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RESEARCH ARTICLE

ETHNOBOTANICAL SURVEY OF MEDICINAL PLANTS USED FOR THE TREATMENT OF DIFFERENT DISEASES IN BIKANER DISTRICT OF RAJASTHAN

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Use of medicinal plants to cure suffering and diseases is an old practice but this practice has now become the basis of new plant based drugs for the treatment of various health problems and diseases. This paper review the documented information on the various therapeutic application of plants used in traditional medicine. The rural people and old aged villagers has been using the local plants for primary health care and treatment of various ailments for longer time . But this information related to the traditional medicinal uses of plants was not documented. There is an urgent need for the documenting these folklore and traditional knowledge in some form before such knowledge becomes inaccessible and extinct.

Introduction

The term "Ethnobotany" was coined by J.W. Hansberger in 1895 to indicate plants used by the aboriginals: from "ethno" – study of people and "botany" study of plants. Ethnobotany is considered as a branch of ethno-biology. It deals with study and evaluation of plant-human relationship in all phases and the effect on environment of human-society. Bikaner district of Rajasthan has rich biodiversity consisting of a large number of plants, some of which are used for their medicinal value. The wild flora of area contain a great variety of useful plants which have been a valuable source of basic needs of Bikaner such as a food, fodder, shelter, fiber, fuel, religious purposes and medicines etc. Therefore, in the present paper an attempt has been made to describe only these plants of district area which are important from ethno medicinal point of view. This study is helpful in documenting the precious botanical knowledge of the rural people of Bikaner district. This study has been suggested the means and measures to conserve the most threatened plant species of Bikaner district which are on the verge of extinction due to drought, overgrazing and also due to human interference.

Review of Literature

Ethno-botany is totally in virtually a new field of research, If this field is investigated thoroughly and systematically, it will yield result of great value to the ethno-botanist, linguistics, anthropologist, botanists and phytochemists. After the time of Hershberger (1895) to the present date, several authors have tried to give a description of subject ethno botany and its scope, methodology, its various disciplines sub-disciplines and potential etc.

Schutles (1960) had written on tapping our heritage of ethno botanical lore. He had suggested three methods of ethno-botanical research namely through literature through chemical investigation and through field study of ethno botany among the primitive peoples. He also gave some examples of plant used during ancient period a historical account.Schutles (1962) outlined the role of ethno-botanist in the search of new medicinal plants. So, this was a paper on the subject of ethno-botany on a specialized line is medicinal plants. Archeological plant remains note on plant collections and herbaria, literature, survey, field studies among the aboriginal societies are amongst the procedure by which he suggests that new medicinal plants can be discovered.Jain (1964) wrote on the role of botanist in folklore research. He writes that folklore involve the study of all aspect of the intellectual and material

culture of indigenous or backward people, plants and their proud possession and knowledge of their properties resulting from the close association give rise to the rich plant folklore.Jain (1965 c) outlined the prospect by some new or less known medicinal plant resources.Jain (1986) gave an over-view of the subject ethno botany an indication of the significant research during the last thirty years in this field and also showed how ethno botany is an inter disciplinary science.Kapur (1996) described about the traditionally importance medicinal plants of Bhaderwah hills. Katewa and Choudhary (2000) have published a paper on ethno-veterinary survey of plants of Rajasmand district of Rajasthan..Jain etal (2009) described about the ethno-botanical survey of SariskaandSiliserh regions in Alwar district of Rajasthan. Sharma and Kumar (2011) described about the ethnobotaical studies on medicinal plants of Rajasthan (India): A Review.

STUDY AREA

Bikaner district of Rajasthan having an area of 27444 Sq. Kms. issituated between the parallela $27^{O}11'$ to $20^{O}2'$N latitude $71^{O}54$ to $72^{0}11'$E. Bikaner district of Rajasthan divided into sub regions like Bikaner Proper, NokhaKolayat, Sri Dungargarh, Loonkaransar, Khajawala. Complete district spread into villages. This district is surrounded by six district i.e. Sri Ganganagar and Hanumangarh in North, Churu in East. Nagaur and Jodhpur in South and Jaisalmer and Pak Border in West. This region is largely semiarid or arid.

