Wild Medicinal Plants in the Hill of Manipur, India: A traditional therapeutic potential.

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Abstract- The present study revealed that a total of 100 wild medicinal plants belongs to 41 families had been collected in which 63 plants are aromatic and 37 plants are non-aromatic. In aromatic, family Zingiberaceae recorded highest plant species (13) whereas in non-aromatic, family Asteraceae shown maximum plant species (7). Out of the total medicinal plants, 20% of plants are used for treatment of diabetics, blood pressure and piles, 21% for rheumatism and gout, 9% for asthma, 6% for stone case, 2% for cancer, 16 % for cosmetics(hair lotion) and 26% for others. Some important medicinal plants which are used by the local peoples are *Zingiber cassumunar, Paederia foetida, Polygonum perfoliatum, Melothria purpusilla, Clerodendrum siphonanthes ,Clerodendrum viscosum, Sida rhombifolia, Hiptage benghalensis,. Litsea cubeba, Schefflera venulosa, Zanthoxylum rhesta, Curcuma amada, Curcuma caesia, Kaempferia rotunda, Hedychium marginatum.* However, *Litsea cubeba, Curcuma amada, Curcuma caesia, Kaempferia rotunda and Hedychium marginatum* are critically endangered. Living in the far interior hill environment where no immediate modern medical facilities depends mainly on plants to cure of all diseases. The increase exploitation of various indigenous wild plants by human activities arise the need for the conservation of natural bioresources at present for future generation .

Index Terms- Medicinal plants, Conservation, Endangered, Sadar hill.

I. INTRODUCTION

Manipur is widely rich in biodiversity belonging to different climatic conditions varying from tropical, subtropical, and temperate zones which covers the major occurrence of medicinal plants. Medicine and Aromatic Plants (MAPs) and their derivatives are used for prevention as well as curing of human health problems (diseases and disorders) since time immemorial and there is global resurgence now in use of plant based drugs where modern drugs are either unavailable, unaffordable or unsatisfactory (Marshall,2011). The medicinal value of the drug plants are due to the presence of specific chemical substances like alkaloids, glucosides, resins, gums, tannins, essential and fatty oils etc. The main constituents of essential oils are mono and sesquiterpenes including carbohydrates, phenols, aldehydes, alcohols, ether and ketones are responsible both for the fragrance and for the biological activity of aromatic and medicinal plants (Kalemba and Kunika,2003). Most of the medicinal plants used by the herbal or pharmaceutical industry are collected from wild habitat. Manipur has rich heritage and long history on use of medicinal and aromatic plants (MAP) as medicine, cosmetics, health hygiene, toiletries, fragrance and food supplements in improving the quality of life. However, increasing demand on plants and human exploitation become a great threatening in their indigenous habitation. Medicinal plants in relation to their unutilized and conservation resource have been conducted in different parts of the world (Joy *et al.*, 2001); (Lyle, 2007); (Shankar *et al.*, 2010). Many western explorers (Clarke, 1989; Kaith, 1936) were attracted by the rich flora of the state. Some of the noteworthy account of the floristic study of Manipur had been given out by Mukherjee (1953), Deb (1961 a & b), Jain and Shukla (1979) and Phukan (1999).

In Manipur, medicinal plants are associated with folk traditions and many local physicians (Maiba or Amaiba) depend on the medicinal plants for the treatment of disease . Still, about 1200 medicinal plants are used by practitioner in traditional herbal home remedies (Tombiraj 2011). Jain et. al, 2007 also reported that over 90% of villagers consult with traditional healers before attending healthcare centers. Many workers Jain et.al, 2007; Singh, 2011; Debala et. al, 2014; Leisangthem and Sharma, 2014 had studied medicinal plants of Manipur. However, the study of medicinal plants in hill districts is limited. Therefore the present study focus on identification and conservation of wild medicinal and aromatic plants.

II. METHODOLOGY

The present study was carried out at Sadar hill, Senapati district, Manipur and it falls at 23^0 47' to 25^0 41' N Latitude and 93^0 61' to 94^0 48' E Longitude at an altitude varying from 1061 m to 1788 m above sea level. The climate of the study site is monsoonal.

