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ETHNO ECOLOGICAL KNOWLEDGE AND MEDICINAL FLORA FROM SOUTH-WESTERN SATPUDA, MAHARASTRA

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ABSTRACT:

Present work is based up one the critical investigations on the ethno ecological prospective of the south western Satpuda of Nandurbar District. Study was carried out in deep remote villages of Aakkalkuva Tahsil which cover most of hilly area. By random survey for socio ethno ecological aspects, interviewees and records from different locality of various age indigenous groups. The observations based on various proportions of plant part, medicinally important and for miscellaneous purposes also. Analysis of collected data has been shown that important indigenous knowledge are present about living standard of tribes, tribe relation to environment, medicinal and miscellaneous utilization of biodiversity.

KEY WORDS: *Ethno ecology data, Medicinal uses, Tribal population, Plant resources.*

INTRODUCTION:

Ethno ecology is the study of the dynamic relationships between people, biota and the environment. Several conservation initiatives have focused on ethno ecological knowledge (or traditional ecological knowledge) as a framework for community based conservation and sustainable utilization. Ecosystem provides us tremendous benefits to humans from natural recourses (Butler and Oluoch-Kosura 2006). Natural ecosystems provide human societies with vital supporting services such as fresh air and purification of water, climate

regulation, waste decomposition, soil fertility & regeneration and continuation of biodiversity. All these ecological services are produced by complex interactions between the living and nonliving components of ecosystems. All sort of these services ultimately contribute to agricultural, socio economic and industrial activities (Zobel, 2006). India is one of the twelve mega biodiversity countries of the world having rich vegetation with a various medicinal value. About 43% of plants from Indian subcontinent (approximately 7,500 species) are reported to have medicinal value (Pushpangadan, 1995). Plant biodiversity on slope surfaces of the mountains regulates supply of good quality water and prevents soil erosion and floods. It also enhances soil formation, fertility, nutrient and other biogeochemical cycling. Culturally, people utilize plants in number of ways like aesthetics, religion, education, naming etc. People extensively utilize the predominant herbaceous flora of mountainous ecosystems with multipurpose collection, which may cause over-exploitation of plant biodiversity (Seppelt, 2011). For sustainable utilization of plant resources it's important to find out the way from the associated people to the local flora. Hence it needs to develop appropriate systems for the sustainable use of plant resources. Now a day's Tribal communities residing in the hilly areas are solely dependent on these readily available resources due to their traditional knowledge (Patil, and Patil, 2012).

Those plants possess therapeutic properties on the human or any other animal body can be generally designated as "medicinal plant" (Ahmad, 2009).Because these plants naturally synthesizeand accumulate some secondary metabolites, like alkaloids,glycosides, tannins, volatile oils, minerals and vitamins,possess medicinal properties which play an important role in conventional as well as western medicine (Jagatheeswari, 2013**,**Kremen, 2005 and Gupta, 2010). The indigenous groups posses their own distinct culture, religious rites, food habit and a rich knowledge of traditional medicine (Upadhye, 1986).

Medicinal plants constitute an important natural wealth of that region and ultimately at national level. Country has a vast emporium of ethno botanical and folklore information (Binu Thomas *et. al.,;* 2014). People of ancient cultures throughout the world and were highly considered their preservative and medicinal powers (Jagatheeswari , 2013). They play a significant role in providing primary health care services to rural people (Shinwari, and Gilani, 2003). This paper therefore, sought to, not only studies the natural vegetation of the Satpuda hilly region, but also to the indigenous people of the valley in an assessment and identification of the plant species of therapeutic uses.

