



**DARWIN INITIATIVE**  
**FINAL REPORT**



**1. Basic Project Details**

**Project Title:** Cultivation and Conservation of Threatened Plant Species for UK Overseas Territories (162/04/148)

**Contractor:** The Royal Botanic Gardens, Kew

**Host country collaborating institute(s):** All the training was undertaken at RBG, Kew.

**Grant Round:** 3<sup>rd</sup> Round

**Grant Value:** £116,550

**2. Project Expenditure**

**Total grant expenditure:** £102,454

**Breakdown of expenditure** (using expenditure categories in original application form)

<b>Project Financial Summary</b>					
	<b>Total</b>	<b>Code 1 (T&amp;S)</b>	<b>Code 2 (Printing)</b>	<b>Code 3 (Fees)</b>	<b>Code 4 (Salaries)</b>
<b>PY1 (1995-96)</b>					
Expenditure					
Allocated					
Difference					
% Difference					
<b>PY2 (1996-97)</b>					
Expenditure					
Allocated					
Difference					
% Difference					
<b>PY3 (1997-98)</b>					
Expenditure					
Allocated					
Difference					
% Difference					
<b>PY4 (1998-99)</b>					
Expenditure					
Allocated					
Difference					
% Difference					
<b>All Years</b>					
Expenditure					
Allocated					
Difference					
% Difference					

### **Explain any variations in expenditure +/- 10%**

The financial summary table shows allocations based on agreed carry-overs and an agreed extension of the project by one year.

The project overall is £14,096 (12%) under-budget. This is fairly evenly split across two-project code underspends: Code 1 (student T&S) and 2 (Printing). The original budget was based on the estimated costs of getting students from the various UKOTs to the UK and the cost of living whilst living in Kew. These varied from year to year, but kept well within budget. In PY2 one trainee's T&S was funded from outside the project and the unspent funds returned to Darwin. The printing costs are below those estimated in the original budget. This is because the manual has been produced in-house at Kew which has incurred lower costs than originally estimated.

### **3. Project Background/Rationale**

**Why was the project needed? Please explain the project development process.**

RBG, Kew has focussed much of its efforts in training and capacity building for many years, in line with our commitment to the CBD (in particular Article 12 - Research and Training), and Agenda 21. In fact the first Herbarium Techniques course was run in 1987 and the regional development of this programme was facilitated by an earlier Darwin Initiative grant. This established the framework for a Kew summer school for professionals from around the world to come together to learn and share experiences. This now comprises four International Diploma courses: Herbarium Techniques, Plant Conservation Techniques, Botanic Garden Management and Botanic Garden Education. RBG, Kew receives many requests for training and support from around the world and it became obvious from these requests that we had a gap in our training provision. The identified need was for a more practically based horticultural course that focussed on practical plant management, including the development of skills in plant propagation. There was a need for this propagation work to be set in conservation and management contexts, especially with regard to the management of threatened plant species. In addition the level of the training needed to be directed towards horticultural practitioners, rather than the managers/planners that the Conservation and Management courses are aimed. At the same time our work with The UK Overseas (formally Dependent) Territories Conservation Forum (UKOTCF) and some OTs with whom we were already working directly (eg St Helena, Falkland Islands) had identified the tremendous needs within the UK Overseas Territories. These needs were also highlighted in the UK Biodiversity Action Plan. Informal talks with several UKOTs had also highlighted this skills gap. There are no in-Territory agencies with the breadth of facilities and skills to run this training, so RBG, Kew has an obvious site to host the training. With this support, an outline course was developed and the proposal submitted to the Darwin Initiative.

### **How was it related to conservation priorities in the host country?**

Initial informal discussions with both the UKOTCF and in-Territory agencies responsible for biodiversity management identified this gap in practical plant conservation. Many UKOTs have expressed the need for conservation training, in line with the objectives of article 12 of the CBD, as a high priority. Like many regions of the world conservation training is equated to wildlife conservation, with actions directed towards plant conservation lagging far behind. Many Territories lack an up to date plant species list and there is an expressed desire to rectify this (UKDTCF 1996, UK Dependent Territories: a conservation review). Tropical islands are suffering high levels of extinction that demand urgent and innovative approaches to conservation. On many islands the original habitats are largely destroyed, the original processes lost or diverted, and the populations of endemic plants highly reduced or fragmented. To retain these species and habitats the primary concern of habitat conservation needs to be matched with a commitment to intensive species management and habitat restoration. This will necessarily require an investment in horticultural skills and facilities.

