

Annual Report - 2016



Botanical Garden Trust Fund

Department of National Botanical Gardens

Peradeniya

Trust Fund for developing and welfare of Botanical Gardens in Sri Lanka

ANNUAL REPORT - 2016

Approval for establishing a Trust Fund for improving and welfare of botanical gardens has been granted at the Cabinet meeting met on 07/02/1996 by considering the Cabinet memorandum dated 15/12/1995 submitted by the then Minister of Agriculture, Lands and Wild Resources themed “improving and welfare of the botanical gardens in Sri Lanka”.

25% of the annual income generated by ticket sale at botanical gardens is nominally credited against the Trust Fund for developing and welfare of Botanical Gardens. For this, Provisions are made in every year under the 2201 Expenditure Head (capital transfer) of estimate approved by the Treasury, Money needed for expenditures of the Fund are secured through imprest of the Department on needs and reimbursed at the end of year. In addition, Action is also taken to attend requirements needed for increasing the income of the Fund.

This Fund is administered by a board of Trustees consisting with Secretary to Line Ministry as the Chairman, Director General of National Botanical Gardens Department as Secretary and Director - Budget of the Treasury as a member of the said Board of Trustees.

Botanical Garden Trust Fund

1. **Name of Fund** : Trust fund for developing and welfare of botanical gardens in Sri Lanka
2. **Category** : **Providing financial assistance for recurrent activities in developing and welfare of botanical gardens at needs**
3. **Circulars concerned** :
 - i **Establishment of Fund - in accordance with Fund Ordinance No. 09 of 1917**
 - ii **As per circular No. 836 dated 16th August 1977 for account keeping and account reporting and Public Finance Circular PF/423 issued on 22.12.2006.**
4. **Date of commencement** : 20th December 1996
5. **Office** : Head office of National Botanical Gardens Department, Peradeniya
6. **Bank** : Bank of Ceylon, Peradeniya - Account No. 0007040848

7. Objective of Fund:

- ✓ Taking action to boost image of the botanical gardens in Sri Lanka and in foreign countries.
- ✓ Implementing meaningful programmes in respect of current conservation of environmental education and trees.
- ✓ Improving Scientific knowledge, activities and facilities of scientists employed in botanical gardens as well as providing financial assistance to purchase equipments needed for the purposes.
- ✓ Working out a promotional programme on collection of trees.
- ✓ Promoting activities and assisting in technical fields for conservation and improving environmental knowledge to be used in botanical gardens.
- ✓ Undertaking any urgent construction activities for meeting facilities to scientists and those who visit botanical gardens.
- ✓ Attending recurrent provisional deficiencies at times of need.

Financial progress of Fund in year 2016

Debit balance as at 01-01-2016 = Rs. 145,397,654.65

Added:

Income in year 2016 (debits) = Rs. 148,540,186.28

Total Rs. 293,937,840.93

Less:

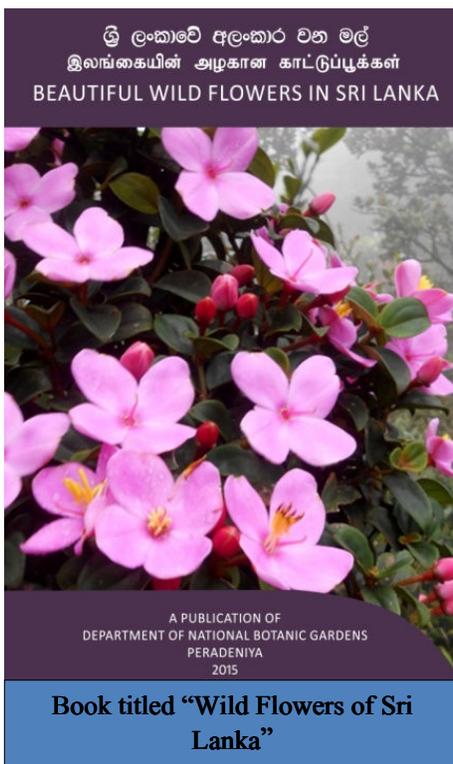
Expenditure in year 2016 (crediting) = Rs. 139,957,695.60

Treasury balance as at 31.12.2016 = Rs. 153,980,145.33

* (This balance is only a nominal balance)

The following activities were undertaken with the aim of further improving image of botanical gardens in Sri Lanka and abroad, the main purpose of the Fund by using provisions of the Fund in the year 2016.

