



## ETHNOMEDICINAL PLANTS OF HARSHNATH HILLS OF SHEKHAWATI REGION OF RAJASTHAN

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A botanical survey of medicinal plants found in the arid and semi-arid regions of Harshnath hills Sikar district was conducted. The local and tribal people of the area use these plant species in day to day life for various purposes. The information was collected based on the interviews with local people practicing indigenous medicines. During the survey, 105 ethnobotanical plant species belonging to 49 families were recorded from the study area. The plant species along with their plant parts used and the mode of administration are listed categorically.

**Keywords:** Ethnobotany, Herbs, Medicinal plants, Traditional methods, Tribal.

### Introduction:

Herbs and herbal medicines are a major elements in Ayurvedic, Homeopathic, Naturopathic system of medicines and oriented towards traditional knowledge. Presently, medicinal plants are more valued for their chemical composition and so their demand in the market has increased many times in all over the world. As these products are neutral, non-narcotic in nature, having no side-effects and are affordable by all easily.

Sikar is one of the three districts of shekhawati region of Rajasthan state of India which is located on  $74.44^{\circ} - 75.25^{\circ}$  E longitude and  $27.21^{\circ} - 28.12^{\circ}$  N latitude. It lies in the North-eastern part of the state, and most of the area under investigation comes in the arid and semi-arid climate. Meenas, Sansis, Bhopas etc are main tribals

of this area (Fig. 1). The traditional healers of the district have commendable knowledge of medicinal plants which grow in the area. This knowledge possessed by the rural people is vanishing rapidly owing to interference of modern culture leading to disrespect for traditional methods by young generation. The decline in their uses can also be attributed to the scarcity or non-availability of medicinal herbs, due to various human activities such as mining activities, different agricultural practices, colonization etc along with natural calamities like drought and floods.

Due to these reasons, the conservation and verification of endangered & rare species are of significance. Therefore, there is an urgent need to document this knowledge before it vanishes completely.

In Rajasthan, a lot of work has been carried out on ethnomedicinal plants used for various purposes by tribal communities<sup>1-4</sup>.

Folk herbal medicines used in birth control and sexual diseases studied by tribals of Southern Rajasthan,<sup>3,5</sup> studies of the nutritive value of wild edible fruits, berries nuts, roots and species consumed by the Khasi tribe of India and their uses of traditional medicines among tribes of Rajasthan<sup>6,7</sup>. Studies on the mother child health care system in tribal dominated areas of Rajasthan<sup>8</sup>. Further, more work has been done in Rajasthan and India<sup>8-13</sup>.

The present study is undertaken keeping in view the importance of medicinal plants, tribal medicine as well as the proper documentation of floral diversity with phenological details of the plants of Sikar district. Since no such studies have been conducted till date, this study will be of much use for the future researchers and community of the region.

#### **METHODOLOGY:**

In order to document the uses of indigenous plants, survey was conducted during the year 2016-17 in the remote areas of Harshnath Hills of Sikar district. The survey was carried throughout the year to get maximum results. The observations are based on information collected from local herbal drug dealers, traditional healers and senior local persons. The plants were collected directly and were identified by Botany specialist and published works<sup>7,14,15</sup>.

From this collected information a list was prepared stating plant name both local and botanical, family, part of plant used, method of administration and the diseases for which the plant is used.



**Figure 1: Map of India showing Rajasthan state (left image) and Sikar district (right image).**

**RESULT AND DISCUSSION:**

The plants which were studied for their medicinal purposes in detail from the rural areas of Sikar district, Rajasthan are mentioned in table 1 below :

Table 1: Ethnomedicinal plants of Harshnath Hills of Sikar district of Rajasthan.

