

A photograph of two white cranes with red heads standing in a lush green field. One crane is in the foreground, facing right, with its wings slightly spread. The second crane is behind it, also facing right, with its beak open as if calling. The background is a dense field of tall green grass.

Biodiversity: Living Treasures of Uttar Pradesh

Uttar Pradesh State Biodiversity Board



Biodiversity :

Living Treasures
of
Uttar Pradesh

Uttar Pradesh State Biodiversity Board

East Wing, III Floor, A-Block, PICUP Bhawan, Vibhuti Khand,
Gomti Nagar, Lucknow-226 010, U.P., INDIA

Phone : +91 522 4006746, +91 2306491,

E-mail: upstatebiodiversityboard@gmail.com

Website: www.upsbdb.org

© U. P. State Biodiversity Board

Year : 2012

Published by : U.P. State Biodiversity Board, Lucknow
with financial assistance from
National Biodiversity Authority, Chennai

Printed at : Shivam Arts
211, 5th Street Nishatganj,
Lucknow - 226007
Uttar Pradesh, INDIA
Ph. : 09415061690
E-mail : shivamarts.lko@gmail.com

Photo Credits :

Amita Kanaujia (Vultures),
Govind Sagar Bharadwaj (Tiger/Wild Fauna),
Mukesh Kumar (Muggar and Ghariyal),
Neeraj Mishra (Birds and Butterflies),
Neeraj Srivastava (Wetlands),
Suresh Chaudhari (Barasingha and Cattle),
Rana Pratap Singh (Dolphin) and
Rupak De (Butea)

Cover Photo:

Sarus Cranes by Neeraj Mishra

Contents:

1. Biodiversity in India	1
2. Uttar Pradesh at a Glance	2
3. Forests in Uttar Pradesh	3
4. Land Use Pattern of Uttar Pradesh	7
5. State Symbols	8
6. Plant Diversity	10
7. Protected Areas and Faunal Diversity	13
8. Horticultural Diversity	34
9. Agricultural Diversity	38
10. Domestic Animal Diversity	39





1. Biodiversity in India

India has a rich and varied heritage of biodiversity encompassing a wide range of habitats. Besides, India is recognised as one of the eight Vavilovian centres of origin and diversity of crop plants. India ranks among the top ten species rich nations and shows high endemism. With only 2.4% of the world's land area, India accounts for 7-8% of recorded species of the world. Along with this, India represents about 17.31% of the world's population.



2. Uttar Pradesh at a Glance

Geographical area: 2,40,928 Km² (7.3% of the total area of the country (3,287,263Km²).

Location : between 23° 52'N - 30° 24'N latitude and 77° 05'E- 84° 38'E longitude.

Boundaries : Lying in north India, it is a land locked state.

North : State of Uttarakhand and the country of Nepal

East : State of Bihar

Southeast : States of Jharkhand and Chhattisgarh

South : State of Madhya Pradesh

West : States of Rajasthan and Haryana and the National Capital Territory of Delhi.

Climate : The annual rainfall in the state varies from 1,000 mm - 1200 mm and temperature ranges between 5°C during winter to 45 °C in summer.

Population : 199.58 million (16.49% of country's population -1.22 billion). Uttar Pradesh is the most populous state in the country, as per the census 2011.

Rural population : 77.72%

Urban population : 22.28%

Population density : 828 persons per km²

Major rivers : The state is well drained by a number of rivers originating in either the Himalayas to the north or the Vindhya Range to the south. The *Ganges* and its main tributaries– the *Yamuna*, the *Ramganga*, the *Gomti*, the *Ghaghara*, and the *Gandak* are fed by the perpetual snows of the Himalayas. The *Chambal*, the *Betwa*, and the *Ken*, originating from the *Vindhya Range*, drain the south-western part of the state before joining the *Yamuna*. The *Son*, also originating in the *Vindhya Range*, drains the south-eastern part of the state and joins the *Ganges* beyond the state borders (in Bihar).

3. Forests in Uttar Pradesh

Total forest Area : 21,720 sq km
(9.01% of total geographical area).

Recorded Forest Area: 16,583 km²
(6.88% of its geographical area).

Reserved Forests : 70.31%

Protected Forests : 8.56%

Un-classed Forests : 21.12%.

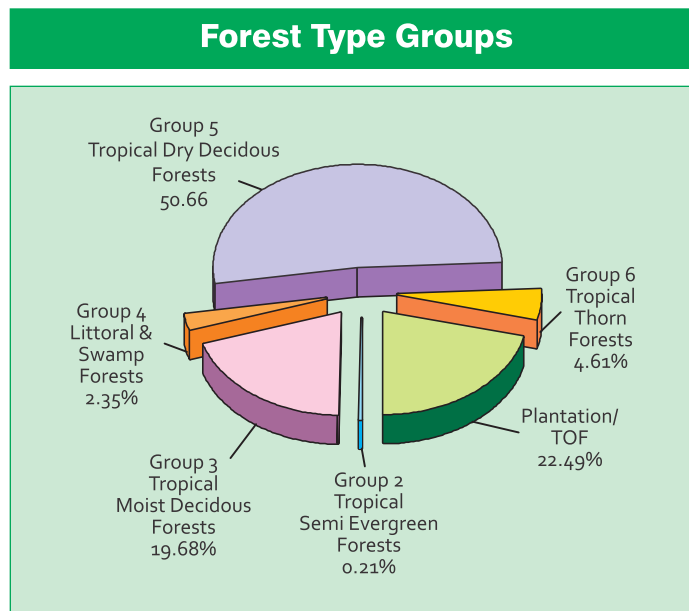
Different Forest Types

The forests of the state is of typical northern dry deciduous type and can be broadly divided into dry deciduous forests, mixed forests, Sal forests, scrub forests, grasslands and aquatic vegetation.

Forest type mapping using satellite data has been undertaken by Forest Survey of India with reference to Champion and Seth Classification. As per this assessment, the state has 27 forest types which belong to five forest type groups :