The detailed survey was conducted at different sites from January 2014 to December 2014. Survey is based on information collected from different persons like elderly men and women, herbalists, and traditional healers through discussions concerning the indigenous or traditional healing technique from medicinal wild plants. Information and voucher specimens including medicinal uses, procedure, composition, does etc. were recorded following standard field and ethno botanical methods (Jain and Rao ,1977). Collected specimens were identified with the help of experts and books such as Sinha, 1996; Singh *et al.*, 2003 and Lal and Singh, 2009.

TABLE 1: Wild medicinal plants

A. Aromatic plants

Sl. No.	Botanical Name	Common Name & Local Name	Family	Flowering & Fruiting	Parts Used	Medicinal Uses
1	*Aquilaria agalocha* Roxb.	Eagle-wood & Agor	Rutaceae	May-Aug	Leaves, wood	tonic, carminative and stimulant
2	*Artemisia indica* Linn.	Worm seed & Laibakngou-nakuppi	Asteraceae	Sept-Feb	Whole plant	Stomach pain, anti-septic
3	*Artemisia nilagirica* (Clarke) Pamp. Roxb.	Indian worm wood fleavane & Laibakngou	Asteraceae	Oct-Feb	Whole plant	Tonic, anti-septic ,insect repellant
4	*Acorus calamus Linn*.	Sweet flag & Oak-hidak	Araceae	Non-flowering	Leaves, root, rhizome	Cough, fever, itching
5	*Ageratum conyzoides* Linn.	Goat weed & Khong-jai-napi	Asteraceae	Oct-July	Leaves	Hair care lotion, cough, colic, wound, gastro-intestinal diseases
6	*Alpina nigra* (Retz.) Rosc.	Shell ginger & Pullei	Zingiberacea e	May-July	Rhizome, leaves, inflorescenc e	Gout, colicpain, rheumatism, sex diseases
7	*Alpina galanga* Wild.	Greater galangal & Kanghoo	Zingiberacea e	May-June	Rhizome, inflorescenc e	Gout, colicpain, rheumatism, stimulant, carminative
8	*Amomum dealbatum* Roxb.	Bengal cardamom & Namara	Zingiberacea e	April-Aug	Rhizome, inflorescenc e	High B.P, constipation, stomachic, stimulant
9	*Acacia catechu* (L.F) Wild	Babul bark & Ching-gonglei	Mimosaceae	Oct-Feb	Seed, tender, pod	Ringworms, gout, muscular pain, cough, fever, piles, astringent
10	*Artocarpus lakoocha* Wall.	Monkey jack tree & Hari-kokthong	Moraceae	July-Aug	Fruit, leaves	Constipation, fever, skin diseases, tonic, heart diseases
11	Aegle marmetos (L). Correa	Indian bael & Hei-khagok	Rutaceae	March-June	Fruit, leaves	Diabetes, stomachulcer, dyspepsia, dysentery
12	*Artabotrys hexapetalus* (L.F.)	Tai grape & Chini-champra	Amonacea	April-May	Inflorescenc e, leaves	Insect repellent, cholera, perfume
13	*Ardisia crenata* Sims.	Coralberry & U-thum	Myrsinaceae	March-June	Leaves	Diabetes, urinary disorder, cough, diarrhoea
14	*Betula cylindrostachys* Gamble	Flame of the forest & Pareng	Betulaceae	March - June	Bark, small branches	Tonic, astringent
15	*Blumeopsis flava* (D. Don) Merr.	Maiden-hair fern & Haochak	Asteraceae	Oct-Feb	Whole plant	Cold, cough, bronchial congestion, skin diseases
16	*Clerodendrum serraturn* (L.) Moon.	Bharmgt & Moirang-khanambi	Lamiaceae	July-Sept	Leaves, inflorescenc e root	Cold, cough, rheumatism, dyspepsia, asthma
17	*Curcuma amada* Rosc.	Mango ginger & Heinouyai	Zingiberacea e	Aug-Sept	Rhizome	Stomachic, carminative, healing, sprain
18	*Cucurma angustifolia* Rosc.	East Indian arrow root & Yaipal	Zingiberacea e	April-May	Inflorencenc e	Anti-fungal, anti-bacterial, cough, diarrhoea
19	*Curcuma caesia* Roxb.	Black zedoary &Yaimu	Zingiberacea e	Aug-Sept	Rhizome	Fever, cough, constipation,