### **How was the project intended to assist the host country to meet its obligations under the Biodiversity Convention?**

The CBD provided a structure and ethos for the course. The core rationale for the course falls in line with the provisions of Article 12 of the CBD. The design of the course curriculum was guided by the CBD, and reference made to the transferability of techniques and skills on return home towards the implementation of the CBD. The techniques and activities of the course should enable participants to directly contribute towards meeting their Territories' obligations to the CBD in a number of ways. The core horticultural skills provide an armoury of techniques to help meet article 9, *ex situ* conservation. The provisions of Article 8 specifically highlight the need to 'adopt measures for the recovery and rehabilitation of threatened species and for their reintroduction into their natural habitats under appropriate conditions. However, *ex situ* conservation for the situations faced by island UKOTs needs to directly support Article 8, *in situ* conservation so that integrated conservation planning and action are undertaken to conserve plant diversity which is the basis of habitat/ecosystem function. Island floras face immediate threats with relatively small land areas and often, dense human populations. Fundamental to the conservation of island floras will be the creation of protected areas. However, these reserves will increasingly require intensive management through invasive control and habitat restoration. For highly degraded islands such as St Helena, horticultural intervention, in the form of artificial propagation, planing and weeding, will be a major tool for preventing species loss for the foreseeable future.

Specific training was given during the course on the development, obligations and implementation of the CBD, and other relevant international conventions, such as CITES. This was undertaken by staff in the Conventions and Policy Section at RBG, Kew who have specific expertise and responsibilities in these areas.

The Biodiversity Clearing House Mechanism was created by the CBD in accordance with article 18 to facilitate access to and exchange of information to achieve the Convention's three principal objectives. All participants were provided with biodiversity information from

the Kew Library and archives where appropriate. This included species lists where available. Many UKOTs do not have up to date plant checklist, a need identified in Article 7, Inventory and Monitoring. A bibliography for UKOTs was produced (see Technical manual). Printouts of checklists and threatened species record for each UKOT were provided from the World Conservation Monitoring Centre (WCMC) databases. All of these aim to develop and strengthen national capabilities through human resource development and institutional building.

#### **Was there a clear 'end-user' for the project in the host country? Who?**

The training programme was conducted at RBG, Kew. The end users were those horticultural and conservation professionals within the UK Overseas Territories with the actual responsibility for practical plant conservation. These trainees came from a variety of agencies, including botanic gardens, national trusts, government departments, NGOs, and the private sector.

#### **4. Project Objectives**

##### **What were the objectives of the project (as stated in the original application form)?**

There were six main objectives to the training programme:

- To train technicians in the propagation and maintenance of rare and endangered species using technology appropriate to their home conditions.
- To demonstrate and train participants in the use of appropriate methods of plant record keeping
- To provide basic computer skills training using plant database software
- To visit other botanic gardens in the UK so that comparative studies of techniques can be made, as well as furthering network links
- To improve communication skills
- To produce a manual for the propagation and maintenance of rare and endangered species of plants

##### **Were the objectives of the project revised? If so, how?**

The basic project objectives were not changed. However, the priority topics within the training framework were modified. The first project activity was to send out a short Training Needs Survey to all UKOT biodiversity institutions and feedback back from this allowed us to prioritise the course curriculum in line with in-Territory needs. This was undertaken with the help on the UK Overseas Territories Conservation Forum and the Foreign and Commonwealth Office.

Consequently four course aims were established which guided the development and implementation of the four core courses:

- To train horticulturists and conservationists in practical plant management
- To provide practical training in plant propagation
- To provide training in conservation planning skills
- To interact with representatives of relevant organisations, particularly those supporting conservation in UK Overseas Territories.

These modified course aims more clearly reflect the reality of conservation in UKOTs and indeed small islands in general. Notably there are few people involved and it is important that a clear conservation framework/policy is established for horticultural activities to operate within, particularly when dealing with threatened species. Conservation activities need to be undertaken in an integrated way and their needs to be good collaboration between the various agencies involved. Botanic gardens cannot work in isolation.

**Have the objectives (or revised objectives) been achieved? If so, how?**

Yes, these objectives have been achieved. Three, 8-week courses have been run (see Appendix 1 for Timetables) which have trained 15 people from 9 UKOTs and 1 non-UKOT in the conservation and cultivation of threatened plant species. Student evaluation of the courses was positive. These trainees had opportunities to develop their own projects whilst at Kew and several have been implemented in-Territory (see section 8). Network links have been established and will be maintained in various ways: relevant materials and information will be sent out on a needs basis (in the spirit of Article 17 of the CBD: exchange of information). All alumni are now on the distribution list for various newsletters including Forum News and Kew Scientist.

A manual of horticultural techniques for the conservationist has been produced and circulated to all Institutions who sent participants to the programme, as well as to those who were unable to send participants. All participants have received their own copies of the manual. The manual will also be sent to a range of other institutions on islands that are facing similar conservation problems eg Mauritius, Rodrigues, Hawaii and Seychelles.

Since completing the course, several trainees have become involved with in-Territory conservation/horticultural projects, most catalysed directly by participation in this programme.

**If relevant, what objectives have not been achieved, or only partially achieved, and why?**

All of the objectives have been achieved.

