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## CHHATTISGARH PANORAMA OF LEAFY VEGETABLES

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### Abstract:

The state of Chhattisgarh is known as rice bowl of India and follows a rich tradition of food culture. Most of the traditional and tribe foods are made by steamed rice and variety of leaves. These traditional leaves having rich in bioactive compounds can play a role of source of natural medicines for various human ailments. We know as Chhattisgarh is a storehouse of large number of unexplored, indigenous leafy vegetables which are competing to become major crops in year to come.

The present paper in lists the base line information about medicinal properties and health benefits of some leafy vegetables which are growing various region of in state.

**Key word:** Leafy vegetables, Natural medicine, Bioactive compounds.

### I. Introduction :

Leafy vegetables are the healthiest foods on the planet, which offer a wide range of benefits to our body from helping the meet our daily nutritional requirements to boosting our immunity and improving the overall quality of our life. Leafy vegetables are the best gifts of nature to the main kind, nutritionally, these are very much important because they not only provide us the nutrients but also function as roughage in our food (Arora Pandey 1996 and Ogel et.al.2001). Leafy vegetables are defined as the plant leaves along with the tender petiole and shoot eaten as vegetable when the plants are in their young and active growth phase. All leafy vegetables are nutrient dens and implausible healthy in nature, blessed with a bundle of phytochemical, anti-oxidant vitamins and minerals like beta-carotene, lutein and zeaxanthin which protect our cells from damage and also help in alleviating the age-related problems. All leafy flora being the special power for uplifting the health profile of an individual as they are low in calories and rich dietary fiber content.(Laksmi and Vimila 2000)

Since the ancient time human beings has been using various herbs plant and plant parts extract as medicine for various health purpose. In our state maximum number of leafy plant species used for medicinal purpose by tribal and rural people ( Kala 2009, Jain and Tiwari2012, Chauhan et.al.2014). Typically available herbs flora are signifies wonder panorama flavor of Chhattisgarh culture.

In Chhattisgarh state many herbs species of edible and wildy available species are appreciated as favorite local cusine and preferred in regular diet with steamed rice variety of leafy herbs can be found growing in roadside kitchen garden, weed in agriculture fields under growth in forests and marshy lands.(Kumar and jain1999)

According the view of local healer, leafy herbs are rich in a green pigment known as chlorophyll which helps in cleaning the blood enhance oxygen transport, balancing body ph and increase the production of red blood cells thus termed as energizing super food for boosting cognitive and immune function. Green herbs contain cellulose, fibers matter, moisture and highest source of dietary fibers which roughage in the diet, stimulates intestinal activities and constipation and helps in alleviating the risk of colorectal cancer.

In view of above the current study was conducted to achieve the goal by covering the following objectives –

1. Identification of leafy vegetables plant species in various part of Chhattisgarh state.
2. Documentation of identified leafy vegetables in the study/survey area.
3. Ethanobotanical and therapeutic uses of leafy vegetables plant species.

## II. Materials and Methods :

**Study area-** Chhattisgarh state is situated at 17° 46' north to 24° 5' north latitude and from 80° 15' east to 80° 20' east longitude. Climatic condition- The climate in Chhattisgarh is governed by monsoon weather pattern. There are three main climatic seasons summer (March to June), winter (November to February) and the intervening rainy seasons of the south west monsoon (July to October). The summer is hot dry and windy with high temperatures typically reaching at least about 35° C in all parts of the state. Winters are usually pleasant and dry with temperatures in about 20° C. The rainfall usually ranges from 47 to 60 inches (1200 to 1500 mm) annually.

The present study identification, documentation and photography of leafy plant species was carried out in the villages and forest villages of the different region of Chhattisgarh state during the year 2019-2020.

**Methodology-** During the study information was collected by questionnaire methods and discussion with vegetable seller and local healers. Green leafy vegetable information, their vernacular/ local name and its knowledge of medicinal value was gathered by the help of some local healers of the survey areas.

The identification of plant was done with the help of standard published literature (B& H flora). The main objective of the present survey is to focus on the diversity of leafy vegetable plants for future use and provide the frame work to aware the people, how to use whole leafy vegetable or use plant parts to solve different types of health problem.

