

Agri-Horticultural Society of India 200: Revisiting This Urban Green

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ABSTRACT

This year 2020 the Agri-Horticultural Society of India (AHSI) turns 200. The lush sprawling 21 acre campus has a flower garden, greenhouses, a research laboratory, a library, and houses a massive collection of plants and flowers, thus serving as an effective gene bank. AHSI in the heart of the megacity is a major urban green space known to improve health and well-being through conferring a number of ecosystem services. Every attempt has been made the Society to inculcate pro-environmental behavior among city-dwellers.

KEYWORDS: Agri-Horticulture, phytodiversity, urban green space, William Carey

Brief History

This year 2020 the Agri-Horticultural Society of India (AHSI) turns 200. AHSI was founded in 1820 by Rev. Dr. William Carey, an English Baptist missionary at 1, Alipore Road, Kolkata, and is the oldest institution of its kind in India with the primary objective of promoting agriculture and horticulture. On September 14, 1820, Carey and four other Europeans including Joshua Marshman established the Society, but by October 23, 1820, over fifty persons had joined the Society. Not only Lord Hastings even Lady Hastings had been a staunch supporter of Carey's interest in agriculture and horticulture and became one of the earliest patrons of the society. The Society was awarded the 'Royal' Charter in 1935 by King George V. Since its inception, various Governor-Generals and Viceroys were the Chief Patrons of the Society and, after Independence the President of India adorned this position.

Dr. Carey was a very distinguished botanist, but most renowned as the founder of the AHSI. The president of the Society from 1824-1826 Dr. Carey brought extinct species of plants and nurtured them in the garden of the society. He also brought in Maize, Cotton, Tea, Sugar cane and Cinchona from different countries and instilled

plantation habit in different parts of the country. Even after two centuries, the Society continues to give prominence to Carey, "The Father of Modern Bengal" as hailed by Rabindranath Tagore himself. Dr. N. Wallich was the honorary secretary of the Society during the period 1822-1828 and was followed by number of devoted scientists and agri-horticultural lovers spanning two centuries to serve the Society in different capacities.

The Expanse

Now, at two hundred the society has a long and distinguished history in Indian science and culture, besides adding significantly to the dwindling urban-greens of the Kolkata metropolis (Sen, 2020a). The lush sprawling 21 acre campus has a flower garden, greenhouses, a research laboratory, a library, and houses a massive collection of plants and flowers, thus serving as an effective gene bank. There are nurseries with multiple rows of potted plants, a dedicated rose garden, a bonsai garden, an orchard with rare trees all carrying their names and identity, an orchid garden and a large pond at the entrance. The five fountains in the pond when active is a glorious sight.

Phytodiversity in AHSI

The royal family of Darbhanga gifted a greenhouse to the garden that has been named as Darbhanga House where several indoor plants are nurtured. The rose garden houses more than 250 varieties of roses whereas the William Carey Xero-Garden is where visitors can see different varieties of xerophytes, including cactuses and succulent plants. Visitors can even spot more than 50 varieties of orchids in the Orchidarium. Therefore about 56 different types of orchids which have been introduced from north east India, Andaman and Nicobar Island and South East Asia. A huge collection of herbal medicinal plants are found at 'Bhesaj Udyan' (Times Travel, 2015).

AHSI has served as conservator of the rich phytodiversity with its significant collection of

cannas, medicinal plants, ferns, gymnosperms, fruits and flowering plants. It is said that every canna cultivar growing in India has been derived from the collection in the AHSI, where they are domiciled. Towards the south-western side of the garden lies the beautiful Japanese-style garden with waterfall.

There is also a trellis or arbor, considered to be one of the longest and an orchard within the premises. From the florist shop and nurseries, visitors can buy saplings, flowers, fruits and others to take back home as souvenirs.



Pitcher plant (insectivorous) at AHSI



Oncidium schroederianum at the Orchidarium



Rose varieties at Annual Flower Show
 (All 4 photographs are by the author herself)



Xero-garden with cactus and succulents

**Role of AHSI
 In Agriculture and Horticulture**

Carey's essay on advocating the establishment of an agricultural and horticultural society in India states the following purposes - improvement of the land by encouraging a superior mode of cultivation, the best method of properly cropping land and the best rotation of crops, introduction of new and useful plants, improvement of implements of husbandry, an attempt to improve animal stock, inclusion of waste lands into a state of cultivation.

With the foundation of the society a wide variety of vegetables and fruits were introduced in the market to which the Indian society was previously completely oblivious. Before the formation of the society good vegetables were scarcely possible to be procured even in the private gardens of the rich. The immediate result of establishing the society was that the finest vegetables were easily available in the market.

Up to 1829 the society had limited their attention to the extension and improvement of market vegetables and fruits. Later on their attention

was directed to the more important agricultural cash crops especially cotton and sugar-cane. The members did their best to spread Otaheite cane, thick cane with high sugar content, which gave high yields on virgin and relatively new land. In its initial days the Society was known as the Agricultural Society of Calcutta. After 1824, the word 'Horticultural' was included and the society was rechristened as Agricultural and Horticultural Society, presently known as The Agri -Horticultural Society of India.

The Society served as the *de facto* ministry of agriculture up to 1900. India owes a great deal to Carey as he pioneered the import of winter vegetables like cauliflower, cabbage, tomato and beetroot that were otherwise impossible to grow in Indian climate. From acclimatizing these crops to modernizing the cultivation techniques, Carey's contribution in the current progress of Indian agriculture is remarkable.

