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*Darwin Initiative for the Survival of Species*

*Annual Report*

**Education and Training for Restoring Tropical Forest  
Biodiversity**

*By*

**Dr David Blakesley**

**Dr Steve Elliott**

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# ***Darwin Initiative for the Survival of Species***

## ***Annual Report***

### **1. Darwin Project Information**

Project Ref. Number	
Project Title	<i>Education and training for restoring tropical forest biodiversity</i>
Country(ies)	<i>Thailand</i>
UK Contractor	<i>Horticulture Research International</i>
Partner Organisation(s)	<i>Forest Restoration Research Unit</i>
Darwin Grant Value	<i>£128,345</i>
Start/End dates	<i>01.04.02 to 31.03.05</i>
Reporting period (1 Apr 200x to 31 Mar 200y) and report number (1,2,3..)	<i>1 April 2003 to 31 Mar 2004 (2<sup>nd</sup> Annual Report)</i>
Project website	<i>www.forru.org</i>
Author(s), date	<i>Dr David Blakesley, Dr Steve Elliott, Dr Sutthathorn Suwannaratana</i>

### **2. Project Background**

#### **The location and circumstances of the project and the problem that the project aims to tackle**

In Thailand and neighbouring countries, the most serious threat to biodiversity is forest loss. Even before the Biodiversity Convention (1992), the Thai Government recognised the need to preserve existing forest for biodiversity, by establishing one of the most extensive protected areas systems in Asia. Unfortunately, many of these included large deforested areas. A project to mark the King of Thailand's Golden Jubilee was implemented in the mid-1990s to plant indigenous forest trees on 8,000 km<sup>2</sup> of degraded forestland. The enthusiasm with which villagers, children, NGO's etc. participated in tree planting showed immense public support for large-scale forest restoration. However, implementation was considerably constrained by a lack of knowledge about how to grow, plant and care for the great diversity of forest tree species native to Thailand. Furthermore, monitoring of biodiversity recovery in restored areas was non-existent.

The Forest Restoration Research Unit (FORRU), in collaboration with Horticulture Research International (HRI), therefore, developed model research and community tree nurseries to improve methods of tree propagation as well as demonstration field plots, where the framework species method of forest restoration was tested and

refined. A very large amount of new knowledge about how to improve forest restoration projects was generated. The next step was to disseminate this information to key personnel and groups involved in restoring the nation's forests for the conservation of biodiversity i.e. Forest Department officials, villagers, NGOs and, equally importantly, schoolchildren who have most to gain from restoration of diverse forest ecosystems. This would improve the efficiency of existing forest restoration projects and provide those interested in starting new forest restoration projects with all the knowledge and technical support they need. Such an education program would emphasize the role of biodiversity as an essential integral component of forest restoration and encourage biodiversity monitoring in restored areas.

The broad aim of this Darwin project is, therefore, to build lasting capacity to restore forests on degraded land for biodiversity conservation through improved forest restoration and biodiversity monitoring practices, based on sound scientific research.

### **3. Project Objectives**

- State the purpose and objectives (or purpose and outputs) of the project. Please include the Logical Framework for this project (as an appendix) if this formed part of the original proposal or has been developed since, and report against this.
- Have the objectives or proposed operational plan been modified over the last year and have these changes been approved by the Darwin Secretariat?

The project is providing skills and knowledge to improve forest restoration techniques through a Darwin education/extension unit, which is disseminating the results and methodologies developed by the Forest Restoration Research Unit's (FORRU) research programme to key personnel and groups involved in restoring the nation's forests for biodiversity conservation, especially those responsible for training others e.g. trainers of forest officials, school teachers etc. Project outputs will include a definitive Forest Restoration Manual (entitled "How to Plant a Forest"), detailing the best techniques to restore forest ecosystems for biodiversity conservation; educational aids for workshops etc, including a/v shows, an image catalogue, videos, workshop information packs, posters etc.; 15 workshops; 120 school education events; on-site advice provided during extension visits and a newsletter. The Logical Framework for this project is appended. Our objectives have not been modified over the last year.

Changes to the proposed operational plan were as follows; due to illness, the Project Leader visited Chiang Mai in the latter part of year 2, rather than at the start of year 2 as originally planned. The visit was further delayed to coincide with an invited presentation at the project at the Conference of the Parties to the Biodiversity Convention (COP7) in Kuala Lumpur.