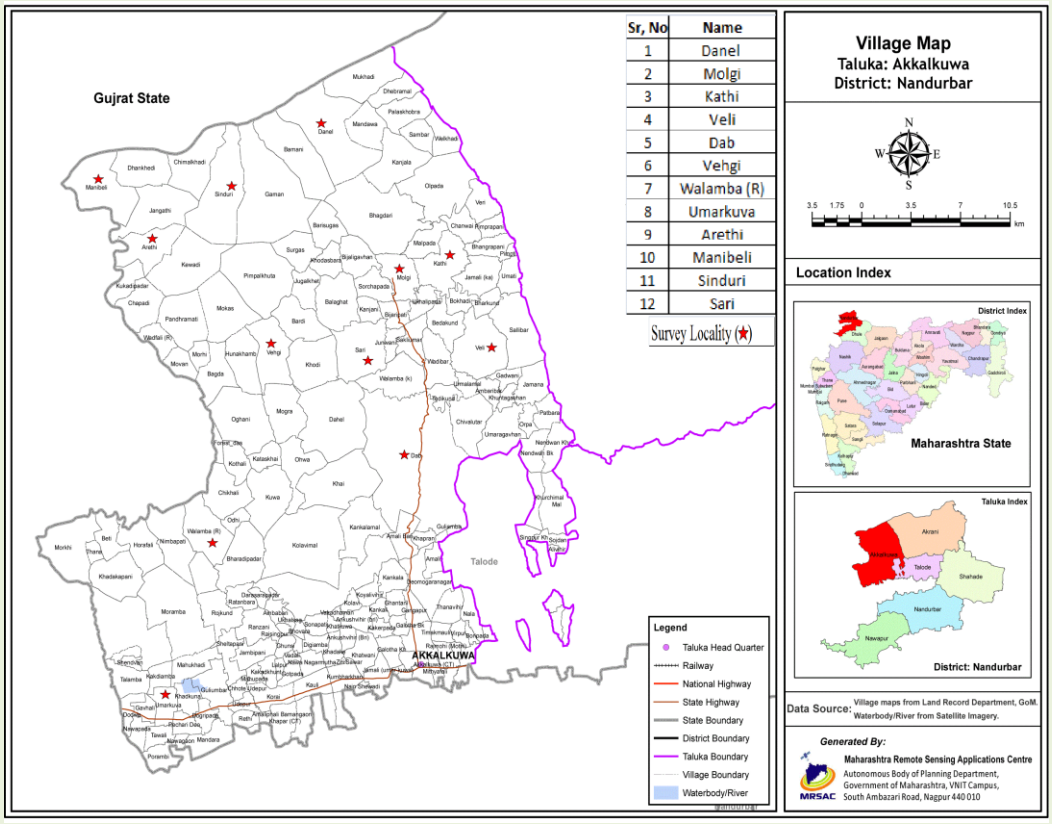
STUDY AREA:

GEOGRAPHICAL DISTRIBUTION OF THE AREA

The Study area AkkalkuaTahsil place lies in Satpuda range of hills, with Narmada forming northenbounday. Akarni and Talodatalukas lie on the east while southern and western boundaries are occupied by Gujrat. Due to the hilly terrain with more than fifty percent area falling under forest, this

Tahsil has poorest accessibility in the other part of the district Nandurbar. This taluka has no Nagarpalika, were bigger villages are Akkalkua, Khapar and Molgi are major within them.

Nandurbar District, a part of the Deccan plateau is situated in the Northern part of the Maharashtra State, with an area of 5034.23 sq. km.between 21^0 N to 21.32^0 N latitudes and 73.34^0 E to 74.31^0 E longitudes. It lies in the Valley of Tapi River and Satpuda mountains. The district can be divided into hilly tracts and undulating plain areas. Very small part of Narmada basin is towards the west The Bhils, Gamits, Gavits, Kokanis, Mavachis, Pasvis, Pawaras, Tadavi, Valvis and Vasaves are the various ethnic groups of the tribal people inhabit in the hilly region of Nandurbar district. The tribes of various ethnic groups have their own dialect viz. Pavari, Mavchi, Bhili, Kokani etc. as mentioned earlier.Satpuda hill ranges and Tapi river basin form two distinct agroclimatic zones in the district. Part of the district is a fertile river basin where people practice agriculture and reep rich harvests. But the other part of the district is formed of difficult and unapproachable hilly terrain (Patil, 2009). The climate here is dry, hot with scanty rain fall. People inhabiting this dry land region are ethnic groups. Their interaction with the civilized and developed societies of the other part of the district is very less. The ethnic groups interact mostly with their natural surroundings i.e. the deciduous forest. They developed their own life styles to cope with their Problems of food, nutrition, health and housing.



Map of the Study Area

The population of the AakkalkuvaTahsil covers approximately of 1,311,709 of population. Including 50.62% male and 49.38% female, at Nandurbar districts, stands sixth in the tribal concentration in the state of Maharashtra. Their landuage is 'Pawari', an amalgamation of Marathi, Hindi and Gujarati. Occupation of the people is farming in shifting cultivation way. Their foad habitat is very simple and they use to eat Jawar bread, locally called 'rotlu'. They also used to prefer prepared rice and 'Dal' at different occasions [Mahajan and Gunale 2004]. They developed different agro ecosystems, medicinal knowledge system and nutritional knowledge system by their constant interaction with plants of the surroundings. Civilized societies have seldom tried to explore these knowledge systems developed by local tribes (Ramalah, and Patil, 2005).