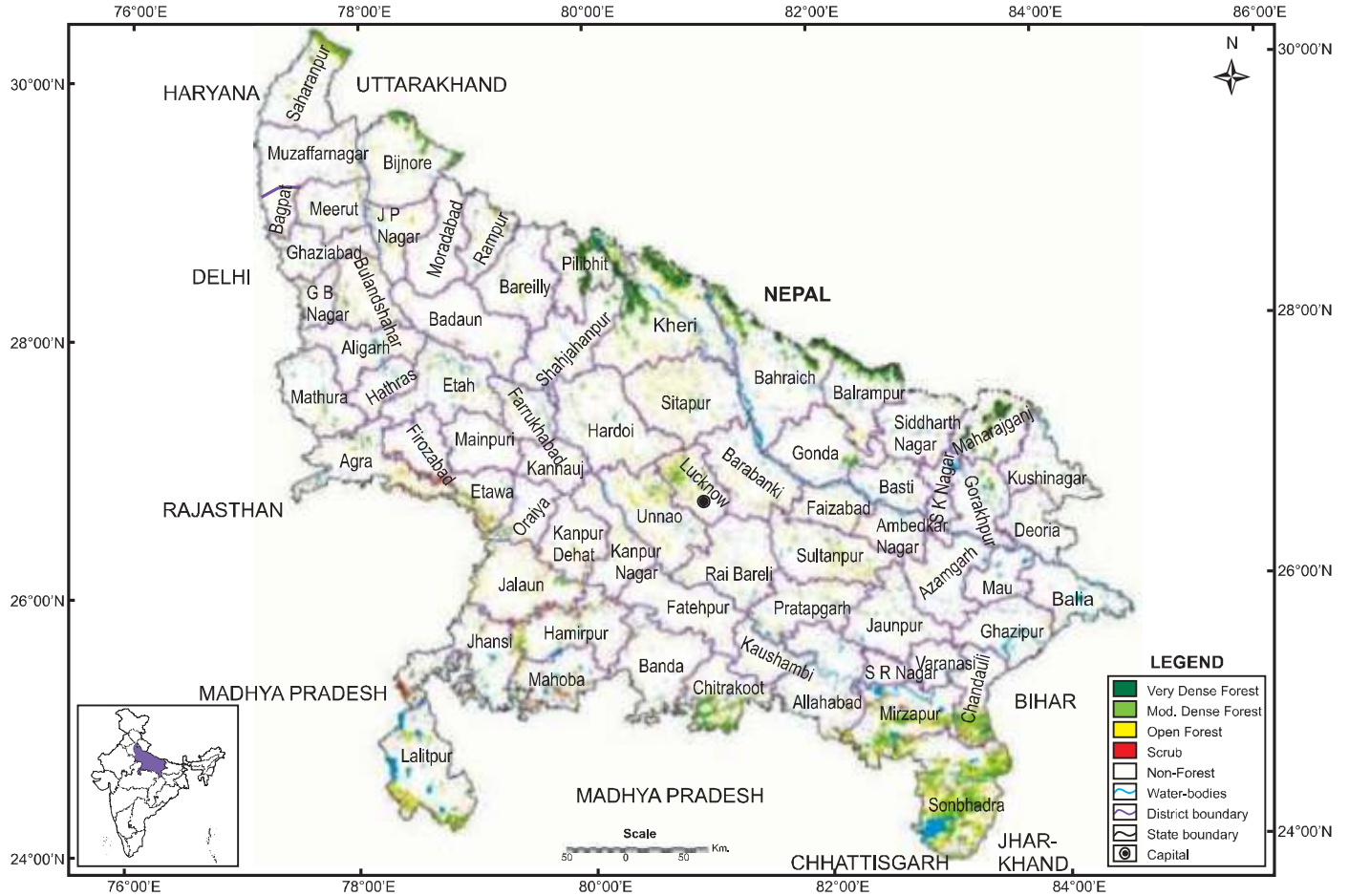
1. Tropical Semi Evergreen – 0.21%
2. Tropical Moist Deciduous – 19.68%
3. Littoral and Swamp – 2.35%
4. Tropical Dry Deciduous – 50.66% and
5. Tropical Thorn Forests – 4.61% .

Trees outside forest areas (TOF) account for 22.49% of the green cover.



Uttar Pradesh : Forest Cover

(Source : State of Forest Report, 2011 by FSI)



Common Forest Trees of Uttar Pradesh

<i>Scientific Name</i>	<i>Local Name</i>
<i>Acacia catechu</i>	Khair
<i>Acacia nilotica</i>	Babool
<i>Acacia leucophloea</i>	Reonj
<i>Adina cordifolia</i>	Haldu
<i>Aegle marmelos</i>	Bel
<i>Ailanthus exelsa</i>	Aru
<i>Alangium salvifolium</i>	Akol
<i>Albizia lebbek</i>	Kala Siris
<i>Anogeissus latifolia</i>	Dhau
<i>Anogeissus pendula</i>	Dhaura
<i>Azadirachta indica</i>	Neem
<i>Balanites aegyptica</i>	Hingot
<i>Bauhinia variegata</i>	Kachnar
<i>Bombax ceiba</i>	Semal
<i>Boswellia serrata</i>	Salai
<i>Butea monosperma</i>	Dhak
<i>Casearia elliptica</i>	Chilla
<i>Cassia fistula</i>	Amaltas
<i>Cordia obliqua</i>	Lasoda
<i>Dalbergia sissoo</i>	Sissoo
<i>Diospyros melanoxylon</i>	Tendu
<i>Ficus benghalensis</i>	Bargad
<i>Ficus religiosa</i>	Peepal



Acacia catechu (Khair)



Acacia nilotica (Desi babool)



Aegle marmelos (Bael)



Azadirachta indica (Neem)



Bauhinia variegata (Kachnar)



Cassia siamea



Ficus benghalensis var. *krishnae*



Ficus benghalensis (Bargad)



Ficus religiosa (Peepal)



Ficus glomerata (Gular)



Ficus virens (Pakad)



Mitragyna parviflora (Kadamb)



Bombax ceiba (Semul)



Shorea robusta (Sal trees)

Scientific Name

Local Name

<i>Ficus glomerata</i> (Syn. <i>F. racemosa</i>)	Goolar
<i>Ficus virens</i>	Pakad
<i>Flacourtia indica</i>	Kateri
<i>Garuga pinnata</i>	Kharpat
<i>Hardwickia binata</i>	Anjan
<i>Holarrhena antidysentrica</i>	Dudhi
<i>Holoptelea integrifolia</i>	Kanju
<i>Lagerstroemia parviflora</i>	Sidha
<i>Lannea coromandelica</i>	Jhingan
<i>Mallotus philippensis</i>	Rohini
<i>Madhuca longifolia</i> var. <i>latifolia</i>	Mahua
<i>Mangifera indica</i>	Mango
<i>Mitragyna parviflora</i>	Kadamb
<i>Phyllanthus emblica</i>	Amla
<i>Prosopis cineraria</i>	Chhyonkar
<i>Pterocarpus marsupium</i>	Beejasal
<i>Shorea robusta</i>	Sakhu
<i>Schleichera oleosa</i>	Kusum
<i>Syzygium cumini</i>	Jamun
<i>Tectona grandis</i>	Sagaun
<i>Terminalia arjuna</i>	Arjun
<i>Terminalia bellerica</i>	Bahera
<i>Terminalia tomentosa</i>	Asna
<i>Zizyphus mauritiana</i>	Ber

4. Land Use Pattern of Uttar Pradesh

Land use	Area in '000 ha.	Percentage
Total geographic area	24,093	
Reporting area for land utilization	24,170	100.00
Forests	1,658	6.86
Not available for land cultivation	3,268	13.52
Permanent pastures and other grazing lands	65	0.27
Land under misc. tree crops and groves	374	1.55
Culturable Wasteland	440	1.82
Fallow lands other than current fallows	540	2.23
Current fallows	1,408	5.83
Net area sown	16,417	67.92



Dalbergia sissoo (Shisham)



Diospyros melanoxylon (Tendu)



Syzygium cumuni (Jamun)



Cassia fistula (Amaltas)

5. State Symbols

Barasingha (*Rucervus duvacelii*)

The most striking features of a Barasingha is its antlers, with an average of 12 tines on a mature stag. Inhabits swampy areas in the terai especially in Kishanpur Sanctuary, Dudhwa National Park and Katarniaghat. The swamp deer is about 130-135 cms in height, about 180 kg in weight and the average antler length is 75 cms.

Sarus Crane (*Grus antigone*)

The Sarus crane is the tallest flying bird standing at six feet tall. The body plumage is light grey and the crown is covered with smooth greenish skin. White feathers form a collar between the bare reddish skin of upper neck and the grey feathers of the lower neck. The state has the largest population of Sarus Cranes in the country. Four districts of Uttar Pradesh namely Etawah, Aligarh, Etah and Mainpuri alone harbour 20% of the world population of Sarus Cranes. Hence, this bird is aptly declared the state bird of Uttar Pradesh.

Sita Ashok (*Saraca asoca*)

An evergreen tree with dense, spreading crown belongs to the family Leguminosae and sub-family Caesalpiniaceae, grows in moist areas. It flowers in the last week of March to early April. The flowers are in orange-red clusters. The fruit is a slightly curved pod, upto 25 cm long, black when mature.

Dhak/Palash/Tesu (*Butea monosperma*)

A slow growing deciduous tree belonging to family "Fabaceae". Has compound leaves with three large, leathery,



leaflets. The bright orange-red flowers are seen from February to March on an almost leafless tree. The flowers yield an orange-dye.