Climate of the study area is the characterized by extreme of temperature; severe drought accompanied by high wind velocity, low relative humidity, evaporation for exceeding precipitation and too scanty rainfall to support appreciate any suitable vegetation.

METHODOLOGY

The rural people of this district mainly depend upon local medicinal plants in day-to-day life keeping this objective in mind. Intensive ethno-botanical exploration were undertaken in the selected places of Bikaner district of Rajasthan to find out the various medicinal plants either in flowering or fruiting stage. The freshly collected samples of plants were arranged properly with in the folded sheets of processing paper (12"/18"), each of which was places between two dry blotters of same size. The whole piles of blotters and pressing sheet was them locked up in a field press for 24 hours. Since drying of plants was done without heat, it needed five changes blotters and pressing sheets properly spread over a span of 10 days. Each specimen was mounted on a white gum paste. To know the uses of plants, different categories of people like of family heads, headers, old experienced and knowledge informants were repeatedly interviewed specific questions designed by Jain and Goel 1995 were asked and the resultant information was recorded in the ethno-botanical field work along with important medicinal uses.

OBSERVATIONS

Ethno botanical study carried out in this region throws light on 76 medicinal plants as shown in the table

Table: A list of medicinal plants used for various diseases along with part/parts used

Sr. No	Scientific Name	Family Name	Local Name	Plant Part(S) used	Preparation and mode of use (s)
1.	*Abutilon asiaticum* Linn.	Malvaceae	Kanghi	Leaves	• Leaves are useful in gonorrhea and in stone of the bladder.
2.	*Acacia nilotica* (L.) Willd. Ex.Delile..	Fabaceae/Mimosaceae	Kikar/Babool	Young twigs Stem bark Powder of stem Inner bark	• Young twigs are used as toothbrush and cleaning the tongue the flexible fiber help cleaning and strengthening the teeth. Decoction of stem bark is used to wash the mouth on toothache and preparation of "Deshimadira" by Bawarias. • The powder of stem bark is given orally in asthma. • Paste of inner bark also applied externally on honey bee sting and wasp sting or any insect bite.
3.	*Acacia senegal* (Linn.) Willd.	Fabaceae/Mimosaceae	Khairikumat	Gum	• It is used internally for intestinal mucous and externally to cover the inflamed surface such as burns and sores.
4.	*Achyranthesaspera* Linn.	Amaranthaecae	Unna-kanta,Kutia-bharuttia latjira	Flower & Seeds Seed Root Whole Plant Leaves	• The flowering spike & seed ground into a paste. The paste is applied externally in insect bite. • The seeds are used in hydrophobia. • Seeds roasted with honey for whooping cough and cold. • Root is crushed and boiled with water and used for treatment of pneumonia. • Dried plant material (1 kg.) boiled 5-6 liters of water for half an hour, filtered and this water used in cough & cold and also useful in fever. • Leaf juice given for vomiting due to indigestion.
5.	*Arevapersica* (Burm.)Merr.	Amaranthaceae	Bui, Bujda	Seed Whole plant	• The wooly seeds when stuffed in pillows to relieve headache. • Decoction of whole plant used in removing swelling.
6.	*Ageratum Conyzoides* L.	Asteraceae	Dochuntry	Root Juice	• Juice of root is anti lithic