### **4. Progress**

- Provide an account of the project's research, training, and/or technical work during the last year. This should include discussion on selection criteria for participants, research and training methodologies as well as results. Please **summarise** techniques and results and, if necessary, provide more detailed information in appendices (this may include cross-references to attached publications).
- Discuss any significant difficulties encountered during the year.

- Has the design of the project been enhanced over the last year, e.g. refining methods, indicators for measuring achievements, exit strategies?
- Present a timetable (workplan) for the next reporting period.

### **Brief history of the project to the beginning of this reporting period.**

FORRU, in collaboration with Britain's Horticulture Research International (HRI), has been adapting the 'framework species method', to restore seasonally dry forests to degraded watershed sites in the mountains of Northern Thailand. FORRU is located in Doi Suthep-Pui National Park (DSPNP) in northern Thailand. Both National Park staff and local villagers collaborate closely with the unit's activities. The basic structure and functioning of forest ecosystems are rapidly re-established, by planting mixtures of 20-30 carefully selected native forest tree species (both pioneer and climax species simultaneously). Subsequently, biodiversity is restored when the planted trees attract seed-dispersing animals into the planted sites. The essential characteristics of framework tree species are therefore: high field performance (survival and growth rate) in degraded sites; dense, spreading, crowns that shade out herbaceous weeds and provision of resources that attract seed-dispersing wildlife (e.g. fruits, nectar, nesting sites and so on) at an early age. They should also be easy to propagate in nurseries by local people.

Selecting candidate framework species for FORRU's field trials required extensive background studies. Germination trials and monitoring of early seedling growth were carried out on 400 tree species indigenous to DSPNP. A detailed study was carried out of tree flowering and fruiting phenology, involving 100 tree species and descriptions, drawings and photographs were made of fruits and seedlings of potential framework species. Germination was tested and seedling performance was monitored in the nursery and after planting out in degraded areas. This enabled compilation of species production schedules.

DSPNP is itself a location of recognised conservation importance, due to its high tree species diversity. With more than 600 tree species suited to a wide range of soil and climate conditions, DSPNP could provide a valuable seed source for forest restoration projects outside of the park. Planting trials in 1995-1997 enabled identification of some species likely to perform well in degraded sites. Without such basic background information, it would have been very difficult to make sensible choices of candidate framework species for more extensive field trials. Based on all these studies, framework species have been planted in field plots annually since 1997 in partnership with a Hmong hill-tribe community resident within DSPNP. FORRU helped the villagers to establish their own community tree nursery to test the practicability of the new nursery methods developed in the research nursery, in a village environment. The planting trials were designed to provide a quantitative assessment of the degree to which various tree species meet framework species criteria and helped to establish appropriate standards for the selection of tree species for forest restoration. Canopy closure can now be achieved within 2-3 years after planting. Weeds have largely been replaced with a carpet of leaf litter and wild pigs, deer and other wildlife have been observed in the planted sites.

In the first year of the Darwin program, four staff were recruited to form the Forest Restoration Extension Team, and were trained by Dr. Elliott in FORRU's main research methods and results and the new techniques of forest restoration derived from them. During training, a curriculum was designed, by developing interchangeable learning modules on a wide range of subjects, modified to meet the needs of the various target groups (schoolchildren, government officers, villagers

etc.). Modules included classroom activities, nursery work stations, nature trails and activities at a hill-tribe village and in the field plots. The show-casing of these modules formed the basis of the launching workshop in September 2002. Two editions of the newsletter, providing details of FORRU's research and education events were published (473 copies each time, both Thai and English versions). The basic structure and format of the Forest Restoration Manual were compiled, during Dr. David Blakesley's visit to Chiang Mai in May 2002 with further direct collaboration on the manual during Dr. Stephen Elliott's visit to the U.K. in October 2002.

Six workshops, (two more than planned) were run during the first year, reaching 148 participants (averaging 25 per event). A workshop for villagers from Nan Province was held during the staff training period, to help develop teaching techniques. The first workshop scheduled in the proposal was the inaugural workshop in September which introduced the education services and products being developed by the project and to some 26 school teachers and 27 representatives from NGOs and community leaders. Participants were invited to design suitable programs by combining the learning modules to meet their needs. In addition, a total of 30 school events reached approximately 1,200 participants and their teachers. Extension services included work events with three village communities in Chiang Rai Province; Ban Pa Sor, Ban Mae Yang Mint and Ban Santi attended by 53 people, over a weeklong period in January.