Chital/Mohi
(*Chitala chitala*)

Commonly called as “Feather back”, bears fancy spots (chitti) on its body. Has been recorded in Gomti, Gerua, Ken, Betwa and Yamuna rivers. The adults and sub adults have a series of 15 transverse gold or silver bars on the dorsum. Its maximum length is upto 150 cm. and weighs about 14 kg.

1. Barasingha
(*Rucervus duvacelii*);
2. Sarus Crane
(*Grus antigone*);
3. Sita Ashok (*Saraca asoca*);
4. Dhak/Palash/Tesu
(*Butea monosperma*);
5. Chital/Mohi
(*Chitala chitala*)

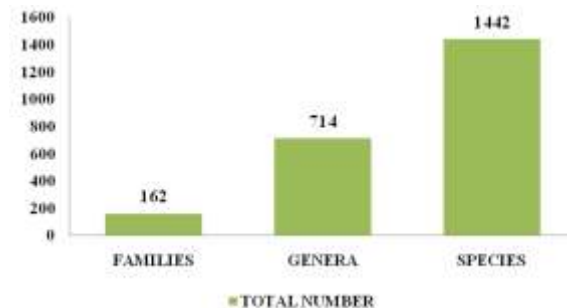


6. Plant Diversity

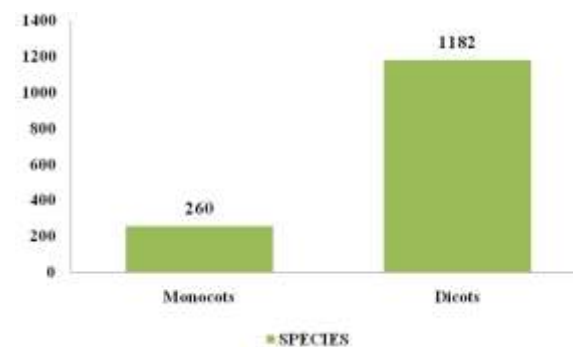
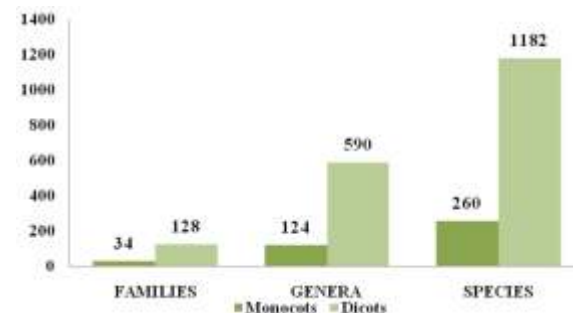
The vegetation of any area comprises tree, shrubs and herbs along with fruit orchards. The trees, shrubs and woody climbers have long life; therefore, they may be called the permanent vegetation. In Uttar Pradesh, preliminary data collection from secondary sources indicates the following observations in the plant kingdom :

Plant diversity of Uttar Pradesh

Groups of Plant kingdom	No. of Species in World	No. of Species in India	No. of Species in Uttar Pradesh	% of Species in U.P. with respect to World	% of Species in U.P. with respect to India
Algae	40,000	7,182	300	0.75	4.17
Fungi	72,000	14,588	935	1.29	6.40
Lichens	13,500	2,268	88	0.65	3.88
Bryophytes	16,600	2,451	72	0.43	2.94
Pteridophytes	10,000	1,236	44	0.44	3.56
Gymnosperms	650	69	-	-	-
Angiosperms	2,50,000	17,643	1442	0.57	8.17
			(Saini <i>et. al</i> , 2011)		
Total	4,02,750	45,437	2,881	0.71	6.34



Estimated Angiosperms found in U. P.



Endemic species

About 10 taxa endemic to Uttar Pradesh have been identified by Dr. K. K. Khanna (2001). These belong to eight genera and six families.

S.No.	Name of the species	Place	Family	IUCN Status
1	<i>Rorippa pseudoislandica</i> Chowdhery & R.R. Rao	Hamirpur	Brassicaceae	
2	<i>Derris kanjillalii</i> Sahni & H.B. Naithani	Pilibhit	Fabaceae	EN
3	<i>Derris scandens</i> (Roxb.) Benth. var. <i>saharanpurensis</i> (Thoth.) Thoth.	Saharanpur	Fabaceae	
4	<i>Indigofera thothathrii</i> Sanjappa	Baharaich	Fabaceae	VU
5	<i>Diospyros holeana</i> Gupta & Kanjilal	Gonda	Ebenaceae	VU
6	<i>Brachystelma laevigatum</i> Hook. f.	Gorakhpur	Asclepiadaceae	VU
7	<i>Brachystelma pauciflorum</i> Duthie	Baharaich	Asclepiadaceae	EN
8	<i>Alectra chitrakutensis</i> (Rau) R. Prasad & R. Dixit	Banda	Scrophulariaceae	CR
9	<i>Cymbopogon flexuosus</i> (Nees ex steud.) Wats. var. <i>microstachys</i> (Hook. F.) Bor	Saharanpur	Poaceae	EN
10	<i>Hemarthria hamiltoniana</i> Steud.	Upper Gangetic plains	Poaceae	EN

Invasive alien species

Botanical Survey of India (K. P. Singh *et al.*) have identified 152 invasive alien species in Uttar Pradesh belonging to 109 Genera and 44 families. Of these 128 (84.2%) are herbs, 12 are shrubs, 8 are climbers, 3 are trees and lianes are represented by just one species. The 10 most noxious ones are *Lantana camera*, *Eicchornia crassipes*, *Parthenium hysterophorus*, *Prosopis juliflora*, *Xanthium indicum*, *Argemone mexicana*, *Ageratum conzoides*, *Hyptis suaveolens*, *Cassia tora* and *Mikania micrantha*.

*Rauwolfia
serpentina*



Alectra chitrakutensis



Indoptadenia oudhensis





7. Protected Areas and Faunal Diversity

Uttar Pradesh has one National Park and 24 Wildlife Sanctuaries covering 5,712 Km² which constitutes 2.37% of the state's geographical area. The oldest Wild Life Sanctuary of the country, the Chandraprabha Wild Life Sanctuary is located in Uttar Pradesh. Uttar Pradesh has one Tiger Reserve namely, Dudhwa Katerniaghat (extension) which is also famous for Swamp Deer and Rhinoceros.

	India	Uttar Pradesh
Geographical Area (G.A.)	: 32,87,263 km ²	2,40,928 km ²
Forest Area (State of Forest Report, 2011)	: 78.29 m. ha.	21720 km ²
Percentage of Forest Area to G.A.	: 23.81%	9.01%
National Parks (nos.)	: 102	01
Wildlife Sanctuaries (nos.)	: 515	24
Conservation Reserve (nos.)	: 47	00
Community Reserve (nos.)	: 4	00
Total Protected Area (nos.)	: 668	24

Tiger (*Panthera tigris*)

Protected areas of Uttar Pradesh

S. No.	Name of the PA	District	Year of Notification (in sq.km.)	Total Area
--------	----------------	----------	----------------------------------	------------

