

Traditional Health Care Practices Indigenous to the Forest Dwellers of Chhotaudepur Forest Division: A Case Study from Gujarat

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ABSTRACT: Traditional Knowledge is valuable not only to those who depend on it in their daily chores but also to modern industry and agriculture. Ethnobotanical and Ethnomedicinal surveys are important as they are the most effective means to document and conserve Traditional Knowledge. These researches are also important as they also lead to possible drug discoveries. An ethnomedicinal survey was carried out to document medicinally important flora and related traditional knowledge in practice with the ethnic groups residing in the peripheries of the forests of Chhotaudepur Forest Division. The data of local traditional medicinal uses of plants were collected through personal and group interviews, and field visits with locals, faith healers and midwives. The present study revealed 110 plant species belonging to 54 different families reported to be traditionally used as medicine by the ethnic groups of the study area. The identification of the listed plants here is based on The Flora of Gujarat State. The collected and identified plants were deposited at the herbarium of the Department of Botany, Gujarat University, Ahmedabad.

KEYWORDS: Traditional Knowledge, Ethnomedicinal survey, Chhotaudepur Forest Division, faith healers, ethnic groups, Gujarat

I. INTRODUCTION

Traditional knowledge of medicinal plants plays a vital role in addressing the health care needs of Indigenous people of the developing countries. [1] Being one of the oldest civilizations of the world, India has the most diverse culture tradition associated with indigenous knowledge of medicinal plants. The ethnic population living in the remote forest areas is still dependent to a great extent on this alternative system of medicine. These herbal medicines have fewer side effects and most of the medicinal plants are easily available in nature. Traditional faith healers, midwives, animal whisperer, bone setters and faith healers (*Bhagats*) are the real carriers of this age old herbal medicine traditions. [2] A number of household, women and elders possess traditional knowledge of medicinal plant apart from these above mentioned specialized knowledge holders. [3] These ethnomedicinal researches also provide fundamental clues in the search for new drugs, foods, pesticides, natural products, genetic resources and phyto-chemicals hence, researches like this are very important.

II. STUDY AREA

Gujarat is located on the west coast of India, covering an area of 1,96,024 sq. km which is 5.96 % of the country's total area. It lies between 20° 6' to 24° 42' latitude, and 68° 10' to 74° 28' longitude. Due to the varied climatic conditions of different regions, Gujarat has very diverse vegetation. [4] The area of Chhotaudepur Forest Division comprises of the reserved and protected forests. These forests lie between parallels of latitudes 72°50'17" and 74°16'17" N and meridians of longitudes 20°52'20" and 22°30'00" E. Forests of the division are mainly confined to the eastern and southern hilly regions, and very dense towards the eastern side of the division while those in the west are scattered. The forest tract of the plan is undulating with broken ranges of hills ranging from 105 meters to 633.67 meters above sea

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 5, Issue 8, August 2016

level. The total geographical area of the forests of the division is 80614.03 Ha. Forest areas of Chhotaudepur, Pavijetpur, Rangpur, Kanwat, Naswadi, and Boriyad ranges were surveyed for the study. Climate of this district is characterised by the monsoon season which lasts with occasional breaks, from July to October. Annual average rainfall of the division is 475.2mm. Total rainfall varies widely from year to year and from place to place. [5]

III. METHODOLOGY

Frequent field excursions were conducted to various locations within the study area where the tribal inhabitants were found practicing the traditional medicines. Participatory Rural Appraisal Technique was adopted to identify and document the knowledge with the indigenous people residing in the selected study area. Community leaders, elderly men and women of the villages, local faith healers (*Bhagat*), midwives and farmers are interviewed through meeting while collecting information. Participatory Rural Appraisal Technique was adopted to identify and document the knowledge of the traditional medicinal plants with the residents of the selected study area.[6] To collect large amount of information, numerous field visits were done with local traditional healers for past 4 years. The collected plant samples were identified up to species level and were submitted to the Department of Botany, University School of Sciences, Gujarat University. A number of floras were used for the identification of the plants reported during study. [7-12]

The data presented in here includes the scientific name of plant species, common local names, plant parts used and names of diseases or disorders. The data are presented in alphabetical order (Table: 1).

