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A Study Of Ethno Medicinal Plants In Manikpur Tahsil Of Chitrakoot District, (U.P.) India, With Special Reference To Jari Butis Used By Kol Tribes To Cure Human Diseases.

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Introduction:

Ethno botany is the branch of botany that deals the study that how indigenous people of a particular geographical area with specific culture make use of local flora in various purposes like medicines, food, fodder, shelter, oils, dyes, etc. from prehistoric time. This Knowledge of using local plants of tribal peoples in various purposes is known to transfer through generations as a part of their cultural heritage. Means Plants are known to play a crucial role in Human life and health. It is known to play an important role in understanding the dynamic relationship between biological diversity and cultural systems (Mahmood et al. 2011). In ethno medicine we deal about various applications of ethno medicinal plants or jari butis to treat diseases used by ethnic or indigenous people of a particular area. In modern time the study of plants and their relationship with the people in India began when British botanists came to the country and observed the various native uses of the plants. Like Roxburgh (1832) describes the use, vernacular names, and the botanical identification of the plants.

Geographically district Chitrakoot is located in Bundelkhand region of U.P. India, which occupies an area of 3,205 Km^2. According to the census 2011 its population is 9,91730, The headquarter is at Karwi. The district lies between Latitude 24^0 48' to 25^0 12'N and Longitude 80^0 58' to 81^0 34' E. East to west extension of the district is 62Km and North to south extension is 57.5 Km. Geographically it shares the boundaries with Banda in west along with Bagein river, Kaushambi and Fatehpur in north along with Yamuna. Prayagraj in east and M.P in south. This is actually the part of Bundelkhand plateau that is highly enriched with plant resources/diversity that provides various plant products since pre historic time to local inhabitants. The general topography of the district Chitrakoot is hilly where numerous rivers and rivulets like Yamuna, Mandakini (Paishwani), Valmiki/Ohan, Gunta, Bagein, Bardaha etc are known to flow and enrich the ecosystem of area. Forest of this district predominantly

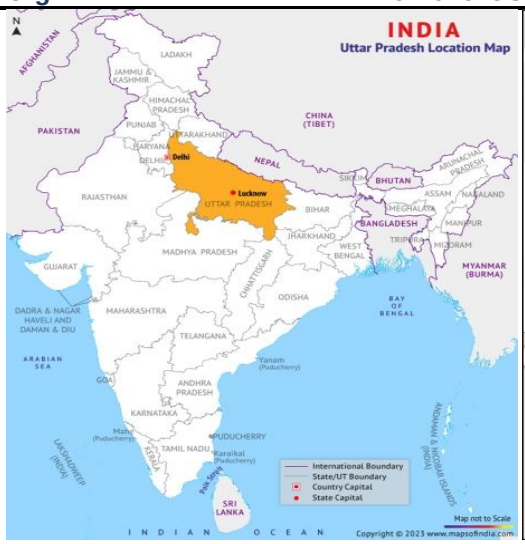
consists of tropical dry with mixed deciduous type of vegetation. Climate of area is dry where maximum temperature rise up to 50.5 **ºC** in the month of May and minimum up to the 5 ºC in the month of December/January (Sikarwar, R.L.S. Uttar Pradesh state biodiversity board 2011). Famous forest covering area/biodiversity places of the district are Patha forest and certain hilly extension of Vindhyan range with mixed dry deciduous plants. Chitrakoot is regarded as "**The hills of many wonders**" is indeed a gift of nature and God.

In Patha forest besides general population tribe Kol and Mawasi are also lives, but Kol are more in population as compare to Mawasi. They linked their ancestor with mata Sabri of Ramayana period. According to Champion and Seth (1968), the forests of this area are fall under the following categories like mixed, Kardhai, Salai, Khair and Bamboo forests (Sikarwar R.L.S, Uttar Pradesh state biodiversity board 2011).