A. National Parks

1	Dudhwa NP	Lakhimpur - Kheri	1977	490
---	-----------	-------------------	------	-----

B. Wildlife Sanctuaries

1	Bakhira WLS	Sant Kabir Nagar (Basti)	1990	28.94
2	Chandraprabha WLS	Chandauli	1957	78



Map of Uttar Pradesh Showing PAs

S. No.	Name of the PA	District	Year of Notification (in sq.km.)	Total Area
3	Hastinapur WLS	Muzzafar Nagar, Meerut, Ghaziabad, Bijnor & J.P. Nagar	1986	2,073.00
4	Kaimur WLS	Mirzapur, Sonbhadra	1982	500.73
5	Katerniaghat WLS	Behraich	1976	400.09
6	Kishanpur WLS	Lakhimpur-Kheri, Shahjahanpur	1972	227
7	Lakh Bahosi WLS	Farrukhabad	1988	80.24
8	Mahavir Swami WLS	Lalitpur	1977	5.41
9	National Chambal WLS	Agra, Etawah	1977	635
10	Nawabganj WLS	Unnao	1984	2.25
11	Okhala WLS	Ghaziabad	1990	4
12	Parvati Aranga WLS	Gonda	1990	10.84
13	Patna WLS	Etah	1990	1.09
14	Ranipur WLS	Banda, Chitrakoot	1977	230.31
15	Saman Bird WLS	Mainpuri	1990	5.26
16	Samaspur WLS	Rae Bareilly	1984	7.99
17	Sandi WLS	Hardoi	1990	3.09
18	Sohagibarwa WLS	Maharajganj	1987	428.2
19	Sohelwa WLS	Shravasti, Balrampur	1988	452.47
20	Sur Sarovar WLS	Agra	1991	4.03
21	Surha Tal WLS	Ballia	1991	34.32
22	Turtle WLS	Varanasi	1989	7
23	Vijai Sagar WLS	Mahoba	1990	2.62
24	Bhimrao Ambedkar Pakshi Vikar	Pratapgarh	2003	4.27
Total				5221.88
Grand Total				5711.88

Dudhwa National Park

Dudhwa Tiger Reserve comprises three protected areas i.e. Dudhwa National Park (660 sq km.), Kishanpur Wildlife Sanctuary (203 sq km.) and Katraniaghat Wildlife Division (550sq km.). It is located on the Indo-Nepal border in the Palia and Nighasen Tehsil of district Lakhimpur-Kheri and lies between 28° 18' N and 28° 42' N latitudes and 80° 28' E and 80° 57' E longitudes. It has various habitat types with 66 woodlands, 22 grasslands and 12 wetlands. The Dudhwa National Park is the only National Park and Tiger Reserve representative of Tarai-bhabar bio-geographic sub-division of the Upper Gangetic Plains.



Lianes

Flora : Dudhwa National Park has extensive stretches of thick Sal forests (*Shorea robusta*), grasslands, Shisham (*Dalbergia sissoo*) dominated forests with grasses, Teak (*Tectona grandis*), Khair (*Acacia catechu*), Eucalyptus, Jamun (*Syzygium cumini*), wet marshes and areas covered with termite mounds, forming the flora at this National Park.

Fauna: Notable variety of rarest species of fauna can be seen at Dudhwa National Park. Among the large carnivores tiger (*Panthera tigris*) is the most important, other being leopard (*Panthera pardus*), hyaena (*Hyaena hyaena*), sloth bear (*Melursus ursinus*) etc.

The Dudhwa-Kheri-Pilibhit tiger population occupies about 2110 sq km. with an estimated tiger population between 106-118 individuals. Other animals are civets (*Civettictis civetta*), mongooses (*Herpestes auro punctatus*), langur (*Trachypithecus francoisi*), jackal (*Canis aureus*), leopard cat (*Prionailurus bengalensis*), fishing cat (*Prionailurus viverrinus*) and jungle cat (*Felis chaus*).



1. Leopard
2. Jungle Cat
3. Fox
4. Hyaena



The park is a home to all five species of cervids - Chital (*Axis axis*), Sambhar (*Rusa unicolor*), Muntjac (*Muntiacus muntjak*), Hog deer (*Axis porcinus*) and the Swamp deer (*Rucervus duvaucelii*). Also found are Mugger, Crocodile and Ghariyals.

Most interesting and rarest to spot among all the animals here is the Hispid Hare (*Caprolagus hispidus*) which is a dark brown animal with bristly fur and was believed to have extinct but rediscovered in 1984. Another important animal here is one horned Indian Rhinoceros (*Rhinoceros unicornis*)

(reintro-duced in 20-04-1984) started with an original population of five, today 31 rhinos are found here.

Avi-fauna: Dudhwa is a paradise for bird lovers as it offers about 450 species of birds. Some of the important birds here include: storks, kites, eagles, vultures, partridge, quail, pigeon and doves, parakeets, owls, drongos, minivets, orioles, bee eaters, wood peckers, barbets, hornbills, kingfishers, mynas and others. Besides, the most endangered bird of the area Bengal Florican (*Houbaropsis bengalensis*) can also be spotted in the park.





1. Chital (*Axis axis*)
2. Sambhar (*Rusa unicolor*)
3. Hog Deer (*Axis porcinus*)
4. Barking Deer (*Muntiacus muntjak*)
5. Swamp Deer
6. Hispid hare (*Caprolagus hispidus*)
7. Rhinoceros (*Rhinocerosus unicornis*)
8. Jungle Bush Quail
9. Elephants
10. Mugger (*Crocodylus palustris*)
11. Ghariyal (*Gavialis gangeticus*)

Bird Diversity

Uttar Pradesh has a rich and varied avi fauna despite being the most populous state. Over 550 species of birds have been identified and recorded in the state.



1. White browed wagtail
2. Alexandrine parakeet
3. Pelican
4. Pied kingfisher
5. Pied myna
6. Yellow wattled lapwing
7. Purple sunbird
8. Red munia
9. Red vented bulbul
10. Red wattled lapwing
11. Red whiskered bulbul
12. Sand piper
13. Scaly breasted munia
14. Shikra

Bird Diversity



15



16



17



18



19



20



21



22



23



24



25

- 15. Small green bee eater
- 16. Spoon bill
- 17. Spotted dove
- 18. Spotted owlet
- 19. White breasted kingfisher
- 20. White browed wagtail
- 21. White wagtail
- 22. White throat munia
- 23. Yellow wagtail
- 24. Yellow wattled lapwing
- 25. Bank myna
- 26. Baya
- 27. Blackshouldered kite
- 28. Coppersmith barbet



26



27



28

Bird Diversity



- 29. Black headed ibis
- 30. Blue tailed bee eater
- 31. Brahminy duck
- 32. Brahminy myna
- 33. Cattle egrets
- 34. Chestnut headed bee eater
- 35. Common kingfisher
- 36. Common myna
- 37. Common stone chat
- 38. Common moohen
- 39. Crow pheasant
- 40. Graceful prinia
- 41. Grey Indian hornbill
- 42. Grey heron

Bird Diversity

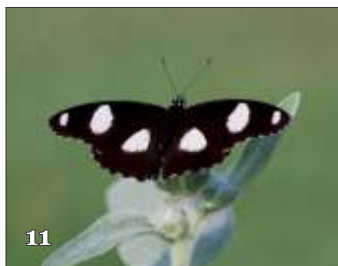


- 43. Grey wagtail
- 44. Honey buzzard
- 45. Hoopoe
- 46. House sparrow
- 47. Indian Robin
- 48. Indian Roller
- 49. Jungle fowl
- 50. Koel female
- 51. Koel Male
- 52. Little brown dove
- 53. Little cormorant
- 54. Magpie robbin
- 55. Paddy field pipit
- 56. Painted stork



Butterfly Diversity

Butterflies belong to the family, order Lepidoptera. There are about 15,000-20,000 species of butterfly worldwide. About 1,800 species are found in India. Of these over 150 species have



been recorded in Uttar Pradesh.



