 species of plants used by Dawanese (Amanuban) as traditional medicine. Of the 103 kinds of plants used to treat 23 groups of diseases. The way to mix the traditional medicine by Dawanese (Amanuban) varies depending on the species of plants, the parts of plant used, and the species of disease cured. The general way used by Dawanese (Amanuban) is by boiling. The novelty of this research is the disclosure of local wisdom in the use of plants owned by the Dawanese (Amanuban) people. The results of this study are expected to support the preservation of biological and cultural resources. Therefore, it is necessary to identify further the Kulit Pahit (Melicope) plants that have not been identified to the species level.

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INTRODUCTION

As a tropical country, Indonesia has potential as the second herbal plants producer in the world after Brazil. Of about 40.000 species of herbal plants in the world, 30.000 is considered mostly found in Indonesia (Nuroho, & Ningsih, 2017). Herbal plant is all species of plants which is known and believed as having medical efficacy which some or all parts are used as traditional medicine or *jamu.* Herbal plants are intertwined with traditional treatment because most of the utilization is not based on laboratory clinical test but on the experience of using them. Traditional medicine generally uses plants as the basic potion although some use animals, minerals, or mix of them from generation to generation for healing and can be used based on the community norms (Kemenkes, 2007). Herbal plants can be used or consumed in many forms such as consuming it directly as kitchen ingredients, food and drink raw materials, cosmetics, and traditional medicine (Munandi, 2007). In general, there are 15 (fifteen) parts of plants used as medicine consisting of leaf, root, bark, fruit, all parts, trunk, seed, flower, sap, sprout, rhizome, tuber, branch, stem water, and and palm cabbage. Those plant parts can be used to cure about 25 groups of disease (Zuhud, 2019).

According to Wallace and Weber's research result, geologically the spread of plants in Indonesia is divided into three areas: Sunda Island Plants (Java, Sumatera, Kalimantan, dan Bali), Sahul Island Plants (Papua and the surroundings small islands), and Wallacea Island Plants (Sulawesi, Maluku, and Nusa Tenggara). East Nusa Tenggara is classified into Wallacea biogeography area. Wallacea area is a very interesting area because of the typical species of plants which has high endemicity (Kusmana & Hikmat, 2015). Until today, in the area of East Nusa Tenggara there are 1874 species of medicinal plants, and from that number there are 1316 identified species and 558 unidentified species (KEMENKES, 2017).

Studies on traditional medicine have been conducted on some regions in East Nusa Tenggara such as (Sambara, et al., 2016) who identify 39 species of medicinal plants in Merdeka Village East Kupang sub district; (Malo, et al., 2017) who identify 21 species of medicinal plants in Kuatnana sub district TTS district; (Wuleng, 2018) who identify 24 species of medicinal plants in Amarasi sub district Kupang regency; (Yowa et al.,2019) who identify 31 species of medicinal plants in West Umbu Ratu Nggay sub district Middle Sumba regency (Tima et al, 2019) who identify 54 species of plants in Nangapanda sub-district Ende regency; and (Manek et al., 2019) who identify 42 species of medicinal plants in Lookeu village West Tasifeto sub district Belu regency. Based on the research result in NTT area, there are differences and similarities on the species of plants, the plant parts used and the function as traditional medicine. NTT people have knowledge about similar species of plants although some are used to treat different disease. For example, forest bettle (*Piper sarmentosum* Roxb. Ex Hunter) in Sumba Island is used to cure toothache while in Timor Island it is used for birth treat. Every community in NTT has local knowledge which is limited on its region. For example, the knowledge of people in using Aruda (*Ruta Angustifolia* Pers) as fever medicine is limited only on Timor Island while it can be found in almost every region id NTT. On the other side, people in Ende regency have knowledge on using hibiscus as lungs medicine but those live outside Ende have no idea on it.

Timor Tengah Selatan District is one of regencies in East Nusa Tenggara province which is inhabited by three species of tribe consisting of Mollo (*Oenam*), Amanuban (*Banam*), and Amanatun (*Onam*). These three tribes are classified as sub ethnical Dawanese who scattered in 32 sub districts. In general, these three tribes have relatively similar languages and culture. However there has been no research proving that these three tribes have similar knowledge on the use of plants as traditional medicine. The research about traditional medicinal plants is rarely found in South Middle Timor Regency. On the last 2017, Indonesian Health Ministry conducted exploration on medicinal plants in Timor Tengah Selatan District, but it was limited on Mollo (*Oenam*) tribe. Research on the use of medicinal plants in Amanuban (*Banam*) tribe is still very limited, so far there are only 4 published research: (Malo et al., 2017) who identify 21 species of medicinal plants in Kuatnana sub district; (Faot, 2018) who identify 57 species of medicinal plants in Kuatnana sub district; and (Manao, 2018) who identify 69 species of medicinal plants in Batu Putih sub district. Meanwhile there is no data at all for Amanatun (*Onam*) tribe.

