



## DARWIN INITIATIVE



### APPLICATION FOR GRANT FOR ROUND 12 COMPETITION: STAGE 2

Please read the Guidance Notes before completing this form. Give a full answer to each section; applications will be considered on the basis of information submitted on this form. Please do not cross-refer to information in separate documents except where invited on the form. The space provided indicates the level of detail required but you may provide additional information on a separate A4 sheet if necessary. Do not reduce the font size below 12pt or alter the paragraph spacing.

**Submit by 19 January 2004**

Ref (*Defra only*):

**1. Name and address of organisation**

Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AE, UK

**2. Project title (not exceeding 10 words)**

Field Guide to the Forest Trees of Southern Thailand

**3. Principals in project. Please provide a one page CV for each of these named individuals.**

Details	Project leader	Other UK personnel (if working more than 50% of their time on project)	Main project partner or co-ordinator in host country
Surname	Utteridge		Chayamarit
Forename(s)	Timothy Michael Arthur		Kongkanda
Post held	Botanist, SE Asia Team		Curator
Institution (if different to above)			National Park, Wildlife & Plant Conservation Dept.
Department	Herbarium		The Forest Herbarium
Telephone			
Fax			
Email			

**4. Describe briefly the aims, activities and achievements of your organisation. (Large institutions please note that this should describe your unit or department)**

**Aims**

The Royal Botanic Gardens, Kew aims to increase knowledge and public understanding of plant and fungal diversity; the Herbarium aims to document the world's plant diversity.

**Activities**

Kew's statutory obligations are to carry out research, disseminate information, maintain, and provide access to its collections; the Herbarium's role is the identification and description of plants.

**Achievements**

Kew is one of the world's leading institutes in plant and fungal diversity, and is a World Heritage site; the Herbarium is among the world's largest, and a world centre of floristic expertise.

**5. Has your organisation received funding under the Initiative before? If so, please give details.**

Kew has received 14 grants from the Darwin Initiative since its commencement.

**6. Please list the overseas partners that will be involved in the project and explain their role and responsibilities in the project. The extent of their involvement at all stages in the project should be detailed, including in project development. Please provide written evidence of this partnership.**

Kongkanda Chayamarit (Curator, The Forest Herbarium, Bangkok). Roles: project and workshop co-ordinator in Thailand, allocation of funds to project staff. Involvement to date: hosted project development meetings, agreement of partnership with Kew, co-ordinator of Flora of Thailand.

Simon Gardner (consultant botanist with The Forest Herbarium). Roles: project co-leader in Thailand, specimen collector, photographer, author of main body of text, development of identification keys. Involvement to date: main project development, secured match funding, co-author of Field Guide to Forest Trees of Northern Thailand.

Pindar Sidisunthorn (consultant with The Forest Herbarium). Roles: artist, specimen collector, author of parts of text, Thai translation. Involvement to date: project development; secured match funding; artist and co-author of Field Guide to Forest Trees of Northern Thailand.

**7. What steps have been taken to (a) engage at all appropriate levels within the host country partner organisations to ensure full support for the project and its outcomes; and (b) ensure the benefits of the project continue despite staff changes in these organisations?**

The project was developed during meetings at Kew (Aug. 2002), and at 12<sup>th</sup> Flora of Thailand meeting hosted by The Forest Herbarium, Bangkok (Nov. 2002). Kew and the Royal Forest Department (now subsumed within the National Park, Wildlife & Plant Conservation Dept.) have a long-term commitment to study and conserve the biological diversity of Thailand through an ongoing Memorandum of Understanding (MoU - see attached documents) and continued collaboration on the Flora of Thailand. The project staff working on the Southern Trees Field Guide are dedicated to, and will concentrate solely on the project through to completion.

**8. What other consultation or co-operation will take place or has taken place already with other stakeholders such as local communities. Please include any contact with the government of the host country not already provided.**

The Forest Herbarium, formerly part of the Royal Forest Department (RFD) and now a section of the National Park, Wildlife and Plant Conservation Department of Thailand, is responsible for providing fieldwork permission in Thailand, including National Parks. The MoU in place between Kew and RFD states that both parties will work together on projects collecting and studying herbarium specimens, and that all activities are carried out in accordance with relevant national laws and regulations and within the spirit of the CBD. Personal visits have been made to several sites in Southern Thailand (December 2003) and contacts made with local stakeholders.