7.	*Ailanthus excelsaRoxb.*	Simaroubaceae	Arru/Ardu	Leaves and stem bark Stem bark	• The people of Bikaner district apply the juice of leaves and stem bark against skin eruptions. It is also given orally to ladies after child-birth as a tonic. • Some people boil the stem bark in water and inhale the vapours to cure cough and cold.
8.	*Albizialebbek* Benth.	Leguminoseae/ Mimosaceae	Siris,Sirinh.	Bark Root bark Leaves	• Bark is used as a remedy for bronchitis and leprosy • Root bark is especially useful for Gum & teeth. It strengthens the Gums. • Leaves are useful in curing night blindness.
9.	*Allium cepa* L.	Liliaceae/Amaryllidaceae	Piyaj, Kanda	Bulb Seed	• Juice of Piyaz is used flatulence and dysentery. • Paste of tiny seeds is applied in case of toothache. Juice of bulbs applied on forehead for headache.
10.	*Allium sativum* L.	Liliaceae/Amaryllidaceae	Lasun	Clove Juice	• The Juice is applied in skin troubles & in also used as eardrops. • Mustard oil with garlic essence in earache.
11.	*Aloe barbedensis*Miller.	Liliaceae	Ghigva,Gwarpattha.	Leaves	• Juice of leaves used in liver and spleen ailments& for eye trouble. • Thickened Juice of the leaves is used stomach and spleen. • Juice of leaves is applied to painful inflammations of the body. • Mucilage of leaves kept on forehead (Headache). • Pulp on leaf (50g) with sugar candy (20g) taken twice a day for one weak in piles.
12.	*Amaranthusspinosus* L.	Amaranthaceae	KantavaliChaulai	Leaves	• Fresh leaves cooked as vegetables and taken with food, till stone passed through urine.
13.	*Argemonemexicana* L.	Papaveraceae	Satyanashiuntkantalia	Whole plant	• Juice of the plant is used for dropsy, jaundice and cutaneous affections, when rubbed on effected parts it relieves rheumatic plain.
14.	*Asparagus racemosus*Willd.	Liliaceae	Satawari	Root	• Juice of roots is mixed with honey and takes orally for dyspepsia. • Powder of dried root is given

					internally with milk to the nourishing mother for milk production, hence glactogougue. • Powder of root is mixed with seed powder of 'Jira' (Cuminumcyminum) and given orally with warm water to cure cold & fever.
15.	*Azadirachta Indica* A. Juss.	Meliaceae	Neem,Neemro	Leaves	• The wound or cuts are washed with the water boiled with leaves.
16.	*Balanitesaegyptia ca*(L.) Delile.	Balanitaceae	Hingora/ Hingul	Fruits	• The powder of mature fruits is taken orally by women to prevent pregnancy by the different communities specially SansiorBawaria of the BikanerDistict. • The pulp of fruits is also medicinally reputed among rural people for whooping cough and leucoderma.
17.	*Barleriaprionitis*L.	Acanthaceae	Chapri	Leaves	• The leaves are chewed to relieve toothache. • The Juice of leaves with little sugar and honey is used in catarrhal affections of children.
18.	*Boerhaviadiffusa*L inn.	Nyctaginaceae	Santa	Root	• The roots crushed & boiled are considered to be useful in night blindness. • These are useful in asthma, Stomachache, anemia, jaundice, intestinal abnormality and fever.
19.	*Boerhaviaprocum bens* L.	Nyctaginaceae	LalSata	Leaf & root	• Leaf & root extract are use as eye lotions.
20.	*Boswelliaserrata*R oxb.	Burseraceae	Salar	Bark	• Decoction of bark is employed in diarrhea and skin diseases. • Gum of plant mixed with lemon juice and applied externally on skin troubles. • Gum is given with 'Deshi ghee'; it is useful in gonorrhea and syphilitic infection.
21.	*Calligonumpolygo noides*Linn.	Polygonaceae	Phog	Small Leaves	• Small leaves when crushed give a juice, which is used for washing the eyes as against the latex of *calotropisprocera*(Akdo.)
22.	*Calotropisprocera* (Aiton.)W.T. Aiton	Asclepiadaceae	Akdo	Leaves	• Fresh leaves slightly roasted and pounded are bandaged to painful rheumatic joints, swelling and headache.

