

Darwin Initiative for the Survival of Species

Annual Report

1 Darwin Project Information

Project title:	People and Plants – Training Darwin mentors in India
Country:	India
Project Reference No.:	162/10/002
Grant Value:	£58,823
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2 **Project Background**

This project takes place at the Kodaikanal Botanic Garden, Southern India. Kodaikanal is situated in the Palni Hills in the Western Ghats, which is home to at least 4000 species, of which 1500 are endemic. This represents nearly 75% of the total number of species endemic to Peninsular India. Much of the natural forests and grasslands of the Palni Hills have come under threat from the demand for fuelwood and fodder and fire hazards as well as from commercial plantations. Staff at the Kodaikanal Botanic Garden believe it essential to raise awareness among local people of the importance and value of native flora for biodiversity conservation. They felt an effective way to do this was through environmental education. Hence the development of this project with BGCI to train local school teachers in environmental education to become aware of the importance of their native flora and to understand the necessity of using plants sustainably.

3 **Project Objectives**

The purpose of the project is for local school teachers and children to become aware of the importance of their native flora and forests and to understand the necessity of using plants sustainably. The project aims to develop the capacity of teachers to use the Kodaikanal Botanic Garden as an environmental education teaching resource. Outputs of the project are as follows:

- Production of an information leaflet about the project
- Training in strategic planning
- Two week training in the UK for the Darwin Project Officer
- Production of an education and interpretation strategy
- Production of an interpretation leaflet
- Production of a training course handbook
- Training of 200 teachers in environmental education
- Follow on workshops to disseminate the results of the Darwin training course
- Establishment of an environmental education network
- Production of a teachers' pack and poster

The objectives or proposed operational plan has not been modified over the last year.

4 **Progress**

4.1 History of the project

At the commencement of the Darwin project, in April 2001, an MOU was drawn up between the Kodaikanal Botanic Garden and BGCI. A project committee was set up and in May, Dr Seeni, Deputy Director of the Tropical Botanic Garden and Research Institute in Kerala, was appointed as the Darwin Project Officer. In June, Lucy Sutherland, Education Officer at BGCI, visited the Kodaikanal Botanic Garden to run a three-day strategy workshop with staff at the garden and selected teachers. The workshop focused on developing a draft education and interpretation strategy for the Kodaikanal Botanic Garden. A draft strategy was produced and distributed to a number of people and organisations for comment including the Tropical Botanic Gardens and Research Institute in Kerala. Time was also spent at the workshop gathering information about the needs of teachers in environmental education and the local environmental issues they face in their regions. A new four-wheel jeep was purchased and Dr Seeni began visiting local schools in the Palni Hills to discuss the project. Information was gathered using a short survey developed by the project committee.

In September, Dr Seeni, visited the UK for a two week study trip. He visited the education departments of six botanic gardens and two non-governmental organisations. During his stay, a draft timetable was produced for the environmental education training courses to be run in Kodaikanal in 2002. In October Dr Seeni worked with Lucy Sutherland and Julia Willison to produce a course handbook for the training courses. This was translated into Tamil during November and printed in January 2002. During November and December, Dr Seeni worked

with Lucy Sutherland to produce an interpretation leaflet for the garden, which was printed in January 2002 and distributed to teachers. Dr Seeni and Fr. Manickam also continued to visit a wide number of schools and colleges in the region to promote the environmental education courses. In March, Lucy Sutherland travelled to Kodaikanal to work with Dr Seeni and Fr Manickam to run eight three-day training workshops for teachers. Following the training workshops, Dr Seeni has been visiting schools to monitor the follow up of the courses.

4.1 Progress against agreed baseline

While the project has mainly progressed according to the baseline timetable there have been a few anomalies. Dr Seeni was due to visit the UK in June but, after consulting various UK botanic garden educators, it was more convenient for them if he postponed his visit until September. The production of the interpretation leaflet was planned for September 2001, however due to a longer than expected time in the consultation phase, the leaflet it was not printed until January 2002.

4.2 Account of project's training

In July 2001, Lucy Sutherland ran a three-day training workshop on strategy development. Eight people attended. The selection criteria involved selecting teachers from both primary and secondary from different areas of the Western Ghats. This was to ensure a greater understanding of environmental issues in the region. The workshop involved a combination of lectures and discussion groups.

In September 2001, Dr Seeni, Darwin Project Officer visited the UK on a two-week study trip. His brief was to learn about botanic garden school education and resource development. Dr Seeni visited six botanic gardens where he observed school groups participating in their education programmes. He discussed the programmes in detail with education staff and spent time looking through educational resources as well as touring the gardens. Each botanic garden provided Dr Seeni with resource materials and education information that could be adapted for use in India. The gardens were chosen to demonstrate a range of teaching styles and themes.