Follow-up activities and contact needs to be a two-way process. Inevitably other priorities take over once a training programme has been completed and it is easy to loose touch. We will need to make greater efforts to ensure that this doesn't happen. The launch of our new alumnus newsletter, On Course, in March 2000 is one-way we hope to achieve this. We were hoping to have launched this during the course of this programme, but it has been delayed.

**5. Project Outputs (see the attached list of project outputs which we would like you to use in compiling this section of the report)**

What output targets, if any, were specified for the project? (Please refer to the project schedule agreed with the Department where relevant.)

Please see table

Have these been achieved?

Please see table

If relevant, what outputs were not achieved, or only partially achieved, and why?

Please see table

Were any additional outputs achieved?

Please see table

If output targets were not specified, please state the outputs achieved by the project. As far as possible, we would like you to work through the list of outputs attached to this paper and to report on those which are relevant to your project.

Please see table

**Table 1: Project Outputs**

Code No.	Output Description	Notes
	<b>PY1</b>	
15C	Article about course in <i>Forum News</i> (circ. 500)	Specified output
	<b>PY2</b>	
3A	5 students trained in the cultivation and conservation of threatened plant species. Trainees from Cayman Islands (Dunstan Groome), Falkland Islands (Sinéad O'Connor), Hong Kong (Benson Lee), Montserrat (James Boatswain), St Helena (Vanessa Thomas). All awarded the Kew International Certificate (see appendix 1)	Specified output
3B	40 training weeks provided	Specified output
7	1 workbook produced for each trainee	Specified output
6A	1 student received additional training in practical plant management (Vanessa Thomas, St Helena)	Additional output
6B	4 training weeks provided	Additional output
15C	Article about course in <i>Forum News</i> (circ. 500)	Specified output

	Article in <i>Kew Scientist</i> (circ 8000 and on WWW)	Additional output
15D	Article in <i>Richmond and Twickenham Times</i> (circ. 30,000) Article in <i>Kew Guardian</i> (circ.700)	Additional output
17B	Embryo communications network established by participants on first training programme	
17D	Wider dissemination of project activities through the UKOTs Conservation Forum network	
20	Approx. £200 materials (horticultural equipment and reference books) donated to each trainee. Total value approx. £1000	Additional output
23	Approx. £1,800 in kind support donated to project in terms of fee waivers for lecturing/facilitating field trips and institutional visits	Additional output
	<b>PY3</b>	
3A	4 students trained in the cultivation and conservation of threatened plant species. Trainees from Anguilla (Lloyd Gumbs), BVI (Eyan Bryan), Cayman Islands (Kevin Eden), St Helena (Cynthia Williams). All awarded the Kew international certificate	Specified output
3B	32 weeks training provided	Specified output
7	1 workbook produced for each student	Specified output
3A	1 student trained in plant conservation techniques. Trainee from Hong Kong (Wicky Lee). Awarded Kew International Diploma	Specified output agreed modification)
3B	8 weeks training provided	Specified output
6A	2 students received additional training in practical plant management (Lloyd Gumbs, Anguilla-1wk, Cynthia Williams-2wk) 1 student received additional training in plant systematics (Wicky Lee, Hong Kong - 1wk)	Additional Output
6B	4 weeks training provided	Additional Output
15A	Article in <i>Caymanian Compass</i> (circ 2000) Article in The Warrah Newsletter of Falkland Conservation	Additional Outputs
15C	Article in <i>Forum News</i> (circ. 500)	Specified Output
15D	Article in <i>Kew Guardian</i> (circ. 700)	Additional Output
17C	Network established by first group of participants enhanced by inclusion of second group	Specified Output
17D	Trainees also included in UKOT Conservation Forum network	Specified Output
20	Approx. £200 materials (horticultural equipment and reference books) donated to each trainee. Total value approx. £800	Additional output

23	Approx. £1,800 in kind support donated to project in terms of fee waivers for lecturing/facilitating field trips and institutional visits	Additional output
	<b>PY4</b>	
3A	5 students trained in the cultivation and conservation of threatened plant species. Trainees from Anguilla (Rolston Hennis), Falkland Islands (Becky Ingham), Montserrat (John Martin), Pitcairn Islands (Jay Warren), TCI (Dudley Forbes). All awarded the Kew international certificate	Specified output
3B	40 weeks training provided	Specified output
7	1 workbook produced for each student	Specified output
3A	1 student trained in botanic garden management. Trainee from Anguilla (Lloyd Gumbs). Kew International Diploma awarded.	Specified output (agreed modification)
3B	8 weeks training provided	Specified output
7	1 workbook produced for each trainee	Specified output
6A	3 students received an additional 1wk training in practical plant management (Rolston Hennis, Anguilla, John Martin, Montserrat, Jay Warren, Pitcairn) 1 student received an additional 1wk training in schools education (Lloyd Gumbs, Anguilla)	Additional Outputs
6B	4 weeks training provided	Additional Output
11B	Project used as a case study in Hankamer, C., Maunder, M., Lesouef, J-Y, & Wollenberg, van den (1998). The role of botanic gardens in the conservation of Europe's Overseas Territories. <i>Botanic Gardens Conservation News</i> 3(1), 52-54	Additional Output
14D	<ul style="list-style-type: none"> <li>-Project results given during a workshop organised by Dr Clubbe at 5<sup>th</sup> International Botanic Gardens Conservation Congress, Cape Town, South Africa.</li> <li>-Project used as case study in paper given by Dr Clubbe at Tropical Botany Conference at NHM, London</li> <li>-Results used in lecture by Dr Maunder to British Association for the Advancement of Science, Annual Meeting, Bristol</li> <li>-Course used as basis of training day organised at RBG, Kew for newly established FCO Department for UKOTs attended by 35 people. Alumnus John Martin contributed directly</li> <li>-Poster presented at <i>Ex Situ</i> Conservation Conference, Chicago Botanic Gardens</li> </ul>	Additional Outputs
15C	Article in The Times about Pitcairn course participant, Jay Warren	Additional outputs



