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Wild edible plants of Hassan District, Karnataka: A role in ayurvedic formulation

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Abstract

The traditional knowledge system has gained a major consequence in perspective with conservation, utilization and sustainable development of plant resources. The traditional herbal medicines play a major role amongst the tribal and rural people in their traditional healthcare system of India. Ayurveda, supposed to be the oldest medical system in the world, provides potential leads to find active and therapeutically useful compounds from plants. The people of Hassan district mainly rural population depend on wild edible plants as food supplements and their assumed health benefits. A total of 66 species belonging to 65 genera and 45 families, were enlisted from Hassan district, Karnataka with the use in the preparations of Ayurvedic formulations.

Keywords: Ayurveda, wild edible plants, Formulations, Hassan

1. Introduction

The concept of food as medicine (Hippocrates 400 BC), has existed since ancient times and man has lived in close relationship with his environment for thousands of years, learning how to recognize, gather and use of the products of the earth not only as food but also for medicinal purposes ^[1]. Food can be used as medicine and vice versa however, certain wild edible plants are used because of their assumed health benefits and then can be called medicinal food ^[2]. Wild edible plants have always been important in the folk traditions of the different region in the world ^[3]. The plant parts used for food or for health and medicinal benefits are mostly the same and the consumption of the plants in both cases follows a similar pattern. Thus the therapeutic effects of the plants can be derived from normal consumption as food ^[4]. Wild plants have been object of numerous studies as many possess new and unusual therapeutic and nutritional properties ^[5-8]. Wild edible plants promote good health by assisting in preventing cancer and high blood pressure, stimulating the immune system improving drug metabolism and tissue regeneration ^[9-10]. Several Indian plants are also being used in Ayurvedic and Siddha medicines. The medicinal properties of several herbal plants have been documented in ancient Indian literature and the preparations have been found to be effective in the treatment of diseases ^[11-13]. The wild edible plants are used in preparation of various Ayurvedic formulations and are a place for Ayurvedic pharmaceutical research.

Ayurveda (the science of life) is the oldest medical system of India, based on solid foundations that are fully sustained by long experimentation and philosophical propositions, dating back to about 1,000 BCE. In Ayurveda the methods employed the knowledge and uses of herbs, foods, aroma, colours, life style and surgery ^[14]. The basic Ayurvedic texts *Samhithas* prepared by Charaka, Sushruta and Ashtangahridaya, are the major source text of Ayurveda. There are scientific synoptic publications on the *Samhithas* of Charaka and Sushruta in English ^[15-16]. In *charaka samhitha*, 341 drugs from plants, 177 drugs from animals and 64 drugs from minerals and metals were discussed, and in *sushruta samhitha*, 395 drugs from plants, 57 drugs from animals and 64 drugs from minerals and metals were discussed, in *Ashtanga Hridaya* is considered unrivalled for the principles and practices of medicine were described 902 plant species. There are over 70 books that provide about 8,000 recipes of Ayurvedic medicines. There is an extensive literature on diverse aspects of Ayurveda, in various languages, though the prime sources are in *Samskrith* a detailed list was compiled ^[17]. The department of AYUSH has identified a list of 600 plants drugs which are commonly used in Indian System Medicine for development of standards. It has also published 8 volumes of Ayurvedic pharmacopoeia of India part-I containing standards for single plant drugs and Ayurvedic pharmacopoeia of India part- II containing 151 plant drugs used for compound formulations. The Ayurvedic formulary

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of India part-I, comprises of 444, part-II comprises of 192, part-III comprises of 350 classical formulations of Ayurveda^[18]. At present it has been estimated that there are more than 9000 pharmaceutical units actively engaged in manufacturing of Ayurvedic drugs and formulations in our country. Around 8,000 printed formulations are available; two hundred of these formulations are extensively used in Ayurvedic therapeutics^[19]. Among the vast number of plant species used in Ayurvedic medicine, wild edible plants have an important place. Many wild edible plants are used as single species drugs or in numerous different formulations, each containing several different species.

2. Materials and Methods

2.1 Study area

Hassan district lies between 12°30' and 13°35' North latitudes, and 75°35' and 76°40' East longitude and begins at the base of the steep Western ghat and continue into the gently rolling Deccan plateau. There are two physiographic regions to Hassan district the 'Malnad' tract and partly in the southern 'Maidan' tract. The biodiversity is very diverse at all levels of habitat, species and genetic and with high rate of endemism in flowering plants and rich diversity in plants has produced large number of plants of immense economic value.

