

MEDICINAL PLANTS USED IN THREE SELECTED DISTRICT SECRETARIAT DIVISIONS IN THE AMPARA DISTRICT, SRI LANKA, AND SITES OF COLLECTION

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ABSTRACT

With the long term objective of conserving medicinal plants, a survey was carried out in three selected District Secretariat Divisions in the Ampara District of Sri Lanka. All the 45 registered herbal practitioners were interviewed by administering a questionnaire to inventor the medicinal plants used, methods of obtaining and to identify any important sites of medicinal plants in the area. Eighty percent of them are general practitioners and 84% of them provide their own formulations. Only 50% of them cultivate at least part of their requirement and the major problem is lack of land or water or both and also lack of knowledge of propagation. Seventy five percent obtain at least part of their plant requirements from wild mostly from open lands and small forest patches in the vicinity and very few from protected areas in and around the district. Plants were identified using literature since none of the doctors provided specimens for systematic identification. Out of the 239 vernacular names provided 34 were not found in any of the literature used for identification, 19 were synonyms and 186 species belonging to 68 families were identified. The plant needs of the practitioners are very specific i.e. 70 species had a single user (not the same person) and 28 species only 2 users, indicating the use of different plant species for same treatment by different practitioners. Urbanization, overexploitation and cattle grazing could be possible threats on plant availability in the surrounding environments. Measures to provide their plant requirements would prevent them from exploiting natural habitats in future.

Key words: Medicinal plants, Ampara district

INTRODUCTION

Seventyfive percent of the world's population (Simpson and Ogorzaly, 1995) and more than 20% of the Sri Lankan population depend upon the traditional herbal systems of medicine (Sumithraarachchi, 1991). Medicinal plants are a local heritage with global importance. Even with the sophisticated methods of modern biotechnology, like drug design and genetic engineering, the biodiversity of nature herself is still the best source of therapeutics since she is still the best drug designer (Comer and Debus, 1996). The use of synthetic chemicals in many cases produces allergies and side effects which decrease either their effectiveness or their credibility (Adjanohoun, 1996). Plant-derived drugs offer an interesting potential as resources for local industry and a substitute for costly pharmaceutical imports particularly in developing countries (Sasson, 1996). Presently these are becoming popular throughout the developed world as people strive to stay healthy in the face of chronic stress and pollution and to treat illness with medicines that work in concert with the body's own defenses (Prajapat et al, 2003).

The market and public demand has been so great that there is a great risk that many medicinal plants today,

face either extinction or loss of genetic diversity (Hoareau and DaSilva, 1999). Reasons for unsustainable levels of harvesting include open access in the wild, lack of sufficient data on wild plant populations, marketing, trading, inadequate regulations and poor access to appropriate technology for sound harvesting and plantation development (Prajapat et al, 2003). Traditional medicine is in practice in the Ampara district for a long time and is becoming popular. This district and around are rich of different natural vegetations which may harbour a large number of medicinal plants. The practitioners may have their specific prescriptions and thus may be using specific plants. They may be accessing natural vegetations in the district and outside to obtain their plant needs. Deforestation, changes in land use, the war situation prevailed during the last two and half decade all may have causing hardships for the practitioners in collecting their plant needs.

The aims of this study were to inventor medicinal plants of three selected DS Divisions in the Ampara district, to study the ways of obtaining their medicinal

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plant requirements and to identify any important sites of medicinal plants with the long term objective of sustainable utilization and management of medicinal plants and natural vegetations.

MATERIALS AND METHODS

Three District Secretariat Divisions namely Sammanthurai, Sainthamaruthu, and Karaitheevu of the Ampara district were selected as the initial study area. All 45 registered herbal practitioners in the area were interviewed with a structured questionnaire. Most of them are general practitioners and only few of them practice in special fields (Table 1). Plant identification was limited to a literature study using checklists of W.M. Bandaranyake et al. (1974) and Senaratna (2001) (a latest checklist of flowering plants of Sri Lanka, based primarily on the Revised Handbook to the Flora of Ceylon, vol. I-XIV) and a flora on medicinal plants (Jayaweera, 1981) since none of the practitioners provided specimens.