Local wisdom is life perspective, science, and various life strategies in the form of activities done by community to answer various problems in fulfilling their needs (Laos & Tefu, 2019; Rahayu et al. 2019). Every region in Indonesia has different local wisdom. This difference is caused by nature challenges and different life needs. A form of local wisdom inherited by Dawanese (*Amanuban*) is using plants as traditional medicine. The people's knowledge on using herbal plants is inherited spontaneously from their ancestors' experience and skills. The knowledge on the use of herbal plants is the inherited orally and limited on family and siblings. It is worried that one day the knowledge will extinct because the one who inherit the knowledge die or migrate to continue his study or to find job abroad because of cultural change. Because of the limited information about the use of medicinal plants in Amanuban tribe, this research aims at inventing species of plants used by Dawanense (Amanuban), parts of plants used, and the function as traditional medicine.

METHODS

Research Design

This research is descriptive qualitative research with observation and structured interview as the instrument. The data recorded are Indonesian names, local names, Latin names, plant parts used, diseases being

treated, and how to use them. This research was conducted from April to May on Dawanese (*Amanuban*) who are scattered in Timor Tengah Selatan District, East Nusa Tenggara Province. The Location Map is shown in figure 1.

Figure 1. Map of Timor Tengah Selatan District, NTT, Indonesia (Source: Government of TTS, 2015)

Informants were chosen based on Purposive Sampling technique with criteria Dawanese (*Amanuban*) who are classified as traditional healer or people who ever use medicinal plants. Meanwhile Snowball Sampling is used to develop informants based on key informants because of the researcher's limited knowledge about people who have knowledge about medicinal plants. The number of participants in this research is based on (Sugiyono, 2012)' guideline which states that the feasible number of samplein a research is 30 to 500. There are 40 participants in this research.

The data collection technique used in this study is triangulation in which the researcher used various techniques of data collection to gather data from the same source. The researcher used observation, in depth interview, and documentation.

The steps of observation are used to find out the general condition of research and to find information about the community who has knowledge about medicinal plant as well as asking for their agreement to be the informants. The steps of interview are started with visiting the community who has agreed to be the informants, continued with gathering information about the species of medicinal plants, how to process and how to use the plant. Beside face to face in depth interview, there was also video call interview. The video call interview was conducted because the location of the informants was the red zone of Covid-19. Bahasa Indonesia and Local language (*Uab Meto*) were used in the interview. Local language was used because the informants cannot speak Bahasa Indonesia. The exploration on various species of medicinal plants which are used as medicine is also conducted on this step.

The documentation step was conducted to document the species of medicinal plants in the form of pictures and videos to be identified later. The identification of medicinal plants is conducted by using Leaf snap application, PlantNet application, matching the characteristics to the pictures from references Hidayat and Napitupulu (2015), internet browsing, and orher supported libraries. The reference step was conducted before and after the research to gather information about the species of traditional medicinal plants from various regions, the name of the regions, and how to use them.

The data in this research were analysed using descriptive qualitative analysis technique. The gathered research data were analysed descriptively and tabulated in the form of table. The data gathered from interview were classified based on the species of medicinal plants, the plant parts used as medicine, and the use as traditional medicine.

RESULTS AND DISCUSSION

The Species of Medicinal Plants Used by Amanuban-Dawanese

Based on the result of this research there are 103 species of plants used by Dawanese (*Amanuban*) as traditional medicine. This number is considered many compared to some research in NTT before. However, if it is compared to the species of medicinal plants identified by Kemenkes (2007), this number is considered little. The small number of plants used as traditional medicine is because the minimum knowledge of the community in using various species of the existing plants. Besides that, on Dawanese (*Amanuban*) the knowledge about the use of these medicinal plants is inherited limited on family member. Hence the other people whose parents do not have

knowledge about the use of medicinal plants will not have knowledge about it. Even if the people know, they will not be eager to use them because they do not believe in their efficacy.

There are 103 species of plants used by Dawanese (*Amanuban*) as traditional medicine. In general, we reveal that the use of Dawanese (*Amanuban*) traditional medicines are in maintaining health and immune system, in preventing disease, as replacement or supplemental medicine for modern medicine, and in disease recovery. The species of medicinal plants used as medicine by Dawanese (*Amanuban*) can be seen on Table 1.