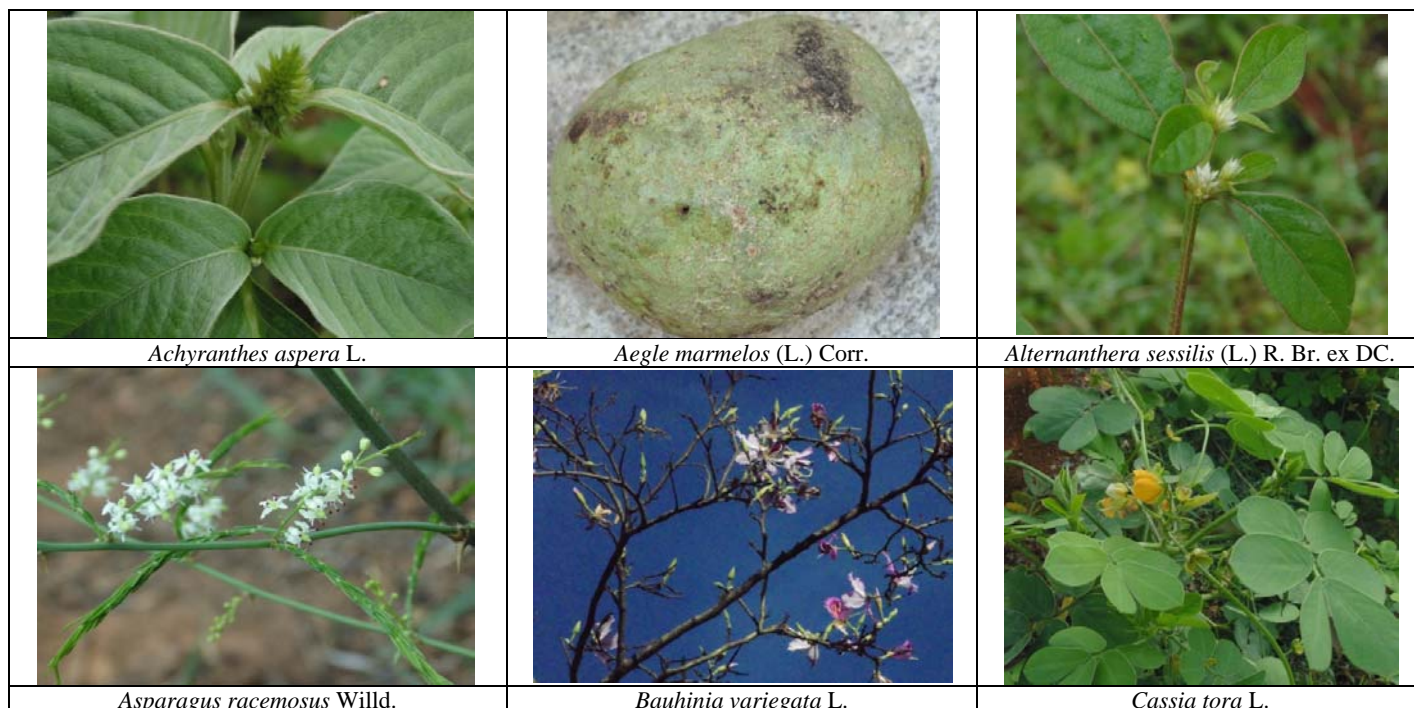
2.2 Data collection
















The survey conducted in Hassan district, Karnataka during 2012-2014 to enlist available wild edible plants. Plants were photographed, collected and pressed in the field with collection number and poisoned as per the methods^[20]. The dried specimens mounted on herbarium sheets with detailed labeling by following the methods^[21]. Collected plant specimens were identified with the help of floras^[22-24], botanically identified herbarium sheets were deposited in the (RRCBI) Herbarium of SMPU, National Ayurvedic Dietetics Research Institute, Bangalore. Nomenclature of each species has been updated as per the principles and rules of ICBN^[25]. Ayurvedic names and Plant used in different formulations are enlisted with the reference of Ayurvedic formulary, Ayurvedic pharmacopoeia^[26-35], Herbs of Ayurveda^[36] and database on medicinal plants used in Ayurveda^[37-44].

3. Result and discussion

The data obtained from the survey is compiled in Table 1 and scientific photographs for identification are presented in Plates 1 & 2, where the plants species are arranged in alphabetical order. A total of 66 wild edible plants species belonging to 65 genera and 45 families have been reported for preparation of Ayurvedic formulations. For each species botanical name, Ayurvedic name, family name, parts used for consumption, mode of consumption, parts used for preparation of Ayurvedic formulations and name of the Ayurvedic formulations are provided. The wild edible plant species reported in the present study were cross checked with available literature. The Hassan district is floristically rich and includes various wild edible plant species largely consumed by local people, the species like *Alternanthera sessilis* (L.) R.Br. ex A. DC., *Centella asiatica* (L.) Urban., *Coccinia grandis* (L.) Voigt., *Dioscorea bulbifera* L., *Ficus racemosa* L., *Mangifera indica* L., *Moringa oleifera* Lam., *Nelumbo nucifera*., *Phoenix sylvestris* (L.) Roxb., *Portulaca oleracea* L., *Solanum nigrum* L., *Syzygium cumini* (L.) Skeels., *Ziziphus mauritiana* Lam. From the listed wild edible plants 13 species are identified as demanding plants for the preparations of herbal and Ayurvedic system of medicine viz. *Achyranthes aspera* L., *Aegle marmelos* (L.) Correa, *Asparagus racemosus* Willd. *Bacopa monnieri* (L.) Wettst., *Boerhavia diffusa* L., *Butea monosperma* (Lam.) Taub., *Cynodon dactylon* (L.) Pers., *Phyllanthus emblica* L., *Hemidesmus indicus* (L.) R. Br. Ex Schult., *Phyllanthus amarus* Schumacher & Thonn., *Santalum album* L., *Terminalia chebula* Retz., *Tribulus terrestris* L. From recorded wild edible plants 10 species are collected largely from cultivation practice viz. *Amorphophallus campanulatus* (Roxb.) Blume., *Coccinia grandis* (Linn.) Voigt, *Cucurbita maxima*, *Lagenaria siceraria* (Mol.) Stand. *Mangifera indica* L., *Moringa oleifera* Lam., *Musa paradisiaca* L., *Spondias pinnata* L. f. Kurz., *Tamarindus indica* L., *Terminalia chebula* Retz.. The study revealed that a total of 23 of 66 wild edible plants species are having a demand and are used in various Ayurvedic formulations for various health disorders. Remaining 43 plant species needed in less quantity for the various classical preparations.

Plate 1: Photographs of wild edible plants of Hassan district



		
<i>Celastrus paniculatus</i> Willd.	<i>Centella asiatica</i> (L.) Urb.	<i>Clerodendrum serratum</i> (L.) Moon
		
<i>Coccinea grandis</i> (L.) Voigt	<i>Cordia dichotoma</i> Forster.f.	<i>Diplocyclos palmatus</i> (L.) Jeffrey
Plate 2: Photographs of wild edible plants of Hassan district		
		
<i>Embelia tsjeriam-cottam</i> (Roem. & Schult.) A.DC	<i>Phyllanthus emblica</i> L	<i>Ficus carica</i> L.
		