Rivers: River Tapi is the main and perennial source for the region besides its tributaries namely Gomati, Udai, Patalganga and Ratnavali. Narmada flows on the northern border and has some area of the district as its catchments. It enters little northward of Tornmal, flows in westerly direction and leaves the district west of Molagi village of Dhadgaontaluka and enters in Surat District of Gujrat.

Climate and Forest: The climate is dry and little more humid in July during the monsoon. The seasons are not much extreme like Khandesh of which geographically it forms the part. During the summer temperature reaches to 40-48ºC whereas in winter mercury comes down to 12 to 15ºC. Total Area under Forest is about 42903 Ha where Total Areas under Cultivation is around 38812Ha.

Rainfall: On an average area receives 1074.90 mm rain fall.

Soil and Major Crop: Along the bank we have siltyclavey soil, especially along the bank of Tapi which has a broken topography and hence not useful for agriculture. Major part of the district is covered by black cotton soil, which is most fertile and rich in nitrogen. Among the Satpuda the soil type is mixed i.e. black cotton soil and Barad soil (as locally called), which is granular and comparatively not so fertile, does not retain moisture like black cotton soil. Total area under cultivation of district is approximately 2, 53,413 Ha. Crop pattern are Kharif and Rabi which together belongs for cultivation of various varieties of Jawar, Bajra, Wheat, Rice, Toor, Groundnuts, Chilly and annual crops like Sugarcane and Cotton.

METHODOLOGY:

An ethno-ecological study was carried out to explore how the local people interact with their natural plant recourses and biodiversity. By taking Interviews and questionnaires organized during June 2013-May 2014. The whole data was collected from different area of the Tahsil which mostly covering the Satpuda forest remote villages. Selected villages are surveys and various meeting arranged in two major formats, which are field visits and questionnaire survey.

Firstly interactions with people at first fieldwork in which information about the utilization of plant biodiversity for various purposes were used for the questionnaire preparation. A mixture of qualitative and quantitative methods of data with respect to plant relation to people and ethno ecological aspects was adopted in preparing a questionnaire. Common names of plants were listed along with and then identified them into laboratory. Plant species photographed during the first field campaign were shown to the interviewees where and when it was felt necessary.

Secondly visits on main 12 Locality (1-12) which cover mostly hilly tribal locality, where vegetation transects had been taken, were revisited. Meetings were arranged with village heads or councilors and permission as well as guidance was obtained. Ethnic groups different age groups of the peoples and local practicing's tribes so called tribal doctors. The most important among those are local community member of same tribes, was taken as a guide who knew the norms and traditions of that indigenous society (Cunha, 2006, and Martin, 2000). Many houses out of the 12 main localities of the area (a total of 125 people) were selected of different age group for the interviews, using random number tables.

Each village was visited from one side; a coin was tossed in front of each 5th house and if it fall head side up, then an interview was requested from that family (Kassam, 2011). If willing, one member in the household was interviewed about their uses of plants, preferences, therapeutic application and plant part that were used. Informants were asked about their general uses of plant species, e.g. as food, fodder, grazing, timber, fuel, aesthetic, medicinal and others.

Respondent were then asked about their species preference if they utilized a species for several purposes like food, fodder, grazing, fuel, timber or medicinal purposes. As there was much preference for medicinal uses of plants and hence informants were further asked for details about the plant part(s) that were used, the diseases it cured and the recipe of use. Questionnaire data was initially analyzed for basic categorization of the respondents' gender, age groups and literacy ratio etc. This data was additionally analyzed for use preferences, plants parts used, recipes and treatment categorization with slight changes to the methodology adopted by (Chowdhury, 2010).

RESULTS AND DISCUSSION:

Preliminary information about the respondents shows a diverse array of people including farmers, women, literate, illiterate, young and elders. Among the 125 informants, 88 were male and 37 were female. The largest proportion of themes was of elderly, above 46-55 years old (45.6%). More than half of the respondents were illiterate (52.8%), while most of those with an education had primary education only, which reflect the unavailability of educational institution in the area (Table.1). These very basic results also reflect the reality that indigenous knowledge is well established but seems to be decreasing in the younger

generation.

