

POTENTIAL MINOR FOREST PRODUCTS WEALTH OF OLD MYSORE DISTRICT, KARNATAKA, INDIA

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Abstract

Minor forest products yielding plants plays a significant role in each and every individual to begin the life and also fulfil the day to day basic requirements. Documentation of Minor forest products yielding plants suggest customarily used novel and additional replacement of available species for present and future generation for the prolong utilisation and maintainance. This paper offers immense and wide range of data on 90 minor forest products yielding plants belonging to 79 genera of 45 families are utilised in daily life of tribal and rural people of old Mysore district. The research data includes botanical name, family, habit, Kannada name, plant parts used and uses. Out of 90 minor forest products yielding plants, 44 plant species plays an essential role in utilisation of 17 natural products in day to day life of tribal and rural populace of old Mysore district.

Key Words: Minor forest products, Traditional knowledge, Biomass, Forest, Mysore

INTRODUCTION

Since prehistoric period, plants play a crucial role for the existence and civilisation of individuals for the beginning of life by using an essential resource from forests in the form of medicine, food, spices, fodder, fuel, timber, resin, tannin and dyes etc. The rich biodiversity of forests can be broadly divided into timber and non-timber and further non-timber is categorised into medicinal, edible and other economically important non – timber forest products or minor forest products yielding plants.

Identification and utilisation of minor forest products yielding plants resource rewarded more attention from the people of in and around the world. More logical and scientific monitoring is required towards the collection of information on distribution, habit, local name, seasonality, harvesting procedure, host plant, availability, quantity and trade value etc to fulfil the minor forest products yielding plants requirements for the benefit of increasing population and it may become an alternative/substitute resource for the future generation.

Scientific validation of inherent traditional knowledge of elder generation of tribal and rural population about an importance of minor forest products plays a major role in an expansion of life and economical status. A very limited literature is available in relation

to minor forest products yielding plant species. This is necessary and prime time to collect information from elder generation to trace back the distribution and uses of plants to make use for the benefit of present and future generation. It is a basic necessity to increase the biomass of minor forest products yielding plants for appropriate deliberation, discovery and utilisation in daily life.

Indian subcontinent climate promotes amiable rich biodiversity of minor forest products yielding plants for the benefit of assorted traditional culture. In southern part of India, neighbouring districts of Western Ghats designated as a vital place for the presence of diverse vegetation. The forest contour, soil, weather and other relevant factors plays an outstanding and extensive role in increased population of minor forest products yielding plants. Karnataka state is renowned for reliable location and existence of minor forest products yielding plants found in the forest segments used for enriched utilisation of naturally available minor forest products.

The old Mysore district is a place endow with conspicuous, valid biodiversity encourage the established distribution, accession and utilisation of minor forest products yielding plants, these factors inspires young scientific society to commence proficient research work in the field of minor forest

yielding plants and it will help to proliferate the traditional knowledge and recognition of commonly available minor forest products yielding plants in future generation.

Since, more research work has been conducted by a group of scientific bent of minds in different parts of India. The research work revealed an important data on minor forest products yielding plant species on different aspects. A total of 35 minor forest products yielding plants with botanical name, local name, parts used, availability and utilisation of minor forest products yielding plants were documented from Lal market of Gangtok, Sikkim (Hajra and Chakraborty, 1981). Few non-edible plants data on seeds, gums, oleoresins and tanstuffs were recorded from the forests of Trikuta hills in Jammu and Kashmir (Kapur and Sarin, 1982). Renewable, under – exploited economically important 06 minor forest products yielding plants distribution and uses observed from in and around the country (Kak, 1985). A detailed information on importance, consumption and other energy requirement of fuelwood for domestic purposes has been noted in Chakma block of Tehri Garhwal district, Uttarkhand (Vijay and Sharma, 1988).

The precise data on ecological features such as type of forest, climate and soil along with enlisting of 06 fuelwood yielding species with growth, height, propagation, calorific value, yield and way of utilisation observed from hilly areas of Himachal Pradesh (Subhash, 1990). Enumeration and utilisation of 113 species of fodder yielding trees have been explored from rural populace of Bay island, Andaman island (Kumar and Dagar, 1993). Distribution of 63 minor forest products yielding plants along with botanical name, local/trade name, seasonality, parts used and uses were enlisted from Jammu and Kashmir (Srivastava and Kapahi, 1995).

