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Survey of wild edible fruits in Hassan forest division, Karnataka, India

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Key words: Wild Edible Fruits, Hassan forest division, Local people.

Abstract

The present survey was carried out in the Hassan forest division, Karnataka, to document the diversity, indigenous uses of wild edible fruits. The survey revealed the information of 75 wild edible fruit species belonging to 40 families and 60 genera were tabulated with botanical name, local name, place of occurrence and mode of consumption. The more signified families are successively the Moraceae, Anacardiaceae, Cucurbitaceae, Rhamnaceae, Myrtaceae, and Rubiaceae. A reasonably good number of these plants, about 41 species are also used as medicinal, as fuel wood and other uses. Further assessment of local availability status of 15 selected species showed that the graded to the category of not so common, followed by common. The findings suggest further investigation of nutritional analysis and conservational aspects of wild edible species.

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Introduction

Hassan district, shares a significant segment of the global hot spot in Western Ghats, harboring the richness of biological diversity with high degree of endemism, with 1,700 species of vascular plants, it probably accounts for 75% of the species of Karnataka state and 10% of the species of India (Saldhana and Nicolson, 1978).

Hassan district is the reservoir of nutritionally and therapeutically effective flora, much prevalence comprised for the dietary dependency, sustenance and economy of traditional communities. Wild Edible Plants make the integral component of the rural and ethnic diet since time immemorial. Edibility of a wide variety of undomesticated flora as fruits, seeds, and integrated as a culture and tradition among the dwellers around the forest fringe and the local inhabitants in the district. Wild edible plants play a vital role in contributing dietary diversity and substantial security along with their nutritious and medicinal values proven scientifically. Ethno botanical approaches findings information's and values of wild edible plants were unveiled ancient ago in the course of interaction between people and nature (Uprety *et al.,* 2012) the estimates, the potential of about 3000 tropical fruits distributed worldwide (Mugnozza, 1996). Scientific studies of wild edible fruits are more important for their potential sources of better nutritional value (Eromosele *et al.,* 1991; Maikhuri *et al.,*1994; Nazurudeen, 2010; Sundriyal and Sundriyal, 2001).The local people have been consuming wild fruits since time immemorial without knowing their ethno medicinal values and traditional healer of rural people used as a source of ethno medicine in local healthcare system (Hazarica *et al.,* 2012), often used in different formulation of the oldest medicinal treatise 'Ayurveda' in Indian system of medicine. The dependence on these fruits has gradually declined as more domesticated and exotic fruits had been introduced. Many people in the Hassan district still using wild plants as a supplement of their basic need of food; some of them were preserved for various seasons in their dry conditions and sold in rural market. Wild edible fruits uses have been studied extensively in India by various researchers (Eromosele *et al.,* 1991; Jeeva, 2009; Pfoze *et al.,* 2011; Rana *et al.,* 2007; Sasi and Rajendran, 2012; Brahma *et al.,* 2013). Some of the significant works on wild edible plants were reported from different parts of Karnataka (Harisha and Padmavathy, 2013; Hebbar *et al.,* 2003 and 2010; Prashanth Kumar and Shiddamallayya, 2014).

In Hassan district, the floristic study was done by Saldhana and Nicolson (1978), but no attention has paid on wild edible fruits in Hassan forest division. Hence the survey provides the data on distribution, diversity and traditional knowledge of wild edible fruits of Hassan forest division, Karnataka, India.

Materials and methods

Study area

Hassan forest division is located in the Hassan district of Karnataka in South India, between 12° 13´ and 13° 33´ North latitudes and 75° 33´ and 76° 38´ East longitude. The Hassan forest division has divided into 9 ranges such as Alur range, Arakalgud range, Arasikere range, Belur range, Channarayapatna range, Hassan range, Holenarasipura range, Sakaleshpura range and Yeslur range (Fig.1).