<i>Ficus racemosa</i> L	<i>Hemidesmus indicus</i> (L.) R. Br.	<i>Limonia acidissima</i> Groff.
		
<i>Momordica dioica</i> Roxb.ex Willd	<i>Nelumbo nucifera</i> Gaertn.	<i>Portulaca oleracea</i> L.

		
<i>Pueraria tuberosa</i> (Roxb. ex Wild.) D.C.	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	<i>Tribulus terrestris</i> L.

Table 1: Wild edible plants used in Ayurvedic formulations

Sl. No	Botanical names/ Samskrit names/ Family names	Mode of utilization as food	Parts used in Ayurvedic formulations	Name of Ayurvedic Formulations
1.	<i>Abelmoschus moschatus</i> Medik (<i>Latakasturika</i>) Malvaceae	Tender fruits are used as vegetable	Fruit, seed	Karpuradyarka
2.	<i>Achyranthes aspera</i> L. (<i>Aapamaarga</i>) Amaranthaceae	Leaves are cooked as vegetable	Whole plant	Agastya hareetakee rasayana, Ardhabiva kvaatha choorna, Mahaa panchagavya ghritha, Vastyamayaantaka ghritha, Misraka sneha, Jyotismatee taila, Mahaa visagarbha taila, Abhayaa lavana, Aavittolaa bhasma, Pananaviralaadi bhasma, Gorochanaadi vatee, Asmareehara kashaaya choorna Mootravirechaneeya kasaya choorna, Apaamaarga ksaara taila
3.	<i>Aegle marmelos</i> (L.) Correa (<i>Bilva</i>) Rutaceae	Fruit Pulp is used for preparation of juice	Roots, leaf, fruit, bark	Vasantakusumaakara rasa, Punarnavaadyarista, Gojihvadi kcathaa choorna, Daarvyadi kvaatha choorna, Nimbadi kvatha choorn, Amritaarista, Dasamoolarista, Dantyaadyarista, sanjeevane suraa, Agastya hareetakee rasayana, Chyavanapraasa kutaavaleha, Brahmarasaayana, Bhaarangi guda, Laghu chinchadika lehya, Dasamoola kvatha choorna, Dasamoolapanchakolaadi kvaatha churna, Dasamoola katutrayakvaatha churna, Daarunaagaraadi kvaatha choorna, Bilvaadi leha, Balaajeeraadi kvatha choorna, Mustaakaranjadikvaatha choorna, Rasnaadi kvaatha choorna, Saptasaara kvatha choorna, Indukaanta ghritha, Changeri ghritha, Daadhika ghritha, Dhanvantara ghritha, Pippalsyssi ghriths, Dasamool ghritha, dasamoola satpalaka ghritha, Yavaanyaadi choorna, Sudarsana choorna, Asanabilvaadi taila, Pusyaannuga churna, Anu taila, Grahanimihira taila, Chandanaadi taila, Naraayana taila, Dhanvantara thaila, Pippalyadi taila, Prabhanjana vimardana taila, Brihatmasa taila, Mahanaraayan taila, Sahacharaadi taila, Mahaa visagarbha taila, Astaaksharii gutika, Maanasamitra vataka, Bilvadi Gutika, Pradaraari lauha, Jeerakaadi modaka, Eranda paaka, Daarvyadi kvaatha choorna, Dhaanyapanchaka Kvaatha Choorna, Vatsakaadi kvaatha choorna, Brihacchaagalaadya ghritha, Laghu gangadhra choorna, Lavangaadi choorna, Madham naaraayana taila, Moosikaadya taila, Vaayucchaaya surendra taila, Dasamoola taila, pippalyaadi taila,
4.	<i>Alangium salviifolium</i> (L.f.) Wangerin (<i>Ankola</i>) Alanginaceae	Fruit eaten raw	Fruit, seeds	Kaalakoota rasa
5.	<i>Alternanthera sessilis</i> (L.) R.Br. ex DC. (<i>Matsyaaksi</i>) Amaranthaceae	Leaves cooked as vegetable	Whole plant	Sataavaryaadi ghritha, Traikantaka ghirta
6.	<i>Amorphophallus campanulatus</i> (Roxb.) Bl.ex Decaisne (<i>Suranah</i>) Araceae	Corms eaten cooked	Corm	Suranavaleha, Suravataka, Samudradya Churna
7.	<i>Asparagus racemosus</i> Willd. (<i>Sataavari</i>) Liliaceae	Tuber eaten cooked	Tuber	Saarasvataarista, Gudoochyadimodaka, Brahma rasaayana, Saubhaagyasunthi, Sivaa gutika, Brahmmanjistaadi kvaatha choorna, Raasnairandaadi kvaatha choorna, Vidyaaryaadi kvatha choorna, Trayodasaanga guggulu, Amratapraasa ghritha, Asoka ghritha, Traikantaka ghritha, Phala ghritha, Vidaaryaadi ghritha, Sukumaara ghritha, Mahhatiktaka ghritha, Mahaa triphalaadya ghritha, Sudarsana choorna, Anutaila, Dhaanvantara taila, Prabhanjana vimardhana taila, Baladhaatryaadi taila, brahat gudoochi taila, Madhuyastyaadi taila, Sahacharaadi taila, Mahaa vishagarbha taila, Marma gutikaa, Muktaapanchaamrita rasa, Lakshmeevilaasa rasa, Asmarihara kasaya choorna, Brahacchaagalaadya ghritha, Brihat asvagandhaa ghritha, Gudoochyadi taila, Visnu taila, Vaayucchaaya surendra taila, Garbha chintamani rasa, Manmathaabhra rasa, Satamoolyaadi lauha
8.	<i>Bacopa monnieri</i> (L.) Wettst. (<i>Braahmi</i>) Scrophulariaceae	Leaves cooked as vegetable	Whole plant	Saarasvataarista, braahmi ghritha, Saarasvata choorna, Panchanimba choorna, Brahmi vati
9.	<i>Bambusa arundinacea</i> Willd. (<i>Vamsa</i>) Poaceae	Young tender shoots are cooked as vegetable	Shoot	Gudapippali, Kalyaanaka guda, Draaksaavaleha, Sivaa gutikaa, Jaateephalaady choorna, Naaraayana Choorna, Svalpanaayikaa choorna, Mahaa visagarbha taila, Sankha draavaka, Chitrakaadi gutika, sivaa gutikaa, Saubhaagya vatee, Siddhapraanesvararasa, Pradaraantaka lauha, Pooga khanda