In March 2002, eight three-day training courses were run on environmental education for teachers at the Kodaikanal Botanic Garden. The courses were designed specifically for primary teachers. In the six months prior to the workshop, Dr Seeni and Fr. Manickam travelled to schools to raise awareness about the project and gather interest in the training courses. They also organised speaking events to publicise the courses and visited relevant District Elementary Education Officers (DEEOs) of Tirunelveli, Madurai, Theni and Dindigul districts to secure the release of teachers. Five trips were also undertaken to Chennai to the state education department and meetings were held with Assistant Educational Officers (AEEOs) from the following districts surrounding the Western Ghats:

Tirunelveli district	:	Vallioor, Kalakad, Cheranmahadevi, Tenkasi, Shencottah
Madurai District	:	Vadippatti, Alanganalloor, Tirupparankunram
Dindigul District	:	Nilakkottai, Batlagundu, Dindigul (rural)
Theni District	:	Theni (rural), Uthamapalayam, Cumbum, Chinnamanoor, Mayiladumbarai

The AEEOs were asked to select 25 teachers from their area and then advise the project committee of who the teachers were. Several AEEOs gave their teachers three to four weeks notice, however some AEEOs only advised their teachers just 24 hours before the training course. The aim of the project was to train 200 teachers. In total 180 teachers received training – 124 men and 56 women. 24 of the participants were head teachers. The reason for the shortfall was due to the last week of training falling in Holy Week with several Christian teachers deciding they could not attend the courses.

The three-day courses included a mixture of lectures and practical group activities. Lucy Sutherland and Dr Seeni were the course teachers. Teachers in India are accustomed to a

didactic learning approach and so it was hoped that by providing opportunities for them to experience activities first hand they would be confident in carrying out the activities with their pupils. Environmental education is not a core subject of the Indian National Curriculum and so course activities were designed to fit into other curriculum areas, for example, Tamil, English, Moral Instruction, Social Sciences, Mathematics and Science.

So far, the results of the courses have been excellent. In the final week of Lucy Sutherland's stay in India, she visited seven of the teachers from the first training group and found that already a herbal garden had been established in one school and a medicinal plant garden in another. The teachers were also in the process of organising an environmental education training course for 50 teachers in May. Most of the trained teachers have briefed their school heads and area education officers and four AEOs have requested support from the project to extend the environmental education training to other teachers using the expertise of the trained teachers. Other training courses are planned for June and July. Several teachers have requested saplings and herbs for their gardens and Dr Seeni has visited the Tropical Botanic Garden and Research Institute and two nurseries in Kerala to obtain supplies. One of the trained teachers is working with a local club and community to plant more than 200 tree saplings.

4.3 Significant difficulties

The transfer of money from BGCI to the botanic garden has turned out to be a major problem. There have been no difficulties in transferring money from the UK, but once the money reaches India it is retained by the State Bank of India until the bank decides to release it. As a result the garden had had to wait several months each time for the funding to arrive in its account. This has presented problems for paying Dr Seeni's salary and has caused delays in printing the leaflets and teaching handbook.

The main target group for the Darwin Initiative Project is primary teachers. However, an oversight, on our part when we wrote the project was that most primary teachers are women and that, as head of their households, it is problematic for them to leave their homes to attend a three-day course. Recruiting women primary teachers was therefore more difficult and as a result more men attended the courses.

BGCI and the AEOs were concerned that training be offered to a wide range of schools, including state schools. However, experience has shown that teachers from Christian schools are more likely to be committed to continuing the training and fulfilling the implementation requirements of the project. In state schools teachers are required to prepare students for exams, leaving little time for the promotion of thought and creativity. They also have a serious lack resources and space. We therefore anticipate that many teachers will have difficulties in implementing some of the more practical aspects of the course as well as including environmental education in the curriculum.

4.4 Workplan for next reporting period

May – June 2002

Dr Seeni to continue visiting schools to monitor the development of the environmental education courses and network teachers

Dr Seeni to coordinate school visits to the botanic garden

July – August 2002

BGCI Education staff and Dr Seeni to prepare a draft outline for teachers' handbook and poster in consultation with teachers and staff at the Foundation for the Revitalisation of Local Health Traditions

BGCI Education staff and Dr Seeni to organise and run a series of eight three-day workshops for teachers to report back on the development of EE in their schools and to work on developing resources for the teachers' handbook and poster.

September – October 2002

BGCI Education staff and Dr Seeni to commence the production of the teachers' handbook and poster

5 Partnerships

The collaboration between BGCI and the Kodaikanal Botanic Garden has been excellent. Any misunderstandings have always been sorted out very quickly. Fr Manickam and Dr Seeni are excellent communicators and this has helped the project run relatively smoothly.