S.No.	Name of plant	Family	Local name	Official organ	Ailment	Mode of administration
1.	<i>Abrus precatorius</i> L.	Leguminosae	Chirmi	Leaves	Blisters	Fresh leaves are chewed
				Leaves	Wounds	Paste is applied for early healing
2.	<i>Abutilon indicum</i> L.	Malvaceae	Jhumka	Leaves	Diabetes	Powder taken orally with cow milk.
				Leaves	Syphilis	Paste applied locally.
				Leaves	Stone in bladder	Leaf juice taken orally
				Leaves	Dental ailment	Extract used for gargles
				Whole plant	Gonorrhoea	Decoction taken orally
3.	<i>Acacia catechu</i>	Leguminosae	Khair	Bark	Stomatitis	Paste applied locally
				Gum	Weakness	Mixed with wheat flour and sugar, taken orally
				Exudate	Difficult child birth	Taken orally
4.	<i>Acacia farnesiana</i>	Fabaceae		Leaves	Eye inflammations and reddening	Poultice applied over eyes
5.	<i>Acacia leucophloea</i>	Fabaceae	Safed kikar	Leaves	Swellings	Dried, pounded and applied locally.
				Leaves	Urinary tract bleeding	Decoction is taken orally
6.	<i>Acacia nilotica</i> subsp. <i>indica</i>	Fabaceae	Babul	Leaves	Syphilis	Orally taken with sugar
				Leaves & bark	Abscesses, Cuts or wounds	Paste applied locally
				Bark	Sexual vigour	Paste applied locally
				Fruit	Dysentery	Powder taken with sugar orally
				Gum	Syphilis	Paste applied locally
				Gum & pods	Constipation & piles	Orally with water
				Gum	Asthma	Orally
				Gum	Diabetes	Orally
				Gum & pods	Diarrhoea & dysentery	Orally
				Gum	Leucorrhoea	Paste taken orally with sugar
Seeds	Sexual vigour	Powdered seeds taken with sugar and milk				
7.	<i>Acacia senegal</i>	Fabaceae	Kher	Gum	Inflammation of intestinal mucosa	Taken orally
				Gum	Diabetes	Orally
				Gum	Haemorrhage	Orally
				Flower	Eye infection	Sap locally
8.	<i>Acalypha indica</i>	Euphorbiaceae		Whole plant	Brain weakness	Extract taken orally
				Fresh or dry plant	Gastro-intestinal irritation	Extract taken orally

9.	<i>Achyranthes aspera</i>	Amaranthaceae	Aandhi jhara	Inflorescence & root	Scorpion sting	Paste applied locally
				Whole plant	Cough and cold	Decoction taken orally
				Whole plant	Check excessive bleeding during delivery	Extract taken orally
				Whole plant	Intermittent fever	Decoction orally
				Root	Bleeding from cuts	Paste locally
				Root	Piles and fissures	Decoction with jaggery, orally
				Root	Pneumonia	Decoction taken orally
				Root	Typhoid	Decoction taken orally
				Root	Gangrene	Orally and locally
				Root	Rheumatism	Decoction taken orally
				Leaves	Rickets	Paste mixed with jaggery and applied on the head
Seeds	Dysentery	Paste taken orally with boiled milk				
10.	<i>Adhatoda vasaca</i>	Acanthaceae	Adussa	Seeds	Weakness	Boiled in milk and taken orally
				Leaves	Asthma	Decoction orally
				Leaves	Rheumatism	Extract taken with jaggery
				Seeds	Diarrhoea	Powder taken orally with milk
				Whole Plant	Cough	Decoction taken orally
11.	<i>Ageratum conyzoides</i>	Asteraceae		Leaves	Pyorrhoea	Decoction used for gargles
				Leaves	Fresh cuts and bruises	Juice applied externally
				Leaves	Snake bite & Insect stings	Juice applied externally
				Leaves	Conjunctivitis	Leaf juice in water orally
				Plant	Burns, ulcers and eruptions	Dried powder applied locally
12.	<i>Ailanthus excelsa</i>			Bark and leaves	Weakness	Decoction taken orally
				Leaves	Wounds and skin eruptions	Extract locally
				Stem bark	Abortion	Paste orally
				Stem bark	Birth control	Juice mixed with sugar or honey, taken orally
				Stem bark	Dysentery	Decoction mixed with honey or jaggery
				Stem bark	Fever	Decoction mixed with honey or – jaggery
				Stem bark	Severe cough and cold	Vapours inhaled
				Stem bark	Abdominal swelling	Orally
				Root	Fever	Orally