A Complete investigation related to under - utilised and economically important plant resources observed from the Kachchh, Gujarat (Vyas and Purbey, 1998). A descriptive morphology, phenology, conservation and sustainable utilisation of 10 minor forest products yielding plant species observed from Jarawas of Negrito tribes in Andaman islands (Rao et al., 2001). The more focussed data on survey of 61 dye yielding plant species with vernacular name, brief description, parts used and utilised were documented by the populace of Andaman and Nicobar islands (Sampath and Rao, 2003). A record of commonly used 81 fodder yielding plant species distribution and uses observed from Uttaranchal Himalaya (Pandey and Gupta, 2006).

Categorised list of frequently used 459 minor forest products yielding plant species used as oil seeds, dyes, gums, resins, fodder, fibre, hut making, thatching, agricultural implements and timber woods utilisation were monitored in the populace of Valmiki National park, Bihar (Rajeev, 2007). Commonly used and economically important minor forest products yielding plants used for construction of huts, household articles, field fencing, timber, fodder, fuel, fibre, dyes, tannin, gum, resins utilisation recorded from tribal settlements of Banaskantha district in Gujarat (Meena, 2008).

Noted harvesting and ecological connotation related to minor forest products yielding plants used by the local population of mangrove forest of Sundarban, West Bengal (Anshu et al., 2010). Sustainable utilisation of 07 minor forest products yielding plants observed from the populace of kandi belt of Jammu (Slathia and Paul, 2012). Inventory data on *Litsea deccanensis* Gamble species population model, harvesting and exploited as minor forest product yielding plant identified and utilised from Andhra Pradesh (Mishra and Naidu, 2013).

The plant resources of Northern Karnataka forest segments shows fundamental work in the area of minor forest yielding plants. The ecological parameters related to height, crown size and girth of 05 minor forest products yielding plants were recorded from Western Ghats of Uttara Kannada district (Bhat et al., 2003). Diversity and importance of 10 minor forest products yielding plants with parts used, uses, percentage of household gathering, quantity and trade values collected from Uttara Kannada district (Murthy et al., 2005).

South Karnataka districts encompass variegated vegetation and it provides a unique type of exploration of plants in relation to distribution, part used, utilisation of minor forest products yielding plants. Exploration of 36 commonly used of minor forest products yielding plant species from Savanadurga reserve forests (Rajanna et al., 2003). History, life style, agriculture dependence, commercial crops, economic importance and dependence on coffee crop was noticed from adivasi populace of Kodagu (Ambinakudige, 2011). Evaluation of Gum, fodder, fencing, fuelwood, timber yielding minor forest product plants with distribution, family, local name, habit, status and uses of 109 species total importance values were analysed from the populace of Kaan forests in Sagar taluk (Gunaga et al., 2012).

In the forests of old Mysore district, a limited research work has been carried out in the selected forest areas; such as Biligiri Rangan Hills, M.M.Hills of ChamaraJanagar district. It throws light on selected commonly available minor forest products yielding plants along with specific aspects like botanical name/common name, part used, uses, productivity, population, vegetation composition, types of products, quantity, marketing channels, source of income of tribal or rural inhabitants. To mention, the survey work provides a very limited context on ecology and trade related facet such as type of products, amount, quantity and marketing channels of 05 minor forest products yielding plants collected from Biligiri Rangan Hills (Hegde *et al.*, 1996).

Basic and commonly available 11 minor forest products yielding plants along with habit, harvested plant part, uses and marketing channels were observed from Kanneri colony of Biligiri Rangan Hills (Murali *et al.*, 1996). Investigation on extraction, productivity and population level of *Phyllanthus emblica* L. fruits harvesting in the forests of Biligiri Rangan Hills (Umashankar *et al.*, 1996). Investigation related to fruiting seasons of 02 commonly available minor forest products yielding species such as *Phyllanthus emblica* L. and *Phyllanthus indofischeri* Bennet. in the forests of Biligiri Rangan Hills (Sinha and Bawa, 2002). Documentation of local marketing data related to 17 minor forest products yielding plants along with part used, quantity of collection, source of income, household expenditure, market structure and market price data collected from the populace of M.M.Hills, B.R.Hills and Nagarahole (Umashankar *et al.*, 2004).