The project was also supported through new partnerships with the Palni Hills Conservation Council and Fathers from the Sacred Heart College in Shembaganur. New links have also been established with the following NGOs of Tamil Nadu:

- Literates Welfare Association, Kadamalaikunru, Theni district.
- Ideal Trust, Genguvarpatti, Theni district.
- Palni Hills conservation council, Kodaikanal.

Following the courses, Indira young women's Welfare Society for Rural Development, Arappalayam, Madurai and the Rotary club of Chanarpatti union, Dindigul district expressed an interest in collaborating and disseminating EE to other parts of Tamil Nadu. The Foundation for the Revitalisation of Local Health Traditions, an NGO based in Coimbatore, is also very interested in the work of the project and is keen to be involved in the development of the teachers' resource book.

6 Impact and Sustainability

The project has a high profile within Tamil Nadu. It has been a tremendous success and an eye opener to the teachers and education officers in southern part of Tamil Nadu who have never experienced such a programme with activities and games to teach EE. Soon after the training courses, teachers started organising workshops, planting trees with the cooperation of local people, panchayat officials and raising ornamental / herbal garden in the school campus in certain districts.

Many NGOs in India are working with communities, mainly women, to raise awareness about the importance of biodiversity. However, very few NGOS are working with schools. FRLHT is interested in expanding its remit to include schools education and has suggested that BGCI and the Kodaikanal Botanic Garden collaborate to develop the Darwin Project further. Preliminary discussions have been held with the Foreign and Commonwealth Office about submitting a proposal for the next phase of the project.

7 Outputs, Outcomes and Dissemination

Table 1. Project Outputs (According to Standard Output Measures)

Code No	Quantity	Description
16A	1000	Information leaflets about the Darwin Initiative Project produced in English and Tamil
6A/B	10	Botanic garden staff and selected teachers received training for three days on the development of a draft education and interpretation strategy for the botanic garden
6A/B	1	Dr Seeni, Project Officer, visited the UK for a two week study trip
7	1000	Interpretation leaflet on medicinal plants produced for the Kodaikanal Botanic Garden

7		Environmental education training course handbook produced for course in March 2002, translated into Tamil
6A	176	Eight three day environmental education courses run for primary school teachers
14A		Environmental education courses run as a result of the teacher training courses
17A	1	Network for environmental education established
15A	2	News items appear in The Hindu
15B	5	News items appear in three regional papers
19C	0	No radio item appeared despite press releases to local radio stations
18C	2	News coverage of teacher's workshops on local T.V.

Table 2: Publications

Type	Detail	Publishers	Available from	Cost £
Project information leaflet	2002	Kodaikanal Botanic Garden, Tamil Nadu	Fr. Manickam Centre for Biodiversity and Biotechnology, Research Department of Botany, St. Xavier's (Autonomous) College, Tirunelveli 627 002, India	Postage
Interpretation leaflet	Dr. S. Seenii, 2002	Kodaikanal Botanic Garden, Tamil Nadu	As Above	Postage
Environmental education course handbook	L. Sutherland, J. Willison & Dr. S. Seenii, 2002 (translation into Tamil by Dr Henry)	Kodaikanal Botanic Garden, Tamil Nadu	As Above	Postage

8 Project Expenditure

Table 3: project expenditure during the reporting period

Item	Budget	Expenditure
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9 Monitoring, Evaluation and Lessons

Evaluation of the project by the project committee has been ongoing via email. Fr. Manickam and Dr Seenii have been asked to submit a short report detailing their views about the project.

Formal evaluations have been used in the training courses where teachers were asked to write their opinions on the training. Informal discussions were also held with the teachers. It is felt that the outcomes of the training courses are already demonstrating that the project is contributing to raising awareness about the importance of biodiversity and the need to use plants sustainably. The project has also created grass roots support for biodiversity conservation in Tamil Nadu. This is helped with the amount of media coverage the project is receiving. The project is having a multiplier effect, with teachers training their colleagues and including environmental concepts into their teaching. School gardens are also being developed and there is an increase in the number of visits to the botanic garden.

One of the main lessons learnt from the project is the amount of time needed to work through the bureaucratic systems in the government departments to get approval for the teachers to participate in the training courses. In retrospect, a longer lead in time in developing the project would have been beneficial. This would have enabled us to develop strong links with the area education offices, promote the need for environmental education and gain stronger support for the project.

Another lesson learnt was that the project should have included a budget line for printing more course handbooks, for teachers to pass onto other teachers. A budget for teachers to travel and run workshops and to provide teas and coffees at these workshops would also have been useful.

10 Authors/Date

Julia Willison, Lucy Sutherland and Dr Seeni, May 2002