						wellurination, sprain
20	*Cymbopogan flexuosus*	Citronella grass &Houna	Poaceae	Sept-Dec	Leaves	Throat problem, back – pain, hair care lotion
21	*Cynodon dactylon* (L) Pers.	Doob grass &Tingthau	Poaceae	Non-flowering	Leaves	Dropsy, piles, throat problem, wound
22	*Cinnamomum camphora* (Linn.) Nees and Eberm.)	Camphor tree &Karpur	Lauraceae	April-June	Leaves	Stimulant, muscular strains, rheumatism, antiseptic, hair care lotion
23	*Carnarium bengalensis* Roxb.	East Indian Copal & Mekruk	Bromeliaceae	May – July, Nov– Jan.	Leaves, bark	chronic dysentery
24	*Cinnamomum tamala*(Linn.) Nees and Eberm.	Bayleaf&Tezpata	Lauraceae.	Feb. – Mar, June – Oct.	Leaves	Cold, cough, toothache, liver problem, urinary problem
25	*Cinnamomum zeylanicum* Breyn.	Cinnamon & U-shingsha	Lauraceae	March-Apr, June – Aug.	Bark	dyspepsia, cold vomiting, astringent carminative. cough.
26	*Citrus ganrhhini* Lush.	Citron & Hei-jang	Rutaceae	March-June	Fruit	Flavouring confectionary
27	*Citrus laltipes* DC.	Khasipapeda & Hei-ribob	(Rutaceae	March-Sept Nov.	Fruit	Anti-dandruff, good complexion, stone case
28	*Citrus maxima*	Nobaab	Rutaceae	Feb-May	Fruit	Cold, influenza, intestinal worm
29	*Costus Speciosus* (K) sm	Male bamboo & Khongbal Takhellei	Zingiberaceae	May-July	Root	Astringent, purgative, stimulant, tonic
30	*Eryngium foetidum Linn.*	False coriander & Awa-phadi-gom	Myrtaceae	June-Aug, Nov-Jan	Fruit, leaves, root	Stomach ulcer,nerve problem, muscle pain, high B.P
31	*Eupatorium odoratum* Linn.)	Maiden hair fern & Hanurei	Asteraceae	May-Aug.	Leaves	Stop bleeding, anti-dandruff
32	*Eucalyptus citriodora*	Eucalyptus & Nasik	Myrataceae	Oct-Nov.	Leaves	Healing, sinusitis,hair lotion
33	*Gynura cusimba* L.	Silk cotton tree & Terapaibi	Asteraceae	May-Aug	Leaves	Colitis, stimulant, tonic, stomachulcer, wound
34	*Helianthus annus* Linn.	Sunflower & Numit lei	Asteraceae	Sept-March	Seed, leaves	Muscular pain, kidney diseases, cold, cough, bronchitis
35	*Hedychium aurantiacum* Wall.	Cogon grass & Eengel lei	Zingiberaceae	Aug-Oct	Inflorescence, rhizome	Bronchitis
36	*Hedychium coronarium* Koenig	White ginger lily & Takhel lei angouba	Zingiberaceae	July-Aug	Rhizome	Throat problem, tonic, dyspepsia
37	*Hedychium marginatum* C.B. Clarke.	Redginger lily & Takhel-lei angangba	Zingiberaceae	July-Sept	Rhizome, leaves	Carminative,stimulant, bronchitis, tonic
38	*Houttuynia cordata*Thunb.	Molucca bean & Toningkhok	Sauraceae	July-Sept	Leaves, rhizome	Dysentery, stomachulcer, gonorrhoea, muscular pain, measles
39	*Kaempferia rotunda(*L)	Aromatic ginger & Yai tham-namanbi	Zingiberaceae	May-June	Rhizome	Sinusitis,Abortificient, mumps,tumour, high blood pressure

