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ETHNO-BOTANICAL SURVEY OF MEDICINAL PLANTS FROM KAMAREDDY RANGE OF NIZAMABAD DISTRICT, ANDHRA PRADESH, INDIA

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ABSTRACT:

Ethno-botanical field trips were conducted in Kamareddy range of Nizamabad district, Andhra Pradesh, during 2010-2012 to document the tribal knowledge of medicinal plants. This information was collected on the basis of personnel interviews with tribal people and elders cum owners of cattle, goat and sheep. The investigation revealed that 70 plant species belonging to 66 genera and 40 angiospermic families. Of these maximum species belongs to Fabaceae family with 9 species, 6 species to Asclepiadaceae, 4 species to Acanthaceae, 3 species to Amaranthaceae, Anacardiaceae, Apocynaceae, Solanaceae, Euphorbiaceae and Moraceae each. These ethno-medicinal plants used to cure various types of ailments. In the enumeration, data is presented with botanical name, local name, family, and ethno medicinal uses.

KEY WORD: *Ethno-botanical survey, Angiospermic families, Medicinal plants, Conservation, Kamareddy range.*

INTRODUCTION:

Nizamabad district is situated in the northern part of the Andhra Pradesh and lies between18^0 5’ and of the northern latitudes, 77^0 40’ and 78^0 37’ of the eastern longitudes. The geographical area is 7956 sq. km’s. The district is bounded on the north by Adilabad district, on the south by Medak District, on the East by Karimnagar District, on the West by Bidar District of Karnataka

and Nanded District of Maharastra. The forests in the district are grouped into two divisions, *viz*. Kamareddy and Nizamabad. The Kamareddy division is formed with four ranges, *viz*. Gandhari, Indalwai, Kamareddy and Yellareddy, while the Nizamabad Division contains three ranges, *viz*. Banswada, Kammarpalli and Nizamabad. The forests fall under the category of Tropical dry deciduous forests (Champion & Seth, 1968). Ethnobotany is obviously a very broad field, including many aspects of botany and many other disciplines. There is worldwide resurgence of interest in ethnobotanical studies among botanists, anthropologists, pharmacognocists, phytochemists, pharmacologists, foresters,archaeologists, paleobotanists, linguists, folk- lorists, vaidyas, hakims etc. When local people shift to using synthetic medicines, healing traditions are eroded and traditional knowledge is lost in the process. It is thus important to document and understand the medical heritage of a changing culture before it is lost entirely too future generations (S. Brumot &T.S. Naidu, 2007). Among the scheduled tribes of Andhra Pradesh, Lambadas and Yerukalas are the major communities in the Kamareddy range of Nizamabad district. Of several natural forest ecosystems in the district, Kamareddy range is well known for their medicinal flora (Swamy, *et. al.*, 2012). In this regard, aim of present study to record ethnomedicinal uses of kamareddy range.

METHODS:

Ethno-botanical field trips were conducted between the years 2010-2012 to document the tribal knowledge of medicinal plants. This information was collected through questionnaires and discussions with tribal people, village heads, traditional practitioners and elders cum owners of cattle, goat and sheep, in their own languages. The information on useful plant species, parts used, local names and mode of utilization was recorded and compared with Prajapathi *et. al*., 2003, Vijigiri Dinesh *et. al.*, 2010. The plant species were identified with the help of regional floras (Gamble, J.S., 1915-1936) and local floras (Pullaih, *et. al*., 2007). During field work, the specimens collected for the preparation of herbarium were processed in accordance with the methodology adopted by Jain S.K. & Rao R.R. (1977). The plant specimens were deposited in Department of Botany, Osmania University, Hyderabad, Andhra Pradesh, India. In the following names of species in alphabetical order with scientific names, local or vernacular names and ethnomedicnal uses are provided. (Table.1).