13.	<i>Aloe barbadensis</i>	Liliaceae	Gawarpatha	Leaves	Sexual vitality	Orally
				Leaves	Asthma	Pulp mixed with ghee and taken orally
				Leaves	Weakness	Pulp mixed with flour, sugar and ghee, taken orally
				Leaves	Burns	Extract applied locally
				Leaves	Liver diseases	Pulp is taken orally
				Leaves	Rheumatism	Bread prepared after mixing pulp and cow butter in wheat flour
				Leaves	Indigestion	250 gm of fresh pulp along with a pinch of black pepper and black salt is taken empty stomach
14.	<i>Amaranthus caudatus</i>	Amaranthaceae	Katili cholai	Leaves	Constipation	Eaten orally
				Leaves	Loss of appetite	Eaten orally
15.	<i>Amaranthus viridis</i>	Amaranthaceae	Jangli cholai	Plant	Gastritis	Decoction taken orally
16.	<i>Argemone mexicana</i>	Papaveraceae	Dhaturi (Pilli Kathali)	Flower	Whooping cough and cold cough	Crushed, taken orally
				Flower	Syphilis	Crushed, taken orally
				Fruit	Kill tooth germ	Fumes inhaled
				Leaves	Scorpion stings	Juice locally
				Leaves	Scabies	Rubbed raw on sites of irritation
				Root	Eye inflammation	Juice dropped directly in Eyes
				Seeds	Constipation	Few drops of oil taken with sugar
				Latex	Leucoderma	Yellow juice applied Locally
				Latex	Conjunctivitis	Juice applied over Eyelids
				Stem & latex	Rheumatism	Latex is robbed over affected part
17.	<i>Asparagus racemosus</i>	Liliaceae	Satawari	Leaves	Paralysis	Orally taken
				Stem Root	Chronic dysentery Sexual potential	Extract taken orally Powder taken orally with milk
				Root	Galactagogue	Juice taken orally
				Root	Leucorrhoea	Powder taken Orally with ghee
				Root	Diabetes	Decoction taken orally
				Root	Appetite	Orally
				Root	Bronchitis	Orally with root of <i>Withania</i>
				Root	Weakness & debility	Powder taken Orally with milk
				Root	Nose bleeding	Juice dropped in Nose
				Root	Dysentery and diarrhoea	Powder with water

18.	<i>Azadirachta indica</i>	Meliaceae	Neem	Flower	Irregular menses	Orally taken
				Leaves	Snake bite	Paste applied topically
				Leaves	Dental ailment	Extract used for gargles
				Leaves	Boil	Paste locally
				Leaves & seeds	Malaria or intermittent fever	Dried powder taken orally with water
				Bark	Piles	Paste taken with honey orally
				Seeds	Body lice	Paste of dried seeds applied locally
19.	<i>Balanites aegyptiaca</i>	Balanitaceae	Hingona	Fruit	Birth control	Powder taken orally
				Fruit	Whooping cough	Pulp taken orally
				Fruit	Burns, ulcers and eruptions	Pulp applied locally
				Root	Dysentery	Extract, orally
				Root	Internal haemorrhages	Paste rubbed locally
				Root	Guinea worm	Paste applied locally or taken orally
				Seed kernel	Dysentery	Taken orally
				Seed	Gastritis	Powder orally
				Fruits	Carbuncles, scabies	Paste is made from outer brown greasy cover of fruit and applied locally
20.	<i>Barleria cuspidata</i>	Acanthaceae	Vajradanti	Leaves	Glandular swelling	Paste applied locally
				Leaves	Catarrhal fever	Juice mixed with honey, orally
				Leaves	Chest pain	Orally
				Whole plant	Tuberculosis	Juice taken orally
				Twig	Strengthening of teeth	Used as tooth brush
				Whole plant	Dropsy	Orally taken
				Bark	Cough	Decoction mixed with honey or jaggery, orally
21.	<i>Bauhinia purpurea</i>	Leguminoceae	Kachnar	Flower buds	Constipation	Decoction taken orally
				Bark (tender)	Constipation and Small pox	Powdered and applied externally on sores.
22.	<i>Bidens biternata</i>			Leaves	Bleeding	Paste locally on cuts
				Root	Toothache	Juice orally
				Root	Snake bite	Locally applied
23.	<i>Boerhavia diffusa</i>	Nyctaginaceae	Sathi	Leaves	Kidney stone	As vegetable
				Root	Jaundice	Paste taken orally
				Root	Kidney stone	Powder taken with water
				Root	Fever	Extract taken with honey orally
				Plant	Sexual vigour and appetite	Decoction with other plant like Solanum, Eclipta, Centella etc.