1. Bath white; 2. Blue pansy; 3. Chocolate pansy; 4. Common grass yellow; 5. Common Jezebel; 6. Common joy; 7. Common limes; 8. Common meadow blue; 9. Common mormon; 10. Common silverline; 11. Daniad eggfly- male; 12. Double branded blue crow; 13. Lemon pansy; 14. Motted immigrant; 15. One spot grass yellow; 16. Painted lady; 17. Peacock pansy; 18. Pioneer; 19. Rounded pierrot; 20. Small salman arab; 21. Sorreal sapphire; 22. Stripped tiger; 23. Three spot grass yellow; 24. Tree yellow; 25. White orange tip; 26. Yellow orange tip; 27. Yellow pansy.

Vultures are large carrion eating birds. The vulture is the most crucial avian scavenger in the world, and plays a very important part in maintaining the health and beauty of our environment. India has nine species of vultures in the wild. Out of this eight species are found in Uttar Pradesh. Of these five species are residential and three are migratory.

Residential Species



1



2



3



4

Migratory Species



6

Residential Species:

1. Egyptian vulture (*Neophron percnopterus*)
2. Long-billed vulture (*Gyps indicus*)
3. White-backed vulture (*Gyps bengalensis*)
4. Slender-billed vulture (*Gyps tenuirostris*)
5. King vulture (*Sarcogyps calvus*)

Migratory Species:

6. Griffon vulture (*Gyps fulvus*)
7. Himalayan Griffon vulture (*Gyps himalayensis*)
8. Cinereous vulture (*Aegypius monachus*)



5



7



8

Wetlands

Uttar Pradesh is endowed with such natural resource in plenty. Latest report of RSAC (2009) records that U P has 1145178 ha area (4.8% of its geographical area) as wetlands. This excludes smaller wetlands (<2.25 ha), actually the

tanks, numbering 97,352. The major wetlands are categorized into lakes/ponds (1,22,531 ha), oxbow lakes/cutoff meanders (51,371 ha), riverine wetlands (61,100 ha), waterlogged (1,63,957 ha), river stream (6,07,315 ha), reservoirs/barrages (1,05,641 ha) and tanks/ponds (33,263 ha).

Jhadi Taal, Kishapur WLS



Patna WLS



Sursarovar WLS



Laks Bahoshi WLS



Sohelwa WLS

Turtle diversity

About 14 species of fresh water turtles have recorded from Uttar Pradesh. These include:

Sl. No.	Scientific Name
1	<i>Batagur kachuga</i>
2	<i>Batagur dhongoka</i>
3	<i>Chitra indica</i>
4	<i>Geoclemys hamiltonii</i>
5	<i>Hardella thurjii</i>
6	<i>Lissemys punctata andersoni</i>
7	<i>Melanochelys tricarinata</i>
8	<i>Melanochelys trijuga inndopeninsularis</i>
9	<i>Morenia petersi</i>
10	<i>Nilssononia gangeticus</i>
11	<i>Nilssononia hurum</i>
12	<i>Pangshura tecta</i>
13	<i>Pangshura tentoria circumdata</i>
14	<i>Pangshura smithii</i>

- Batagur kachuga*
(Red crowned roofed turtle)
- Pangshura smithii*
(Brown roofed turtle)
- Geoclemys hamiltonii*
(Spotted pond turtle)
- Nilssononia gangeticus*
(Indian soft shelled turtle)
- Pangshura tentoria circumdata*
(Pink ringed tent turtle)
- Lissemys punctata andersoni*
(Indian flapshell turtle)



Fish Diversity

India contributes 11.72% of global fish biodiversity. It is important that total fish biodiversity of the state contributes approximately 12% of the national freshwater fish biodiversity.

Commonly exploited fish species of Uttar Pradesh are: *S. aor*, *S. seenghala*, *M. cavasius* among the cat fishes, *L. calbasu*, *L. rohita*, *C. catla*, *C. mrigala*, *L. bata* among the carps and *C. marulius* and *C. striatus* among the snake heads. Other important exploited species are *E. vacha*, *O. pabda*, *O. bimaculatus*, *C. garua*, and *Chitala chitala*.

Identification so far : 115 species / 27 family / 72 genera

Native fishes : 108

Exotic Fishes : 06

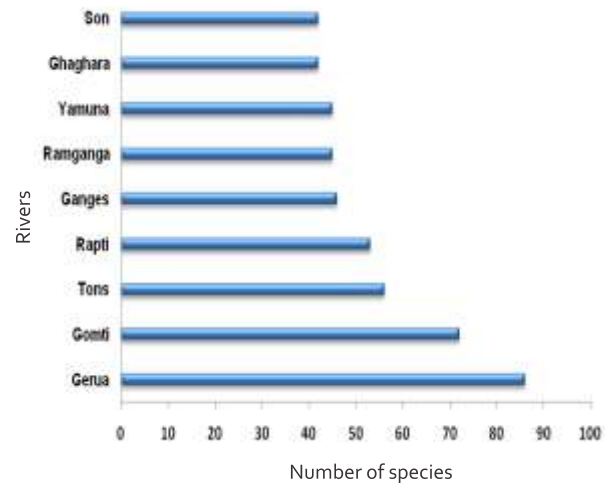
Small indigenous fishes : about 57 fishes (grow to size of 25-30cm in mature / adult stage).

New distribution records

1. Torrent catfish *Amblyceps mangois* has been documented from river Gomti, Ganga and Ramganga for the first time in the northern plains of Uttar Pradesh.
2. An Eel-loach (*Pangio pangia*), reported for the first time in river Gomti in Uttar Pradesh.

Conservation status of fishes of Uttar Pradesh

Reasons for an alarming decline in fish biodiversity due to various anthropogenic activities are : Destructive fishing methods, entry of exotic species, use of poison, habitat alteration and water diversion, poor vegetation cover in the river banks, siltation, water abstraction, and low water velocity.



River wise species diversity in Uttar Pradesh



Amblyceps mangois



Pangio pangia

IUCN Status	Least Concern (LC)	Near Threatened (NT)	Vulnerable (V)	Endangered (EN)	Critically Endangered (CE)	Extinct In Wild (EW)	Extinct (E)	Total
As per NBFGR Study, 2010			19	9				28
As per IUCN 2012 (4 sp in Not evaluated category)	16	6	1	1				24

S.N.	Local name	Species	Family	Category as per NBFGR 2010	As per IUCN 2012
1.	Chikka	<i>Amblyceps mangois</i> (Hamilton, 1822)	Amblycipitidae	Endangered (EN)	Least concern (LC)
2.	Chaguni, Gelhari	<i>Chagunius chagunio</i> (Hamilton, 1822)	Cyprinidae	Endangered (EN)	Least concern (LC)
3.	Moey	<i>Chitala chitala</i> (Hamilton, 1822)	Notopteridae	Endangered (EN)	Near threatened (NT)
4.	Tengra	<i>Glyptothorax caevia</i> (Hamilton, 1822)	Sisoridae	Endangered (EN)	Not evaluated (NE)
5.	Menoda	<i>Hemibagarus menoda</i> (Hamilton, 1822)	Bagaridae	Endangered (EN)	Not evaluated (NE)
6.	Kosi, Nangra	<i>Nangra nangra</i> (Hamilton, 1822)	Sisoridae	Endangered (EN)	Least concern (LC)
7.	Pabo	<i>Ompok pabo</i> (Hamilton, 1822)	Siluridae	Endangered (EN)	Near threatened (NT)
8.	Mahasol	<i>Tor putitora</i> (Hamilton-1822)	Cyprinidae	Endangered (EN)	Endangered (EN)
9.	Mahaseer	<i>Tor tor</i> (Hamilton, 1822)	Cyprinidae	Endangered (EN)	Near threatened (NT)
10.	Goonch	<i>Bagarius bagarius</i> (Hamilton, 1822)	Sisoridae	Vulnerable (VU)	Near threatened (NT)
11.	Rani loach, Baghua	<i>Botia Dario</i> (Hamilton, 1822)	Cobitidae	Vulnerable (VU)	Least concern (LC)
12.	Nayan	<i>Cirrhinus mrigala</i> (Bloch, 1795)	Cyprinidae	Vulnerable (VU)	Vulnerable (VU)
13.	Latia	<i>Crassochelius latius</i> (Hamilton, 1822)	Cyprinidae	Vulnerable (VU)	Least concern (LC)