RESULTS AND DISCUSSIONS:

Ethno-medicinal data was revealed that 70 plant species belonging to 66 genera 40 angiospermic families. Maximum species were recorded from the family Fabaceae with 9 species. Six species were recorded from Asclepiadaceae, 4 species from Acanthaceae, 3 species each from Amaranthaceae, Anacardiaceae, Apocynaceae, Euphorbiaceae, Moraceae and Solanaceae. Of the total number of 70 plant species, the

herbs were 25 in number, out of which 3 were twining and climbing in habit. Shrubs were 23 in number, out of which 7 were climbing and twining and trees were 22 in number. Among the plants studied, nearly 87% were mesophytes and the xerophytes were 11%. Nearly 80% of the medicinal plants under study were perennials being available for the tribes throughout the year for ethno-botanical uses. In the present investigation, it has been observed that shrubs are mostly used for ailments like rheumatic pains, bone fracture, eye diseases, tooth problems, burns, spermatogenesis and to dissolve stones in kidneys. Herbs are predominantly used for curing diseases like jaundice, skin diseases, wounds and cuts, diabetes, as an antidote for snake/ dog bite, fever, swellings, diarrhoea and filaria. Tree members are also used for ehnomedical purposes like rheumatic pains, bone fracture, diabetes, ulcers and for dissolving stones in kidneys.

Medicinal plants are used as ethno-medicines for various severe diseases like jaundice, cancer, etc. by employing the leaf preparations in the form of extracts, pastes, juices, etc. Other common diseases and health complaints like cough, piles, fever, bone fracture, rheumatic pains, stomachache, blood pressure, diabetes, gonorrhoea, filarial, skin diseases, ring worm, asthma, and sun stroke are cured by using the leaf preparations of various plants found in this region.

The leaves are employed in the form of decoctions, extracts, pastes, juice. or sometimes in combination with other parts of same or different plants, viz. *Carthamus tinctorius*, *Cuminum cyminum, Dolichandrone falcata, Phyllanthus amarus, Piper nigrum, Plumbago zeylanica, Sesamum* etc. Other substances, such as sugar candy, curd, honey, milk and turmeric powder, are also used in various preparations.

CONCLUSION:

The ethnobotanical survey of the area reveals that the people having good knowledge of plant drugs but as they are in progressive exposure to the synthetic drugs, their knowledge on traditional uses of plants may be lost in due course. So it is important to study and document the knowledge on plants used by different ethnic people for the benefit of future generations. Such investigations may also provide valuable information to biochemists and pharmacologists to develop drug discovery for various diseases. Medicinal plants are the basis of for phytomedicine. Sustainable use of medicinal plants can be promoted by effective conservation practices and by safe guarding underlying threats to phytodiversity, so that the traditional knowledge of healing process continues to be maintained.

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Table – 1 Ethno medicinal plants and their mode of use in the treatment of various diseases of Kamareddy range

