AASM GARDEN

Introduction

AASM garden played a significant role in introducing, multiplying and distributing of many commercially important plants species. The garden also act to endorse educational programmes in order to create awareness among the students about the value of plants and other curious, interesting plants with pleasant landscape and display. The exclusive collection of biological resources of this garden and folk uses of plants will help to understand the importance of plants to the students, researchers, and other common people as a whole. This indigenous knowledge of plants may be helpful for further research helpful for further research in Botany or allied disciplines. Our duty is to conserve the plants and to sustain the unique germplasm collection.

In current scenario, use of plants has been increasing economically due to growing demand of herbal medicine in the domestic and global markets and pharmaceutical industries. In the contemporary world, numbers of species of plants have been facing threats or have become completely extinct from the world because of pollution and climate change, urbanization, industrialization, over exploitation or unscientific methods of harvesting and destruction of natural habitat. Consequently, it is a huge challenge to us. Conservation (both *ex situ* and *in situ*) is the only way to retain the natural wealth by sustaining the existing botanical gardens and further establishment of new botanical gardens.

History of the garden

In the year of 1973, Prof. Ajit Kumar Das, Dept. of Mathematics of the erstwhile Raiganj College (University College) died in a bus accident at Kishanganj in Bihar, while returning from the University of North Bengal after completion of his official duty. Exactly ten years later, in 1983, Prof. Amiya Kumar Bhattacharya, Dept. of Mathematics, Prof. Sharmila Bhattacharya, Dept. of Philosophy and Prof. Mayabi Ghosh, Dept. of Zoology passed away in a tragic bus

accident caused by fire in their bus near Palashi, Murshidabad, while returning from their native place to the Raiganj College (University College). The authority of erstwhile Raiganj College (University College) had taken a unique decision that a garden will be established as a tribute to the memory of those four professors and the garden will be named as AASM garden (as an acronym of the first alphabet of the deceased professors and would be a garden of rare medicinal and aromatic plants). The AASM garden was established on 21st February, 1984 within the campus of erstwhile Raiganj College (University College) under the president-ship of the then Hon'ble Vice-Chancellor, University of North Bengal. Prof. Indu Lal Saha, Dept. of Physics, erstwhile Raiganj College (University College) shouldered the major responsibility to shape the garden during the first decade of its establishment. Department of Botany, erstwhile Raiganj College (University College) was given major accountability for advice and technical knowledge for collection, propagation and conservation of medicinal and aromatic plants. Since then the garden has becomes a conservation centre of many medicinal and aromatic plants as well as rare and threatened flora of the district West Dinajpur (now North and South Dinajpur). Initially the garden was run by the financial contribution of students of erstwhile Raiganj College (University College). The University College had a total area of about 13.62 acres, from which a small area of about 1.5 acres was marked for the garden.

3rd February, 2015 the Raiganj College (University College) has been up gradated as Raiganj University as an autonomous State University under Government of West Bengal (Established by an Act No. XXVI of 2014 of West Bengal State Legislature). Later on, the first honourable Vice-Chancellor of Raiganj University, Prof. (Dr.) Anil Bhuimali played a key role for the development and sustenance of the garden. Due to his keen interest recently the garden has been renovated and beautified with the financial assistance from the Department of Higher Education, Govt. West Bengal.

Location and agro-climatic conditions

Raiganj university lies between 25° 36′ 15″ N to 25° 36′ 25″ N latitude and 88° 07′ 40″ E to 88° 07′ 50″ E longitude in the Raiganj block of Uttar Dinajpur district. AASM garden is situated approximately 1 km from the state bus stand and 1.5 km from the Raiganj railway station. Asia's largest bird sanctuary, Raiganj Wildlife Sanctuary commonly known as 'Kulik Bird Sanctuary' is located in this block near about 4.5 km from the garden. The district is surrounded by Dinajpur district of Bangladesh on the East, Kishanganj, Purnia and Katihar districts of Bihar on the West, Darjeeling district on the North, Malda district on the South and Dakshin Dinajpur district on the South-East. Geographically this district is bestowed with flat topography with a gentle slope from North to South. The soil is composed of different variety of alluvium. The average minimum temperature is of 7°C (January) and maximum temperature goes up to 41°C (April to May). The maximum rainfall received near about 375 mm in a year during July to September and maximum humidity ranges from 31% (March) to 85% (September).