IV. RESULT

The present study revealed fascinating facts with great potential of further research to recognize and develop some new drugs out of these plant species to treat different diseases and disorders. The survey also shows that the traditional knowledge of medicinal plants is not evenly spread even within the ethnic group. Elderly people of the community, traditional faith healers and midwives are the living repositories of Traditional Knowledge. Thus, the knowledge is less spread yet in safe hands.

Table 1: List of Ethnomedicinally important plants of Chhotaudepur Forest Division, Gujarat (India)

| ID No. | Botanical Name | Local Name | Family | Habit | Part Used | Ailment |
|--------|-----------------------------------------|------------|------------------|---------|-----------|------------------------------------|
| 1 | <i>Abrus precatorius</i> L | Chanothi | Fabaceae | Herb | Lf | Mouth ulcer |
| | | | | | Se | As abortifacient |
| 2 | <i>Acacia leucophloea</i> (Roxb) Willd | Aniyar | Mimosaceae | Tree | Rt | Asthma |
| 3 | <i>Achyranthes aspera</i> L | Kutro | Amaranthaceae | Herb | Rt | Earache, Scorpion sting, Tapeworms |
| | | | | | Wh | Menopause |
| 4 | <i>Adhatodavasic</i> (L) Nees | Ardusi | Acanthaceae | Shrub | Lf | Fever |
| 5 | <i>Alangium salvifolium</i> (L f) Wang | Ankol | Alangiaceae | Tree | Lf | Joint pain |
| | | | | | B | As anti-venom |
| 6 | <i>Aloe barbadensis</i> Mill | Laabru | Liliaceae | Herb | Se | Acne |
| | | | | | Lf | Burns |
| 7 | <i>Andrographis echinoides</i> (L) Nees | Kariyatu | Acanthaceae | Herb | Lf | Fever |
| 8 | <i>Anisomeles indica</i> (L) O Ktze | Gandhatu | Lamiaceae | Herb | Lf | Fever |
| 9 | <i>Anogeissus latifolia</i> (Roxb) Wall | Dhavado | Combretaceae | Tree | B | Cough |
| 10 | <i>Aristolochia bracteata</i> Retz | - | Aristolochiaceae | Climber | Rt | Eczema, Scorpion sting |

