



ISSN (E): 2320-3362
ISSN (P): 2394-0530
NAAS Rating: 3.53
JMPS 2018; 6(4): 169-174
© 2018 JMPS
Received: 25-05-2018
Accepted: 26-06-2018

Anupam Pratap Singh
Department of Botany,
Hindu College, Moradabad,
Uttar Pradesh, India

Beena Kumari
Department of Botany,
Hindu College, Moradabad,
Uttar Pradesh, India

A survey of tree flora of Rampur district of Rohilkhand region, (U.P.)

Anupam Pratap Singh and Beena Kumari

Abstract

A survey was conducted during the year 2017 for the investigation of multi-use of trees diversity in of Rampur District. The present study focuses on the need of multi-use tree species and their conservation for future generations. Total 93 tree species under 78 genera belonging to 37 families have been recorded. Out of 37 families, Moraceae represented by 10 species followed by Caesalpiniaceae with 9 species and Apocynaceae & Mimosaceae with 6 species each. About 46 tree species exhibit deciduous nature, 33 species are evergreen, 9 species are semi-deciduous and 5 tree species are semi-evergreen in the study area. 93 species surveyed in the Rampur district have been used for multipurpose such as medicinal, ornamental, timber wood, edible fruits, avenue tree, fodder, firewood, religious, oil, handcraft, spices.

Keywords: Angiosperm tree diversity, multi-use, Rampur district

1. Introduction

Trees are not only the chief components of the forest and a significant portion of our ecosystem, they also provide shelter to lower organisms and wildlife, act as a protective environment, reduce pollutants and provide many useful things such as firewood, timber, edible fruits, oil, avenue, biodiesel, religious values and medicines etc. In this way trees play a significant role in human's life [1, 2, 6, 8]. The Rampur district is located between the longitude 79° 05' East and the latitude 28° 48' North, it extends on an area of 2367 km. Falls in the division of Moradabad of the State of Uttar Pradesh. It has been incorporated in the state of U.P. in 1949. It is home to farms that cover vast expanses of land. The height from sea level is 192 meters to the north and 166.4 meters to the south. Rampur district comprises of 1173 villages under 6 tahsils: Rampur, Bilaspur, Milak, Shahabad, Suar and Tanda (Fig. 1). During summers, the temperature is usually 44.2 °C to 30 °C and in the winter 23 °C to 5 °C. The vegetation is largely dependent on rain which, in most cases, is seasonal and irregular. The average precipitation varies between 800-900 mm. Relative humidity is 20% in the dry period and increases in the monsoon season more than 90%. Urbanization and industrial expansion all these reasons for the loss of tree species in the Rampur district. Therefore an attempt has been made to document angiospermic trees with their multi-use in the study area. The contribution of our interest are reported in the works of following scientists [3, 7, 10, 11]. Present communication provides data about 93 tree species of angiosperms accepted name, vernacular names, family and uses of these species are enumerated in table 1

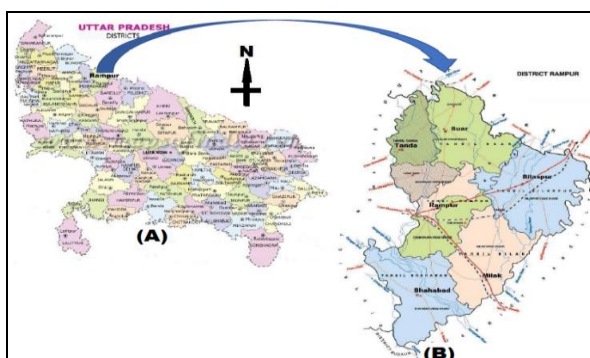


Fig 1: Map of Rampur District (B)

Correspondence
Anupam Pratap Singh
Department of Botany,
Hindu College, Moradabad,
Uttar Pradesh, India

2. Materials and methods

A survey was conducted during 2017 for the investigation of multi-use of trees diversity in the areas of Rampur District (Fig 1). The plant specimens collected and photography were also done during field trips. The identification of tree species has been done with the help of regional floras and existing literature [4, 5, 9, 12, 13, 14] different online databases such as The International Plant Name Index (www.ipni.org), The Plant List (www.theplantlist.org) and e-floras etc. have been used for the correct and updated nomenclature of tree species. The deciduousness and ever greenness tree species has also been noticed during these visits. The values and multipurpose use of the species have been assessed by interviewing the local persons as well as from published work from the area [3, 7, 10, 11].