Chitrakoot have historical, religious, cultural and archaeological importance, where a large number of mendicants, hermits, sages and saints have attained higher and higher spiritual status and have exerted a beneficial effect in the world through their sadhana. It is believed that the principal gods of Hindus, like Brahma, Vishnu, and Mahesh took incarnations here and they take vatasalya of Mata Anusuiya wife of sage Atri. Manikpur is newly formed tahsil of district where Kol population is found in various villages whose life is totally depend upon the natural vegetation for various daily needs. Some villages of the Manikpur where Kol are generally found are Bahilpurwa, Karka- Padariya, Rampuriya, Jhilang, Aahari, Dudhwaniya, Kalighati, Umrahan, Dhobhara, Madiyan, Tikariya, Markundi, kalyanpur, Laxamanpur, Nagar, Ranipur, Sakaraunha, unchdeeh, chamraunha etc.

This area is highly enriched with a huge number of medicinal plants, that's commonly used by tribal people to treat various diseases either singly or in combination with a determined ratio. Some Common medicinal plants found in this forest are *Tinospora cordifolia, Gymnema sylvstre, Achyranthes aspera, Urginea indica, Curculigo orchioides, Dioscorea bulbifera Desmodium gangeticum, Coccinia grandis, Cordia macleodii, Litsea glutinosa, Oroxylum indicum, Gloriosa superba, Pterocarpus marsupium, Terminalia arjuna, T. bellirica, T. chebula, Actiniopteris radiata, Cyperus rotundus, Vernonia cinerea, Sida cordifolia, Sida, acuta, Calotropis, gigantia, Ampelocissus latifolia, Peristrophe paniculata, Cassia tora, Tridax procumbens, Phyllanthus fraternus, Phyllanthus, niruri, Elytraria acaulis, Solanum nigrum, Teramnus labialis, Vitex negundo, Abutilon indicum, Cocculus hirsutus, Hemidesmus indicus, Enicostemmahys sopifolium, Boerhavia diffusa, Solanum virginianum, Helicteres isora, Aegle marmelos, Allangium salvifolium, Argemone, maxicana, Eclipta, prosterata, Madhuca longifolia, Diospyros melanoxylon* etc (R.L.S. Sikarwar 2011).

These medicinal plants or jari butis are either seasonal or growing throughout the year and used by indigenous people/tribal to cure diseases Local people do not aware about conservation of these important jari butis. They used them in unmanaged manner without considering their protection for their future generation, by which many important medicinal plants are going extinct or endangered condition due to overexploitation For example Kalihari or agnisikha (*Gloriosa superba*) and Gurmar (*Gymnema sylvestrae*) are now very rarely found in this area, that was abundantly grows here before few years ago.



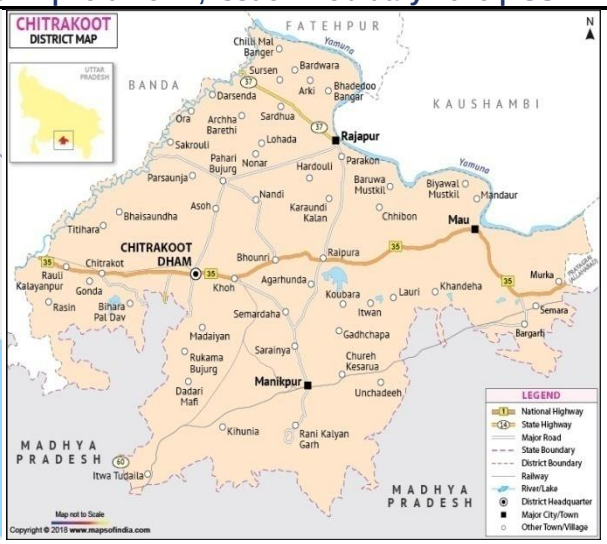


Fig-1.1 Map of India highlighted with U.P. **Fig- 1.2 Map of district Chitrakoot (Source- Wikipedia)**

Materials and methods:

Following methodology has been adopted to complete this research work by appropriate materials by researchers.