40	*Litsea cubeba* (Lorus) Pers.	Tumila	Lauraceae	Nov.-Jun	Fruit, Leaves	Diarrhoea,astringent, toothache
41	*Lantana camara Linn*.	Large leaf lantana & Nong-ban- lei	Verbenaceae	Throughout the year	Leaves,fruit	Anti-fungal,diabetes, anthelmintic
42	*Magnifera indica* Linn.	Mango & Heinou	Anacardiaceae	April-May, Jun-Aug.	Fruit	Dysentery, diarrhoea, gastricproblem, diabetes
43	*Mesua ferrea* Linn.	Iron wood & Nageshore	Clusiaceae	Oct-Aug, Oct-Dec	Seed, inflorescence	Piles, dysentery, cough, diarrhoea
44	*Magnolia champaca* (L) Baill	Fragrant champaca& Leihao	Magnoliaceae	May-Mar	Inflorescence, root	Dyspepsia, gonorrhoea, stomach complain
45	*Paederia foetida* L.	Stinkvine & Oi-nam	Rubiaceae	Mar-Oct	Leaves	Stomach disorder, piles, dysentery,paralysis, rheumatism pain, dyspepsia
46	*Perilla ocymoides* L.	Frangipani & Khamella	Lamiaceae	In cold season	Leaves, fruit	Cough, womb problem, lung affections
47	*Pogostemon bengalensis*Kuntz.	Passion flower & Lamthoiding	Lamiaceae	In cold season	Leaves ,root	Hair care lotion, piles, wound
48	*Pogostemon parviflorus* Benth	Phangla & Sangbrei	Asteraceae	Oct-Dec, Dec-Jan.	Whole plant	Antibiotic to wound & cut, Piles, Hair care lotion, Colic
49	*Plectranthus ternifolius* Don.	White champa & Khoiju	Lamiaceae	Sept-Nov, Jan-Mar.	Leaves	Disinfectant, antifungicide
50	*Pinus kesiya*	Baguio pine & Uchan	Pinaceae	Feb-Mar.	Wood, leaves	Cough, headache, anti bacterial
51	*Santalum album* Linn.	Sandal wood & Cha-chandan	Santalaceae	Apr-Jun.	Wood	Headache, high fever, skin diseases
52	*Scheffler avenulosa* C.B. Clarke	Needle wood & Utang	Araliaceae	Dec-Feb, Mar-Jun	Wood, leaves	Dropsy, paralysis
53	*Spondia spinnata (*Linn.f.) Kurtz.	Indian hog plum & Heining	Anacardiaceae	Mar-June	Fruit, leaves	Piles, hairgrowth, dysentery, gonorrhoea
54	*Sesbania sesban* (L.)	Egyptian pea & Chuchu-rangmei	Fabaceae	Mar-Sept	Seed, leaves, root	Cough, fever diabetes, epilepsy, antitumor
55	*Tithonia diversifolia*	Mexican sunflower & Lam numit-lei	Asteraceae	Sept-Feb	Leaves,seed	Gastric problem, wound, bruises.
56	*Toona ciliate* M. Roem.	Red cedar & Tairel	Meliaceae	Feb-Oct	Leaves	Skin diseases, anti-fungal, anti-bacterial
57	*Viola pilosa Blume*	Cat tail millet & Huikhong	Violaceae	Jan-Mar	Whole plant	Skin diseases, constipation, well urination, cold, cough
58	*Vitex trifolia* (L.)	Chinese chaste tree & Urik-shibi	Verbenaceae	June-Sept	Leaves	Muscular sprain, anti-fungal, anticancer, tuberculosis
59	*Vitex negundo* (L)	Chinese chaste tree & Urik-shibi	Verbenaceae	June-Sept	Leaves, root	Foetidulcer, rheumatism, tonic
60	*Zanthoxylum acanthopodium*D.C.	Winged leaf prickly ash & Mukthrubi	Rutaceae	Sept-Oct, Dec-Feb	Fruit,leaves	chronic fever, indigestion, cough, bronchitis

61	*Zanthoxylum rhesta* D.C.	Indian pepper & Ngang	Rutaceae	Mar-Apr, Nov-Dec.	Leaves	Astringent, flavour, anti-inflammatory, body ache
62	*Zingiber captitatum*.	Mexican ginger & Lam-shing	Zingiberaceae	July-Aug., Oct-Nov.	Rhizome	Burns, Boils, Stomach pain
63	*Zingiber cassumunar* Roxb.	Wild turmeric & Tekhao-yaikhu	Zingiberaceae	Aug-Sept	Rhizome	Tonic, Carminative, Womb related diseases, Irregular menstruation