**Summary of progress over the last year against the agreed baseline timetable for the period. Explain differences including any slippage or additional outputs and activities**

*The Darwin Education Team*

Mr Kunakorn Boonsai left the Darwin Education Team to join the Bird Conservation Society of Thailand, as co-ordinator of a forest restoration project in the South of Thailand (with which FORRU now collaborates). Mr. Wasun Leerat was recruited to replace him from August 1<sup>st</sup> 2003 and trained by Dr. Stephen Elliott and the remaining DEO's.

*Audio/Visual Teaching Aids and Newsletter*

The bilingual reforestation newsletter was compiled in May, September and March. About four hundred Thai and 100 English versions of each edition were distributed by post. A further 50 or so copies were distributed by hand from the Unit. DEO's attended a training course in website design and have launched a project website (<http://www.forru.org>). This website has generated many enquiries about the project and allows downloading of the newsletters. The project is also featured on the UNEP-WCMC website (<http://www.unep-wcmc.org/forest/restoration/docs/Thailand.pdf>).

Media: The Indochina Media Memorial Foundation made a documentary about the project to be broadcast in Thailand and neighbouring countries. The DEO's presented 3 radio broadcasts (each one lasting about an hour). A popular article was published in the local magazine, "Guidelines" which describes the work of the Darwin Education Team.

*Forest Restoration Manual and Scientific Papers*

Good progress has been made on the Forest Restoration Manual. Most of the text, with the exception of Chapter 10 is at an advanced stage of drafting. Illustrations have been commissioned and layout of four chapters completed. Although we are behind schedule with completion of a first laid out draft, four chapters have been completed, and these are being tested by the DEOs in the workshops. Completed chapters have also been distributed to notable ecologists in the region for more formal academic review. We still believe that a publication date of October 2004 is achievable for the English version. However, translation into Thai is proving more time consuming than anticipated, and consequently the Thai version is now expected to be published in December 2004.

Although work is underway on a scientific paper on silvicultural techniques, we have postponed submission of this until later in the year to allow extra time for production of the Manual.

### *Workshops*

Six training workshops were completed, during this reporting period, reaching 137 participants in a wide variety of target groups (excluding one workshop which took place too late for inclusion in the previous annual report), averaging 23 participants per workshop. The workshops run are listed in the table below.

Date	Target Group	No. Participants
17-19/3/03	English speaking volunteers with local, environmental NGO's <sup>1</sup>	(17)
13-14/6/03	Eco-tour operators and CMU students	25
10-12/9/03	Foresters and local community leaders from Krabi Province, involved in Gurney's Pitta conservation project	14
22-25/12/03	Foresters from Yunnan Province, China	25
2, 8 & 24/2/04	Buddhist Monks	18
12-14/3/04	Community leaders from Phayao and Lampang	35
23-25/3/04	Forest Department national park and tree nursery staff	20
	TOTAL>	137

<sup>1</sup>Not included in 1<sup>st</sup> annual report

One workshop was run in English to cater for strong demand for information from English speaking volunteers and interns with local environmental NGO's and teachers at international schools.

Eco-tours and trekking are popular activities amongst the many tourists who visit northern Thailand each year. Several eco-tour operators expressed interest in including forest restoration activities into their itineraries, so a workshop was run for eco-tour company managers and guides to explore ways to include such activities as tree planting and nursery work into "adventure holiday" programmes.

The workshop for foresters and community leaders from Krabi addressed forest restoration for conservation of an endangered flagship species, Thailand's rarest bird species, Gurney's Pitta. During the workshop, discussions were initiated to involve

FORRU's research team in improving habitat restoration methods in the area for the recovery of the last population of Gurney's Pitta in Thailand. An extension event on site has already taken place (see below).

As home to the world's largest reforestation programme (aiming to reforest all land steeper than 25 degrees), China is an obvious choice to expand FORRU's forest restoration techniques abroad. Therefore, the DEO's were happy to be asked by the International Centre for Agro-forestry Research (ICRAF) to provide a workshop for forestry officials from the southern province of Yunnan. As a result of the workshop, Dr. Stephen Elliott was invited to provide extension advice at various forestry projects in Yunnan in April and to discuss development of further collaborative activities between FORRU and the ICRAF centre in Kunming.