## **PROJECT DETAILS**

**9. Define the purpose of the project in line with the logical framework.**

The project will enhance the identification and monitoring of Thailand's forest biodiversity to enable better in-situ conservation of this resource. The project will produce a Field Guide which will enable conservation workers and other stakeholders to identify the majority of trees which they are likely to encounter in Southern Thailand. The project will generate accurately named herbarium specimens deposited in herbaria in the region and globally. The project will train students and staff from partner institutions to apply IUCN conservation assessments, specimen collection and herbarium techniques. The IUCN assessment will allow conservation, and other interested workers to direct conservation of Southern Thailand's forest biodiversity.

**10. Is this a new initiative or a development of existing work (funded through any source)?**

This project is a new initiative, but draws on the success of a previous project: A Field Guide to the Forest Trees of Northern Thailand. The project will make use of the excellent links Kew and The Forest Herbarium have developed during the ongoing Flora of Thailand project.

**11. How will the project assist the host country in its implementation of the Convention on Biological Diversity? Please make reference to the relevant article(s) of the CBD, thematic programmes and/or cross-cutting themes (see Annex C for list and worked example) and rank the relevance of the project to these by indicating percentages. Is any liaison proposed with the CBD national focal point in the host country? Further information about the CBD can be found on the Darwin website or CBD website.**

The Field Guide will be an important tool enhancing the identification and monitoring capabilities of Thailand's forest biodiversity contributing to Articles 7 (40%) and 8 (15%). The Field Guide will be accessible to a wide audience including scientists and non-scientists, as well as the general public and tourists, in the popular destination of south Thailand, contributing to Article 13 (5%). Training workshops will be conducted by Kew in collaboration with local partners contributing to Articles 12 (10%) and 18 (10%): collection and processing of botanical specimens; herbarium techniques including identification and taxonomy; and applying IUCN conservation assessments. The project has particular relevance to the forest biodiversity theme (20%), and will contribute to targets i, ii and xv of the Global Strategy for Plant Conservation. Liaison with the CBD national focal point in the Office of Natural Resources, Bangkok, is planned.

**12. How does the work meet a clearly identifiable biodiversity need or priority within the host country? Please indicate how this work will fit in with National Biodiversity Strategies or Environmental Action Plans if applicable.**

Southern Thailand has a very rich forest biodiversity, but the only published identification aid is the part-complete Flora of Thailand (31% complete in 2003). This is a very thorough, academic account, published in English, using technical language, and with few illustrations. There is no Thai language guide of any kind to the flora of the region. Thailand's Second National Report to the CBD highlights Article 7 as a high priority, but notes that resources required to implement the Article are severely limited. The Field Guide project will be a resource filling this fundamental identification need in Thailand, as well as in the SE Asia region. Both language versions of the Field Guide to the Forest Trees of Northern Thailand are currently in their third printing, having sold over 10,000 copies in Thailand in three years, showing that there is a need for this style of guide in Thailand, and in SE Asia in general.

**13. If relevant, please explain how the work will contribute to sustainable livelihoods in the host country**

Information on uses of the trees will be given in the Field Guide. The Thai version will allow local people to identify trees which will enhance sustainable multi-use forestry, both through tree selection and identification of species with a high conservation priority. The southern part of Thailand is a very popular tourist destination and the Field Guide will enhance ecotourism in the region by allowing a greater number of people to identify and engage with forest biodiversity.

**14. What will be the impact of the work, and how will this be achieved? Please include details of how the project outputs will be disseminated and put into effect to achieve this impact.**

The work will highlight Southern Thailand's forest biodiversity with the publication of new knowledge of approximately 1000 tree species of the region. 500 species will be covered in detail with photographs and illustrations, and 500 species with brief descriptions. The conservation status of the trees will be assessed using IUCN red data list categories. Training will be given in: assigning IUCN categories (one week); specimen preparation and collection and herbarium techniques (two weeks). Herbarium specimens of the tree species will be deposited in partner institutions and local herbaria, amounting to approximately 3000–6000 specimens.

**15. How will the work leave a lasting legacy in the host country or region?**

The Field Guide will be published in both Thai and English, and will be widely available with 10% of Thai copies donated to libraries, herbaria, and other relevant institutions. The distribution of accurately named specimens in herbaria will disseminate the knowledge gathered by the project to the broader botanical community. Partners trained during the project will use this authoritative reference collection for future studies. The Field Guide project will link to the interactive key being written by the Darwin Initiative Papuan Plant Diversity project and together these two projects will contribute greatly to the botanical legacy of SE Asia.