## III. Result and Discussion:

During the course of survey total 20 families belong 41 leafy vegetables species were reported and documented (Table-1). As per family wise distribution of leafy vegetables shows Fabaceae is most dominant family belong 09 species and Amaranthaceae is codominant family belong 06 species, Brassicaceae-04 species, Convolvulaceae and Tiliaceae-03 (species each) while polygoniaceae-02 species, Amaryllidaceae, Araceae, Asteraceae, Basellaceae, Commelinaceae, Cucurbitaceae, Lamiaceae, Malvaceae, Marsileaceae, Nyctaginaceae, Portulacaceae, Talinaceae, Solanaceae and Oxiladaceae-01( species each).

The first hand information on the leafy vegetables used by the villages, local healers was documented alphabetically by genus and species name following (Table-2). Some leafy vegetables grow in whole year and some are available only seasonal.

**Table- 1** Documented the leafy vegetables were arranged according to taxonomic details and their medicinal properties

S. NO.	LOCAL NAME	BOTANICAL NAME	FAMILY	ECOLOGICAL OCCURANCE	SEASON OF AVAILABILITY	MEDICINAL PROPERTIES / THERAPEUTIC USES
01.	Aloo Bhaji	<i>Solanum tuberosum</i> L.	Solanaceae	Commercial crop	Whole year	Burns, Corns, Cough, Cystitis, Scurvey, Diuretic, Stomach disorders, To improve liver function
02.	Amari Bhaji	<i>Hibiscus sabdariffa</i> L.	Malvaceae	Cultivated	Summer, Rainy	Rich source of iron, Vitamin C, Good for human health (prevents heavy bleeding during menstruation), Maintaining strong and healthy bone, Boosting the immune system, Control blood sugar levels, Prevents constipation, Stomach soother
03.	Bhathuwa Bhaji	<i>Chenopodium album</i> L.	Amaranthaceae	Cultivated in small scale, Weed in cultivated crops	Winter	Anthelminitic, Antiphlogistic, Antirheumnatic, Bug bites, Urinary problem, sunstroke, Promotes eye health, Cardiotonic, Diuretic
04.	Barbatti Bhaji	<i>Phaseolus vulgaris</i> L.	Fabaceae	Cultivated	Rainy, Winter	Diuretic, To reduce blood sugar level, Also useful in mild case of Diarrhea
05.	Bandh Gobhi Bhaji	<i>Brassica oleracea</i> L.	Brassicaceae var. capitata	Cultivated	Winter	Anti inflammatory, Treatment for glaucoma and Pneumonia
06.	Chirchida Bhaji	<i>Achyranthes aspera</i> L.	Amaranthaceae	Weed	Rainy	Astringent, Snake and insect bite, Stomach pain, Pyorrea and toothache, Renal complications, Cold and cough, Bronchitis
07.	Chaulai Bhaji	<i>Amaranthus viridis</i> L.	Amaranthaceae	Cultivated	Year around	Diuretic, Analgesic, Antipyretic, Antiulcer, Antichlorsterolemic, Asthma and veneral disease
08.	Charota Bhaji	<i>Cassia tora</i> (L.) Roxb.	Fabaceae	Weed in road sides Fields	Rainy	Ring worm, Leprosy, Itching, Snake bites, Cardiac disorders
09.	Chanauri	<i>Medicago</i>	Fabaceae	Weed among	Winter	Rheumatic pains, Cardio tonic,