a) Review of literature: First of all available literature have been studied about the topic or ethnobotanical perception of different tribal groups in books, journals, magazines, news paper, official websites of district Chitrakoot and different online platforms. From this literature review understanding of topic was developed.

b) Survey and collection of data through interaction: After that survey of selected research area was performed in many times in between August 2023- December 2024 for collecting information about inter relationship in between natural vegetation and local inhabitants especially with uses of jari butis. During survey various valuable information has been collected that how local inhabitants, especially tribal people are dependent upon natural vegetation of area for their different daily needs like medicine, food, fodder, fiber, timber etc. During survey interaction was performed from 34 indigenous/tribal people of various villages of selected area like Bahilpurva, Karka Padariya, Jhilang, Semariya etc. In this interaction age of all responders was more than 45 years and most of them were not educated. (**Plate 1- 3**). During that many valuable information regarding inter relationship in between natural vegetation and indigenous people to their different daily needs especially their medicinal needs that's fulfill from local flora from generation to generation. In this regard repeated and cross queries were done for confirmation and verification of the information. The Prior Informed Consent (PIC) was obtained from the ethnic groups concerned.

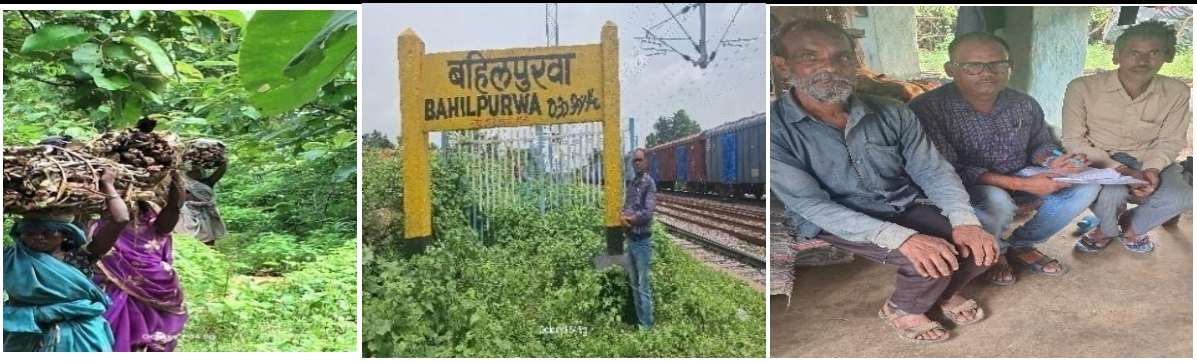


Plate -1 Tribal woman with wood bundle, railway station at Bahilpurwa& interaction with tribal people.

b) Collection of Sample plants and preparation of herbarium sheets: During these survey samples of some important ethno medicinal plants were collected from research area then prepare herbarium sheets of them as per standard herbarium methods given by various botanists from time to time. In this regard we took informers to forest for collection of voucher specimens. The voucher specimens were kept between the blotting papers for drying and the blotting papers were bundled in plant press. After drying these specimens were poisoned, mounted, stitched and labeled on herbarium sheet. These plant specimens were identified with the help of keys and botanical description, described Floras by Haines (1921-25), Mooney (1941, 1950) and Singh et al. (2001). There after send these herbarium specimens to Botanical Survey of India, Central Regional Centre Prayagraj for their identification and authentication. These herbarium sheets like *Gymnema sylvestris, Convolvulus prostratus, Cassia, tora, Phyllanthus niruri, Boerhavia diffusa* etc.are deposited in the herbaria of Botanical Survey of India Central Regional Centre Prayagraj for future reference.