10.	<i>Bauhinia variegata</i> L. (Kancanara) Caesalpiniaceae	Flower buds are cocked as vegetable	Flower, gum, fruit	Kanchanara guggulu, Gandamala khandana rasa, Chandanasava
11.	<i>Boerhavia diffusa</i> L. (Rakthapurnava) Nyctaginaceae	Leaves Cooked as vegetable	Whole plant	Kumaaryaasava, Dadhika dhanvantara ghritha, Mahaa Naraayana taila, Sothagha lepa, Punarnavaadyarista
12.	<i>Boswellia serrata</i> Roxb. ex Colebr (Shallaki) Burseraceae	Gum edible	Bark, gum	Karpooraadyarka, Bala taila, Asthisadhaanaka lepa, Jirakadi Modaka, Bala Taila
13.	<i>Buchanania lanzan</i> Spreng. (Priyaala) Anacardiaceae	Fruit eaten as raw	Root, leaf, fruit, gum	Nyagrodhaadi kvaatha choorna, Aoka ghritha, Nyagrodhaadi choorna, Pugakhand, Priyala taila
14.	<i>Butea monosperma</i> (Lam.) Taub. (Palaasa) Papilionaceae	Flowers are used to prepare local drinks	Bark, flower, seed, gum	Ayaskirti, Nyagrodhaadi kvaatha choorna, Mahaa naaraayana Taila, Abhayaa lavana, Krimimudgara rasa, Kunkumadi Taila, Vanga Bhasama
15.	<i>Cassia tora</i> L (Chakramarda) Caesalpiniaceae	Young leaves are cooked as vegetable	Leaf, seed	Nimbaadi choorna, Brahanmarichadya taila, Somaraji taila, Mahatrinaka taila, Sarvatobhadra lauha
16.	<i>Celastrus paniculatus</i> Willd. (Pitaita) Celastraceae	Flower Cooked as vegetable	Flower, fruit, seed	Smrtisagara rasa, Jyotismati taila
17.	<i>Centella asiatica</i> (L.) Urb (Mandukaparni) Apiaceae	Leaves Cooked as vegetable	Whole plant	Brahma Rasayana
18.	<i>Ceropegia tuberosa</i> Roxb Asclepiadaceae	Tubers eaten as raw	Tuber	Somayoga, Somalata misrana
19.	<i>Cissus quadrangularis</i> L. (Vajravalli) Vitaceae	Leaves Cooked as vegetable	Whole plant	Laaksa guggulu
20.	<i>Clerodendrum serratum</i> (L.) Moon (Bhaarangi) Verbenaceae	Fruit eaten as raw	Root, leaf	Ayaskirti, Kanakaasava, Dasamoolaarista, Rodhaasava, Agastya hareetakee rasayana, Agastya hareetakee rasayana, Kantakaaryavaleha, Madhusnuhee rasaayana, Bharangee guda, Brahanmanjisthaadi kvaatha choorna, Bhaarangyaadi kvaatha choorna, Raasnaadi kvaatha choorna, Amritapraasa ghritha, Maha yogaraaja guggulu, Daadhika ghritha, Dhaanvantara ghritha, Mahaa panchagavya ghritha, Chandanaadi choorna, Vaasaachandanaadi taila, Mahaa visagarbha taila, kastooryaadi gutikaa, Mahaa
21.	<i>Coccinia grandis</i> (L.) Voigt (Bimbi) Cucurbitaceae	Young fruits are used as vegetables	Root, leaf, fruit	Vastyamayaantaka ghritha, Amaritaprashna ghritha, Varunadigana kvatha
22.	<i>Cordia dichotoma</i> G.Forst. (Slesamataka) Boraginaceae.	Fruit Eaten as raw	Fruit, bark	Gojihvaadi kvaatha choorna
23.	<i>Costus speciosus</i> (Koerning ex Retz.) Smith. (Canda) Costaceae	Rhizome eaten cooked	Rhizome	Krmighana kvatha churna, Krimighna kashaaya choorna
24.	<i>Cucurbita maxima</i> Duchesne (Gudaygophala) Cucurbitaceae	Tender shoots are cocked as vegetable	Whole plant	Kushmanda khanda, Kushamanda ghritha, Kushamanda avlcha
25.	<i>Curculigo orchioides</i> Gaertner (Krishna musali) Hypoxidaceae	Roots are used for preparation of Local drinks	Root	Gandharvahaastaadi kvaatha choorna, Anantadya ghritha
26.	<i>Cyclea peltata</i> (Lam.) Hook.f. & Thomson (Pashanabheda) Menispermaceae	Fruit Cooked as vegetable	Fruits, seed	Pathadi churna, Pathadi ghritha, Pathadi taila, Shadadharna yoga
27.	<i>Cynodon dactylon</i> (L.) Pers. (Durva) Poaceae	Root cooked as vegetable	Root	Durvadi kwatha, Durvadi ghritha, Durvadi taila
28.	<i>Cyperus rotundus</i> L. (Musta) Cyperaceae	Tuberous root eaten cooked	Tuber	Mustakarista, Mustakadi kvatha, Asokarista, Mustakadi churna, Mustakadi lehya, Dhanyapanacaaka kvaha churna, Piyusavalli rasa, mahalaaksadi taila
29.	<i>Dioscorea bulbifera</i> L. (Varahikanda) Dioscoreaceae	Tubers are, cooked and used as food	Tuber	Vastyamayanaka ghrita, Narasimha churna, Pancanimaba churna
30.	<i>Diplocyclos palmatus</i> (L.) Jeffrey (Lingasambhuta) Cucurbitaceae	Young fruits are used as vegetables	Fruit, seed	Punsavan yog
31.	<i>Embelia tsjeriam-cottam</i> (Roem. & Schult.) A.DC. (Bidanga) Myrsinaceae	Fruit Eaten raw	Fruit	Vidangarista, Vidangadi chroona
32.	<i>Emblica officinalis</i> Gaertner (Aamalaki) Euphorbiaceae	Fruit Used to preparation of pickles	Root bark, leaf, fruit, seed, stem bark	Aravindaasava, Asokaarista, Kumaaryaasava, Dasamoolaarista, Khadiraarista, Pippalyaadyaasava, Punarnavaasava, Rodhraasava, Vidangarista, Sreekhandaasava, saarivaadyaasava, Elaadya modaka, Kalyaanaka guda, Kutajaavaleha, Gudoochyadi modaka, madhusnuhee rasaayana, Maanibhadra yoga, laghu chinchadikaa lehya, sivaagutikaa, Haridraakhanda, Dasamoolapanchakolaadi kvaatha, Traayantyaadi kvaatha choorna, Patolamoolaadi kvaatha churna, Brahanmanjisthaadi kvaatha choorna, vaasaagudoochyadi kvaatha choorna, Draaksaadi kvaatha choorna, Raasnaadi kvaatha choorna, Kanchanaara guggulu, Kaisora guggulu, Vyosaadi guggulu, vaataari guggulu, Saptavimsatika guggulu, Simhanaada guggulu, Elaadi ghritha, kalyaanaka ghritha, Triphalaa ghritha, Triphalaa guggulu, Maha yogaraaju guggulu, Yogaraala guggulu, Jeevantyaadi ghritha, naarasimha ghritha rasaayana, Naarsimha ghritha rasaayana, panchatikta ghritha, patolaadi ghritha, Pippalyaadi ghritha, Dhaatryaadi ghritha, Phala ghritha, Brihat phala ghritha, Mahaa panchagavya ghritha, Mahaatikta ghritha, Maha triphalaadya ghritha, lasunaadi ghritha, Vajraka ghritha, Avipattikara choorna, Triphala choorna, Draaksaadi choorna, Nimbadi choorna, Sundarsana choorna, Arimedaadi taila, Asanabilvaadi taila, Kayyonnyaadi taila, Navaayasa choorna, Naaraayana choorna, Nyagrodhaadi choorna, Triphalaadi taila, Dhaanvantara taila, Neelipaamaraa taila, Neelikaadya taila, Neelibhringaadi taila, Prameha mihir taila,