The forest types are tropical wet evergreen, semi evergreen, moist deciduous, dry deciduous and thorn forests, scrub forest, hilly zones and plains in the district. The evergreen and semi evergreen in the division are concentrated in the Western region of Yeslur and Sakaleshpura ranges and are commonly known as Ghat forests. Dry deciduous forests dominate the plains, also known as Maidan area, spread over rest of the division. Evergreen and semi evergreen forests constitute about 4.5 % and 26 % respectively of the forest area of the division. The percentage composition of other forest types are moist deciduous (1.5 %), grass land (6%), dry deciduous (10%), dry scrub (29 %) and dry thorn forest (23%) (Gowda, 2002).

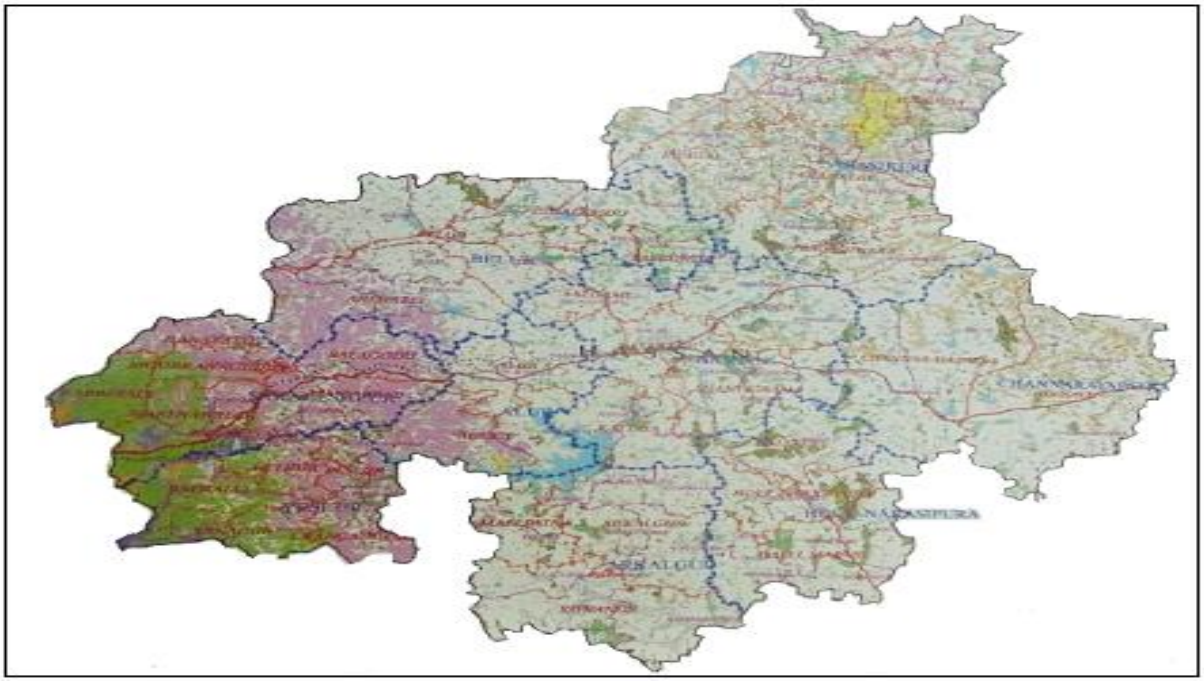

Fig. 1. Map showing the forest ranges in the Hassan district.

Plant collection and identification

Field trips were conducted during 2012-2015. A total of 9 trips, 6-8 days each, in every field trip visited 9 forest ranges in Hassan forest division. Ethno-botanical information was documented through frequent interactions and discussion with the local villagers, mainly from shepherds, cowboys in the forest fringes of villages. Collected plants were taken to old age people of villages to authenticate the edibility. Photographed and collected 10-14 inch plant specimen and pressed in the field with collection number and field notes for further processing for herbarium and taxonomical identification. Standard methods were followed with regards to collection of plant materials, drying, mounting, preparation and preservation of herbarium sheets and museum sample (Jain and Rao, 1967). Processed plant specimens to dry and poisoned with 5% $HgCl_2$ to mount on herbarium sheets with detailed labeling by following the methods described by Merill (1948), Lawrence (1969). Botanical identification of the species were done with the help of floras (Saldhana and Nicolson, 1978; Saldhana, 1984, 1996) and also collected plant species were cross verified with the help of preserved authentic herbarium specimens of RRCBI, Survey of Medicinal Plants Unit, NADRI, Bangalore. The International Plant Name Index was followed for the botanical nomenclature of species.