Table 1: Details of herbal practitioners surveyed

Disease treated	Number of practitioners	Percentage (%)
General	36	80
Snake Bite	04	8.9
Fractures	04	8.9
Others	01	2.2
Total	45	100

RESULTS

Most of the practitioners administer medicines which are prepared by them selves (Table 2).

Table 2: Methods of treatment employed by the practitioners.

Treatment method	Number of practitioners	Percentage (%)
Prescribing ready made medicine	07	15.6
Give prepared medicine	38	84.4
Instructing patient to prepare medicine	09	20.0

A total of 239 vernacular names were provided by the practitioners. Thirty four vernacular names (Tamil) provided by them were not found in any of the literature used for identification. The list of 186 species belong to 68 families identified according to the literature is given in Annexure 1. The plant needs of the practitioners are very specific.

Only 19 species out of the 220 are used by more than 15 practitioners and surprisingly 70 species have only a single user (Table 3). In other words, different practitioners use different plant species apparently for treatment of the same sickness.

Table 3: Usage of Plants

Number of users	Number of plant species
01	70
02	28
03 – 05	59
06 – 10	32
11 – 15	12
>15	19
Total	220

Table 4: Difficulties in plant collection

Problems	Number of practitioners	Percentage (%)
Identification	06	13.3
Not available in the village	18	40.0
Not available in the region	26	57.8
Not available in the market	0.74 ^b	1.11 ^a

Almost 60% of the practitioners face difficulties in finding some of their plant requirements not available in the region (Table 4). Seventy five percent of the practitioners for common plants and almost 50% percent for rare plants depend on the market. Still, a majority of practitioners also access forests for collection of both rare as well as common plants (Table 5).

The sites of collection too are diverse and 36 of these are in close proximity to the study area most of which are vegetations close to villages and thus the locations could be disturbed forests, home gardens or abandoned paddy lands.

Table 5: Places of medicinal plant collection.

Places	Common species		Rare species	
	Number of practitioners	Percentage (%)	Number of practitioners	Percentage (%)
Forest	34	75.6	29	64.4
Home Garden	22	48.9	13	28.9
Market	34	75.6	21	46.7
Other Places	04	8.9	03	6.7

Only 11 sites are forests at distant destinations (more than 50 km away from the study area). However, the number of practitioners accessing each forest site is very few only 1 or 2. Eight sites in close proximity are visited by about 7 to 12 practitioners (Annexure 2).

DISCUSSION

Nineteen of the vernacular names were synonyms and thus the total number of different plants they use is about 220. Although some of the unreported vernacular names could be synonyms of already reported plants there is a great possibility of at least some of these to be medicinal plants which are not recorded so far. Further study on this is underway.

Most of the physicians are general practitioners and probably would be treating mostly common ailments. A majority use their own formulations for treatment (Table 2). However, high specificity in plant usage indicates that the species combination they use for a same ailment may be different and thus the efficacy could be different. If this can be investigated properly there is the possibility of identifying few, effective, commonly available plant species for a particular ailment. This would help to reduce to a great extent the burden on rare genetic resources. Further studies on these are needed and the great difficulty here is the non-cooperation of the practitioners in providing information and hence educating them too is important.

Fifty percent of practitioners collect plants for more than their requirements could be on commercial scale and about 20% collect plants in excess for future use. About 60% of practitioners depend on others to collect at least part of their plant needs, 13% face difficulty in identifying plants (data not shown) and about 20% of practitioners instruct their patients to prepare medicine (Table 2). These factors may lead to misidentification of plants which may lead to destruction of other valuable and rare genetic resources and also lose the efficacy of prescribed medicine. They may extract whole plants instead of only the necessary part for treatment. These could lead to a threat on biodiversity particularly in the case of rare plants because it reduces the opportunities of that plant reaching propagation stage.