				Gynotesgium .	• Roasted leaves are applied on rheumatism. • Warmed mature leaves are tied on the abdomen on colic complaints. • The gynostegium are used in cough, asthma and loss of appetite.
23.	*Capparis decidua* (Forssk.) Edgew.	Capparaceae	Ker/ Kerya	Fruits Twigs Root Bark	• Unripe fruits are not only pickled locally, but also commercially. They are also cooked as a vegetable with the fruits o*f Prosopis cineraria* (Sangari), Kumtha, Kachri, Kheemp&Kair "Panchkutta" • The tender twigs strengthen gums and relieve toothache when chewed. They are also used as toothbrush. • The root bark with hot water is taken orally by the rural people of Bikaner district to cure cough and asthma. • The roots are also given for the treatment of intermittent fever, inflammation and rheumatism by the rural people.
24.	*Chenopodium album* Linn.	Chenopodiaceae	Bethuo, Chilaro	Whole Plant	• Leaves and tender twigs are consumed as vegetable in kidney stone problem.
25.	*Cinnamomum zeylanicum*Presl.	Lauraceae	Dal Chini	Bark	• Powder of bark with water is used for checking vomiting. • Cleans the female genital system after child birth.
26.	*Citrulluscolocynthis* (L.) Schar-der.	Cucurbitaceae	Gar tumba/ Garmunda	Fruits Roots Fruits	• Boiled ripe fruits are given to cattle; also used in many ayurvedic medicines. • The powder of dry roots is taken orally with water by the people in the Bikaner district to cure jaundice, urinary disease and rheumatism. • People of Bikaner district collect immature fruits in rainy season, stuff them with salt and Ajwain(Trachyspermumamami), put it for a few days and

					them at to cure acute stomach ache.
27.	*Citrus limon* Linn.	Rutaceae	Nimboo	Fruit	• Citrus juice mixed with a spoon of table salt taken early in the morning for three days relieves constipation.
28.	*Clerodendrum multiflorum* G.Don.	Verbenaceae	Ami, yerna	Leaves Root	• Juice of the leaves is alternative and gives in neglected syphilis complaints. • Root is bitter tonic.
29.	*Cocculuspendulus* (Forst..) Diels.	Menispermaceae	Pilwani	Root & leaf	• The rood and leaf extract is used in skin disease.
30.	*Commiphoramukul*(Stocke.),Hook.	Burseraceae	Gugal	Gum	• Gum is used as digestion improver.
31.	*Cordiagharaf* (Forsk) Ehren. ex.Asch.	Boraginaceae	Goondi	Bark	• Bark mixed with catechu is chewed as a substitute for betel leaves to redening lips.
32.	*Corchorusdepressus*L.	Tiliaceae	Baphuli	Leaves	• Infusion of the leaves useful dysentery and liver disorders. • The entire plant is dried in shade and powdered taken with goat milk in sexual impotency.
33.	*Coriandrumsativum* Linn.	Apiaceae	Dhania	Fruit	• Decoction of fruits Dhania*Cuminumcyminym*(Jeera) Foeniculumvulgare(Saunf), *Trachyspermumammi*(ajwayan) of all four in equal proportions mixed with crystalline sugar given to children in stomach pain.
34.	*Crotalaria burhia* Buch-Ham. ex Benth	Fabaceae	Kharsana/ Zunda	Root	• The root juice with sugar is given to cure kidney pain by the people of Bikaner district.
35.	*Cucumismelo* Linn.	Cucurbitaceae	Kachari, kachro	Fruit	• Pulp of fruit is useful in chromic eczema.
36.	*Curcuma longa* L.	Zingiberaceae	Haldi	Root Rhizomes	• It is used as a digestion, as a tonic and as a blood purifier. • Boiled with milk and taken internally, it relieves for throat and common cold. • Burnt Haldi used as tooth powder relieves dental troubles.

					• The Juice of haldi rhizomes relieves purulent ophthalmia. • It is useful in treating gall stones. • Rhizome powder with hot milk is useful in injuries.
37.	*Cuscutareflexa* Roxb.	Convolvulaceae	Amarbel	Stem Juice of whole plant	• Small pieces of stem given twice a day for 10-15 days in jaundice • Stem made into paste and eaten with curd for diarrhea. • Juice of whole plant given to women once only after menses, claims to make the woman sterile for ever
38.	*Cynodondactylon*(Linn.) Pers.	Poaceae	Doob	Whole Plant	• Aqueous extract of plant with sugar is given to persons suffering from nostril hemorrhage. • Young leaves paste with sugar is used to stop bleeding from cuts and wounds. • Leaf juice with a pinch of common pinch of common stomachache. • Decoction of whole plant is given orally to cure menstrual problem.
39.	*Cyperusrotundus*L inn.	Cyperaceae	Motha	Tuber	• Tuber is useful in disorders of the stomach and irritation of the bowels.
40.	*Daturametel* Linn.	Solanaceae	Dhatura	Seed	• Seeds are used in fever and skin diseases. • These are also used in asthma, hydrophobia and malaria fever.
41.	*Emblicaofficinalis Gaertn*	Euphorbiaceae	Amala	Fruit	• Paste made from fruits of this tree and seeds of groundnut (*Arachishypogaea*) along with lemon Juice and petals of rose make a good lotion for problems of dry skin.
42.	*Euphorbia hirta* Linn.	Euphorbiaceae	Dudhli	Latex	• Latex of plant is used in warts and skin diseases like leucodermal spots. • Paste of root is mixed with