3. Results and Discussion

Total 93 tree species under 78 genera belonging to 37 families have been recorded (Table-1). Moraceae represented by 10 species followed by Caesalpiniaceae with 9 species and

Apocynaceae, Mimosaceae with 6 species each whereas Families like Myrtaceae and Rutaceae represented by 5 tree species (Fig. 2). *Barringtonia acutangula* (L.) Gaertn., *Elaeocarpus angustifolius* Blume, *Erythrina variegata* L., *Commiphora mukul* (Hook. ex Stocks) Engl., *Mallotus philippensis* (Lam.) Mull.-Arg., *Saraca asoca* (Roxb.) Willd. are rarely seen in the study area. Nearly 46 species show the deciduous nature followed by 33 evergreens, 09 semi-deciduous and 05 semi-evergreen species in the study area (Fig. 3). This present documentation also recognizes the multi-use of tree species, about 80 were observed for medical purposes in different human ailments. Similarly, 37 types of trees are ornamental, Timber wood (28), Edible fruits (28), Avenue tree (20), Fodder (17), Firewood (14), Oil (3), Hedge tree (2), Handcraft (2), Bio diesel (1), Spice (1). In addition, five species, namely, *Aegle marmelos* (L.) Corr., *Calotropis gigantea* (L.) Dryand. *Elaeocarpus angustifolius* Blume, *Ficus benghalensis* L., *Ficus religiosa* L. are found of religious beliefs. (Fig. 4).