A detailed account related to occupation, annual income, economic status and reliance on forest for 4 commonly available minor forest products yielding plants for the expansion of life in tribals of Kollegal and ChamaraJanagar taluks (Raghupathi, 2005). Evaluation of 14 minor forest product yielding plants including seasonality, part used, uses, extraction patterns, quantity and marketing price were collected from inhabitants of Hanur, Ramapuram and M.M.Hills ranges of Kollegal taluk (Devaraj *et al.*, 2006).

Documentation of commonly used 11 minor forest products yielding plants with distribution, local name, habit, morphological characters, seasonality and uses from B.R.Hills, M.M.Hills and Bandipur (Kshirsagar and Singh, 2007). Enumeration of commonly used 12 minor forest products yielding plants along with harvesting, regeneration methods observed in Biligiri Rangan Hills (Madegowda, 2009).

MATERIALS AND METHODS

Study area

The old Mysore district found in proclaimed southern part of Karnataka. The study area spread out about 6,854 sq. km area, lies between 11°30' to 12°50' N Latitude and 75°45' to 77°45' E Longitude. Geographically, the location is popularly known for the undulated hilly area of Western and Eastern Ghats at an elevation of 610 metres above mean sea level. The district having 6,76,382 hectares of terrain land, 62,857 hectares of forest zone, 3,875.6 sq areas is depicted as reserved forest and 4,86,410 hectares of position is considered as cultivable land. The district is regarded as peripheral and connecting point in south – east and south – west position for the neighbour states of Tamil Nadu and Kerala (Fig.1).

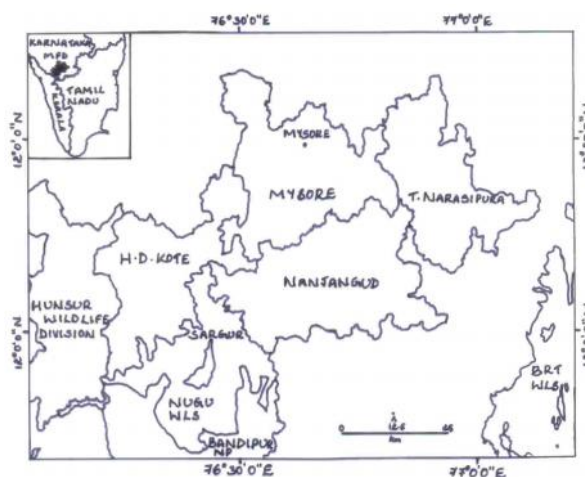


Figure1 A bird view map of old Mysore district

The forest zone starts from Hunsur, Heggadadevanakote and extended towards Gundlupet taluk. The district average rainfall is estimated about 785 mm and temperature is recorded as 15°C to 35°C in the season of winter as well as in summer. The soil found in the district is categorised into red clay, red loamy, red gravelly clay, red gravelly loamy, black, laterite, and brown soil. Agriculture is considered as back bone for the entire district, of which the cultivable land mainly depend on rainfall and depend on the rivers like Cauvery and Kabini for the purpose of irrigation (Srinivasan, 2003). The study area regarded as treasure zone for the widespread occurrence of natural plant resources is richer due to the presence of vivacious types of forest.

In other words existence, custom and traditional knowledge varies from one ethnic group to the other. The district statistics shows that the population of rural area is more compared to urban. There are six types of tribal communities found in the hilly tracts of district

namely, Jenukuruba, Betta kuruba, Paniya, Panjari, Yeravas and Soligas. Immense forest terrain, assorted natural conditions favours an unique, enhanced and rich minor forest products yielding plants population utilised by the tribal and rural inhabitants of old Mysore district.

Documentation of Minor forest products yielding plants

Exploration of minor forest products yielding plants has been carried out in various forest segments of old Mysore district with the help of available scientific literature on floristic studies (Hegde et al., 1996; Murali et al., 1996; Umashankar et al., 1996; Sinha and Bawa, 1998; Umashankar et al., 2004; Raghupathi, 2005; Devaraj et al., 2006; Kshirsagar and Singh, 2007 and Madegowda, 2009). Seasonal survey tours have been conducted in the forest area of old Mysore district and interviewed age old village and tribal people to enlist minor forest products yielding plants, local names, parts used and uses.