Cultivated plants are considered qualitatively inferior when compared with wild gathered specimens. Active ingredient levels can be much lower in fast growing cultivated stocks, whereas wild populations can have

higher levels of active ingredients due to slow growth rates (Schippmann et al., 2002). Lack of land, water and knowledge of propagation are problems practitioners face in cultivation of medicinal plants. Still 50% cultivate at least part of their requirements (data not shown). A majority depend on the market (Table 5). These indicate that practitioners are not concerned about the origin of plants i.e. wild or cultivated. Thus if a mechanism to cultivate and make available the plants which in the practitioners view are rare, would prevent them from accessing natural vegetation for collection. However, cultivation of medicinal plants can also have conservation impacts, for example, it can reduce the extent to which wild populations are harvested, but it also may lead to environmental degradation and loss of genetic diversity as well as loss of incentives to conserve wild population (Anon, 2002). Thus awareness raising should be a major component of any conservation or management measure.

Most of the vegetations visited by practitioners may also be accessed by villages for their various needs and thus could pose a threat on medicinal plants available there. The 7 sites visited by many practitioners could be comparatively rich in medicinal plants. A proper study of these sites could lead to identification of one or two medicinal plant rich locations which can be set aside for in-situ conservation or to develop as herbal gardens. This would also help to reduce some negative conservation impacts discussed above. Many species may be difficult to cultivate because of certain biological features or ecological requirements (slow growth rate, special soil requirements, low germination rates, susceptibility to pest, etc.) (Schippmann et al., 2002). However, the knowledge on cultivation and propagation techniques used by the practitioners who already cultivate can be utilized and shared in this regard.

Since the number of practitioners accessing each site is very few, the impact of collection could be very low. However, since the quantities collected are not known, it is not possible to conclude about the impact. Habitat alteration and specificity, narrow range of distribution, overstocking and over-grazing by domestic animals are some of the threats endangering the existing populations of medicinal plants (Dhyani and Kala, 2005). Habitat alteration due to the security situation and various development activities and over-grazing due to the practice of open grazing of cattle in this

region could be two possible major threats for the survival of at least some medicinal plants.

CONCLUSION

As at present the collection of plants by the practitioners in the study area for their treatment does not seem to pose a threat on natural vegetation in and around the district. Awareness raising among practitioners and a mechanism to cultivate and provide the plants which in the practitioners view are rare, would prevent them from accessing natural vegetation for collection. A further study on the 7 sites accessed by many practitioners could lead to identification of one or two medicinal plant rich sites to be used for conservation measures.

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Annexure 1
The list of medicinal plants used by the practitioners