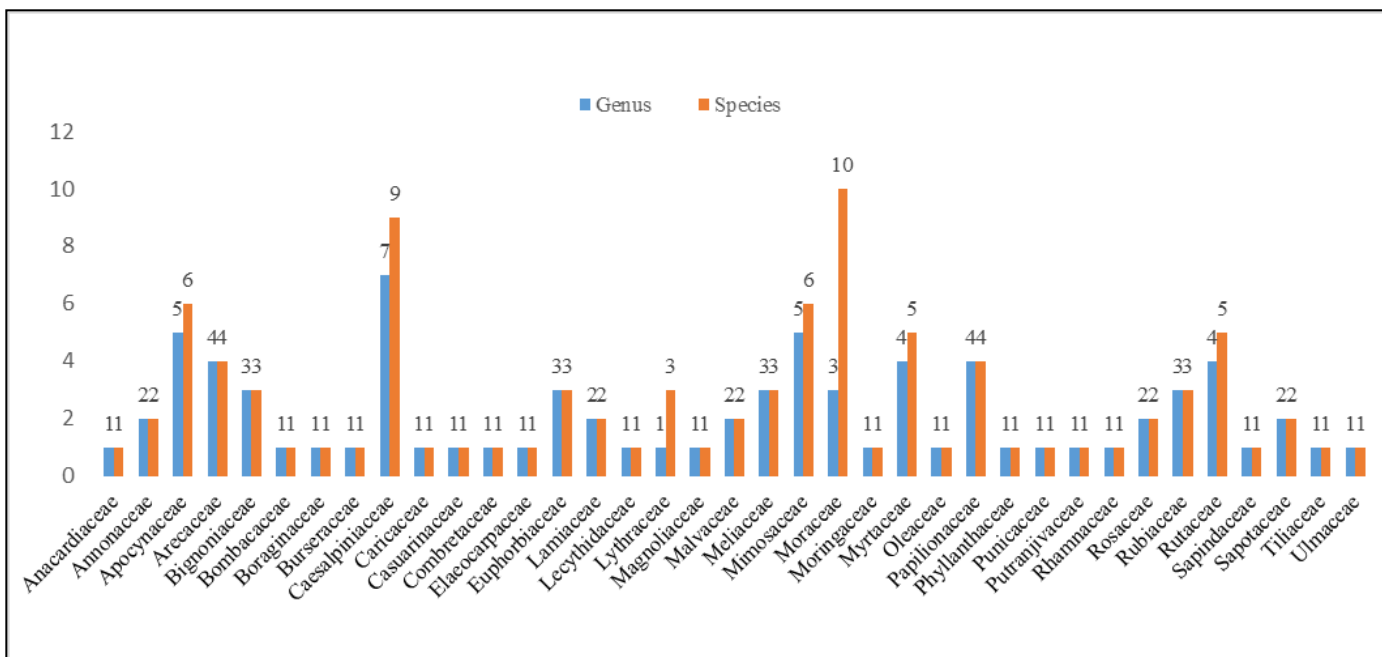


Fig 2: Families with corresponding number of genera and species

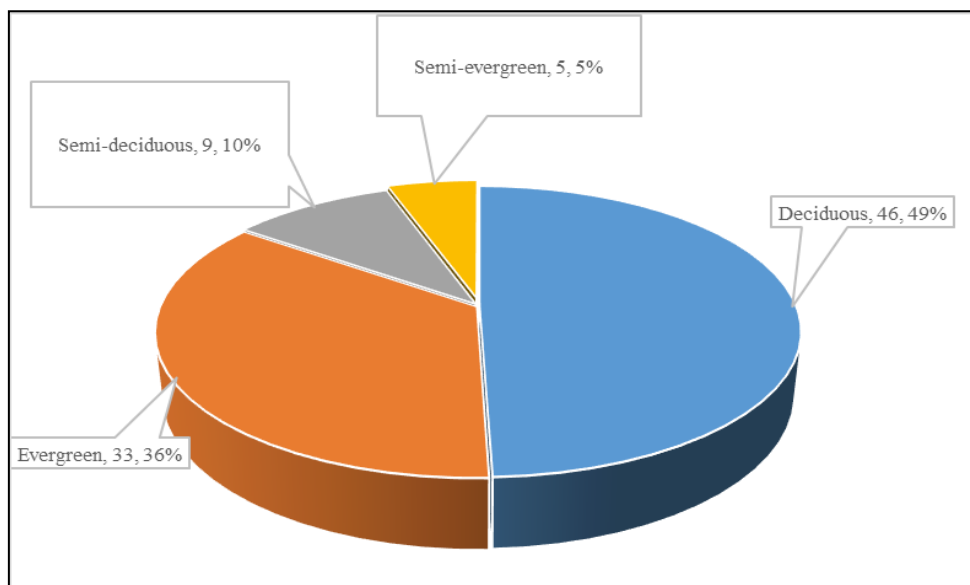


Fig 3: Number of species distributed across different vegetation types

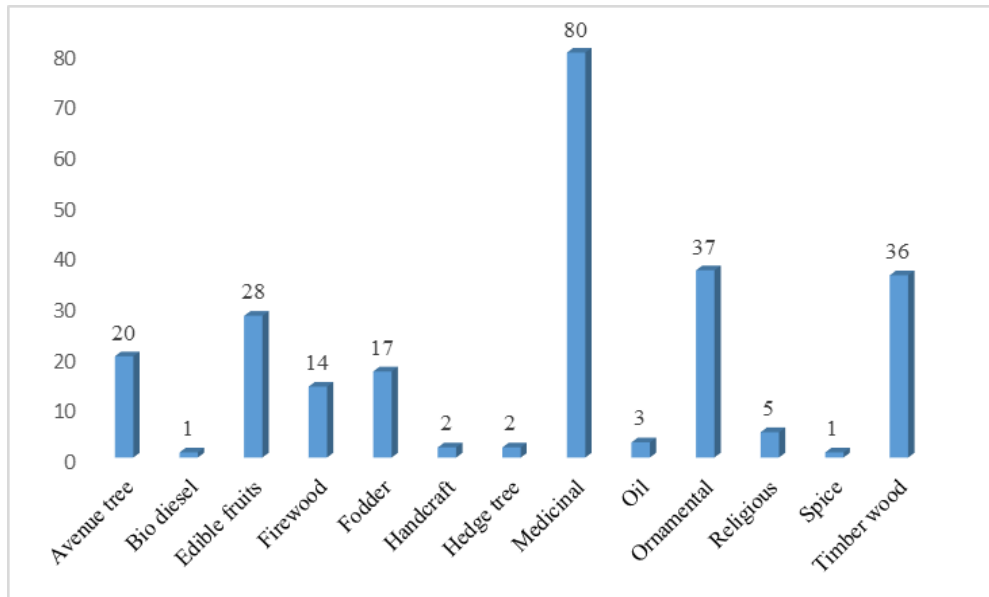


Fig 4: Number of tree species used for different purposes

Table 1: List of trees species recorded in Rampur district

S. No.	Botanical Names	Family	Common name	Phenology	Vegetation type	Multi-use
1.	<i>Acacia farnesiana</i> (L.) Willd.	Mimosaceae	Babool	Apr - Sep	Deciduous	Timber, fodder, fire wood
2.	<i>Acacia nilotica</i> (L.) Delile	Mimosaceae	Babool	Aug - Apr	Deciduous	Fire and timber wood, fodder, and medicinal.
3.	<i>Aegle marmelos</i> (L.) Corr.	Rutaceae	Bel	Apr - Jul	Semi-evergreen	Fruits edible, medicinal, religious.
4.	<i>Albizia lebbek</i> (L.) Benth.	Mimosaceae	Siris	Mar - Jun	Deciduous	Ornamental, avenue tree, timber wood and medicinal.
5.	<i>Alstonia scholaris</i> (L.) R.Br.	Apocynaceae	Satyanasi	Nov. - Jun	Evergreen	Ornamental and medicinal.
6.	<i>Annona squamosa</i> L.	Annonaceae	Sharifa	Apr - Jan	Semi-deciduous	Fruits edible, medicinal
7.	<i>Artocarpus heterophyllus</i> Lam.	Moraceae	Kathal	Feb - Sep	Evergreen	Fruits edible as vegetable, timber wood, medicinal.
8.	<i>Artocarpus lacucha</i> Buch.-Ham.	Moraceae	Barhal	Mar -Aug	Semi-evergreen	Timber yielding. Fodder medicinal.
9.	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Neem	Mar - Jul	Semi-deciduous	Avenue tree, timber wood, medicinal.
10.	<i>Barringtonia acutangula</i> (L.) Gaertn.	Lecythidaceae	Hijagal	Mar - Nov	Evergreen	Ornamental tree, medicinal