				balaadhaatryaadi taila, Briha gudoochi taila, Manjisthaadi taila, Vajraka taila, Kaalaka choorna, Kanyaana ksaraa, Agnitundivati, Vajra ksaara, Kacchuraa Choorna, Kastooryaadi gutikaa, Khadiraadi gutikaa, Gorochoadi vatee, Mukkaamukkatuvaadi gutikaa, Mritasanjeevaneer guteekaa, Sukramaatrakaa vatee, Soolavajrineer vatikaa, Chandraprabhaa vatee, Bilvaadeer gutikaa, Maanasamitra vataka, Sivaa gutikaa, Saubhaagya vatee, Soorana vataka, Elaneera kuzambu, Madhooora vataka, Asvakanchuki rasa, Aarogyavardhini gutikaa, Chandraamrata rasa, Lakshmeenaaraayana rasa, Vaataraktaantaka rasa, Vaataari rasa, Vaarisosana rasa, Siddhapraanesvararasa, Hridayaarnava rasa, Chandanaadi lauha, Dhaatri lauha, Pippalyaadi lauha, Pradaraantaka lauha, Rotheer lauha, Vidangaadi lauha, Saptamrita lauha, Sarvajvarahara lauha, Jeerakaadi modaka, Punarnavaadi mandoora, Pooga khanda, Triphalaa kvaatha choorna, Pathyaadi kvaatha choorna, Nimbaadi kvaatha choorna, Punanavaa guggulu, Brihacchaagalaadya ghrita, Naasikaa choorna, Panchanimba choorna, Asvagandhaa taila, Pancha guna taila, Bhuvaneshvara vati, Naagaarjunajana, Taaraamandoora guda, Triphalaa Mandoora, Sothaari mandoora, Aamavaataarirasa, Kaalakoota rasa, Jalodaraari rasa, Nityananda rasa, Brihadagnikumaara rasa, Brihat vidyaadharaabhra rasa, Brahacharnagaaraabhra rasa, Mehamudgara rasa, Leelaavilasa rasa, Sringaaraabhra rasa,
33.	<i>Ficus carica</i> L. (Anjira) Moraceae	Fruit eaten as raw	Fruit, bark	Anjirpak, Anjirasava, Anjiravleha
34.	<i>Ficus racemosa</i> L. (Udumbara) Moraceae	Fruit eaten as raw	Fruit, root, stem bark	Useerasava, Nyagrodhaadi kvaatha choorna, Nyagrodhaadi choorna, Naalpaamaraadi taila, Marma gutikaa, Mootrasangrahaneeeyaa kasaaya choorna
35.	<i>Flacourtia indica</i> (N.Burman) Merr. (Sruvavriksha)Flacourtiaceae	Fruit eaten as raw	Fruit	Aargvadhadi kvaatha choorna, Ēragvadhidi Kvitha Cfer,a
36.	<i>Grewia tiliaefolia</i> Vahl (Dhanvana) Tiliaceae	Fruit eaten as raw	Fruit	Dhanvan kwatha
37.	<i>Hemidesmus indicus</i> (L.) R.Br. (Sveta saarivaa) Asclepiadaceae	Root power is used as an additive in preparation of tea	Root	Aravindaasava, Asvagandhaadyarista, Dasamoolalaarista, Saarivaadyasava, Asvagandhaadi lehya, Sataavaree guda, Draaksaadi kvaatha choorna, Brahanmanjisthaadi kvaatha choorna, Kalyaanaka ghritha, Triphalaa ghritha, Jaatyaadi ghritha, Pippalyaadi ghritha, Daadhika ghritha, brahat phala ghritha, Mahaa kalyaanaka ghritha, Mahaa panchagavyaa ghritha, Vastyamayaantaka ghritha, Mahaatiktaka ghritha, Chandanaadi choorna, Pusyaanuga choorna, Chandanaadi taila, Chandanabalaalaaksaadi taila, Jaatyaadi taila, Triphalaadi taila, Dhaanvantra taila, Pinda taila, Balaasvagandhalaaksaadi taila, brihat gudoochee taila, Manjisthaadi taila, Balaadhaatryaadi taila, Madhuyastyaadi taila, Mahaa visagarbha taila, Kacchooraadi choorna, Marma gutikaa, Maanasamitra vataka, Chandrakalaa rasa, Arkaadi kvaatha choorna, Stanyasodhana kasaaya choorna,
38.	<i>Hibiscus sabdariffa</i> L. (Ambasthaki) Malvaceae	Leaves Cooked as vegetable	Leaf, fruit, seed, root	Pusyanuga churna
39.	<i>Lagenaria siceraria</i> (Mol.) Stand (Katutumbi) Cucurbitaceae	Young leaves are cooked as vegetable	Whole plant	Mahavisagarbha taila, kutatumbi taila
40.	<i>Limonia acidissima</i> Groff. (Dadhiphala) Rutaceae	Fruit eaten as raw	Fruit, gum, leaf	Kapithashtak churna, Kapithashtak ghrita
41.	<i>Mangifera indica</i> L. (Aamra) Anacardiaceae	Fruit eaten as raw	Root, fruit, seed kernel, leaf, bark	Nyagrodhaadi kvaatha choorna, Nyagrodhaadi choorna, Mootrasangrahaniya kasaaya choorna
42.	<i>Manilkara hexandra</i> (Roxb.) Dubard. (Kshirini)	Fruit eaten as raw	Fruit, bark	Parooshakadi gana
43.	<i>Mimosops elengi</i> L. (Bakula) Sapotaceae	Fruit eaten as raw	Flower, Fruits, seeds	Bakuladya taila
44.	<i>Momordica dioica</i> Roxb.ex Willd (Vishakantakini) Cucurbitaceae	Tender fruit used as vegetable	Tuber, fruit	Hiraka rasayana, Visanaka yoga, Kakadani taila, Kalagnirudra rasa, Sannipata Vidhvama=sa rasa
45.	<i>Moringa oleifera</i> Lam. (Sigru) Moringaceae	Leaves and flowers are cooked as vegetable	Root, leaf, seed	Visatinduka Taila, Ekangavira Rasa, Ratnagiri Rasa, Shobhanjandi lepa, Shyamadi churna
46.	<i>Musa paradisiaca</i> L. (Kadali) Musaceae	Pseudostem cocked as vegetable	Root, stem	Abhraka Bhasma KÀara Taila, Kadalyadi ghrita
47.	<i>Nelumbo nucifera</i> Gaertner. (Arithitja) Nelumbonaceae	Roots eaten cooked	Whole plant	Aravindasava, Kamalkadi churna
48.	<i>Nymphaea nouchali</i> N. Burman (Utpala) Nymphaeaceae	Leaf petiole cocked as vegetable	Roots, petiole	Arvindaasava, Asokaarista, Usiraasava, Chandanaasava, Chyavanaprasa, Triphala ghritha, Kalyaanaka ghritha, Mahaa kalyaanaka ghritha, Vastyamayaantaka ghritha, Mahaa triphalaadya ghritha, Anu taila, Kanaka taila, Saman gaadi choorna, Tngadrumaadi taila, Balaadhaatryaadi taila, Manjisthaadi taila, Chandanaadi lauha, Pooga khanda, Brihacchaagalaadya ghritha, Lavangadi choorna
49.	<i>Oxalis corniculata</i> L. (Chaangeri) Oxalidaceae	Leaves and fruits eaten as raw	Whole plant	Changeri ghrita, Hrivi ghrita, Sunishannaka changeri ghrita, Nagaradi ghrita
50.	<i>Phoenix sylvestris</i> (L.) Roxb. (Khajura) Arecaceae	Fruits eaten as raw	Fruit	Elaadya modaka, Draakshaadi choorna, Elaadi gutikaa, Sivaa gutika