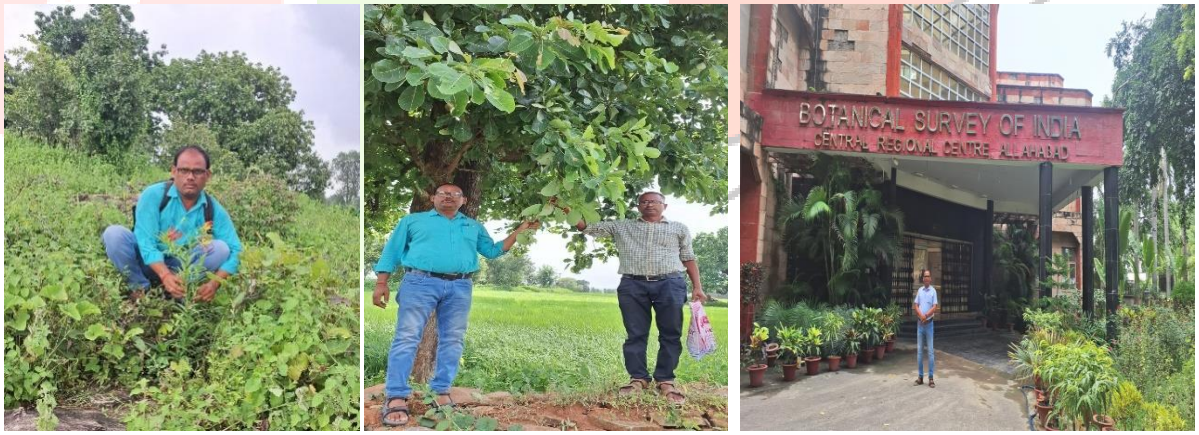


Plate -2 *Gloriosa, superba* (Agnisikha) an ethno medicinal plant in forest, *Terminalia, belerica* (Bahera) in forest & at B.S.I. Prayagraj for identification& authentication of voucher specimens

c) Interview of tribal people/vaids for ethno medicinal importance: In order to know about ethno medicinal importance of various jari butis interviews of some local inhabitants of Kol Tribe/vaids of certain villages was performed through a set of questionnaire having 50 multiple choice questions, in order to collect information about various ethno botanical/ethno medicinal importance of certain common medicinal plants as per their experience or knowledge that they gain from their ancestors through generations as their cultural heritage. As we all of us know that various traditional knowledge/ experience of a particular community is orally transferred from their parents to descendant during generation to generation as the part of their cultural heritage.

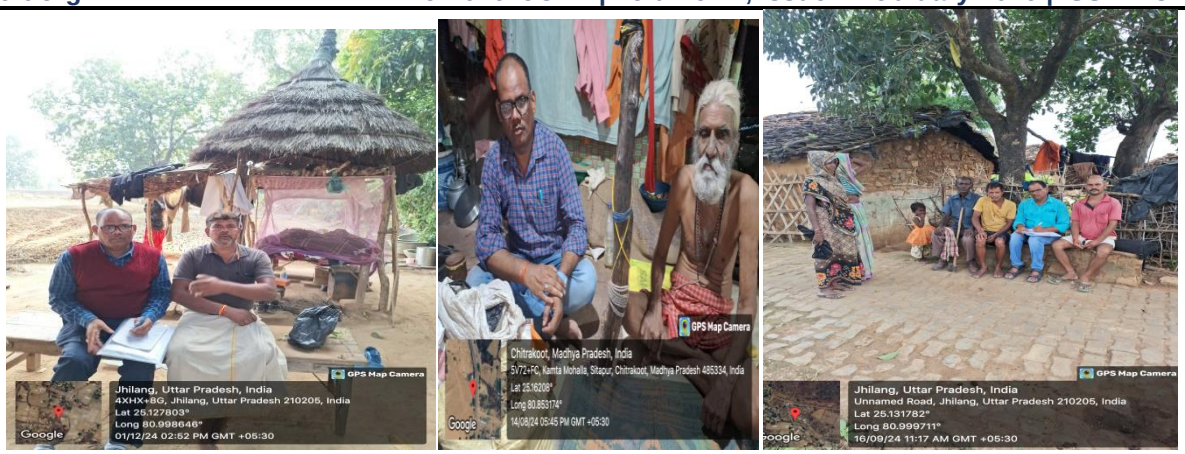


Plate -3 Interaction with Vaid Omprakash at Bahilpurwa, a sadhu at Kamadgiri parikrama Chitrakoot & interview of tribal people for collection of information.