Data processing and verification

The minor forest products yielding plant specimens identified by using floristic literatures and also compared with the specimens of RRCBI, NADRI, Bangalore (Rao and Razi, 1981, Ramaswamy and Razi, 1973, Saldanha and Nicolson, 1976, Sharma et al., 1984, Gurudev, 2001, Sheth, 2005).

RESULTS

The research data includes botanical name, family, habit, Kannada name, parts used and uses. The exploration of old Mysore district encompassed 90 minor forest products yielding plants belonging to 79 genera of 45 families have been arranged (Table. 1). The minor forest products yielding plants species compiles 03 Climbers, 10 Herbs, 20 Shrubs and 57 Tree forms.

Minor forest products yielding plant parts utilisation

The explored minor forest products yielding plant parts have been arranged into Whole plant (07), Root (02), Bark (02), Stem (41), Heartwood (03), Culm (01), Leaf (08), Inflorescence (01), Flower (06), Bract (01), Fruit (11), Silky fibre (01), Seed (02), Seed oil (01), Resin (01) and Gum (02) were utilised by the tribal and rural inhabitants of old Mysore district (Fig. 2).

The documented minor forest products yielding plants

were used in the form of natural products and the same has been represented (Fig. 3).

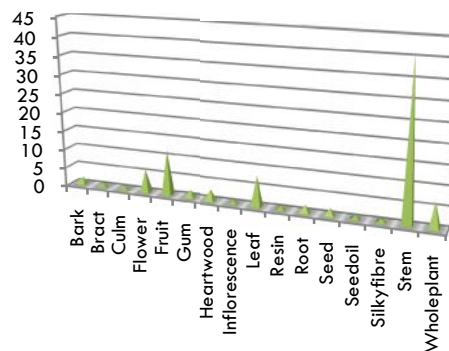


Figure 2 Useful parts of minor forest products yielding plants

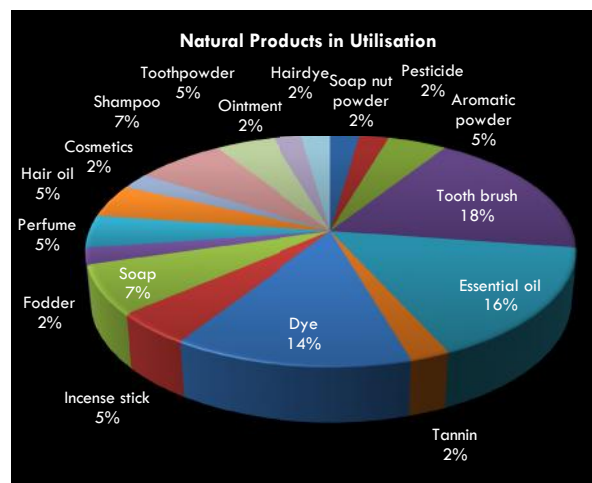


Figure 3 Utilisation of commonly available natural products in daily life

The explored minor forest products yielding plants shows 06 plants from the family Euphorbiaceae, Caesalpiniaceae and Combretaceae, 05 from Fabaceae and Mimosaceae, 04 from Verbenaceae, 03 from Rubiaceae, Sterculiaceae, Asteraceae, Oleaceae and Sapindaceae, 02 from Bignoniaceae, Bombacaceae, Burseraceae, Meliaceae, Moraceae, Poaceae, Rutaceae, Sapotaceae and Tiliaceae and 01 each from Agavaceae, Anacardiaceae, Apocynaceae, Casuarinaceae, Celastraceae, Clusiaceae, Dipterocarpaceae, Ebenaceae, Ehretiaceae, Lamiaceae, Lauraceae, Lecythidaceae, Magnoliaceae, Malvaceae, Menispermaceae, Myrtaceae, Pandanaceae, Passifloraceae, Proteaceae, Rhamnaceae, Rosaceae, Salvadoraceae, Santalaceae, Strychnaceae and Symplocaceae (Fig. 4).

Table 1 Minor forest products yielding plants of old Mysore district.