The workshop for monks was a direct response to recommendations put forward by recipients of training under the project during the mid-project evaluation exercise (see appended evaluation report).

The final two workshops are planned on schedule but have not yet taken place at the time of writing. Details will be included in the next report.

### *Schools/Universities Program*

To date (3/3/04), a total of 111 school events have reached over 5,800 school children and teachers. During the second year of the project there were 81 events, reaching just over 4,600 participants. This has exceeded our planned target of 76 events in the first two years. Each month, the number of events varied from a low of 1 in April (due to school vacation and Thai New Year Holiday) to a maximum of fourteen in June. The number of participants reached by the program varied from a low of 167 in August (3 school events) to a maximum of 729 in January. Although demand for school activities exceeded expectations, the DEO team are adapting to cope.

A notable development in the past year has been an increased demand for co-ordinated programmes of multiple events over several months at each school, rather than one-off events. Another encouraging change which is contributing to the sustainability of this project has been the development of some schools to become centres for other schools to visit. For example, with the help of the DEO's, teachers at Ban Kaad School are developing an area of degraded forest near the school into a Forest Learning Centre for school children from surrounding schools. At Song Kwae Wittyakom School, the teachers are developing a model school tree nursery, to improve the environment around the school and serve as an example to other schools. JaoPhor Luang Uppatham 7 School, being situated near framework species demonstration plots, has already become a site much visited by other groups. The grass-roots "conservation group" in the village is developing plans to open its own nature education centre.

### ***Extension Services and Other Events Provided "On Demand"***

As usual, the DEO team were called upon to provide on-site training and advice, often following up on discussions that originated in the workshops or responding to inquiries from the web site or from newsletter recipients. Events provide over the past year included:-

On June 21<sup>st</sup> DEO's assisted 65 CMU students to join with monks to plant trees around Wat Tumthong near Chom Thong.

On July 30<sup>th</sup>, DEO's hosted a visit of 18 forest officers to FORRU's experimental plots. As a result of that visit a link was formed with Mae Ow forest nursery to develop a collaborative project to establish lowland forest plots (see links below) supported by Thailand's Office of Environmental Policy and Planning.

DEO's raised the profile of the project by running an activity stall at CMU's Science Day for school children. Nearly 400 school children and teachers visited the stall from 18-20<sup>th</sup> August.

Fifteen students from Kent University, Canada visited the unit as part of their student exchange programme on September 24<sup>th</sup>.

Six representatives from the NGO, Images Asia which assists Burmese refugees visited FORRU to explore ways to improve the environment around refugee camps on October 30<sup>th</sup> 2003.

On 12-13<sup>th</sup> July 2003, DEO's assisted the Pangfen Nature Centre and local villagers to establish demonstration planting plots.

The DEO's were asked to present FORRU's concepts in an audio-visual show and exhibition at a conference on environmental education for school teachers from 8 northern provinces at the Queen Sirikit Botanical Gardens on July 16th 2003.



A field tour run by the “Botanical Gardens in Schools” project requested the DEO’s to provide audio-visual presentations, tree nursery activities and forest walks for more than 80 children from 20 schools over a 3-day period 16, 18 and 19/9/03.

Community leaders from Maejaem village group in Jaeson National Park requested DEO’s contribute towards village-level discussions on the potential for forest restoration in the area on November 12-14th 2003. This extension visit was combined with schools events in the same vicinity.

One of the DEO’s contributed tuition for the “International Training Course for Sustainable Watershed Management” run by the Asia-Pacific Development Centre on 24-27th November 2003.

On February 5-6<sup>th</sup>, the DEO’s visited Ban Na Noi in Nan Province to provide on-site extension advice, following up on a small grant FORRU had provided to the villagers to start their own tree nursery.

Responding to requests made during the workshop for forest officers and community leaders from Krabi (see above) one of the DEO’s joined Mr. Kunakorn Bonsai (a former DEO), now of the Bird Conservation Society of Thailand, to develop a seed collection trail at Khao Nor Chuchi, the last home of Gurney’s Pitta in Thailand. The objective is to facilitate propagation of native forest trees for habitat restoration by the local forest office. This extension visit was combined with school events in the same area on 16-20/2/04.

On 25-27<sup>th</sup> February the DEO’s followed up on previous links with several villages in Chiang Rai Province by providing on-site extension advice on monitoring of their 3-year-old planted plots.