Assessment of local availability status

Preliminary assessment of local availability status of selected wild edible fruits species in the study areas based on the informants or collector perception conducted during the interview with the local people.

Abundant: Reported from all the forest ranges as abundant

Common: Reported from all the forest ranges as common by more than 50 %

Not so common: Reported from all the forest ranges as less than 50 %

Not reported: Not reported from all the forest ranges under the study

Result and discussion

The present survey encompasses 75 wild edible fruit species belonging to 40 family and 60 genera, maximum of 7 plants from Moraceae, 5 plants from Anacardiaceae, Cucurbitaceae, Solanaceae, 4 from plants Rhamnaceae, 3 plants from Myrtaceae, Rubiaceae, Rutaceae, 2 plants from Arecaceae,

Boraginaceae, Clusiaceae, Combretaceae, Euphorbiaceae, Flacourtiaceae, Sapotaceae, Melastomataceae, Tiliaceae and one plant from Annonaceae, Apocynaceae, Averrhoaceae, Cactaceae, Dilleniaceae, Erythroxylaceae, Elaeocarpaceae, Fabaceae, Mimosaceae, Malvaceae, Myrsinaceae, Nelumbonaceae, Oxalidaceae, Passifloraceae, Rosaceae, Polygonaceae, Santalaceae, Smilacaceae, Verbenaceae, Trapaceae and Zingiberaceae.

Table 1. List of Wild edible fruits in Hassan forest division, Karnataka, India.