	Article in <i>Botanic Gardens Conservation News</i> (circ 2000) Article in <i>The Outrigger</i> (newsletter of Pacific Islands Society) Article in DTI Newsletter	
15D	Article in <i>Kew Guardian</i> (circ 700)	
17C/D	Network enhanced by addition of participants from third course	Specified output
17D	Trainees from third course included in UKOT Conservation Forum network	Additional Output
20	Approx. [REDACTED] books and [REDACTED] horticultural equipment and clothing donated to each trainee. Total value approx. [REDACTED]	Additional Output
23	Approx [REDACTED] in kind support donated to project	Additional Output
7	Manual on <i>Horticultural Techniques for the Conservationist</i> . Eds. C. Clubbe & S. Henchie completed. Copies sent to all participants, plus collaborating institutions, plus selected other island biodiversity institutions.	Specified Output

## 6. Project Operation/Management

**Training projects** - please provide a **full** account of the training provided. This should cover the content of the training, arrangements for selecting trainees, accreditation, etc.

A project Steering Committee was set-up at Kew (Colin Clubbe, Mike Maunder, Stewart Henchie, Mike Sinnott, and Ian Leese) to help develop and monitor the project in its early stages. Sara Cross, Secretariat for UKOTCF, joined meetings as appropriate.

As a result of feedback from the training needs survey and discussions by the Steering Committee the core training programme was developed and a timetable drawn up (see appendix 1 for timetables for each course). Liaison with UKOT institutional managers identified suitable trainees. Criteria were established for the selection of candidates, but great emphasis was placed on local recommendation. The pool of people is relatively small and most of the managers and local situations are known. This process of identifying the most suitable candidates for training worked well. Key points were the current role of the trainee, potential to benefit from training and cascading it on return home, as well as availability to be released for 8-12 weeks. The later point proved an important one since in some cases there is such little cover, particularly in botanic gardens, that staff cannot be released for such a long period. For example, although The Alameda Botanic Garden wanted to send two trainees over 2 years, neither could be released and so there was no representation by Gibraltar in the whole programme.

Once the candidate was identified, staff within the Education section at Kew liaised directly with them to arrange flights to the UK, transfers to Kew and local accommodation within the Kew area, usually within walking distance of the Gardens.

The course incorporated the following types of activities:

- Induction period (based in classroom and Gardens)
- Theory days (classroom-based)
- Practical experience days (based in Gardens)
- Group Practical days (based in Gardens, laboratory or off-site)
- Workshops
- Field Trips (off-site)
- Optional placement with UKOTCF member (up to 1 month).

### **Induction Week**

The first week of the course was an induction week, giving participants an opportunity to settle in, get to know RBG, Kew and Wakehurst Place, the local environs, each other and the main course tutors. It also served to introduce the course objectives, structure and assessment. Some keynote lectures were given as scene setters, e.g. international conservation perspectives.

Each participant gave a talk about their home institution, which included reference to the role and activities of their institution, their own role within that institution, and an overview of the main conservation problems in their home Territory.

### **Theory Sessions**

Classroom-based and comprising a structured programme of lectures, discussion groups and workshops for all participants. The aim of this theory programme was to give participants an opportunity to learn about the theoretical basis of the practical work they undertook in the Gardens at Kew and to gain an overview of conservation theory and practice relevant to threatened species management. International aspects of conservation, plant legislation and trade, and the role of international conventions was also covered. Opportunities were also provided to learn and broaden communication and computer skills.

### **Practical Experience**

Each participant was allocated to one of the following specialist Sections within RBG, Kew: Tropical, Temperate, Herbaceous, and Technical. Each participant was allocated a 'propagation mentor' who was a senior propagator with lots of relevant experience. For two days a week during Weeks 2, 3, 4, 5, 6, 7 and 8 participants had the opportunity of gaining practical experience from working along side specialist staff in the nurseries at Kew. Participants also had the opportunity of gaining experience of the requirements for managing a nursery. Here was an agreed set of propagation skills and techniques, which formed the core elements of this part of the course. These were assessed during the course. There was an opportunity to move between sections to broaden the experience gained.