S.N.	Local name	Species	Family	Category as per NBFGR 2010	As per IUCN 2012
14.	Vacha	<i>Eutropichthys vacha</i> (Hamilton, 1822)	Siluridae	Vulnerable (VU)	Least concern (LC)
15.	Kali, Silkota	<i>Garra gotyla gotyla</i> (Gray, 1830)	Cyprinidae	Vulnerable (VU)	Least concern (LC)
16.	Telchita	<i>Glyptothorax telchitta</i> (Hamilton, 1822)	Sisoridae	Vulnerable (VU)	Least concern (LC)
17.	-	<i>Ganialosa manmina</i> (Hamilton, 1822)	Clupeidae	Vulnerable (VU)	Not evaluated (NE)
18.	Singhi	<i>Heteropneustis fossilis</i> (Bloch, 1794)	Heteropneustidae	Vulnerable (VU)	Not evaluated (NE)
19.	Pangus, Kanas	<i>Labeo pangusia</i> (Hamilton, 1822)	Cyprinidae	Vulnerable (VU)	Near threatened (NT)
20.	Pabda	<i>Ompok pabda</i> (Hamilton, 1822)	Siluridae	Vulnerable (VU)	Near threatened (NT)
21.	Pangas	<i>Pangasius pangasius</i> (Hamilton, 1822)	Pangasidae	Vulnerable (VU)	Least concern (LC)
22.	Cinnamon loach	<i>Pangio pangia</i> (Hamilton, 1822)	Cobitidae	Vulnerable (VU)	Least concern (LC)
23.	Sidhari	<i>Puntius chola</i> (Hamilton, 1822)	Cyprinidae	Vulnerable (VU)	Least concern (LC)
24.	Pothi, Darahi	<i>Puntius sarana</i> (Hamilton, 1822)	Cyprinidae	Vulnerable (VU)	Least concern (LC)
25.	Corsula	<i>Rhinomugil corsula</i> (Hamilton, 1822)	Mugilidae	Vulnerable (VU)	Least concern (LC)
26.	Lorhia	<i>Sicamugil cascasia</i> (Hamilton, 1822)	Mugilidae	Vulnerable (VU)	Least concern (LC)
27.	Silond	<i>Silonia silondia</i> (Hamilton, 1822)	Siluridae	Vulnerable (VU)	Least concern (LC)
28.	Tengan	<i>Sperata aor</i> (Hamilton, 1822)	Bagaridae	Vulnerable (VU)	Least concern (LC)

Images of threatened fishes



Chitala chitala, Hamilton 1822. Local name : Chitla



Hemibagarus menoda, Hamilton 1822. Local Name: Menoda



Ompok pabo, Hamilton 1822. Local name: Pabo



Bagarius bagarius, Hamilton 1822. Local name: Goonch



Botia dario (Hamilton 1822). Local name: Rani loach, Baghua



Glyptothorax caevia, Hamilton 1822. Local name: Kani



Nangra nangra, Hamilton 1822. Local name: Kosi



Tor putitora, Hamilton 1822. Local name: Mahasol



Bagarius bagarius, Hamilton 1822. Local name: Goonch



Cirrhinus mrigala (Bloch 1795). Local name: Nayan



Crassocheilus latius (Hamilton 1822). Local name: Latia



Garra gotyla gotyla (Gray 1830). Local name: Kali, Silkota



Heteropneustis fossilis (Bloch 1794). Local name:



Ompok pabda (Hamilton, 1822). Local name: Pabda



Pangio pangia (Hamilton, 1822). Local name: Cinnamon loach



Eutropichthys vacha (Hamilton 1822). Local name:



Glyptothorax telchitta. Local name: Telchita



Labeo pangusia (Hamilton 1822). Local name: Pungus, Kanas



Pangasius pangasius (Hamilton, 1822). Local name: Pangas



Puntius chola (Hamilton, 1822). Local name: Sidhari



Puntius sarana (Hamilton, 1822). Local name: Pothi, Darahi



Sicamugil cascasia (Hamilton, 1822). Local name: Lorhia



Sperata aor, (Hamilton 1822). Local name: Tengan



Rhinomugil corsula (Hamilton, 1822). Local name: Corsula



Silonia silondia (Hamilton 1822). Local name: Silond



Chagunius chagunio, (Hamilton 1822). Local name: Chaguni Gilhari



Ganges river dolphin (*Platanista gangetica*)

National Aquatic Animal

Ganges River Dolphin (*Platanista gangetica*)

The Ganges River Dolphin is the National Aquatic Animal of India (2009). This mammal is also said to represent the purity of the holy *Ganga* as it can only survive in pure and fresh water. It lives in one of the world's most densely populated areas, and is threatened by removal of river water and siltation arising from deforestation, pollution, construction of barrages and entanglement in fisheries nets. This dolphin is among the four “obligate” fresh-water dolphins.

Platanista gangetica has a long pointed snout and also have visible teeth in both the upper and lower jaws. The colour of the dolphin is greyish brown. The calves and young ones are dark in colour but as the animal grows in size, the colour lightens. A long thin snout, rounded belly, stocky body and large flippers are characteristics of the Ganges River dolphin. Although its eye lacks a lens (this species is also referred to as the “blind dolphin”), the dolphin still uses its eye to locate itself. The species has a slit similar to a blowhole on the top of the head, which acts as a nostril. The dolphin has the peculiarity of swimming on one side so that its flipper trails the muddy bottom.

It is a critically endangered species in India and therefore, has been included in the Schedule I for the Wildlife (Protection) Act, 1972.

8. Horticultural Diversity

India is globally the second largest producer of fruits and vegetables. It is the largest producer of mango, banana, coconut, cashew, papaya and pomegranate. UP grows a rich variety of fruits and vegetables. Some of these are:

Fruits : Mango (*Mangifera indica*), Bael (*Aegle marmelos*), Guava (*Psidium guajava*), Jamun (*Syzygium cumini*), Ber (*Ziziphus mauritiana*), Pomogranate (*Punica granatum*), Banana (*Musa spp.*), Papaya (*Carica papaya*), Jack fruit (*Artocarpus integra*), Mulberry (*Morus nigra*), Indian gooseberry (*Emblica officinalis*), etc.

Vegetables: (*Amaranthus gangeticus*) - Lal sag, (*Amaranthus paniculatus*) - chaulai, Beetroot (*Beta vulgaris*) - chukandar, Brinjal (*Solanum melongena*) - Baigan, Carrot (*Daucus carota*) - Gajar, Capsicums, Cauliflower (*Brassica oleracea* var. *botrytis*) -Phool gobi, Cabbage (*Brassica oleracea* var. *capitata*) - Band gobi,



Allahabadi Safeda



Apple Guava

Brassica oleracea var. *gongylodes* - Ganth gobi, *Chenopodium album* - Chaulai, Cluster bean (*Cyamopsis tetragonoloba*), French bean (*Phaseolus sp.*), Garlic (*Allium sativum*)- Lehsun, Green peas (*Pisum sativum*) - Matar, Lady's finger (*Abelmoschus esculentus*)- Bhindi, Potato (*Solanum tuberosum*)- Aloo, Sem (*Lablab purpureus*), Tomato (*Lycopersicon esculentum*)- Tamatar, Radish (*Raphanus sativus*)- Mooli, Onion (*Allium cepa*) - pyaaz and a wide variety of cucurbits etc.

Spices : Turmeric (*Curcuma ferruginea*) - Haldi, *Murraya koengii* - Kari patta etc.