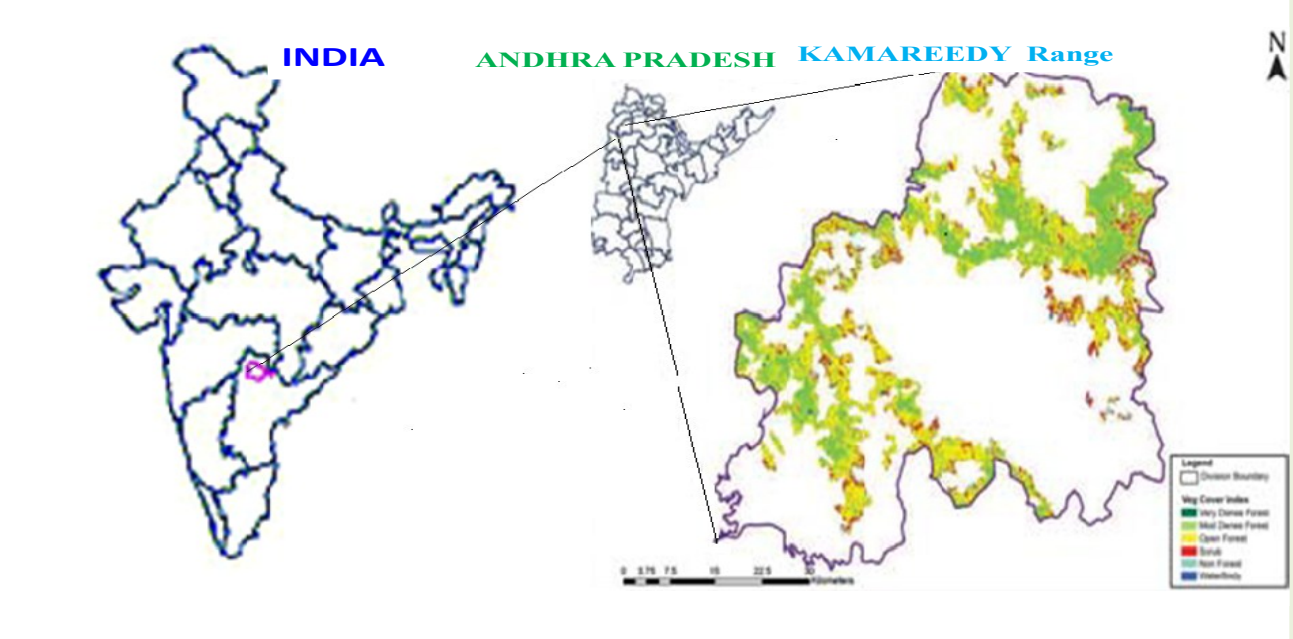
S.no	Botanical name	Family	Local name	Parts used	Treatment of diseases
1	*Abrus precatorius* L.	Fabaceae	Guruvindha	Leaves, root & Seeds	Spermatogenesis Swellings
2	*Abutilon indicum* (L.) Sweet.	Malvaceae	Duvvanam	Leaves Bark	Leucorrhoea stomach pain &wounds
3	*Achyranthes aspera* L.	Amaranthaceae	Uttarani	Root Leaves	Leucorrhoea & toothache Antidote for poison of snake
4	*Aegle marmelos* (L.) Correa.	Rutaceae	Bilvamu, Patri aku, Maaredu	Leaves Stem bark	Ulcers & anthrax Bone fracture
5	*Aerva lanata* (L.) Juss.ex Schult	Amaranthaceae	Pindikura	Whole plant	Dissolve stones in kidney
6	*Alangium salvifolium* (L. f.) Wang	Alangiaceae	Ooduga	Bark powder	Anthelmintic, wounds and cuts.
7	*Aloe vera* (L.)Burm.f.	Liliaceae	Kalabanda	Leaf juice	Painful menstruation, piles and dry skin
8	*Andrographis paniculata* (Burm.F.)Wall ex Nees	Acanthaceae	Nelavemu	Whole plant	Viral fever, malaria, diabetes, black spots and sunburn
9	*Annona squamosa* L.	Annonaceae	Sithaphalam	Leaf juice	Ring worms and hair lice
10	*Argemone mexicana* L	Papavaraceae	Pichikusuma	Latex Root	Eye diseases Red leucorrhoea
11	*Azadirachta indica* A. Juss.	Meliaceae	Vepa chettu	Leaf, bark and seed oil	Skin eruptions
12	*Barleria prionitis* L.	Acantaceae	Gorimitipoolu	Whole plant	Gout and mouth ulcers
13	*Buchanania lanzan* Spreng.	Anacardiaceae	Morri chettu	Stem bark	Bone fracture
14	*Calotropis gigantea* (L) R.Br.	Asclepiadaceae	Jilledu	Root Leaves	Stomachache Painful parts
15	*Capparis zeylanica* L.	Capparaceae	Adonda	Ripe fruits	Diabetes and indigestion