Table no. 1: Age group and literacy level frequencies of the interviewed people in the region

Age group	No.of Individuals	Percentage	Literacy Level	No. of Individuals	Percentage
16-25	9	7.2	Illiterate	66	52.8
26-35	12	9.6	Primary	27	21.6
36-45	22	17.6	Middle	18	14.4
46-55	57	45.6	Secondary	11	8.8
56-65+	25	20	Higher Secondary	3	2.4

Many of the recorded species (83%) provide a number of provisioning services and hence the respondents were asked what preference they gave for a specific service category. The results of preference analysis showed the highest priority of local people for medicinal use of plant species (55. % responses) followed by grazing, food, fuel and timber use 16 %, 15 %, 09% and 05% respectively (Figure.1). The high priority given to medicinal use illustrates the high level of traditional knowledge about plants in the community and the lack of basic health facilities. It can also be attributed to the high market value of medicinal species. As people of the region preferred the plants as local medicine but detailed analyses were still lacking by their practitioner.

Plants' parts used

The results of interview at each spots indicate that whole plants are used in 79% of treatments followed by rhizomes (60%), Leaves (55%) and shoots (49%). Fruit, Bark, Root, flowers and seeds were used in 39%, 28%, 25%, 18% and 12% respectively (Figure. 2).Whole plants or plant parts are utilized in different forms in traditional herbal recipes preparations. In the majority of recipes, they are in the form of powder (72%) followed by decoction, Tea, Paste, Boiled leaf, Juice, Powder and decoction, Boiled in milk, Massage and Fruit Decoction with 72%, 61.5%, 58%, 55.5%, 39%, 35%, 20.5%, 18.75%, 15.50%, 09.75% and 07% respectively (Figure. 3).

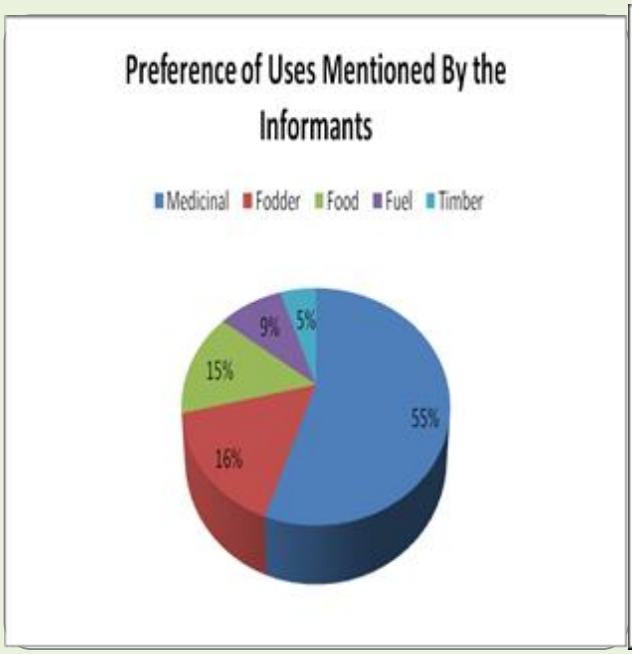


Figure 1: Preference of Plant Uses

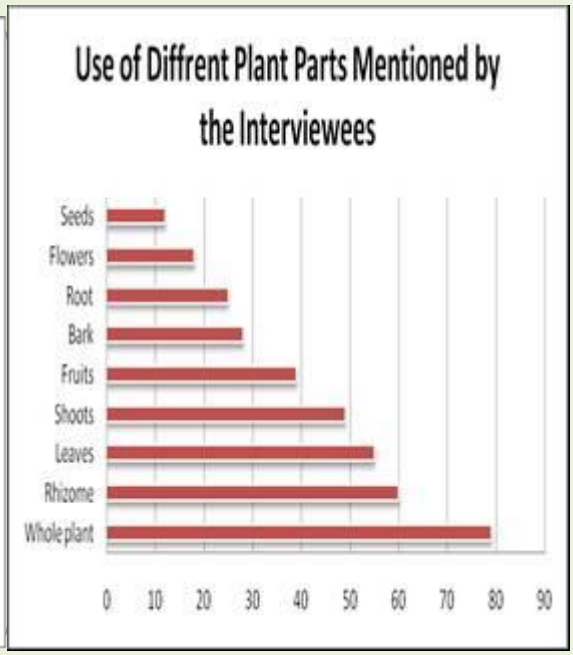


Figure 2: Uses of Different Plant Parts

Therapeutic practices: By the results of the questionnaires analysis reveal from many prominent remedial uses of medicinal plants, which were divided into 14 major categories based on the ailment of a specific human system, being treated with. The largest number of ailments cured with medicinal plants are associated with the digestive system (33% responses) followed by those associated with the respiratory and urinary systems (29% and 26.30% respectively). The percentage of ailments associated with the blood circulatory and reproductive systems and the skin were using also in small percentage (Figure. 3).