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 5, Issue 8, August 2016

| ID No. | Botanical Name | Local Name | Family | Habit | Part Used | Ailment |
|--------|--------------------------------------|------------|------------------|---------|-----------|---------------------------------------------------------|
| 11 | <i>Aristolochia indica</i> L | Kidamari | Aristolochiaceae | Climber | Rt | Snakebite |
| 12 | <i>Asparagus racemosus</i> Willd | Sasajhad | Liliaceae | Herb | Rt | Erectile Dysfunction |
| 13 | <i>Azadirachta indica</i> A Juss | Limdo | Meliaceae | Tree | Lf | Cough, Fever, Headache, Rheumatism, Stomachache, Wounds |
| | | | | | B | Fever, Rheumatism, Scorpion sting, weight-loss |
| | | | | | Se | As abortifacient, Rheumatism |
| 14 | <i>Balanites aegyptiaca</i> (L) Del | Hingori | Balanitaceae | Tree | Lf | Asthma, Cough |
| 15 | <i>Barleria prionitis</i> L | Kantali | Acanthaceae | Shrub | Rt | Eczema |
| 16 | <i>Biophytum sensitivum</i> (L) DC | Risamni | Oxalidaceae | Herb | Wh | Jaundice |
| 17 | <i>Blepharis repens</i> L | Utikan | Acanthaceae | Herb | Lf | Headache |
| 18 | <i>Blumea oxyodonta</i> DC | - | Asteraceae | Herb | Lf | Headache |
| 19 | <i>Borassus flabellifer</i> L | Tad | Arecaceae | Tree | Sa | Calculi, Earache, Fever, High BP |
| 20 | <i>Breynia retusa</i> (Dennst) Alst | Kamboi | Euphorbiaceae | Tree | St | Toothache |
| 21 | <i>Bridelia retusa</i> (L) Spr | Kumbhi | Euphorbiaceae | Tree | Lf | Fracture, Swellings |
| 22 | <i>Buchanania lanzan</i> Spr | Charoli | Anacardiaceae | Tree | Se | Cough |
| 23 | <i>Butea monosperma</i> (Lam) Taub | Kesudo | Fabaceae | Tree | Fl | Stomachache, Urine problem |
| | | | | | B | Fracture |
| | | | | | Se | Anthelmintic |
| | | | | | Rt | Eye problem |
| 24 | <i>Calotropis procera</i> (Ait) R Br | Akado | Asclepiadaceae | Shrub | Lf | Body ache, Headache, Stomachache |
| | | | | | L | Stomach pain |
| 25 | <i>Capparis grandis</i> L f | Padribor | Capparaceae | Tree | Rt | Gastric problems |
| 26 | <i>Cardiospermum halicacabum</i> L | - | Sapindaceae | Herb | Se | Skin irritation |
| 27 | <i>Careya arborea</i> Roxb | Kumbhi | Lecythidaceae | Tree | Ft | Diarrhea, Fever |
| | | | | | Lf | Fever, Migraine |
| 28 | <i>Carica papaya</i> L | Papaya | Caricaceae | Tree | Ft | Abortion, Earache |
| 29 | <i>Cassia auriculata</i> L | Awal | Caesalpiniaceae | Shrub | Lf | Fracture, Stop bleeding, Swelling, Wound healing |
| 30 | <i>Cassia fistula</i> L | Garmalo | Caesalpiniaceae | Tree | B | Boils |
| | | | | | Ft | Diarrhea |
| 31 | <i>Cassine glauca</i> (Rottb) O Ktze | Bhutakdo | Celastraceae | Tree | B | Bronchitis |
| 32 | <i>Celastrus marginatus</i> Willd | Malkangani | Celastraceae | Herb | Lf | Jaundice |
| 33 | <i>Cissampelos pareira</i> L | Venivel | Menispermaceae | Climber | Lf | Bronchitis |