11.	<i>Bauhinia acuminata</i> L.	Caesalpiniaceae	Safed Kachnar	Jul - Dec	Deciduous	Ornamental, medicinal
12.	<i>Bauhinia variegata</i> L.	Caesalpiniaceae	Kachnar	Feb - May	Deciduous	Ornamental, medicinal.
13.	<i>Bombax ceiba</i> L.	Bombacaceae	Semal	Jan - May	Deciduous	Firewood, timber medicinal.
14.	<i>Butea monosperma</i> (Lam.) Taub.	Papilionaceae	Dhak	Mar - Jun	Deciduous	Timber wood, medicinal.
15.	<i>Caesalpinia sappan</i> L.	Caesalpiniaceae	Patang	Apr - Jul	Deciduous	Fire wood, medicinal
16.	<i>Callistemon viminalis</i> (Sol. ex Gaertn.) G. Don	Myrtaceae	Bottle Brush	May - Sep	Evergreen	Ornamental, medicinal.
17.	<i>Calotropis gigantea</i> (L.) Dryand.	Apocynaceae	Safed Madar	Dec - Aug	Evergreen	Religious, fire wood, medicinal.
18.	<i>Carica papaya</i> L.	Caricaceae	Papita	Throughout the year	Evergreen	Fruits edible, medicinal.
19.	<i>Carissa carandas</i> L.	Apocynaceae	Karonda	Mar - May	Deciduous	Fruits edible, medicinal.
20.	<i>Caryota urens</i> L.	Arecaceae	Van- khajur	Mar - Jun	Evergreen	Ornamental, leaves for fire.
21.	<i>Cascabela thevetia</i> (L.) Lippold	Apocynaceae	Peela kaner	Most part of the year	Evergreen	Ornamental tree, medicinal
22.	<i>Cassia fistula</i> L.	Caesalpiniaceae	Amaltas	Mar - Dec	Deciduous	Avenue tree, ornamental, medicinal.
23.	<i>Cassia javanica</i> L.	Caesalpiniaceae	Java ki Rani	May - Jan.	Deciduous	Avenue tree and ornamental
24.	<i>Casuarina equisetifolia</i> L.	Casuarinaceae	Jangli Saru	Mar - Jul.	Evergreen	Avenue tree, ornamental and timber.
25.	<i>Citrus aurantiifolia</i> (Christm.) Swingle	Rutaceae	Kagazi-nimbu	Apr - Sep	Semi-deciduous	Fruits edible, medicinal.