Sl.No	Botanical name	Family	Kannada name	Habit	Part used	Uses
1	<i>Acacia chundra</i> (Rottler) Willd	Mimosaceae	Kempu khirada jaali	Tree	Stem	Fuel wood
2	<i>Acacia sinuata</i> (Lour.) Merr.	Mimosaceae	Seege	Shrub	Fruit	Soapnut powder
3	<i>Agave cantala</i> (Haw.) Roxb. ex Salm-Dyck	Agavaceae	Bhothaale	Herb	Leaf	Fibre
4	<i>Albizzia saman</i> (Jacq.) Merr.	Caesalpiniaceae	Kathikaayi	Tree	Flower	Dye
5	<i>Albizzia lucida</i> Benth.	Mimosaceae	Baage	Tree	Stem	Fuel wood
6	<i>Anogeissus latifolia</i> (Roxb. ex DC.) Wall. ex Bedd.	Combretaceae	Bejjalu	Tree	Stem	Fuel wood
7	<i>Aristida setacea</i> Retz.	Poaceae	Dodda hanchi hulu	Herb	Inflorescence	Broom stick
8	<i>Azadirachta indica</i> A.Juss.	Meliaceae	Baevu	Tree	Seed	Pesticide
9	<i>Bambusa bambos</i> (L.) Voss	Poaceae	Bidiru	Shrub	Culm	Timber
10	<i>Bauhinia purpurea</i> L.	Caesalpiniaceae	Kempumandaara	Shrub	Leaf	Plate
11	<i>Bombax ceiba</i> L.	Bombacaceae	Kempu booraga	Tree	Timber	Fuel wood
12	<i>Boswellia serrata</i> Roxb.ex Colebr.	Burseraceae	Maddi	Tree	Resin	Aromatic powder
13	<i>Bridelia retusa</i> (L.) A.Juss.	Euphorbiaceae	Gurige	Tree	Stem	Fuel wood
14	<i>Butea monosperma</i> (Lam.) Taub.	Fabaceae	Muthugada mara	Tree	Leaf	Plate
15	<i>Canthium coromandelicum</i> (Burm.f.) Alston	Rubiaceae	Kaaremullu	Tree	Stem	Fuel wood
16	<i>Careya arborea</i> Roxb.	Lecythidaceae	Gaujala mara	Tree	Stem	Timber
17	<i>Cassia fistula</i> L.	Caesalpiniaceae	Kakke	Tree	Stem	Fuel wood
18	<i>Casuarina equisetifolia</i> L.	Casuarinaceae	Kesarike	Tree	Stem	Tooth brush
19	<i>Catunaregam spinosa</i> (Thunb.) Tirveng.	Rubiaceae	Maggare	Tree	Stem	Fuel wood
20	<i>Ceiba pentandra</i> (L.) Gaertn.	Bombacaceae	Bilibooruga	Tree	Silky fibre	Pillow
21	<i>Cerasus cerasoides</i> (Buch.-Ham. ex D. Don) S.Y. Sokolov	Rosaceae	Padmaka	Tree	Stem	Fuel wood
22	<i>Chloroxylon swietenia</i> DC.	Rutaceae	Hurugalu	Tree	Stem	Fuel wood
23	<i>Cinnamomum verum</i> J.Presl	Lauraceae	Lavanga patte	Tree	Leaf	Essential oil
24	<i>Commiphora berryi</i> (Arn.) Engl.	Burseraceae	Guggala	Shrub	Stem	Tooth brush
25	<i>Cordia dichotoma</i> G.Forst.	Ehretiaceae	Kaduchalle	Tree	Bark	Tannin
26	<i>Diospyros melanoxylon</i> Roxb.	Ebenaceae	Thendu	Tree	Leaf	Beedi
27	<i>Dodonaea viscosa</i> Jacq.	Sapindaceae	Bandarike	Shrub	Whole plant	Tying
28	<i>Eriolaena quinquelocularis</i> (Wight & Arn.) Wight	Sterculiaceae	Bili gundu gida	Tree	Stem	Fuel wood
29	<i>Ficus benghalensis</i> L.	Moraceae	Aaladamara	Tree	Stem	Fuel wood
30	<i>Garcinia malabarica</i> Desr.	Clusiaceae	Murugalu	Tree	Fruit	Dye
31	<i>Grevillea robusta</i> A.Cunn. ex R. Br.	Proteaceae	Oak	Tree	Stem	Fuel wood
32	<i>Grewia oppositifolia</i> Roxb. ex DC.	Tiliaceae	Thadasalu	Shrub	Stem	Fuel wood
33	<i>Grewia tiliaefolia</i> Vahl	Tiliaceae	Udipe	Shrub	Stem	Fuel wood
34	<i>Helicteres isora</i> L.	Sterculiaceae	Aedamuri	Shrub	Stem	Fuel wood
35	<i>Indigofera tinctoria</i> L.	Fabaceae	Neeligida	Herb	Whole plant	Dye
36	<i>Jasminum arborescens</i> Roxb.	Oleaceae	Hambumallige	Shrub	Flower	Essential oil
37	<i>Jasminum auriculatum</i> Vahl	Oleaceae	Sannamallige	Shrub	Flower	Incense stick