B. Non-aromatic plant

64	*Adiantum capillus-veneris* (L.)	Arjunterminalia & Mayur-pambi	Polypodiaceae	Jun-Oct	Leaves	Diabetes, cough, burns, chest diseases
65	*Anaphalis contorta* (D.Don).	Cud wood & Phunil	Asteraceae	Oct-Apr	Seed, tender shoot	High B.P, intestinal disorder
66	*Argyreia nervosa (Burm.f) Boj*	Opium poppy & Pungding-uri	Convolculaceae	Aug-Oct	Stem	Rheumatism, muscular sprain
67	*Bonnaya brachiata* (L.)	Mexicanpineapple & Kihom-maan	Scrophulariaceae	Sept-Feb	Whole plant	Dysentery, asthma, urinary stone cases
68	*Basella rubra* (L.)	Indian spinach & Urok-sumbal	Basellaceae	June-Aug	Leaves, inflorescence	Constipation, gonorrhoea, suppuration, boils, muscular sprain
69	*Croton chlorocalyx*	Iton-phaibi	Euphobiaceae	May-july	Leaves	Constipation
70	*Clerodendrum siphonanthes* R.Br	Turk's turban & Charoi-tong	Verberaceae	July-Oct	Stem, leaves	Cough,fever,dysenter, asthma, bronchitis
71	*Clerodendrum colebrookianum*	Turk's turban & Kuthab-lei	Verbenaceae	Aril-Feb	Leaves	Cough, skin diseases
72	*Clerodendrum viscosum vent*	Turk's turban & Kuthab-ukabi	Verbenaceae	Jun-Sept	Tender leaves	Diabetes, high B.P, asthma, bronchitis
73	*Cuscuta reflexa Roxb.*	Climbing hemp weed & Uri-sana-machu	Convolculaceae	Non-flowering	Stem	Jaundice, chronic fever, liver diseases
74	*Dryopteris marginata* (Wall) Christ	Worm seed & Lai-chankhrang	Polypodiaceae	Non-flowering	Leaves	Boils, burns, dysentery
75	*Euphorbia euterophylla* (L.)	Taro & Pakhang-leiton	Euphorbiaceae	Throughout the year	Whole plant	Asthma, dysentery, mouthsore, genitorurinary tract diseases, skin diseases
76	*Eupatorium nodiflorum*	Ngai-camphor &Tamu-langthrei	Asteraceae	Jan-April	Leaves	Stomach ulcer, fever, cough
77	*Equisetum debile* Roxb.	Horse tail & Lai-utong	Equisetaceae	Mar-Nov	Whole plant	Gonorrhoea, small pox
78	*Eclipta alba* (L.) Hask.	Long pepper & Uchi-sumbal	Asteraceae	Throughout the year	Leaves	Toothache, cough, fever, liver enlargement
79	*Fagopyrum esculantum* Moeuch	Buck wheat & Wakha-yendem	Polygonaceae	July-oct	Leaves	Diabetes, kidney diseases
80	*Galinsoga parviflora* Cav.	Cocklebur & Hamengsampakpi	Asteraceae	Throughout the year	Leaves	Dysentery, boils, fever, small pox