24.	<i>Butea monosperma</i>	Leguminosaceae	Dhok, khakra	Fruit	Strains and fractures	Pounded heated and tied locally
				Gum	Birth control	Orally with water for a week
				Gum	Bronchitis	Roasted and taken orally
				Gum	Chronic dysentery	Scrubbed over effective area 10 gm with
				Seeds	intestinal worm	Steeped in hot water and tied locally
				Stem bark	Protrusion of uterus	1-2, orally
				Stem bark	Dental ailment	Decoction used for gargles
				Stem bark	Antidote to itching by <i>Mucuna prurins</i>	Decoction taken orally
				Stem bark	Cuts & wounds	Paste is applied on the affected part
25.	<i>Calligonum polygonoides</i>	Polygonaceae	Phog	Whole plant & roots	Sore gums	Applied locally
				Leaves	Eye disorders	Applied locally
				Fruit	General debility	Decoction taken as a tonic
26.	<i>Calotropis procera</i>	Asclepiadaceae	Akarda	Flower	Snake bite	Fresh flower taken orally
				Latex	Guinea worm	Applied locally
				Stem	Gastritis	Latex used locally
				Plant	Wound	Paste applied locally
				Root	Asthma	Bread prepared by mixing root stock in Bajara flour
27.	<i>Capparis deciduas</i>	Capparidaceae	Kareera	Leaves	Boils and swelling	Paste applied locally
				Fruits	Cardiac trouble	Orally taken
				Bark	Cough and asthma	Decoction taken orally
				Root and root bark	Rheumatism, intermittent fever and dropsy	Decoction taken orally
				Twigs	Toothache	Used as tooth brush
28.	<i>Cardiospermum halicacabum</i>	Sapindoideae		Seeds	Rheumatism	Powder with water or cow milk
				Plant	Tumours	Decoction locally
29.	<i>Cassia fistula</i>	Leguminosaceae	Garmala, Amaltas	Flower	Rat bite	Juice with cow milk taken orally
				Leaves	Facial paralysis and rheumatism	Decoction taken orally
				Leaves	Ringworm	Juice or paste applied locally
				Pods	Antihelminthic	Pulp taken orally
				Fruit pulp	Constipation	Orally taken
				Stem bark	Scabies	Paste locally
				Root	Cold and fever	Decoction taken orally
Seed	Diabetes and snake bite	Orally taken				
30.	<i>Cassia occidentalis</i>	Leguminosaceae		Leaves	Constipation	Powder with water orally
				Leaves & seeds	Ringworm	Applied locally

31.	<i>Cassia tora</i>	Leguminosae	Panvada	Leaves	Constipation	Juice taken orally
				Leaves	Ringworm	Extract locally
				Root	Snake bite	Paste locally
				Seed	Skin disease	Powder locally
32.	<i>Cesalpenia bonduc</i>	Cesalpeniaceae	Kantkaranj	Seeds	Piles/ Ulcer	Half tea spoon with boiled egg for 1 week
33.	<i>Citrullus colocynthus</i>	Cucurbitaceae	Ingalboli	Fruits	Gastritis	Taken orally
				Fruits	Abdominal pain	Orally taken with common salt
				Root	Rheumatism, Jaundice & Urinary troubles	Extract taken orally
				Seed	Bleeding & Abortifacient	Orally
34.	<i>Cleome gynandra</i>	Capparidaceae		Leaves	Burns and cuts	Extract applied locally
35.	<i>Cleome viscosa</i>	Capparidaceae	Kagiker	Leaves	Boils	Paste applied locally
				Leaves	Ear ailment	Extract applied locally
36.	<i>Clerodendrum phlomoides</i>	Verbenaceae	Arani	Leaves	Guinea worm	Tied locally
				Leaves	Anthelmintic	Juice taken orally
				Leaves	For curing pinworms	Paste applied locally
				Root	Gonorrhoea	Decoction orally
37.	<i>Cocculus hirsutus</i>	Menispermaceae	Jalimani	Leaves	Sexual vigour and Weakness	Paste taken orally with milk and sugar
				Leaves	Cuts, sores and wounds	Juice dripped over spot
				Leaves	Eye inflammations	Juice dripped in eyes
				Root	Insect bite	Decoction taken orally
				Stem	Stomach ache	Powder taken orally
38.	<i>Commiphora wightii</i>	Burseraceae	Gugal	Gum & resin	Old wounds	Applied locally as an antiseptic
				Gum & resin	Urinary obstruction	1 tea spoon gum & resin taken orally with water
				Gum & resin	Pyorrhoea	Infusion is used in gurgles
39.	<i>Corchorus aestuans</i>	Tiliaceae		Whole plant	Sexual vigour	Powder taken with fresh goat milk
				Seed	Mental weakness	Pounded seeds taken in milk
40.	<i>Corchorus depressus</i>	Tiliaceae	Baphuli	Root	Excessive bleeding in menses	Paste taken orally with milk
				Root	Brain weakness	Decoction taken orally with milk
41.	<i>Corchorus olitorius</i>	Tiliaceae		Seed	Brain weakness	Pounded seeds with milk
42.	<i>Cuscuta reflexa</i>	Cuscutaceae	Amarbel	Whole plant	Chest pain	Rubbed locally
				Stem	Jaundice	Decoction taken orally
43.	<i>Cyanodon dactylon</i>	Poaceae	Dhoob	Plant	Wound	Paste applied locally
				Plant	To fix pregnancy or bleeding during pregnancy	Ground with sugar and taken orally for 7 days
				Plant	Piles	Paste applied locally
				Plant	Eye diseases	Juice applied locally
44.	<i>Dactyloctenium aegyptium</i>	Poaceae		Seed	Kidney pain	Decoction taken orally
45.	<i>Dalbergia sissoo</i>	Fabaceae	Sisu/ Shisham	Leaves	Boils	Tied locally