Botanical names/ Family names	Local name (Kannada)	Habit	Place of occurrence	Phenology and fruiting period	Mode of utilization	Additional uses
Abelmoschus moschatus Medik.(Malvaceae)	Kasthuri bende	Herb	Common in scrub forest in the eastern plains	August	Tender fruits are used as vegetable	Seed used for disease of face
Aegle marmelos (L.) Correa (Rutaceae)	Bilva patre	Tree	Everywhere in dry deciduous plains of district	April.-Aug.	Fruit pulp is used for preparation of Sarbath	Unripe and half ripe fruits, used in dysentery
Amomum microstephanum Baker(Zingiberaceae)	Kadu yellakki	Herb	Shaded, humid areas of the Bisle Ghat	May-June	Fruit is used as spices	-
Anacardium occidentale L. (Anacardiaceae)	Godambi geru	Tree	Common, planted	Jan.-Mar.	Ripened enlarged receptacle is eaten as raw	-
Annona squamosa L. (Annonaceae)	Seetha phala	Shrub tree	Cultivated across the district	June	Fruit eaten as raw	Fruits used for thirst
Artocarpus gomezianus Wall.ex Trecul (Moraceae)	Vaategida		Occasional road side tree in near malsavara forest	Mar.-June	The sour fruit is dried and used as a substitute for tamarind	Fruits used for eye diseases
Artocarpus heterophyllus Lam.(Moraceae)	Halasina hannu	Tree	Common in semi-evergreen forest and also cultivated	Nov.-Jan.	The fleshy, golden yellow perianth is eaten as raw	Seeds used for indigestion and stomachache
Artocarpus hirsutus Lam. (Moraceae)	Hebbalasu	Tree	Large ever green tree in kempuhole forests	Jan.-Mar.	The fleshy perianth is eaten raw	-
Averrhoa carambola L. (Averrhoaceae)	Nakshtrad hannu	Small tree	Cultivated fields and Gardens	Feb.-Aug.	Young fruits are used for preparation of pickles	-
Bridelia retusa (L.) Spreng. (Euphorbiaceae)	Goje hannu	Small tree	Chiefly common in across the district	Mar.-Aug.	Fruit eaten as raw	Fuel wood
Buchanania lanzan Spreng. (Anacardiaceae)	Murakal Hannu	Medium tree	Common in dry deciduous forest	Jan.-Mar.	Fruit eaten as raw	Seed oil used for glandular swellings of the neck.
Canthium parviflorum Lam. (Rubiaceae)	Karehannu	Armed shrub	Frequent in scrub forest	June-Aug.	Fruit eaten as raw	-
Capsicum frutescens L. (Solanaceae)	Parangi menasinakayi	Herb	Occasionally found in coffee estate	June-Sept.	Fruit used as spices	-
Carissa paucinerva A. DC (Apocynaceae)	Sanna Kavali	Scandent shrub	Common in scrub forest in the district	Feb.-Sept.	Fruit eaten as raw	Fruit used for throat pain, sweating
Carmona retusa (Vahl.) Masam. (Boraginaceae)	Heleadike hannu	Herb	Common dry scrub jungle	All the season	Fruit eaten as raw	-
Clerodendrum serratum (L.) Moon (Verbenaceae)	Gantubharangi	Large shrub	Frequent across the district	May-Sept.	Fruit eaten as raw	Used for stomach disorder
Coccinia grandis (L.) Voigt. (Cucurbitaceae)	Tondekayi	Shrub	Common creepers and hedges in villages often cultivated	Aug.-Sept.	Young fruits are used as vegetables	-
Cordia oblique Willd.Var.*tomentosa* (Wall.) Kazmi (Boraginaceae)	Gonne hannu	Small tree	Common in dry deciduous forest in the district	Mar.-April	Fruit eaten as raw	Fruit are used as gum
Cucumis callosus (Rottler) Cogn. (Cucurbitaceae)	Minake hannu	Creeping herb	Collected near Arasikere	December	Fruit eaten as raw	Insect bite, worm infestation
Dillenia pentagyna Roxb. (Dilleniaceae)	Kaltega	Medium tree	Common in along Bisle Ghats	Jan.-April	Fruit eaten as raw	Mucilage of fruit are used to hair washes
Diplocyclos palmatus (L.) Jeffrey (Cucurbitaceae)	Lingatonde balli	Climbing herb	Common creepers and hedges in villages	Aug.-Dec.	Young fruits are used as vegetables	-
Dolichos trilobus L (Fabaceae)	Kaduavare	Climbing herb	Collected in Here kallu gudda, Arasikere	Nov.-Dec	Seeds used as vegetable	-
Elaeocarpus serratus L. (Elaeocarpaceae)	Tupra	Tree	Common in semi evergreen forests	All seasons	Fruit eaten as raw	Antidote to poisoning