Table 1.
The Species of Medicinal Plants Used by Dawanese (*Amanuban*)

No	Indonesia Name	Local Name (Uab Meto)	Scientific Name
1	Alang-Alang	Hu musu	*Imperata cylindrica* (L.) Beauv.
2	Andong	Hau me	*Coryline fruticosa* L.
3	Anggrek	Liboki	*Vanda insignis* Blume ex Lindl.
4	Anggrek Tanah	Sau maninu	*Spathoglottis plicata* Blume
5	Asam	Kiu	*Tamarindus indica* L.
6	Avokad	Atfokat	*Persea americana* Mill
7	Bambu	'O	*Bambusa vulgaris* Schrad. ex J.C.
8	Bandotan	Baikpuah	*Ageratum Conyzoides* L.
9	Bawang Sabrang	Pio fui	*Eleutherine americana* Merr.
10	Bawang Merah	Pio 'me	*Allium cepa* L.
11	Bawang Putih	Pio muti	*Allium sativum* L.
12	Bayam Merah	Kaunome	*Alternanthera amoena* Voss.
13	Beluntas	Masmasi	*Pluchea indica* L.
14	Beringin	Nunuh	*Ficus benjamina* L.
15	Biduri	'To	*Calotropis gigantea* L.
16	Binahong	Haufo	*Anredera cordifolia*
17	Blustru	Batol	*Luffa Cylindrica* L.
18	Bunga Pukul Empat	Tun fuametan	*Mirabilis jalapa* L.
19	Bunga Tongkeng	Nonfule	*Telosma cordata* (Burm.f.) Merr
20	Cendana	Haumeni	*Santalum album* L.
21	Ceremai	Cermele	*Phyllanthus acidus* L.
22	Cincau rambat	Pa'um	*Cyclea barbata* Miers
23	Daun Dewa	Pu'at	*Gynura segetum* (Lour.) Merr
24	Daun Kentut	Non sui	*Paederia foetida* L.
25	Daun Salam	Daun Salam	*Syzygium polyanthum* (Wight) Walp.
26	Delima	Linah	*Punica granatum* L.
27	Dlingo	Kani	*Acorus calamus* L.
28	Faloak	Flolo	*Sterculia comosa* Wallich
29	Gewang	Tune	*Corypha utan*
30	Gletang/ Songolangit	Kuin'ut	*Tridax Procumbens* L.
31	Gulma Kaustik Merah/ Prostrat Spurge	Litlitana	*Chamaesyce prostrata* (Aiton) Small
32	Hahapaan	Non'kotkotos	*Flemingiast strobilifera* L.
33	Inggu (Aruda)	Alul	*Ruta Angustifolia* Pers
34	Jagung	Pena	*Zea mays*
35	Jahe	Naye	*Zingiber officinale* Rosc.

No	Indonesia Name	Local Name (Uab Meto)	Scientific Name
36	Jambu	Koi	*Psidium guajava* L.
37	Jarak Kaliki	Pakukluna	*Jatropha gossypiifolia* L.
38	Jarak Pagar	Pauk bahan	*Jatropha curcas* L.
39	Jeruk Nipis	Muikmasi	*Citrus aurantifolia* (Christm.) Swingle, orth.
40	Johar	Haubesi	*Senna siamea*
41	Kacang Gude (Turis)	Tunis	*Cajanus cajan* L.
42	KacangTunggak Merah	Fua	*Vigna unguicuata* L. Walp
43	Kanna	Uk'uki	*Canna indica* L.
44	Kapas	Abas	*Gossypium hirsutum* L.
45	Kapok Randu	Nek fui	*Ceiba pentandra* (L.) Gaertn.
46	Kecubung	Komkome	*Datura metel* L.
47	Kelapa	Noah	*Cocus nucifera* L.
48	Kelor	Haufo	*Moringa oleifera* Lam.
49	Kemangi	Tonene	*Ocimum tenuiflorum* L.
50	Kembang Sepatu	Sufme	*Hibicus rosa-sinensis* L.
51	Kemiri	Fenu	*Aleurites moluccana* L.
52	Kencur	Sikum	*Kaempferia galanga* L.
53	Kersen	Fua ‘me	*Muntingia calabura* L.
54	Kirinyuh	Sufmuti	*Chromolaena odorata* (L.) King & H.E. Robins
55	Kitolod	Pu tunmuti	*Hippobroma longiflora* (L.) G. Don
56	Krokot	Kleo	*Portulaca orelacea* L.
57	Kulit Pahit	Po menu	*Melicope sp*
58	Kumis Kucing	Kumis Kucing	*Orthosiphon aristatus* (Blume)
59	Kunyit	Huki	*Curcuma longa* L.
60	Kusambi	Usapi	*Schleichera oleosa* (Lour.) Oken
61	Labu Kuning	Bok meto	*Cucurbita moschata* Duchesne
62	Labu Siam (Labu Jepang)	Bokase	*Sechium edule* (Jacq.) Sw.
63	Liana	Lak’laku	*Ipomoea obscura* (L.) Ker Gawl.
64	Lidah Buaya	Lidah Buaya	*Aloe vera* (L.) Burm. f.
65	Lontar	'Noe	*Borassus flabilifer* L.
66	Lumut kerak	Po meto	*Flavoparmelia caperata* (L.) Hale
67	Mahoni	Mahoni	*Swietania mahagoni* (L.) Jacq.
68	Mangga	Upun	*Mangifera Indica* L.
69	Mara	Fionaok	*Macaranga tanarius* (L.) Mull. Arg.
70	Markisa	Markis	*Passiflora edulis* Sims
71	Mengkudu	Bauk ulu	*Morinda citrifolia* L.
72	Meniran	Fuakoti	*Phyllanthus niruri* L.
73	Mentimun	Timun	*Cucumis sativa* L.
74	Murbei Liar	Ba’ molo	*Fatoua villosa* (Thunb.) Nakai
75	Paku	Tnin 'oe	*Athyrium filix-femina* (L.) Roth
76	Pare	Peria	*Momordica charantia*
77	PataTulang	Haunuif	*Euphorbia tirucalli* L.