- ▶ A systematic programme was initiated by the National Green house for conserving indigenous flora, collecting data on plants under the Botanical Researches. Accordingly, the book titled “Beautiful Wild Flowers of Sri Lanka” printed with Provisions of the Fund earlier was reissued as a second print in year 2016 embodying with updated information. This book is available at sales outlets of gardens at Rs. 850/- and income generated by sale is accounted as an income of the Fund.



- ▶ In order to improve technical knowledge of Scientists attached to Botanical Gardens, the officer in charge of National Green House was attended a training on “PLANT TAXONOMY IDENTIFICATION AND DUTIES OF THE NATIONAL HERBARIUM” held at Keew Botanical Garden in United Kingdom in this year.
- ▶ For improving botanical scientific knowledge of visitors of botanical gardens, two posters have been printed by the National Herbarium and had issued to botanical garden sales outlets to sell each at Rs. 100/- .

The income generate by this is credited against Botanical Garden Trust Fund as an additional income.



1. “ ENDEMIC FLOWERING PLANTS OF SRI LANKA ”

2. “ BEAUTIFUL ORCHIDS OF SRI LANKA”

- ▶ In addition, the following directives on horticulture for improving knowledge of farmers had been printed in this year by Horticulture Research Division. They had been issued to botanical garden sales outlet for sale. The income generated by this too had been credited as an additional income in Botanical Garden Trust Fund.

1. Draseena Sandriyaan flower cultivation Guide

2. Udavadiya flower cultivation Guide

- ▶ Attention has been drawn in recent past on wild beast living in botanical gardens in order to keep botanical gardens attractively and creating a friendly environs for wild beast themselves. Creating awareness of officers on that too is being undertaken. Under that, five books titled “The Butterfly Fauna of Sri Lanka” on fascinating butterflies of tourist had been purchased and issued to botanical garden libraries for use.

- ▶ A supplementary named “Wana Diviya’ carrying in “Dinamina” paper issued monthly by the Ministry of Sustainable Development and Wild life for educating general public on wildlife and flora/fauna in National Botanical Gardens. A part of cost involved for its printing is met by Botanical Garden Trust Fund of National Botanical Garden Department with effect from last year.

- ▶ In order to improve knowledge, skills and attitudes of both officers and employees, need of having training programmes has been felt. Provisions have been made by Botanical Garden Trust Fund for such local and foreign training openings.

Training workshops run by set provisions

- Two day training workshop on Productive Internal Audit

- Training workshop held in “Que” Garden in England

- Workshop named “Plant Breeding Techniques for the important of Annual Food & Floriculture crops ” held in Agricultural Post Graduate Institute

Special development activities undertaken in the year 2016 by utilizing provisions of the Fund

Peradeniya Royal Botanical Garden

- ▶ Internal road network was renovated in providing easy and secured transport within the Garden for visitors. For this, provision of Rs. 13.3 Mn. had incurred by the Botanical Garden Trust Fund.



Improved condition by carpeting inner roads

- ▶ 03 summer huts had constructed anew in this year for taking visitors to rest at a cost of Rs. 3.8 Mn.



A completed summer hut

- ▶ Under provision of facilities to visitors, the cafeteria of the Peradeniya Royal Botanical Garden too had renovated in the year 2016. For that also provisions of the Garden Trust Fund had been allocated and Rs. 2.5 Mn was expended for this activities.
- ▶ A CCTV camera system at a cost of Rs. 3 million has been fixed at the main gate and surrounding points of the Peradeniya Botanical Garden in the year 2016. With that, an efficient service has been able to obtained.
- ▶ Under the provision of facilities to officers attached to the Department, provisions from Botanical Garden Trust Fund is made constructing and renovating of new official quarters. Expenditure incurred for this activity is Rs 7 Mn.



New official quarters on construction

- ▶ Guideline hand bills directing visitors to visit garden with ease had been printed at a cost of Rs. 1.4 Million.

These hand bills are printed in all three languages and each is sold at Rs. 20/-. English Guideline hand bill is given free of charge to foreign visitors at the time of purchasing tickets.

Income generated by selling guideline hand bills is accounted as an additional income of Fund.