Embelia tsjeriam-cottam DC. (Myrsinaceae)	Maraharive	Shrub	Common in dry deciduous forest in plains	All seasons	Fruit eaten as raw	-
Erythroxylum monogynum Roxb. (Erythroxylaceae)	Bedne hannu	Shrub	Common in open dry hilly tract in Arasikere	May-Dec.	Fruit eaten as raw	-
Ficus carica L. (Moraceae)	Anjura	Small tree	Cultivated fields and Gardens	July-Sept.	Fruit eaten as raw	Pain in joints, urinary calculi
Ficus racemosa L. (Moraceae)	Attihannu	Small tree	Occasional across the district	All season	Fruit eaten as raw	Leaves used as fodder for livestock
Flacourtia indica (Burm.f.) Merr. (Flacourtiaceae)	Gedluke Hannu	Armed shrub	Common in scrub forest in Holenarasipura	Mar.-May	Fruit eaten as raw	-
Flacourtia jangomas (Lour.) Rae. (Flacourtiaceae)	Karinelli	Small tree	Common in scrub forest in Belur	Mar.-Aug.	Fruit eaten as raw	-
Garcinia gummi-gutta (L.) Robson. (Clusiaceae)	Hulimara	Medium tree	Common in Ghats	Jan.-May.	The sour fruit is dried and used as a substitute for tamarind in curries	-
Garcinia xanthochymus Hook.f. ex T. Anderson (Clusiaceae)	Kadujerige hannu	Medium tree	Occasional in Bisle Ghat	Nov.-Feb.	Fruit eaten as raw	Abdominal disorders
Gardenia latifolia Aiton (Rubiaceae)	Aare Bikke hannu	Shrub	Common in Seegegudda forest	Jan.-Mar.	Fruit eaten as raw	-
Gardenia gummifera L.f (Rubiaceae)	Adavibikke hannu	Shrub	Common in scrub forest across the district	Jan.-June	Fruit eaten as raw	-
Grewia obtuse Wall.ex Dunn. (Tiliaceae)	Bekkinatoraduha nnu	Shrub	Occasional in scrub at Arasikere	May-Aug.	Fruit eaten as raw	-
Grewia tiliifolia Vahl (Tiliaceae)	Tadasalu hannu	Medium tree	Common in dry deciduous forest	Mar. - Aug.	Fruit eaten as raw	Fuel wood
Lantana camara L. (Verbenaceae)	Simesime hannu	Shrub	Frequent across the district	All season	Fruit eaten as raw	Fuel wood
Limonia acidissima Groff. (Rutaceae)	Belada hannu	Tree	Frequently in road side	Mar.- Sept	Fruit eaten as raw	-
Lycopersion pimpinellifolium (L.)Miller (Solanaceae)	Nayi tomato	Herb	Frequently in road side	All season	Fruit eaten as raw	-
Madhuca longifolia var. latifolia (Roxb.) A. Chev. (Sapotaceae)	Sanna hippe	Deciduous tree	Common in plains and Roadside	Jan.-May	Fruit eaten as raw	Flower used to preparation of local liquor
Mangifera indica L. (Anacardiaceae)	Mavinannu	Large tree	Found wild or semi wild state in Ghat forests	April- June	Fruit eaten as raw	Leaves used to
Memecylon malabaricum (C.B. Clarke) Cogn. (Melastomataceae)	Gandu kepula	Small tree	Fairly common in Bisle Ghat	May – Aug.	Fruit eaten as raw	-
Memecylon umballatum N. Burman (Melastomataceae)	Kadu kepula	Small tree	Common in Shiradi Ghat	April	Fruit eaten as raw	Lotions used in eye troubles
Mimosops elengi L. (Sapotaceae)	Pagade mara	Large tree	Found at ghat forests	Jan.-Mar.	Fruit eaten as raw	Burning sensation
Momordica dioica Roxb.ex Willd (Cucurbitaceae)	Midi hagala	Climbing herb	Occasional in Kadumane tea estate	June- Aug.	Tender fruit used as vegetable	Bleeding piles, urinary complaints
Morus alba L. (Moraceae)	Huppu nerale	Medium tree	Extensively cultivated	Sept.- Nov.	Fruit eaten as raw	Leaves are used as food for silkworms
Mukia maderaspatana (L.) M. Roem. *(*Cucurbitaceae*)*	Mani tonde	Climbing herb	Occasional across the district	July-Oct.	Fruit eaten as raw	-
Nelumbo nucifera Gaertn. (Nelumbonaceae)	Tavare	Rhizomatous herb	Common in open tank across the district	May-Nov.	Seeds eaten as raw	Flower are ritual importance
Opuntia dillenii (Ker Gawl.) Haw. (Cactaceae)	Papasukalli hannu	Shrub	Common in scrub jungles, roadsides	Jan.-Aug.	Fruit eaten as raw	-
Oxalis corniculata L. (Oxalidaceae)	Hulisoppu	Creeping herb	Common weed across the district	July- Dec.	Tender fruit eaten as raw	-
Passiflora foetida L. (Passifloraceae)	Kukkeballi	Climbing herb	Occasional hedges across the district	Mar.-Oct.	Fruit eaten as raw	-
Phoenix humilis (L.) Cav. (Arecaceae)	Sanna echalu	Small tree	Common in open slopes	April-May	Fruit eaten as raw	Leaves are used make brooms
Phoenix sylvestris (L.) Roxb. (Arecaceae)	Echalu hannu	Small tree	Common in along roadsides	Oct.- Dec.	Fruit eaten as raw	Used to local liquor preparation