Diversity of Guava

Guava (*Psidium guajava* L.) is one of the most important fruit crops of India, occupying fourth and fifth place, respectively, in importance in terms of area planted and of production. Allahabad and its surrounding area in U. P. had the distinction of producing the best quality guava fruit in the world.

Production areas: Allahabad, Farukhabad, Aligarh and Badaun.

Important guava varieties of the state: Allahabad Safeda, Allahabad Surkha, Chittidar, Harijha, Hafshi, Apple guava, Seedless, Arka Mridula, Red fleshed, Sardar, CISH G-1, CISH G-2, CISH-G-3 and Lucknow 49.

Guava, despite being an introduced crop in India, exhibits high levels of genetic diversity.



Mango tree in bloom

Mango diversity

Uttar Pradesh is the birth land of several world famous mango varieties. In Northern region, Uttar Pradesh commands nearly more than 20% of the total production of mango in India. Dusheri and Langra are the leading commercial mid-season varieties of the region starting from third week of May.

Dusheri: Fruit size is small-medium, shape is elongated with yellow fruit colour, flesh is fibreless; good keeping quality; mainly used for table purpose; susceptible to mango malformation. Dusheri bears regularly, has a thin stone, absence of fibre and good quality.

Langra : Trees vigorous and spreading; fruit medium, ovate in shape with lettuce green colour; poor keeping quality; skin is very thin and pulp is very sweet; alternate bearing variety mostly used for table purpose. Langra known for its excellent taste and abundance of pulp is characterized by heavy fruit drop, dull green skin colour, turpentine flavour and typical biennial bearing habit.

Chausa : This variety originated as a chance seedling in the orchard of a Talukdar of Sandila district Hardoi, UP. Fruit large, ovate to oval oblique in shape and light yellow in colour, flesh fibrous; medium keeping quality; extremely sweet in taste; alternate bearing variety; shows apical dominance. It is mostly grown for table and processing purpose. It is a late season variety.



Dusheri



Chausa



Langra

About 400 varieties of mango exist in Malhibad as a result of collection from different parts of the country and selections from seedling mango planting. Important varieties like Dusheri, Malhibad Safeda (Johari), Prince, Gilas, Lucknow Safeda came into existence as result of selections in this region.

Ramnagar Giant Brinjal : a local cultivar of Brinjal

Brinjal or eggplant (*Solanum melongena* L.) is an most common, popular and principal vegetable crops The varieties of *Solanum melongena* L. display a wide range of fruit shapes and colours. The Ramnagar Giant is a cultivar which is local selection from Varanasi. Plant habit is erect with dark green and broad foliage, 125-150 cm plant height with stout and 50% flowering at 60-70 days after sowing. It bears 3-4 fruits with light green colour and fruit weight ranged from 750g to 1500g. This cultivar is suitable for *bharta* making because of soft fleshed and few seeds.



Ramnagar Giant Brinjal

Jaunpuri Newar Mooli : (*Raphanus sativus*)

Jaunpur district in Uttar Pradesh is famous for Jaunpuri Newar cultivar of *mooli* (*Raphanus sativus*) . These are much larger in size and may grow upto four feet and are famous for their large shape and sweet taste.

The local villagers of nearly dozen of villages residing near Gomti River, which includes Bluagat, Tadhtla, Pandriba, Mufti Mohla, including Mullah tola were cultivating Newar species of mooli for more than three decades.



Newar Mooli

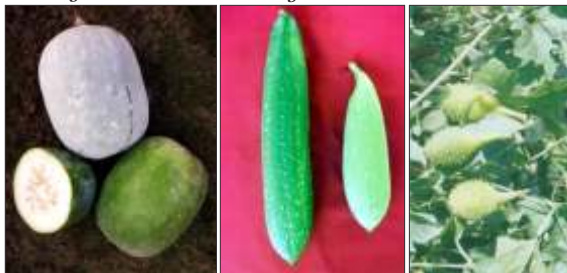
Cucurbits diversity

In India, 20-25 cucurbit species are cultivated which constitute about 1/3 of total number of cultivated vegetables in the country. Fascinating biodiversity is encountered in cultivated cucurbits in the state of Uttar Pradesh. Some important cucurbits exhibiting biodiversity in Uttar Pradesh are as follows:



Bitter gourd

Snake gourd



Ash gourd

Sponge gourd

Spine gourd



Satputia

Ivy gourd

Pointed gourd

Commonly grown major cucurbits of Uttar Pradesh

Sl No.	Common Name	Scientific Name	Local Name
1	Ash gourd/ Wax gourd	<i>Benincasa hispida</i>	Petha/ Poojan Khoida
2	Bitter gourd	<i>Momordica charantia</i> <i>Momordica balsamina</i> <i>Momordica dioica</i>	Karaila Mokha kheksi
3	Bottle gourd	<i>Lagenaria siceraria</i>	Lauki
4	Ivy gourd	<i>Coccinia cordifolia</i> (syn. c. india)	Kundroo
5	Pointed gourd	<i>Trichosanthes dioica</i>	Parwal
6	Ridge gourd	<i>Luffa acutangula</i> <i>Luffa hermaphrodita</i>	Toraia Satputia
7	Round gourd	<i>Praecitrullus fistulosus</i>	Tinda
8	Snake gourd	<i>Trichosanthes anguina</i>	Chichinda
9	Spine gourd	<i>Momordica dioica</i>	Kheksi
10	Musk melon	<i>Cucumis melo</i>	Kharbooj
11	Serpant/ Long melon	<i>Cucumis melo</i> var. <i>flexuosus</i>	Kakdi
12	Snap melon	<i>cucumis melo</i> var. <i>momordica</i>	Fhoot
13	Water melon	<i>Citrullus lanatus</i>	Tarbooj
14	Cucumber	<i>Cucumis sativus</i>	Kheera
15	Pumpkin	<i>Cucurbita moschata</i> <i>Cucurbita pepo</i>	Kadoo

Common cucurbits grown in Uttar Pradesh



Muskmelon

Snapmelon

Long melon



Pumpkin

Bottle gourd



Bottle gourd

9. Agricultural Diversity

Agriculture is the occupation of majority of the people in the state. The major varieties are as follows:

Cereals : Wheat (*Triticum aestivum*) Gehu, Rice (*Oryza sativa*) Chawal, Maize (*Zea mays*) Makka, Sorghum (*Sorghum bicolor*) Jowar , Barley (*Hordeum vulgare*) Jau.

Millets : Barnyard Millet (*Echinochloa crusgalli*), Japanese barnyard millet (*Echinochloa frumentacea*) - Sawa, Finger Millet (*Eleusine coracana*) - Madua, Kodo millet (*Paspalum scrobiculatum*) - Kodo, Proso millet (*Panicum miliare*) cheena, Pearl millet (*Pennisetum glaucum*) Bajra, Foxtail millet (*Setaria italica*) Kanghuni.

Legumes : Pigeon pea (*Cajanus cajan*) Arhar, Chick pea (*Cicer arietinum*) Chana, Soybean (*Glycine max*), Sweet pea (*Lathyrus odoratus*), Green gram (*Vigna radiata*) Mung, Black gram (*Vigna mungo*) Urad, Cowpea (*Vigna unguiculata*) Lobia, Pea (*Pisum sativum*) Matar, Lentil (*Lens culinaris*) - Masoor.

Oilseeds : Mustard (*Brassica rapa*) Sarson, Niger (*Guizotia abyssinica*) - Ram til /Kala til, Linseed (*Linum usitatissimum*) - Tisi, Ground nut (*Arachis hypogea*) Muungphalee, Safflower (*Carthamus tinctorius*) - Kusum, Sesame (*Sesamum indicum*) - Til ,Sunflower.