26.	<i>Citrus maxima</i> (Burm.) Merr.	Rutaceae	Chakotara	Mar - Apr	Semi-deciduous	Fruits edible, firewood, medicinal.
27.	<i>Commiphora mukul</i> (Hook. ex Stocks) Engl.	Burseraceae	Guggul	Dec - Jul	Semi-deciduous	Firewood, medicinal.
28.	<i>Cordia dichotoma</i> G. Forst.	Boraginaceae	Lassora	Mar - Jul	Deciduous	Fruits edible, timber, medicinal.
29.	<i>Dalbergia sissoo</i> DC.	Papilionaceae	Shisham	Mar - Nov	Deciduous	Timber wood, fodder, medicinal.
30.	<i>Delonix regia</i> (Hook.) Raf.	Caesalpiniaceae	Gulmohur	Apr - Feb	Deciduous	Ornamental and avenue tree, fire wood.
31.	<i>Elaeocarpus angustifolius</i> Blume	Elaeocarpaceae	Rudraksh	May- Sep	Evergreen	Religious, ornamental, handcraft.
32.	<i>Erythrina variegata</i> L.	Papilionaceae	Parijat	Mar - Jul	Deciduous	Ornamental and avenue tree, fodder, medicinal
33.	<i>Eucalyptus camaldulensis</i> Dehnh.	Myrtaceae	Safeda	Mar - Sep	Deciduous	Avenue tree, timber wood, medicinal
34.	<i>Eucalyptus globulus</i> Labill.	Myrtaceae	Safeda	Mar - Sep	Deciduous	Avenue tree, timber wood, medicinal
35.	<i>Ficus benghalensis</i> L.	Moraceae	Bargad	Apr - Oct.	Evergreen	Avenue tree, religious, fodder, medicinal.
36.	<i>Ficus carica</i> L.	Moraceae	Anjeer	Most part of the year	Semi-deciduous	Fruits edible, medicinal.
37.	<i>Ficus elastica</i> Roxb. ex Hornem.	Moraceae	Rubber tree	Apr - Oct.	Evergreen	Ornamental, firewood, timber
38.	<i>Ficus racemosa</i> L.	Moraceae	Goolar	Mar - Nov	Semi-deciduous	Fruits edible, fodder, medicinal
39.	<i>Ficus religiosa</i> L.	Moraceae	Pipal	Apr - Sep	Deciduous	Avenue tree, religious, fodder, medicinal.
40.	<i>Ficus virens</i> Aiton	Moraceae	Pakad	Apr - Sep	Deciduous	Avenue tree, fire and timber