Plant	Family	Tamilname
01 <i>Abarema bigemina</i>	Fabaceae	Karunai
02 <i>Abrus precatorius</i>	Fabaceae	Singili
03 <i>Allium sativum</i>	Alliaceae	Vellaipoodu
04 <i>Abutilon indicum</i>	Malvaceae	Thuthi,
05 <i>Acalypha indica</i>	Euphorbiaceae	Kuppaimeni
06 <i>Achyranthes aspera</i>	Amaranthaceae	Naayuruvi
07 <i>Acorus calamus</i>	Acoraceae	Vesambu/Vasambu
08 <i>Justicia adhatoda</i>	Acanthaceae	Adhat odai
09 <i>Aegle marmelos</i>	Rutaceae	Vilvan
10 <i>Aerva lanata</i>	Amaranthaceae	Thenkaipoo keerai
11 <i>Alangium salviifolium</i>	Alangiaceae	Aninjil
12 <i>Allium cepa</i>	Alliaceae	Vengayam
13 <i>Aloe vera</i>	Aloaceae	Kattalai/ Kariyapavalam
14 <i>Alternanthera sessilis</i>	Amaranthaceae	Ponnankani
15 <i>Justicia gendarussa</i>	Acanthaceae	Karunochchi
16 <i>Ammania baccifera</i>	Lythraceae	Neer mel neruppu
17 <i>Anisochilus carnosus</i>	Lamiaceae	Katpooravalli
18 <i>Anisomeles indica</i>	Lamiaceae	Peymeratti
19 <i>Areca catechu</i>	Arecaceae	Paakku
20 <i>Aristolochia bracteolata</i>	Aristolochiaceae	Aaduthinna palai
21 <i>Aristolochia indica</i>	Aristolochiaceae	Perumarunthu
22 <i>Asparagus racemosus</i>	Asparagaceae	Saathavary
23 <i>Hygrophila schulli</i>	Acanthaceae	Nirmulli
24 <i>Atalantia monophylla</i>	Rutaceae	Perunkurunthu
25 <i>Azadirachta indica</i>	Meliaceae	Vembu
26 <i>Azima tetracantha</i>	Salvadoraceae	Isanku
27 <i>Bambusa bambos</i>	Poaceae	Moongil
28 <i>Benincasa hispida</i>	Cucurbitaceae	Puchini
29 <i>Scyphostachys hispida</i>	Rubiaceae	Nattaichchuri
30 <i>Brassica juncea</i>	Brassicaceae	Kaduku
31 <i>Caesalpinia pulcherrima</i>	Fabaceae	Mayil kondrai
32 <i>Calotropis gigantea</i>	Asclepiadaceae	Erukkilai/Erukkalai
34 <i>Cannabis sativa</i>	Cannabaceae	Kanja
35 <i>Capparis zeylanica</i>	Capparaceae	Kaathod di
36 <i>Capparis horrida</i>	Capparaceae	Athandai
37 <i>Capparis rotundifolia</i>	Capparaceae	Peechuvilathi
38 <i>Cardiospermum halicacabum</i>	Sapindaceae	Mudakka than
39 <i>Cassia fistula</i>	Fabaceae	Thirukkonrai/ Konrai
40 <i>Cassia siamea</i>	Fabaceae	Manjal vaahai
41 <i>Cassia sophera</i>	Fabaceae	Ponnavarai, Takarai
42 <i>Centella asiatica</i>	Apiaceae	Vallarai
43 <i>Cinnamomum verum</i>	Lauraceae	Karuwa/Ilavangam
44 <i>Cipadessa baccifera</i>	Meliaceae	Natcheeraham
45 <i>Cissus quadrangularis</i>	Vitaceae	Pirandai
46 <i>Citrus aurantifolia</i>	Rutaceae	Elumichchai