The information that obtained from them regarding ethno medicinal importance of many jari butis that they used to cure diseases are tabulated and documented in **Table -1**. In table plant species are arranged as per their botanical name, local name(s), family, habit, part used and their ethno medicinal importance for tribal people. Further, these uses of ethno medicinal plants were compared and cross checked with well-known standard Indian ethno medicinal literature(S.K. Jain, 1991) and medicinal literatures (Kirtikar and Basu, 1935; Chopra et al., 1956; Anonymous, 1948-76) and seen that most of the uses have not been reported earlier, some are less known and some are well known.

Results and discussion:

From ethno botanical survey/interviews/interaction with local inhabitants as well as from available literature it can be concluded that ethno medicinal plants or jari butis are known to play a vital role in the betterment of their health since prehistoric time. Many tribal people/ local inhabitants told us that they gain this knowledge about uses of jari butis in order to cure various human diseases orally from their ancestors through generations as their cultural practices. It have been sheen that tribal people are still nearly dependent on local flora to fulfill their daily needs including medicinal requirements in various ways. In this research work we study about botanical name, family, local name habit, part used and ethno medicinal importance of 50 Jari butis available in geographical area of Tahsil Manikpur district Chitrakoot.

These 50 jari butis are known to belongs from 27 families of angiosperms and 1 family of pteridophytes, maximum of them are belongs to Fabaceae (6) followed by asteraceae and combretaceae with 3 jari butis each. In this regard special focus was about uses of jari butis in various ailments or diseases by local inhabitants or tribal people. Information/data about uses of various ethno medicinal plants in curing diseases mentioned in table are obtained with interaction/interviews of local inhabitants/tribal/sadhus and vaids of area as per their experience in this field that they gain either from their ancestors or self study.

The jari butis mentioned in this study are easily available to their surroundings. In this regard here it is seen that tribal people are not aware about their sustainable use. They used them in unplanned manner, by which many of them are going extinct or reached in endangered condition. For example they overexploited *Gymnema, sylvestris* (Gurmar) used to treat diabetes by which now it is rarely found in the forests of district Chitrakoot. So now a day's tribal people goes to Orchha forest of Jhansi for taking the above jari buti and they bring it in the form of bundle and sell after cutting and drying to people of various Ayurvedic companies. So there is need of training to these tribal/local inhabitants for making

balanced and proper use of ethno medicinal plants by which they become available for future generations as well as balance of ecosystem or biodiversity may maintain continuously.

Table: 1 Some ethno medicinal plants and their importance

S. No	Botanical name and family	Local name	Habit	Part Used	Ethno medicinal use	Remark
1	*Urginea indica* (Roxb.) Liliaceae	Jungali Piyaz or Kandari	Herb	Bulbs	Used in skin diseases& Chronic rheumatism	
2	*Sida acuta* (Burm.f) Malvaceae	Bariyari or Mahabala	Herb	Leaves &stem	Leaves juice is like a men semen. So it is used to increase semen of men.	
3	*Gloriosa superba* L. Colichicaceae	Karihari or Agni sikha	Herb	Rhizome	Rhizomes (Kand) are boiled with mustard oil is used to cure joint pains.	
4	*Cleome viscosa* Linn. Cleomaceae	Hurhur	Herb	Whole plant	Extract of leaves used in order to cure ear infection & pus discharge. Use to treat wounds and ulcers.	
5	*Cyperus rotundus*. Linn. Cyperaceae	Nagarmotha	Herb	Rhizome	Rhizomes are called Nagarmotha used to cure digestion, ear and teeth problems	
6	*Leptadenia, undelkhan*. (Retz.) weight and Arn. Apocynaceae	Dori or Jivanti	Herb	Leaves	Used in order to cure tridosha like vata, pitta and cough	
7	*Cassia, tora* L. Fabaceae	Chakaunda	Herb	Leaves	Leaves used in skin diseases. Local people make vegetable from its leaves.	Id authenticate by BSI Prayagraj
8	*Eclipta, prostrata* L. Asteraceae	Ghamira	Herb	Leaves	Leaves juice is used locally to promote hair growth and curing skin diseases.	Id authenticate by BSI Prayagraj
9	*Convolvulus prostratus*. Forssk. Convolvulaceae	Sankhpushpi	Herb	Leaves	Leaves juice is used as brain tonic	Id authenticate by BSI Prayagraj