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 5, Issue 8, August 2016

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|--------|------------------------------------------------|--------------|----------------|---------|-----------|-------------------------------------------|
| 34 | <i>Cissusquadrangularis</i> L | Haadvel | Vitaceae | Climber | St | Tuberculosis |
| 35 | <i>Cocculushirsutus</i> (L) Diels | Vevdi | Menispermaceae | Climber | Lf | Heat stroke |
| 36 | <i>Coldeniaprocumbens</i> L | Okhrad | Boraginaceae | Herb | Rt | Leucorrhoea |
| | | | | | Lf | Abscess |
| 37 | <i>Cordiagharaf</i> (Forsk) Ehrenb& Asch | NaniGundi | Ehretiaceae | Tree | Lf | Jaundice |
| 38 | <i>Crataevanurvala</i> Buch-Ham | Vayvarno | Capparaceae | Tree | Bk | Urinary tract infection |
| 39 | <i>Crotalaria albida</i> Heyne ex Roth | Junglisaan | Fabaceae | Herb | Se | Acidity, Urinary tract infection |
| 40 | <i>Cuscutareflexa</i> Roxb | Amarveli | Cuscutaceae | Climber | Wh | Fever |
| | | | | | | As abortifacient |
| 41 | <i>Dalbergiapaniculata</i> Roxb | Patradi | Fabaceae | Tree | B | Tuberculosis, Wounds |
| 42 | <i>Dalbergiasissoo</i> Roxb | Sisamdi | Fabaceae | Tree | Rt | Fracture |
| 43 | <i>Dendrocalamusstrictus</i> Nees | Vaans | Poaceae | Tree | Sh | Fever |
| 44 | <i>Desmodiumgangeticum</i> (Linn) DC | Aasu | Fabaceae | Herb | Wh | Fever |
| 45 | <i>Didymocarpuspygmaea</i> Cl | EkPhool | Gesneriaceae | Herb | Wh | To heal wound |
| 46 | <i>Diospyrosmelanoxylon</i> Roxb | Timru | Ebenaceae | Tree | B | Swelling, Wound healing, Diarrhea |
| | | | | | Ft | Mouth ulcer |
| 47 | <i>Dolichandronfalcata</i> Sensu Cooke | Netrasinghi | Bignoniaceae | Tree | Lf | Eye irritation |
| 48 | <i>Eclipta alba</i> (L) Hassk | Bhangro | Asteraceae | Herb | Lf | Stop bleeding, Wound healing |
| 49 | <i>Elytrariaacaulis</i> (L f) Lindau | Dashmoola | Acanthaceae | Herb | Rt | Wound healing |
| | | | | | L | Mouth ulcers |
| 50 | <i>Enicostemmahyssopifolium</i> (Willd) Vadoon | Kadvinai | Gentianaceae | Herb | Lf | Dysentery, Fever, Jaundice, Wound healing |
| 51 | <i>Erythrinasuberosa</i> Roxb | Pangaro | Fabaceae | Tree | B | Coryza |
| 52 | <i>Eucalyptus globulus</i> Labill | Nilgiri | Myrtaceae | Tree | Lf | Jaundice, Migraine |
| 53 | <i>Euphorbia hirta</i> L | Dudheli | Euphorbiaceae | Herb | Wh | Stomach ache, Stop bleeding |
| | | | | | L | Mouth ulcer |
| 54 | <i>Euphorbia nivulia</i> Buch Ham | Thor | Euphorbiaceae | Shrub | L | Burns, Removal of tooth, Stomachache |
| 55 | <i>Euphorbia pulcherrima</i> Willd | - | Euphorbiaceae | Herb | Lf | Dysentery |
| 56 | <i>Evolvulusalsinoides</i> L | Sankhavali | Convolvulaceae | Herb | Lf | Cough, Mouth ulcers |
| | | | | | Wh | Parkinson |
| 57 | <i>Glycyrrhizaglabra</i> Linn | Jethimadh | Fabaceae | Herb | Rt | Cough, Menorrhagia |
| 58 | <i>Hemidesmusindicus</i> (L) Schult | Kalam | Periplocaceae | Climber | Rt | Stomachache |
| | | | | | Wh | Fever |
| 59 | <i>Heteropogoncontortus</i> (L) P Beauv | SukhadiGhaas | Poaceae | Grass | Lf | Diuretic |