	Bhaji	<i>denticulate</i>		cultivated land		Fever, Anticancer
10.	Chunchun ia Bhaji	<i>Marsilea vestita</i> Hook & Grev.	Marsileaceae	Weed	Wet moist soil Year around	Anti-inflammatory, Diuretic, Depurative, Febrifuge, and Refrigerant, It is also used to treat snake bite
11.	Chimti (Chanti) Bhaji	<i>Polygonum plebeium</i> R. Br.	Polygonaceae	Weeds in sandy soil	Rainy season	Antioxidants, Curing gastrointestinal disturbances, To control blood pressure
12.	Chech Bhaji (safed)	<i>Chorchorus olitorius</i> L.	Tiliaceae	Cultivated	Whole year	Antioxidant, Anti-cancerous properties, Anti-inflammatory, hepatoprotective, Gastroprotective, Immunoregulator
13.	Chech Bhaji (lal)	<i>Chorchorus trilocularis</i> L.	Tiliaceae	Cultivated	Whole Year	The leaves are used as a plaster to reduce swellings
14.	Chana Bhaji	<i>Cicer arietinum</i> L.	Fabaceae	Commercial crop	Winter	The leaves of this plant are sour, Astringent, Improves taste and appetite, Cures bronchitis
15.	Gobhi Bhaji	<i>Brassica oleracea botrytis</i> L.	Brassicaceae	Cultivated	Winter	Cleansing qualities, Glaucoma and pneumonia
16.	Gumee Bhaji	<i>Leucas cephalotes spreng</i>	Lamiaceae	Weed dry open sandy soil	Rainy	The traditional use of this herb is for treating snake bite, Scorpion stings, It is also used in treating liver disorders, Jaundice, Asthma, Cough, Cold
17.	Gol Bhaji	<i>Portulaca oleracea</i> L.	Portulacaceae	Cultivated	Rainy and winter	Antiseptic, Febrifuge, Vermifuge, Antibacterial, Antiulcerogenic, Wound healing properties
18.	Jadi Bhaji	<i>Amaranthus gangeticus</i> L.	Amaranthaceae	Cultivated	Rainy, Summer	Blood pressure, Haemorrhagic colitis, Relieve headache
19.	Jilo Bhaji	<i>Lathyrus</i> sp	Fabaceae	Weed	Winter	Excellent source of plant based protein, contain Antioxidants Antifungal properties
20.	Khatta palak Bhaji	<i>Rumex acetosa</i> L.	Polygonaceae	Cultivated in small scale	Winter, Rainy	To make a cooling drink in the treatment of fevers and are especially useful in the treatment of survey
21.	Kusum Bhaji	<i>Carthamus tinctorius</i> L.	Asteraceae	Cultivated in small scale	Winter	Reduce the risk of heart disease, Thin the blood to prevent clots, Widen blood vessels, Stimulate the heart
22.	Kulthi Bhaji	<i>Macrotyloma uniflorum</i> (Lam) verdc	Fabaceae	Cultivated	Winter	Diuretic, Vata and kapha nashak, In nature its known is used in kidney stone, Breathing ailments, Cough and Leukorrhea
23.	Khankaua Bhaji	<i>Commelina benghalensis</i> L.	Commelinaceae	Weed crop fields, marshy lands	Rainy	Infertility in women's, Stomach pain, Purgative leprosy
24.	Kanda Bhaji	<i>Ipomea batatas</i> L.Lam.	Convolvulaceae	Cultivated areas in hedges	Winter	Rich in Calcium and Phosphorus, Treat abdominal disease, Antidiabetic, Antioxidant
25.	Karmota Bhaji	<i>Ipomea aquatica</i> Forssk.	Convolvulaceae	Ponds and marshy lands	Summer	A amazing leaf vegetables it is able to reduce blood pressure, Gives immunity to cancer, Improve vision and treat skin Disease