				Leaves	Gonorrhoea	Decoction mixed with honey taken orally
46.	<i>Datura innoxia</i>	Solanaceae	Dhatura	Leaves	Purulent wounds	Juice with turmeric powder is applied as ointment
47.	<i>Datura stramonium</i>	Solanaceae	Dhatura	Plant	Asthma	Smell is inhaled
				Root	Boil	Paste applied locally
				Root	Ringworm	Juice applied locally
				Leaves	Asthma and cough	Powder taken with goat milk or honey
48.	<i>Datura metel</i>	Solanaceae	Dhatura	Leaves	Galactagogue	Locally
				Leaves	Asthma	Smoke inhaled
49.	<i>Desmostachya bipinnata</i>	Poaceae	Dabh	Plant	Urinary disorder	Decoction taken orally
50.	<i>Dichrostachys cinerea</i>	Fabaceae	Khairi	Leaves	Scorpion stings	Paste applied locally
51.	<i>Euphorbia Sps.</i>	Euphorbiaceae	Thor	Whole plant	Ringworm	Paste applied locally
				Whole plant	Toothache	Juice used for gargles
				Whole plant	Leucorrhoea	Decoction taken orally
				Leaves	Cough	Decoction taken with jaggery, orally
52.	<i>Euphorbia neriifolia</i>	Euphorbiaceae	Thor	Leaves	Gastritis	Paste taken orally
				Latex	Guinea worm	Locally applied
				Latex	Loose teeth	Applied with cotton for removal
				Stem	Wounds	Tied locally with turmeric powder
				Root	Abortion	Decoction orally
				Latex	Scorpion stings	Applied locally
53.	<i>Euphorbia parviflora</i>	Euphorbiaceae		Whole plant	Ringworm	Paste or juice applied locally
54.	<i>Euphorbia thymifolia</i>	Euphorbiaceae		Leaves	Infant dysentery	Decoction given with mother's milk
				Whole plant	Gonorrhoea	Powder locally or orally
55.	<i>Ficus benghalensis</i>	Moraceae	Bargad	Leaves & latex	Diarrhoea and dysentery	Extract taken orally
				Stem	Spongy gums	Decoction used for gargles
				Latex	Genital disease & Eye pain	Applied locally
				Seeds & Latex	Sexual potential	Orally
				Latex	Carbuncles	Paste applied locally
56.	<i>Ficus racemosa</i>	Moraceae	Gular	Stem	Spongy gums	Decoction used for gargle
				Stem	Diarrhoea	Latex taken orally with sugar

				Stem bark	Boils and pimples	Ash paste used locally with ghee
				Leaves	Vomiting	Orally
				Root	Stone in urinary bladder, Diabetes & Against habitual abortion	Decoction taken orally
				Receptacles	Bleeding in tuberculosis	Orally
57.	<i>Ficus religiosa</i>	Moraceae	Pepal	Root	Boil	Paste applied locally
				Fruits	Sexual disorder	Powder taken orally
				Bark	Jaundice	Power taken orally
				Leaves and Fruits	Constipation	Orally
58.	<i>Helicteres isora</i>	Sterculiaceae	Marodphal	Flowers	Constipation	Orally
				Fruits & seeds	Abdominal pain & Dysentery	Powder taken orally
				Roots	Diabetes	Powder taken orally or Decoction mixed with honey
				Root bark	Gastrointestinal trouble	Decoction with a pinch of common salt.
59.	<i>Holoptelea integrifolia</i>	Ulmaceae	Kanach	Leaves & seeds	Bleeding (from and wounds) & Quick healing	Juice applied locally
				Seeds	Brain and general debility	Taken orally
60.	<i>Indigofera caerulea</i>	Fabaceae		Whole plant	Asthma	Steam inhaled
61.	<i>Ipomoea pupurea</i>	Convolvulaceae		Leaves	Boils	Paste applied locally
62.	<i>Ipomoea obscura</i>	Convolvulaceae	Panbel	Leaves	Impotence	Powdered and made into pills, one pill taken orally once a day for seven days Lotion locally
63.	<i>Jatropha gossypifolia</i>	Euphorbiaceae	Ratanjot	Latex	Burns	Applied orally
				Latex	Eye diseases	Orally
64.	<i>Leptadenia pyrotechnica</i>	Asclepiadaceae	Khinpani	Root and plant	Rheumatism	Juice taken orally
				Leaves	Scabies	Paste applied locally
				Whole plant	Eczema and skin disease	Paste locally
				Whole plant	Gastric ailments	Decoction taken orally
65.	<i>Lindenbergia indica</i>	Orobanchaceae	Bhit chhatti	Leaves	Cough and toothache	Chewed
66.	<i>Luffa acutangula</i>	Cucurbitaceae	Jangli turai	Seeds	Stone in urinary bladder	Half tea spoon of powder taken with water
67.	<i>Mallotus philippensis</i>	Euphorbiaceae		Fruits	Ringworm	Paste applied locally
				Seeds	Anthelmintic	Powder taken orally with water
68.	<i>Mangifera indica</i>	Anacardiaceae	Aam	Cotyledons	Diarrhoea	Extract taken orally
				Gum	Scorpion sting	Powder taken orally
				Gum	Chronic dysentery	Orally mixed with equal amounts of gums of <i>Butea</i> and <i>Moringa</i>
				Leaves	Hoarseness of voice & Sore throat	Chewed directly

