



A brief account of the history and development of Jawaharlal Nehru Tropical Botanic Garden and Research Institute, Palode, Kerala

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History and development

In 1949, Prof A Abraham, an educationist, administrator, and conservationist conceived the idea of a botanical garden in Kerala to conserve rare and endangered plant taxa. However, it took him several years to convince the state political leadership about the need for a garden in the state that itself was a garden due to the vast diversity of plants. The first united nations conference on Human Environment was held in 1972 in Stockholm. Prof. A Abraham identified this as an opportunity to push his idea hard across to the ministry. Finally, In 1979, the Department of Planning and Economic Affairs of the State government announced the formation of the Tropical Botanic Garden and Research Institute. Hence it may be said as the relentless efforts of Prof A Abraham for 30 years resulted in today's garden called JNTBGRI. In 1982, the government approved a grant on the lease of 300 acres of land close to the forests in the foothills of Agasthyamalai forests for garden development. Late Mr. Roy A Bee, Ex-Director, of Park Systems from Royal Botanic Gardens, Kew had supervised the design and layout of the garden and helped the young scientists- recruited then- to have a vivid vision of the garden. The founder director, Prof A Abraham, who is also the first author of Introduction to Orchids, a classic book on orchids of the southern Western Ghats, then established the orchid conservatory and plant biotechnology programs for the purpose of orchid breeding and plant multiplication.

According to the Convention on Biological Diversity (1972), the framework for botanic gardens includes plant identification (Art.7), the establishment of conservatories (Art.9), bioprospecting



(Art. 10), and public education/awareness (Art. 13). The visionaries involved in the initial stages of the development of TBGRI designed programs inclusive of all of the above mission.

One of the milestones for the Institute was benefit sharing with the indigenous tribe “Kani” in the Agasthayamalai region when obtained a patent for the preparation of a drug, ‘jeevani’ of which intellectual rights still belong to the tribe. Once established, a large number of projects were launched with the help of international, national funds and regional scientists and researchers in various fields. The institute successfully carried out surveys and documentation of the flora, structuring of living plant collections, selection and enhancement of species with potential economic value, development of their cultivation practices, and capacity-building programs for the community such as training, self-employment, and income generation in horticulture. Through nationwide explorations, rare orchids, anthuriums, medicinal plants, rattans, wild fruits, tree species, palms, curcumas, Piper, Zingibers, Citrus, bananas, cacti, succulents, and wild ornamentals were collected and conserved. A gene bank was created comprising field, seed, meristem, and cryobank activities. JNTBGRI developed a state-of-the-art laboratory/Central Instrumentation Facility to promote and serve plant-based studies and enterprises. In the last decades, molecular markers were developed for the identification of genotypes. All through four decades, endemics received particular attention in all the research initiatives. Department of Biotechnology, Government of India provided grants to establish the G15 National gene bank for medicinal and aromatic plants in TBGRI In 1992-93. In 1994, the Ministry of Environment and Forests, Government of India granted the status of the Centre of Excellence in conservation research to TBGRI. In 1996, the Saraswathy Thangavelu Extension Centre, the Bioinformatics component of the Institute came into existence in Puthenthope on the coasts of Trivandrum. In 2003, TBGRI was brought under the newly formed Kerala State Council for Science, Technology, and Environment (KSCSTE). In 2011, the institute was renamed in fond memory of Pandit Jawaharlal Nehru, the visionary Prime Minister of India to Jawaharlal Nehru Tropical Botanical Garden and Research Institute/JNTBGRI.

In 2020, JNTBGRI received the ‘GGI Gardens Award’ issued jointly by Botanic Gardens conservation international (BGCI) and the United States Botanic Garden (USBG) for the second time. The institute created a collection of plants endemic to the Western Ghats with the help of this grant. The research advancement of this is that this collection is now part of the Global



Genome Biodiversity Network (GGBN). This network allows DNA and tissue collections to be accessible to global researchers through 108 biobanks. The collection from JNTBGRI added 58 new taxa (57 species) belonging to 47 genera under 28 families to the GGBN portal. These biorepositories can help us conduct advanced research on biodiversity, and encourage collaborations and multidisciplinary research. It could generate an understanding of the spread of invasive species, and threats to species due to climate change, promote value addition and hence plant-based industrial ventures; and preserve data for the future.

Today, JNTBGRI is one of India's largest conservatory botanical gardens with eight research divisions (conservation biology, plant genetic resources, biotechnology and bioinformatics, ethnomedicine and ethnopharmacology, garden management, microbiology, phytochemistry and phytopharmacology, and, plant systematics and evolutionary science) and about 50000 accessions. Research community that includes research students and staff lead quality research in the Institute in the areas of conservation, bioprospecting, evaluation, validation, product development, and benefit sharing. JNTBGRI Library functions as a knowledge-disseminating centre in the state for students and researchers. The institute is now recognized as a 'National Centre of Excellence in ex-situ conservation and sustainable utilization of tropical plant diversity' by the Ministry of Environment and Forests, Government of India, and the Centre for Science & Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre). During the past 43 years, KSCSTE – JNTBGRI has flourished into one of the premier R&D centers in Asia, devoted to its vision, conservation, and sustainable utilization of tropical plant diversity for the well-being of people.

(Details adopted from JNTBGRI Website)

Jawaharlal Nehru Tropical Botanic Garden during construction (1979-1983)



Photo courtesy: JNTBGRI Library

Jawaharlal Nehru Tropical Botanic Garden in 2023



Photos: Jis Sebastian