81	*Hiptage benghalensis kurz.*	Red cedar & Madhabi	Malpighiaceae	Mar-Apr	Leaves	Chronic, rheumatism, asthma, skindiseases, insecticide
82	*Jatropha curcus*(L)	Physic nut & Awa-ke-ge	Euphorbiaceae	July-Sept	Leaves	Cough, dysentery, fever
83	*Linaria ramosissima* (L.)	Indianpenny wort & Nungai-peruk	Scrophulariaceae	July-Nov	Fruit,leaves	Urinary stone case, anthritis, diarrhoea
84	*Mikania scandens* Wild	Climbing hemp weed & Uri-hingchabi	Asteraceae	Aug-Sept	Leaves	Dysentery, wound, ringworm, other skin diseases
85	*Melothria perpusilla* (Blume)	Stinking passion flower & Lam-thabi/paba sari	Cucurbitaceae	Jun-Sept	Whole plant	Jaundice, kidney affection, highfever, diarrhoea
86	*Mallotus phippensis* Muell.	Kamala tree & Ureirom-laba	Euphorbiaceae	July-Nov	Seed	Abortifacient, skin diseases
87	*Marsilea minuta* (L.)	Water clover fern & Ishing-yenshang	Marsileaceae	Jun-Sept	Whole plant	Insomia, paralysis, urinarydisorder, haemorrhage
88	*Nasturticum indicum* (L.)	Khasi pine & Uchi-hangam	Brassicaceae	Apr-Sept	Whole plant	Urinary disorder, kidney stone case
89	*Plantago erosa* Wall	Gurjan tree & Yempat	Plantaginaceae	Jun-Feb	Leaves, seed, root	Fever, boils, muscular sprain, gout
90	*Passiflora edulis* Sims	Wild passion fruit & Lam radhika-nachom	Passifloraceae	May-Oct	Leaves, fruit	High B.P, tonic, stimulant
91	*Portulaca oleracea* (L.)	Common purslane&Leiba k-kundo	Portulacaceae	April-Aug	Whole plant	Gonorrhea, diabetes, burns, liver diseases
92	*Polygonum perfoliatum* (L.)	Litchi & Lil-har	Polygonaceae	May-Sept	Leaves	Injuries, wound, emollient
93	*Ranunculus scleratus* (L.)	Blister butter cup & Kakyel-khujil	Ranunculaceae	Throug hout the year	Leaves, inflorescence	Urinary disorder, blisters, skin diseases, tonic, rheumatism
94	*Spilanthes acmella* Hook.f.	Horse tail & Lallu-kaoba	Asteraceae	Throug hout the year	Inflorescence, leaves	Jaundice, cut, injuries, sore throat
95	*Sonchus asper*	Male bamboo & Khom-thokpi	Asteraceae	Dec-May	Leaves	Wound, skin itching
96	*Sida rhombifolia* (L.)	Broom jhutesida & U-hal	Malvaceae	Jun-Dec	Leaves	Rheumatism, tuberculosis, urinary disorder
97	*Thevetia neriifolia* (J)ex Steud	Yellow oleader & Utong-lei	Apocynaceae	Mar-Jun	Leaves, root	Purgative, narcotic, tumours
98	*Verbena officinalis* (L)	Vervain & Tharoi phijhub	Verbenaceae	May-Aug	Leaves	Astringent, rheumatism, leucodermal infection
99	*Wendlandia glabrata* DC.	Ivy like fig & Pheija	Rubiaceae	Feb-June	Shoot ,inflorescence	Cough, dysentery
100	*Xylosma longifolia* Clos	Pomelo & Nong-lei shang	Flacourtiaceae	Aug-Oct	Leaves,fruit	Piles, stomach pain, anti-bacterial