41.	<i>Gmelina arborea</i> Roxb.	Lamiaceae	Gamari	Feb - Jul	Deciduous	Avenue tree, Ornamental and timber wood, medicinal
42.	<i>Grewia asiatica</i> L.	Tiliaceae	Phalsa	Mar - Sep	Deciduous	Edible fruits, fire wood and medicinal.
43.	<i>Haldina cordifolia</i> (Roxb.) Ridsdale	Rubiaceae	Haldu	Jun - Mar	Deciduous	Timber wood, medicinal
44.	<i>Holoptelea integrifolia</i> (Roxb.) Planch.	Ulmaceae	Chilbil	Feb - Jul	Deciduous	Timber and fire wood, fodder, seeds edible, medicinal.
45.	<i>Jacaranda mimosifolia</i> D.Don	Bignoniaceae	Jacaranda	Mar - Oct	Deciduous	Ornamental, medicinal.
46.	<i>Jatropha curcas</i> L.	Euphorbiaceae	Ratanjot	Apr - Feb	Deciduous	Hedge tree, seeds for bio diesel, medicinal
47.	<i>Kigelia africana</i> (Lam.) Benth.	Bignoniaceae	Balamkhira	Mar - Dec	Deciduous	Timber wood, medicinal.
48.	<i>Lagerstroemia indica</i> L.	Lythraceae	Sawani	May - Oct	Deciduous	Ornamental, medicinal
49.	<i>Lagerstroemia parviflora</i> Roxb.	Lythraceae	Dhaura	Apr - Nov	Deciduous	Ornamental tree, timber wood
50.	<i>Lagerstroemia speciosa</i> (L.) Pers.	Lythraceae	Jarul	May - Nov	Deciduous	Ornamental tree, timber, fire wood and medicinal.
51.	<i>Leucaena leucocephala</i> (Lam.) de Wit	Mimosaceae	Safed babool	Apr - Nov	Evergreen	Avenue tree, fodder
52.	<i>Limonia acidissima</i> Groff	Rutaceae	Kaith	Feb - Dec	Deciduous	Fruits edible and medicinal.
53.	<i>Litchi chinensis</i> Sonn.	Sapindaceae	Litchi	Mar - Sep	Evergreen	Fruits edible, firewood and medicinal.
54.	<i>Livistona chinensis</i> (Jacq.) R.Br. ex Mart.	Arecaceae	China Palm	Feb - Oct	Evergreen	Ornamental, leaves for fire and handcraft
55.	<i>Madhuca longifolia</i> (J. Koenig ex L.) J.F. Macbr.	Sapotaceae	Mahua	Feb - Jul	Deciduous	Timber wood, petals edible, vegetable oil, medicinal
56.	<i>Mallotus philippensis</i> (Lam.) Mull.-Arg.	Euphorbiaceae	Rohini	Most part of the year	Semi-evergreen	Timber wood, tannin, fodder, medicinal
57.	<i>Mangifera indica</i> L.	Anacardiaceae	Aam	Feb - Jul	Evergreen	Fruits edible, timber wood medicinal.
58.	<i>Melia azedarach</i> L.	Meliaceae	Bakain	Mar - Jun	Semi-deciduous	Timber wood, fodder, medicinal.
59.	<i>Michelia alba</i> DC.	Magnoliaceae	Champa	Apr - Sep	Evergreen	Ornamental, medicinal.
60.	<i>Mimusops elengi</i> L.	Sapotaceae	Maulsari	Jan - Aug	Evergreen	Timber wood, fruits edible, medicinal.
61.	<i>Mitragyna parvifolia</i> (Roxb.) Korth.	Rubiaceae	Kaim	Mar - Dec	Deciduous	Timber wood, medicinal
62.	<i>Moringa oleifera</i> Lam.	Moringaceae	Sahjan	Feb - Jul.	Deciduous	Fruits edible, fire wood and medicinal
63.	<i>Morus alba</i> L.	Moraceae	Shatoot	Feb - Jul	Deciduous	Fruits edible, timber, medicinal.
64.	<i>Morus nigra</i> L.	Moraceae	Shatoot	Mar - Jul	Deciduous	Fruits edible, firewood, medicinal.
65.	<i>Murraya koenigii</i> (L.) Spreng.	Rutaceae	Curry patta	Feb - Nov	Semi-evergreen	Spice, medicinal.
66.	<i>Neolamarckia cadamba</i> (Roxb.) Bosser	Rubiaceae	Kadamba	May - Dec	Deciduous	Ornamental and avenue tree, timber wood, medicinal.
67.	<i>Nyctanthes arbor-tristis</i> L.	Oleaceae	Harshingar	Sep - Mar	Evergreen	Ornamental and medicinal.
68.	<i>Phoenix dactylifera</i> L.	Arecaceae	Khajur	Mar - Dec	Evergreen	Ornamental, fruits edible. Leaves for handcraft.
69.	<i>Phyllanthus emblica</i> L.	Phyllanthaceae	Amala	Feb - Dec	Deciduous	Fruits edible, medicinal.
70.	<i>Pithecellobium dulce</i> (Roxb.) Benth.	Mimosaceae	Jangal Jalebi	Mar - Sep	Evergreen	Timber wood, fodder, medicinal.
71.	<i>Plumeria obtusa</i> L.	Apocynaceae	Golachin	Mar - Sep	Semi-Evergreen	Ornamental, medicinal.
72.	<i>Plumeria rubra</i> L.	Apocynaceae	Lal Golachin	Apr - Aug	Deciduous	Ornamental, medicinal.
73.	<i>Polyalthia longifolia</i> (Sonn.) Thwaites	Annonaceae	Ashok	Apr - Sep	Evergreen	Ornamental, medicinal.
74.	<i>Pongamia pinnata</i> (L.) Pierre	Papilionaceae	Karanja	Apr - Jul	Deciduous	Avenue tree, ornamental, medicinal.
75.	<i>Prosopis juliflora</i> (Sw.) DC.	Mimosaceae	Vilaiti Keekar	Aug - Apr	Deciduous	Fire wood, medicinal.
76.	<i>Prunus persica</i> (L.) Batsch	Rosaceae	Adoo	Apr - Sep	Deciduous	Edible fruits, fire wood, medicinal.
77.	<i>Psidium guajava</i> L.	Myrtaceae	Amrood	Apr - Dec	Deciduous	Fruits edible, fodder, timber, medicinal.
78.	<i>Pterospermum acerifolium</i> (L.) Willd.	Malvaceae	Kanak Champa	Feb - Jul	Evergreen	Ornamental, timber wood, medicinal.
79.	<i>Punica granatum</i> L.	Punicaceae	Anar	Apr - Sep	Deciduous	Eidible fruits, ornamental, firewood and medicinal
80.	<i>Putranjiva roxburghii</i> Wall.	Putranjivaceae	Putranjiva	Most part of the year	Evergreen	Ornamental and avenue tree, fodder, medicinal
81.	<i>Pyrus communis</i> L.	Rosaceae	Naspati	Jul - Oct	Deciduous	Edible fruits, Fire wood
82.	<i>Ricinus communis</i> L.	Euphorbiaceae	Arand	Dec - May	Evergreen	Medicinal. Castor seed oil widely used in many types of disease.
83.	<i>Roystonea regia</i> (Kunth) O.F.Cook	Arecaceae	Bottle palm	Feb - Dec	Evergreen	Ornamental, handcraft, oil, medicinal.
84.	<i>Saraca asoca</i> (Roxb.) Willd.	Caesalpiniaceae	Sita Ashok	Feb - Aug	Evergreen	Medicinal, ornamental.
85.	<i>Senna surattensis</i> (Burm.f.) H.S. Irwin & Barneby	Caesalpiniaceae	Golden seena	Most part of the year	Deciduous	Ornamental, medicinal.
86.	<i>Syzygium cumini</i> (L.) Skeels	Myrtaceae	Jamun	Mar - Aug	Evergreen	Avenue tree, fruits edible, fodder, fire and timber wood, medicinal.
87.	<i>Tamarindus indica</i> L.	Caesalpiniaceae	Imli	May - Apr	Evergreen	Fruits edible, avenue tree, fire and timber wood, medicinal.
88.	<i>Tecoma stans</i> (L.) Juss. ex Kunth	Bignoniaceae	Piliya	Most part of the year	Evergreen	Ornamental, hedge tree, medicinal.
89.	<i>Tectona grandis</i> L.f.	Lamiaceae	Sagaun	Jun - Dec	Deciduous	Quality timber wood, medicinal.
90.	<i>Terminalia arjuna</i> (Roxb. ex DC.) Wight & Arn.	Combretaceae	Arjun	Apr - Mar	Evergreen	Avenue tree, medicinal.
91.	<i>Thespesia populnea</i> (L.) Sol. ex Correa	Malvaceae	Paras Pipal	Aug - Jan	Evergreen	Ornamental, medicinal
92.	<i>Toona ciliata</i> M. Roem.	Meliaceae	Toon	Mar - Jul	Semi-deciduous	Timber wood, tannin, medicinal.
93.	<i>Ziziphus jujuba</i> Mill.	Rhamnaceae	Ber	Sep - Mar	Evergreen	Fruits edible, fodder, fire wood, tannin, medicinal