47	<i>Citrus aurantium</i>	Rutaceae	Pulithodai
48	<i>Clausena indica</i>	Rutaceae	Pannai
49	<i>Clerodendrum infortunatum</i>	Verbenaceae	Vellaikanni
50	<i>Clerodendrum phlomidis</i>	Verbenaceae	Vaathamadakki
51	<i>Clitoria ternatae</i>	Fabaceae	Karasani/Kakkanan
52	<i>Coccinia grandis</i>	Cucurbitaceae	Kovaiyilai
53	<i>Cocos nucifera</i>	Arecaceae	Thennai
54	<i>Coldenia procumbens</i>	Boraginaceae	Seruppadi
55	<i>Combretum albidum</i>	Combretaceae	Uluva
56	<i>Coriandrum sativam</i>	Apiaceae	Kottha malli
57	<i>Coscinium fenestratum</i>	Menispermaceae	Maramanjai
58	<i>Crateva adansonii</i>	Capparaceae	Navilankai
59	<i>Ctenolepis garcinii</i>	Cucurbitaceae	Musumusukkai
60	<i>Curculigo orchioides</i>	Hypoxidaceae	Nilappannai
61	<i>Curculigo orchioides</i>	Hypoxidaceae	Wolappanai
62	<i>Cucurbita maxima</i>	Cucurbitaceae	Poosani ?
63	<i>Curcuma domestica</i>	Zingiberaceae	Pachaimanjai
64	<i>Curcuma longa</i>	Zingiberaceae	Manjai
65	<i>Cynodon dactylon</i>	Poaceae	Aruhampul
66	<i>Cyperus rotundus</i>	Cyperaceae	Korai
67	<i>Dalbergia latifolia</i>	Fabaceae	Itthi
68	<i>Datura metel</i>	Solanaceae	Oomathai
69	<i>Brugmansia candida</i>	Solanaceae	Umattai
70	<i>Brugmansia suaveolens</i>	Solanaceae	Umattai
71	<i>Delonix elata</i>	Fabaceae	Vaathanarayanan
72	<i>Desmodium triflorum</i>	Fabaceae	Sirupulladi
73	<i>Dioscorea esculenta</i>	Dioscoreaceae	Siruvila/Siruvalli
74	<i>Dioscorea alata</i>	Dioscoreaceae	Kodivallai
75	<i>Diospyros thwaitesii</i>	Ebenaceae	Thumbai
76	<i>Echinochloa crusgalli</i>	Poaceae	Thaharai
77	<i>Eclipta prostrata</i>	Asteraceae	Karisalankanni
78	<i>Elaeocarpus tuberculatus</i>	Elaeocarpaceae	Mullmurungai
79	<i>Elettaria cardamomum</i>	Zingiberaceae	Elam
80	<i>Eleusine coracana</i>	Poaceae	Kurakkan
81	<i>Enicostema verticillare</i>	Gentianaceae	Vellaruku
82	<i>Enicostema axillare</i>	Gentianaceae	Vellakuru
83	<i>Erythrina lithosperma</i>	Fabaceae	Murungai
84	<i>Euphorbia hirta</i>	Euphorbiaceae	Amman pachcharisi
85	<i>Euphorbia tortilis</i>	Euphorbiaceae	Thiruhukalli
6	<i>Feronia limonia</i>	Rutaceae	Nilavilaa
87	<i>Ferula assa-foetida</i>	Apiaceae	Perunkayam
88	<i>Foeniculum vulgare</i>	Apiaceae	Perungiraham
89	<i>Ficus benghalensis</i>	Moraceae	Aalamaram
90	<i>Ficus racemosa</i>	Moraceae	Atthi
91	<i>Glycyrrhiza glabra</i>	Fabaceae	Athimathuram
92	<i>Gymnema sylvestre</i>	Asclepiadaceae	Sirukurunja
93	<i>Cleome gynandra</i>	Capparaceae	Thayirvalai
94	<i>Hemidesmus indicus</i>	Periplocaceae	Nannaari