Ethnomedicinal plant resources People in the valley use more than 56 species belonging to 35 families (more than 55% for medicinal). Euphorbiaceae, with 6 species, was the most represented medicinal family followed by Amaranthaceae with 4 species.

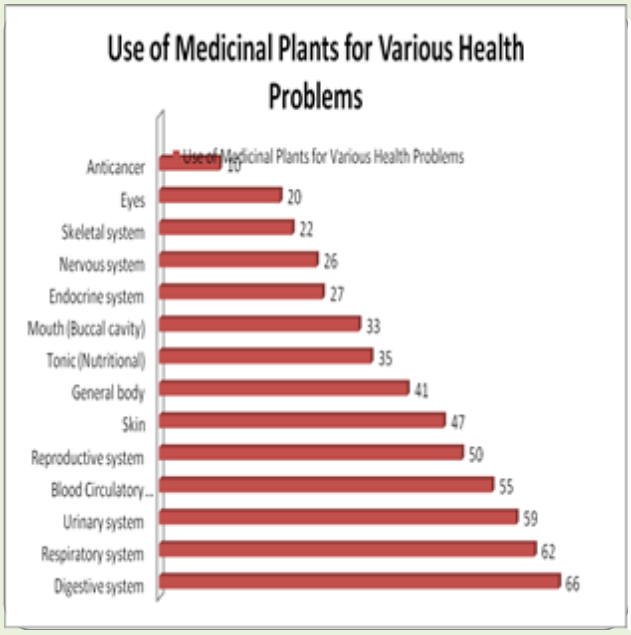


Figure 3: Plant Parts for various health problems

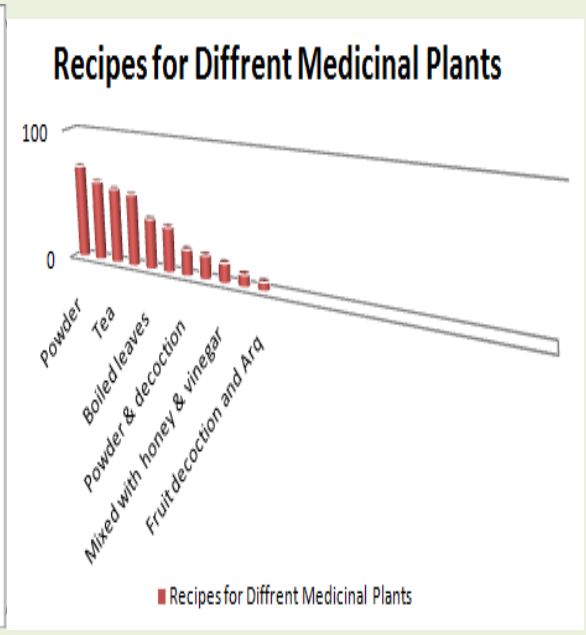


Figure 4: Plant Parts for Different Recipes

Important medicinal plant species Each medicinal plant found in the region is noteworthy but a few of them got much importance in the local health care system. Information, relations of tribe with particular plant, common name and their benefits to people are listed and recorded according to area viz. The bunched of knowledge regarding plants and their relation to people are listed in table no. 2.