### **Group Practical Sessions**

On one day each week, all participants got together as a group, either in the laboratory or in the Gardens to learn and practice a particular technique or set of related techniques. This ensured that all participants mastered the follow activities:

- propagation by seed and spores and assessment of these activities
- propagation by cuttings and assessment of this
- other vegetative methods of propagation and assessment of these
- after-care of propagules
- advanced techniques as appropriate for the group eg orchid propagation and micro-propagation.

These skills were tailored to individuals' needs during the practical experience days e.g. developing protocols for local species and conditions. The level depended to a certain extent on the existing abilities and experience of participants which were assessed early in the course.

### **Workshops**

Workshops were designed to provide participants with opportunities for discussion, practising skills; problem solving and sharing experiences eg habitat restoration workshop. These were be located, as appropriate, on 'theory days' or during 'practical experience in Garden Section' days. A flexible approach was adopted to try and best meet participants' objectives.

### **Field Trips**

Field trips were arranged to suitable Institutions to enable participants:

- to visit suitable commercial nurseries undertaking specific propagation activities
- to meet other members of the UK Overseas Territories Conservation Forum e.g. the World Conservation Monitoring Centre (WCMC) and Fauna and Flora International (FFI) in Cambridge; the Zoological Society of London; the Royal Society for the Protection of Birds (RSPB); WWF-UK
- to visit other Institutions involved with conservation in UK Overseas Territories, on an individual or group basis
- to visit other suitable botanic gardens to show a range of botanic garden practices.

### **Optional Placement with Forum Member**

There was an opportunity for an attachment of up to one month after the course finished with one of the members of the UK Dependent Territories Conservation Forum, including continuing on at RBG, Kew, to gain further practical experience.

### **Evaluation**

The performance and progress of participants was assessed both formally and informally throughout the course. The formal assessment included a practical examination of propagation skills learnt during the course which was formally assessed by internal (RBG, Kew staff: Stewart Henchie, Martin Staniforth and Graham Walters) examiners. Each participant was also given a *viva* with an external examiner. Mr Mark Bovey, a botanic garden development and management consultant with wide-ranging and relevant experience

was appointed as the independent external examiner who undertook the *viva* as well as moderating the course as a whole. He provided a written report for each course.

Those participants who successfully completed these assessments were awarded the Kew-Darwin International Certificate in the *Cultivation and Conservation of Threatened Plant Species* (see Appendix 2), whilst those who elected not to sit the examinations or did not attain the necessary standard would be awarded a Certificate of Attendance. All participants of all three courses successfully completed the assessments and were awarded international certificates.

The Threatened Plants course was run as part of the Kew Summer School. In 1996 and 1998 it ran in parallel with the Botanic Garden Management course and in 1997 with the Plant Conservation techniques course. This allowed some activities/sessions to be shared between the two groups, broadening the experience gained and providing a broader forum for discussions.

### Course Participation

The participation in this programme is shown below, listed by year: 1996 (course 1), 1997 (course 2), 1998 (course 3).

Year	Territory	Participant	Institution
1996	Cayman Islands	Dunstan Groome	Queen Elizabeth II Botanic Park
1996	Falkland Islands	Sinéad Doherty	Department of Agriculture
1996	Hong Kong	Benson Man Chung Lee	Kadoorie Farm & Botanic Garden
1996	Montserrat	James Boatswain	Forestry and Environment Division, Ministry of Agriculture
1996	St Helena	Vanessa Thomas	Agriculture and Forestry Department
1997	Anguilla	Lloyd Gumbs	Cap Juluca and Anguilla National Trust
1997	British Virgin Islands	Eyan Bryan	J.R.O'Neal Botanic Gardens
1997	Cayman Islands	Kevin Eden	Queen Elizabeth II Botanic Park
1997	Hong Kong	Wicky Lee*	Kadoorie Farm & Botanic Garden
1997	St Helena	Cynthia Williams	Agriculture and Forestry Department
1997	Seychelles	Damien Doudeé**	Seychelles Botanical Gardens
1998	Anguilla	Rolston Hennis	Cap Juluca and Anguilla National Trust
1998	Falkland Islands	Rebecca Ingham	Falklands Conservation

1998	Montserrat	John Martin	Forestry and Environment Division, Ministry of Agriculture
1998	Pitcairn Islands	Jay Warren	Pitcairn Island Council
1998	Turks and Caicos Islands	Dudley Forbes	Island Landscaping And TCI National Trust
1998	Anguilla	Lloyd Gumbs***	Cap Juluca and Anguilla National Trust

\* attended the 1997 International Diploma course in Plant Conservation Techniques, funded the Darwin Initiative

\*\* not funded by Darwin Initiative (not from a UK Overseas Territory)

\*\*\* attended the 1998 International Diploma course Botanic Garden Management, funded by the Darwin Initiative.