				Stem bark	Abortion	Orally with bark of <i>Syzygium</i> and <i>Zizyphus</i>
69.	<i>Moringa oleifera</i>	Moringaceae	Sahajana	Leaves	Dog bite	Paste with lime, applied topically
				Leaves	Cholera	Extract taken orally
				Stem bark	Diabetes	Decoction taken orally
70.	<i>Mucuna pruriens</i>	Fabaceae		Root	Sexual vigour	Powder taken orally with water
				Root	Cholera	Orally
				Seed	Weakness	Powder taken orally with milk
71.	<i>Ocimum basilicum</i>	Labiatae	Marwa	Leaves	Bee sting	Paste topically
				Leaves	Cold, cough and fever	Decoction with Honey
72.	<i>Ocimum canum</i>	Labiatae		Leaves	Bronchitis	Decoction taken orally with milk
				Leaves	Skin diseases	Juice applied locally
				Leaves	Headache & Fever	Paste rubbed locally
				Seeds	Appetite	Paste taken normally
				Seeds	Urinary tract Inflammation	Powder with milk Orally
73.	<i>Ocimum sanctum</i>	Labiatae	Tulsi	Inflorescence	Diabetes	Powder taken orally with water
				Leaves	Cough and toothache	Chewed directly
				Leaves	Pneumonia	Powder taken orally
				Leaves	Malaria and intermittent fever	Boiled with tea, taken orally
				Leaves	Ringworm	Juice locally
				Leaves	Gonorrhoea	Decoction taken orally
				Leaves	Scorpion, Snake or mosquito bite	Juice rubbed locally
				Seeds	Spermatorrhoea	Powder orally with cow milk
				Seeds	Constipation, piles, kidney stone and gonorrhoea	Orally
74.	<i>Pedaliium murex</i>	Pedaliaceae	Gokharu	Plant	Sexual vigour	Juice taken orally
				Fruit	Sexual vigour	Powder taken orally with ghee
				Fruit	Weakness	Mixed with wheat flour, sugar and ghee, taken orally
				Plant	Appetite	Extract taken orally
				Fruit	Syphilis	Decoction with the roots of <i>Abrus precatorius</i>
				Leaves	Gonorrhoea	Orally
				Fruit	Rheumatic pains	Powder applied locally with butter
75.	<i>Phoenix sylvestris</i>	Arecaceae	Khajoor	Fruit	Weakness, cough & cold	Boiled in milk, taken orally
				Seed	Pain and swelling	Powdered and paste locally
				Fruits	Arthritis	Orally
				Leaves	Swelling of testes	Paste locally