(1) *Acacia farnesiana* (L.) Willd. (2) *Albizia lebbek* (L.) Benth. (3) *Alstonia scholaris* (L.) R.Br. (4) *Neolamarckia cadamba* (Roxb.) Bosser (5) *Bauhinia variegata* L. (6) *Bombax ceiba* L. (7) *Butea monosperma* (Lam.) Taub. (8) *Callistemon viminalis* (Sol. ex Gaetn.) G. Don (9) *Caryota urens* L. (10) *Cassia fistula* L. (11) *Cassia javanica* L. (12) *Casuarina equisetifolia* L. (13) *Cordia dichotoma* G. Forst. (14) *Delonix regia* (Hook.) Raf. (15) *Elaeocarpus angustifolius* Blume (16) *Phyllanthus emblica* L. (17) *Erythrina variegata* L. (18) *Ficus benghalensis* L. (19) *Ficus carica* L. (20) *Ficus racemosa* L. (21) *Holoptelea integrifolia* (Roxb.) Planch. (22) *Jacaranda mimosifolia* D.Don (23) *Lagerstroemia speciosa* (L.) Pers. (24) *Litchi chinensis* Sonn. (25) *Livistona chinensis* (Jacq.) R.Br. ex Mart. (26) *Mitragyna parvifolia* (Roxb.) Korth (27) *Pongamia pinnata* (L.) Pierre (28) *Saraca asoca* (Roxb.) Willd. (29) *Tectona grandis* L.f. (30) *Terminalia arjuna* (Roxb. ex DC.) Wight & Arn.