38	<i>Jatropha curcas</i> L.	Euphorbiaceae	Doddaharalu	Shrub	Seed	Soap
39	<i>Kavalama urens</i> (Roxb.) Raf.	Sterculiaceae	Kempudaale	Tree	Gum	Fuel wood
40	<i>Kigelia africana</i> (Lam.) Benth.	Bignoniaceae	Mara sowthae	Tree	Stem	Fuel wood
41	<i>Kydia calycina</i> Roxb.	Malvaceae	Bellaka	Tree	Stem	Fuel wood
42	<i>Lantana camara</i> L.	Verbenaceae	Rojagida	Shrub	Stem	Fuel wood
43	<i>Madhuca longifolia</i> var. <i>latifolia</i> (Roxb.) A.Chev	Sapotaceae	Ippe	Tree	Seed oil	Soap
44	<i>Magnolia champaca</i> (L.) Baill. ex Pierre	Magnoliaceae	Sampige	Tree	Flower	Perfume
45	<i>Mallotus philippinensis</i> var. <i>pallidus</i> Airy Shaw	Euphorbiaceae	Kumkumada mara	Tree	Stem	Fuel wood
46	<i>Manihot esculenta</i> Crantz	Euphorbiaceae	Maragenasu	Herb	Whole plant	Fodder
47	<i>Maytenus emarginata</i> (Ruiz & Pav.) Loes.	Celastraceae	Thandarasi	Shrub	Stem	Fuel wood
48	<i>Melia azadirachta</i> L.	Meliaceae	Hucchu baevu	Tree	Stem	Tooth brush
49	<i>Mimusops elengi</i> L.	Sapotaceae	Ranjalu	Tree	Stem	Tooth brush
50	<i>Morus alba</i> L.	Moraceae	Hippuneralu	Tree	Stem	Dye
51	<i>Pandanus odorifer</i> (Forssk.) Kuntze	Pandanaceae	Thaale	Shrub	Bract	Perfume
52	<i>Passiflora edulis</i> Sims	Passifloraceae	Jumakihoo	Climber	Whole plant	Tying
53	<i>Phyllanthus emblica</i> L.	Euphorbiaceae	Bettadanelli kaayi	Tree	Fruit	Hair oil
54	<i>Phyllanthus reticulatus</i> Poir.	Euphorbiaceae	Karihooli	Shrub	Stem	Fuel wood
55	<i>Pithecellobium dulce</i> (Roxb.) Benth.	Mimosaceae	Seemehunase	Tree	Fruit	Fuel wood
56	<i>Plectranthus amboinicus</i> (Lour.) Spreng.	Lamiaceae	Doddapathre	Herb	Leaf	Essential oil
57	<i>Pongamia pinnata</i> (L.) Pierre	Fabaceae	Honge	Tree	Stem	Tooth brush
58	<i>Premna tomentosa</i> Willd.	Verbenaceae	Pite	Tree	Stem	Fuel wood
59	<i>Prosopis cineraria</i> (L.) Druce	Mimosaceae	Perunje	Tree	Stem	Fuel wood
60	<i>Pterocarpus marsupium</i> Roxb.	Fabaceae	Honne	Tree	Heartwood	Furniture
61	<i>Pterocarpus santalinus</i> L.f.	Fabaceae	Kempugandha	Tree	Heartwood	Cosmetic
62	<i>Radermachera xylocarpa</i> (Roxb.) Roxb. ex K. Schum.	Bignoniaceae	Kaanana kombu	Tree	Stem	Fuel wood
63	<i>Rubia cordifolia</i> L.	Rubiaceae	Chithravalli	Climber	Root	Dye
64	<i>Ruta chalepensis</i> L.	Rutaceae	Naagadaalisoppu	Herb	Leaf	Essential oil
65	<i>Salvadora persica</i> Wall.	Salvadoraceae	Karigonimara	Shrub	Root	Tooth brush
66	<i>Santalum album</i> L.	Santalaceae	Chandana	Tree	Heartwood	Incense stick
67	<i>Sapindus laurifolius</i> Vahl	Sapindaceae	Antuvaala	Tree	Fruit	Shampoo
68	<i>Sapindus trifoliatus</i> L.	Sapindaceae	Antuvaala	Tree	Fruit	Shampoo
69	<i>Schrebera swietenoides</i> Roxb.	Oleaceae	Kalgante	Tree	Stem	Aromatic powder
70	<i>Senna tora</i> L.	Caesalpiniaceae	Thagase	Herb	Stem	Tooth brush
71	<i>Senna auriculata</i> (L.) Roxb.	Caesalpiniaceae	Thangadi	Shrub	Stem	Tooth brush
72	<i>Shorea roxburghii</i> G.Don	Dipterocarpaceae	Jaalaari	Tree	Gum	Hair oil
73	<i>Sphaeranthus indicus</i> L.	Asteraceae	Bodukadale	Herb	Whole plant	Essential oil
74	<i>Spilanthes acmella</i> (L.) L.	Asteraceae	Hommugali	Herb	Flower	Tooth powder
75	<i>Spondias pinnata</i> Roxb.	Anacardiaceae	Kaadumate	Tree	Fruit	Fuel wood