76.	<i>Phyllanthus emblica</i>	Euphorbiaceae	Amla	Fruits	Leucorrhoea	Soaked in honey and taken orally.
				Fruits	Diabetes	Juice mixed with juice of <i>Momordica charantia</i> and taken orally.
				Fruits	Rheumatism	Fruit powder mixed with jaggery and taken orally.
				Fruits	Diarrhoea	Powder taken orally.
				Seeds	Syphilis & Leucorrhoea	Decoction taken with honey and sugar
				Fruits	Constipation	Dried powder taken with water
77.	<i>Phyllanthus niruri</i>	Euphorbiaceae	Bhumi amla	Leaves	Skin disease, wounds and fractures	Paste applied locally
				Leaves	Intermittent fever	Decoction orally
				Roots	Jaundice	Decoction orally
				Whole plant	Constipation, Diabetes & Hepatitis	Orally
78.	<i>Plumbago zeylanica</i>	Plumbaginaceae		Root	Burns and wounds	Powder applied locally
				Root	Protrusion of uterus	Paste taken orally
				Root	Appetite	Extract, taken orally
79.	<i>Portulaca suffruticosa</i>	Portulacaceae		Leaves	Boils, burns and wounds	Extract, applied locally
				Whole plant	Weakness	Extract taken orally
				Leaves	Bleeding from mouth nose and rectum	Paste orally
				Seeds	Dysentery and mucous diarrhoea	Orally taken
80.	<i>Prosopis juliflora</i>	Mimosaceae		Gum	Weakness	Mixed with wheat flour, sugar and ghee, taken orally
				Leaves	Wounds	Paste applied locally
				Flower	Abortifacient	Orally taken
				Stem bark	Rheumatism	Decoction taken orally
				Stem bark	Wounds	Paste applied locally
Twigs	Ringworm	Juice applied locally				
81.	<i>Ricinus communis</i>	Euphorbiaceae	Arandi	Leaves	Reduce menses pain	Juice applied with mustard oil locally
				Leaves	Guinea worm, Rheumatism	Warmed leaves tied locally
				Leaves	Sprains and fractures & Abdominal pains / gastric disturbances	Tied hot locally
				Leaves	Jaundice	Juice taken orally
				Seeds	Birth control	Orally taken with water during menstruation
				Seeds	Dyspepsia	Pulp taken orally with milk
				Seeds	Rheumatic swelling	Poultice applied locally
82.	<i>Saccharum bengalense</i>	Poaceae	Munj	Root	Aphrodisiac and as general tonic	Decoction taken orally
83.	<i>Salvadora oleoides</i>	Salvadoraceae		Root	Dental ailment	Paste applied on teeth locally
84.	<i>Salvadora persica</i>	Salvadoraceae	Pilu	Leaves	Appetite	Paste taken orally with honey

85.	<i>Salvia aegyptiaca</i>	Lamiaceae	Hingot	Leaves and seeds	Brain weakness	Boiled in milk and taken orally
				Seeds	Diarrhoea	One tea spoon dried powder taken with water
86.	<i>Sida veronicalfolia</i>	Malvaceae		Seeds	Gonorrhoea	Paste used locally
				Shoot	Excessive blood flow in menses	Paste taken orally
				Seed	Spermatorrhoea	Orally
				Roots	Bronchitis	Extract taken orally
87.	<i>Solanum americanum</i>	Solanaceae	Mako	Leaves	Arthritis	Consumed as vegetable
88.	<i>Solanum nigrum</i>	Solanaceae	Makoe	Whole plant	Fever	Decoction taken orally thrice a day
89.	<i>Solanum indicum</i>	Solanaceae		Leaves	Whooping cough	Decoction taken orally
				Leaves	Dog bite	Extract taken orally
				Roots	Fever, cold, cough and asthma	Decoction taken orally
				Fruits	Diarrhoea	Decoction taken orally
				Fruits	Hydrophobia & Fever	Orally
				Seeds	Aphrodisiac	Orally
				Whole plant	Liver disease	Orally
90.	<i>Solanum surattense</i>	Solonaceae	Safed kateli	Fruits	Cough, toothache and jaw ache	Chewed directly, powder is rubbed on teeth
				Flowers	Diarrhoea	Orally
				Leaves	Rheumatism	Orally
				Bark & fruits	Cough	One tea spoon powder is taken orally with water
				Seeds	Irregular menses	Taken orally
				Whole plant	Syphilis & Piles	Paste applied locally
91.	<i>Syzygium cumini</i>	Myrtaceae	Jambu	Leaves	Dysentery/Diarrhoea	Decoction taken orally
92.	<i>Tamarindus indica</i>	Leguminoceae	Imli	Seeds	Scorpion sting	Rubbed on stone with water and sap used locally
				Fruit	Sunstroke	Pulp mixed in water and taken orally
				Fruit	Irregular menstruation	Eaten directly or taken as vegetable
93.	<i>Tecomella undulata</i>	Bignoniaceae	Rhoeda	Bark	Syphilis & Birth control	Chewed directly
				Bark	Leucorrhoea	Powder mixed with honey and sugar and taken with milk
				Seeds	Abscess, allergies and eczma	Paste is applied locally
94.	<i>Tephrosia appotinea</i>	Leguminoceae		Leaves	Piles and leprosy	Paste locally
				Whole plant	Gastritis, skin diseases, wounds	Paste applied orally
				Plant	Jaundice, asthma, cough and fever	Decoction taken orally
				Roots	Snake bite	Paste locally
				Twigs	Toothache	As toothbrush
95.	<i>Tinospora cordifolia</i>	Manispermaceae	Giloi	Leaves	Leucorrhoea	Decoction taken orally
				Stem	Fever, asthma and diabetes	Decoction taken orally
				Stem	Painful lactation	Extract or paste rubbed locally on mothers breast