Uttar Dinajpur is a predominantly agriculture based district and rich in floral diversity because of the geographical location of the district. Demographically, Raiganj is a predominantly schedule caste and schedule tribe dominating block of Uttar Dinajpur district. Most of the schedule castes people are belonging to Rajbangshi community. Rural people of this community have old traditional practice to cure different ailments by using the plants grown in the vicinity of their houses.

Facilities available in the garden

The AASM Garden is active in cultivation, mass propagation and conservation of medicinal and aromatic plants including rare, threatened and endemic plants from different parts of India. There are about more than 130 conservation beds for growing different types of medicinal and aromatic plants which are sub divided into 13 plots viz., introduced plot, nursery bed plot, aromatic plants plot, cactus plot, pteridophyte plot, rhizomatous plants plot, bamboo plot, climber plot, rare plants plot, orchid house, ornamental plants plot, aquatic plants plot, and net house for acclimatization and conservation of introduced and rare species. Trees and shrubs like plants are planted around the boundary of this garden. Water filled cemented rings are used for maintaining the aquatic plants. The garden has also its own composting and vermin composting pits and a bio-pesticide unit. The main purpose of AASM garden is to carry scientific research, collection, identification of plants, conservation of genetic resources and technology development as well as educational awareness.

Mission and mandates of the garden

Mission

1. Conservation of rare and threatened plant species.
2. Documentation of traditional knowledge.
3. Development of low cost mass multiplication techniques for rare and threatened medicinal plants.
4. Research and development of ethnobotanical knowledge.
5. Phytochemical characterization of all the plants present in the AASM garden.
6. Plant exchange programme with different institutions.
7. Discussion of ethnobotanical knowledge by conducting seminar, workshop and publication of documents.
8. Quality assessment of the harvested products.

Mandates

- Extensive survey, collection, identification and conservation of medicinal as well as rare and threatened plants of this district and nearby district and different parts of India.
- Mass multiplication of potentially important medicinal plants.

- Serve as repository for future research and teaching.
- Training programmes for interested farmers.
- Human-nature relationship awareness programme.

Sources of germplasm and present collections

Presently more than 350 different medicinal plants including trees, shrubs, climbers and annual herbaceous species are being maintained systematically in this garden. This garden serves as the consortium and hub for the conservation, characterization and uses of medicinal plants. Most of the medicinal and aromatic plants were collected from the local area by conducting frequent survey in the district and nearby districts. Innumerable persons have contributed to this unique collection of AASM Garden. Nevertheless, huge quantities of ornamental and potentially medicinal plants have been procured from the local nursery and different parts of India. In addition, a good number of medicinal plants were collected from the garden of medicinal plants, University of north Bengal.

The garden has served as a platform for introduction, acclimatization, mass multiplication and *ex situ* conservation of pteridophytes, gymnosperms, orchids, cactus, medicinal, ornamental, rare, endemic and threatened species. Some of the introduced notable rare species are *Amorphophallus margaritifer*, *Geodorum densiflorum*, *Gloriosa superba*, *Helminthostachys zeylanica*, *Luffa operculata*, *Rauvolfia serpentine*, *Typhonium flagelliforme*. Mass multiplication of large number of commercially important medicinal and aromatic, Agri-Horticultural importance and ornamental species (*Aloe vera*, *Aristolochia indica*, *Asparagus racemosus*, *Azadirachta indica*, *Bixa orellana*, *Chamaecostus cuspidatus*, *Cycas revoluta*, *Cymbopogon citratus*, *Gymnema sylvestre*, *Hylocereus trigonus*, *Phyllanthus emblica*, *Piper nigrum*, *Stevia rebaudiana*, *Terminalia bellirica*, *Theobroma cacao*, *Tinospora sinensis*, *Withania somnifer*a etc.) have been carried out in this garden. A large number of economic and spice species like cardamom, cinnamon, coffee, cacao, tea, black pepper, clove and sago are also maintained in the garden.

The enumeration

Many persons from different profession and economic strata have contributed to the garden either by many persons from different profession and economic strata have contributed to the garden either by providing plants as seeds, seedlings, cuttings or other propagules as well. The rich floral diversity and wealth of this garden makes it very special. AASM garden is a living repository of 675 plant species (Excluding grass flora). Out of this 658 species under angiosperms, 6 species under gymnosperms and 11 species under pteridophytes were documented in the process of enumeration. Plants were identified in consultation with relevant recent floras and monographs and also with the kind help of BSI, West Bengal. Moreover, The Plant List (Version 1.1) was used for determining correct names of each species.


RAIGANJ UNIVERSITY


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