95	<i>Hibiscus micranthus</i>	Malvaceae	Perumatti
96	<i>Hibiscus rosa-sinensis</i>	Malvaceae	Semparuthi
97	<i>Indigofera tinctoria</i>	Fabaceae	Neelavari/Neelam/Avuri
98	<i>Jasminum revolutum</i>	Oleaceae	Samenpitchu
99	<i>Jasminum sambac</i>	Oleaceae	Mallihai
100	<i>Kaempferia galangal</i>	Zingiberaceae	Arathai
101	<i>Laportea crenulata</i>	Urticaceae	Sivanar vembu
102	<i>Lasia spinosa</i>	Araceae	Kohila
103	<i>Lawsonia inermis</i>	Lythraceae	Maruthontri
104	<i>Leptadenia reticulata</i>	Asclepiadaceae	Pala
105	<i>Leucas marrubioides</i>	Lamiaceae	Paalkodi
106	<i>Limonia acidissima</i>	Rutaceae	Vila
107	<i>Litsea glutinosa</i>	Lauraceae	Elumburukki
108	<i>Madhuca longifolia</i>	Sapotaceae	Illuppai
109	<i>Mangifera indica</i>	Anacardiaceae	Ma
110	<i>Manilkara hexandra</i>	Sapotaceae	Paalai
111	<i>Melia azedarach</i>	Meliaceae	Malaivembu
112	<i>Mentha javanica</i>	Lamiaceae	Puthinaa
113	<i>Mesua ferrea</i>	Clusiaceae	Naahai
114	<i>Millingtonia hortensis</i>	Bignoniaceae	Panneerpoo
115	<i>Mimosa pudica</i>	Fabaceae	Thoda surukki
116	<i>Momordica charantia</i>	Cucurbitaceae	Paahal
117	<i>Moringa oleifera</i>	Moringaceae	Murungai
118	<i>Munronia pinnata</i>	Meliaceae	Nilavembu
119	<i>Andrographis paniculata</i>	Acanthaceae	Nilavembu
120	<i>Murraya koenigii</i>	Rutaceae	Karyveppilai
121	<i>Musa sapientum</i>	Musaceae	Vaalai
122	<i>Myristica fragrans</i>	Myristicaceae	Saadikkai
123	<i>Nelumbo nucifera</i>	Nelumbonaceae	Thamarai
124	<i>Nigella sativa</i>	Ranunculaceae	Karunseeraham
125	<i>Nyctanthes arbo-tristis</i>	Nyctanthaceae	Thirai
126	<i>Ocimum basilicum</i>	Lamiaceae	Thulasi/Tirunutpachi
127	<i>Mollugo cerviana</i>	Molluginaceae	Padpadaham
128	<i>Oldenlandia umbellata</i>	Rubiaceae	Sayaver/Impooral
129	<i>Pandanus odoratissimus</i>	Pandanaceae	Thalai
130	<i>Papaver somniferum</i>	Papaveraceae	Abin
131	<i>Paramignya monophylla</i>	Rutaceae	Kaatelumichai
132	<i>Pavetta indica</i>	Rubiaceae	Pavattei
133	<i>Pavonia odorata</i>	Malvaceae	Peraamutti
134	<i>Pergularia daemia</i>	Asclepiadaceae	Vealipparuthi
135	<i>Vigna aconitifolia</i>	Fabaceae	Kollu
136	<i>Phyla nodiflora</i>	Verbenaceae	Poduthalai
137	<i>Phyllanthus reticulatus</i>	Euphorbiaceae	Neerpoola
138	<i>Phyllanthus debilis</i>	Euphorbiaceae	Kulkainelli
139	<i>Phyllanthus emblica</i>	Euphorbiaceae	Neli
140	<i>Piper betle</i>	Piperaceae	Vettilai
141	<i>Piper cub</i>	Piperaceae	Vaalmilahu
142	<i>Piper longum</i>	Piperaceae	Thippili