96.	<i>Tribulus terrestris</i>	Zygophyllaceae	Chota gokharu	Fruits	Impotency	Powder is taken with milk to increase sperm count
				Fruits	Whooping cough	Decoction mixed with almond and honey, taken with cow milk
				Fruits	Abortifacient	Powder taken orally
				Whole plant	Sexual debility	Powder taken orally
97.	<i>Tridax procumbens</i>	Asteraceae	Pardesi bhangra	Leaves	Bleeding from wounds and cuts	Juice dripped locally
98.	<i>Trigonella foenum-graecum</i>	Fabaceae	Methi	Leaves	Leucoderma	Applied locally
				Leaves	Swelling	Paste applied locally
				Seeds	Diabetes	Powder taken orally
				Seeds	Stomachache	Orally with water
				Seeds	Dysentery, Diarrhoea and dyspepsia	Orally
99.	<i>Typha angustata</i>	Typhaceae	Era	Inflorescence	Wounds	Inflorescence is tied over deep wound as dressing
100.	<i>Vitex negundo</i>	Verbenaceae	Nirgundi	Leaves	Dyspepsia	Orally taken
				Leaves	Boil	Ash used orally
				Seeds	Sexual vigour	Baked and made into laddoos
				Leaves	Joint pain	Decoction used as fomentation
101.	<i>Withania somnifera</i>	Solanaceae	Ashvagandha	Leaves	Weakness	Extract taken orally
				Leaves	Irregular menstruation	Dried and pounded leaves locally
				Leaves	Fever	One tea spoon powder taken orally with water
				Root	Liver diseases	Powder taken orally
				Root	Tuberculosis	Decoction taken with black pepper and honey orally
				Root	Cold and cough	Powder or – decoction taken orally
				Root	Painful swelling	Bruised paste is applied locally
102.	<i>Wrightia tinctoria</i>	Apocynaceae	Khirmi	Root and stem	Scorpion bite	Chewed orally
				Leaves	Toothache	Paste rubbed on teeth directly
				Leaves	Diarrhoea	Decoction orally
				Root/stem	Abdominal pain	Half cup of root or stem decoction given orally
				Leaves	Asthma	Half tea spoon of dried powder taken orally
103.	<i>Xanthium strumarium</i>	Compositae	Adhashishi	Fruit	Headache	Extract applied topically
				Flower	Cold and cough	Decoction with leaf decoction of <i>Psidium guajava</i>
104.	<i>Zizyphus mauritiana</i>	Rhamnaceae	Ber	Leaves	Diabetes	Chewed or powder taken orally with water
				Leaves	Insect sting	Paste applied topically
				Bark	Dysentery	Extract taken orally
				Root	Fever	Decoction taken orally

105.	<i>Zizyphus nummularia</i>	Rhamnaceae	Jhariber	Stem	Pyorrhoea and bristles	Decoction used in gargles
				Root	Weakness	Chewed directly
				Root & bark	Abortion	Powder orally taken
				Stem bark	Sore throat impaired voice	Chewed directly
				Leaves & fruits	Cough and cold	Dried powder taken orally with warm water
				Stem & bark	Skin diseases, boils, eczema and scabies	Decoction is used as disinfectant

In the present study, the ethnomedical use of approximately 105 plant species belonging to 49 families have been reported (Table.1). Some important plants which were found in this region are *Abutilon indicum*, *Ageratum conyzoides*, *Ailanthus excelsa*, *Argemone mexicana*, *Balanites aegyptiaca*, *Barleria cuspidata*, *Calligonum polygonoides*, *Citrullus colcyntus*, *Euphorbia hirta*, *Ficus benghalensis*, *Helicteres isora*, *Lawsonia inermis*, *Ocimum sanctum*, *Pedaliium murex*, *Ricinus communis*, *Solanum indicum* and *Tephrosia appotinea*. The local and tribal people of the region uses all these plant species for curing diseases such as respiratory ailments, blood and liver disorders, urinary disorder, sexual problems, diabetes, animal and parasitic bites, rheumatism, eye, ear, teeth, hair, skin diseases, digestive system related ailments and common fever. From this investigation it revealed that the rural and tribal communities are using these herbs for generations which also represents their ethnic culture. Therefore, it is important to identify and utilize these ethnomedicines in day to day life by all people rather than depending on allopathy as these medicines are non-toxic and have no side effects. Thus, it is our duty to preserve this valuable knowledge for our future generation.

#### Conclusion:

In the present study, an attempt has been made to identify the potential of herbal extracts for medicinal purposes by the local

rural people of Harshnath Area of Sikar district. This research proves to be helpful to the medical and personal care industry as the addition of herbal extracts for therapeutic or excipient purposes requires good understanding of both modern and herbal ingredients<sup>16,17</sup>. The traditional medicine provides the perspective of safety, efficacy and quality which will further help in preserving and rationalizing this traditional heritage<sup>18</sup>.

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