References

1. Anonymous, State of forest report 2005. Dehradun: Forest Survey of India, Ministry of Environment and Forests, 2008, 171.
2. Bajpai O, Kumar A, Mishra AK, Sahu N, Behera SK, Chaudhary LB. Phenological study of two dominant tree species in tropical moist deciduous forest from the Northern India. International Journal of Botany. 2012a; 8(2):66-72.
3. Bose TK, Das P, Maiti GG. Trees of world Regional plant resources centre, Bhuanasari Orissa (India), 1985; 1:563.
4. Brandis D. Indian Trees. London: Archibald Constable & Co. Ltd., 1906, 767.

5. Chakraverty RK, Jain SK. The Book of Beautiful trees and Shrubs of Calcutta, 1984, 197.
6. Champion HG, Seth SK. A revised survey of the forest types of India. New Delhi: Publication Division, Government of India, 1968, 404.
7. Chaudhary LB, Kumar A, Mishra AK, Sahu N, Pandey SK, Behera J *et al.* Tree resources of Katarniaghat wildlife sanctuary, Uttar Pradesh, India with especial emphasis on conservation status, phenology and economic values. *International Journal of Environment*. 2014; 3(1):122-133.
8. Kishor K, Tripathi AM, Roy S, Chaudhary LB. Assessment and preservation of tree diversity of Uttar Pradesh, India, 2011, 68-75.
9. Krishen P. The Book of Trees of Delhi A field Guide, 2006, 360.
10. Maliya SD. New or less known uses of some ethnomedicinal plants of Wildlife Sanctuary Katarniyaghat of Bahraich Uttar Pradesh. *Journal of Economic and Taxonomic Botany*. 2011; 35(1):35-38.
11. Mishra KN, Pal M. Tree wealth of eastern Uttar Pradesh, India. *Plant Archives*. 2010; 10(2):833-836.
12. Newton AC, Oldfield S. Red Listing the world's tree species: a review of recent progress. *Endangered Species Research*. 2008; 6:137-147.
13. Prasanna PV, Reddy NCM, Ramana MV, Venu P. Trees of Hyderabad a pictorial guide, 2012, 278.
14. Santapu H. Common Trees. Tenth edition National Book Trust, India, New Delhi, 2008.