143	<i>Piper nigrum</i>	Piperaceae	Milahu
144	<i>Plumbago indica</i>	Plumbaginaceae	Senkodiveli
145	<i>Pongamia pinnata</i>	Fabaceae	Pungai
146	<i>Portulaca oleracea</i>	Portulacaceae	Pulichalkeerai
147	<i>Psidium guajava</i>	Myrtaceae	Koyya
148	<i>Pterocarpus marsupium</i>	Fabaceae	Uthirivaangi
149	<i>Pterocarpus santalinus</i>	Fabaceae	Sensan thanam
150	<i>Punica granatum</i>	Punicaceae	Maathulai
151	<i>Quercus Lucitanica</i>	Fagaceae	Machakkai
152	<i>Rhizophora apiculata</i>	Rhizophoraceae	Kandal
153	<i>Ricinus communis</i>	Euphorbiaceae	Aamanakku
154	<i>Ruta chalepensis</i>	Rutaceae	Paambukkalai
155	<i>Salacia reticulata</i>	Hippocrateaceae	Kothithalahimpattu
156	<i>Salmalia malabarica</i>	Bombacaceae	Parutthi/Pirami
157	<i>Samanea saman</i>	Fabaceae	Inal vahai
158	<i>Santalum album</i>	Santalaceae	Santhanam
159	<i>Sesamum indicum</i>	Pedaliaceae	Ellu
160	<i>Sesbania grandiflora</i>	Fabaceae	Ahathi
161	<i>Sida rhombifolia</i>	Malvaceae	Sithamatti
162	<i>Solanum virginianum</i>	Solanaceae	Kandankathari
163	<i>Solanum trilobatum</i>	Solanaceae	Thoothuvalai
164	<i>Solanum melongena</i>	Solanaceae	Vattu
165	<i>Syzygium aromaticum</i>	Myrtaceae	Karambu
166	<i>Syzygium cumini</i>	Myrtaceae	Naval
167	<i>Tamarindus indica</i>	Fabaceae	Puli
168	<i>Terminalia bellirica</i>	Combretaceae	Thandikkai
169	<i>Tephrosia purpurea</i>	Fabaceae	Kaavilai
170	<i>Terminalia chebula</i>	Combretaceae	Kadukkai
171	<i>Theobroma cacao</i>	Sterculiaceae	Cocco
172	<i>Thespesia populnea</i>	Malvaceae	Poo varasu
173	<i>Toddalia asiatica</i>	Rutaceae	Kaandai
174	<i>Trachyspermum wightianum</i>	Apiaceae	Omam
175	<i>Trianthema decandra</i>	Aizoaceae	Vellai charanai
176	<i>Tribulus terrestris</i>	Zygophyllaceae	Nerunji
177	<i>Trichosanthes cucumerina</i>	Cucurbitaceae	Paeypudel
178	<i>Vernonia cinerea</i>	Asteraceae	Seetheviyar
179	<i>Vernonia zeylanica</i>	Asteraceae	Kuppulan
180	<i>Vetiveria zizanioides</i>	Poaceae	Vettiver
181	<i>Vitex trifolia</i>	Verbenaceae	Nochi
182	<i>Vitis vinifera.</i>	Vitaceae	Maduram
183	<i>Wattakaka volubilis</i>	Asclepiadaceae	Kurunja
184	<i>Withania somnifera</i>	Solanaceae	Amukkara
185	<i>Zingiber officinale</i>	Zingiberaceae	Inji
186	<i>Ziziphus mauritiana</i>	Rhamnaceae	Kondai

Annexure 2
The list of medicinal plants used by the practitioners

	Sites	Number of doctors access
1	Addalac henei	02
2	Addapalam	06
3	Akkaraipathu	01
4	Ampalanthurai	01
5	Ampara	02
6	Bibila	02
7	Coastal Area	02
8	Dadayantha lawa	01
9	Erakkamam	07
10	Gommanthurai	03
11	Hingurakgoda	02
12	Hosplital Chena	02
13	Igniyagala	01
14	Karaitheevu	02
15	Kokkadichollai	01
16	Kondaiwadan	08
17	Kumana	01
18	Lahugala	02
19	Mahiyangan a	01
20	Majeedpuram	02
21	Malgampiti	04
22	Malwethai	05
23	Mandoor	04
24	Mawadipalli	02
25	Monaraga la	01
26	Nainakadu	12
27	Natpatimunai	01
28	Nindavur	01
29	Oluvil	08
30	Panama	01
31	Polonnaruwa	02
32	Ponnanveli	02
33	Pothuvil	02
34	Sambumadu	01
35	Sammanthurai	03
36	Sinnaviharai	03
37	Somawathiya	01
38	Sorikalmunai	07
39	Thandi yadi	03
40	Thirai odai	02
41	Thiraikkeni	09
42	Uhana	05
43	Uhandandai	01
44	Visarai	02
45	Walathappiti	09
46	Weeragoda	12
47	Weeramunai	01