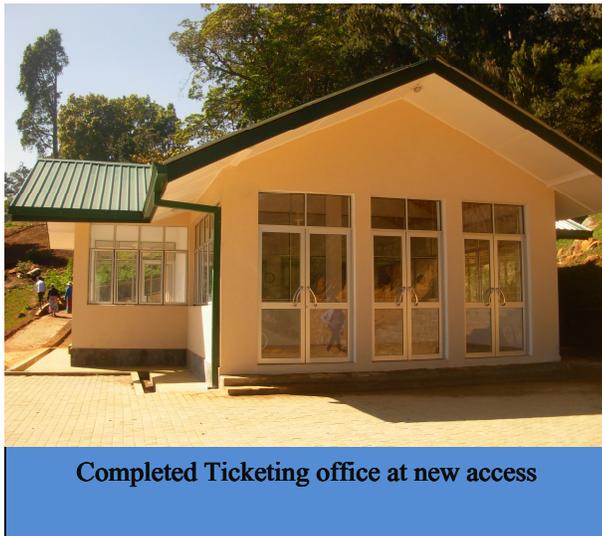
- ▶ In addition to the above provisions have been made for
 - Purchasing modern equipments needed to maintain botanic gardens (expenditure 5 million Rupees.
 - and
 - Providing uniforms to workers engaged in field duties for their easy recognition. (expenditure 300,000 Rupees.
 -

Hakgala Botanical Garden

- ▶ As space in office building of Hakgala Botanical Garden is very limited, action was taken to develop it. For this purpose, a sum of Rs. 3.1 Mn. was allocated from Botanical Garden Trust Fund in the year 2016.



- ▶ Development activities of new access of Hakgala Botanical Garden too was undertaken in this year with allocation of Rs. 12.4 Mn.



- ▶ As the Hakgala Botanical Garden is located in a remote area, providing official quarters to officers is helpful to them. Accordingly, official quarters were constructed at a cost of Rs. 5 Mn. during year 2016.



Newly constructed official quarters

- ▶ A part of dilapidated road network was repaired easing visitors to go around the Garden without much difficulty. For this, Allocation of Rs. 3.3 Mn. had been made.
- ▶ The Hakgala Botanical Garden is located around 15 Km. away from Nuwaraeliya town. There is no suitable place in the area to have quality foods by visitors of the Garden. Having paid attention on the matter, a cafeteria was constructed within the Garden with the hope of providing quality food for visitors in this year.



Cafeteria building

Gampaha Botanical Garden

- ▶ Steps were taken by Botanical Garden Trust Fund to establish a Bonsai plant collection at a cost of Rs. 2.7 Mn.



- ▶ Provisions was allocated by Botanical Garden Trust Fund for purchasing new plant varieties, seeds, fertilizer in order to keep the garden attractively.

Avissawella Wet Zonal Botanical Garden

- ▶ A Chenk Link fence was constructed in this year for security of Garden with a cost of Rs. 2.6 Mn.
- ▶ Botanical Garden Trust Fund took action to allocate provisions even in this year as done in the foregoing years for beautification drives of the Garden.

Mirijjawila Dry Zonal Botanical Garden

- ▶ Due to high demand for battery operated cars, a new battery powered car was purchased in this year for Dry Zonal Botanical Garden at a cost of Rs. 1.8 Mn.. Accordingly, 5 battery powered cars have been in service.



Battery operated car purchased for Dry Zonal Garden

Ganewatta Medicinal Drugs Garden

- ▶ A new summer hut was constructed in the garden in this year. Rs. 1 Mn was expended for this activities.

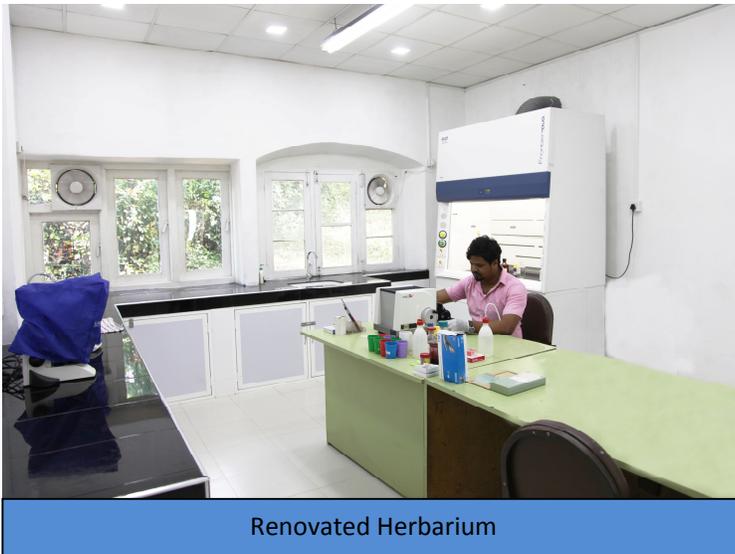


Summer House erected at Ganewatta Medicinal Drugs Garden

- ▶ Provisions of the Botanical Garden Trust Fund had been allocated in this year too for improving medicinal herb production, developing dilapidated road network, purchasing furniture items for the office of the Garden. Rs. 3 Mn was expended for this activities.