No	Indonesia Name	Local Name (Uab Meto)	Scientific Name
78	Patikan Kebo	Litlite	*Euphorbia hirta*
79	Pecut Kuda	iukbikase	*Stachytarpheta jamaicensis* (L.) Vahl
80	Pegagan	Naofluke	*Centella asiatica* (L.) Urb.
81	Pepaya	Ukase	*Carica papaya* L.
82	Pilang (Kabesak)	Besa	*Acasia leuchoploea*
83	Pinang	Puah	*Areca catechu* L.
84	Pisang susu	Uik susu	*Musa acuminate* 'Lady Finger'
85	Pisang Tembaga Merah	Uik bose	*Musa acuminate* 'Red Dacca'
86	Pokok Lipan	Haukbiti	*Euphorbia tithymaloides* L.
87	Pulai	Lete	*Alstonia scholaris* R. Br.
88	Sambiloto	Sambiloto	*Andrographis paniculata* (Burm. f.) Wall.
89	Serai wangi	Humuke	*Cymbopogon nardus (L.) Rendle*
90	Sesawi Langit	'Pu nismenas	*Cyanthillium cinereum* (L.) H. Rob.
91	Siri Hutan (Karuk)	U'nono	*Piper sarmentosum* Roxb.Ex Hunter
92	Siri Wangi	Maun mina	*Piper betle*
93	Sirsak	At kase	*Annona muricata* L.
94	Srikaya	Ata	*Annona squamosa* L.
95	Tali Putri	Nono	*Cassytha filiformis* L.
96	Tapak Liman	Betbia	*Elephantopus scaber* L.
97	Tebu Merah	Teuf me	*Saccharum officinarum* 'Red'
98	Tembakau	Sbot	*Nicotiana tabacum* L.
99	Tembelekan	Kopas	*Lantana camara* L.
100	Tempuyung	Bia neka	*Sonchus arvenshis* L.
101	Temu Lawak	Huikmuti	*Curcuma xanthorrhiza* Roxb.
102	Tomat	Kaut	*Solanum lycopersicum* L.
103	Turi Merah	Kaeno me	*Sesbania grandiflora*

Species of medicinal plants used by Dawanese (*Amanuban*) grow wildly on house yard and forest, except species of rare to find plants or the plants used as kitchen ingredients. Besides as traditional medicine, the species of medicinal plants are also used as food material, cosmetics, ingredients, and houseplants. The medicinal plants are easily found except in dry season because many plants die.

Table 2.
The Parts of Plants Used as Traditional Medicine by Dawanese (*Amanuban*)

No	Indonesia Name	Usable Plant Parts	Uses
1	Alang-Alang	Roots	Hair nourishes, anti dandruf, lowering high blood pressure, and curing diabetes.
2	Andong	Roots, leaves	Curing hemorrhoid, curing TBC.
3	Anggrek	Roots	Help stopping blooding during parturition.
4	Anggrek Tanah	Roots	Curing hip pain.
5	Asam	Leaves	Curing roseola infantum.
6	Avokad	Leaves, fruits	Lowering high blood pressure, smoothing face skin, and nourishing hair.
7	Bambu	Bamboo shoot	Curing Koro (shrinking male genitalia).