10	*Phyllanthus niruri* (L.) Euphorbiaceae	Bhoomi amla	Herb	Leaves	Leaves are chewed by local inhabitants to cure liver problems	Id authenticate by BSI Prayagraj
11	*Achyranthus aspera*. L. Achyranthaceae	Chirchita or Latjeera	Herb	Roots	Roots are used as tooth brush daily to cure teeth problems.	Id authenticate by BSI
12	*Ocimum americanum* (L.) Lamiaceae	Babai or Van tulsi	Herb	Roots &leaves	Root powder with little amount of water is given orally in scorpion bite.	
13	*Boerhavia diffusa* L. nom. Cons. Nyctaginaceae	Pattharchata or Punarnava	Creeper	Leaves	Tribal/local people used leaves of this plant as vegetable and to cure kidney stone. Plant is also used as diuretic.	Id authenticate by BSI Prayagraj
14	*Selaginella bryopteris* (L.)Baker Selaginellaceae	Sanjeevani	Herb	Entire plant	Traditionally uses to relief from heat stroke, dysuria, irregular menstruation and jaundice. It is also useful for coma patient by way of inhalation.	
15	*Blumea lacera* (Burm,f.) DC. Asteraceae	Kukronda	Herb	Leaves	Leaves are used ethno medicinally to cure piles and used in fever and conjunctivitis.	
16	*Aristolochia bracteata* Lam. Aristolochiaceae	Kiramar	Herb	Roots &leaves	Roots & leaves of the plant are used to kill intestinal worms by tribal/local people.	
17	*Uraria picta* (Jacq.) DC. Paplionaceae	Pitvan or Prishniparni	Herb	Roots	Roots are ingredient of dashmool. Tribal uses this plant to cure bone fractures due to its quick healing capacity.	
18	*Ageratum, conyzoides* (Linn.) Asteraceae	Goat weed or Visaduri	Herb	Leaves	Leaves are used to treat skin diseases and as a antiseptic for leprosy	Id authenticate by BSI Prayagraj
19	*Gymnema sylvestre* (L.) Apocynaceae	Gurmar	Woody climber	Leaves	Leaves are used to cure diabetes	Id authenticate by BSI

20	*Clerodendrum phlomides* f. rubrum Verbenaceae	Arani or Agnimantha	Shrub	Roots	Roots used in constipation, urination, piles etc. As per Ayurvedic medicinal system it is used as component of Dashmool	
21	*Adhatoda vasica* (L.) Nees. Acanthaceae	Rusa or vasaka	Shrub	Leaves	Extract of leaves is used to cure cough, bronchitis and asthma along with honey.	Id authenticat e by BSI Prayagraj
22	*Cissus quardangularis* (Linn.) Vitaceae	Harjor or Hadjod	Shrub	Modified stem	Tribal/local inhabitants used it to join or repair the fractured bones or joints. It also helps in weight management.	
23	*Cocculus hirsutus* (L.) Diels. Menispermaceae	Chharenhata	Shrub	Leaves	Powder of dry Green leaves is given orally with water to treat liver disorders, hydrosil and elephantitis	
24	*Nyctanthus arbor-tirtis* (L.) Nyctagineaceae	Seharua or Harsingar	Shurb	Leaves	Leaves used in treating sciatica with bark of Moringa, olifera, and leaves of Vitex, negundo by making powder.	
25	*Agave americana* Asparagaceae	Kandmool or Rambans	Herb	Root	Slices of roots are sold to pilgrims as Kandmoolphal by Local inhabitants in Kamadgiri, Chitrakoot for eating and saying that this was eaten by Lord Ram, mata Sita and Laxman during their exile period.	
26	*Sida cordifolia* (L.) Malvaceae	Bala or Flannel weed	Shrub	Leaves	Tribal/ local inhabitants used leaves to treat bronchial asthma, cough, nasal congestation and flue.	
27	*Lantana camara* (L.) Verbenaceae	Ghaneri or Gandhak	Shrub	Roots &leaves	Roots/leaves are used to treat chicken pox, measles, cuts & wounds.	