Responding to a request from the UK Minister of the Environment, Dr. David Blakesley, Dr. Stephen Elliott and Dr. Sutthathorn Suwanarattana made a PowerPoint presentation at a side event to promote the Darwin Initiative at the Conference of the Parties to the Biodiversity Convention in Kuala Lumpur on February 17<sup>th</sup>.

### *Project Evaluation*

A mid-project evaluation exercise was carried out to assess the effectiveness of the teaching provided under the project. This evaluation exercise included soliciting feedback from recipients of the educational services by questionnaire, email and telephone conversations. The evaluation procedure culminated in a “utilisation workshop” in December 2003 attended by 23 participants from northern Thailand; all recipients of the project’s educational services. Workshop participants who were given an opportunity to share their experiences and to provide direct feedback to the DEO’s during discussion sessions. A summary of the project’s progress was presented for discussion. Key organizations that had developed programmes of multiple educational events with the DEO’s presented their experiences during a panel discussion and results from the questionnaire survey were also discussed. The evaluation exercise and utilization workshop resulted in several original proposals from recipients of educational services provided by the project as to how the project could be improved. These proposals and the planned responses of the Darwin Team to them are summarised in the appended evaluation report.

*Timetable (workplan) for the next reporting period.*

<b>TIMETABLE 01.04.2004 – 31.03.2005</b>		
<b>Month</b>	<b>Output ref. no.</b>	<b>Details</b>
<b>April</b>	9 & 11B	<i>Field trials of selected Manual chapters continue</i>
<b>May</b>	6A/B & 14A	<i>Bimonthly workshop for 20 participants from villages/NGOs/RFD, for 4 days</i>
	16A/B	<i>Compilation and distribution of 300 copies of 'Reforestation Network</i>
	8	<i>Education manager visits UK for 10 days</i>
<b>June</b>	14A	<i>Evaluation exercise</i>
	15A/C	<i>National and local press releases in Thailand</i>
	18A/C	<i>National and local TV features broadcast in Thailand</i>
	19A/C	<i>National and local radio features broadcast in Thailand</i>
<b>July</b>	6A/B & 14A	<i>Bimonthly workshop for 20 participants from villages/NGOs/RFD, for 4 days</i>
<b>September</b>	16A/B	<i>Compilation and distribution of 300 copies of 'Reforestation Network</i>
	6A/B & 14A	<i>Bimonthly workshop for 20 participants from villages/NGOs/RFD, for 4 days</i>
	9 & 11B	<i>Revision, layout, design and printing of Manual complete (English version)</i>
<b>October</b>	9 & 11B	<i>Manual launch (English version)</i>
<b>November</b>	6A/B & 14A	<i>Bimonthly workshop for 20 participants from villages/NGOs/RFD, for 4 days</i>
<b>December</b>	9 & 11B	<i>Revision, layout, design and printing of Manual complete (Thai version)</i>
<b>January</b>	9 & 11B	<i>Manual launch (Thai version)</i>
	16A/B	<i>Compilation and distribution of 300 copies of 'Reforestation Network</i>
	6A/B & 14A	<i>Bimonthly workshop for 20 participants from villages/NGOs/RFD, for 4 days</i>
	11B	<i>One paper submitted to peer reviewed international journal</i>
<b>March</b>	14A	<i>Utilisation workshop for 4 days (Project manager visits Chiang Mai to attend)</i>
	15A/C	<i>National and local press releases in Thailand</i>
	18A/C	<i>National and local TV features broadcast in Thailand</i>
	19A/C	<i>National and local radio features broadcast in Thailand</i>

## **5. Actions taken in response to previous reviews (if applicable)**

We have addressed all of the issues raised by the reviewers of the First annual Report. The reviewer enquired about progress on the Forest Restoration Manual. This is discussed in Section 9 of this report. Essentially we are still confident about meeting our October deadline for the English version, but expect the Thai version to appear about 3 months later, due mainly to the translation process.

The reviewer asked for more detail concerning our evaluation procedure. This has been provided in the present report, in the form of a detailed Mid-Project Evaluation Report, which is appended. The reviewer also asked to see copies of our newsletter. These were posted separately to Darwin, and should be attached to this report.

The reviewer asked about the mechanisms of making changes to the programme, and whether there has been a forum for feedback from participants in our educational events. He/she suggested an annual seminar, which we did arrange. These issues are discussed above in Section 4: Project Evaluation, and are also described in Mid-Project Evaluation Report.