Sr. No.	Botanical Name	Family	Descriptions
1.	*Abutilon indicum*(L.) Sweet.	Malvaceae	Locally known as Sikka, Mudra and Petari. Erect hairy tomentose herbs used in cold &diarrhea, earaches, treat diseases of the lungs.
2.	*Acacia catechu* L.	Mimosaceae	Locally known as katha, a tree plant. Root in used in leprosy, skin diseases & bark in used in leucoderma.
3.	*Acacia concinna*(Willd.) DC.	Mimosaceae	Commonly known as Sikakai or Sitakai. Large prickly climbing shrub used in dyes and tans, pods as detergent for washing hairs.
4.	*Acacia nilotica* (l.) Willd. ex Del.	Mimosaceae	Locally called Babul, a Small trees, people of the area used for Haemostatic, antipyretic. Gum for inflammatory conditions of the respiratory, digestive & urinary problems. Pods-used in urogenitals disorders.
5.	*Achyranthusaspera* L.	Amaranthaceae	Locally known as Aghada is Erect herbs, Plant is used as diuretic in dropsy, in skin eruption, piles, leprosy and in painful delivery.
6.	*Amaranthusspinosus*L.	Amaranthaceae	Locally known as Kateri-matla. Erect glabrous herbs, used as vegetable and fodder plant to their domestic animals.
7.	*Argemonemexicana* L.	Papaveraceae	Plant locally known as Bilayachi. Erect prickly annual plant, seeds are responsible for epidemic dropsy. Causes diarrhea and induces toxicity. Oil, leaf juice and root-used externally for indolent ulcers.
8.	*Azadirachtaindica* A. Juss.	Meliaceae	Commonly known as Nimb, Tall trees. Leaves are antiseptic used in wounds, skin disease, eczema, and burn. Seed is used for hair care and dandruff. Twig is used as tooth brush and in measles.
9.	Balanitesroxburghii Planch	Euphorbiaceae	Commonly known as Kutgi. Fruits are used for washing clothes purpose, Bark-astringent used in the rheumatism. Paste of the stem bark is applied to wounds.
10.	*Bauhinia racemosa*Lamk.	Caesalpiniaceae	Plant locally known as Apta, Small trees used in Poultice of leaves is used in swelling and headache.
11.	*Boerhaaviadiffusa*L.	Nyctaginaceae	Commonly known as Punarnava, branched herbs. Leaves are used in reducing swelling, diuretic and urinary burning sensation.
12.	*Bombaxceiba* L.	Bombacaceae	Commonly known as Kate-Savari, deciduous tree. Paste is good for skin eruptions, fruits useful in ulceration of bladder and kidney. Root is stimulant and tonic prickles used to cure pimples.
13.	*Borassusflabellifer* L.	Palmae	Commonly called Tad. Used in Pulp of fruit is edible, leaves used for thatches, fans, mats and basket work.
14.	*Bosweliaserrata*Roxb. exColeb.	Burseraceae	Locally known as Goradu, is moderate-sized deciduous trees. The gum is used in rheumatism, nervous, skin diseases, urinary disorders. Bark is used in blood dysentery.
15.	*Brideliaretusa* Spr.	Euphorbiaceae	Localyknow as Kutgi. Fruits are used for washing clothes, Bark-astringent, used in the rheumatism. Paste of the stem bark is applied to wounds.
16.	*Buteafrondosa*Koning.	Papilionaceae	Commonly known as Palas. Flowers yield red dyes, leaves are used for dictating the hunts, roots yields fibers.
17.	*Calotropisgigantia*(L.) Ait.	Asclepiadaceae	Commonly known as Safedaak, is stout shrubs. Flowers-stomachic antiasthma tic. Milky juice-Purgative, roots-used in lupus, tuberculosis, leprosy, syphilitic ulceration. Leaves-juice poisonous. Used in external swellings. All parts-used against bronchitis and

