BOTANICAL GARDENS IN INDIA

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ABSTRACT

Botanical gardens are specialized institutions that maintain documented collections of living plants for scientific research, conservation, public display, and education. Unlike regular public parks, they focus heavily on plant taxonomy, herbaria (pressed specimens), seed banks, and the ex-situ conservation of rare and endangered species. [1, 2, 3, 4]
KEYWORDS-Botanical gardens, India, conservation, parks, species

INTRODUCTION

Major Botanical Gardens in India

1. Acharya Jagadish Chandra Bose Indian Botanic Garden (AJCBIBG)

- Location: Howrah, near Kolkata, West Bengal [1]
- Established: 1787 (founded by Robert Kyd) [1, 2]
- Area: ~270 acres (109 hectares) [1, 2]
- Key Highlights:
  - South Asia's first and India's largest/oldest botanical garden.
  - Famous for the Great Banyan Tree, which is over 250 years old and has one of the largest canopy coverages in the world.
  - Houses over 20,000 plants across 3,000+ species, including hundreds of IUCN Red List and endemic species. Managed by the Botanical Survey of India (BSI). [1, 2, 3, 4]

2. Lalbagh Botanical Garden

- Location: Bengaluru, Karnataka [1]
- Established: 18th century (Hyder Ali and Tipu Sultan) [1]
- Area: ~240 acres [1]
- Key Highlights:
  - Features a historic iron-and-glass Lalbagh Glass House modeled after London's Crystal Palace.
  - Known for its tropical and subtropical plant collections, a famous rock formation dating back millions of years, and grand bi-annual floral shows. [1, 2]

3. Government Botanical Garden

- Location: Udhagamandalam (Ooty), Tamil Nadu [1]
- Established: Mid-19th century (1848) [1]
- Area: ~55 acres [1]
- Key Highlights:
  - Situated on the lower slopes of the Dodabetta peak in the Nilgiri Hills.
  - Divided into distinct sections featuring a fossilized tree trunk (estimated to be 20 million years old), extensive lawns, and rare exotic and temperate flowering plants. [1]

4. Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI)

- Location: Palode, Thiruvananthapuram, Kerala [1]
- Area: Largest tropical botanical garden in India [1]
- Key Highlights:
  - Focuses heavily on the conservation of the largest number of Asian tropical plant species.
  - Acts as a premier center for ethnomedical research and the preservation of the Western Ghats' biodiversity. [1]

5. National Botanical Research Institute (NBRI)[1,2,3]

- Location: Lucknow, Uttar Pradesh [1]
- Established: 1978 (located at the historic Sikandar Bagh site) [1]
- Area: ~25 hectares [1]
- Key Highlights:
  - Maintained by the Council of Scientific and Industrial Research (CSIR).
  - Specializes in the conservation and research of native and medicinal plant flora. [1, 2]

6. Lloyd's Botanical Garden

- Location: Darjeeling, West Bengal [1]
- Established: 1878 [1]
- Key Highlights:
  - Set against a scenic Himalayan backdrop.
  - Famous for specialized collections of Himalayan alpine plants, orchids, rhododendrons, and ferns. [1]

Importance of Botanical Gardens

- Biodiversity Conservation: Safeguarding rare, threatened, and endemic species outside their natural habitats (ex-situ conservation).
- Research & Education: Providing living laboratories for botanists, taxonomy students, and academic institutions.
- Public Awareness: Educating visitors on environmental stewardship, horticulture, and the economic utility of plants (such as medicinal or agricultural uses). [1, 2]

DISCUSSION

Botanical gardens provide an excellent medium for communication between the world of botanical science and the general public. Botanical gardens are often established and maintained by universities or other scientific research organizations. These often have associated herbaria and research programmes in plant taxonomy or some other aspect of botanical science. In principle, their role is to maintain documented collections of living plants for the purposes of scientific research, conservation, display, and education, although this will depend on the resources available and the special interests pursued at each particular garden. Botanical gardens are meant for research as well as recreation. In botanical gardens, all kinds of plant species are maintained for the benefit of students of botany, researchers, and the general public. These plantations are designed in such a way that they serve the purpose of the public park too.