				Root Leaves	honey and given to nursing mother to start of increase milk. • Decoction of leaves is employed in asthma, cough, bronchitis, eczema, colic and spermatorrhoea.
43.	*Euphorbia caducifolia* L.	Euphorbiaceae	Dandathor	Latex	• Latex is used to cure body pain. Roasted paste of stem applied on injured part of body to reduce swelling. • Latex is heated with common salt and water it is given in whooping coughs, dropsy, and colic, and jaundice, enlargement of liver, asthma and leprosy.
44.	*Fagoniacretica* L.	Zygophyllaceae	Datmahan, Damasa	Whole Plant	• Plant is bitter tonic useful in dropsy and small pox. • Boiled residue of - the plant in water is used for abortion. • It is also useful in cough, fever, asthma, dysentery, skin diseases and as cooling agent.
45.	*Ficusbenghalensis* L.	Moraceae	Bad/ Barigad	Fruits Latex Stem bark	• Fruits are eaten by peoples for seminal weakness, sexual debility, and spermatorrhoea and sex tonic. • Latex used in rheumatism, lumbago and cracked fact. • Infusion of stem bark is considered useful in diabetes. • The tender adventitious root crushed with water and given internally on fracture of the bones and bandaged on which part fractured.
46.	*Ficusreligiosa* Linn.	Moraceae	Pipal	Receptacles	• 15-20 receptacles taken with local liquor just before one week of menses.
47.	*Hibiscus Rosa-sinensis*L.	Malvaceae	Gulal	Leaves	• Leaves paste applied on forehead and headache. • Paste of young leaves with seeds of 'methi'(*Trigonellafoenum-graecum*) applied as hair wash to stop falling of hair due to fever and other ailments
48.	*Justiciaadhatoda* Linn..	Acanthaceae	Adulasa	Leaves	• Fresh leaf infusion with honey and common salt given for

					bronchial diseases. • Leaf juice as nasal drops for bleeding from nose in summer.
49.	*Lantana camara*Linn.	Verbenaceae	Ghaneri	Whole plant Leaf	• Half cup of plant decoction with little quantity of 'Kala Namak' twice a day till relief in tetanus. • Leaf paste applied on body for fits. • Leaf Juice is used in dysentery.
50.	*Lawsoniainermis* L.	Lythraceae	Mehandi	Leaf	• Wound healing, hemorrhages fungi. • Crushed leaves with 'Kamila' applied to boils useful for skin diseases. • Make paste of leaves with alum, apply on sore thumbs and leave overnight on pimples.
51.	*Leptadenia*pyrotechnica (Forsk.) Decne.	Asclepiadaceae	Khimp	Plant sap Leaves Root Fruits/Khinpoli	• The peoples of Bikaner district apply the plant sap against eczema and to cure other skin disease. • Leaves are chewed in diabetes. • Peoples also take orally the decoction of root to cure gastric ailment and apply crushed leaves to cure scabies. • Unripe fruits are employed in constipation.
52.	*Lepidagathistrinervis*Nees.	Acanthaceae	Unt-katalia	Seed	• The hairy mucilaginous seeds soaked in water, form cooling drink during summer. • Plant is a better tonic.
53.	*Menthaarvensis* L.	Lamiaceae	Pudina	Branch Leaf Whole plant Leaves	• Paste of branch useful in flatulence, acidity, neutralization. • Leaf decoction useful in Diarrhea and Dysentery. • Juice of plant given is given to women just before intercourse. • 5g. leaves paste mixed with misri (candy sugar) and given once daily for 4 days after menses Repeat after every menstrual cycle.
54.	*Minosahamata* Willd.	Fabaceae	Alai	Seed	• The pounded 5 gm seeds boiled in buffalo milk are eaten as a tonic against weakness and sexual