## **6. Partnerships**

**Describe collaboration between UK and host country partner(s) over the last year. Are there difficulties or unforeseen problems or advantages of these relationships?**

Collaboration between the partners continues to be rewarding for both partners, and highly effective. The project leaders in England and Thailand have been in almost daily contact by email, with regular telephone discussions. The Project Leader, Dr Blakesley visited Chiang Mai in February 2003, and the local Education Manager, Dr Elliott, visited the UK in October 2003. During his visit, Dr Blakesley worked closely with the Darwin Education team to review and advise on all their teaching modules, including visits to the research nursery, community nursery, forest nature trail and field plots. Further progress was made on the Forest Restoration Manual, including a review of finalised chapters, and detailed plans for the final chapter to be drafted. Detailed discussions were held with the Darwin Education team concerning the evaluation programme, and a decision was made to modify the nature of the evaluation planned for June 2004. Dr Elliott's visit to the UK earlier in the year focussed primarily on detailed work on the compilation of the Forest Restoration Manual, preparation of the 6-monthly report and discussions on progress of the education programme in Thailand.

**Has the project been able to collaborate with similar projects in the host country or establish new links with / between local or international organisations involved in biodiversity conservation?**

Through the education events, workshops, website and the newsletter, new links with a wide variety of groups, both within Thailand and in neighbouring countries, continue to be developed. These links have taken the form of information exchange and requests for additional training/education events. Links with local organisations often include more detailed help with planning of forest restoration plantings. The link with forest officers and community members from southern Thailand has proved especially valuable, and has led to a joint proposal with the RSPB for funding to restore forest for the endangered Gurney's Pitta. The link with ICRAF in Kunming is also likely to lead to further collaborative projects in the near future. A local link with a Forest Department tree nursery at Lampon has already resulted in a joint project to

establish lowland forest plots to test the framework species method for restoring deciduous forests, being funded by Thailand's Office of Environmental Policy and Planning. Links with local community leaders at Nan, Ban Kaad School, Song Kwae Wittiyakom School, Ban Pah Sor and Pangfen Nature Centre are already resulting in new collaborative tree planting projects.

## 7. Impact and Sustainability

**Discuss the profile of the project within the country and what efforts have been made during the year to promote the work. What evidence is there for increasing interest and capacity for biodiversity resulting from the project? Are satisfactory exit strategies for the project in place?**

A high profile for this project within Thailand has been maintained through the second year. The Circulation of the newsletters has increased to approximately 900 copies for the most recent edition. The new Website has been on line for most of the year, and has generated many new enquiries about the project and allows direct downloading of the newsletters. A counter has just been installed to gauge the level of interest. The project is also featured on the UNEP-WCMC website. As indicated earlier, a TV documentary and 3 radio broadcasts have also helped to raise the profile. E-mails received by the project also indicate that word-of-mouth remains an important means by which news of the project is spreading. A recent article in a local magazine "Guidelines" is generated much interest and an article describing the Darwin program is in press in a British Magazine (Eden Project's "Friends Magazine"). In addition, 3 regular free advertisements in local newspapers are resulting in a steady stream of enquiries. Increasing interest is continues to be evidenced by the overwhelming demand for services and events, far exceeding the numbers originally planned.

## 8. Post-Project Follow up Activities (max 300 words)

**This section should be completed ONLY if your project is nearing completion (penultimate or final year) and you wish to be considered for Post Project Funding.** *Each year, a small number of Darwin projects will be invited to apply for funding. Selection of these projects will be based on promising project work, reviews to date, and your comments within this section. Further information on this scheme is available from the DEFRA website.*

- From project progress so far, what follow-up activities would help to embed or consolidate the results of your Darwin project and why would you consider these as suitable for Darwin Post Project Funding?
- What evidence is there of strong commitment and capacity by host country partners to enable them to play a major role in follow-up activities?

At present, the project has reached out to as many people as possible with basic information about forest restoration. Some groups have been more receptive than others and one of the greatest stumbling blocks to implementing forest restoration, for the more enthusiastic groups, has been a lack of small amounts of capital needed to start community projects.

The most urgent needs, identified during the mid-project evaluation by current recipients of the training was:-

1. Small “start up” grants to assist community organisations to put the training provided by the DEO’s to full use and
2. More intensive technical support provided over longer periods, focussing on communities that have already established tree planting programmes or expressed a strong desire to do so.