28	*Anogeissus latifolia* (Roxb.exDC) Combretaceae	Dhava	Tree	Bark & leaves	Bark& leaves are used in wounds, localized swelling, diarrhea and skin diseases.	
29	*Prosopsis cineraria* (L.) Druce Fabaceae	Sendh	Tree	Bark & Leaves	Tribal people chewed leaves to cure mouth ulcers, and bark is used to treat bronchitis, asthma and piles	
30	*Holarrhena antidysenrica* (L.) Apocynaceae	Kutaz	Tree	All parts	Tribal used this plant to treat diarrhea & dysentery, bleeding piles and wound healing. Wood is used to make toys, that's are famous in district Chitrakoot.	
31	*Madhuca longifolia* (J. Koing) J. F. Macbr. Sapotaceae	Mahua	Tree	Flowers, fruits & seeds	Oil obtained from seeds is useful to cure diseases. Tribal/local people of Bundelkhand region used dried flowers to make lata, meethi pudi, halwa etc.	
32	*Sterculia urens* Sterculiaceae	Genduli	Shrub	Fruit	The olive green fruits are edible	
33	*Helicteres isora* (L.) Sterculiaceae	Petmurri or Marodphali	Shrub	Fruit	Common folk medicine used to treat constipation of new born baby, diarrhea, dysentery as well as snake bite	
34	*Gmelina arborea* Roxb. Lamiaceae	Gambhari or Goomar teak	Tree	Bark & root	Roots are ingredient of dashmool, that promotes digestive power and improve memory. Bark is used in fever by local peoples.	
35	*Oroxylum indicum* (L.) Benth.ex kurz Bignoniaceae	Shyonak or Sona patha	Tree	Bark	Tribal people used it as Vatnashak and used in many Ayurvedic formulations.	
36	*Cordia macleodii* Hook. f. Thompson Boraginaceae	Dahiman or Dahipalas			Bark is useful to treat mouth ulcer, blood cancer and high blood pressure by tribal/local	

			Tree	Bark	people. Wood rod is regarded as auspicious to keep in home.	
37	*Diospyros melanoxylon.* Ebenaceae	Tendu	Tree	Bark, leaves &fruits	Bark is useful to treat various ailments. Fruits are edible. Leaves are wrapped around tobacco to made bidi.	
38	*Terminalia bellirica* Combretaceae	Baheda or Bahera	Tree	Fruits	Fruits are an important ingredient of Triphala Churna.	
39	Aegle marmelos Rutaceae	Bael or wood apple	Tree	Fruits	Mesocarp (pulp) is used by indigenous people/ tribal to make sharbat in summer season, that is very useful.	
40	*Terminalia arjuna* Combretaceae	Kauha	Tree	Bark	Bark is used to treat fever, high blood pressure. Extract of bark with water is useful in heart diseases.	
41	*Anogissus pendula* Combretaceae	Kardhai or Dhawa	Tree	Fruits &Bark	The fruit pulp is edible and is used to prepare chutneys. Chewing of bark is useful in cough.	
42	*Butea monosperma* (Lam.) Taub. Paplionaceae	Cheul or Palash	Tree	Flowers & Bark	Sap of dry flowers used in diabetes. Paste of grinded bark with water is applied in lower abdomen to get relief from dysuria & intermittent urination.	
43	*Cordia dichotoma* G.Forst. Boraginaceae	Labhera or Lasora	Tree	Bark	Juice/decoction obtained from the bark after boiling is used to cure sore throat, and relief from the pain of menstrual cycle.	
44	*Feronia limonia* (L.) swingle. Rutaceae	Kaitha or wood apple	Tree	Leaves & Fruits	Fruits & leaves are ethno medicinally used to treat Polyurea and diabetes. Ripened fruits are edible due to high nutritious value.	