Cash crop : Sugarcane (*Saccharum* sp)

Cultivated rice, *Oryza* spp., represents the world's most important staple food crop, feeding more than half of the human population. The variability of the varieties that exists in this crop is unrivalled. Vavilov assigned rice to the Indian center of origin.

Kalanamak : Kalanamak is one of the finest quality scented rices of India. It has been grown widely in Tarai belt of Uttar Pradesh, which comprised districts Siddharthanagar, Sant Kabir Nagar, Maharajganj, Basti, Gonda, and Gorakhpur. Kalanamak is so named because its husk is black but kernel is white (kala = black) . It is famous for taste, palatability, and aroma. Kalanamak is cultivated normally under rainfed lowland condition as it matures in 145-150 days.



Field of Kala namak rice



Grains of Kala namak rice

10. Domestic Animal Diversity

Out of the total livestock population of the country (529.7 million), the state of Uttar Pradesh contributes 63.96 million livestock whereas the cattle population of the state is 19.09 million (Livestock Census 2007). Cattle are invaluable in a state like Uttar Pradesh as they contribute intensely in the form of milk, meat, bullock power, hides, organic manure and a variety of by products.

Uttar Pradesh 18th Livestock Census 2007

1	Cattle	Exotic	7985
2		Cross Breed	1772460
3		Indigenous	17316907
	Total Cattle		19097352
4	Buffalo		26440393
5	Sheep		1400474
6	Goat		14829064
7	Pig		1986793
	Total Other Livestock		212236
8	Poultry (Without farm poultry)		10638402
	Total Livestock without dog		63966312
9	Breedable Cattle	Exotic	3872
10		Cross Breed	758579
11		Indigenous	5627743
	Total		6390194
12	Breedable Buffalo		12587239
	Total Breedable Cattle & Buffalo		18977433



Kherigarh cattle



Ponwar cattle



Local breeds have evolved over centuries through the intervention of natural and human forces and have become adapted to a wide range of native conditions, climate, diseases and nutritional environment prevailing in the breeding tracts.

Cattle breeds are broadly classified into three major types according to their utility :

- (i) Milch breeds : in UP this is represented by Sahiwal
- (ii) Draught breeds : in UP we find the Kenkatha, Kherigarh and Ponwar,
- (iii) Dual purpose breed: represented by Gangatiri.

Kenkatha: Found in Bundelkhand area in Uttar Pradesh mainly in Banda District. The breed derives its name from the Ken river that flows in the area. These are small, sturdy and powerful animals varying in colour from grey to dark grey. Head is short and forehead dished. Horns emerge in forward and have sharp points. Hump is well developed.

Kherigarh: found mainly in Lakhimpur Kheri district of Uttar Pradesh. Small sized but very active animals. Coat colour is generally white. Some grey animals are also found. Horns are lyre-shaped curving outwards and upwards. Hump is small. Dewlap is thin and pendulous. Tail is long ending in a black switch mostly, sometimes white. Cows have small udder and produce less milk. Bullocks are very good for draught purpose.

Ponwar: It is a draught breed found in Pilibhit district of Uttar Pradesh. Also called "Kabri". Usual colour is black mixed with

white. Face is small, narrow with a slightly concave forehead, which is narrow and has a white marking. Body is small, compact and non fleshy. Animals of this breed are aggressive in nature. Cows have small udders and produce less milk. Mainly maintained by tharus and graze in forest areas. Bullocks of this breed are well suited to agricultural operations and are strong.

Gangatiri: Found mainly in eastern UP in the districts of Chandauli, Ghazipur and Ballia. Coat colour is white or white and grayish. Muzzle is black with some spots. Hump and dewlap are medium. Animals of this breed are reared for milk as well as agricultural operations . Average milk yield is 4-6 litres per day. The breed contributes significantly to the livelihood of the people due to its good draught ability and average milk production.



Ponwar cattle

Gangatiri cattle





Bhadawari buffalo

Buffaloes:

Buffalo is a unique bovine and contributes significantly to agrarian economy. Mainly reared for milk, draft power in UP. Also contribute to the leather industry.

Bhadawari: It is a pride animal of the Bhaduria clan. The major breeding tract is Etawah and the minor tract is Agra. Bhadawari buffaloes are well known for producing milk with high fat percentage. The skin is copper colored with short hairs which may be black or brown. The legs between the hoofs and knees are light brown. The horns extend backward, then upward turning slightly inward at tip. The udder is small and light pink colored. A white crescent patch is seen at the neck.

Goats:

Barbari is a dual purpose(milk and meat) goat breed. The breed is highly prolific and non seasonal and well suited for rearing under restrained and stall feeding conditions. It evolved and adapted around Agra, Aligarh, Etah, Etawah, Hathras and Mathura districts of Uttar Pradesh. They are small sized animals with an average body weight of 36 kg in males to 19 kg in females. Colour of goats is mainly brown or white. Skin is almost red. Horns are medium in length directed upward and backward. Ears are small and erect. Tail is thin and short, directed upward and has long hairs at the end.



Barbari (Buck, doe, kid)



Barbari goat

Jamunapari breed is distributed in Agra, Mathura and Etawah districts of Uttar Pradesh . It is a large sized goat, an adult goat weighing about 65-80 kg. It is one of the most productive goats with a 250-375 litre milk yield in the lactation period. The coat colour is usually white. A thick tuft of hairs are present on the hind legs. The characteristic feature of Jamunapari goats are a convex (roman) nose with a longer lower jaw than upper jaw. The ears are also very long and pendulous. Popularly used as an improver breed by farmers. Goat is endangered.

Sheep

Muzaffarnagri sheep is one of the tallest and heaviest mutton breed of the country and is found in Muzaffarnagar, Bulandshahar, Meerut and Bijnor districts of U.P. They are medium to large sized, body weights in rams is about 45 kg and 28 kg in females. Face line is slightly convex. Long tail reaches upto fetlock. Fleece is white, coarse and open. Belly and legs are devoid of wool .Greasy fleece weight in the first clip and 2nd clip are about 0.445 and 0.587 kg. The breed is highly adaptable to semi-arid region and is known for faster growth rate and is mainly meant for mutton purpose but also produces sizeable quantity of wool which is not of fine quality.

Jalauni breed are distributed in Jalaun, Jhansi and Lalitpur districts of U.P. Animals are medium sized. Ears are large, flat and drooping. Average weight of adult males and females are about 40kg and 29 kg respectively. Tail is thin and of medium length. Fleece is generally white, coarse and open. Belly and legs are devoid of wool. Annual wool production of this breed is 0.9 kg.



Jamunapari goat (female)



Jamunapari goat (male)



Muzaffarnagri ewe with triplets



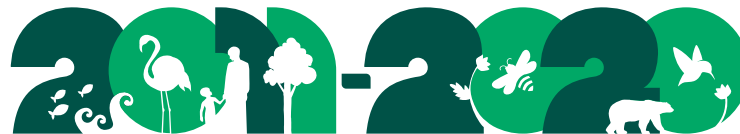
Jalauni sheep

“

We should preserve every scrap of biodiversity as priceless while we learn to use it and come to understand what it means to humanity.

”

– E.O. Wilson



United Nations Decade on Biodiversity



XI Conference of Parties
CONVENTION ON BIOLOGICAL DIVERSITY
HYDRABAD, INDIA, 2012



जहाँ है हरियाली ।
वहाँ है खुशहाली ॥

Uttar Pradesh State Biodiversity Board

East Wing, III Floor, A-Block, PICUP Bhawan, Vibhuti Khand,
Gomti Nagar, Lucknow-226 010, U.P., INDIA

Phone : +91 522 4006746, +91 2306491,

E-mail: upstatebiodiversityboard@gmail.com

Website: www.upsbdb.org