76	<i>Strychnos potatorum</i> L.f.	Strychnaceae	Chilla	Tree	Stem	Shampoo
77	<i>Symplocos cochinchinensis</i> var. <i>laurina</i> (Retz.) Noot.	Symplocaceae	Budigane	Tree	Bark	Tooth powder
78	<i>Syzygium cumini</i> (L.) Skeels	Myrtaceae	Jambuneral	Tree	Fruit	Dye
79	<i>Tabernaemontana divaricata</i> (L.) R. Br. ex Roem. & Schult.	Apocynaceae	Nandibatlu	Shrub	Flower	Essential oil
80	<i>Tamarindus indica</i> L.	Caesalpinaceae	Hunase	Tree	Stem	Fuel wood
81	<i>Tectona grandis</i> L.f.	Verbenaceae	Thega	Tree	Whole plant	Furniture
82	<i>Terminalia arjuna</i> (Roxb. ex DC.)Wight & Arn.	Combretaceae	Bilimatthi	Tree	Stem	Fuel wood
83	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Combretaceae	Thaare	Tree	Fruit	Soap
84	<i>Terminalia catappa</i> L.	Combretaceae	Kaadubaadaami	Tree	Fruit	Ointment
85	<i>Terminalia chebula</i> Retz.	Combretaceae	Alalekaayi	Tree	Fruit	Fuel wood
86	<i>Terminalia paniculata</i> Roth.	Combretaceae	Holematthi	Tree	Stem	Fuel wood
87	<i>Tinospora cordifolia</i> (Willd.) Miers	Menispermaceae	Amrithaballi	Climber	Stem	Tying
88	<i>Vitex negundo</i> L.	Verbenaceae	Karilakki	Shrub	Leaf	Essential oil
89	<i>Wedelia chinensis</i> (Osbeck) Merr.	Asteraceae	Gargarigida	Herb	Whole plant	Hairdye
90	<i>Ziziphus oenoplia</i> (L.) Mill.	Rhamnaceae	Paragimullu	Shrub	Stem	Fuel wood