Phyllanthus emblica L. (Euphorbiaceae)	Nallikayi	Small tree	Common in across the district	Dec.-Aug.	Used for pickles preparation	cough, blood disorders, anaemia
Physalis minima L. (Solanaceae)	Budde hannu	Erect herb	Common in open fields in the district	June- Dec.	Fruit eaten as raw	-
Pithecellobium dulce (Roxb.) Benth. (Mimosaceae)	Sihihunase	Small tree	Common in scrub forests	Feb.-April	Fruit aril eaten as raw	
Polygonum chinense L. (Polygonaceae)	Surle hannu	Creeping herb	Frequent along roadsides in ghat forest	Mar.- May	Fruit eaten as raw	-
Rubus ellipticus J. E. Sm. (Rosaceae)	Kadumulli hannu	Straggling shrub	Occurs in shiradi ghat	December	Fruit eaten as raw	-
Santalum album L. (Santalaceae)	Sri ganda	Medium tree	Common in scrub forests in Hassan	June- Feb.	Fruit eaten as raw	Used for hand craft
Scutia myrtina (Burm.f.) Kurz (Rhamnaceae)	Kurudi hannu	Straggling shrub	Common stragglers in scrub forests in Hassan	Nov.- Aug.	Fruit eaten as raw	-
Semicarpus Anacardium L.f (Anacardiaceae)	Kadugeru	Medium tree	Common in Seegegudda	June-Sept.	Fruit eaten as raw	abdominal disorders, piles
Smilax zeylanica L. (Smilacaceae)	Hambu tavare	Climbing shrub	Found in wet forests	Nov.-April	Fruit eaten as raw	-
Solanum nigrum L. (Solanaceae)	Ganake hannu	Unarmed herb	Found along roadsides	Sept-Jan.	Fruit eaten as raw	-
Solanum torvum Sw. (Solanaceae)	Kadu sonde	Shrub	Open shaded places in Forests	Mar.- Dec.	Fruit used as vegetable	Applied for cracks in feet.
Spondia spinnata (L. f) Kurz (Anacardiaceae)	Ambatte kayi	Small tree	Common in cultivated lands	Jan.-Aug.	Fruit used for pickles preparation	regulating menstruation,
Streblus asper Lour (Moraceae)	Mitli hannu	Small tree	Common in across the district	Jan.-Mar.	Fruit eaten as raw	Leaves used as fodder for livestock
Syzygium hemisphericum (Wight) Alston(Myrtaceae)	Nayi nerale hannu	Large tree	Occasional across the district	Jan.-July	Fruit eaten as raw	-
Syzygium cumini (L.) Skeels (Myrtaceae)	Nerale hannu	Large tree	Occasional across the district	Feb.-Sept.	Fruit eaten as raw	Fuel wood
Syzygium jambos (L.) Alston (Myrtaceae)	Panerale hannu	Medium tree	Occasional in plantation and along the road side	Oct.-Jan.	Fruit eaten as raw	-
Terminalia bellirica (Gaertn.) Roxb.(Combretaceae)	Tare kayi	Large tree	Common in deciduous forests in Alur	Feb.-Aug.	Seeds eaten as raw	Constipation and worm diseases
Terminalia chebula Retz. (Combretaceae)	Aalale kayi	Large tree	Common in deciduous forests	Jan.-Sept	Fruit used for pickles preparation	Abdominal disorders
Toddalia asiatica (L.) Lam. (Rutaceae)	Kadumenashi	Shrub	Along streams and Scrub forests	Nov.- April	Fruit eaten as raw	Diaphoretic and stomach ache
Trapa natans var. bispinosa (Roxb.)(Trapaceae)	Mullukombu balli	Floating herb	Occurs in Vishnu samudra tank in belur	January	Fruit eaten as raw	Thirst, burning sensation
Zizyphus rugosa Lam. (Rhamnaceae)	Chatte hannu	Straggling shrub	Common in semi-evergreen forests in Alur	June-Jan	Fruit eaten as raw	Diarrhoea, dysentery, skin diseases, urinary diseases
Zizyphus mauritiana Lam. (Rhamnaceae)	Yelachi	Small tree	Common in scrub forests	Feb.-March	Fruit eaten as raw	Fuel wood and coloring cloths
Zizyphus oenoplia (L.) Mill. (Rhamnaceae)	Yelachi hannu	Shrub	Common in scrub forest in Belur	June-Jan.	Fruit eaten as raw	Hyperacidity, fever, stomachache, urine retention