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 5, Issue 8, August 2016

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|--------|-------------------------------------------------------|------------|------------------|---------|-----------|----------------------------------------------|
| 60 | <i>Holarrhenaantidysenterica</i> (Heyne ex Roth) Wall | Kada sing | Apocynaceae | Tree | Lf | Wound |
| | | | | | Fl | Fever, Rheumatism |
| | | | | | Se | Diarrhea |
| | | | | | Rt | TB, Pneumonia |
| 61 | <i>Holoptelea integrifolia</i> (Roxb) Planch | Kanji | Ulmaceae | Tree | Lf | Mouth ulcer, Eczema, Dandruff, Lice |
| 62 | <i>Holostemma annularium</i> (Roxb) K Schum | Motvel | Asclepiadaceae | Climber | Lf | Body ache |
| 63 | <i>Impatiens balsamina</i> L | Ganeshjhad | Balsaminaceae | Herb | Wh | Eczema, Skin irritation |
| 64 | <i>Indigoferatinctoria</i> L | Gadi | Fabaceae | Herb | Rt | Cough |
| 65 | <i>Jatropha curcas</i> L | Ratanjyot | Euphorbiaceae | Shrub | L | Earache, Tooth ache |
| | | | | | Se | Contraception |
| 66 | <i>Lagerstroemia parviflora</i> Roxb | Kakadiyu | Lythraceae | Tree | Lf | Stop bleeding |
| 67 | <i>Lanneacoromandelic</i> (Houtt) Herrill | Moyano | Anacardiaceae | Tree | B | Jaundice |
| | | | | | B | Menorrhagia |
| 68 | <i>Lindenbergi amuraria</i> (Roxb ex D Don) P Bruehl | Bhitchati | Scrophulariaceae | Herb | Wh | Swellings |
| 69 | <i>Linderniacrustacea</i> (L) F Muell | - | Scrophulariaceae | Herb | Lf | Bee sting |
| 70 | <i>Ludwigia octovalvis</i> (Mich) Raven | JalJambu | Onagraceae | Herb | Lf | Fever, Swellings |
| 71 | <i>Luffa acutangula</i> (L) Roxb | Turiyu | Cucurbitaceae | Climber | Lf | Skin irritation |
| 72 | <i>Madhuca indica</i> J F Gmel | Mahuda | Sapotaceae | Tree | Fl | Abscess, Earache, Lactation, Stomachache, TB |
| | | | | | Ft | Rheumatism |
| 73 | <i>Martynia annua</i> L | Vitchyo | Martyniaceae | Shrub | Ft | Itching |
| | | | | | St | Stomachache |
| | | | | | Se | As abortifacient |
| 74 | <i>Maytenus marginata</i> (Willd) D Hou | Kankayo | Celastraceae | Shrub | Lf | Jaundice |
| 75 | <i>Melia azadirachta</i> L | BakanLimdo | Meliaceae | Tree | Lf | Fever |
| 76 | <i>Merremia turpethum</i> Shah & Bhatt | Nasotar | Convolvulaceae | Herb | Rt | Urinary tract infection |
| 77 | <i>Millettia tomentosa</i> (Roxb) Sinclair | Umbh | Annonaceae | Tree | B | Fracture, Mosquito repellent |
| | | | | | Ft | Tumor in uterus |
| 78 | <i>Morinda tomentosa</i> Roxb | Aledi | Rubiaceae | Tree | Lf | Abscess, Fracture, Swellings |
| 79 | <i>Moringa oleifera</i> Lam | Saragvo | Moringaceae | Tree | B | Rheumatism, Swellings, Wound healing |
| 80 | <i>Mucuna pruriens</i> Baker | Kavach | Fabaceae | Herb | Se | Scorpion bite |
| | | | | | Lf | Rabies |
| 81 | <i>Nicotiana tabacum</i> L | Tambaku | Solanaceae | Herb | Lf | Wound healing |