No	Indonesia Name	Usable Plant Parts	Uses
8	Bandotan	Roots, leaves	Curing dysentery, curing puncture wound caused by sharp things.
9	Bawang Sabrang	Tubers	Curing jaundice on babies.
10	Bawang Merah	Tubers	Curing severe acute asthma, reducing fever on babies, curing cold and cough on babies, curing boils.
11	Bawang Putih	Tubers	Curing acute asthma, curing high blood pressure.
12	Bayam Merah	Leaves	Curing anemia, and smoothening baby delivery.
13	Beluntas	Leaves	Freshen the body and get rit of odor body.
14	Beringin	Bark, Roots	Curing Atheroma (Nonos), Roots banyan for nourishing hair.
15	Biduri	Leaves, Sap	Curing scabies, curing boils.
16	Binahong	Leaves	Increasing blood circulation, increasing body vitality, lowering high bood pressure, curing post-surgery wound.
17	Blustru	Seeds	Poison antidote.
18	Bunga Pukul Empat	Leaves, Fruits	Curing tonsils, curing acnes.
19	Bunga Tongkeng	Trunk	Curing pains on ear hole.
20	Cendana	Trunk	Aromatherapy, curing Koro (shrinking male genitalia).
21	Ceremai	Leaves	To help coughing out sputum.
22	Cincau rambat	Roots	Curing Hematuria and Hematochezia.
23	Daun Dewa	Leaves	Curing boils, Antidote of poisonuous snake's bite, Curing burns.
24	Daun Kentut	Leaves	Curing bloated stomach and dysentery.
25	Daun Salam	Leaves	Lowering high blood pressure.
26	Delima	Fruits, Leaves	Curing diarrhea, curing jaundice and treat wounds on the female genitalia, leucorrhea and itchy, Curing breast cancer.
27	Dlingo	Rhizome	Curing ulceration.
28	Faloak	Bark	Curing hepatitis, improves blood circulation, and health treatment.
29	Gewang	Leaves	Curing worms.
30	Gletang/ Songolangit	Leaves	Curing the puncture wound caused by sharp things.
31	Gulma Kaustik Merah/ Prostrat Spurge	Leaves	Curing itchy with pus in all over the body.
32	Hahapaan	Leaves	Curing rheumatism and refreshing mother's body after parturition.
33	Inggu (Aruda)	Leaves	Reducing fever, curing cough and convulsions on toddler, reducing fever on babies.
34	Jagung	Seeds	Curing dysentery.
35	Jahe	Rhizome	To help coughing out sputum, warming the body.
36	Jambu	buds	Curing diarrhea.
37	Jarak Kaliki	buds	Curing bloated stomach.
38	Jarak Pagar	buds, bark, sap	Curing dysentery, curing toothache pain.
39	Jeruk Nipis	Fruits	Curing nonproductive cough.
40	Johar	Leaves	Curing chikungunya.
41	Kacang Gude (Turis)	Leaves	Curing roseola infantum, curing mumps.
42	Kacang Tunggak Merah	Seeds	Lowering blood sugar.
43	Kanna	Leaves	Curing haemorrhoid.
44	Kapas	Fruits	Curing otitis media.