**16. What steps have been taken to identify and address potential problems in achieving impact or legacy?**

This project is based on a successful Field Guide of Northern Thailand. A key difference, which could reduce its effectiveness and impact is the relative lack of knowledge in Thailand of the Southern Thai flora. To minimise this threat we have ensured that a range of specialist taxonomic expertise will be available. Kew has a broad knowledge of the Malaysian flora which has strong affinities with the Southern Thai flora, and will be highly complimentary to local knowledge.

**17. How will the project be advertised as a Darwin project and in what ways would the Darwin name and logo be used?**

The Darwin Initiative logo will be prominent at the beginning of the book, especially on the front matter, which will be prefaced with an introductory message about the Darwin Initiative. The Darwin Initiative logo will be used on all presentations given at conferences and workshops. After publication the Field Guide will be launched at book launches held in the Royal Botanic Gardens, Kew and in The Forest Herbarium, Bangkok. Herbarium specimens will bear the Darwin logo, either on the labels or on the mounted sheets when the specimens are accessioned.

**18. Are you aware of any other individuals/organisations carrying out similar work? Are there completed or existing Darwin Initiative projects which are relevant to your work? Please give details, explaining the similarities and differences and how your work will be distinctive and innovative. Show how the outputs and outcomes of this work will be additional to any similar work, and what attempts have been/will be made to co-operate with such work for mutual benefits.**

This project is both unique in the region, and innovative in combining primary field research to produce a popular Field Guide for an area without a completed Flora. The project will complement the Papuan Plant Diversity project at Kew developing an Interactive Key to Malaysian seed plants at the family level. The Southern Thailand project will produce a very different product – a hard copy publication at species level – rather than an interactive computer programme. The Southern Thailand project will provide illustrations and photographs for the interactive key, and these projects will provide a very high profile for the Darwin Initiative in SE Asia.

**19. Will the project include training and development? Please indicate who the trainees will be and criteria for selection. How many will be involved, and from which countries? How will you measure the effectiveness of the training and will those trained then be able to train others? Where appropriate give the length and dates (if known) of any training course. How will trainee outcomes be monitored after the end of the training?**

The following training will occur: specimen collecting (Oct. 2004, 1 week); herbarium techniques (Sept. 2005, 1 week); IUCN conservation workshop (May 2006, 1 week). The trainees will be Thai staff and students undertaking plant biodiversity studies associated with The Forest Herbarium. The Forest Herbarium will select the trainees with a view to their contributing to the Field Guide and the Flora of Thailand. Permanent members of staff from the Forest Herbarium will participate in, and contribute to, this and future training. Feedback and evaluation from trainees will measure the effectiveness of training. The training will have a long term impact that will be apparent in an increased quality of herbarium specimens and associated data, and the increased availability of specific, conservation-relevant information (such as IUCN assessments).

**20. How are the benefits and/or work of the project expected to continue after the end of grant period? Please provide a clear exit strategy.**

The published Field Guide and the critically named herbarium specimens will provide a permanent reference collection for future conservation projects in Southern Thailand and neighbouring regions; any future name changes to specimens will be communicated to partners. The training undertaken will leave a long term legacy in Thailand, enhancing identification and monitoring procedures within Thailand. Three years after the publication of the Forest Trees of Northern Thailand, the guide is being used by a wide range of groups including foresters, natural resource managers, ethnobotany projects, landscape architects, horticulturalists, amateur naturalists and tourists as well as by professional botanists and as a textbook by university students. The guide has also been used by conservation projects in Laos, Vietnam and Cambodia. The enthusiastic response to the Field Guide of Forest Trees of Northern Thailand has provided the impetus to develop this project. The methodology used for this project will provide a valuable template for producing field guides for other areas in Thailand, and even in the rest of SE Asia.