51.	<i>Phyllanthus amarus</i> Schumach. & Thonn. (<i>Bhumyamalaki</i>) Euphorbiaceae	Leaves Cooked as vegetable	Whole plant	Chyavanapraasa, Sataavari guda, Raasnaadi kvaatha Choorna, Amritapraasa ghritha, Pippalyaadi ghritha, Madhuyastaadi taila, Vatavidhvasana rasa, Svaasahara kasaaya choorna, Guduchyadi taila
52.	<i>Portulaca oleracea</i> L. (<i>Kozuppa</i>) Portulocaceae	Leaves Cooked as vegetable	Leaf, stem, seed	Marma gutikaa
53.	<i>Pueraria tuberosa</i> DC. (<i>Vidari</i>) Fabaceae	Tubers eaten cooked	Tuber	Vidaryadikvatha churna, Vidaryadi Ghirta, Marma Gutika, Manmathabhra Rasa, Pugakha, Marma Gutika, Nityananda Rasa, Satavaryadi Ghirta, Asvagandhaadyarita, Maha Viagarbha Taila
54.	<i>Saccharum spontaneum</i> L (<i>Kaasa</i>) Poaceae	Green stems yield a Juice	Whole plant	Karpooraadyarka, Braahma rasaayana, Traikantaka Ghritha, Tranapanchamoola kvaatha choorna, Mootravirechaneeya kasaya choorna, Stanyajanana kasaaya choorna
55.	<i>Santalum album</i> L (<i>Sveta chandana</i>) Santalaceae	Fruits eaten as raw	Whole plant	Ayaskirti, Asokaarista, Asvagandhaadyarista, Devadaarvaarista, Chandanaasava, Dasamoolaarista, Pippalyaadyaasava, Madhookaasava, Mritasanjeevanee sura, Karpooraadyarka, Sreekhandaasava, Saarivaadyaasava, Gudoochyadi modaka, Chyavanapraasa, Poogakhanda, Braahma rasaayana, Brihanmanjisthaadi kvaatha choorna, Draaksaadi kvaatha choorna, Patolaadi kvaatha choorna, Sadanga kvaatha choorna, Tiktaka ghritha, Triphalaa ghritha, Patolaadi ghritha, Dhaatryaadi ghritha, Brihat phala ghritha, Mahaatiktaka ghritha, Elaadi choorna, Chandanaadi choorna, Jaateephalaadya choorna, Draakshaadi choorna, Arimedaadi taila, Saman gaadi choorna, Kunkumaadi taila, Chandanaadi taila, Chandanabalaalaaksaadi taila, Tungadrumaadi taila, Prameha mihira taila, Balaadhaatryaadi taila, Vaasaachandanaadi taila, Dasaanga lepa, Kacchooraadi choorna, Astaaksari gutikaa, Gorochanaadi vatee, Maanasamitra vataka, Mrotasanjeevanee gutikaa, Kastooryaadi gutikaa, Khadiraadi gutikaa, Marma gutikaa, Chandrakalaa rasa, Jeerakaadi modak, Pooga khanda, Angamardaprasamana kasaaya choorna, Draaksaasava, Kutjaastaka kvaatha choorna, Nimbaadi kvaatha choorna, Brihahacchaagalaadya ghritha, Sataavaryadi ghritha, Naasikaa choorna, Asvagandhaa taila, Gudoochyadi taila, Brahanmarichadyaa taila, Marichadya taila
56.	<i>Semecarpus anacardium</i> L. (<i>Bhallataka</i>) Anacardiaceae	Fruits eaten as raw	Fruit	Bhallataka Rasayana, Bhallatakadi Modaka, Amurta Bhallataka Leha, Sanjivani Vati, Bhallataka taila
57.	<i>Sesbania grandiflora</i> (L.) Pers. (<i>Agati</i>) Papilionaceae	Flowers are eaten as vegetable	Root, bark, flower	Grahanikapata rasa, Ratnagiri rasa, Pittakasantaka rasa
58.	<i>Solanum nigrum</i> L. (<i>Kaakamaachi</i>) Solanaceae	Leaves cooked as vegetable	Whole plant	Mahaa visagarbha taila
59.	<i>Spondias pinnata</i> Linn. f. Kurz (<i>Markamra</i>) Anacardiaceae	Fruit used for pickles preparation	Fruit, root, stem	Daadhika Ghrita