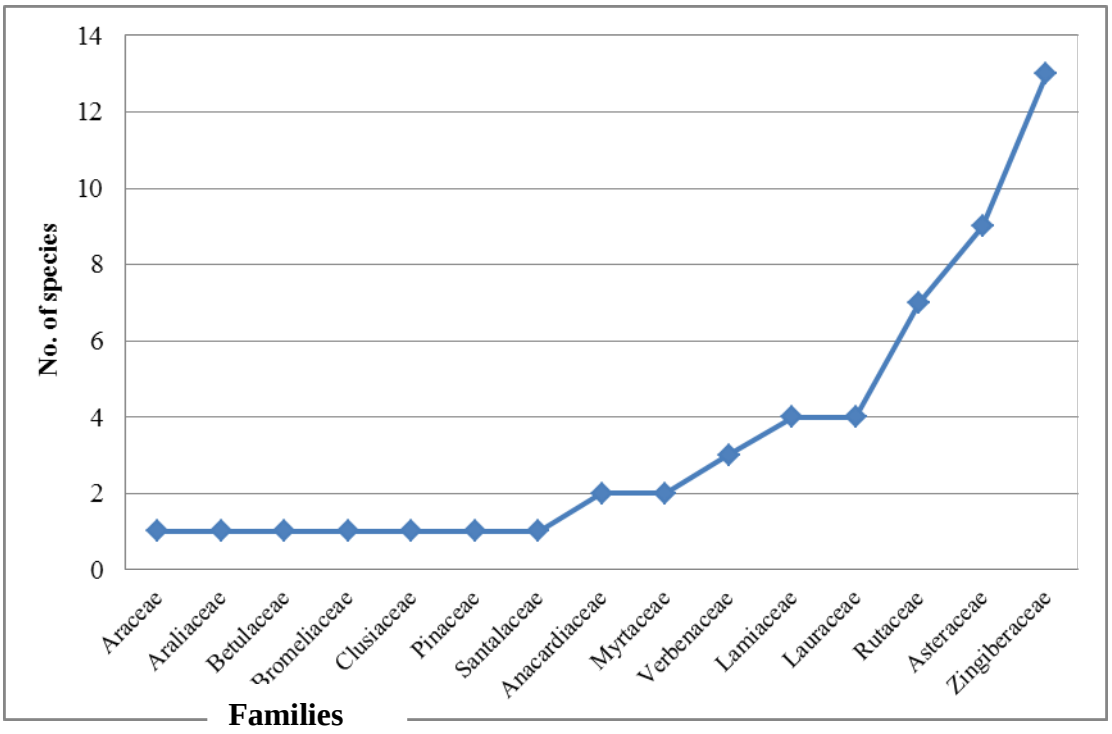

Fig. 1: Family dominance curve of the wild aromatic plants.

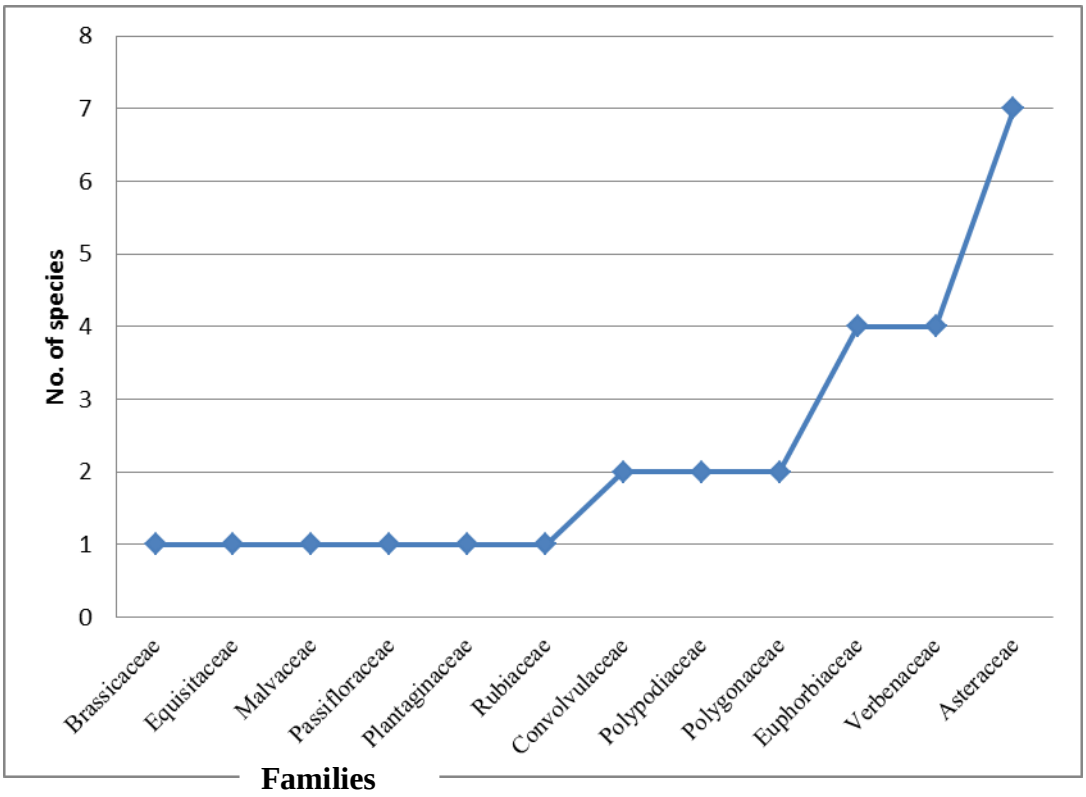

Fig. 2: Family dominance curve of the wild non-aromatic plants.