Botanical gardens in India are usually maintained by research institutes, universities and other agencies. This technical report highlights the purpose, scope, components and other technical details of Botanical gardens in India. It also gives the old and new records available on these gardens. [4,5,6]

All botanical gardens have their own special interests. In a paper on the role of botanical gardens, Ferdinand von Mueller (1825–1896), the director of the Royal Botanic Gardens, Melbourne (1852–1873), stated, "in all cases the objects [of a botanical garden] must be mainly scientific and predominantly instructive".[6] He detailed many of the objectives being pursued by the world's botanical gardens in the middle of the 19th century, when European gardens were at their height. Many of these are listed below to give a sense of the scope of botanical gardens' activities at that time, and the ways in which they differed from parks or what he called "public pleasure gardens":[6]

availability of plants for scientific research
display of plant diversity in form and use
display of plants of particular regions (including local)
plants sometimes grown within their particular families
plants grown for their seed or rarity
major timber (American English: lumber) trees
plants of economic significance
glasshouse plants of different climates
all plants accurately labelled
records kept of plants and their performance
catalogues of holdings published periodically
research facilities utilising the living collections
studies in plant taxonomy
examples of different vegetation types
student education
a herbarium
selection and introduction of ornamental and other plants to commerce
studies of plant chemistry (phytochemistry)
report on the effects of plants on livestock
at least one collector maintained doing field work

Historically, botanical gardens have responded to the interests and values of the day. If a single function were to be chosen from the early literature on botanical gardens, it would be their scientific endeavour and, flowing from this, their instructional value. In their formative years, botanical gardens were gardens for physicians and botanists, but they became more associated with ornamental horticulture and the needs of the general public. The scientific reputation of a botanical garden is judged by the publications coming out of herbaria and similar facilities, not by its living collections.[7] Their focus has been on creating an awareness of the threat to the Earth's ecosystems from human populations and the consequent need for biological and physical resources. Botanical gardens provide an excellent medium for communication between the world of botanical science and the general public.[8] Education programs can help the public develop greater environmental awareness by understanding the meaning and importance of ideas like conservation and sustainability.[9]

RESULTS

Discovering Botanical Gardens in India

1. Acharya Jagadish Chandra Bose Indian Botanic Garden, Howrah

Located in Sibpur, Howrah, the Acharya Jagadish Chandra (AJC) Bose Indian Botanic Garden is a haven of natural beauty and scientific exploration. As one of India's oldest and largest botanic garden, this wonderful world of greenery was established in 1787 and spans over 270 acres. It is home to a remarkable collection of flora and fauna. The garden is famous for its magnificent giant Amazon water lilies, whose floating leaves can reach up to six feet in diameter. The garden is also home to a magnificent and colossal banyan tree, famously referred to as the Great Banyan Tree, which has stood for over 250 years.

The garden features picturesque pathways, surrounded by lush greenery and a myriad of vibrant flowers, which visitors can use to stroll through. The Acharya Jagadish Chandra Bose Indian Botanic Garden also plays a crucial role in conservation efforts, housing rare and endangered plant species. Educational programs and workshops are organized to promote environmental awareness. Whether you're a nature enthusiast, a researcher, or simply seeking a peaceful retreat, this botanical garden offers a captivating and enriching experience for all.[10,11,12]

If you're looking for hotels in Kolkata, here is a quick list to help you out.

How to reach AJC Bose Indian Botanic Garden?

The AJC Bose Botanic Garden is a famous landmark within the Kolkata Metropolitan Development Authority (KMDA) and can be reached quite easily from either Kolkata or Howrah. Direct buses to and from the Botanic Garden run on many routes within both cities. Alternatively, any bus that goes in the direction of Sibpur can be taken to get you close to the garden, after which several taxi options exist. The largest railway station closest to the garden is Howrah Railway Station located 8 km away. The garden can also be reached from Santragachi (5 km) and Shalimar railway stations (1.9 km). The closest airport is the Dum Dum International Airport in Kolkata located 28 km away from this Botanical garden in Kolkata.

2. Lal Bagh Botanical Garden, Bengaluru

One of Bengaluru's major attractions, the Lal Bagh Botanical Garden, is a magnificent oasis that showcases the city's natural splendour. Dating back to the 18th century, this historic garden sprawls across 240 acres and is renowned for its stunning collection of flora and captivating landscapes. One of the highlights of this botanical garden is a beautiful glass house which has been modelled around the Crystal Palace in London. The glasshouse hosts vibrant floral shows throughout the year, including the famous biannual flower show. The southern part of the garden houses a large lake as well.

Visitors can wander through the garden's well-manicured pathways and marvel at its diverse plant species, including towering trees, fragrant roses, and exotic orchids. The garden also hosts several events throughout the year, including flower shows during the country's Independence and Republic days. Lal Bagh also houses several fascinating monuments and structures, such as the Kempegowda Tower, which offers panoramic views of the garden and the city beyond. Whether you're a nature lover, a photography enthusiast, or simply seeking a serene escape from

the bustling city, Lal Bagh Botanical Garden is a must-visit destination that promises a delightful and rejuvenating experience.