26.	Kochai Bhaji	<i>Colocasia antiquorum</i> Schott.	Araceae	Moist wet soil	Whole year	Utilized for treatment of various ailments such as asthma, Arthritis, Diarrhea, Internal hemorrhage, Neurological disorders and

						skin disease, Promote menstruation
27.	Lal Bhaji	<i>Amaranthus tricolor</i> L.	Amaranthaceae	Cultivated	Winter	Anti-inflammatory, Intestinal cramps, Externally to treat wounds, Hepatitis, Bronchitis, Asthma, Lung troubles
28.	Lakhdi Bhaji	<i>Lathyrus sativus</i> L.	Fabaceae	Cultivated	Winter	Useful in treating paralysis and affections of the spinal cord, Deformities like knock knees
29.	Master bhaji	<i>Talinum fruticosum</i> fruit (L.) juss.	Talinaceae	Wild, Cultivated	Rainy, Winter	Preventing gastrointestinal disorders, Boost bone strength, improve eye health
30.	Methi Bhaji	<i>Trigonella foenum-graecum</i> L.	Fabaceae	Cultivated	Winter	The appetite, Relieves fever, Antitumor, Laxative, Carminative, Anticarcinogenic, Antidiabetic
31.	Mooli Bhaji	<i>Raphanus sativus</i> L.	Brassicaceae	Cultivated	Winter	Whooping cough, Cancer, liver problem, Gallbladder problem, Arthritis, Asthma, indigestion
32.	Makhana Bhaji	<i>Cucurbita maxima</i> Duch.	Cucurbitaceae	Cultivated	Rainy, Winter	Anti-diabetic, Antioxidant, Anti-inflammatory, Folkmedicine for treating gastrointestinal disease, Intestinal parasites
33.	Masaria Bhaji	<i>Corchorus acutangulus</i> Lam	Tiliaceae	Weeds, amongs cultivated	Rainy	Leaves used for cystitis, Dysuria, Fever, Gonorrhoea, It has gastroprotective properties and can be used as an Antifertility agent
34.	Muskeny Bhaji	<i>Merremia emarginata</i> Burmf	Convolvulaceae	Weed waste, sandy soil	Rainy, Winter	Diuretic, Used in rheumatism and neuralgia
35.	Poi Bhaji	<i>Basella rubra</i> L.	Basellaceae	Cultivated areas in hedges	Rainy, Summer	Anti-ulcer, Antioxidant, Cytotoxic, Antibacterial, Nephroprotective and wound healing properties
36.	Pathari Bhaji	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Weeds dry open soil	Rainy, Winter	Asthma, Jaundice, Anaemia, Snake venom, Liver diuretic, Dysentery
37.	Pyaj Bhaji	<i>Allium cepa</i> L.	Amaryllidaceae	Commercial crop	Rabi, kharif	Sunstroke, Vomiting, Prevention of cancer, Antibacterial, Antifungal, Sexual debility
38.	Palak Bhaji	<i>Spinacia oleracea</i> L.	Amaranthaceae	Cultivated	Winter	Anamia, Night blindness, Used to treat stomach and intestinal complaints and fatigue, Blood builder and an appetite stimulant
39.	Sarso	<i>Brassica campestris</i> L.	Brassicaceae	Cultivated	Winter	Fever, Weakness, Menstrual disorder, Internal pains, Treat joint related issues
40.	Tinpania Bhaji	<i>Oxalis corniculata</i> L.	Oxalidaceae	Weeds Damp shady places, Road side plantations	Rainy, Winter	It is best herb rich in vitamin – C and it is best used in the treatment of scurvy, External paste of leaves is used as antidote for the poisoning caused by snake bites.
41.	Urad Bhaji	<i>Vigna mungo</i> (L.) Heeper	Fabaceae	Cultivated	Winter	Boosts bone health, Regulates diabetes, Improves heart health, Nourishes nervous