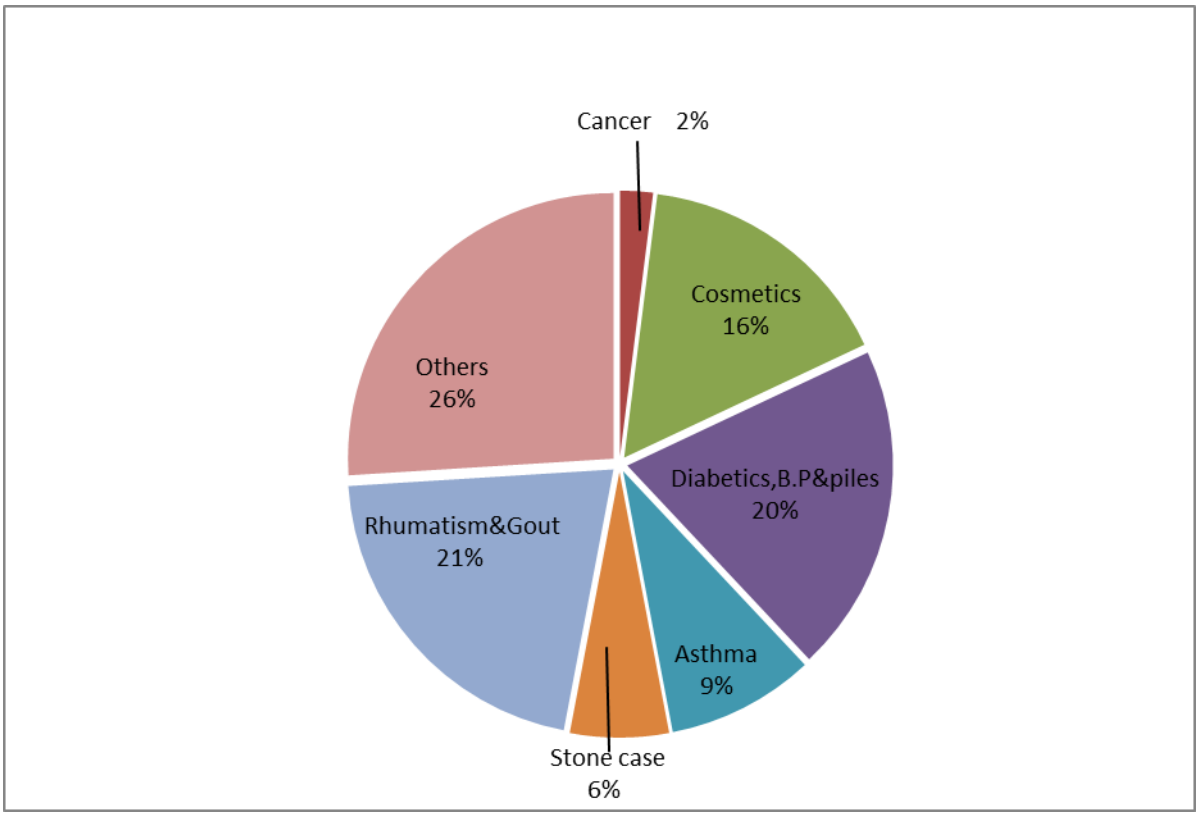

Fig. 3: Percentage of plants use as cosmetics and medicine for different ailments.

III. RESULTS AND DISCUSSION

The investigation reported, altogether 100 species of wild medicinal plants belonging to 41 families were collected (Table 1). Based on the smell, plants are categorised as aromatic (63) and non-aromatic (37). In aromatic (Fig.1), family Araceae to Santalaceae recorded one species each then gradually increases till Zingiberaceae and it shows the highest plant species (13). In non-aromatic plants (Fig 2), family Asteraceae shows maximum plant species (7) than the remaining families. Highest species in Zingiberaceae and Asteraceae might be due to the favourable climatic and soil condition of the study sites. sare shown in figure 3. In this, plants used for treatment of diabetics, blood pressure and piles recorded 20 percent, asthma 9 percent, stone case 6 percent, rheumatism and gout 21 percent, cancer 2 percent and others 26 percent. However, cosmetic is 16 percent. Some of the important medicinal wild plants which used by the local people are *Zingiber cassumunar, Paederia foetida, Polygonum perfoliatum, Melothria perpusilla, Clerodendrum siphonanthes, Sida rhombiliatum, Hiptage benghalensis ,Clerodendrum viscosum ,Litsea cubeba, Schefflera venulosa, Zanthoxylum rhesta, Curcuma amada, Curcuma caesia, Kaempferia rotunda, Hedychium marginatum*. However, Litsea *cubeba, Curcuma amada, Curcuma caesia, Kaempferia rotunda, Hedychium marginatum* are critically endangered. Such plants are still growing wild and over exploited. These wild plants with high commercial value are also threatened by many factors. It is suggested that an urgent need to explore ethno medicinal potential of the area and to identify the more plants of therapeutic properties and the plants for their uses.

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