45	*Tinospora cordifolia* Miers. Menispermaceae	Giloy or Gurrich	Woody climber	Leaves &Bark	Leaves extract is used as kadha to cure fever by tribal/local people. Bark is used as component of various ayurvedic medicines	
46	*Bauhinia variegata* Linn. Fabaceae	Kachnar	Tree	Bark leaves & flowers	Powder of burned bark with Sendha salt is used as tooth paste to cure teeth problems. Powder of flower buds with water or milk is known to strength the body.	
47	*Argemone maxicana* Linn. Papaveraceae	Satyanashi or Ghamoiya	Herb	Latex & Flower	Fresh flower juice is used with deshi ghee by tribal to cure various eye problems.	
48	*Tribulus terrestris* Linn. Zygophyllaceae	Gokharu or Gochhur	Herb	Roots & fruits	Root powder is used to dissolve kidney stone by prepare extract. Mixture of dried fruits powder with equal amount of sugar with water is use to cure nightfall and weakness.	
49	*Aloe barbadensis* Mill. Liliaceae	Gheekunwar or Grithkumari	Shrub	Phyllocla de	Gritkumari Pak and laddu are prepared from its pulp are very useful. Its pulp along with camphor (50gm +2 gm) pasted in anus is effective to control arshkalp or Bawasir.	
50	*Pterocarpus marsupium*, Roxb. Fabaceae	Vijayasar or Vijahara	Tree	Wood & Bark	Heart wood& bark is highly effective in diabetes. It is active ingredient of Ayurvedic madhumehantak churna. Tribal People hang its wood streak in neck to control B.P.	

Conclusion:

From above study it can be concluded that ethno medicinal plants play a vital role in the health management of tribal/local people through traditional knowledge gained by their ancestors from generation to generation as cultural heritage. In this regard there is seen that they used these jari butis either singly to treat a particular disease or in the form of a mixture of more than one jari butis in predetermined combination or ratio of amount to treat human diseases.

Some times vaids/ayurvedacharaya who worked in this area are known to prepare certain oils, paste, eye drop, powders, extract(Swaras) to treat certain diseases like arthritis, wounds, eye problems, mental diseases, diabetes, hypertension etc. They give these medicines to patients and tell about their uses and precautions to cure diseases during treatment. In this study we seen that tribal/ local people used these ethno medicinal plants in unmanaged way by which many of them are either become very less in number or extinct from this area. For example if root of a particular ethno medicinal plants is useful to them then they uproot entire plant and used to cure diseases before reproduction or flowering and fructification of that particular plant For e.g. Agnisikha, Chirchita, Babai etc. By which population of many important plants is going on decreasing day by day.

So there is need to aware tribal /local inhabitants, that they used these jari butis in proper way by which they may be available for future generations. In this regard government, social workers, environmentalists and non government organizations (NGOs) can play an important role by which various crucial jari butis may remain conserve for future. This knowledge of tribal people regarding jari butis should reach to common people of other area by education and training. Agriculture of many medicinal plants can be done by which these important medicinal plants not only conserve but they also provide employment to the local/ tribal people.

So there is need to collection and documentation of such precious knowledge from the tribal and remote areas before their complete depletion due to lack of interest of young generation towards traditional knowledge, rapid socio-economic, environmental changes, urbanization and unscientific exploitation of natural forests, and also increase awareness among tribal communities for sustainable use of plants wealth and their conservation.

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