No	Indonesia Name	Usable Plant Parts	Uses
45	Kapok Randu	bark	Curing Koro (shrinking male genitalia).
46	Kecubung	Leaves	Curing haemorrhoid.
47	Kelapa	Fruits	Curing migrain, curing ulceration, curing sore throat, usable as massage oil.
48	Kelor	Leaves	Curing rheumatism, smoothening menstruation, smoothening baby delivery and Improves blood circulation.
49	Kemangi	Leaves, trunk, flower	Curing waist pain.
50	Kembang Sepatu	Leaves	Curing Hemoptisis, curing burns.
51	Kemiri	Seeds	Curing worms, curing hip pain, curing boils.
52	Kencur	Rhizome	Curing cough and sore throat, curing gastric pains.
53	Kersen	Leaves	Curing diabetes.
54	Kirinyuh	Leaves	Curing puncture wound caused by sharp things.
55	Kitolod	Leaves	Curing puncture wound caused by sharp things.
56	Krokot	Leaves	Curing swelling caused by bee sting.
57	Kulit Pahit	Bark	Curing worms.
58	Kumis Kucing	Leaves	Curing diabetes and high blood pressure.
59	Kunyit	Rhizome	Curing hepatitis, smoothening menstruation, curing puncture wound caused by sharp things, lowering swollen caused by bump.
60	Kusambi	Leaves, Seeds	Curing runny nose on children, curing wound caused by dog's bites and puncture wound caused by sharp things.
61	Labu lilin	Seeds	Curing Ateroma (Nonos), taking out thorn from the body.
62	Labu Siam (Labu Jepang)	Fruits	Lowering high blood pressure.
63	Liana	Leaves	Curing wounds on the female genitalia.
64	Lidah Buaya	Leaves	Curing burns and wound caused by hot water.
65	Lontar	Fruits	Curing Genital Lymphedema (Lumps in the male genitalia).
66	Lumut kerak	All parts	Curing chicken pox.
67	Mahoni	Seeds	Curing malaria.
68	Mangga	Bark	Curing Koro (shrinking male genitalia).
69	Mentimun	Leaves	Lowering high blood pressure.
70	Mara	Leaves	Curing Hematemesis.
71	Markisa	Leaves	Lowering high blood pressure.
72	Mengkudu	Fruits, Leaves	Curing hardened boils.
73	Meniran	Leaves	Curingspots behind earlobes.
74	Murbei Liar	Leaves	Curing scabies.
75	Paku	Leaves	Curing cracked heels.
76	Pare	Leaves	Help coughing out sputum.
77	Pata Tulang	Bark, Sap	Curing mild bone fracture.
78	Patikan Kebo	Leaves	Curing stomachache.
79	Pecut Kuda	Roots	Curing Leucorrhea.

No	Indonesia Name	Usable Plant Parts	Uses
80	Pegagan	Leaves	Curing boils, puncture wound caused by sharp things, the poison antidote of poisonuous snake.
81	Pepaya	Leaves, Bark	Curing gastric ulcer, curing malaria.
82	Pilang (Kabesak)	Bark	the poison antidote of poisonuous snake.
83	Pinang	Fruits	Curing breast cancer.
84	Pisang Susu	Flow	Curing breast cancer.
85	Pisang Tembaga Merah	Fruits	Shedding kidney stones.
86	Pokok Lipan	Sap	Curing pain caused by scorpion's stings.
87	Pulai	Bark	Curing malaria.
88	Sambiloto	Leaves	Curing malaria.
89	Serai wangi	Trunk	Curing swollen body (edema).
90	Sesawi Langit	Roots	Curing toothache pain.
91	Siri Hutan (Karuk)	Fruits	Cleaning the blood remains after parturition.
92	Siri Wangi	Leaves	Curing breast cancer, curing leucorrhea itchy around female area.
93	Sirsak	Leaves	Curing migraine.
94	Srikaya	Bark	Curing gastric ulcer.
95	Tali Putri	All parts	Curing jaundice.
96	Tapak Liman	Roots	Curing hip pain.
97	Tebu Merah	Leaves	Curing gastric ulcer, curing scabies.
98	Tembakau	Leaves	Curing toothache pain.
99	Tembelekan	Leaves	Curing puncture wound caused by sharp things.
100	Tempuyung	Leaves	Shedding kidney stones.
101	Temu Lawak	Rhizome	Curing gastric pains.
102	Tomat	Leaves	Curing scabies.
103	Turi Merah	Leaves	Curing headache, nourishing hair, and care for mothers after parturition.

Data on Table 2 shows the parts of plants used as traditional medicine. Based on Table 2 not all parts are used as medicine only sertain parts such as leaf, fruit, bark, root, rhizome, stem, sap, tubers, flower, bamboo shoots and all parts. The plants are used as medicine depends on the species of plants and the kinds of disease cured. There are several ways done by Dawanese (*Amanuban*) to mix the potion such as: 1) using the same species of plants and the same parts of plants to cure different disease such as red onion (*Allium cepa* L.) is used to cure critical asthma by mashing it, soaking it in warm water, and drinking it while to reduce fever and cure cold on babies, it is used by mashing it and put it on babies forehead; 2) using the same species of plants with different parts of the plant to cure different disease such as leaf and bark of Jatropha plant (*Jatropha curcas* L.) are used to cure diarrhea by boiling them, straining, and drinking the water. Meanwhile the sap is used to cure toothache by dropping it to the ached tooth; 3) using kinds and parts of plants which are mixed together, for example to cure atheroma using the bark of banyan (*Ficus benjamina L*) and the seeds of pumpkin (*Cucurbita moschata* Duchesne); 4) using the kinds and parts of single plant, such as to cure festering ears by using the fruit of cotton plant (*Gossypium hirsutum L*) (See Table 2). The species of plant used by Dawanese (Amanuban) have pharmacology effect which can be explained scientifically. For example Jatropha plant (*Jatrophacurcas* L.) is herbal plant which has antimicroba activities so this plant can be used to cure various species of disease caused by bacteria (Sharma et al., 2010); Subba, & Basnet 2014). It means that this Jatropha plant is not only used as diarrhea and toothache medicine but also other disease caused by bacteria.