List of all the recorded plants and its uses are presented on Table 1and Fig.3. The percentage of habit wise distribution of plants and uses of wild edible fruits are represented in Fig.2. Some of the fruits like *Toddalia asiatica* L., *Gardenia gummifera* L.f, *Cordia oblique* Willd. *Flacourtia indica* (N. Burman) Merr, *Phyllanthus emblica* L., *Terminalia bellirica* (Gaertn.) Roxb, are known for their medicinal properties and are used in formulation in Indian system of medicine (Anonymous, 2008). Preferred species like *Zizyphus rugosa* Lam. (P, K, Ca), *Morus alba* L (Vit-C), *Terminalia chebula* Retz (Carbohydrates, K), *Solanum nigrum* L (Fat, Ca), *Solanum torvum* Sw (Vit-C, K), *Mimosops elengi* L (Ca), *Capsicum frutescens* L (Mg, K) are have high nutritional values (Krishnamurthy and Sarala, 2012; Mahapatra *et al*., 2012; Sundriyal and Sundriyal, 2001).

In addition to edible fruit, the fruit juice of *Aegle marmelos*, seeds of *Madhuca longifolia var. latifolia*, fruit paste of *Zizyphus rugosa* were used as fish poison. Wild edible fruits play a major role in supplementing nutritionally rich food and income

generation for the family through local market by selling the species like *Artocarpus heterophyllus* Lam., *Coccinia grandis* (L.) Voigt. *Garcinia gummi-gutta* (L.) Robson. *Limonia acidissima* Groff, *Phoenix sylvestris* (L.) Roxb. *Phyllanthus emblica* L., *Syzygium jambos* (L.) Alston, *Spondias pinnata* (L.f) Kurz, are collected from wild and/or commonly domesticated and almost imperceptibly led to cultivation (FAO, 1999). Our study also identified wild relatives of vegetable such as *Coccinia grandis* (L.) Voigt. *Momordica dioica* Roxb.ex Willd etc and these relatives of domesticated crops may also provide genes that are possess disease and drought resistance (Hajjar and Hodgkin, 2007).

Table 2. Assessment of local availability status of selected wild edible fruits according to informants or collector perception.

Name of the species selected	Forest ranges								
	Alur	Arakalgud	Arasikere	Belur	Channarayapatna	Hassan	Holenarasipura	Sakaleshpura	Yeslur
Artocarpus hirsutus Lam.	Nc	Nc	Nr	Nr	Nr	Nr	Nr	Co	Co
Buchanania lanzan Spreng.	Ab	Ab	Co	Co	Nc	Nc	Nc	Co	Co
Canthium parviflorum Lam	Ab	Co	Co	Ab	Co	Co	Co	Co	Co
Flacourtia jangomas (Lour.) Rae.	Ab	Co	Nr	Co	Nr	Nr	Nr	Ab	Ab
Gardenia latifolia Aiton	Co	Co	Ab	Ab	Ab	Co	Co	Nc	Nc
Grewia tiliifolia Vahl	Co	Co	Co	Ab	Co	Co	Nc	Co	Co
Momordica dioica Roxb.ex Willd	Nc	Nr	Nr	Nr	Nr	Nr	Nr	Co	Co
Phoenix humilis (L.) Cav.	Nc	Nc	Nr	Nc	Nr	Nr	Nr	Ab	Ab
Pithecellobium dulce (Roxb.) Benth.	Co	Co	Co	Nr	Nr	Ab	Nr	Nr	Nr
Scutia myrtina (Burm.f.) Kurz	Co	Co	Co	Ab	Co	Co	Co	Nc	Nc
Solanum torvum Sw.	Co	Co	Nc	Nc	Nc	Nc	Nc	Ab	Ab
Streblus asper Lour	Ab	Co	Nc	Ab	Nc	Nc	Nc	Co	Co
Syzygium cumini (L.) Skeels	Co	Co	Nc	Ab	Nc	Nc	Nc	Ab	Ab
Terminalia bellirica (Gaertn.) Roxb.	Ab	Co	Nr	Nc	Nr	Nr	Nr	Nc	Nc
Ziziphus rugosa Lam.	Ab	Co	Nc	Ab	Nc	Nc	Nc	Co	Ab