National Herbarium

- ▶ Herbarium was renovated in this year at a cost of Rs. 2.4 Mn.



Special Botanical research activities performed by National Herbarium in year 2016

Herb collection and their management

| Activity | No. of Specimens treated |
|--|--------------------------|
| Mounting | 987 |
| Remounting | - |
| Specimens repaired | 5285 |
| Cleaning books | 995 |
| Poisoning | - |
| Deep Freezing | 1614 |
| Species covers added | 330 |
| Genus covers adding, labelling and repairing | 443 |
| Specimens cleaned | 28696 |
| Pressing | 1276 |
| Labels typed for genus covers, Specimens & Genus cards | 1824 |
| Preparation of tags | 2347 |

**Details of herb collection found at field visit
(Enrichment OF Herbarium)**

| Type of collection | Field Exploration /Other source | Verified and added | No. of specimens places of specimen deposited |
|--------------------|--|--------------------|---|
| <i>Angiosperms</i> | Kurulukele | 17 | National Herbarium |
| | Hambanthota | 27 | National Herbarium |
| | Wasgamuwa | 17 | National Herbarium |
| | Galways Land | 40 | National Herbarium |
| | Chundikulam Wildlife Sanctuary, Kilinochchi district | 111 | National Herbarium |
| | Sea grasses from Maricchikattu beach- | 54 | National Herbarium |

| Type of collection | Field Exploration /Other source | Verified and added | No. of specimens places of specimen deposited |
|--------------------|---|--------------------|---|
| | submitted | | |
| | Hurulu Biosphere excursion | 36 | National Herbarium |
| | Habarana-Girithale field excursion. exploration | 39 | National Herbarium |
| | Horton Plains | 56 | National Herbarium |
| <i>Angiosperms</i> | Mulathivu | 59 | National Herbarium |
| | Other voucher specimens | 09 | National Herbarium |
| | Kaluganga-Moragahakande | 128 | National Herbarium |
| | Pidurutalaga | 10 | National Herbarium |
| | Alagalla | 16 | National Herbarium |
| | Mannar and other locations of Jaffna | 64 | National Herbarium |
| | Gampaha | 05 | National Herbarium |
| | Ritigala | 01 | National Herbarium |
| | Namunukula | 40 | National Herbarium |
| | Knuckles conservation, Matale, Pitawalapatana | 13 | National Herbarium |
| | Ambagamuwa | 14 | National Herbarium |
| | A'Peak area | 26 | National Herbarium |
| | Aponogeton species handers over by Prof. D. Yakandawela | 28 | National Herbarium |
| | Kiribathgalla | 08 | National Herbarium |
| | Ratnapura | 03 | National Herbarium |
| Kurunegala | 10 | National Herbarium | |
| Total | | 831 | |
| MOSESSES | From Various locations | 175 | National Herbarium |
| FERNS | From Various locations | 212 | National Herbarium |
| | Grand Total | 1218 | |

▶ **Workshops held**

06 workshops on identifying plants, herbarium maintenance, plant conservation had been held with participation of 476 persons.

▶ **Visitors had been educated on the following items.**

| Category | No. of specimens Identified |
|--|------------------------------------|
| Angiosperms | 1812 |
| Ferns | 218 |
| Mosses | 130 |
| Number of letters , e-mails etc. answered on floristic information | 302 |

- ▶ 249 herbal identification had been completed for 33 court cases.
- ▶ Field activities in forest reserves in the island for 21 Botanical scientific research projects had been observed.
- ▶ Posters and publications had been publicized for educating visitors by using data collected for Botanical Science research activities.

Education Training Centre

- ▶ Courses are conducted on Garden beautification and flower cultivation training through Education Training Centre. For this, provisions are allocated by Botanical Trust Fund.

Development activities introduced to Flower Cultivation Section

- ▶ Provisions was allocated for purchasing chemicals, equipment needed for Flower Cultivation Section.
- ▶ Rs. 2.6 Mn. had been allocated in this year for construction of Auditorium in Narahenpita;



**Auditorium established in Assistant Director's Office,
Narahenpitya**

- ▶ Flower Cultivation Section took action to facilitate for Flower exhibitions as an approach to help flower cultivations scattered throughout the country. Fund met expenditure incurred for constructing a resting place and purchases for the office. Rs. 5 Mn was expended for this activities.
- ▶ Action was taken to increase electricity supply for researches at flower section by incurring Rs. 2.9 Mn.