The number of plant parts used as medicine can be seen in figura 1.

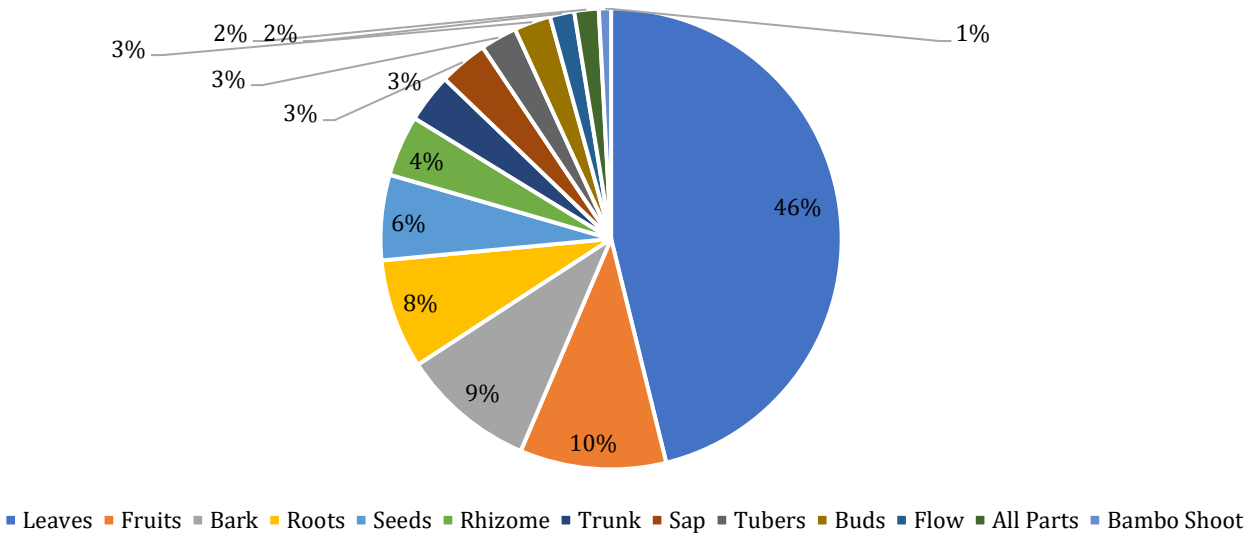

Figure 1. The Parts of Plants Used as Traditional Medicine

Based in Figure 1, the most often used plant part for healing is leaf that is 46% (n=54 plants), and while the most rarely used plant part is bamboo shot that is 1% (n=1 plants). This result supports (Mahmoud & Gairola, 2015) who insist that leaf is the most often used plant part as medicine because leaf is the place for synthecising organic materials, so that the essence that is needed for curing is provided a lot in leaf. Another reason of choosing leaf as the most often used plant part for healing is that leaf is the easiest plant part to find without damaging the plant. Besides that, the use of leaves for medicine has no negative effect on the growth of the plant because leaf can grow again on the bud part of the plant (Zenebe et al., 2012: Henri et al. 2020; Rahayu et al. 2019).

Based on Table 2, there are many species of disease that can be cured using medicinal plants. Of 103 species of plants found in this study, 23 species are classified into the medicine for the group of disease of circulatory disorders, bone fracture, poison antidote, wound healing, diabetes, toothache, heart disease, venereal disease, women specific disease, skin disease, liver disease, malaria, muscle and joint disease, excretory disease, digestion disease, respiration disease, pregnancy and parturition care, hair face, skin care, headache and fever, health care, aromatheraphy, and others. The classification of the species of disease that can be cured using medicinal plants is based on (Zuhud, 2009).