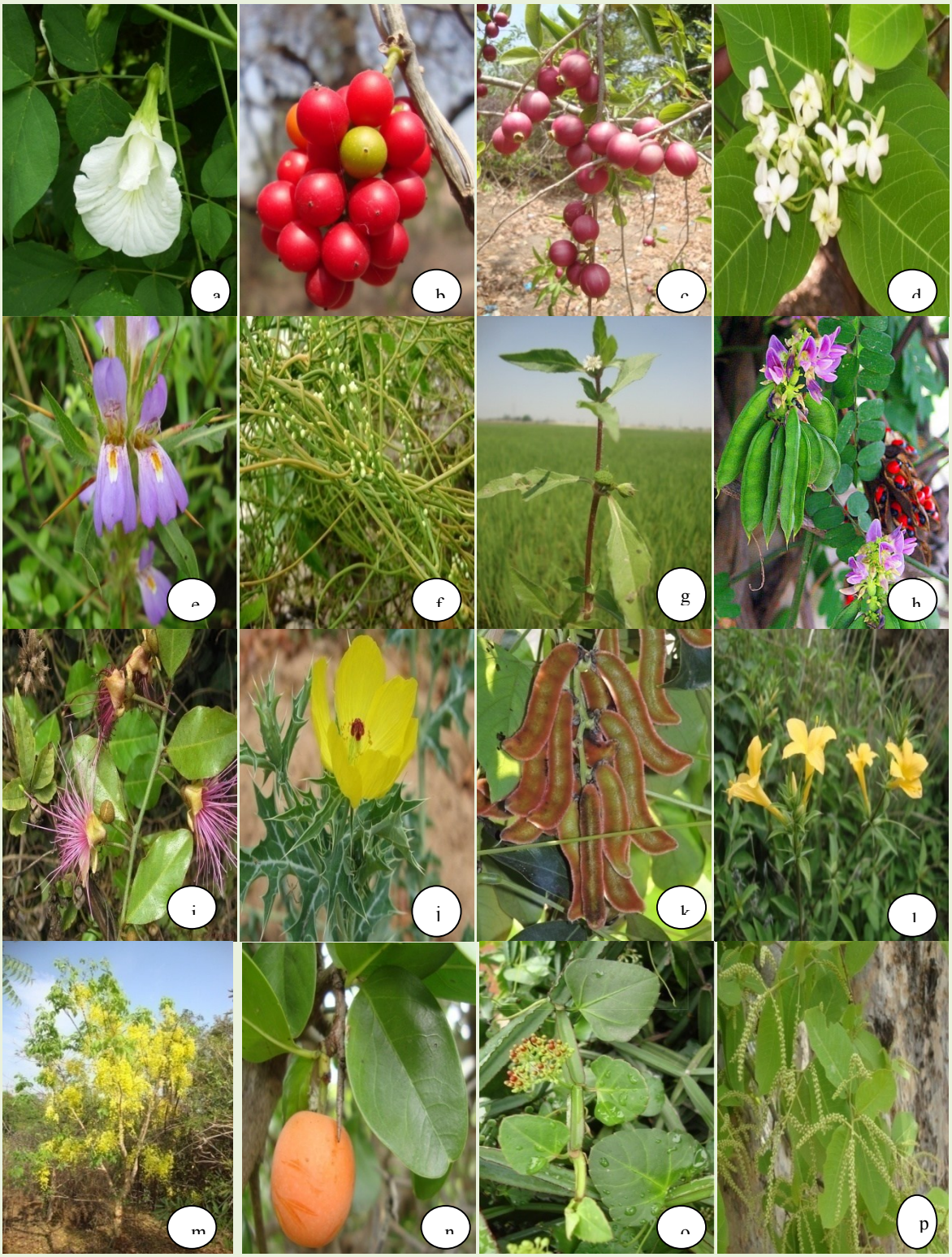
S.no	Botanical name	Family	Local name	Parts used	Treatment of diseases
16	*Caralluma adascendens* (Roxb.) Haw. *var attenuata* (Wight) Grav. & Mayur	Asclepiadaceaee	Kundeti kommu	Stem juice	Diabetes, spermatogenesis and migraine.
17	*Carica papaya* L.	Caricaceae	Boppai	Latex	Abort pregnancy
18	*Cassia auriculata.* L.	Fabaceae	Tangedu	Leaves	Bone fracture
19	*Cassia fistula* L.	Fabaceae	Rela	Stem bark	Scorpion sting, insect bite and rheumatic pain
20	*Cassia occidantalis* L.	Fabaceae	Kurachenangi	Seeds	Conjunctivitis and indigestion
21	*Cassytha filiformis* L.	Lauraceae	Paachi teega	Whole plant	For easy delivery in cattle and bone fracture
22	*Catharnthus roseus* (L.) G.Don	Apocynaceae	Billa ganneru	Whole plant	Cancer
23	*Cissus quadrangularis* L.	Vitaceae	Nalleru	Whole plant	Wounds and piles
24	*Clitoria ternatea* L.	Fabaceae	Shanku pushpi	Root	Filaria and headache
25	*Cocculus hirsutus* (L.) Theob.	Menispermaceae	Dusariteega, Sibbiteega	Leaves	Ringworms & wounds
26	*Crotalaria retusa* L.	Fabaceae	Giligicha	Whole plant	Leprosy & snake repellant
27	*Datura metel* L.	Solanaceae	Ummetta	Leaves	Joint pain
28	*Diaspyros chloroxylon* Roxb.	Ebanaceae	Illintha chettu	Leaves	Burns, rheumatic pain in cattle & diarrhoea
29	*Dodonea viscosa* (L.) Jacq.	Sapindaceae	Pulivaili	Leaves	Bone fracture
30	*Eclipta prostrata* (L.) L.	Asteraceae	Guntagalagara	Whole plant	Blood purifier and hair oil
31	*Enicostemma axillare* (Lam.) A. Raynal	Gentianaceae	Reska	Whole plant	Constipation, menstrual pain scabies & itches
32	*Euphorbia hirta* L.	Euphorbiaceae	Pachhabotla chettu	Whole plant	Wounds , mouth ulcers and boils
33	*Ficus benghalensis* L.	Moraceae	Marri chettu	Prop root Latex	Piles and stomach pain Spermatogenesis
34	*Ficus hispida* L. f.	Moraceae	Bommamedi	Whole plant	Menorrhagia & leucoderma