Small grants of perhaps 200 GBP to help establish tree nurseries would provide a powerful catalyst in helping communities to get started, especially if backed up by continued technical support and monitoring by the DEO’s. The aim would be to create a network of model tree nurseries and demonstration plots, established by local for teaching other local people. This would effectively make the DEO team redundant, since the work would be carried on by local community groups.

The DEO’s presented these evaluation results to Dr. David Blakesley in February and expressed strong enthusiasm to continue with this more focussed approach, beyond the current project period.

## 9. Outputs, Outcomes and Dissemination

- Please expand and complete Table 1. **Quantify** project outputs over the last year using the coding and format from the Darwin Initiative Standard Output Measures (see website for details) and give a brief description. Please list and report on appropriate Code Nos. only. The level of detail required is specified in the Guidance notes on Output Definitions, which accompanies the List of Standard Output Measures.

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

PROJECT OUTPUTS		
Code no.	Quantity	Description
<b>2003/2004</b>		
6/AB	81 events, reaching just over 4,600 participants	Schools events for school children and their teachers ranging from one-off events to co-ordinated programmes of multiple events over several months.
6A/B	14 events	Extension services on-site and other miscellaneous events reaching 14 diverse groups.
16A/B	500 copies distributed	‘Reforestation Network’ Newsletter compiled and distributed in May 2003
6A/B & 14A	12 participants	Bimonthly workshop for 2 days in June 2002 for Eco-tourism leaders
8		Education manager visits UK for 10 days in October 2003
14A	23 participants	Utilisation workshop for trainees for 2 days in December 2003
15A/C	One	Local press article in Thailand January 2004
18A/C	One	TV documentary in Thailand completed May 2003
19A/C	Three	Three local radio features broadcast in Thailand June-August 2003

16A/B	500 copies distributed	'Reforestation Network' Newsletter compiled and distributed in September 2003
6A/B & 14A	14 participants	Bimonthly workshop for 3 days in September 2003 for a group of forest officers and community members from southern Thailand
9 & 11B		First draft of four chapters of Forest Restoration Manual prepared by December 2003
6A/B & 14A	25 participants	Bimonthly workshop for 3 days in December 2003 for a group of foresters from Yunnan Province, southern China, in collaboration with the International Centre for Agro-Forestry, Kunming.
16A/B		Compilation and distribution of 300 copies of 'Reforestation Network
11B		Paper submitted to peer reviewed international journal
6A/B & 14A	18 participants	Bimonthly workshop for 3 days in February 2004 for a group of monks
		Presentation given at the Darwin side-event at COP7 Biodiversity Conference, Kuala Lumpur
8		Project leader visits Chiang Mai for 2 weeks in February 2004
6A/B & 14A	35 participants	Bimonthly workshop for 3 days in March 2003 for a group of villagers from Lampang and Phrayao Province
6A/B & 14A	20? participants	Bimonthly workshop for 3 days in March 2003 for a group of forestry department workers

A complete draft of Manual not completed on time, although chapters relating to practical methods were completed and are being used by the Darwin Education Team. We are still confident that a final publication date of October 2004 is achievable for the English version. However the Thai version is now expected to be published in December 2004.

The scientific paper scheduled to be submitted in January has been delayed to allow more time for work on the Manual.

**In Table 2, provide full details of all publications and material produced over the last year that can be publicly accessed. Details will be recorded on the Darwin Monitoring Website Publications Database. Mark (\*) all publications and other material that you have included with this report.**

**Table 2: Publications**

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Publishers name, city	Available from	Cost £
International Newsletter	D Blakesley and S Elliott. 2003. Restoring Northern Thailand's Highland Forests. ETFRN News 38, 11-13.	ETFRN	ETFRN	N/A
British Magazine	D Blakesley and S Elliott. 2003. Trees of Knowledge. Eden Friends Magazine 14,	Eden Friends	Eden Project, Cornwall	N/A

	14-16.		
Thai Magazine	K. Doak. 2002. Guidelines Magazine Thailand.		N/A
Newsletter*	Darwin Newsletter May 2003	FORRU	www.forru.org
Newsletter*	Darwin Newsletter September 2003	FORRU	www.forru.org
CD-Video	Indochina Media Memorial Foundation "Hilltribes Facing a Fragile Future: The Hmong"	IMMF	IMMF

- Provide details of dissemination activities in the host country during the year. Will these activities be continued by the host country when the project finishes, and how will this be funded and implemented?