**21. Provide a project implementation timetable that shows the key milestones in project activities.**

<b>Project implementation timetable</b>		
Date	Financial year:	Key milestones
	Apr-Mar 2004/5	
	Apr-Mar 2005/6	
	Apr-Mar 2006/7	
2004/04	Apr-Mar 2004/5	Field protocols agreed; initiation of field work.
2004/10	Apr-Mar 2004/5	Publication format agreed; specimen collection training.
2005/04	Apr-Mar 2004/5	First set of specimen identifications completed (c. 200).
2005/04	Apr-Mar 2004/5	First species descriptions written & illustrated (c. 200 species).
2005/04	Apr-Mar 2004/5	Completion of first phase of field work (c. 150 days).
2005/09	Apr-Mar 2005/6	Workshop in herbarium techniques held in Thailand.
2006/04	Apr-Mar 2005/6	Completion of second phase of field work (c. 150 days).
2006/04	Apr-Mar 2005/6	Second set of specimen identifications completed (c. 300).
2006/04	Apr-Mar 2005/6	Second set of descriptions written & illustrated (c. 300 species).
2006/05	Apr-Mar 2006/7	Workshop in IUCN assessments held in Thailand.
2007/03	Apr-Mar 2006/7	Completion of final phase of field work (c. 70 days).
2007/03	Apr-Mar 2006/7	Final set of specimen identifications completed (c. 500).
2007/03	Apr-Mar 2006/7	Final set of species descriptions written (c. 500 species).
2007/03	Apr-Mar 2006/7	Translation of text into Thai.
2007/03	Apr-Mar 2006/7	Final page layout and formatting.
2007/03	Apr-Mar 2006/7	Field Guide ready for publication.

**22. How will the most significant outputs contribute towards achieving the purpose of the project? (This should be summarised in the Log Frame as Indicators at Purpose level)**

The most significant outputs will be the Field Guide and specimens which will allow a greater audience to identify forest tree species. 1000 species will be assessed using IUCN categories; currently the IUCN database lists only 198 Thai plants. These outputs will contribute to the conservation of the forest biodiversity of Southern Thailand, and provide a platform for its continued and better management. New knowledge, such as descriptions, photographs and illustrations, of 1000 forest tree species of Southern Thailand will be published. Most of these species have never been photographed or described from Thailand. Further information will be disseminated through the collection of herbarium specimens and distribution to partner herbaria.

**23. Set out the project's measurable outputs using the separate list of output measures**

<b>PROJECT OUTPUTS</b>		
Year/Month (starting April)	Standard Output Number (see standard output list)	Description (include numbers of people involved, publications produced, days/weeks etc)
2004/04	20	Computer supplies £860
2004/04	23	Toyota (Japan): £32150
2004/04	23	RBG Kew staff time: £7520
2004/10	8 (1 week)	Dr. Utteridge visit to Thailand.
2004/09	14B	Presentation at Flora Malesiana conference, Philippines.
2004/10	15C	National press release in Kew Scientist Magazine.
2005/04	23	RBG Kew staff time: £7520
2005/07	14B	Presentation at Flora of Thailand conference, Dublin.
2005/09	6A, 6B (1 week)	Herbarium techniques training workshop.
2005/09	8 (1 week)	Herbarium techniques training workshop.
2006/04	23	RBG Kew staff time: £7520
2006/09	6A, 6B (1 week)	IUCN conservation training workshop.
2006/09	8 (1 week)	IUCN conservation training workshop.
2007/04	13B (1 collection)	Herbarium specimens: 3000–6000 specimens.
2007/05	23	Toyota (Thailand), printing costs: c. £16000
2007/05	10	Field Guide published in Thai.
2007/05	10	Field Guide published in English.

## MONITORING AND EVALUATION

**24. Describe how the progress of the project, including towards delivery of outputs, will be monitored and evaluated in terms of achieving its overall purpose. This should be both during the lifetime of the project and at its conclusion. Please make reference to the indicators described in the Logical Framework.**

The following indicators will be monitored and collated for the six-monthly and annual reports:

- a) number of fieldwork days
- b) number of herbarium specimens made and distributed
- c) number of photographs and illustrations produced and linked to species descriptions
- d) number of species descriptions written
- e) number of IUCN assessments produced
- f) number of pages completed in finalized format

**25. How will host country partners be involved in monitoring and evaluation of the project?**

The Forest Herbarium will be receiving and distributing the herbarium specimens, and botanists who specialise in groups in the region will be invited to monitor, verify and review species descriptions, keys and IUCN assessments. The use of IUCN categories by trained Thai botanists will increase in publications after the training workshop .

**26. How will you ensure that the project achieves value for money?**

Publication of the Field Guide in Thai and English will allow a broad profile of users to consult the work; the Field Guide will be reasonably priced – the Northern Trees Field Guide was priced at 450 baht (£8) for the Thai language version and 750 baht (£12) for the English language version (May 2000). Similar pricing for the southern field guide will ensure that the principal output of the project reaches as wide an audience as possible. Training of Thai partners in both herbarium techniques and IUCN assessment provides long-term value for money as it enhances local botanical capability to document and conserve the Southern Thai flora.