				Leaves	weakness in males. • Peoples of the study area apply fresh juice of leaves to check bleeding from the wound and ulcer.
55.	*Moringaoleifera*Lam.	Moringaceae	Sainjna	Root & Stem bark Leaves	• The fresh roots and stem bark are crushed with little water and the paste is applied to the joints for relief in swelling, tumor, and in rheumatic pain by peoples of Bikaner district. • People given also the extract of fresh leaves with goat milk and sugar in acute dyspepsia and without milk in acute diarrhea.
56.	*Nicotianatabacum* Linn.	Solanaceae	Tamakhu	Leaves	• Dried leaves powder and water of 'Hooka' applied on scab to kill the lice and dandruff.
57.	*Ocimumamericanum***L**.	Lamiaceae	Bapji, Kalitulsi	Leaves	• Leaves are made into a paste and used in parasitical skin diseases. • Seeds decoction drunk twice daily for treatment of dysentery. • Flowers are used as remedy for cold and cough.
58.	*Ocimum sanctum* L.	Lamiaceae	Tulsi	Leaves Root	• Leaves used in tea with ginger black pepper and with honey useful in cough & cold. • Well dried leaves put in the billow drive & away lice. • Decoction of roots with *Zingiberofficinale* (adarak) &*Piper nigrum* L. (Kali mirch) mixed with little salt and given as in diaphoretic malarial fever. • Chew a few fresh leaves allow juice to spread on the affected parts in the mouth and helps in the drying of pustules. • Root dipped in water overnight and one glass from this water taken early in the morning for 7 days in menorrhagia.
59.	*Phaseolustrilobu*L.	Fabaceae	Jangli Moth	Leaves	• Leaves are used as a tonic and also used for treatment of weak eyes.

					• Decoction of leaves is administered in intermittent fevers.
60.	*Prosopis cineraria* (L.) Druce.	Fabaceae/Mimosaceae	Khejri, Janti	Flowers Bark	• Flowers are pounded and mixed with sugar and eaten by woman during pregnancy as a safe guard against miscarriage. • The bark is useful as a remedy in rheumatism.
61.	*Ricinuscommunis* L.	Euphorbiaceae	Arand	Leaves Seed	• Leaves smeared with oil, warmed and tied to injuries organs. • Leaves ash with honey useful in cough and cold. • Leaves paste for massaging the body in swelling. • Pulp of one unshelled seed given to woman just before intercourse.
62.	*Salvadoraoleoides* L.	Salvadoraceae	Jal, Pilu	Leave Root Fruit	• Leaves are used as purgative and as a cure for cough. • Root bark is vesicant. • Fruit are aphrodisiac and sweet in taste.
63.	*Salvadorapersica* L.	Salvadoraceae	Mithajal	Root	• A root bark is vesicant. • Bark powder is used to treat the teeth & gum diseases.
64.	*Sidacordifolia*Linn.	Malvaceae	Kharinti	Root	• Root is cooling, tonic & useful in nervous and urinary diseases. • Root bark is effective in curing cases of facial paralysis and sciatica.
65.	*Solanumnigrum*Linn.	Solanaceae	Chirpoti, Makoi	Fruit	• Fruits are useful in fever, diarrhea, eye diseases and hydrophobia. • Leaves are used for enlargement of liver in children.
66.	*Solanumsurattense* Burm f.	Solanaceae	Bhoorangli	Twigs Root	• Twigs are chewed for curing cough & toothache. • Root decoction is useful in asthma. • Root boiled in water and taken to bring down the body temperature to normal.
67.	*Tamarindusindica* L.	Fabaceae	Emli	Leaves	• Put leaves into a bucket of water and boil, cool and take bath for relief in body ache and headache. • Take a small quantity of fruit pulp add equal quantity of