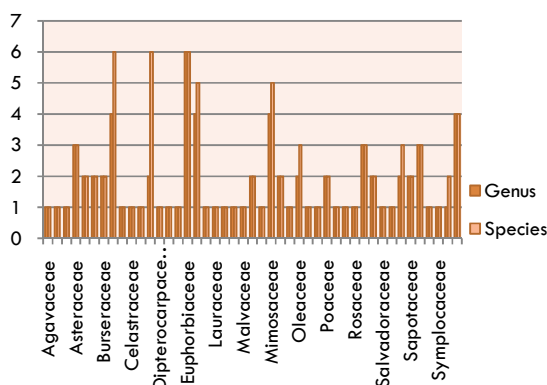


Figure 4 Consistent families of minor forest products yielding plants utilisation

DISCUSSION

The present study shows an exceptional and erratic occurrence of tribal and rural inhabitants, traditional knowledge regarding importance and utilisation of minor forest products yielding plant species found in hilly areas noticed in old Mysore district.

In day to day life, most of the synthetic compounds are used, now it is necessary to replace with natural products. Of enlisted, 17 common uses of minor forest products plants species in different forms of natural products viz. *Acacia sinuata* (Lour.) Merr. used as soapnut powder; *Azadirachta indica* A.Juss as pesticide; *Boswellia serrata* Roxb.ex Colebr. and *Schrebera swietenoides* Roxb. as aromatic powder; *Senna auriculata* (L.) Roxb., *Senna tora* L., *Casuarina equisetifolia* L., *Commiphora berryi* (Arn.) Engl., *Melia azaderch* L., *Mimusops elengi* L., *Pongamia pinnata* (L.) Pierre and *Salvadora persica* Wall. as tooth brush; *Cinnamomum verum* J.Presl, *Jasminum arborescens* Roxb., *Plectranthus amboinicus* (Lour.) Spreng, *Ruta chalepensis* L., *Sphaeranthus indicus* L., *Tabernaemontana divaricata* (L.) R. Br.ex Roem. & Schult. and *Vitex negundo* L. as essential oil; *Cordia dichotoma* G. Forst. as tannin, *Garcinia malabarica* Desr., *Indigofera tinctoria* L., *Morus alba* L., *Rubia c*

ordifolia L., *Albizzia saman* (Jacq.) Merr. and *Syzygium cumini* (L.) Skeels as Dye; *Jasminum auriculatum* Vahl and *Santalum album* L. as incense stick; *Jatropha curcas* L., *Madhuca longifolia* var. *latifolia* (Roxb.) A.Chev and *Terminalia bellirica* (Gaertn.) Roxb., as soap; *Manihot esculenta* Crantz. as fodder; *Magnolia champaca* (L.) Baill. ex Pierre and *Pandanus odorifer* (Forssk.) Kuntze as perfume; *Phyllanthus emblica* L. and *Shorea roxburghii* G. Don as Hair oil; *Pterocarpus santalinus* L.f. as cosmetic; *Sapindus trifoliatus* L., *Sapindus laurifolius* Vahl and *Strychnos potatorum* L.f. as shampoo; *Spilanthes acmella* (L.) L. and *Symplocos cochinchinensis* var. *laurina* (Retz.) Noot., as toothpowder; *Terminalia catappa* L. as ointment and *Wedelia chinensis* (Osbeck) Merr. as hairdye are shown important utilisation.

Recognition of commonly used folk/traditional knowledge from ancient scientific literatures, interviews with tribal and rural people may boost diverse data on minor forest products yielding plants. Well trained or locally available tribal and rural populace may be used for harvesting, processing, preparation and marketing of natural products. Sustainable harvesting of plant material from wild habitat will conserve the distribution and population of endemic and wild species. Financial assistance from Government and corporate industries is required for the collection, processing, preparation and marketing of natural products. Proper knowledge on utilisation of natural products will contribute good economic strength to the society. Therefore this is the time to validate scientifically and the same has to be introduced in the form of novel product for the benefit of mankind.

Scientific harvesting of minor forest products yielding plants may conserve associated/host species or endemic species. Cultivation practice of minor forest products yielding plants through modern, scientific techniques may be a solution for further conservation of plants. Insitu or exsitu method of preservation can

be followed for minor forest products yielding plants.

The enlisting of minor forest products yielding plant species plays a major role in identification and sustainable utilisation of relic species, it may help for the easy accession, cost-effective and expansion of economic status in hilly tract rural and tribal inhabitants of old Mysore district.

CONCLUSION

Of total enlisted, 44 important minor forest products yielding plant species are commonly used in 17 natural products, which are important for further scientific evaluation and characterisation of the compound responsible to obtain safety and environment friendly novel natural product to replace synthetic in day to day life.

The documentation and appropriate utilisation of minor forest products yielding plants and traditional knowledge related to minor forest products yielding plants need pertinent management and utilisation. More awareness on minor forest products yielding plants helps in conservation of remnant and associated species. A few customarily used minor forest products yielding plants species will be utilised for the widespread requirement in the inhabitants for low cost and easy accession.

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