#### **Did any issues or difficulties arise in running and managing this project?**

Individual UKOTs are at different stages of development with regard to their conservation and horticultural activities and the infrastructure associated with those institutions with the responsibilities for implementing the CBD. We developed a relationship with our core collaborating partners that tried to assess the developing training needs as the project developed. What soon became obvious was that the current situation in UKOTs reflected one of few resources available for conservation activities and relatively few personnel actively involved in this work. The pace of training was led by our collaborating institution that needed time to plan and recruit for the release of staff for overseas training. Consequently we negotiated with the Darwin Initiative to extend the life of the project by one year to run a third course and carry-over suitable funds within the project to facilitate this. Each course took fewer participants than in the original proposal, although the total number trained remained as forecast. This dialogue also identified two institutions who had individuals who would benefit from 'more advanced training' to meet current Territory conservation priorities. Thus with Darwin approval, one trainee attended the International Diploma course in Plant Conservation Techniques (Wicky Lee, Hong Kong), and one the International Diploma course in Botanic Garden Management (Lloyd Gumbs, Anguilla).

Communications between some UKOTs was problematic in the early stages of the project, but was much improved by the greater availability of email. Clarification of the agencies responsible those few UKOTs with which we had not worked in the past ensured that most inhabited UKOTs sent at least one participant over the course of the programme. Notable exceptions were Gibraltar and Bermuda. In both cases lengthy discussion with botanic garden director/curators identified willingness/interest in releasing staff, but at the last minute this was 'never possible'. We hope to address this in our future courses/intern programme (see sustainability). Indeed, we have had Bermudan participants on both courses that have run since the last propagation course (plant conservation techniques and botanic garden education).

## **7. Project Impact**

**To what extent has the project assisted the host country to meet its obligations under the Biodiversity Convention, or to what extent is it likely to do so in the future?**

The three year programme has produced a group of trained professionals who have the confidence to take horticultural initiatives forward to help conserve plant diversity within their own Territory. This training used the CBD as its framework (see section 3) and workshops were held which translated their current activities within their home institution into the ways it was already meeting various articles of the CBD. This has strengthened their ability to develop and report their activities in ways that directly contribute to the objectives of the CBD.

Many of the trainees are now involved with in-Territory projects that directly apply their training to conservation goals within Territories (see section 8). For example the work with *Calandrinia feltonii* on the Falkland Islands is directly contributing to the recovery of this species, until quite recently thought to be extinct in the wild (CBD article 9c). The work on Montserrat is directly contributing to the restoration of that devastated island (CBD article 8f). The work on St Helena is directly contributing to the control and eradication of highly threatening invasive alien plant species (CBD article 8h). Much of the work on Anguilla is focussed toward public education and awareness of conservation issues and the importance of indigenous biodiversity (CBD article 13). However, some trainees have returned to their home institution and have not been given the opportunity or encouragement to develop these ideas further, but rather to continue with their former work, but perhaps to a higher standard. Funding issues remain a problem in moving initiatives forward.

## **8. Sustainability**

**Did the host country institute(s) contribute resources to this project (these may have been provided in-kind, for example staff, materials etc)? If so, what is the monetary value of the resources committed to the project by the host country institute(s)?**

All of the training was undertaken in the UK and totally funded from the Darwin grant. This included all of the trainees' travel, accommodation and subsistence costs. However, individual trainees had their own arrangements with their employers about time off in the UK to participate in this training (up to 12 weeks). This programme could not have been delivered without their commitment to the training investment and release of their staff. This most definitely represents a large contribution in kind to the project, but was not quantified.

**To what extent was Darwin funding a catalyst for attracting resources (including in-kind contributions) from other sources? Please provide details on the other sources from which resources were secured for this project.**

The training programme at RBG, Kew was fully costed into the Darwin submission. Consequently no funds from other sources were needed or sought. However, several lecturers and institutions waived their normal fees for the teaching Darwin scholars.

**What is the monetary value of resources generated for the project from other sources (please provide an estimate for each funding source)?**

Fees waivers from various individuals who taught on the course and institutions who provided staff and facilities on some of the fieldtrips amounts to approximately:

1996 course £1,800

1997 course £1,800

1998 course £2,000

**Total £5,600**

**To what extent is work begun by the project likely to be continued in the future (if this is relevant - some projects may come to a natural end at completion)? This is more likely to be relevant for research-based projects.**

The project is essentially a training programme and as such has naturally come to an end. However, its continuation into the future will be carried on through RBG, Kew's core training activities in line with Article 12 of the CBD. Continued support to the UKOT is a ventral commitment in RBG, Kew's corporate plan.