S.no	Botanical name	Family	Local name	Parts used	Treatment of diseases
35	*Gymnema sylvestre* (Retz.) R.Br. ex Schultes.	Asclepiadaceae	Podapatri	Leaves	Diabetes, eye diseases and gastric trouble.
36	*Hemidesmus indicus* (L.) R. Br.	Asclepiadaceae	Sugandha pala	Root	Tonic, cooling & blood purifier
37	*Holarrhena pubescens* Wall. Ex G. Don.	Apocynaceae	Palakodise	Stem bark	Anti dysentery, piles and cooling
38	*Holoptelea intergrifolia* (Roxb.) Planch.	Ulmaceae	Nemlinara chettu	Stem bark	Rheumatic problem & body swelling
39	*Hygrophila ariculata* (Schum.) Heine	Acanthaceae	Nitigobbi, Gorimitimollu	Root Leaves	Edema and body swellings Rheumatism
40	*Ipomoea obscura* (L.) Ker Gawl.	Convolvulaceae	Gollagiddiaku	Twine	Diarrhoea
41	*Lannea coromandelica* (Houtt.)Merr.	Anacardiaceae	Gumpena chettu	Stem bark	Bone fracture and galactagogue
42	*Lawsonia inermis* L.	Lythraceae	Gorinta aku	Leaves	Alopecia and skin diseases
43	*Lepidagathis cristata* Willd.	Acanthaceae	Konda banthi	Whole plant	Itching sensation and burns
44	*Leucas aspera* (Willd)Link.	Lamiaceae	Thummi kura	Leaves	Psoriasis
45	*Madhuca indica* Gmelin	Sapotaceae	Ippa chettu	Stem bark	Arthritis
46	*Martynia annua* L.	Martyniaceae	Telukondi chettu	Fruit	Scorpion sting and inflammation
47	*Maytenus emarginata* (Willd) Ding.	Celastraceae	Danti chettu	Tender shoots	Mouth ulcer
48	*Mucuna pruriens* (L.) DC	Fabaceae	Dulakaya	Fruit Root	Scorpion sting Ringworms and spermatogenesis
49	*Ocimum basilicum* L.	Lamiaceae	Sabjaaku	Leaves	Earache
50	*Oxalis corniculata* L.	Oxalidaceae	Pulichintakura	Whole plant	Jaundice, wounds and strong teeth
51	*Pergularia daemia* (Forssk.) Chiov.	Asclepiadaceae	Dustaputeega	Leaves	Asthma and scabies
52	*Phyllanthus amarus* Schum. & Thonn	Euphorbiaceae	Nela usiri	Whole plant	Jaundice and abdominal pain
53	*Plumbago zeylanica* L	Plumbaginaceae	Chitramoolam	Root	Abort pregnancy up to 3 months , boils and joints