Following are some of the research conducted in the Floriculture

Research section in 2016

- A research was conducted to find the effect of exogenous BAP and IAA on lateral shoot induction on decapitated *Philodendron erubescens* cv 'Gold'. 250 ppm BAP + 250 ppm IAA and 250 ppm BAP + 125 ppm IAA hormone combinations were most effective with highest number of new leaves and highest mean number of lateral shoots.
- A research was conducted to find the effect of different postharvest treatments on postharvest life of Jasmine (*Jasminum grandiflorum*). Jasmine buds pre-cooled at 10 °C or 13 °C dipped in 4% boric acid solution followed by packaging in 150 or 300 gage LDPE bags preserve white colour and fresh appearance up to 4 days while maintaining minimum weight loss under air conditioned storage.
- A study on low cost methods for tissue culture applications in Orchids was conducted. Sago, semolina and corn flour can be used as alternative gelling agents in MS and KNC media for subculture of Orchids. Rain water and tap water can use as alternative water sources in KNC media for subculture of Orchids.
- A research was conducted to find the ability to optimize a micropropagation protocol for new anthurium hybrids developed by the Department of National Botanic Gardens. Most efficient shoot regeneration which showed 25 shoots/ explant observed in half MS medium with 0.1 mg/l 2,4 D, 1.0 mg/l BAP, 720 mg/l NH₄NO₃ with 16 hour photoperiod.
- A research was conducted to find the ability of implementing floriculture industry for dry zone in Sri Lanka. It was found that, the industry is successful in the dry zone of Sri Lanka and can be promoted in all parts of the country.
- A research was conducted to find the anthocyanin concentration of ornamental plants by changing the light condition. It was found that, for *Alternanthera* spp. and Coleus, the anthocyanin concentration is faster.
- A research was conducted to find whether the Biofilmed Biofertilizer (BFBFs) enhances the growth and control the diseases of *Anthurium andreaum*. It was found that half of the recommended dose of chemical fertilizer combined with the BFBF reduced incidence of disease.
- A research was conducted to find the effect of calcium concentration for producing high quality flowers in *Gerbera jamesonii*. It was found that, application of 0.3g of Ca was most effective to produce high quality stems of Gerbera.

**Summary of specialized development activities performed under Fund
during year 2016**

| | Activity | Estimate Rs. | Total cost as at 31/12/2016 Rs. | Balance at hand Rs. |
|--------------|--|-----------------------|---------------------------------------|------------------------|
| 1 | Expenses of Fund | 430,000.00 | 428,853.50 | 1,146.50 |
| 2 | Expenditure on improving facilities in Botanical Gardens | 19,475,000.00 | 19,474,793.73 | 206.27 |
| 3 | Expenditure for Developing Peradeniya Royal Botanical Garden | 45,900,000.00 | 45,880,606.40 | 19,393.60 |
| 4 | Expenditure for Developing Hakgala Botanical Garden | 32,350,000.00 | 32,347,756.24 | 2,243.76 |
| 5 | Expenditure for Developing Gampaha Botanical Garden | 3,170,000.00 | 3,160,542.70 | 9,457.30 |
| 6 | Expenditure of Developing Ganewatta Wild Medicinal Herbal Park | 3,012,000.00 | 3,011,024.10 | 975.90 |
| 7 | Expenditure for Developing National Plant house | 4,715,000.00 | 4,713,947.07 | 1,052.93 |
| 8 | Expenditure for Developing Educational Training Centre | 915,000.00 | 913,661.76 | 1,338.24 |
| 9 | Expenditure for Developing Horticulture Training Section | 22,050,000.00 | 22,045,637.30 | 4,362.70 |
| 10 | Expenditure for Developing Suwas Mal Sevana unit, Narahenpita | 1,290,000.00 | 1,289,899.80 | 100.20 |
| 11 | Expenditure for Developing Wet zonal Botanical Garden, Avissawella | 4,800,000.00 | 4,799,285.50 | 714.50 |
| 12 | Expenditure for Developing Dry Zonal Botanical Garden, Mirijjawila | 1,893,000.00 | 1,891,687.50 | 1,312.50 |
| Total | | 140,000,000.00 | 139,957,695.60 | 42,304.40 |

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