**Has the project acted as a catalyst for other projects/initiatives in the host country? Is it likely to do so in the future?**

Several project activities have started in Territories as a direct result of participation in this Darwin training programme:

- Sinéad Doherty (1996 trainee from Falkland Islands) drafted a recovery plan for Felton's flower (*Calandrinia feltonii*), rated extinct in the wild since 1910, but a single plant was rediscovered in West Falkland in 1996. On return to Falkland Islands this draft recovery plan was completed and has been instigated. Sinéad has moved Department's and is now responsible for EIA work associated with oil exploration off Falkland and South Georgia. Her 'replacement', Rebecca Ingham, attended the 1998 course and has taken responsibility for monitoring the recovery programme that is going well. RBG, Kew holds four accessions of *Calandrinia feltonii* and has included this species in the current 'Threatened Plants Appeal', co-ordinated by the Friends of Kew. The money raised is being used to undertake genetic fingerprinting in the Jodrell laboratory at RBG, Kew, of the remaining individuals.
- Lloyd Gumbs (1997 trainee from Anguilla) developed plans for the establishment of a threatened species garden within the grounds of the Cap Juluca Resort, Anguilla where he leads the landscape team. This has been completed and was opened by Dr Clubbe in December 1997. The opening ceremony was attended by the Deputy Governor and several ministers and gained a lot of local publicity for both the Darwin Initiative and conservation in Anguilla. Lloyd attended the 1998 botanic garden management course and for his project developed an education strategy for Cap Juluca. This has since been

implemented and evaluated by Dr Clubbe during a visit in December 1998. During that visit talks were held with Cap Juluca directorate, The Anguilla National Trust and the Government about securing a plot of land to develop the first botanic garden for Anguilla. This is a project that we will be taking forward. Cap Juluca supported all Dr Clubbe's in country expenses. This is an excellent example of an NGO-private sector partnership.

- The successful award of a Darwin Initiative grant to the BVI National Parks Trust (BVINPT) in 1998 (Integrating National Parks, Education and Community Development – the British Virgin Islands), built directly on links and activities developed during the current Darwin programme. Joseph Smith-Abbott, BVINPT director and project leader, identified Eyan Brian from the BVI Botanic Garden (a national park) for training on the 1997 course. Eyan has since applied this knowledge in Territory and is involved with the BVI Darwin project. He has benefited from further training during workshops run by Drs Clubbe and Hankamer in BVI. RBG, Kew has also been asked to develop a strategic management plan for the botanic garden. During the most recent workshops, five regionally rare endemic plants were discovered on Virgin Gorda.
- Montserrat trainees James Boatswain (1996) and John Martin (1997) have both returned to Montserrat and are applying their skills to various restoration projects now that the volcano has begun to quieten down. Both are involved in the rescue project that is being supported by RSPB, Jersey Wildlife Trust, FFI and RBG, Kew and co-ordinated through WWF. This on-going project is monitoring the recovery of the endemic Montserrat oriole (the national bird), and Dr Clubbe is providing the botanical input to this project.
- Whilst in the UK the trainees were introduced to the UK Overseas Territories Conservation Forum and its activities as well as relevant individuals. The establishment of this network will prove very valuable in the future. Through the Forum News they will be kept informed of project developments and related activities and where appropriate can become directly involved. For example the recent Darwin Initiative awards for both the Turks and Caicos Islands and Anguilla will be able to draw on these trainees as appropriate.
- Jay Warren (Pitcairn Islands, 1998) has set-up the plant nursery on Pitcairn that he planned whilst on the course. This has been integrated into an on-going conservation and floristic inventory project being conducted by Dr Steve Waldren and research students from Trinity College Dublin.

#### **9. Outcomes in the Absence of Darwin Funding**

**Had Darwin funding been unavailable for the project, what would have been the most likely outcome?**

In the absence of Darwin funding the project would not have proceeded, and there would not be a networked cadre of trained horticulturists/plant conservationists in the UKOTs. RBG, Kew has an internship programme that enables overseas trainees to do short placements in the nurseries at Kew. It is possible that individual UKOT trainees could have attended this. However, the internship programme is purely for practical experience and is not a structured course. None of the benefits of the targeted and relevant programme that addressed directly



conservation and horticultural needs in the UKOTs would have accrued. Assuming that funding could have been found (eg from home institution, Kew scholarships or British Council), these would have been very limited in number. The benefits of the network established would not have been gained, and the application in-Territory would have been diluted. The Darwin Initiative funding has enabled a big step forward in plant conservation for the UKOTs.

**Had this project not been undertaken, how would the users/beneficiaries of the project have met their requirements? Would other organisations/ initiatives have been able to meet their needs (at least to some extent)?**

Some OT institutions have been able to secure training funds for individual people. For example the first trainee from St Helena was funded by IRD for a three-month period at RBG, Kew. Two months of this was arranged to coincide with the 1996 course. The interaction with other course participants was more beneficial to the trainee than a solitary 3-month placement. The British Council and RBG, Kew Foundation have provided scholarships for this type of training. However, these would be on our 'normal summer school' programme that is not tailored directly to the needs of UKOTs. We know of no other institutions providing this type of training.