					table salt and boil in water, cool and apply the paste on the injury twice a day for 3 days.
68.	*Tecomellaundulata D. Don*	Bignoniaceae	Rohida	Leaves Bark & leaf	• Leaves extract cure eye disease. • Bark and leaf decoction is given in cough, cold and in fever. • Bark is boiled with milk and taken, it can help dissolve and scatter the clotted blood. • Bark is also useful in problems related to liver and spleen and restorative for women in post-delivery phases. • Several ayurvedic drugs are made from tree bark and leaves.
69.	*Tephrosiapurpurea* (L.) Pers.	Fabaceae	Dhamasia	Leaves Roots	• Leaves are useful in leprosy. • Roots are bitter, useful in dyspepsia and chronic diarrhea, enlarged liver and stomach troubles.
70.	*Tribulusterrestris* L.	Zygophyllaceae	Gokhru, Kani, Choto-gokhru	Fruits	• Fruits are as tonic in the form of infusion useful in gout & kidney diseases. • Decoction of fruits is useful in stones.
71.	*Trichosanthesdioica*Roxb.	Cururbitaceae	Parbal	Leaves	• Leaves decoction with honey given for pollen allergy.
72.	*Triognella Foenum-graecum*L.	Fabaceae	Methi	Seed	• 5gm. seed powder taken empty stomach in early in the morning for treatment of diabetes. • Roasted powdered seed taken with warm water in Indigestion. • One tea spoon of powdered fried seeds, mixed with honey and taken twice or thrice a day cures diarrhea and dysentery.
73.	*Withaniasomnifera*Dunal.	Solanaceae	Ashwagandha	Leaves	• Leaves are useful as a febrifuge and applied to lesions, painful swellings and some eye troubles.
74.	*Zingiberofficinale* Roscoe.	Zingiberaceae	Adrak	Rhizome	• Cut rhizome into small pieces, add lemon juice and table salt and allow it to dry in shade. This can be stored and taken whenever there is indigestion and vomiting. • 25ml. of rhizome extract is

					used for stomach disorders.
75.	*Zizyphusnummularia*(Burm. F.)	Rhamnaceae	Ber, Bordi, Jaarber	Root Leaves Fruits	• Powdered root bark used as brain tonic. • Root bark boiled in water and used for washing wounds or cuts. • Crushed leaves are useful for curing abscesses. • Fruits are cooling and useful in bilious affections.
76.	*Zizyphusmauritiana*Lam.	Rhamnaceae	Bar, Bor	Bark Fruits	• Bark is considered as remedy in diarrhea. • Fruits are considered to purify blood and improve digestion.

Results and discussion:-

Due to over exploitation, these plants have become merely extinct and endangered such as *Arnebiaeuchroma and Calotropisprocera are the plant species which are found rarely in study area. Hence, there is a need* for in-situ and ex-situ conservation of this ethno-botanical/medicinal plant resource. A very little attention has been paid to the genetic, molecular and biochemical characterization of the existing biodiversity of medicinal plants during the survey, it was reported that seeds of *Argemonemexicana*, leaves of plant species such as *Abutilon asiaticum,Barleriaprionitis,Clerodendrummultiflorum*, *Citrus limon*, and stems of *Ailanthus excelsa,,Azadirachtaindica*, Cuscuttareflexa and latex from *Calotropisprocera* and roots of *Achryanthesaspera,Euphorbia hirta, Sidacordifolia*etc, for the treatment of health problems. Some plants species such as *Achryanthesaspera*, *Argemonemexicana and Calotropisprocera* are useful plants of Bikaner district. In spite of rich wealth of bioresources development is for meeting the needs of local people mainly in term of existing health care facilities and herbal industries that will generate employment and development of the state.

The information generated from the study regarding the medicinal plants used by the villages need a thorough phytochemical investigation including alkaloid extraction and isolation along with few clinical trials. This could help in creating mass awareness regarding their conservation, promotion of ethno-medico-botany knowledge with in the region besides contributing tom the preservation and enrichment of the gene bank of such economically important species before they are last irrevocably.

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