**Table-2** Showing the distribution of plant as per their family and total no. of species

S.No.	FAMILY	Total No. of Species
1	Amaranthaceae	6
2	Amaryllidaceae	1
3	Araceae	1
4	Asteraceae	1
5	Basellaceae	1
6	Brassicaceae	4
7	Commelinaceae	1
8	Convolvulaceae	1
9	Cucurbitaceae	3
10	Fabaceae	9
11	Lamiaceae	1
12	Malvaceae	1
13	Marsileaceae	1
14	Nyctaginaceae	1
15	Oxalidaceae	1
16	Portulacaceae	1
17	Polygonaceae	2
18	Solanaceae	1
19	Talinaceae	1
20	Tiliaceae	3
Total no. of species		= 41

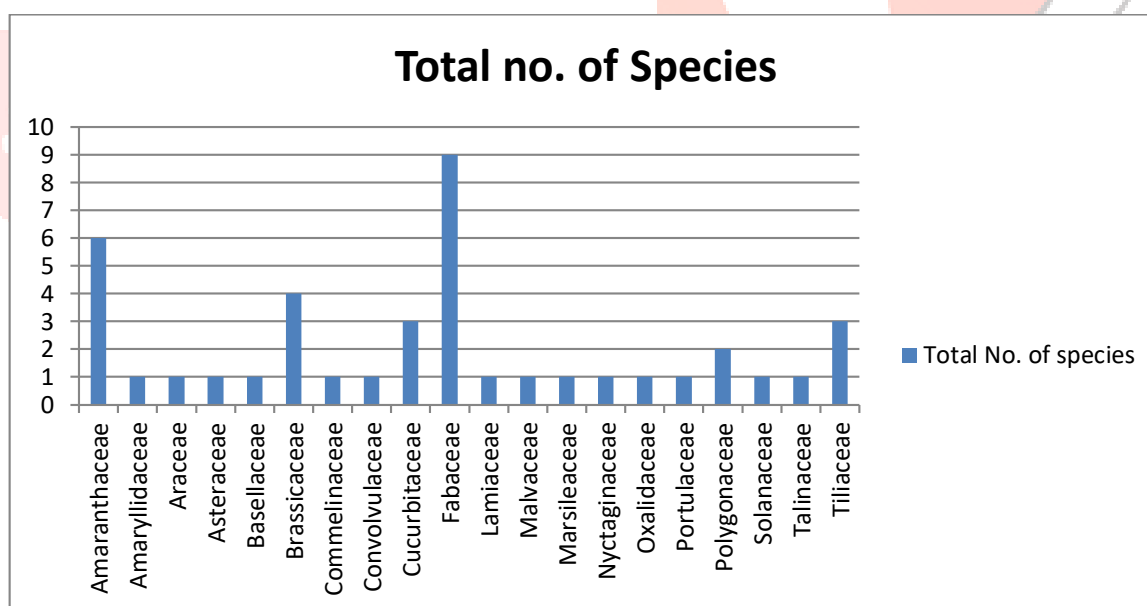


Fig: 1 Chart diagram showing Total no. of plant species and their family

#### IV. Conclusion:

Chhattisgarh is classified 5 versatile agro climate zones which are immensely suitable for variety of leafy crop. Like other indigenous commonly use of wild plants as food is an integral part of the culture and tradition of Chhattisgarhi people ( Lal and Sahu 2016, Lal et.al 2015). Maximum rural and local population meets their nutritional needs through unconventional means by consuming many herbs along with steamed rice. Every plant and their parts carry unique medicinal properties which are gifts of nature. The leafy vegetables play a basic role in eradicating the malnutrition problem due to combined source of nutrients and micronutrients. Every leafy vegetables contain a unique combination of phytonutrients (vitamins, minerals, dietary fiber and phytochemicals) which distinguishes them from other group of vegetables.

The father of medicine Hippocrates was said " Let food be your medicine and Let medicine be your food".

**Fig:** Some leafy vegetable photographs recorded in field survey

Fig:1 Poi Bhaji



Fig:2 Barbatti Bhaji



Fig:3 Master Bhaji



Fig:4 Kochai Bhaji



Fig:5 Chench Bhaji (Safed)



Fig:6 Khumdhha Bhaji (Makhna)



Fig:7 Karmotta Bhaji



Fig:8 Jodi Bhaji



Fig:9 Chench Bhaji (Lal)

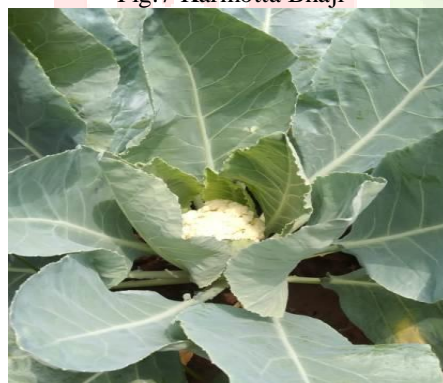


Fig: 10 Gobhi Bhaji



Fig:11 Chanti Bhaji



Fig:12 Muli Bhaji

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**VI. References :**

1. Hooker, J.D. 1872-1897. The flora of British India Vols. 1-7. Reeve and Co. Kent,UK.
2. Arora R.K. and Pandey A. ,1996 wild edible plants of India, Diversity, conservation and use National Bureau of Plant Genetic Resources, New Delhi India.
3. Kumar V. and Jain S.K., 1999, Some indigenous foods of sarguja district Madhya Pradesh, India. Ethnobotany,11 (182): 135-137.
4. Laksmi B and Vimla V, Nutritive value of dehydrated green leafy vegetable powder, J of Food Science and Technology, 37(5) (2000) 465-471.
5. Ogle B.M., HT. A. Dao, G. Mulokozi and L. Hambræus (2001), micronutrient composition and nutritional importance of gathered vegetables in Vietnam, Int. J. Food science Nutr.52. 485 - 499.
6. Kala Prakash Chandra (2009), Aboriginal uses and management of ethanobotanical species in deciduous forest of Chhattisgarh state in India. Journal Ethanobiology and Ethanomedicine 5:20.
7. Jain A.K. and Tiwari P. (2012), Nutritional value of some traditional edible plants used by tribal communities during emergency with reference to central India. Ind. J.Trad. Knowl., 111, 51-52.
8. Chouhan Deepti, Shrivastava A.k. and Patra Suneeta , (2014), Diversity of leafy vegetables used by tribal peoples of Chhattisgarh, India. Int. J. Curr. Microbial Apo. Sci. 3 (4) 611-622.
9. Lal S.Masiv., Sahu P.K. and Soni I., 2015. Observation of traditional knowledge of tribe peoples of Gurur, District Balod C.G. Int. J. Pharm. Life Sci.,6 (8-9): 4746-4750.
10. Lal S. and M.S., 2016, Ethanobotanical observation from Sitanadi wild life Sanctuary Dhamtari Chhattisgarh, India. Int. J. Pharm. Life Sci., 7 (9): 5224-5233.
11. Lal Sohan, (2017), Some edible plants of Bhoramdeo wild life Sanctuary Kabirdham C.G. India, Int. J. Sci. Res. 13 (2): 236-247.