			asthma.
18.	*Calotropisprocera* (Ait.) R. Br.	Asclepiadaceae	Locally known as Akada, is Erect shrubs. Roots are used as toothbrush, to cure toothache. Mature leaf ash is externally applied, to cure piles. Flower powder is orally given, to cure colds, coughs, asthma, piles and indigestion. Milky juice is externally applied over piles. Latex is externally applied, to cure wounds in cattle's.
19.	*Cassia fistula* L.	Caesalpiniaceae	Locally known as Risamba is deciduous trees. Leaves used in skin diseases like psoriasis, scabies and ringworm. Pod is purgative.
20.	*Cassia tora* L.	Caesalpiniaceae	Locally known as Tarota, Erect foetid herb used as skin diseases. Decoction of leaves and seeds is orally taken, to cure several skin diseases. Leaves are used as a alterative and anthelmintic.
21.	*Celosia aegentena* L.	Amaranthaceae	Commonly known as Kirdu, Erect annual herbs. Paste of leaves is externally applied, to over boils to relieve pain. Decoction of leaves or seeds is orally given with buttermilk, to cure urinary complaints and kidney stone.
22.	*Chlorophytumtuberosum*(Roxb.) Baker.	Liliaceae	Tribal known as Safed-musali, Annual herbs. It is said that root tubers dissolve kidney stone. Tonic is made up of root extensively used in Ayurvedic system.
23.	*Combretumovilifolium*Roxb.	Combretaceae	Local people known as Marvel. Stems are locally used to making baskets and as a rope, leaves as fodder for goats.
24.	*Cordia dichotoma*Forst.f.	Ehretiaceae	Commonly known as Bokar. Useful in the cough, chest disease it relief, severe colic.
25.	*Cymbopogonmartinii* (Roxb.) Watson.	Poaceae	Commonly called Rosha-ghas, Tall perennial grass. Yields an essential oil used in cosmetics, soap and flavoring of tobacco and Perfumes.
26.	*Cynodondactylon*(L.) Pers.	Poaceae	Commonly called Darudi, Perennial glabrous grass. Juice is used as a nasal drops for migraine. Paste is applied to scalp for dandruff treatment.
27.	*Dalbergiasissoo*Roxb.	Fabaceae	Locally called as Sissoo, a tree. Juice of leaves cure ulcer and used as gargles in sore throat. Root is used in gonorrhea.
28.	*Dendrocalamusstrictus*Nees.	Gramineae	Commonly known as Bans or Vel. Used in manufacture of baskets, brushes, ceiling the roof.
29.	*Digeraarvensis*Forsk.	Amaranthaceae	Used as a Fodder plant, some time also used as vegetable.
30.	*Dioscoriabulbifera* L.	Dioscoraceae	Commonly called as Akashwel, is twining herbs. Tubers and bulbils are eaten as supplementary diet. al.,so used to cure syphilis and dysentery.
31.	*Eclipta alba* (Linn.)	Asteraceae	Antihepatotoxic, anticatarrhal, febrifuge property. Used in hepatitis, spleen enlargements, chronic skin diseases. Leaf-promotes hair growth.
32.	*Emblicaofficinalae*Gaertn.	Euphorbiaceae	Known as Awala, moderate trees with white grey bark. Fruit is blood purifier used in jaundice. It is one of the ingredients of triphala churn.
33.	*Euphorbia geniculata* Ort.	Euphorbiaceae	Locally known as Dhudhi, fodder plant for goat and cattle.
34.	*Euphorbia hirta*L.	Euphorbiaceae	Locally known as Dhudhi. Used for asthma, laryngitis, diarrhea, dysentery, intestinal parasitosis. Latex-Vermifuge. Used in diseases of Urinogenitory tract.
35.	*Euphorbia ligularia*Roxb.	Euphorbiaceae	Commonly known as Thor, Large branch shrubs. Plant latex is externally used, to cure scabies and various skin diseases.
36.	*Ficusbenghalensis* L.	Moraceae	Leaves-a moderate sterilizer, given to women after menses. Leaves and bark-used in skin diseases.
37.	*Ficusrecemosa* L.	Moraceae	Locally known as Umbar, Evergreen trees. Used in diarrhea, dyspepsia, dysentery, and hemorrhages. Bark-decoction is used in skin