S.no	Botanical name	Family	Local name	Parts used	Treatment of diseases
54	*Pongamia pinnata*(L)Pier e	Fabaceae	Kanuga	Seeds	Scabies
55	*Pupalia lappacea* (L.) A. L. Juss.	Amaranthaceae	Tella uttareni	Leaves Stem	Bone fracture Toothache
56	*Ricinus Communis* L.	Euphorbiaceae	Amudamu	Seeds Leaves	Purgative Jaundice
57	*Semecarpus anacardium* L. f.	Anacardiaceae	Nallajidi, Jidi chettu	Fruit	Rheumatism ,foot cracks and gout
58	*Solanum nigrum* L.	Solanaceae	Buddakashi, Pandlu, Kamanchi	Leaves Fruit Root	Body swellings Induce fertility in women Antidote for scorpion bite
59	*Solanum surattense* Burm.f.	Solanaceae	Rama mulaka, Nela vakudu	Fruit Seed Root	Debility Antidote dog bite Dissolve stones in kidneys
60	*Streblus asper* Lour	Moraceae	Barrinka chettu	Leaves Stem bark	Toothache Leucorrhoea
61	*Syzygium cumini* (L.) Skeels	Myrtaceae	Allaneredu	Stem bark and Fruits	Dissolve stones in kidneys
62	*Tephrosia purpurea* (L.) Pers	Fabaceae	Vempali	Root	Toothache
63	*Terminalia arjuna* (Roxb . ex DC.) Wight & Arn.	Combretaceae	Tella maddi	Stem bark	Obesity and dysuria
64	*Tinospora cordifolia* (Willd.) Miers ex Hook. f & Thomson.	Menispermaceae	Tippateega	Root Stem Leaves	Leucoderma Intermittent fever Jaundice
65	*Trianthema portulacastrum* L.	Aizoaceae	Galijeru	Leaves	Jaundice
66	*Tribulus terrestris* L.	Zygophyllaceae	Pedda palleru	Whole plant	Dissolve stones in kidneys, rheumatism & wounds
67	*Tylophora indica* (Burn. f.) Merr.	Asclepiadaceae	Mekameyani aku, kuccapala	Stem Root Leaves	Diuretic Snakebite Antitoxic for any toxin
68	*Vitex negundo* L.	Verbenaceae	Vavili	Leaves	Body pains, rheumatic pains and killing lice
69	*Wrightia tinctoria* R.Br	Apocynaceae	Kodisepala	Seed Latex	Diarrhoea and psoriasis Tonsils.
70	*Ximenia americana* L.	Olacaceae	Nakkera	Stem bark Tender tips	Diabetes and anthelmintic Gastric trouble

Fig. 1. Study area





a, *Clitoria ternatea* L., b, *Tinospora cordifolia* (Willd.) Miers, c. *Alangium salvifolium* (L.f.) Wangerin, d. *Holarrhena pubescens* Wall. ex G. Don, e. *Hygrophila auriculata* (Schumach. & Thonn.) Heine, f. *Cassytha filiformis* L., g. *Eclipta prostrata* (L.) L., h. *Abrus precatorius* L., i, *Capparis zeylanica* L., j, *Argemone mexicana* L., k, *Mucuna pruriens* (L.) DC., l. *Barleria prionitis* L., m, *Cassia fistula* L., n, *Xiemenia americana* L., o, Cissus quadrangularis L., p, *Terminalia arjuna* (Roxb.) Wight & Arn.