Mr. Percy-Lancaster introduced many new plants from abroad and institutionalized the concept of hybridization in India. Many plants found in the Society owe their origin to him. He discovered many interesting mutants in *Acalypha*, *Canna*, *Codiaeum*, *Hibiscus*, *Panax* and *Dracaena*. The Society continues its endeavour in introducing a plethora of better strains of cereals, vegetables and fruit trees. The Society has introduced maize from America, wheat from Europe and high yielding rice from Carolina, potato, tomato, cauliflower, cabbage, turnip, carrot and all the European vegetables from England and Europe.

As Urban green space

The verdant extensive 21 acres of AHSI in the heart of the megacity is a major urban green space known to improve health and well-being through conferring a number of ecosystem services including buffering noise pollution, air quality through absorbing and shielding from particulates, and preventing heat stress by providing shade (Sen, 2020b). A further ecosystem service is the proposed ability of biodiverse urban green spaces to improve psychological well-being (Biswas and Sen, 2020; Sen 2010, 2017). Such restorative ecosystem services provide one of many arguments for biodiversity conservation (Sen, 2020b). Most urban green spaces represent novel ecosystems. Quality green spaces in the city act as **carbon 'sinks'** and affect **climate change by carbon sequestration, microclimate regulation** by mitigation of **urban heat island effect**. Such urban areas can support endemic native species and others of conservation concern both at regional and global levels.

In Academia

In recent years the Society was involved in Research and Development projects for Department of Science & Technology, Government of West Bengal which focused on identification, quantification and sustainable conservation of herbs and medicinal plants in coastal districts of West Bengal. The Society also handled a Research & Development project for Ministry of Environment & Forest, Government of India which surveyed activities of palms and canes of North Eastern India, taxonomic identification and monographic studies.

There is a well-equipped Plant Tissue Culture Laboratory with Plant Hardening facilities in a small scale in AHSI. Micro propagation of banana, pineapple, orchids etc. are regularly done here. Research is carried out for protocol standardization of micro propagation of other horticultural species. Both UG and PG students from the disciplines of Biotechnology, Horticulture and Agriculture pursue their Project work in the R & D department where they are imparted with both practical and theoretical training for their Courses. There are regular study tours or local excursions as well to study the striking phytodiversity.

The Library of AHSI is one of the oldest libraries in India for a priceless collection of books and journals on Botany, Agriculture, Horticulture and other related subjects. Its present holding is about 5000 valuable books. It has a rare collection of hand written manuscripts of Dr. W. Carey and old books on Plants and Agriculture. The library is being constantly enriched by incorporating recent publication through purchase or as complementary copies received from the authors.

In order to disseminate scientific advancements as well as the activities of the AHSI, the Society publishes a Journal on Horticulture, Annual Souvenir, Seminar Proceedings and Technical Books on Horticulture. In fact, the Society started the first ever Agricultural Journal as early as 1837. At present, the Horticultural Journal is published half yearly, Flower Show Souvenir and Annual Report of the Agri -Horticultural Society of India annually.

Other significant publications by the Society which deserves a mention are Rose Culture, Beautiful Shrubs, In Full Bloom, Proceedings of International Seminar on Prospect of Horticulture as a commercial venture in India, Calcutta, 1996, Gardening in India, Herbal Power, Encyclopedia of Himalayan Medicinal Flora in three Volumes and many others.

Along with these the society also conducts various vocational/training short courses on roof-

gardening, herbal medicinal plant, home gardening, Ikebana, bonsai, mushroom cultivation etc.

Promoting green awareness

Annual flower shows, conventions on rose and ornamentals and more are held regularly (Millennium Post, 2019). The Sales counter deals in plants, saplings, seeds, soil, manure, garden equipment and the like. The blended services include environmental and visual assessments, landscape planning and feasibility studies, landscape design and development followed by maintenance activities. Every attempt has been made the Society to inculcate pro-environmental behavior among city-dwellers.

Amphan and thereafter

Amphan, a tropical super cyclone ravaged coastal Bengal, Orissa and parts of Bangladesh on 20th May 2020. With over 5000 trees lost or damaged out of approximately five lakhs in Kolkata alone, the task to urban-green restoration is greatly challenging. Most of the trees that fell were very old and fully grown and had a large canopy. Working towards greening of the metropolis, the stretch of vegetation from Chetla, Alipore, Hastings House, Alipore Court, Agri-Horticulture, National Library, Zoological Gardens to Fort William, Maidan (known as the 'lungs') and Raj Bhawan consist of some very old trees from the Colonial era (of which, mahogany and mango deserve special mention), though quite a number have been lost due to lack of awareness and proper conservation practices (Sen, 2020c). The Amphan took its toll on some famous trees of AHSI such as *Brownea coccinea*, *Saraca indica*, *Artocarpus altilis*, *Amherstia nobilis* catastrophically in its bicentenary year.

To commemorate the 200th year The Regional Convention for Central Asia of the World Federation of Rose Societies was held in January 2020 at AHSI. But after that came the COVID-19 pandemic and nation-wide lockdown followed by the devastating Amphan. AHSI too has not been spared by the twin attacks. Instead of bicentenary celebrations, the Bicentennial now struggles to regain its beauty and foliage and restore its senior green members to continue its glorious journey and heritage.

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