## 10. Key Points

**What would you identify as the key success factors of this project?**

There have been a number of factors that have contributed to the success of this project:

- The project has brought together the key players in plant conservation and horticulture in the UKOTs: The UKOTCF (with Kew as the lead organisation for plant work), biodiversity institutions in the OTs, and through this network the profile and conservation importance of the UKOTs has been raised. The recent FCO-organised OTs conference 'A Breath of Fresh Air' highlighted this. The impact of the Kew trainees came through in several Territory presentations. Becky Ingham (1998 trainee) gave the status report for the Falkland Islands.
- A group of committed conservationists have been brought together and given a training opportunity that should have long lasting effects in the UKOTs. The fact that they have spent time in the UK has forged important personal and institutional relationships that will last into the future.
- The information needs of UKOTs have been highlighted. Most UKOTs are very isolated. All trainees have been put on mailing lists for Forum News, Kew Scientist, and will be a focus of the new Kew alumni Newsletter, On Course, which will be launched in March 2000. The bibliography for the UKOTs included in the technical manual, and other information sources will we hope go some way to meeting these needs. The wider availability of the World Wide Web in UKOTs will also facilitate this and we plan to put more information on the Kew website as appropriate.

- The importance of the private sector in supporting conservation in the UKOTs has been identified and utilised. The choice of trainees by the Anguilla National Trust (from a hotel resort specialising in native species landscaping) and the Turks and Caicos Islands National Trust (a private landscape business) has fostered important partnerships in those Territories and served as good examples for others.
- The project has enabled Kew to focus on UKOTs in an organised way. The training was a two-way process and staff at Kew gained enormously from working with the trainees. It facilitated the development of the technical manual which will be sent out for use in other island (non-UKOT) situations eg Mauritius and Rodrigues where there are active botanical horticulturists working on similar conservation problems.
- It has catalysed several new projects and re-vitalised some existing in-Territory projects.

#### **What were the main problems/difficulties encountered by the project?**

The running of this project has been relatively straightforward once we were able to fine-tune the pace and delivery of the training (see section 6). Horticultural/conservation teams in the UKOTs are relatively small and it is often difficult to release the most appropriate person for training. We explored the possibility of an exchange, so that a qualified person from Kew would go out to the Territory to cover the duties of the person sent for training. Unfortunately this did not work due to staffing shortages at Kew, but it is something that we would like to explore for the future. We have undertaken a limited placement scheme within the UKOT eg a Kew horticulture diploma student spent six weeks at the JR O'Neal Botanic Garden in BVI in 1999 which proved to be successful. I'm sure that links that were established during the UKOT trainees' period at Kew would facilitate more of this interaction in the future.

Retaining trained people is often a problem, but is heightened when teams are small. Both the trainees from St Helena have now left the island, although one is in Ascension for a short period and retains links to the Endemic Section on St Helena. This has left a gap that is proving difficult to fill. It points to the need for further capacity building within specific UKOTs and sustained links with UK mainland institutions.

**What are the key lessons to be drawn from the experience of this project?** Please try to provide as much information on this point as you can so that others can learn from the experiences of your project.

- The importance of capacity building for individuals has been proven through course success, and the need for further training of this nature for the UKOTs is apparent. However, how effectively this individual capacity building is translated into institutional strengthening remains open. Agencies often have difficulties in holding on to staff who have received internationally recognised training. Some post-programme evaluation is planned to try and assess this.
- International trainees from the 'biodiversity frontline' bring enormous benefits into organisations such as Kew and the training processes are two-way. Taking this one step further with exchanges may be a useful direction for future training activities.

International exposure for the trainee is a real eye-opener, particularly for those who have not travelled before.

- Collaboration and co-operation are keys to success. The role of the UK Overseas territories Forum has been important. Kew's historical role in the UKOTs has also proved valuable. Trainees want to come to Kew, and often come with a large number of other tasks to complete before their return home.
- An international course that brings people together from different parts of the world creates a very special atmosphere for success that is often difficult to replicate with in-country training. Our trainees often worked day and night to complete something well and supported each other. They are singled focussed, being away from work and family commitments. The knowledge that they only had a 10min walk to get home helped! The unique resources at Kew, particularly the historical collections also contributed enormously.
- Effective communication is important. Quick email responses make a real difference!

**Does the experience of this project imply a need to review arrangements for developing and managing projects funded as part of this Initiative?**

Training projects hosted and run in the UK do not face many of the difficulties of running projects overseas, particularly in areas of the world where communications are difficult and local infrastructure poor. Because all of the expenditure also occurred in the UK it is much easier to manage and monitor the budgets. They remain an effective way of delivering project outputs and the current management structure of projects under the Initiative works well.

## **11. Project Contacts**

To assist future evaluation work, please provide contact details (name, current address, tel/fax number, e-mail address), for the following:

**UK project leader (and other key UK staff involved in the project)**

Dr Colin Clubbe  
Education Section,  
Royal Botanic Gardens, Kew,



Mr Stewart Henchie  
Living Collections Department