60.	<i>Streblus asper</i> Lour. (<i>Sakhotaka</i>) Moraceae	Fruits eaten as raw	Bark, fruit	Brihanmanjisthaadi Kvatha Churna
61.	<i>Syzygium cumini</i> (L.) Skeels (<i>Jambu</i>) Myrtaceae	Fruits eaten as raw	Bark, fruit, seed	Useeraasava, Nyagrodhaadi choorna, Mootrasangrahaneeeya kasaaya choorna
62.	<i>Tamarindus indica</i> L. (<i>Chinchaa</i>) Leguminosae	Young leaves are cooked as vegetable	Bark, fruit, seed	Gudapippali, Sankha vati
63.	<i>Terminalia bellirica</i> (Gaertn.) Roxb (<i>Bibhitaka</i>) Combretaceae	Fruit eaten as raw	Fruit, seed, bark	Triphala churna, Triphala ghrita, Bibhaitak taila, Talishadi churna
64.	<i>Terminalia chebula</i> Retz. (<i>Haritaki</i>) Combretaceae	Fruit eaten as raw	Fruit, seed, bark	Abhayaarista, Aravindaasava, Asokaarista, Asvagandhaadyarista, Kumaaryaasava, Dantyaadyarista, Khadiraarista, Dasamoolaarista, Rodharaasava, Roheetakaarista, Lohaasava, Saarasvataarista, Saarivaadyaasava, Agastya hareetakee rasayana, Elaadya modaka, Kalyaanaka guda, Kutajaavaleha, Chyavanapraasa, Dantee haritakee, Dasamoola hareetakee, Madhusnuhee rasaayana, Braahma rasaayanaa, Bhaarangi guda, Maanibhadra yoga, Bhallatakaadi modaka, Laghu chinchaaadeeka leha, Haridra khanda, Amrotottara kvaatha choorna, gandharvahaastadi kvaatha choorna, Dasamoolapanchakolaadi kvaatha choorna, Traayantyaadi kwatha choorna, Patolaamooladi kvaatha choorna, Punarnavaadi kvaatha choorna, Punarnavaastaka kvaatha choorna, Brahanmanjisthaadi kvaatha choorna, vaasaaguduchyadi kvaatha choorna, Raasnaadi kvaatha choorna, Kaanchanaara guggulu, Kaisora guggulu, Vyosaadi guggulu, Vaataari guggulu, Saptavimsatika guggulu, Simhanaada guggulu, Elaadi ghritha, Triphalaa ghrita, Triphala guggulu, Maha yogaraja guggulu, Yogaraja guggulu, Kaaseesaadi ghritha, Jeevantyaadi ghritha, Dhaanvantara ghritha, Naarasimha ghritha rasaayana, Panchatikta ghritha, Patolaadi ghrita, Phala ghritha, Brihat phala ghritha, Mahaa panchagavya ghritha, Saarasvata ghritha, Vastyaamayaantaka ghritha, Ajamodaadi choorna, Mahaatiktaka ghritha, Mahaa triphalaadya ghritha, Lasunaadi ghritha, Vajraka ghritha, Avipattikara choorna, Aamalakyadi choorna, Intuppukaana choorna, Gomutra hareetakee, Chandanaadi choorna, Jaateephalaadya choorna, Triphalaa choorna, Nimbaadi choorna, Vais vaanara choorna, Arimedaadi taila, Asanabilvaadi taila, Navaayasa choorna, Naaraayana choorna, Nyagrodhaadi choorna, Panchasama choorna, Sudarsana choorna, Hingvaadi choorna, Hinguvachadi choorna, Hutabhugaadi choorna, Grahaneeemihira taila, Jaatyaadi taila, Triphalaadi taila, Dhaanvantara taila, Naalpaamaraadi taila, Neelikaadya taila, Prameha mihira taila, Balaadhaatryaadi taila, Brihat gudoochee taila, Manjisthaadi taila, Vajraka taila, Kaalaka choorna, Pathyaadi lepa, Vachaadi taila, Abhayaa lavana, Kalyaan ksara, Agnitundivati, Vajra ksara, kastooryadi gutika,