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 5, Issue 8, August 2016

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|--------|----------------------------------------------------|-------------|-----------------|---------|-----------|-----------------------------------------------------------|
| 82 | <i>Ocimumcanum</i> Sims | Mitchyu | Lamiaceae | Herb | Se | Acidity, Arthritis, Dysentery, Mouth ulcer, Stop bleeding |
| | | | | | Lf | Fracture, Leucoderma |
| 83 | <i>Pedaliium murex</i> L | DholuGokhru | Pedaliaceae | Herb | Ft | Cough, Nocturnal emission, Tonic |
| 84 | <i>Phyla nodiflora</i> (L) Green | Jartu | Verbenaceae | Herb | Wh | Tumor in Uterus |
| 85 | <i>Phyllanthusfraternus</i> Webster | Kadavi | Euphorbiaceae | Herb | Wh | Fever, Jaundice |
| 86 | <i>Physalis minima</i> L | - | Solanaceae | Herb | Lf | Swelling |
| 87 | <i>Pongamiapinnata</i> (L) Pierre | Karanj | Fabaceae | Tree | St | Itching, To clean teeth, Toothache |
| | | | | | Lf | Eczema |
| | | | | | Se | Alopecia areata |
| 88 | <i>Portulacaquadrifida</i> L | Lunibhaji | Portulacaceae | Herb | Wh | Constipation |
| 89 | <i>PterocarpusmarsupiumRoxbvaracerifolium</i> | Biyo | Fabaceae | Tree | W | Diabetes |
| 90 | <i>Pupalialappacea</i> (L) Juss | - | Amaranthaceae | Herb | Rt | Toothache |
| 91 | <i>Radermacheraxylocarpa</i> (Roxb) K Schum | - | Bignoniaceae | Tree | B | As antiseptic |
| 92 | <i>Ricinuscommunis</i> L | Divela | Euphorbiaceae | Shrub | Lf | Headache |
| 93 | <i>Rungiaelegans</i> D & G | - | Acanthaceae | Herb | Lf | Earache |
| 94 | <i>Securinegavivosa</i> (Roxb ex Willd) Pax&Hoffin | Thumri | Euphorbiaceae | Tree | Rt | Calculi, Constipation |
| | | | | | Lf | Mouth ulcer |
| 95 | <i>Sonchusasperauct</i> | Dholki | Asteraceae | Herb | Lf | Eye irritation, Wound healing |
| 96 | <i>Soymidafebrifuga</i> (Roxb) A Juss | Doyo | Meliaceae | Tree | B | Calculi, Stomach ache, Tumor |
| | | | | | Ft | Jaundice |
| 97 | <i>Sphaeranthusindicus</i> L | Gorakhmundi | Asteraceae | Herb | Wh | Jaundice, Menorrhagia |
| 98 | <i>Syzygiumcumini</i> (L) Skeels | Jambu | Myrtaceae | Tree | Ft | Calculi, Diabetes |
| 99 | <i>Tamarindusindica</i> L | Amla | Caesalpiniaceae | Tree | Wh | Diarrhea |
| 100 | <i>Tectonagrandis</i> L f | Saag | Verbenaceae | Tree | Lf | Eczema, Wounds |
| | | | | | B | Jaundice |
| 101 | <i>Tephrosiapurpurea</i> (L) Pers | Sarpankho | Fabaceae | Herb | Wh | Menopause, Mouth ulcers |
| 102 | <i>Terminaliachebula</i> Retz | Harde | Combretaceae | Tree | Ft | Constipation, Gastric problems, Indigestion |
| 103 | <i>Tinosporacordifolia</i> (Willd) Miers | Galo | Menispermaceae | Climber | Wh | Cough, Diabetes, Gas, Indigestion, Jaundice |
| 104 | <i>Tribulusterrestris</i> L | Gaukharu | Zygophyllaceae | Herb | Rt | Fracture |
| | | | | | Ft | As tonic, Calculi, Urinary tract infection |
| 105 | <i>Tridaxprocumbens</i> L | Gathiyu | Asteraceae | Herb | Lf | Calculi, Earache, Fever, |

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 5, Issue 8, August 2016

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|--------|----------------------------------------|------------|------------------|-------|-----------|----------------------------------------|
| | | | | | | Jaundice, Stop bleeding, Wound healing |
| 106 | <i>Vernoniaanthelmintica</i> (L) Willd | Kalijiri | Scrophulariaceae | Herb | Se | Fever, Malaria |
| 107 | <i>Vitexnegundo</i> L | Nagod | Verbenaceae | Tree | Lf | Coryza, Fever, Rheumatism |
| 108 | <i>Wrightiatinctoria</i> R Br | Dudhkadi | Apocynaceae | Tree | L | Scorpion bite |
| | | | | | Se | Fever, Headache, Stomachache |
| 109 | <i>Xanthium strumarium</i> L | Gaadlu | Asteraceae | Herb | Lf | Acidity |
| | | | | | Ft | Calculi |
| 110 | <i>Zizyphusjuzuba</i> Lam | Desibor | Rhamnaceae | Shrub | Lf | Scorpion bite |

B = Bark, Fl = Flower, Ft = Fruit, In = Inflorescence, L = Latex, Lf = Leaf, Rh = Rhizome, Rt = Root, Sa = Sap, Se = Seed, Sh = Shoot, St = Stem, W = Wood, Wh = Whole plant

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