			diseases, inflammations, boils and ulcers.
38.	*Ficusreligiosa* L.	Moraceae	Locally known as Pimpal, large tree. Bark-astringent, antiseptic, laxative, haemostatic used in diabetes, diarrhoea, leucorrhoea, and also in nervous disorders.
39.	*Gloriosasuperba*L.	Liliaceae	Locally known as Khadyanag, is climbing herbs with tuberous rootstock. Tubers are used in veterinary medicine like root infusion is fed to cattle, to expel intestinal worms.
40.	*Madhucalongifolia* (Koen.) Macbr. var. *latifolia*(Roxb.) Chevalier.	Sapotaceae	Commonly known as Mahua. Flowers and fruits are eaten; Seed oil is used, to cure skin diseases, chronic rheumatism and headache. Stem bark is crushed, warmed and applied on joint pains in morning and evening till cured.
41.	*Mangiferaindica* L.	Anacardiaceae	Commonly called Amba, evergreen trees. Besides act as important edible fruit, Leaves are used in blood dysentery, soreness of voice. Raw fruit for prickly heat.
42	*Manilkarahexandra*(Roxb.) Dub.	Sapotaceae	Locally known as Khirani, Large evergreen trees. Ripe fruits are eaten fresh or dried as a tonic.
43.	*Morus alba* Linn.	Moraceae	Fruit-cooling, mild laxative. Used for sore throat, dyspepsia and melancholia. Leaves and root bark-expectorant, diuretic, hypertensive. Leaf anti-inflammatory, emollient, diaphoretic.
43.	*Ocimum sanctum* L.	Labiatae	Commomnly called as Tulas, erect herb. The leaves juice used in bronchitis, skin diseases, earache, colds, and seeds are useful of urinary system. Root is given in malarial fever.
44.	*Phoenix sylvestris* (L.) Roxb.	Palmae	Locally known as Khajuri, it is tall palm. Used for ornamental purpose likes Leaves are used for making bags, baskets, mats and brooms. Fruits are edible.
45.	*Pterocarpusmarsupium*Roxb.	Fabaceae	Names as Bija by tribes. Large deciduous tree used in rheumatism by their gum. Leaf paste to cure boils and sores and also externally applied in inflammatory skin diseases and headache. Infusion of bark is used in poultry diseases.
46.	*Sapinduslaurifolius*Vahl.	Sapindaceae	Commonly called as Ritha. Fruits are used for washing hairs and cloths as detergent.
47.	*Solanum virginianum*L.	Solanaceae	The drug is used in cough, asthma, pain in chest, & certain kinds of fevers. It is diuretic and useful of stones in bladders.
48.	*Synzigiumcumini*(L.) Skeels	Myrtaceae	Commonly called Jamdi, tree in habit. The bark is astringent and used in sore throats, bronchitis, asthma, ulcers and dysentery, purifying blood the fresh juice of bark with goats milk is given in diarrhea.
49.	*Terminaliaarjuna* L.	Combretaceae	Locally known as Arjun, tree in habit. Bark is used as a heart tonic. Juice of fresh leaves is used for earache.
50.	*Terminaliabellirica*(Gaertn.) Roxb.	Combretaceae	Locally called as Beda, Large tree. Fruit wall is used for cough, sore throat and headache. Fruit is used in the preparation of trifalachurna.
51.	*Terminaliatomentosa* W. & A.	Combretaceae	Commonly called Madet. Wood is used to prepare agricultural implements.
52.	*Vitexnegundo*L.	Verbinaceae	Commonly called as Nirgudi, is branched shrub. Leaves used in rheumatism, lumbago and graying of hair.
53.	*Withaniasomnifera*(L.) Dunal.	Solanaceae	Localleycolled as Asgandha, Hairy shrub. The plant useful in sexual and general weakness and diuretic. Root powder is applied locally on ulcers and inflammations the antibiotic and antibacterial activity of the root.

54.	*Xanthium indicum*Koen.	Asteraceae	Locally known as Banmani, Stout herbs. Used as to cure sore throat and toothache. The herb is astringent, sedative and diuretic. The leaves paste is externally applied to cure maggots in wounds of domestic animals.
55.	*Xeromphisspinosa* (hunbT) keay.	Rubiaceae	Locally known as Gelphal. Fruits are edible; pulp of fruits is given in dysentery.
56.	*Zizyhhusmauritiana*Lamk.	Rhamnaceae	Commonly known as Bor,herb in habit. Ripe fruits are eaten fresh or dried.

Table no. 2: List and utilization of plant by the indigenous peoples.

Native plants of the area are supporting human livelihoods and help to solved locale problem by utilization of them. This paper signifies give the relationship between ecosystem services of vegetation to human well-being in the study area. The analyses in relation to communication to people indicate that the tribal's of the south-western satpuda having valuable knowledge of wild plant biodiversity and the services it can provide are immensely important to them. There was a variation in knowledge at individual level depending upon the relation between the person and the specific plants species. And information also varies village to village in some cases for same plant (Quijas, 2010 and Costanza, 2008). This study has been able to conclude that plants are used in support of wide range of livelihood activities in the study area, and particularly as a source of traditional medicines, ornaments and miscellaneous purposes. As well as biodiversity of plant from study area also provide timber, fuel, medicines, food, fodder, grazing and others services to the indigenous peoples. However, modernization and over exploitation of natural resources my causes serious circumstances to natural biodiversity and indigenous peoples also in near feature. Local residents who belonging to the older generation are preferring to live in natural habitat with available existing provisioning ecosystem and their traditional ethno-ecological knowledge but not in the opinion of younger. Which may because of new generation tends to leave those rural spaces in search of education, facilities and easy modern life (Giam, 2010).

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