\* Enclosed

FORRU's Darwin Education Team is educating community groups, NGOs, government organisations and school children in Thailand in forest restoration techniques. Dissemination activities continue to take the form workshops and extension visits for adults, and school events for children. The demand for training and extension events, as detailed in full above, continues to surpass our expectations.

## 10. Project Expenditure

**Table 3: Project expenditure during the reporting period**

Item	Budget	Expenditure
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- Highlight any recently agreed changes to the budget and explain any variation in expenditure where this is +/- 10% of the budget

## 11. Monitoring, Evaluation and Lessons

- Discuss methods employed to monitor and evaluate the project this year. How can you demonstrate that the outputs and outcomes of the project actually contribute to the project purpose? i.e. what are the indicators of achievements (both qualitative and quantitative) and how are you measuring these?
- Are there lessons that you learned from this years work and can you build this learning into future plans?

Monitoring, evaluation and lessons learnt have been presented in some detail in the attached Evaluation Report.

**12. Author(s) / Date**

Dr David Blakesley, Dr Steve Elliott, Dr Sutthathorn Suwannaratana

April 2004



Appendix

<i>Project summary</i>	<i>Measurable indicators</i>	<i>Means of verification</i>	<i>Important assumptions</i>
<p><i>Goal</i></p> <p>To assist countries rich in biodiversity but poor in resources with the conservation of biological diversity and implementation of the Biodiversity Convention</p>			<p>1. Thai government policies will continue to promote forest restoration by planting of native tree species</p> <p>2. Integration of community forestry with forest conservation will continue</p>
<p><i>Purpose</i></p> <p>To build lasting capacity to restore forests on degraded land for biodiversity conservation through improved forest restoration and biodiversity monitoring practices, based on sound scientific research.</p>	<p>Adoption of the methods described in the education material and workshops by communities and groups implementing forest restoration projects, leading to the initiation of new projects or improvement of existing projects, by 2003.</p>	<p>1. Initial knowledge uptake by questionnaires at the end of each training session.</p> <p>2. Long-term knowledge use determined at 3 evaluation workshops and by extension visits to project sites.</p> <p>3. Independently reviewed annual Project Reports</p>	<p>1. The existing local demand for forest restoration knowledge will continue or increase.</p> <p>2. Local people will be receptive to the information and training methods provided.</p> <p>3. Local people will have the resources needed to put their education and training into practice.</p>
<p><i>Outputs</i></p> <p>-Forest Restoration Manual - Educational aids for workshops etc: a/v show, images catalogue, videos, workshop info. pack, posters -15 workshops training 300 individuals -120 school education events reaching 3-5000 children -On site advice provided during extension visits -Newsletter for 'Reforestation Network'</p>	<p>-Publication date and demand for the Forest Restoration Manual, peer review, in 2003 -Fifteen workshops held, participant numbers and affiliation, participants feedback, questionnaires, 2001 - 2003 -Three workshops specifically to assess effectiveness of Education &amp; Extension programme 2002</p>	<p>-Presentation of Manual, and peer review -Presentation of educational material -Participant list for workshops, plus completed questionnaires -Report on two 'effectiveness' workshops -Record of participating schools -Independently reviewed annual Project Reports</p>	<p>-Thai government policies will continue to advocate the planting of native tree species in degraded forest -Co-operation of local people in attending workshops -Public enthusiasm for tree planting will continue</p>
<p><i>Activities</i></p> <p>-Compile/analyse existing data from FORRU's research programme -Edit and publish Forest Restoration Manual -Recruit and train four Education Officers -Establish links with NGOs/villages/RFD officials interested in forest restoration -Organise/carry out training workshops and school visits</p>	<p>-Budget of £157560, of which £128345 requested from Darwin -Expertise of Drs Blakesley and Elliott -Expertise of Darwin Education Officers -FORRU nursery, office and field plot facilities -CMU herbarium and office space for programme</p>	<p>-Annual project report for Darwin, detailing progress on the Forest Restoration Manual, and education and extension programme -Audit of budget holders (HRI and CMU/FORRU)</p>	<p>-Suitably qualified and motivated staff can be found to carry out the tasks required by the project -Co-funding will continue to support existing FORRU facilities and research personnel -Continued agreement of the Royal Forestry Department</p>