Lal Bagh Botanical Garden in Bengaluru is a popular destination, and there are several ways to reach it. The nearest metro station to Lal Bagh is the Lalbagh Metro Station (0.20 Km) on the Green Line which stops right at the main gate of this Botanical garden. Bengaluru also has an extensive bus network. You can check local bus routes and take a bus to Lal Bagh or nearby bus stops like Lalbagh Main Gate (0.10 Km) or Double Road, which are within walking distance of the garden.

3. Government Botanical Garden, Ooty

Nestled amidst the scenic Nilgiri hills, Ooty is a place of wonder. Tourists from all around the world flock there to relax and bask in the glory of the many natural wonders and cultural treasures that abound. The Government Botanical Garden in Ooty is one such mesmerizing retreat for nature enthusiasts and avid garden lovers. Although not as large as some of the other gardens mentioned in the post, this sprawling garden, established in the mid-19th century, covers over 55 acres and showcases a remarkable variety of plant species from all around the world. The garden's well-maintained pathways lead visitors through lush green lawns, vibrant flower beds, and handselected themed gardens.

One of the highlights of the Government Botanical Garden is the stunning collection of rare and exotic plants, including vibrant orchids, aromatic spices, and towering eucalyptus trees. The garden also features a picturesque lake, adding to its tranquil charm. Each year, the garden hosts the highly anticipated flower show, attracting visitors with its breathtaking displays of vibrant blooms and creative arrangements. The Government Botanical Garden in Ooty is a delightful destination that offers a captivating experience for all who visit.

4. Lloyd's Botanical Garden, Darjeeling[13,14,15]

Well known for its serene ambiance and picturesque setting amidst the scenic hills of Darjeeling, Lloyd's Botanical Garden is a charming sanctuary that celebrates the region's natural beauty. While relatively smaller in size compared to other botanical gardens in India, Lloyd's Botanical Garden offers a delightful retreat with its lush greenery, colourful flower beds, and well-maintained pathways.

5. TNAU Botanical Gardens, Coimbatore

An important educational and research centre, the Tamil Nadu Agricultural University (TNAU) Botanical Gardens in Coimbatore is a haven for plant lovers. The TNAU Botanical Gardens boast a diverse collection of plant species over its vast area, showcasing the rich botanical heritage of the region. Visitors can explore the gardens and witness a wide array of trees, shrubs, flowering plants, and medicinal herbs. The gardens serve as a living classroom for students, providing hands-on learning opportunities in horticulture, plant breeding, and research.

6. National Botanical Research Institute Botanic Garden, Lucknow

The National Botanical Research Institute in Lucknow is a paradise for flower and plant enthusiasts, as well as those interested in floral crafts. Established in 1978, the institute offers a splendid garden spanning 25 hectares, along with a herbarium, two well-equipped laboratories, and an extensive library. Notably, the garden includes the renowned Sikandar Bagh, a popular tourist attraction in Lucknow. Recognized as one of the largest botanical gardens in India, the institute aims to study, propagate, conserve, and safeguard a wide variety of native plant species found across the country. A visit to this remarkable institution promises an exciting and educational experience, immersing visitors in the captivating world of plants and their

conservation. The garden is located approximately 25 kilometres from the nearest airport, which is the Chaudhary Charan Singh International Airport. Lucknow is well-connected by rail, and the city has two major railway stations: Lucknow Junction (also known as Charbagh Railway Station) and Lucknow City Railway Station. From either station, you can hire a taxi or take a local bus to reach the NBRI Botanic Garden. While the former is 13 km away, the latter is is just 4.2 km away. You can use local transportation options like taxis, auto-rickshaws, or buses to reach the NBRI Botanic Garden.[16,17,18]

CONCLUSIONS

Botanical gardens in India serve as living classrooms that promote a greater awareness of the natural world, not merely places for pleasant strolls. They support environmental education, provide a platform for botanical study and aid in the preservation of threatened and endangered species.[19]

We have the privilege of experiencing these botanical gardens in India as visitors, taking in their serenity and finding comfort within their lush surroundings. Let's treat these botanical gardens with respect, go on sensible vacations, and try to have as little of an influence as possible on the fragile ecosystems they support. Let's acknowledge our deep connection to nature and appreciate the breathtaking beauty of botanical gardens in India together. [20]

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