Ab = abundant, Co = Common, Nc = Not so common, Nr = Not reported.

Further assessment of local availability status of 15 selected wild edible fruit species showed maximum number is graded to not so common, followed by common and not reported (Table. 2). The seasonal availability of wild edible fruit species affect to a certain extent, the flowering starts between Jan-April in case of majority of species. The fruiting however varies from species to species. The phenological characteristics are very essential elements to understand ways of conservation measures for the particular specie (Jeeva, 2009). Therefore an urgent need for conservation of wild edible plant species and their habitats required. Further research is underway to carry out nutritional values of wild edible fruits.

Conclusion

Documentation is required to gradual disappearance of knowledge of wild edible species. The large numbers of the most edible fruits are available in the ends of the hot dry season to middle of the rainy seasons. In this period where new agricultural fruits are not yet ripe. Thus these wild fruits would greatly contribute to food security in forest fringes villages during the lean period. Many wild edible fruits can benefit local people not only as food and also for their medicinal importance.

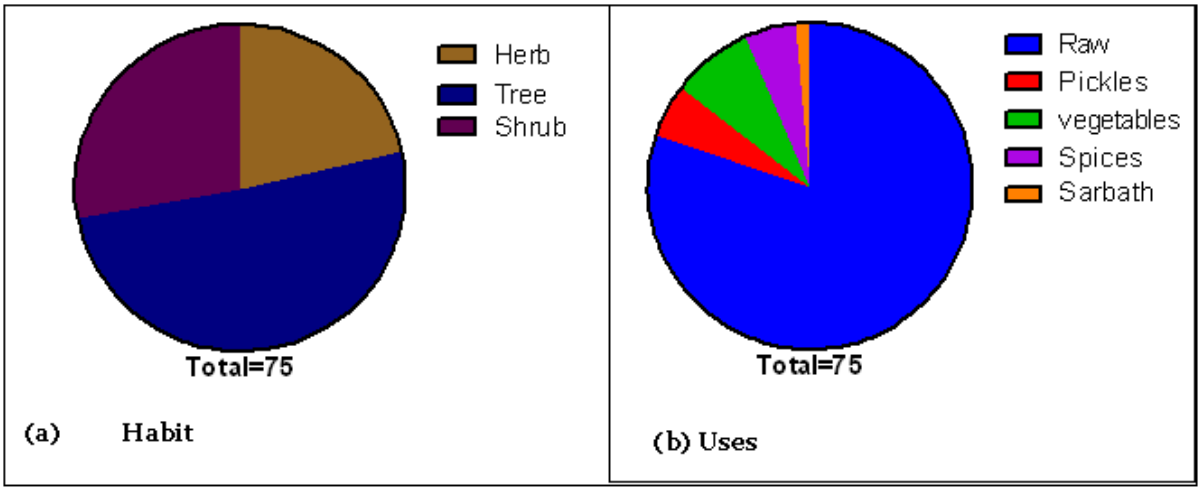

Fig. 2. Percentage of wild edible fruits in the form of (a) Habit and (b) Uses.

Fig. 3. Wild edible fruits of Hassan forest division, Karnataka, India.

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