				Khadiraadi gutika, Gorochanaadi vatee, Dhaanvantara gutika, Mukkaamukkatuvaadi gutika, Mritasanjeevane gutikaa, Sukramaatrakaa vatee, Soolaharana yoga, Soolavajirini vatika, Soorana vataka, Elaneer kuzambu, Kaayasthaadya varatti, Chandraya varatti, Muktaadi mahaanjana, Vimala varatti, Mandoora vataka, Amlapittaantaka rasa, Asvakanchukee rasa, Aarogyavardhini gutikaa, Chandraamrata rasa, Mahaa vaatagajaankusa rasa, Laksmeeenaaraayana rasa, Vaataraktaantaka rasa, Vaatavidhvamsana rasa, Vaataari rasa, Vaarisosana rasa, Siddhapraanesvara rasa, Hridayaarnava rasa, Pradaraantaka lauha, Roheetaka lauha, Vidangaadi lauha, Vidangaadi lauha, Saptaamrata lauha, Sarvajvarahara lauha, Jeerakaadi modaka, Punarnavaadi mandoora, Vyaaghrere hareetakee, Triphalaa kvaatha choorna, Triphala kasaaya choorna, Phalatrikaadi kvaatha choorna, Devadaarvaadi kvaatha choorna, Pathyaadi kvaatha choorna, Punarnavaaguggulu, agnimukha choorna, Dasana samskaara choorna, Panchanimba choorna, Vidangaadi choorna, Asvagandhaa taila, Pancha guna taila, Abhayaa vatee, Jvaraghrnee gutikaa, Draaksaadi gutikaa, Bhuvanesvara vati, Naagaarjunaanjana, Taaramandoora guda, Triphalaa mandoora, Sothaari mandoora, Aamavaataari rasa, Kaanchanaabhra rasa, Kaalakoota rasa, Gulma kaalaanala rasa, Grahane kaalaanala rasa, Jalodaraari rasa, Nityaananda rasa, Brahadagnikumaara rasa, Brihat vidyaadharaabhra rasa, Bhrahachharnagaaraabhra rasa, Mehamudgara
65.	<i>Tribulus terrestris</i> L. (Goksura) Zygophyllaceae	Leaves Cooked as vegetable	Whole plant	Amrtaarista, Kumaaryaasava, Dantyaadyarista, Dasamoolaarista, Mritasanjeevani suraa, Agstya hareetakee rasayana, Gudoochyaadi modaka, Brahma rasaayana, Bhaaranjee guda, Dasamoolapanchakolaadi kvaatha choorna, Dasamoola kvaatha choorna, Daarunaagaraadi kvaatha choorna, Raasnaadi kvaatha choorna, Vidaaryadi kvaatha choorna, Rasnaadi kvaatha choorna, Trayodasaanga guggulu, Amritapraasa ghritha, Indukaanta ghritha, Traikantaka ghritha, Yogaraaja guggulu, Daadhika ghritha, Dhaanvantara ghritha, Dasamoola ghritha, Dasamoola satpalaka ghritha, Mahaa panchagavya ghritha, Vidaaryadi ghritha, Vastyaamayaantaka ghritha, Sukumaara ghritha, Draaksaadi choorna, taila, Pooga khanda, Asmareehara kasaaya choorna, Devadaarvaadi kvaatha choorna, Raasnaasaptaka kvaatha choorna, Varunaadi kvaatha choorna, Garbha chintamani rasa, Mehamudgara rasa, Sirahsoolaadi vajra rasa
66.	<i>Ziziphus mauritiana</i> Lam. (Kola) Rhamnaceae	Fruit eaten as raw	Fruit, seed	Nyagrodhaadi kvaatha choorna, Pippalyaadi lauha, Daadhika ghritha, Dhaanvantara ghritha, Yavaanee sandava, Dhaanvatara taila, Brihatmaasa taila, Elaadi choorna

4. Conclusion

Plant parts are directly used as medicines, by a majority of community in all over and most of the modern medicines are produced indirectly from plants. The little awareness is compensated to traditional knowledge and use of the many naturally occurring wild edible species in the rural areas. This may be a threat to the reservoir of diversity that edible wild plants constitute to local conservation of traditional food through use and to a comprehensive understanding of the role of wild plants have in the health and nutrition of rural populations.

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