**27. Reporting Requirements. All projects must submit six monthly reports (by 31 October each year) and annual reports (by 30 April each year). Please check the box for all reports that you will be submitting, dependent on the term of your project. You must ensure that you cover the full term of your project.**

Report type	Period covered	Due date	REQUIRED?
Six month report	1 April 2004 – 30 September 2004	31 October 2004	Yes
Annual report	1 April 2004 – 31 March 2005	30 April 2005	Yes
Six month report	1 April 2005 – 30 September 2005	31 October 2005	Yes
Annual report	1 April 2005 – 31 March 2006	30 April 2006	Yes
Six month report	1 April 2006 – 30 September 2006	31 October 2006	Yes
Annual report	1 April 2006– 31 March 2007	30 April 2007	Yes
Six month report	1 April 2007 – 30 September 2007	31 October 2007	No
<b>Final report</b>	1 April 2004 – project end date	3 months after project completion	Yes

## LOGICAL FRAMEWORK

28. Please enter the details of your project onto the matrix using the note at Annex B of the Guidance Note. This should not have substantially changed from the Logical Framework submitted with your Stage 1 application. Please highlight any changes.

Project summary	Measurable indicators	Means of verification	Important assumptions
<p><b>Goal:</b></p> <p>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve</p> <ul style="list-style-type: none"> <li>the conservation of biological diversity,</li> <li>the sustainable use of its components, and</li> <li>the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</li> </ul>			
<p><b>Purpose</b></p> <p>To enhance the conservation of the forest biodiversity of Southern Thailand through the production of a tool for improved identification and monitoring of forest tree species.</p> <p>Improved capacity to collect and study botanical diversity.</p>	<p>Ability to identify the trees of Southern Thailand enhanced.</p> <p>Species of high priority for conservation identified using IUCN categories.</p> <p>New knowledge of the trees of Southern Thailand generated and shared.</p>	<p>Field guide published.</p> <p>Conservation status of species assessed and published, <u>and distributed to relevant agencies.</u></p> <p>Herbarium specimen holdings increased at institutions; <u>new photographs, illustrations, scientific information published.</u></p>	<p><u>Easier identification of biodiversity components allows conservation workers to better conserve Southern Thailand's forest biodiversity.</u></p> <p>IUCN ratings convey information to direct conservation needs.</p> <p>Critically named herbarium specimens are a valuable conservation reference resource.</p>
<p><b>Outputs</b></p> <p>Field guide to the Forest Trees of Southern Thailand.</p> <p>Field work, photographs and illustrations of species made, specimen collection and taxonomic verification undertaken.</p> <p>Conservation status of forest tree species assessed; <u>partners trained in assigning IUCN categories.</u></p>	<p>Field guide to 1000 species published.</p> <p>Critically named specimens deposited in partner's herbaria; training in collection and preparation of herbarium specimens undertaken.</p> <p>IUCN categories produced.</p>	<p>Field guide peer reviewed; field guide distributed; copies of all publications sent to Darwin Initiative.</p> <p>Fieldwork reports; database produced of collections made; determinations distributed to partners; training attendance records and quality specimens received in herbaria.</p> <p>Participant attendance records; forest tree species IUCN ratings published in the field guide.</p>	<p>Partners &amp; fieldworkers interested in using a field guide; publishers interested and available.</p> <p>Scientifically rigorous taxonomic work presented in a user-friendly manner, together with named herbarium specimens make identification easier for non-specialists.</p> <p>Interested parties use IUCN ratings as an internationally recognised standard.</p>
<p><b>Activities</b></p> <p>Publications.</p> <p>Fieldwork programme.</p> <p>Training.</p>	<p><b>Activity Milestones (Summary of Project Implementation Timetable)</b></p> <p>Yr.1: Publication format discussed and agreed upon (October 2004); initial species reports written and reviewed (c. 200 species). Yr. 2: Species reports continued (c. 300 species); page proofs generated and agreed upon (March 2006). Yr. 3 Final species reports written; proofs sent to reviewers; and field guide ready for publication (May 2007).</p> <p>Yr. 1: Field protocols, dates and survey area agreed (June 2004); surveys carried out (144 days). Yr. 2: second phase of surveys (144 days). Yr. 3: Final phase of surveys (72 days).</p> <p>Yr. 1 Training in specimen collection and processing (October 2004). Yr. 2: Training in taxonomic, identification and herbarium methodology (September 2005). Yr. 3: IUCN conservation workshop (May 2006).</p>		