Table 3.
Species of disease and the number of Species used in every Disease group/ The Use

No	Disease Group	Kinds of Disease/Function	The Number of Species
1.	Blood circulatory disorder	3	13
2.	Bone Fracture	1	1
3.	Antidote	4	5
4.	Wound healing	10	17
5.	Diabetes	1	4
6.	Toothache	1	3
7.	Kidney disease	1	2
8.	Sexually transmitted disease	3	5
9.	Women disease	4	6
10.	Skin	8	17
11.	Liver disease	1	2
12.	Malaria	1	4
13.	Muscles and joint disease	3	7
14.	Excretion Tract disease	1	3
15.	Digestive Tract disease	10	20
16.	Respiratory Tract disease	2	3
17.	Pregnancy and birth treatment	3	7
18.	Hair Treatment	2	5
19.	Face and Skin	2	2
20.	Headache and Fever (Cough and Cold)	8	11
21.	Health Treatment	5	6

No	Disease Group	Kinds of Disease/Function	The Number of Species
22.	Aromatheraphy	1	1
23.	Others	9	14
	Total	**84**	**158**

The most curable disease is digestive tract disease which consist of 10 species of disease and can be cured using 20 species of medicine. Next wound healing consists of 10 species of disease and can be cured using 17 species of plants. There are 9 species of other disease cured by Dawanese (Amanuban) using 14 species of medicinal plants consisting of breast cancer, jaundice on babies, jaundice on adults, Ateroma, hemorrhoids, edema, tonsils, stroke and runny nose. The number of plant species used are shown on table 3, different from the number of medicinal plants found in this research because there is species of plant used to treat different disease.

The medicinal plants are mixed by traditional healer of people who have knowledge and experience in healing. The patients usually give rewards to the traditional healer after he gets healed depends on the disease. In the healing process, disease which can be healed consists of mild and severe disease. The time needed for healing one species of disease depends on the severity level of the disease about 1 day to 1 month.

The way to mix the traditional medicine by Dawanese (*Amanuban*) vary depends on the species of plants, the parts of plant used and the species of disease cured. The general way used by Dawanese (*Amanuban*) are by boiling, pounding, soaking, chewing, heating, grilling, roasting, condensing, grating and frying. Meanwhile for the use, the people usually drink, eat, chew, stick, rub, massage, bath, smear, dan drop. In healing the disease, the medicinal plant is used individually or mixed with other species of plants. The way to mix the medicinal plant by the community is different in every region but mostly boiling is the most often way of it (Efremila *et al.*2015).

Of 103 species of plants used by Dawanese (*Amanuban*), 102 species are identified species type level. Meanwhile one plant is identified genus. This species of plant is known by Dawanese (Amanuban) as *po'menu* which means bitter bark. The people name it bitter bark because of the bitterness on the tree bark. This species of plant is used to cure child with worms. The plant's characteristics are similar to *Melicope* which scattered in Indonesia, but more similar to *Melicope latifola* TG.Hartley which is identified in Bali. Based on the species list accepted by Dunia Tanaman Online *Melicope* scattered almost in all parts of Indonesia include small Sunda. The species of *Melicope* which is identified in small Sunda are *Melicope calycina* TG Hartley, *Melicope latifola*TG.Hartley, *Melicope neglecta,* dan *Melicope timorensis* (Fitriyah *et al*. 2021); (Aziz, 2020); (Plant of the Word Online, 2021). So, it is probable that the unidentified plants to species level is one species of genus *Melicope* Small Sunda Island. However further research is important to discover clearer whether the unidentified plant is really *Melicope latifola* TG species. Hartley which has been identified in Bali or other species from genus *Melicope* becomes endemic plant in Timor Island.

CONCLUSION

Based on the result of this study, there are 103 species of plants used by Amanuban Dawanese as traditional medicine. Of the used 103 species of plants, 102 species can be identified until type level meanwhile one species can only be identified to genus level. Of the 103 species of plants, 84 species are used to cure 23 groups that is blood circulation distraction, bone fracture, poison antidote, wound healing, diabetes, toothache, heart disease, venereal disease, women specific disease, skin disease, liver disease, malaria, muscle and joint disease, excretory disease, digestion disease, respiration disease, pregnancy and parturition care, hair face, and skin care, headache and fever, health care, aromatheraphy, and other. In this study, the most often used plant part for healing is leaf that is 46% (n=54 plants) species of plant and while the most rarely used plant part is bamboo shot that is 1% (n=1) plants. The way to mix the traditional medicine by Dawanese (Amanuban) vary depends on the species of plants, the parts of plant used, and the species of disease cured. The general way used by Dawanese (*Amanuban*) are by boiling. Knowledge of medicinal plants by the Dawan Amanuban tribe is verbal and limited to family members only, therefore it is necessary to disseminate information to the public as an effort to preserve the culture of the Dawanese (*Amanuban*) local community. Therefore, it is necessary to further identify of Kulit Pahit (*Melicope sp*.) plants that have not been identified to the species level.

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